A National Framework for Service Change
in the **NHS in Scotland**

NHS
SCOTLAND

A guide for the **NHS**

BUILDING A HEALTH SERVICE
FIT FOR THE FUTURE

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Volume 2
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The Reports of the individual Action Teams involved in the work of the Framework (see Appendix 2 for memberships) are available on the National Framework website:
www.show.scot.nhs.uk/nationalframework

EXECUTIVE SUMMARY

OUR KEY MESSAGES

The NHS in Scotland needs to change. Not because it is in crisis as some would have us believe – it is not; but because Scotland's health care needs are changing rapidly and we need to act now to ensure we are ready to meet the future challenges. There could not be a more appropriate time to undertake a review of Scotland's NHS, and plan its future.

But just as the NHS needs to change, so too do the citizens of Scotland need to take a greater responsibility for their own health and for the overall effectiveness of the health system. As we set out in this report, in an area as dynamic as health care, change is inevitable. We have an extraordinary opportunity to improve our health and our health service, but that will not be done by complacent defence of the status quo. The NHS in Scotland and the public must work hand in hand if we are to deliver a health service that is fit for the future.

In developing this National Framework for Service Change, we provide a policy context as well as a plan of action. We make a number of detailed recommendations in the Report and these are underpinned by the following key messages. In planning the future of the NHS in Scotland we need to;

> **ensure sustainable and safe local services;** redesign where possible to meet local needs and expectations – specialise where required having regard to clinical benefit and to access.

> **view the NHS as a service delivered predominantly in local communities rather than in hospitals;** 90% of health care is delivered in primary care but we still focus the bulk of our attention on the other 10% – our current emphasis on hospitals does not provide the care that people are likely to need.

> **preventative, anticipatory care rather than reactive management;** the NHS should work with other public services and with patients and carers to provide continuous, anticipatory care to ensure that, as far as possible, health care crises are prevented from happening.

> **galvanise the whole system;** more fully integrate the NHS (including the contribution of hospitals, general practice teams, social care providers, patients and their carers) to meet the challenges.

> **become a modern NHS;** using new technology to improve the standard and the speed of care, connect clinicians, involve patients in their own care and support the research vital to future wellbeing.

> **develop new skills to support local services;** generalists as well as specialists, nurses and allied health professionals as well as doctors – all with the right skills for patients.

> **develop options for change <u>with</u> people, not <u>for</u> them,** starting from the patient experience and engaging the public early on to develop solutions rather than have them respond to pre-determined plans conceived by the professionals.

OUR PROPOSALS

Our report is wide in scope and contains a large number of proposals that we are asking the Minister for Health to consider. Some of these build on initiatives already underway, some are based on international best practice and some are entirely new innovations. The top ten are as follows:

› All NHS Boards to put in place a systematic approach to caring for the most vulnerable (especially older people) with long term conditions with a view to managing their conditions at home or in the community and reducing the chance of hospitalisation.

› Targeted action in deprived areas to reach out with anticipatory care to prevent future ill-health and help reduce health inequality.

› Support for patients and their carers to manage their own health care needs and to help others with similar conditions.

› Implement urgently a national information and communications technology (ICT) system, including an electronic patient record and the development of tele-medicine, as a means to improve access, quality, research and integration of the NHS.

› Empower multi-disciplinary teams in community casualty departments to provide the vast majority of hospital-based unscheduled care – networked by tele-medicine to consultant led emergency units.

› Shorten waiting times and inform patient choice by separating planned care from urgent cases, treating day surgery as the norm (rather than inpatient surgery), enabling better community based access to diagnostics, developing referral management services and introducing a delivery function that will draw on best practice across the world to further speed up patient access to services.

› Concentrate specialised or complex care on fewer sites to secure clinical benefit or manage clinical risk.

› Develop networks of rural hospitals to support our remote communities and establish a Clinical School for Rural Health Care to ensure workforce development.

› A step change in the development of regional planning to ensure that Health Boards make regionally based decisions about the shape of hospital based health services.

› Set a clear agenda for Community Health Partnerships to work across barriers between primary and secondary care and engage with partners in social care to shift the balance of care.

THE NATURE OF THE CHALLENGE

"The most important policy issue facing European Governments over the next 50 years is how to cope with ageing populations…For Scotland the future is now… its population is ageing faster and dying quicker than any other industrialised nation"

The Scottish Report – Scotland the Grave? (2003)

The ageing of Scotland's population is a particular challenge for health care. In the next 25 years or so, the proportion of the population over 65 will increase to over one in four. One in twelve of us will be over 80. Older people are more likely to have a long term illness, more likely to have a combination of such illnesses, more likely to be admitted to hospital and more likely to stay there following admission.

We also expect an increased incidence and burden of long term conditions (chronic diseases such as diabetes, arthritis, rheumatism, high blood pressure etc) – and we know that patients with long term conditions are twice as likely to be admitted to hospital.

A major locus of pressure on the NHS over the last twenty years (and potentially into the future, unless we address the issue) has been the rise in emergency hospital admission. The increasing burden of ill-health associated with an ageing population only explains a proportion of this increase in emergency admissions. Perhaps the most fundamental strand of explanation for the rise in emergency admissions lies in the mismatch between the needs of the population for proactive, integrated and preventive care for chronic conditions and a healthcare system where the balance of resources is aimed at specialised, episodic care for acute conditions.

This suggests that there are a number of future challenges and pressures on the system that require an increased focus on the delivery of proactive, locally responsive care.

In responding to the challenge, we have been guided by a number of factors;

(a) Patient expectation and public trust

Patients and the general public told us at our open meetings that they wanted services delivered locally wherever possible; they were willing to travel for highly specialised surgery but wanted as many "core" services as possible close to home. They have lost a certain amount of confidence in the NHS due to what they perceive as unnecessary "creeping" centralisation driven by what is convenient rather than what patients need. Patients want access as quickly as possible to consistently high quality services delivered by a suitably trained professional, whilst realising that we could not provide a hospital at the end of every street.

(b) Rural issues

One fifth of the Scottish population lives in a rural area. Rural communities face particular challenges in terms of transport, access to services and the sustainability of local communities. We need to recognise those differences and describe models of care to meet rural needs.

(c) Inequalities

Although the health of Scots is improving, the differences within Scotland in life expectancy and mortality are significant and widening. In a deprived area, you are more than twice as likely to have a long term illness than if you live in an affluent area and it has been calculated that the deprived lose fifteen years of life compared to the affluent.

(d) Standards

The public should feel that national standards can ensure local excellence. The Scottish Executive needs to take a lead role in building the evidence base for change monitoring practice and intervening if services are seen to be failing.

(e) Staffing issues

The size and composition of the workforce is a key determinant of the capacity of NHS Scotland. The workforce is increasing. And while we must all welcome the much needed reduction in working hours, at the same time, the impact on doctors' hours is substantial, there are recruitment and retention challenges and new contracts require different approaches to providing care "out of hours". We have an opportunity to match service change with workforce change. This will require a re-profiling of the workforce and an investment in training and education across the clinical professions. In particular, new approaches are required to staff the "hospital at night".

(f) Affordability

By 2007-08 we will be spending twice as much per head of population than we were in 1999-2000 and the total budget will be £10 billion. Whatever we do needs to be affordable within that budget and to get the best possible value for every public pound spent.

OUR VALUES

The basic ethos of the NHS in Scotland – free comprehensive care available to all – still commands universal public support. The future of our health services needs to be built from that base. Our work with the public also tells us that they are looking for health services that are better, quicker, closer and safer; health care that meets the needs of all Scotland, old and young, rich and poor, urban and rural. They are looking for health care that is local wherever possible, specialised where it has to be but delivered to national standards, providing a level of certainty about what people can expect. That suggests to us a set of values to underpin our work as follows:

Fair to all

Equity of access, based on clinical need, to services of the right quality

Personal to each of us

Care designed for each individual, ensuring the patient is at the heart of what we do.

A NEW WAY OF DELIVERING CARE

We believe that to meet the challenges and to deliver on the key requirements described above will require a shift in the way we deliver health care in Scotland. This will require new ways of working, new skills, new thinking and a new culture in the NHS – one of shared responsibility and engagement of front-line staff in service improvement.

In effect, this new approach is about getting the NHS in Scotland to work as a single, whole system. We need all of the partners in the system to realise that they are inter-dependant. Action in one part of the system has an impact elsewhere. And we need the partners to understand that we all need to change. For example, in order to meet the challenges of caring for people with long term conditions we need much better integration of primary, secondary and social care. The nature of the change required is summarised in the box below.

Current view	Evolving model of care
Geared towards acute conditions	Geared towards long-term conditions
Hospital centred	Embedded in communities
Doctor dependent	Team based
Episodic care	Continuous care
Disjointed care	Integrated care
Reactive care	Preventative care
Patient as passive recipient	Patient as partner
Self care infrequent	Self care encouraged and facilitated
Carers undervalued	Carers supported as partners
Low tech	High tech

IMPLEMENTATION

Of course, this will not be easy. The health system is complex and it will take time to set a new direction. We have referred already to the workforce constraints and the need for the NHS to be affordable. It will require improved leadership throughout the NHS, from clinicians and from managers, and a willingness from patients and the public to look beyond the bricks and mortar of their local hospital.

Much has been said and written about the future of the traditional District General Hospital. People want to retain local services and that is understandable. But for some of the care that we will provide in the future, it is also unambitious. When we talk about local care, particularly in our work on the care of older people and on the care of people with long term conditions, one of our key aims is to keep the patient out of hospital by providing the necessary support and treatment in or close to home.

That will not always be possible. There is a range of care that needs a critical mass of patients in order for it to be provided. We have in mind here, diagnostic testing, routine procedures including some surgery (much of which can be done as a day case), and treatments such as dialysis, chemotherapy, rehabilitation etc. Because this kind of care requires investment in equipment and expertise, we cannot deliver it in every GP surgery, but we could do some of it in a Community health centre if we could get GP practices to band together, we could do most of it in Community Hospitals and we can do potentially all of it in every District General Hospital (DGH).

Largely as a result of the much needed reduction in doctors' hours, it has become much more difficult to deal with emergency care in all local hospitals. But, even here, there is much that can be done. It will require redesign of services, advanced roles for nurses and paramedics and GPs working in teams with other professionals to provide out of hours care. The range of hospitals that we currently badge as District General Hospitals will be able to provide, as a minimum, a twenty four hour "community casualty" service – as will a number of Community Hospitals. But in some cases it will not have consultant cover on site and if a patient is likely to require emergency surgical or medical interventions, they may be transferred (or taken immediately) to a bigger hospital – using clinical guidelines which have been written and approved by both hospitals in partnership. The sense of linkage, interdependence and networking in a key cultural challenge which needs to be met at many levels of the NHS.

For highly specialised care, we point to clear evidence of better outcomes related to higher volume. We identify a range of such complex conditions and provide the evidence (not shroud waving) that will convince the public that centralisation of certain services leads to much better outcomes.

So what does this tell us about the shape of our future NHS? What should it look like if we are to be best placed to meet the challenges? The large majority of care should be provided in the community. Much of it should be delivered in or close to home. We should extend the scope of what we currently know as primary care to include routine diagnostic tests, providing alternatives to hospitalisation (e.g. GPs with special interests) and doing the follow up from acute care. To maximise the opportunities for this, we need to fully utilise the potential of the community hospitals, we need to import to urban Scotland the model of the Community Hospital as a local

hub (perhaps by bringing together a number of GP practices on to a single site where they can share access to diagnostic and other facilities) and that will require a shift in resources to achieve a shift in the balance of care.

By shifting care from the traditional District General Hospital to multi-disciplinary, community based teams, we have the opportunity to use the DGH in a number of different ways. Some will focus on planned surgery to enable quicker access to care. These units may have "community casualty departments" attached but they will not admit patients who need emergency surgery. Other DGHs will continue to do both planned and emergency work but they will stream these procedures as far as possible. This will mean that, over time, the shape of our hospital provision will change. We cannot staff every hospital to do everything and the evidence shows that there is a massive downturn in activity during the night that can be safely dealt with by local nurse led teams, transfer of high risk patients to designated partner hospitals and networked emergency centres. In the central belt, we are confident that the stabilisation and transfer of seriously ill patients is the optimal means to manage risk within the limit of the available resource. In rural communities, transport becomes more problematic and our Rural General Hospital model offers a variation to take account of this.

It is not the function of a National Framework to say precisely what every DGH in Scotland should do. Our aim has been to make the decision making process more evidence based, transparent and therefore easier to make Boards more accountable to Government and the public alike.

One of the key messages for us in doing this work has been that we need to invest in the whole system. A good example is delayed discharges. We know that a number of patients stay in an NHS bed longer than they have to because there has been a delay in providing them with the support they need when they return to the community. What is less well known is that the vast majority of delayed discharges are from patients admitted on an emergency basis. If we prevent the admission, we could resolve the delayed discharge. We need to treat the cause of the problem rather than the symptom.

The keys to whole system improvement are as follows;

> a clearer understanding of what we are trying to achieve (summarised in the key messages set out earlier in the Report);

> integrated, collaborative and co-ordinated working by the NHS and its partners across the professions, across the traditional boundaries and across Scotland – Regional Planning Groups, Community Health Partnerships and Managed Clinical Networks will have a key role here;

> excellent management to ensure performance is aligned with the vision and that the NHS rewards those contributing to the whole system;

> resource flows that channel additional investment to support service change;

> an empowered workforce able to lead the clinical change necessary to make this work.

01

CHAPTER ONE
INTRODUCTION

Context

01 There are some big questions that need to be asked in planning the future of Scotland's health care. This document poses these questions and provides a National Framework for the NHS in Scotland to ensure the development of a world class health service for the people of Scotland. It offers a long term vision for service change with clear recommendations on all aspects of the system.

02 The success or failure of any policy, set of changes or reforms is judged against the objectives they were trying to achieve. The objectives of public services like the NHS are complex and notoriously difficult to capture.

03 Difficult decisions often need to be made about the prioritisation of objectives, and problems can arise when one set of objectives falls seriously out of line with another. In the summer of 2004, several NHS Boards decided that the balance of evidence suggested limited centralisation of hospital services would give a sustainable service in terms of medical staffing, as well as offering better health outcomes from treatment, and that this was sufficient to justify any loss of access through increased travelling time for the public. Many people in local communities did not agree with this trade-off.

04 The Health Committee of the Scottish Parliament (HCSP, 2005) said that in this instance, the NHS failed to understand what is important to:

- the public – maintaining local facilities and services (para 135),
- patients – too narrow a view of patient care, ignoring long and difficult journeys for care that can affect welfare (para 136).

05 Many commentators have suggested that Scotland urgently needs a debate about these issues. The debate must be about a core set of values that can be used as the basis for future judgements, both nationally and locally, on the way the NHS moves forward.

06 It was in anticipation of this debate that the Minister for Health and Community Care commissioned work to develop a National Framework for Service Change. The development of the framework would provide a vehicle for change, help to define the core values, and suggest what had to be done to deliver care that would meet them.

07 The Health Minister described how he saw the National Framework supporting the reform of NHS Scotland by providing a national context. The work was to draw on a set of values underpinning the modernisation of health services:

- providing services in a consistent and equitable manner across the whole of Scotland
- ensuring that patients are at the centre of change to ensure they get the treatment they require, when and where they need it
- removing barriers from the patient's pathway of care
- working in partnership with patients, staff and other stakeholders.

08 The terms of reference also provided a set of objectives underlying the exercise. These were to:

- provide a framework for work underway or about to get underway throughout the NHS on re-configuration and redesign as a means to ensure coherence across the service
- promote opportunities for local access to services and balance local delivery with the need to have centres of excellence providing high-quality, modern, specialist care
- identify exemplars and best practice that can help shape the future of health care in Scotland
- bring together proposals for re-configuration and redesign with current thinking on redefining the roles and responsibilities of the various players,
- facilitate re-configuration through alternative means of funding and resource allocation.

09 The nature of the terms of reference helps to explain further some of the context for the work. There is a recognition in the terms of reference that while NHS Scotland has made undoubted progress over recent years, the key improvements for patients are either too slow to emerge or, in a service as large and complex as NHS Scotland, not yet sufficiently visible at national level to show that real progress has been made.

10 The absence of a clearly-articulated narrative about how the health service was delivering timely access to services (locally where possible) was proving difficult to construct. The development of a National Framework would have to make sense of a considerable body of policy initiatives and pull them together into a coherent framework. It provides an opportunity to establish clarity and a shared view of what the NHS is trying to do and what each of the players in the system needs to do to help achieve the goals.

Vision and aims

11 We are helped in seeking to establish some clarity by the Health Minister's clear message about his vision for health care in Scotland. In setting out his plans to improve patient access to care, he said that: 'Our vision for the NHS is that it should deliver safe, high-quality services that are as local as possible and as specialised as necessary' (SEHD, 2004).

12 Our purpose in describing a National Framework for Service Change is to provide a policy context within which that vision can be developed and delivered. We are offering a set of recommendations to the Minister that will enable care of a consistently high standard to be delivered close to home, where possible. We have had the needs of the patient at the forefront of our minds, and we believe that the achievement of the best possible outcomes for the patient should drive how, when and where we deliver health services.

13 The work to develop a National Framework has a long term planning horizon. We are looking at the challenges and opportunities ahead over the next 15 to 20 years. Our aim is to prepare the health service for those changes.

14 But the National Framework is not just a piece of 'blue-sky visioning'. It is a route map that describes what needs to be done to get us from where we are to where we need to be. It provides practical guidance for NHS Boards on the future of health care in Scotland to assist them, working collaboratively, to shape that service.

15   In the report, we examine the range of factors that will influence the demands, challenges and opportunities faced by government, healthcare organisations, clinicians and patients over the next 20 years or so. We set out what our work in identifying these drivers for change and informed judgement from other sources tells us about the future planning horizon.

16   We examine the scope for doing things differently. There are new opportunities to deliver more care in local settings. We have to find ways to speed access to planned care and to ensure that if people have an unplanned or unscheduled need for care, they can get it quickly from the most appropriate source. And we look at specialisation and the evidence for it – including the relationship between volume of activity and outcomes.

17   In all of this work, we have had in mind a number of guiding principles. **We want to see health care in Scotland that is better, quicker, closer and safer.** That is not to say that the National Health Service (NHS) is deficient in any of these areas. Indeed there is evidence from surveys and from patient feedback that the NHS is delivering care that is good (and sometimes excellent), accessible and safe. But what we have to recognise is that there is still variation in quality. There is always scope to improve. Carrying on doing the same will no longer meet the needs of the people of Scotland.

18   We have also put a considerable store on ensuring that future services are sustainable. In some ways, the word 'sustainability' both illuminates and obscures the debate. It is a word that is immediately understandable, yet is open to multiple interpretations and misinterpretations and, occasionally, rouses suspicions.

19   Some members of the public, or their representatives, see 'sustainablilty' as an excuse to reduce or remove services. Others see it as only about costs. That is not how we have approached it at all.

20   The dictionary definition of sustainability is to support, to prolong or to keep going. That is how we have looked at the issue. It is about recognising that services need to be maintained, supported and sustained, but also recognising that in order to be sustained, they may have to change. Our focus is on the service, on what the patient needs. It is not on the bricks and mortar.

21   Sustainability is not a uniquely Scottish issue. Healthcare systems across the world are grappling with it. In November 2002, for example, the Commission on the Future of Health Care in Canada made recommendations 'to ensure the long term sustainability of a universally accessible, publicly-funded health system' (Health Canada, 2002). As can be seen from Box 1.1, the Commission saw three essential aspects, the balance of which enabled sustainable care.

Box 1.1 Commission on the Future of Health Care in Canada Building on Values (November 2002)

Sustainability means ensuring that sufficient resources are available over the long term to provide timely access to quality services that address evolving health needs.

Services – **A more comprehensive range of necessary health care services must be available to meet health needs. The services must be of a high quality and accessible on a timely basis. This aspect of sustainability involves looking at ways in which health care services are delivered, whether they are accessible for Canadians and whether they are efficiently and effectively delivered.**

Needs – **The health care system must meet people's needs and produce positive outcomes, not only for the individuals but for the population as a whole. This dimension examines how health care outcomes measure up and identifies disparities in health.**

Resources – **This includes not only financial resources but also the required health care providers and the physical resources (facilities, equipment, technology, research and data) that are needed to provide the range of services offered.**

22   The Commission's definition of sustainability as a balance between the three factors seems equally appropriate in a Scottish context. We also agree with the Commission that there is no 'invisible hand' that silently and unobtrusively keeps these elements in balance. Ultimately, the question of whether and how the system is sustained comes down to choices by those involved in the system – by government, by providers, by clinicians and by patients.

23   The framework also talks about a new partnership with patients and with the public more generally. It recognises the need to get the public involved in planning health care, to get patients involved in providing health care, and to get each of us taking responsibility for ensuring that we are as healthy as we can be. The government and the clinicians can only do so much – some of the responsibility for making Scotland's health care fit for the future lies with the Scottish people.

24   In a country the size of Scotland, we have a number of advantages and opportunities. We have the opportunity to have a genuinely national health service, a service that meets the needs of all of Scotland: for example, the 20% of people who stay in rural Scotland or the 8% who will be aged 80 or more in 20 years' time. We recognise that the needs of these people are quite substantially different from the affluent young person living in the central belt, and the framework applies equally to all.

25 The Minister's vision in 'Fair to all...' reinforces the two fundamental founding principles of the NHS. The first is that there should be equal access to treatment for all, based on clinical need and regardless of the person's ability to pay. The second is that collective funding of the NHS (through the taxation system) is the most effective way to ensure that quality care is available to all.

26 These two principles appear to remain central to the vision and were not challenged to any extent in our engagement with patients, the public and staff. In thinking through our advice to Ministers, our assumption has been that these principles remain valid today and for the foreseeable future.

27 In the report, we cover the wide range of issues referred to above. At the heart of our work is service change and improvement – services that are better, quicker, closer and safer. Change has to be sustainable, ensuring we are able to deliver the right services to meet evolving needs. It also needs to be built on a partnership with patients, taking their requirements fully on board – taking the time and effort to engage patients before decisions are taken. Finally, we are about building on the founding principles – equitable access according to need.

Are we aiming at the right targets?

28 Scotland should have a health system that we can be proud of. In many ways, that involves building on what we have got. There are many examples of excellence in the Scottish NHS. If we could make that excellence the norm and raise the standards of all to those of the best, we would be well-placed to meet the challenges of the future.

29 But in planning for the future, we should take into account what others say about the essential features of high-quality health care. What is it that characterises effective healthcare systems? There are many ideas about this, but a number of common themes emerge.

30 In the United States, the Committee on the Quality of Health Care in America proposes six aims for 21st Century healthcare systems (Box 1.2). The nature of the US system is markedly different from the NHS but it is interesting to note the degree of commonality around the aims even if the means of delivery differs.

Box 1.2. Committee on the Quality of Health Care in America

Aims for the 21st Century Health Care System:

Health care should be:

- **Safe – avoiding injuries to patients from the care that is intended to help them.**
- **Effective – providing services based on scientific knowledge to all who could benefit and refraining from providing services to those not likely to benefit (avoiding underuse and overuse respectively).**
- **Patient-centred – providing care that is respectful of and responsive to individual patient preferences, need and values and ensuring that patient values guide all clinical decisions.**
- **Timely – reducing waits and sometimes harmful delays for both those who receive and those who give care.**
- **Efficient – avoiding waste, including the waste of equipment, supplies, ideas and energy.**
- **Equitable – providing care that does not vary in quality because of personal characteristics such as gender, ethnicity, geographic location and socio-economic status.**

31   We can take some comfort from the similarities in approach, and we should learn from the work already done by these high-profile, respected organisations. But having confidence about what we need to aim for is only part of the answer.

32   If the National Framework is to be a practical tool for guiding service change, it needs to be clear about what action is necessary to achieve change and what levers we can put in to ensure that the whole system pulls in the same direction.

Responding to the challenges

33   In the chapters that follow, the report sets out a plan for action at national, regional and local levels that will meet the aspirations of patients, staff and the wider communities which depend heavily on the input of the NHS.

34   The report focuses on how NHS Scotland needs to change to meet the challenges in a way that is consistent with the vision and the principles set out above and that accords with the patient expectations (see Chapter 2).

35   We are faced with a set of complex issues, and they are likely to require a range of actions. We need to ensure that the decisions we take and the direction we follow are co-ordinated and that we attend to the whole system of care – not just to the issues of waiting times for hospital procedures that seem to attract so much political and media attention, but to the whole continuum of care. Our aim is to deliver whole-system benefits.

36 The report chapters are shaped around a number of key themes.

Shifting the balance of care

This chapter is based on a recognition that the challenges of an ageing population and growth in chronic disease will require a shift from a system geared towards providing episodic care with an emphasis on acute hospitals towards preventative and continuous care delivered locally where possible. The chapter includes consideration of:

- care in local settings
- long term conditions
- care for older people.

Self-care, carers, volunteering and the voluntary sector: towards a more collaborative approach

The NHS needs to recognise and support the contribution of other partners in the wider system of health. In particular, the development of self-management of long term conditions will be increasingly important.

Tackling health inequalities

The NHS needs to take a more proactive approach to the identification and treatment of those individuals in deprived areas whom the NHS is failing to reach.

Access to the right level of unscheduled care as locally as possible

This will require matching care to need, helping patients to get quickly to the right member of the clinical team when they need it (including in an emergency) and making the best use of resources to meet those needs.

Managing access to quicker planned care

Developing new approaches to delivering planned care that will cut waiting times, including elective care and diagnostics.

Care designed to deliver best outcomes

A focus on what is best and safest for the patient, rather than on the bricks and mortar of the local hospital, and an evidence-based approach that puts patient outcomes and quality of care first. The chapter includes consideration of specialised care and volume and outcomes.

New ways of delivering rural health care

The chapter presents the case for integrated care, new roles for community hospitals, and models for the Rural General Hospital.

A Health Service fit for Children

A detailed framework for the planning and delivery of health care services for children with a particular focus on paediatric critical and intensive care. In addition the chapter includes an update on the recommendations of the Expert Group on Acute Maternity Services.

Care based on collaboration and integration
The vision is of the whole system working together to put patient needs at the centre.

e-health

This is about integration enabled through a single national IT system – the 'glue' that binds the system. It looks at delivering local care and quicker access to care through e-health strategies, linking specialists to health centres and local hospitals throughout Scotland.

37   In the chapters that follow, we explore each of these themes in turn. It is important to note, however, that we do not see any of these themes as having primacy over the others. If we are to meet the future challenges, we need to take action under all of these headings, with a view to taking a whole-system approach.

38   We begin, however, by focusing on two crucial issues that impact on the shape of NHS Scotland. These are:

- What do patients expect from services?
- Drivers for change.

In summary:

- **the National Framework sets out a plan to develop health care in Scotland that is about delivering the best available care as close to the patient as is possible**
- **care must be delivered quickly by staff who are appropriately skilled**
- **the service should anticipate need where possible, rather than respond to it**
- **the NHS needs to be robust and adaptable**
- **the NHS needs to work in partnership with a range of partners, including social care providers, the voluntary sector and with patients and the general public**
- **the NHS needs to meet the needs of all.**

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CHAPTER TWO
WHAT DO PATIENTS EXPECT?

02

01 The Wanless Report (Wanless 2002) described a vision of the NHS in 2022 in which patients' expectations will be focused on five key areas:

- safe, high-quality treatment
- fast access to services
- an integrated, joined-up service
- comfortable accommodation
- a patient-centred service.

02 All of these issues are already on the agenda for NHS Scotland. But from the government's perspective, it cannot be a one-way street. Alongside promotion of involvement and partnership for patients, there is a growing emphasis on encouraging people to take responsibility for their own health. That has begun to take effect in promoting changes to unhealthy lifestyles and diet to prevent illness, but increasingly it will involve self care of specific existing conditions.

03 The literature around health service change is littered with references to 'putting patients first' or 'patient-centred care'. In a sense, our report is the same. But there are two important differences between our and others' reports.

04 First, we have asked patients what they want and need in public meetings and in a range of discussions with patient groups. Second, we have tried to anticipate how those needs might change in the future in relation to the kinds of illness that people will have and to their changing expectations.

Regional public meetings

05 During December 2004, the National Framework's Advisory Group held public meetings in Edinburgh, Glasgow, Dundee, Aberdeen and Inverness. Each took the form of a debate, with audience participation encouraged. They were all lively sessions with ample opportunities for people to voice their views.

06 Though some of the issues raised were local in nature, common themes arose which indicated that many people share the same opinions about delivery of health care.

07 Patients' priorities as expressed at the meetings are to have safe, high-quality care as close to their homes as possible, though they seem prepared to travel for highly-specialised treatments.

08 It was stated at many meetings that waiting times are generally considered to be too long. The majority of members of the public backed the expansion of role development in the NHS, agreeing that being seen by an appropriately-qualified health professional, not always a doctor, would be perfectly acceptable. They would be quite happy to be seen by a highly-trained nurse specialist or physiotherapist, for example.

09 Concerns were expressed about out-of-hours' services, with a good deal of discussion around the effectiveness of NHS 24. Other key topics included health care for older people and support for carers, both in terms of respite care and ongoing access to help and advice.

Remote and rural meetings

10 Following the regional meetings, members of the Advisory Group visited rural and island communities to get a clearer view of what issues are of particular concern there and exactly how they differ from those in urban areas. They went to Shetland, Orkney, the Western Isles, Ayrshire and Arran, and the Borders. The common themes emerging were similar to those at the regional events.

11 Centralisation of services is a major concern in rural and island areas. The overriding problem, however, is staff recruitment and retention, difficulties with which were raised at many of the meetings.

12 Transport was raised as a topic at every event, the main concerns being journey times and lack of co-ordination between appointment slots and travel arrangements. The main priority of patients, it was emphasised, is to have safe, high-quality care close to home, though there was acceptance of the need to go to major centres for highly-specialist attention.

13 New technology was a much-debated subject, with particular emphasis on the importance of an integrated information system for patient records and the expansion of telemedicine. Another clear message coming from the meetings was the importance of individuals taking responsibility for their own wellbeing.

Putting the evidence together...

14 By and large, people at the public meetings seemed happy with the service they were getting, had worries about recent deterioration, but were hopeful about the future. The National Framework should make a contribution to ensuring that their confidence is not misplaced.

15 The feedback received at public meetings was very much in line with the findings of the survey undertaken by NOP Social and Political in 2004 on behalf of the Scottish Executive. That survey of 2600 adults showed high satisfaction with NHS services. It revealed that about 90% of patients were 'very' or 'fairly' satisfied with the services covered in the survey. This is an important point. Health services in Scotland are delivered by highly-skilled, committed people who strive to do their best for patients. We need to build on that, to develop and improve rather than to denigrate.

16 But within the results of the NOP survey were one or two areas for concern. There was evidence of a link between satisfaction and access to NHS services. There was also evidence that rather more people thought the NHS had got worse over the previous few years than felt it had improved (27% against 20%). Around half the sample thought there had been no change.

17 In contrast, there was a net positive balance with regard to the future – 39% expected improvements, while 23% thought the situation would worsen. Interestingly, these attitudes to the future did not vary according to whether people had been users or non-users of health services in the previous 12 months, suggesting that people's views and expectations are influenced by factors other than personal experience.

What do patients expect?

18 What does all this tell us about the service that patients will expect in the future?

19 Patients will demand safe, high-quality treatment with minimum variation across the country, and will want to be active partners, rather than passive recipients, in their care. They are likely to value 'high-tech', proactive services delivered by staff who are at their best. They will be reluctant to wait and will expect the service to be more joined up. If they have to go into hospital, they will expect higher-quality accommodation and food.

20 They will want services that are tailored to their needs and which meet the best standards of customer care found elsewhere. In healthcare terms, that might mean quicker access to a health professional at convenient times. Current waiting times for diagnosis and elective treatment are unlikely to be acceptable. The health service will have to be quicker, sharper and smarter at the point of delivery.

21 The analysis above is supported by work done by the Picker Institute, a UK-registered charity that works extensively with European healthcare providers to obtain feedback from patients and promote patient-centred care. In its 2003 study, 'The European Patient of the Future', the Institute found that 'people want better access to health care, better communication with doctors and greater participation in clinical decisions affecting their own health care' (Coulter and Magee, 2003).

22 The study also showed that people felt that as citizens, they should be able to help shape health policy, and that their views on priorities should be listened to by policy makers. Again, this chimes with the feedback that the National Framework team received at their public meetings.

Into the future

23 Recent work on how wider trends in society and customer experiences in other sectors might impact on the healthcare sector suggests that in 20 years time, patients may be very different. The research indicated that in future patients will:

- be better informed
- be more educated
- not have enough time to get things done
- be more affluent
- be less deferential to authority and professionals
- have more source against which to compare the health service
- want more control and more choice – they will reject 'one size fits all' services.

24 Despite these changing expectations and challenging demands, there is little or no evidence to suggest that patients will change their basic support for the NHS and its core values. The ethos of the NHS – comprehensive care available to all – commands universal support and, according to an ICM survey in 2002, over 90% of people believe that the NHS should be available free of charge when they need it.

25 It seems generally safe to assume, therefore, that unless there is a significant reduction in the level or quality of service, people will continue to support this general principle and will continue to expect that the service will be equitable and fair.

References

Coulter A, Magee H (Eds) (2003) *European Patient of the Future.* Buckingham: Open University Press.

Wanless D (2002) *Securing Our Future Health: taking a long term view The Wanless Report.* London: MH Treasury.

03 CHAPTER THREE
DRIVERS FOR CHANGE

01   This chapter examines the key factors driving change in Scotland's health care system. Much of the information is already in the public domain, but in this analysis, we attempt to examine the inter-dependency of the various drivers and seek to provide some clarity about what they mean for the future shape of the health service in Scotland. A full 'Drivers for Change' report is available on the National Framework website: www.show.scot.nhs.uk/sehd/nationalframework

02   The position is complex. Not all of the factors driving change point in the same direction. But the implications are obvious:

- change is inevitable
- given the complexity of the drivers, planning for change is essential
- 'more of the same' is not the solution – to meet the challenge of the drivers will require new ways of working, involving the whole healthcare system in the change process.

03   Healthcare service change needs to be part of a wider reform agenda. We start from a position where the health of Scotland's people compares unfavourably with most of Western Europe. That will require a continued focus on health improvement and on narrowing health inequalities. Changes in health care will have to be accompanied by complementary improvement in social care. Workforce redesign will be vital to secure service change. The inter-dependencies are considerable. But the focus of this work is on the changing healthcare environment. What are the factors that will impact on how we deliver care in Scotland, and what do those factors tell us about our future change agenda?

The changing population

04   Scotland is faced with a declining population and an ageing population. The population is projected to decline at an accelerating rate over the next forty years, from a current total of 5.05 million to around 4.5 million in 2042. While the existence and extent of the decline in Scotland's population is unusual, the ageing of Scotland's population is not. All industrial nations are experiencing an ageing of the population as a result of declining fertility and increasing life expectancy. It is the interaction between the ageing of the population and the overall decline that sets Scotland apart.

05   The long term shifts in Scotland's age structure can be seen in the age pyramids for 1911, 1951, 2001 and 2031, shown in Figure 3.1. What is most striking about the figures for 2031 is that the age groups 60 to 64 and 65 to 69 will be the largest five-year age groups in the population with, broadly speaking, younger age groups getting progressively smaller.

06   Most significant, perhaps, in terms of implications for health care is the growing population share of the older age groups, especially the oldest old. In 1911, 0.6% of the population was aged 80 and over; in 1951, the figure was 1.3%; in 2001, it was 3.8%; and by 2031, 8.2% of the population will be aged 80 and over.

Figure 3.1
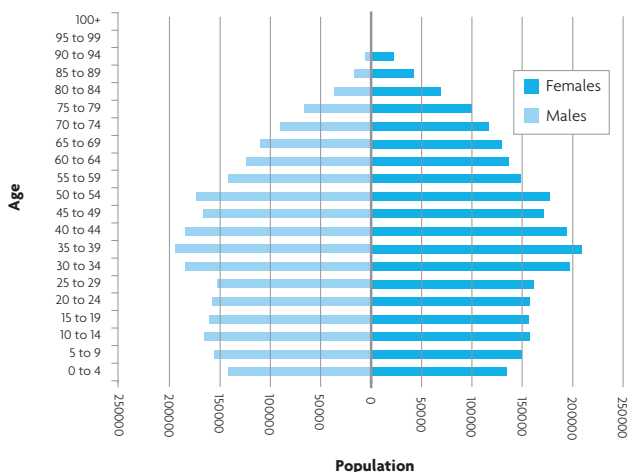## Scotland's changing population structure
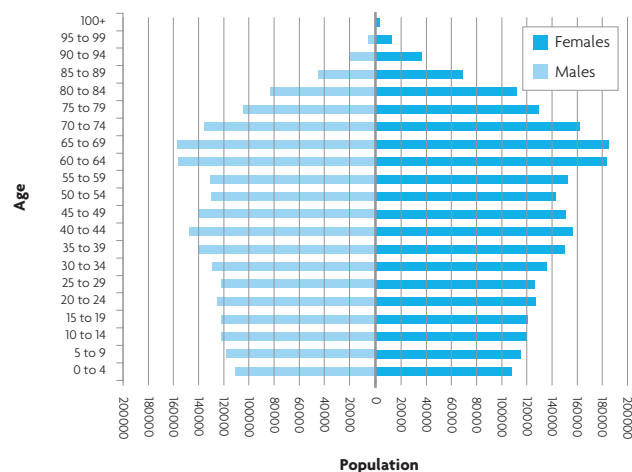
Population of Scotland. 1911
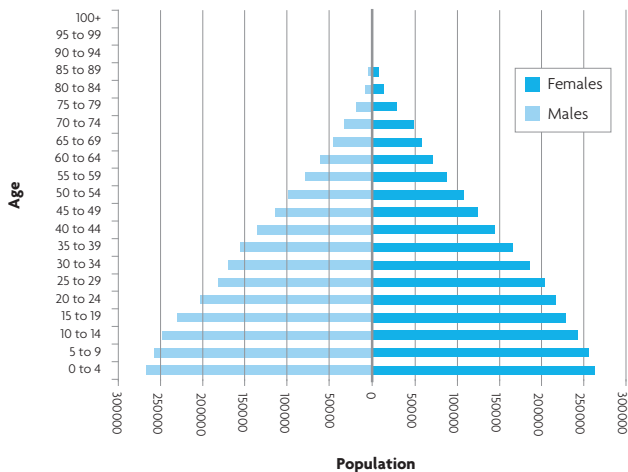
Population of Scotland. 1951
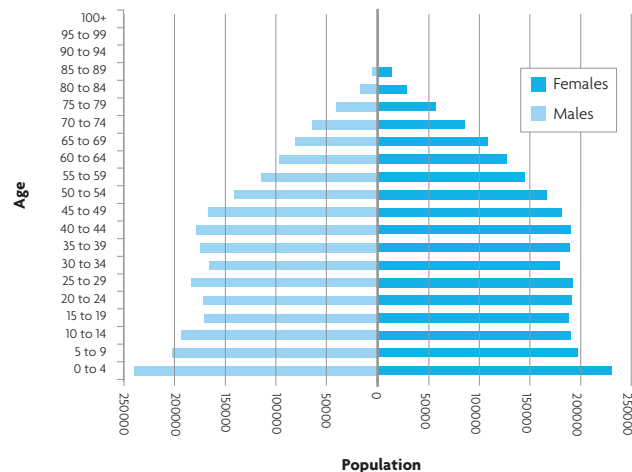
Population of Scotland. 2001

Population of Scotland. 2031

Source: GRO Scotland

07 The pattern of demographic change is not consistent across Scotland. Lothian NHS Board area has by far the biggest projected growth in population through to 2018 (7%). The areas with the biggest projected falls are Orkney (10%) and the Western Isles (17%). Rural areas such as Dumfries and Galloway will show particularly marked shifts in the age structure of the population with growth in the number of older people and greater than average reductions in the number of younger adults.

08 What are the implications of this ageing population in terms of the burden of ill health and demands on the healthcare system? In general, the older a person is, the more likely he or she is to suffer ill health. He or she is also likely to have a higher incidence of chronic disease and, on average, a greater number of long term conditions.

09 We need to bear in mind, however, that the balance of evidence at international, UK and Scottish level is that age for age, older people have been getting healthier. So, while we can expect an increasing burden on health care from an ageing population, it is not as straightforward as assuming that a 20% increase in the number of older people means a 20% increase in the demand for health care.

10　A recent study exploited the fact that most healthcare expenditure takes place in the years immediately preceding death to forecast likely future increases in healthcare expenditure associated with an ageing population. It shows it is likely to increase at around half the rate which would be expected if age-specific rates of expenditure were to remain constant (Seshamani, 2004).

11　The ageing population will mean growing numbers of older people who are experiencing ill health with greater or lesser levels of dependency, but will also mean much higher numbers of healthy older people in the population. This increases not only the numbers of potentially dependent people, but also the numbers of older potential carers or care workers. The challenge will be to mobilise them in ways which will benefit the carers and the cared for.

The changing social context

12　The formal healthcare system is not the only provider of health care. The extent to which the growth in numbers of older people results in an increase in demands on the NHS will depend upon the living circumstances of older people and the availability of, for example, unpaid care provided by family members, friends and other members of the community.

13　The last half century has seen a major decline in older people living in the same household as their adult children or in other more complex types of household. The vast majority of older people now live alone or with only their partners.

14　There has been a particularly rapid rise in the number of older people living alone over the last ten years or so. Between 1991 and 2001, the numbers of people aged 85 and over who lived alone increased from 30,000 to 44,000 (ISD Scotland, 2003) – a trend which is likely to continue.

15　The available evidence indicates strongly that the level of provision of unpaid care is, at best, not increasing. It is certainly not keeping pace with the growing need for care of an ageing population. There is evidence of an 'intensification' of unpaid care towards greater input by close family members (particularly partners) (Hirst, 2001; Pickard, 2002). The system of unpaid care is fragile and needs support if its breakdown is not to result in even greater demands on the NHS.

16　Many of the care needs of frail older people are social, rather than medical. As will be seen below in the context of rising emergency admissions, the lack of integrated and preventive care can lead to a crisis for an older person that results in an emergency inpatient admission. Our response to such issues requires a 'whole-system' approach involving clinical input by a range of skilled people, excellent links with social care, and greater patient involvement.

17　**In the light of these demographic and social trends, it is clear that we need to find new and better ways of delivering health care. 'More of the same' will not be sustainable.**

Patterns of ill-health

18 Scotland's changing pattern of mortality and disease over the last two centuries is broadly similar to that of other industrial nations. Scotland has experienced its own version of what is commonly called the 'epidemiological transition'.

19 The late 19th Century and the first half of the 20th Century saw a pattern of disease associated with rapid industrialisation and urbanisation, with high levels of childhood mortality and a high prevalence of infectious disease. As these scourges were conquered in the first half of the 20th Century, and as the population has become older, the major burden of ill health facing the health service is increasingly that of chronic disease. Again, this reflects a global pattern.

20 Scotland's pattern of ill-health and mortality does have its own distinct features, however. Scotland tends to lie at the bottom end of European league tables of mortality and morbidity. Recent estimates of comparative life expectancy at birth put Scotland at (women) or close to (men) the bottom of the list of Western European countries. This is a recent phenomenon. In 1950, Scotland was in the top half of seventeen European countries in terms of mortality.

21 Mortality rates among children and young people in Scotland are around the European norm. Only by the time they reach their thirties and forties do Scottish adults start to show higher mortality rates.

22 But Scotland's health isn't poor in all respects. Scotland has the worst death rates in Europe for cardiovascular diseases and lung cancer, but performs relatively well in terms of external causes of death such as injuries and violence (such as road accidents), Scotland's infant mortality is around the European average.

23 Why is Scotland's health in general so poor – and why, in particular, does Scotland have higher levels of mortality than the rest of the United Kingdom? Part – but not all – of the answer lies in Scotland's higher levels of deprivation. Recent analysis showed that in 1991 around 40% of Scotland's excess mortality was accounted for by deprivation (PHIS/ISD Scotland, 2001).

24 Apart from the role of deprivation, it has proved difficult to explain Scotland's poor relative health. Factors such as smoking, alcohol abuse and diet may all play a part. These may be among the surface symptoms of a deeper set of causes related to the decline of Scotland's heavy industrial base.

'Historically, acute and immediately life-threatening problems were the principal concern for healthcare systems. Advances in biomedical science and public health measures over the past century have changed this dramatically. However, most healthcare systems have not kept pace with the decline in acute health problems and the increase in chronic conditions. Although there are notable exceptions, such as experiences with community-oriented primary care, most health care today is still trying to manage chronic problems using acute care mentality, methods and systems.'

(Epping-Jordan et al., 2003).

25 It has been suggested that until 1950, the major focus of health care was infectious disease. During the second half of the 20th Century, health services were oriented towards the provision of episodic care for acute conditions. In the 21st Century, chronic disease will be the major challenge for health care (Anderson, 2004).

26 If we accept the broad terms of this analysis, our NHS was introduced at the tail end of the era in which the main challenge was infectious disease and has largely been geared to dealing with acute conditions on an episodic basis.

27 The most direct evidence of the prevalence of long-term conditions in Scotland comes from the Scottish Health Survey. Even for age groups 45 to 54, 'early middle age', 45% of the population reported at least one long-standing illness. In the age group 65 to 74, 62% reported at least one long-standing illness (Figure 3.2). 29% of those aged 65 to 74 reported more than one long-term condition, while international evidence suggests that older age groups will have an even higher prevalence of multiple chronic conditions.

28 People with chronic illnesses generate substantial demands on health services. It has been estimated that 75% of all US healthcare expenditures are related to the treatment of chronic conditions (Hoffman et al., 1995). In the UK, patients with a chronic condition account for 80% of all GP consultations and are twice as likely to be admitted to hospital and experience longer stays when they are admitted (Department of Health, 2004).

29 In Scotland, ISD Scotland Practice Team Information shows that even using a relatively narrow definition of chronic disease, 57% of 65 to 74 year olds had a primary care contact for at least one condition and 18% were seeing the primary care team for two or more. In the 75 to 84 age group, 61% had a contact for at least one condition and 22% for two or more.

Figure 3.2
**Number of longstanding illnesses by age. Both Sexes. Scottish Health Survey 1998**
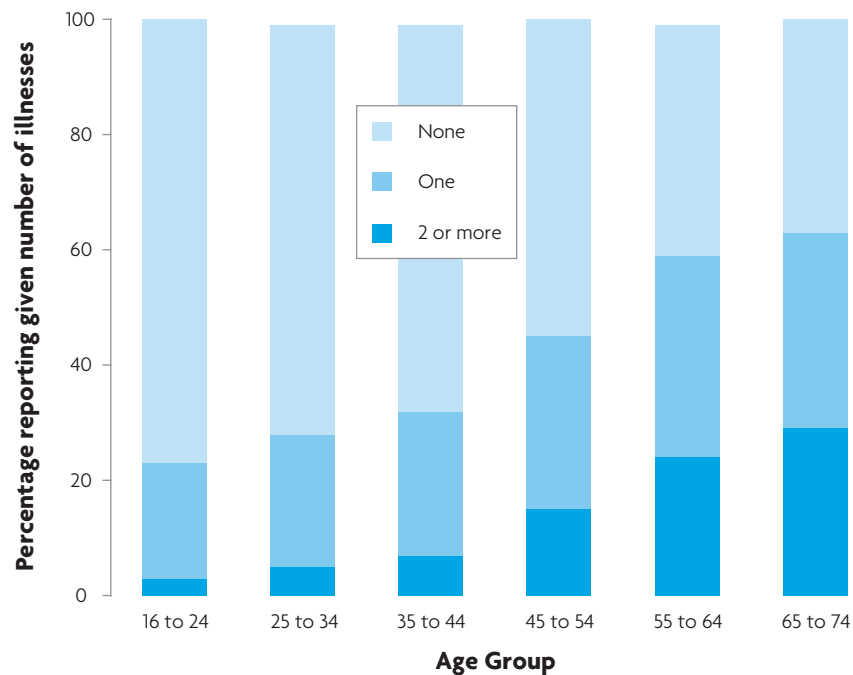
30 The incidence of certain conditions will increase largely as a reflection of the ageing population. For example, unless there are major advances in prevention, there will be a doubling in the number of people with dementia in the next forty years and a trebling in the number of people aged 85 and over with dementia.

31 NHS Scotland is only beginning to come to terms with the implications of these major shifts in the pattern of ill-health. It will need a paradigm shift in the way services are delivered to deal with the growing dominance of long-term conditions.

The health service response: patterns of patient activity

32 Trends in patient activity reflect the numbers of patients treated by the health service and changes in the way they are treated – for example, the move from inpatient to day-case settings for many types of surgical procedure, or the increasing role of members of the practice team other than the GP in primary care.

33 These trends are not in themselves sources of pressure or independent drivers of change in the NHS. Long-term trends in patient activity can, however, help us understand how the service has responded to changing patterns of demand in the past and may continue to respond in the future if the model of service delivery does not change.

34 Trends in the emergency admission of older people are particularly important in this respect. Such admissions represent perhaps the greatest source of pressure on the NHS and help us to understand how the whole system of care has responded to the demographic and epidemiological pressures we have outlined. The entire increase in hospital beds occupied by emergency inpatients over the last 20 years has been contributed by patients aged 80 and over (Figure 3.3).

Figure 3.3
Bed days by emergency inpatients by broad age group. 1981 to 2002.
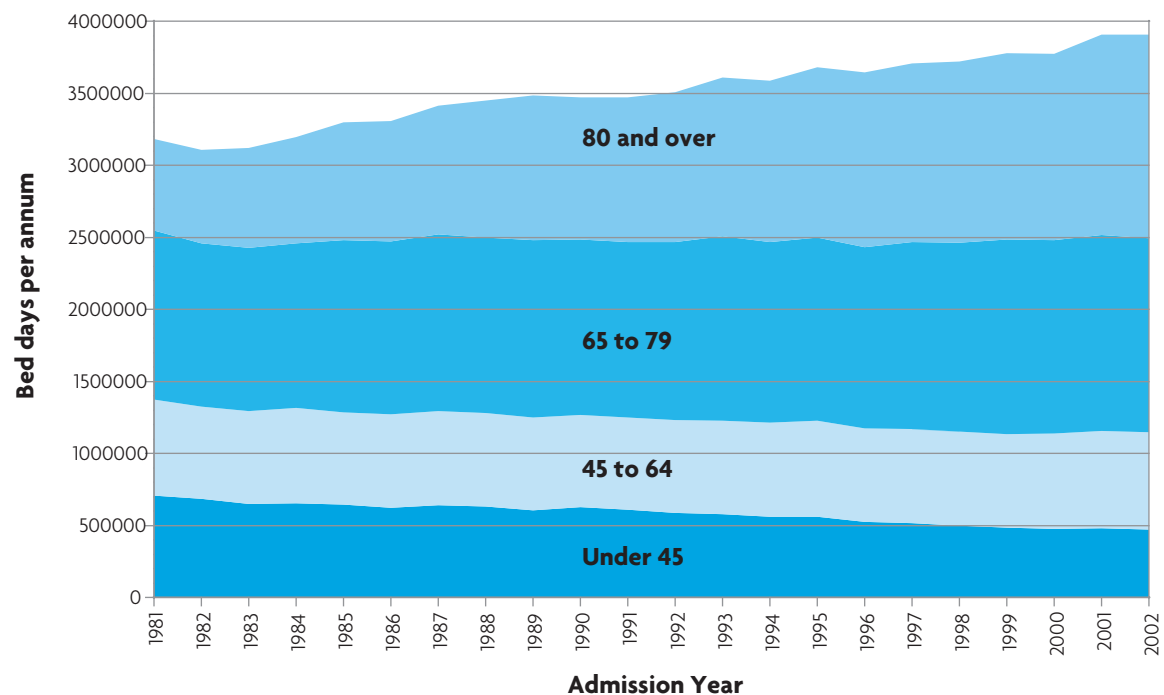
Source: ISD Scotland

35   The impact, however, is more than simply the use of beds. There is increasing concern that unnecessary days spent in hospital may have deleterious consequences for older patients. Over 85% of delayed discharges occur after emergency admission. In addition, winter bed crises, with their serious knock-on effects throughout the system, are overwhelmingly the product of surges in the emergency admission of older people. Emergency pressures make it difficult to bring down waiting times as emergency admissions cut into the resources (beds, staff, theatre time) needed for elective care.

36   The number of multiple emergency admissions of older patients has been rising particularly rapidly over the last 20 years. In 1981, 0.5% of the population aged 85 and over (242 patients) were admitted as an emergency three or more times in a single year; by 2001, this had risen to 2.6% (2321 patients).

37   Increasing emergency admissions among older people have occurred across most types of diagnosis, but the most rapid rise has been in 'signs and symptoms' – conditions such as chest pain or 'aff yer legs', for which a definitive diagnosis has not been achieved.

38   What lies behind these trends? It might be felt that the finding of rapidly-rising numbers of emergency admissions among older people should come as no surprise, given the growing numbers of older people in the population. In fact, population change accounts for only a small proportion – perhaps a quarter – of the increase. The exact proportion depends upon the period of time and the age group considered.

39   Over the last 20 years, older people of a given age have been getting healthier, not less healthy. Only a small proportion of the rapid increase in emergency inpatient admissions in the 1980s and 1990s was attributable to a greater 'burden of ill health' in the older population.

40   The conclusion has to be that the increase in emergency admissions (and multiple emergency admissions) among older people has not primarily been a direct reflection of increased morbidity or ill health in the older population, but has in the main been a reflection of the way in which the whole system of care has tended to respond to the healthcare needs of older people.

41   The role of primary care is key. GPs are still the main gatekeepers to acute care. Around 70% of emergency inpatient admissions are the result of a GP referral. It takes only tiny changes in GP referral behaviour to have a major impact on emergency admissions.

42   GPs refer approximately 1 in 50 of the patients they see. For every 1000 patients seen by a GP, therefore, 20 will be referred for emergency inpatient admission. If GPs were to refer one extra patient per 1000, this would result in an increase in inpatient referrals from 20 to 21 per 1000, or an increase of 5% in the number of referred emergency admissions.

43   As a very rough order of magnitude, a full-time GP will have around 4000 patient contacts per year, or 1000 per quarter. **Each GP has only to refer one extra patient per quarter to produce a 5% rise in emergency inpatient referrals.**

44   In making a decision about whether to refer a patient for emergency inpatient admission, a GP will make a rational assessment of the options for care available and make a decision in the best interests of the patient. Whether emergency inpatient referral is seen as the best option will depend crucially on the availability of resources and systems – such as integrated care teams or other forms of flexible support for patients at home – which could provide alternatives to inpatient admission. It is also affected by the extent to which the GP sees these systems as safe, accessible and credible.

45   Despite the availability of these services, emergency inpatient admission will often be seen as the simplest and most effective way of ensuring a patient gets immediate and appropriate attention. The hospital is the one part of the system which hardly ever says 'No'.

46   Some of the dominant patterns of change in primary care over the last 20 years may have worked to push up the referral rate. These would include a shift away from personal continuity of care (larger practices and out-of-hours services, for instance), an increase in defensive medicine and an increase in other demands on GPs. But even if none of these changes were occurring, the overall increase in the demand for care directed at a primary care system, which is often under pressure and working close to capacity, may itself produce higher referral rates and, consequently, a disproportionate increase in emergency admissions. Such considerations may be particularly applicable to frail older people (ISD Scotland, 2003).

47   But the powerful amplifiers involved here could be turned the other way. If alternatives were provided to help GPs refer fewer patients, disproportionate downward impacts on emergency admission could be produced.

48   GP referral patterns are just one example of how the system can work to push up emergency admissions of older people. Other factors include a relative lack of investment in social care and more beds being made available by the shift of elective surgery from an inpatient to a day-case basis.

49   Perhaps the most fundamental explanation for the rise in emergency admissions, however, lies in the mismatch between the needs of the population for proactive, integrated and preventive care for chronic conditions, and a health care system that is still organised primarily to provide specialised, episodic care for acute conditions.

50   In this sense, Scotland's experience reflects a more general situation outlined by the World Health Organisation's chronic conditions team:

      'Effective prevention and management of chronic conditions requires an evolution of health care, away from a model that is focused on acute symptoms towards a co-ordinated, comprehensive system of ongoing care. Without this type of change, healthcare systems will grow increasingly inefficient and ineffective as the prevalence of chronic conditions rises. Health care expenditure will continue to escalate but improvements in population health status will not.'

      (Epping-Jordan et al., 2003).

51   Future patterns of patient activity, in particular the numbers of emergency admissions among older people, will depend on the extent to which services continue to be delivered according to the old model.

Remoteness and rurality

52   One fifth of the Scottish population lives in a rural area (Scottish Executive, 2004). Of these people, a significant number live in very remote areas that require different healthcare arrangements to cope with times of enforced self reliance due, principally, to weather and transport difficulties.

53   Healthcare arrangements for remote and rural areas are currently facing a set of distinct and complex challenges. The various drivers for change outlined elsewhere in this section (such as deprivation, demography, workforce developments and technology) will impact on rural and remote areas in ways which often differ significantly from their impact on less remote and more urbanised localities.

54   There is therefore a need for a nuanced and specific response to the healthcare issues of remote and rural areas. There must be an alternative to the dominant model of healthcare thinking in Scotland, which has been distinctly urban based.

Demography

55   Population sparsity introduces difficulties in the economic delivery of services (Deauville, 2001; Skills for Health, 2004). Low absolute numbers lead to difficulties in sustainable service provision and the retention of clinical skills.

56   Rural areas are projected to show especially strong shifts in the balance of the population towards older age groups and a decline in younger economically-active age groups. This has implications for increased demand for health care for older people and the recruitment of staff to provide care.

Deprivation

57   Deprivation in rural areas has tended to be hidden, in part because of inadequate and inappropriate definitions and measures (Barnett et al., 2001), masking unmet need (Stark et al., 2004). The healthcare effects of deprivation in remote and rural areas are amplified by problems of access and the disproportionate cost of travelling to services.

Access

58   Transport infrastructures are not always optimally configured to allow access to services for people in remote and rural Scotland. Long distances and the lack of a transport infrastructure increase the inaccessibility of services (Scottish Executive, 2004). The disproportionate cost of travel and infrequent scheduling of services make it extremely difficult for families to visit and provide support for patients in hospital. This will increase the emotional cost and physical toll of supporting relatives away from home. Longer recovery times may result.

Education and training drivers

59   Distance from major centres means that clinical staff often have to extend their skills beyond their core areas (Swan et al., 2004). The breadth of work delivered by clinical staff in remote and rural settings may make it difficult to maintain skills across a broad range of clinical areas. Inaccessibility of training programmes may lead to skills decay and increases in clinical risk and stress at work (Douglas and Laird, 2004).

Workforce drivers

60   The current service relies on the contribution of dedicated professionals, many of whom are reaching the latter stages of their working lives and have contributed long periods of on-call service in addition to their standard role. Replacing this workforce with younger healthcare professionals who are more used to working in the wider NHS in extended teams will be a major challenge. Extended teams protect them from the frequent on-call rotas and clinical diversity that is the bread and butter of remote and rural health care.

61   Compliance with developments such as the European Working Time Directive often requires larger clinical teams, but there may be insufficient workload to support larger teams in rural and remote areas. A rural environment may not be able to support the career pathways seen as desirable in the current specialist practice environment. Working in a remote or rural environment may therefore be seen as a career cul-de-sac.

Quality drivers

62   National quality improvement programmes may not be sensitive to the needs of small teams working in a rural environment. Although clinical and service outcomes are often good and patient evaluation of service provision is positive, services may not be able to satisfy the detail of process requirements.

Implications

63 The fragility of services and closeness of the public to service providers means that remote and rural areas often feel the effects of change sooner than urban areas (Skills for Health, 2004). They act as a 'litmus test' for the health service as a whole. Addressing the drivers acting in remote and rural Scotland on a whole-systems basis will be of benefit to all.

64 Many potential solutions will be the same. They will include transport arrangements, service access, professional standards and accountabilities, multidisciplinary team working and education and training structures. It is, however, unrealistic and unsustainable to expect the same configuration of care to be used throughout Scotland.

65 Developing a model (or models) that balances equitable access with sustainability is the challenge for the whole service in Scotland. Remote and rural areas are at the forefront of these developments.

Finance and performance

66 The NHS in Scotland and England has seen very rapid growth in total funding in recent years. NHS expenditure grew by 56% in both England and Scotland between 1997/98 and 2002/03, amounting to growth levels of 38% in real terms.

67 This is a continuation of a trend in per capita expenditure on health in which Scottish expenditure has largely paralleled English. Figure 3.4 shows NHS expenditure per capita for Scotland and England from 1979/80 onwards and projected expenditure for 2004/05 to 2007/08.

Figure 3.4
Per capita NHS expenditure. Scotland and England.
Financial years 1979/80 to 2007/08 (projected)
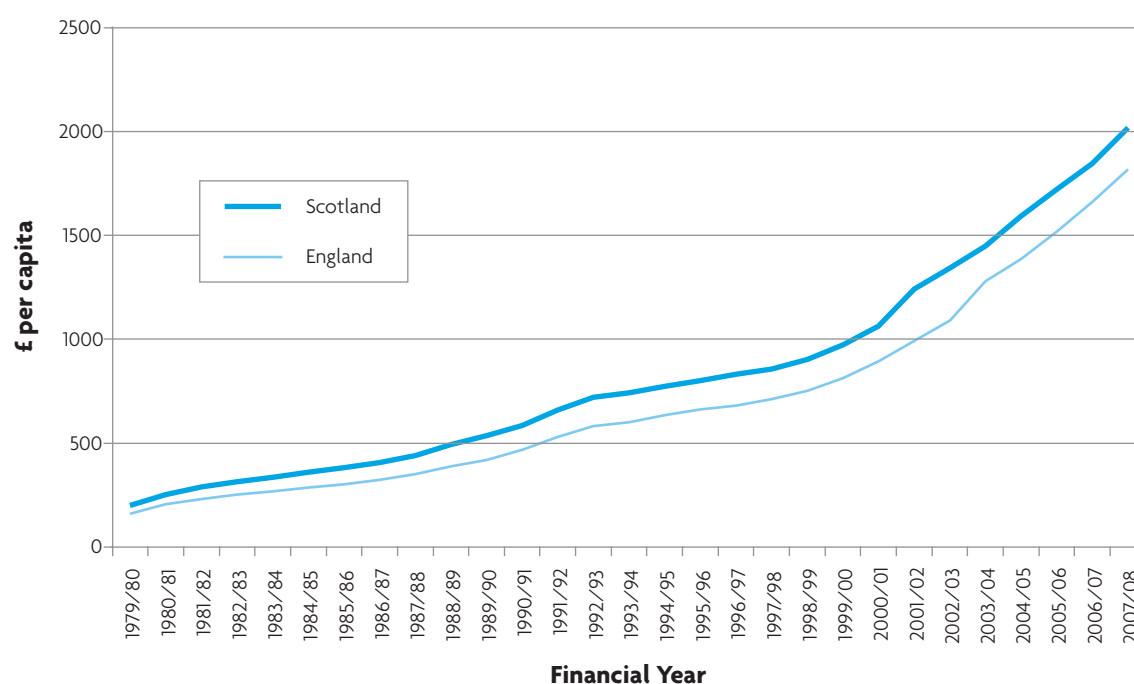
68 Over the period as a whole, per capita NHS expenditure has grown considerably in both countries, reflecting both inflation and real increases in NHS spending. Scotland has maintained its absolute advantage in terms of per capita spending, but it has not kept pace with the overall increase in spending since the early 1990s. The ratio of Scottish NHS expenditure to that in England has consequently declined steadily.

69 During the 1980s and into the early 1990s, per capita NHS expenditure was around 25% higher in Scotland than in England. By 1999/00, the advantage had shrunk to 20%, with spending in Scotland at £974 per head compared to £813 in England. By 2002/03, the real gap had narrowed further to an order of magnitude of 14% difference in per capita spend. (The apparent widening of the gap in 2001/02 and 2002/03 was due to Scotland adopting a change in accounting base two years earlier than England.) Scotland's relative advantage in terms of NHS spending, while still considerable, has been shrinking steadily in recent years. By 2007/08, the gap is projected to have declined to around 11% (Figure 3.5).

Figure 3.5
NHS expenditure per head of population. Scotland as a percentage of England. 1979/80 to 2007/08 (projected)

NB. Ratio for 2001/2 and 2002/3 is artificially inflated because Scotland adopted new accounting procedures in these years before England
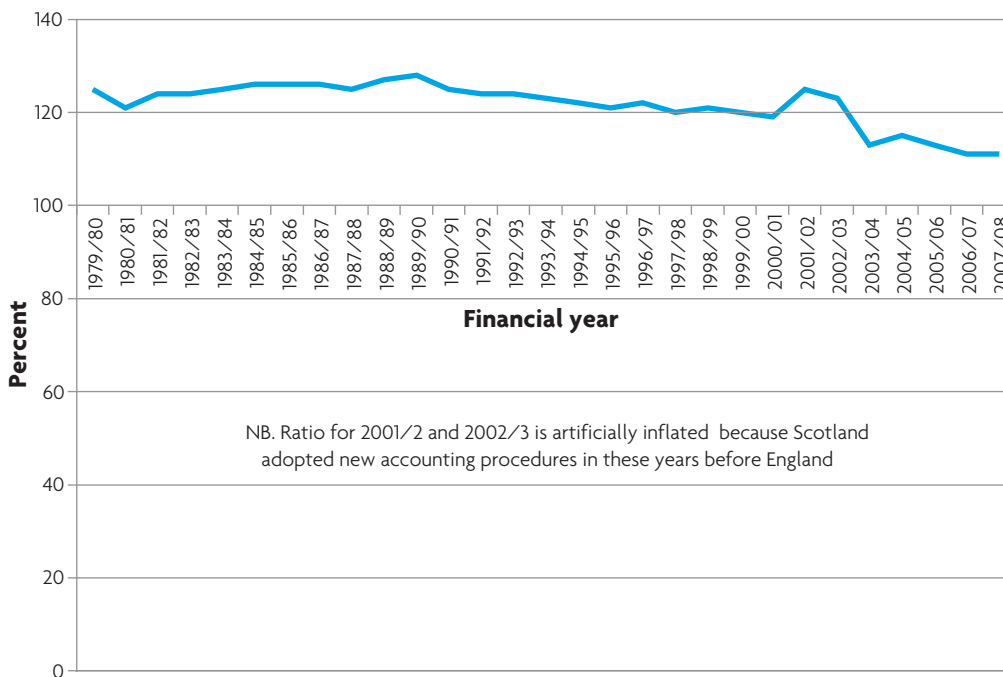
70 These figures refer only to state-funded healthcare spending. Scotland has a lower level of private healthcare provision. The gap in terms of total healthcare spending would consequently be somewhat smaller. In terms of the wider context, the Scottish level of per capita spending on health care is now around the European average (Audit Scotland, 2004).

71 Higher spending in Scotland is reflected in a higher level of staffing per head of population across a range of categories. Scotland has been reported as having 0.71 GPs per 1000 population, while England has 0.52. There were 1.68 hospital medical staff in Scotland per 1000 population in 2001 compared with 1.35 in England. And Scotland employed more nurses per head of population than England, with 7.3 per 1000 population compared with 5.4 in England (Civitas, 2004).

72 Comparison of the number of beds per head of population is complicated by Scotland's greater (but declining) use of long-stay or continuing care beds. If these are included in the total, Scotland appears to have twice as many beds as England per head of population (6.2 as against 3.0). If the comparison is restricted to acute beds, however, Scotland has 3.5 beds per 1000 population compared with 2.8 for England (Audit Scotland, 2004).

73 Scotland's higher levels of spending on health are therefore reflected in higher levels of staffing and beds.

74 Is the Scottish healthcare system less cost-effective than the English? The answer depends upon the extent to which Scotland needs its extra healthcare expenditure to overcome unfavourable factors that work against delivering comparative health outcomes. The effect of higher levels of deprivation in Scotland has already been discussed. Higher levels of rurality and remoteness in Scotland are also a significant factor. They make it much more difficult to fine-tune the relationship between needs and resource. Ensuring adequate access to health care for people in remote parts of Scotland – and particularly inhabitants of the Scottish islands – can be much more expensive than in urban or central belt areas. For example, spending per head of population in 2003 in Fife was £1034, compared with £1868 in the Western Isles. And the smaller size of the private sector in Scotland will affect the amount of NHS money that needs to be spent to achieve equivalent aggregate healthcare outcomes.

75 A definitive answer is impossible to find. What is unarguable, however, is that Scotland spends a good deal more money on health care than England, although, as we have seen, Scotland's extra spending has been steadily declining in proportional terms. What Scotland gets for that extra investment is much less clear and needs to be addressed.

76 Relatively high levels of spending on health in Scotland and the relatively poor record of Scotland in terms of ill-health and mortality are long-term historical legacies (Dixon et al., 1999). It has been suggested that the performance of the NHS in England in recent years has improved in areas such as emergency care and waiting times to an extent that has not been matched in Scotland. It may be that because of its relatively lower levels of capacity in terms of staffing and beds, England reached a 'crunch-point' several years ago which forced the adoption of more aggressive modernisation and reform policies. Scotland's higher levels of capacity may have allowed the Scottish system a few more years of being able to avoid facing up to the need to modernise the system. If so, we have an opportunity to make the necessary changes before they are forced on the system by the kind of generalised bed crises that were beginning to occur in England.

77 In the light of the demographic and other analysis elsewhere in this chapter, one thing is clear. Increases in resources will be required to meet increased demand. But it is equally clear that no matter how generous those resources – and the planned health budget will exceed £10bn per annum in a few years – the answers to the challenges are not wholly financial. It will be necessary to find ways to fully account for the service change that increased resources bring, but it is also important to ensure that the nature of the service changes to meet the changing needs of patients, and that the financial system is sufficiently flexible to be able to shift resources where they are needed.

Workforce

78 The size and composition of the workforce is a key determinant of the capacity of NHS Scotland. A number of developments have brought workforce dynamics to the forefront of planning concerns:

- fewer people of working age
- an increasing proportion of women in the medical workforce
- greater demand for flexible working patterns and part-time working to reflect the need for work-life balance
- increased demand for career breaks
- a reduction in the length of the working week in line with the European Working Time Directive
- *Modernising Medical Careers* and the move to a consultant-delivered service
- skills shortages in some specialist areas
- remote and rural challenges with respect to recruitment and retention.

79 Between 1998 and 2002, the number of health-sector employees increased by more than 12%, compared to an increase in other sectors of 5.4%. The health sector has been growing recently in absolute terms and as a proportion of all employees (Future Skills Scotland, 2005).

80 The recent Review of Basic Medical Education reported that there is 'clear evidence of increasing difficulty in filling medical posts in NHS Scotland, with vacancies for both consultants and GPs rising and very small shortlists for vacant posts.' The service faces increasing difficulty in recruiting to its current posts at a time when it is seeking to expand its workforce (Calman and Paulson-Ellis, 2004).

81 Scotland's five medical schools produce sufficient medical graduates for the needs of NHS Scotland. As is made clear in Securing Future Practice (Temple, 2004), however, this picture disguises the fact that many of those who study in Scotland intend to practice elsewhere following qualification.

82 Despite this, while the number of doctors per capita in Scotland is not high by international comparisons, it is high in relation to other parts of the UK. This is somewhat offset by the higher numbers of hospitals per head of population in Scotland and greater levels of illness and demand.

83 The European Working Time Directive stipulates changes in the terms, conditions and working hours of health-service staff which will drive a revolution in the way health services are delivered across the UK. There are particular issues around the delivery of services in rural and sparsely populated areas in light of these changes, and the need to secure European Working Time Directive compliance raises particular issues for staffing small or isolated sites. The necessary move from on-call rotas to shift patterns will in all likelihood make some smaller units non-viable in their current form.

84 From 1 August 2004, doctors in training have been subject to weekly working time limits, which will apply progressively as follows:

- 58 hours from 1 August 2004
- 56 hours from 1 August 2007
- 48 hours from 1 August 2009

85   A number of new contracts for the NHS workforce are now being implemented, including the General Medical Services contract for GPs, the Consultant contract, and Agenda for Change. These are all expected to drive efficiency in the longer term. In the short-term, the ability of GPs to 'opt-out' of providing out-of-hours cover decreases the number of medical hours in the local health economy and increases demand for staff.

86   The UK is almost unique in the Western world in its reliance on doctors-in-training to deliver the service. The hours limits imposed by the European Working Time Directive and the New Deal for Junior Doctors limit the amount of service they can provide. The intention is to move towards a consultant-delivered acute service in which the ratio of consultants to junior doctors is greater, consultants are more directly engaged in emergency care, and junior doctors develop their skills through more structured training as opposed to the 'on-the-job' training they currently receive. *Modernising Medical Careers* facilitates this shift, which is intended to deliver a higher quality service to patients. There can be no doubt, however, that these changes will place significant additional demands on the consultant workforce, particularly in the short term.

87   Compared to other parts of the UK, Scotland also has a high number of nurses per head of population. International recruitment drives in the United States, Australia, Canada and the Republic of Ireland will pose retention problems in Scotland and other healthcare economies. The Wanless Report estimates that demand for nurses in the NHS will grow by up to one third by 2022 (Wanless, 2002). Meeting that demand while replacing an ageing nursing workforce will be challenging.

88   The allied health professions (AHPs) include podiatrists, dieticians, occupational therapists, speech and language therapists, orthoptists, physiotherapists, radiographers, prosthetists and orthotists, and art, drama and music therapists. In the last decade, there have been large increases in the six largest AHP staff groups. Despite this increase in numbers, growing demand for AHP services has led to a small increase in the number of AHP posts that have been vacant for three months or more, with the highest proportion of long-term vacancies in 2004 being in speech and language therapy.

89   Over three-quarters of the health service workforce is female. Women are particularly dominant in nursing and midwifery, the allied health professions and administrative and clerical posts. We are also witnessing an adjustment to the medical workforce in favour of women. While in 2003 only slightly over 40% of medical staff were women (Scottish Executive Health Department, 2004), some 60% of the Scottish medical student intake is now female (Temple, 2004). As this trend becomes established in the service, it may have major implications for total workforce numbers, given the greater tendency for women to seek flexible working patterns and to make use of career breaks.

90   Interestingly, nursing, midwifery and dental staff saw more full-time working in 2003 than in 1993 (Scottish Executive Health Department 2004). There has been a small increase in the proportion of males working in nursing and midwifery compared to a significant increase in the numbers of females working in the medical and GP groups, but this would not seem to account for the very different changes in part-time working recorded between these groups.

91 The Scottish population is falling. This decline is accompanied by a shift in the age structure of the population, with a reduction in those of working age. **The changing demography of Scotland will result in greater demand for health services at the same time as the gender balance of the workforce changes, as working hours are being restricted, and as the labour market simultaneously contracts.**

Clinical standards and quality

92 Alongside improvement in the health of the people of Scotland, the provision of good-quality health care delivered consistently and to a high standard is **the** key objective of NHS Scotland.

93 The Scottish Executive has put in place arrangements to set standards for NHS Scotland and to monitor its performance against them. The Performance Assessment Framework includes standards for access (waiting times) and clinical quality standards. This reflects the Executive's commitment to achieve and to demonstrate quality improvement and to reduce variations in access and quality in different parts of the country.

94 Clinical standards are now key drivers in NHS Scotland in relation to:

- **clinical practice:** enabling healthcare professionals to assess, review and where necessary change the way in which they treat particular conditions and care for patients
- **service planning and design:** providing evidence on safe and effective clinical care to guide decisions on service configuration
- **performance assessment:** enabling objective measurement of performance for use by each NHS organisation and across the NHS through benchmarking by the Scottish Executive as part of the Performance Assessment Framework, and by NHS Quality Improvement Scotland (NHS QIS) in its monitoring role
- **patients and the general public:** providing a clear statement of what they should expect from the NHS and a means of reporting to them on performance.

95 In January 2003, a range of organisations involved in work on the quality of clinical services were brought together into a new special health board, NHS Quality Improvement Scotland (NHS QIS). NHS QIS is responsible for delivering a co-ordinated strategy for improving clinical effectiveness and the quality of patient care.

96 Clinical standards define the levels of performance that are expected of an individual healthcare professional, a unit, a hospital, a practice or a healthcare system. They provide a mix of quantitative and qualitative statements of performance that are accessible to healthcare professionals, managers, patients and the general public.

97 NHS QIS standards are designed to support the delivery of:

- higher standards of care
- improved outcomes for patients
- better experiences for patients and carers
- better use of resources (in recognition of the fact that money used ineffectively in one area is money that could be put to better use elsewhere).

98   The work of NHS QIS in setting standards for clinical services and in monitoring performance against these standards is fundamental to future service improvement. Change, whether in clinical practice or service design, needs to be driven by safety and quality considerations, as defined in evidence-based standards, if it is to gain clinical and public credibility and be delivered effectively and sustainably. If it cannot be demonstrated that a change will lead to improvement in the safety or quality of clinical care and treatment, there is little chance of it winning clinical or public support.

99   NHS QIS standards are the culmination of well-established and varied processes designed to establish best practice in terms of clinical effectiveness and feasibility. They also provide an evidence-based means of addressing variations in standards of care in different parts of the country.

100   Standards do not in themselves resolve the debate, nor should they be, as is sometimes claimed, drivers of centralisation of services. Rather, they inform the debate on such issues and enable decisions on clinical and cost effectiveness to be guided by evidence. Standards, if used properly, can guide and support the processes of clinical and service change.

Medical science

101   The early decades of the 21st Century will see a rapid acceleration in the introduction of innovative medical devices and procedures. These will have an impact on the quality and outcomes of care delivered to patients, as well as the location of that care.

102   The expected revolution is a result of the convergence of a number of separate strands of technology and science. The technologies can be described using a range of often overlapping terms, including miniaturisation, biosensors, bioengineering, nanotechnology, biomaterials science, micro-electronics and tissue engineering.

103   In parallel, advances in drug discovery and development will continue to ensure that new treatments become available. While these will often offer incremental improvements on existing medicines, breakthrough products that allow remediation of previously incurable or intractable conditions can also be anticipated. Similarly, advances in biotechnology are providing new understanding of diseases and their treatment that will make possible much more tailored approaches to disease management in the future.

104   These anticipated advances will have considerable implications in, for example, the treatment of age-related and chronic degenerative conditions. They will raise a number of financial, social and ethical issues that will have to be addressed, but the potential impact is difficult to understate. As the American futurist and physician Dr Patrick Dixon has said,

'Two great techno-revolutions will impact on the future of health care; digital and genetic. The digital changes what we do – the genetic has the power to change who we are. Both together will transform every aspect of health services.'

(Dixon, 2004)

105 At the forefront of these changes will be a clear understanding, as a result of genetic screening, of the susceptibility of each individual to particular conditions, *with the probable shift from secondary care interventions to guided self-care this will entail.* It is also likely that a number of technologies and devices have the potential to significantly increase healthy life expectancy, ameliorating some of the predicted cost of caring for the ageing population.

106 It appears likely, then, that there will be a further shift in emphasis towards home care with varying degrees of support, alongside the development of new highly-specialised treatments which, in a country the size of Scotland, will be delivered in a small number of centres.

107 It is also clear that these improvements will come with a cost, at least in the short to medium term. In most developed countries, healthcare spending is outstripping economic growth, with new medical technologies and drugs playing a key role in increasing demand (and consequently expenditure) in response to continuing advances in medical research. Longer term, the potential for better avoidance of ill health may offset the increasing costs of treatment.

Information and communication technology (ICT)

108 The development and use of ICT in Scotland still largely reflects the UK situation outlined in the Wanless Report in 2002, with low levels of spending compared with other sectors and health systems. Wanless reported that:

'In the UK health service, ICT systems have typically been developed and implemented in a piecemeal way at local level. While there are many examples of systems which work well for particular hospitals or GPs, the systems are not integrated across organisations or indeed sometimes across a single hospital'

(Wanless, 2002)

109 ICT in NHS Scotland is currently a hindrance to change, rather than a driver for change. Its potential to help us transform the way health services are delivered is, however, immense. Conversely, if there is not a step change in the rate of implementation of the right kinds of ICT solutions, our ability to deliver the required service changes in the NHS will be highly compromised.

110 The following are some of the ways in which ICT can contribute to transforming the health service.

The Electronic Health Record

111 The universal implementation of an Electronic Health Record (EHR) is central to the modernisation of the health service. It will allow access by all appropriate professionals to necessary clinical information whenever it is needed – whether at the GP surgery or the Accident and Emergency department. The EHR will remove the inaccurate and frustrating process of repeatedly asking the patient for the same information. The development of a comprehensive system for the management of patients with long-term conditions, involving as it does team-working in the context of patients with complex needs, is particularly dependent on a fully-functioning electronic health record.

Electronic booking

112 Electronic booking can allow patients to choose a convenient date and time for their initial hospital appointment, booking electronically immediately at their GP's practice or using the telephone or internet at a later stage. While bringing immense benefits in terms of patient choice and convenience and reduction in administrative overheads, electronic booking is proving difficult to introduce for reasons which are less technical than organisational and cultural.

Picture archiving and communications systems (PACS)

113 PACS, currently being introduced across the NHS in England, is a digital system that allows images to be captured, stored, distributed, displayed as static or moving digital images, and attached to the patient's electronic record. It has huge potential to smooth the journey for the patient and improve the efficiency of the service. Simultaneous analysis of images by specialists in other parts of the country – or the use of spare capacity of specialists outside NHS Scotland to reduce waiting times and delays – is now completely feasible, with appropriate investment in the infrastructure. Patients at Minor Injuries Units in rural areas could particularly benefit from PACS, avoiding unnecessary and time-consuming visits to busy Accident and Emergency departments at the nearest population centre.

Electronic prescribing and electronic transmission of prescriptions

114 Currently, the electronic processing of prescriptions is limited to the computer generation of a paper prescription. Electronic transmission of prescriptions eliminates the paper stage by allowing prescriptions to be transferred electronically to the community pharmacist nominated by the patient, improving patient safety by reducing prescription errors and providing better information at the point of prescribing and dispensing. Electronic prescribing information would become part of the Electronic Health Record, allowing much better monitoring of outcomes and side-effects.

Telemedicine

115 Telemedicine is the delivery of health care remotely using the electronic transfer of information in the form of video-links or the transfer of digital images. It has many uses including:

- facilitating the ability to deliver a service in remote or rural areas which would otherwise be unsustainable for cost or population-density reasons
- allowing GPs to consult specialists remotely to avoid unnecessary referrals
- establishing networks of learning for clinicians to reduce professional isolation and disseminate best practice
- allowing monitoring of and full communication with vulnerable people in their own homes.

116 Scotland is well to the fore in applying telemedicine to help solve the problems of maintaining services in remote and rural areas. More generally, the development of video-links between professionals and patients in their own homes in combination with the development of other systems of electronic monitoring have the potential to revolutionise the extent to which we can 'look after' vulnerable people at home.

NHS 24

117 The first aim of NHS 24 is to act as a comprehensive 24-hour point of access to health care in Scotland by offering assessment, advice and appropriate referral. Its second aim is to offer high quality health information. In this role, it is at the forefront of proposals to develop systems to make available high quality health information online. As the NHS begins to put a much greater emphasis on encouraging and empowering patients to become active partners in the provision of health care, the development of high quality health information systems will become all the more important.

Implications

118 ICT has the potential to be a major lever in transforming a fragmented, disjointed and inefficient health service into one which is integrated, co-ordinated and centred on the needs of the patient. ICT and telemedicine systems should not just be 'bolted on' to a reconfigured health service; they are central to its development, and understanding their capabilities should be integral to service planning in the future.

119 It is clear that other healthcare providers have already developed systems which meet the needs of health care in the 21st Century. They have demonstrated that implementation problems are surmountable; we must learn from them.

Drivers for change: implications

120 In this chapter, we have outlined the main factors driving change in NHS Scotland. What do these drivers mean for healthcare delivery in 20 years' time?

121 All of the drivers described will have an impact, but three in particular – and our response to them – will determine the shape of health care in Scotland in 2024:

- demographic change and associated shifts in the pattern of ill health will determine the demands on the health care system
- workforce pressures will be the bottom line in determining how we are able to respond to these changes in demand
- developments in technology, and in information and communications technology in particular, will give us the tools to fundamentally reshape how health care is delivered.

122 The next 20 years will see an ageing population, a continuing shift in the pattern of disease towards long-term conditions, and growing numbers of older people with multiple conditions and complex needs. These changes in themselves will make the current model of healthcare delivery unsustainable.

123 We will no longer be able to afford a healthcare system which more often than not waits for a medical crisis before providing care. This reactive approach too often results in an unnecessary, damaging, expensive and prolonged hospital admission. We need a healthcare system with an emphasis on providing continuous preventative care for people with long-term conditions to balance our ability to react quickly and safely to medical emergencies.

124 Not only will there be more older people in 20 years time, but their demands – along with the rest of the population – will be different. They will be less deferential and less unquestioningly accepting of treatment. They will demand to understand and be involved in the care they are offered. They may have full access to a range of evidence on best practice via the internet.

125 For some, this level of patient involvement will be seen as a nuisance. It is the opposite. Patients and their carers will be the best resource we have for dealing with the growing burden of long-term conditions. They will have the time and the motivation to become expert partners of NHS staff. In this context, the role of healthcare professionals will increasingly be that of supporting and facilitating the management of long-term conditions by patients and carers.

126 Shifts in demography, epidemiology and attitudes tend to have their effects over a relatively long period of time. In contrast, many of the factors relating to the workforce are having a rapid and pronounced impact right now. They require immediate responses, which may have long-term implications.

127 The NHS in 2024 will require a set of staff providing a substantially different service in different working environments and with different skills and roles. The size and composition of the workforce is perhaps the most important determinant of the capacity of NHS Scotland.

128 The impact of the European Working Time Directive, the New Deal for Junior Doctors, new contractual arrangements for GPs and consultants, and the need to improve the standard of care available to patients are among the current factors causing pressure for change in the system. Many of the pressures place limitations on the supply of medical or surgical input; when that is set alongside the potential for much-increased demand, the case for change is obvious.

129 Work on national workforce planning is underway. It will be essential to link service planning to workforce planning at every level (local, regional and national). We need to ask some fundamental questions about the recruitment and training of medical and nursing staff in Scotland. There are issues about the sustainability of our medical schools, just as there are issues about the sustainability of our health services.

130 We also need to be sure that we make the best and most appropriate use of our staff. Given population trends, recruitment may be more competitive in the future. If we are to successfully attract and retain high-quality staff, we need to offer careers in a modern, attractive environment.

131 We also need to ensure that the roles of staff meet the changing demands of the service. If we are right about future trends in service provision, we will need clinical generalists working in local environments with increasing degrees of specialisation in complex and more centralised environments. Given the time lag in training medical staff, we need to be planning urgently for these future scenarios.

132 Recent years have seen a range of initiatives to enhance and broaden the roles of healthcare professionals throughout the NHS. These developments need to be accelerated to deliver better service in the face of new and increasing demands and to make NHS careers all the more fulfilling and attractive.

133 Technology is not a panacea, but information and communication technology has the potential, in combination with organisational modernisation, to revolutionise the way health care is delivered.

134 Many of the interactions between patients and the health service will be conducted electronically by 2024. At the end of 2002, 40% of Scottish households had access to the internet, and that figure is increasing rapidly. It is easy to envisage a situation where patients could access officially recognised websites run by physicians and other specialists.

135 The aim of increasing patient involvement would also be much enhanced if patients were able to access and update their individual electronic patient record. We might expect that by 2024 patients will be able to carry a credit card-sized copy of their medical record.

136 An Electronic Health Record will be perhaps the single most important development in ICT aimed at supporting a new model of healthcare delivery. Patients will increasingly have a complex mix of medical and social problems requiring input from several different services. Co-ordination of care can best be built on the basis of a comprehensive electronic patient record. If care is to become preventive and anticipatory, patients must constantly be monitored for signs of incipient crises ('kept on the radar'). Again, a comprehensive real-time record is a necessary foundation for such care.

137 As a basic building block for such developments, it will be vital to make universal the use of the Community Health Index (CHI) in the very near future. Indeed, if we are to maximise the potential of technological advances, NHS Scotland will have to achieve a step change in joined-up information technology.

138 Diagnosis will be fundamentally different by 2024. The use of advanced information and communication technologies will permit tele-diagnosis and the centralisation of complex and expensive diagnostic services. At the same time, engineering advances will lead to lower-cost imaging and other diagnostic methods that can be used in the community and in the home.

139 Communication between healthcare professionals and patients will be revolutionised by broadband video link-ups, enabling visual communication and monitoring on tap. The greatest need of many older, frailer people in the community is to be 'kept an eye on'. Developments in ICT will transform the ways in which this can be achieved.

140 The effect of technological change in general may be to further accelerate some of the changes we are seeing already. It should be possible to do much more diagnosis, treatment and monitoring work locally (including in the home), but there will be even more complex, specialised and expensive treatments available that we will be able to provide in only a few locations in a country the size of Scotland.

141 It is important to remember that Scotland is not alone in facing many of these changes and challenges. An ageing population and the growing burden of chronic disease are factors common to almost all advanced industrial societies. Because of Scotland's relatively poor health in a Western European context and the prospect of a particularly steep decline in population, there is a tendency to concentrate on problems felt to be uniquely 'Scottish'. We do have to deal with Scotland's particular issues, but it is just as important to understand the challenges we share with other societies.

142 Similarly, many of the workforce pressures the NHS is facing are not unique to Scotland. Other healthcare systems have gone much further in embracing the potential of information and communications technology to transform health care.

143 We need to get much better at learning from how other systems have faced common challenges and embraced new opportunities. Systems such as Kaiser-Permanente and the Veterans Health Administration in the United States, the Canadian healthcare system and, increasingly, the NHS in England are showing the way in facing up to the implications of these broad demographic and epidemiological shifts by developing more proactive, preventive and community-based approaches. We need to learn from such developing responses. The policy environment in Scotland, particularly in terms of Joint Future, Community Health Partnerships and unified NHS Boards, means we are well-placed to share experiences and move forward.

144 Taking all of the above together, the picture that emerges is one in which it is possible to deliver much more close to the patient's home and give more ownership of care to the patient, and in which a new range of highly complex and specialised avenues are opened up. The current trends in health care might be summarised as moving from general care in district hospitals towards better primary care and specialised hospital care. This polarity of care is likely to increase and intensify over time.

145 The pace of change is likely to quicken, and it will be important to plan for some of these changes. Integrated planning of service configuration, service design and workforce requirements will be necessary. By 2024, the provision of a modern health service in Scotland will require new infrastructure (particularly information technology, where the current position across NHS Scotland seems some way short of best practice), new thinking and new skills. The future of health care will not be 'more of the same'.

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04

CHAPTER FOUR
**SHIFTING THE
BALANCE OF CARE**

01   In this chapter we outline our approach to developing systems of local care which will be needed to deal with the changing health profile of the population of Scotland. This will primarily, although not exclusively, involve an ageing population and the growing prevalence of long-term conditions. Patients and the general public told us at our open meetings that they wanted services delivered locally wherever possible; they were willing to travel for highly specialised treatment but wanted as many "core" services as possible close to home.

02   This chapter is based on the work of three of the National Framework's Action Teams: Care of Older People; Long Term Conditions; and Care in Local Settings.

03   The direction of travel for health care in Scotland has been clearly signposted for some time. In *Designed to Care* published by The Scottish Office in 1997, the Government's vision was described as follows:

"...a National Health Service for the people of Scotland that offers them the treatment they need, where they want it, and when: a modern "designed" health service putting patients first. We want a seamless health service centred on primary care, designed to ensure that patients receive care quickly and with certainty."

04   The White 'Paper Partnership for Care' in 2003 sought to develop the vision by saying:

"A wider range of services will be provided in community settings."

05   The analysis of the drivers for change suggests that this is the right approach but that the pace of transition to seamless health care centred on primary care needs to increase.

Background

06   It is worth briefly restating the facts. We know that Scotland's population is ageing. Within twenty years close to one quarter of us will be aged 65 and over. We know that as people get older, they tend to have different health needs. The box below provides a summary.

Older people's health care needs differ from those of younger people because they are

- **More likely to live alone.**
- **More likely - to varying degrees - to have functional dependency and sensory impairment**
- **More likely to have chronic disease.**
- **More likely to have co-morbidity (i.e. multiple medical problems, perhaps a mixture of acute and chronic).**
- **More likely to be on multiple medications: with greater risks as a result**
- **More likely to have cognitive impairment and other mental disorders.**
- **More likely to develop complications of acute illness and its management**
- **More likely to develop hospital acquired infection.**
- **More likely to stay longer in hospital**
- **More likely to require rehabilitation following acute illness and trauma**

07   At a UK level, patients with long-term conditions account for 80% of all GP consultations (although we recognise that consultations by these patients may not always be about their long term conditions). It has been estimated that, of the eleven leading causes of hospital bed use in the UK, eight are due to conditions that with strengthened community care would lead to a fall in bed use. (Department of Health, 2004).

08   In the 2001/2002 Scottish Household Survey, 31% of all households in Scotland contained at least one person with a long-standing limiting illness, health problem or disability. As can be seen from Table 4.1, the probability of emergency admission to hospital is much increased by having to manage a long term condition. Using data linked from the 1998 Scottish Health Survey, we can see that the chance of being admitted as an emergency inpatient in Scotland is three times greater among those reporting a long-standing illness. The same data shows that 70% of emergency admissions are from people with a long-standing illness and that figure rises to 85% amongst the older population. This demonstrates a clear link between chronic disease and hospitalisation. Better management in primary care could deliver significant benefits to the patient and contribute to reducing pressure on the hospital sector.

Table 4.1
Proportion of respondents (per 1000) experiencing emergency admission

	Number of long-standing conditions		
Age group	None	One or more	All
16 to 24	28	80	40
25 to 34	34	55	40
35 to 44	30	57	39
45 to 54	25	58	40
55 to 64	33	107	78
65 to 74	52	151	115
Aged 16 to 74	32	91	58

Source: ISD Scotland

09 The major locus of pressure on the NHS over the last twenty years has been the rise in emergency admissions especially among older people. The growing burden of ill-health associated with an ageing population only explains a proportion of this increase in emergency admissions.

10 Perhaps the most fundamental strand of explanation for the increase lies in the mismatch between the needs of the population for proactive, integrated and preventive care for chronic conditions and a healthcare system where the balance of resources is aimed at specialised, episodic care for acute conditions.

11 **The foregoing analysis suggests that there are a number of future challenges and pressures on the system that require an increased focus on the delivery of local care. We are able to highlight three dominant and related issues in the Scottish population's need for health care. The first is the growth in the number of older people and in particular the number of relatively frail older people living at home. The second is the emergence of chronic disease as the main challenge facing the health service. The third is the need to tackle avoidable emergency hospital admissions.**

12 It is important to be clear what we mean by local care. We see it as the delivery of safe, effective and sustainable services as close to the patient's home as possible. In some cases, that might be in the home; in others it might be in the GP surgery, in the local pharmacy or in the local hospital. The physical location of the care package has been less important to us than the principle of delivering care as locally as possible and delivering care that meets the patient's needs in a way that supports the patient's well-being and personal circumstances.

What can be done locally?

13 In recognition of the "three dominant developments" referred to in paragraph 11 above, the National Framework looked at three related issues; each addressed by an Action Team:

- **Care of Older People** adopting the following "governing principles";
  – much of the current pressure on health and social care services relates to the care of older people
  – historically based patterns of provision have adapted only slowly to changing need, and are now unbalanced in relation to their main task
  – with more and more of the health and social care task relating to long-term conditions, recurrent ill-health and dependency in older people, a change of focus from episodic to sustained co-ordinated care is overdue
  – a proactive and supportive approach to care of frailer older people, based on 'whole-system' redesign of health and social care is required
  – substantial resource shift is needed.

- **Long Term Conditions** considering the potential growth in the incidence of chronic diseases and proposals for NHS Scotland for models of care that are:
  – patient centred
  – integrated and co-ordinated by Community Health Partnerships
  – systematic.

- **Care in Local Settings** considering the scope for change in four strands:
  – supporting people at home
  – preventing avoidable hospital admission
  – identifying opportunities for more local diagnosis and treatment
  – enabling appropriate discharge and rehabilitation.

The Care in Local Settings Group focused on three areas to illustrate the opportunities that might arise to deliver more care in local settings:

  – care for people with cancer
  – care for older people with mental ill-health
 – care for children with complex needs.

14 The work of the three Action Teams was complementary and involved a range of clinicians and managers from across the service as well as input from patients, carers and representatives from the voluntary sector. Their full reports can be found at the National Framework website www.show.scot.nhs.uk/sehd/nationalframework.

Care of Older People

15 Care of older people has recently been recognised as 'the central responsibility of NHS Scotland, with good mainstream care as a goal of current and future efforts in the health service reform' (Chief Medical Officer, 2002). However, the pace of reform has been slow. Current challenges are not being met. The scope and scale of reform to ensure adequate delivery of the 'central responsibility of NHS Scotland' in 2024 remains daunting.

16 As described in Chapter 3, the health care needs and patterns of health care delivery for Scotland's ageing population in 2024 will be determined by a range of factors. Demography is the least uncertain. The health of older people, their attitudes and expectations, technological advance, patterns of social change, the research and development agenda, health service organisation, and infrastructure will all – with varying degrees of uncertainty – contribute.

17 As we have seen, between 2001 and 2031 the proportion of the population aged 65 and over in Scotland will increase from 15.9% to 26.6%; the proportion aged 80 and over (the age group with the highest level of health and social care need) will increase from 3.8% to 8.2%. To ensure an adequate quality of care in twenty years' time and to enable NHS Scotland to avoid a state of perpetual crisis, a radical review and restructuring of the health and social care of older people is needed.

Figure 4.1
Scotland's older population by 5 year age group. Trends (1911 to 2002) and GAD projections (2003 to 2042)

(data from 2028 is linear interpolation between selected years: 2031, 2036, 2041)
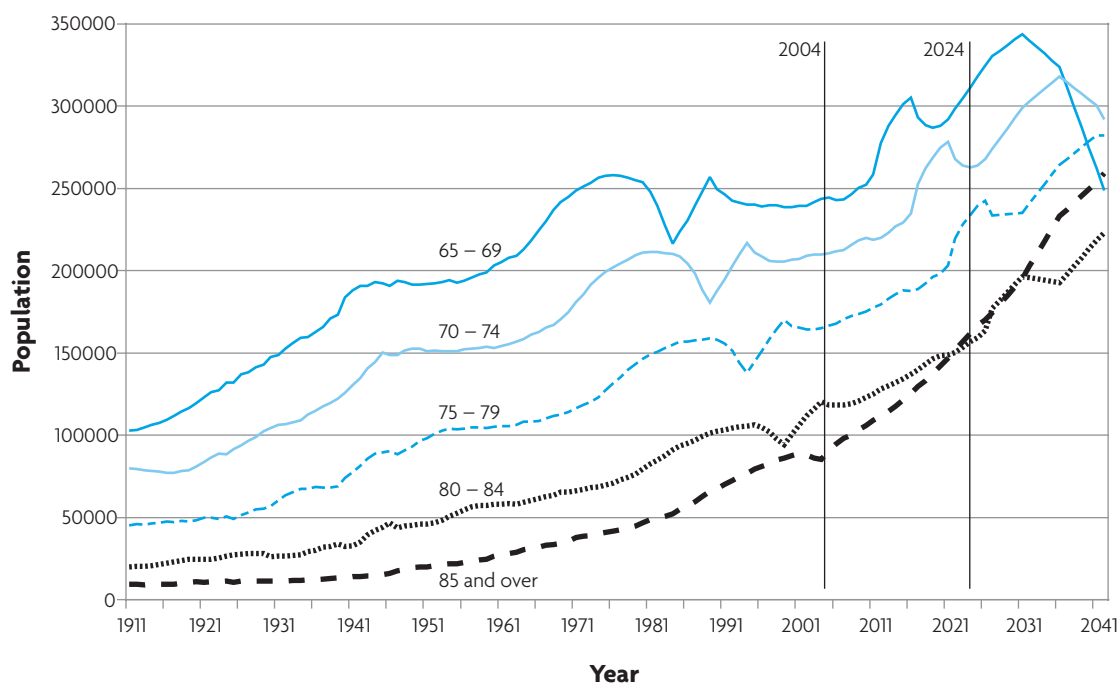
Source GRO Scotland/Government Actuary's Department

18   Most of the pressures affecting the acute sector of the NHS (rising emergency admissions, bed crises, high levels of delayed discharge and long waiting times) relate primarily to the care of older people. However a case can be made that the acute sector dominance that has characterised the NHS throughout its history has not served older people well, and has served the frailest of them least well.

19   Previously fit older people with a single diagnosis may of course be served quite well by the current pattern of provision. For patients with co-morbidity, long term illness, frailty or confusion however, serious difficulties can arise such as: loss of mobility, increasing confusion, prolonged length of stay, prolonged loss of function, permanent loss of function and even the loss of their home.

20   Frailer older people – especially those with cognitive and/or sensory impairments – are at most risk on the boundaries between the acute sector, primary care and social care provision. Although current organisational reforms (the introduction of Local Health Care Co-operatives now to be succeeded by Community Health Partnerships) and innovative multidisciplinary interface services (such as Rapid Response Teams and Early Supported Discharge) have mitigated some of the problems, there are continuing concerns about the vulnerability of frail older people in a complex system of care.

21   As was outlined in Chapter 3, an unexplained and problematical aspect of acute sector dominance is the rise in emergency admissions of older people (Figure 4.2) in excess of demographic change and in the absence of broadly measurable increased morbidity.

**Figure 4.2
Numbers of emergency admissions by age group. 1981-2002.**
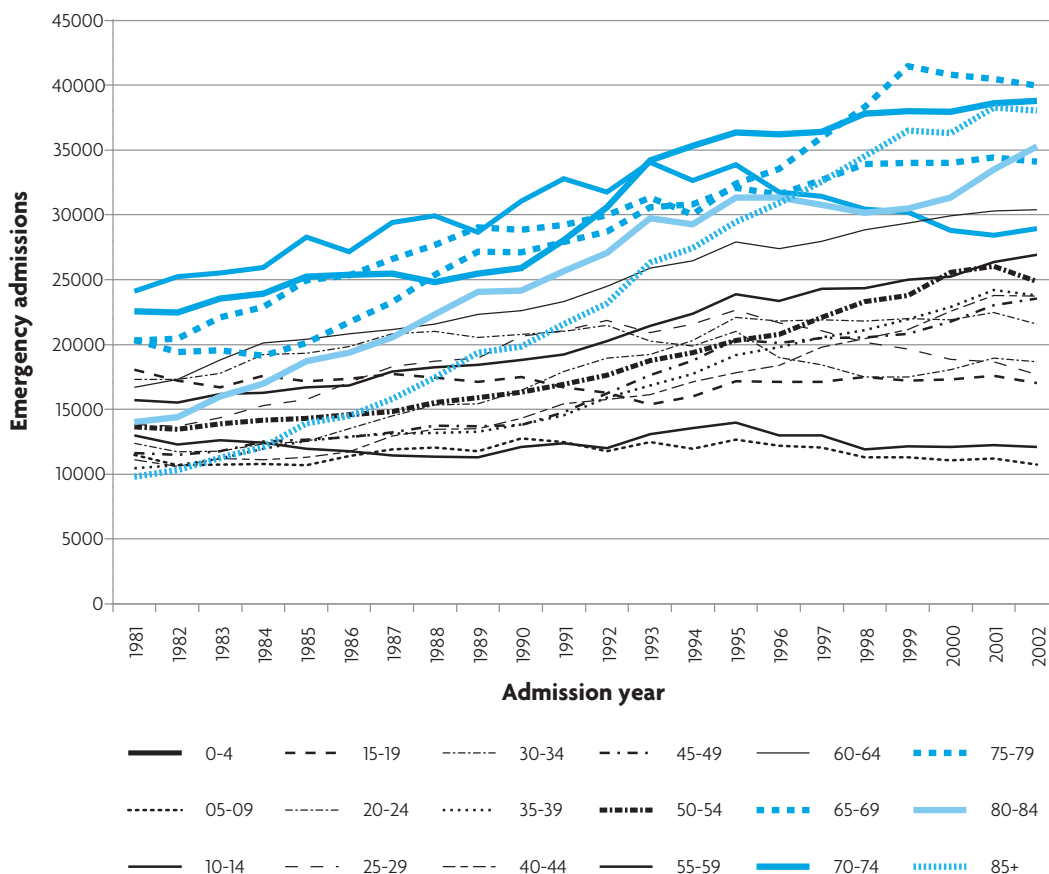
Source: ISD Scotland

22   Progress towards tackling this issue will depend on explicit recognition of the specific health care needs of older people and developments throughout health and social care designed to meet these needs, including:

- better early recognition of dependency and need (case finding)
- flexible and responsive community provision to facilitate early intervention and support the frail elderly at home (case management)
- ready access to diagnostic technology and expertise
- improved 'interface' services to minimise the adverse consequences of contact with unscheduled services such as A&E departments and Assessment Areas
- awareness and response throughout the acute sector to the vulnerability of the frail elderly, with adequate functional assessment and readily available and effective rehabilitation services – both inpatient and community – to meet their needs
  (NHS QIS, Standards for Older People in Acute Care, 2002).

23   In addition, the full impact of recent changes in out of hours cover on the care of the frail elderly at home has yet to be assessed. The quality of out of hours care will be crucial to the care of older people over the next twenty years – in controlling avoidable unscheduled care, in optimising end of life care and perhaps even contributing to case finding.

24   Organisational structures and barriers are not the whole story in accounting for the often fragmented nature of care of older people. Changing organisational structures is not a panacea.

25   **However, our conclusion is that the current organisation and infrastructure of both health and social care – with health still split into acute and primary sectors and social care managed as a traditionally separate entity – is far from ideal for the necessary development of the whole-systems approach essential for the good care of older people, both individually and at a population level. The introduction of unified NHS Boards and the implementation of Community Health Partnerships will provide a better context for flexible and innovative models of organisational integration.**

26   If we are right in believing that many of the pressures on the acute sector, in so far as they arise from the health care needs of older people, are pressures of mis-provision; how are we to provide the co-ordinated, comprehensive system of ongoing care that we require?

27   There are some grounds for optimism. A significant and increasing proportion of the oldest patients admitted as emergencies have no new specific diagnosis (diagnostic category: 'symptoms and signs') (Figure 4.3) and have few needs that can be met only in the acute sector. Their use of acute beds is high and arguably harmful to them.

**Figure 4.3
Emergency inpatient admissions by diagnosis group.
Aged 80 and over. Scotland. 1981 to 2002.**
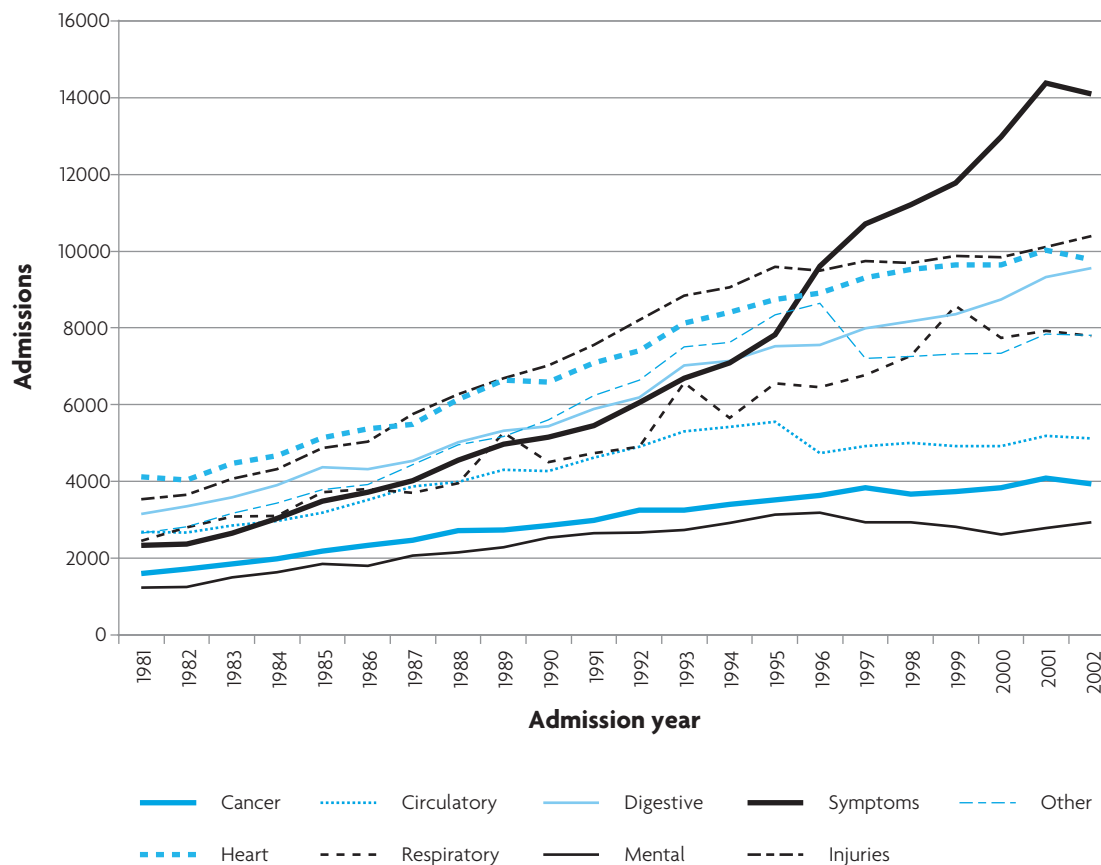
Source ISD Scotland

28 Their better management, by improving anticipatory care – both in terms of diagnostic uncertainties and the support/dependency issues involved – and by the provision of effective community-based rehabilitation, will bring about care at home and in local settings that is acceptable to them and their carers, and should also be both cost-effective and of high quality.

29 It is likely that continuing developments in biomedical technology and information and communications technology will result in easier and earlier access to much more powerful diagnostic facilities by community based healthcare professionals, with most benefit for the frail elderly wishing to remain at home through acute illness.

30 Two recent reports – *Adding Life to Years,* (Chief Medical Officer, 2002) and the NHS QIS National Overview of Older People in Acute Care (NHS QIS, 2004) have focused attention on the potential for clinically appropriate alternatives to admission: the former setting policy goals, the latter reporting on a nation-wide survey in which 14 out of 36 sites visited demonstrated "multidisciplinary, multi-agency teams able to respond within 24 hours and provide co-ordinated packages of care and rehabilitation" so that older people could remain at home when this was clinically appropriate.

31 *Adding Life to Years* reported on a range of initiatives designed to: identify and monitor frail older people at home; provide support at home through exacerbation of acute illness; and assess, rehabilitate and support older people who had attended an A & E department. Examples include the Rapid Response Teams in Aberdeen and the IRIS (Intensive Rehabilitation Integrated Service) in North Glasgow.

32 The same document identified initiatives that had improved the management of exacerbations of chronic conditions (e.g. the Acute Respiratory Assessment Service (ARAS) in Edinburgh for people with chronic bronchitis; and an integrated service for people with heart failure in West Lothian) and schemes that had improved monitoring and care of older people in nursing homes (with avoidance of unnecessary admission, or shortening of acute stay when admission was necessary).

33 However, the NHS QIS report expressed concerns that such initiatives, though welcome, were not widely enough available. **In the short term there is a strong case for ensuring that such initiatives are encouraged, properly evaluated and – where cost effectiveness and quality of services is proved – made much more widely available.**

34 **In the longer term, the rollout of such schemes, tailored appropriately to local conditions, has much to offer Scotland's frail older people. If they are properly accountable and quality-assured (e.g. by NHS QIS), and evaluated in terms of service outcome, they will bring benefits in terms of efficiency and effectiveness, a shift in the balance of care and genuine advance in the care of long-term illness.**

35 We believe it is possible to articulate an action plan that will lead to the change necessary to support our older population. The key policy implications of that plan are set out below.

- There should be greater integration of health and social services focused largely on the care and support at home of Scotland's frailer older people with a commitment to optimal management of long term conditions, continuing illness and disability.
- Unscheduled health services should be redesigned around the needs of the major client group – older people – to provide optimal journeys of care.
- Fit-for-purpose ICT should be introduced to facilitate, support and monitor the care of older people: at home; in and through unscheduled and post-acute care; through long-term and recurrent illness; and towards the end of life.
- Systems of clinical governance and performance management should be maintained and developed to ensure quality, cost-effectiveness and equity in the delivery of support and care for older people.
- There should be a health and social care workforce which is increasingly community-based and less focused than at present on acute and unscheduled care in order to reflect the needs of an ageing patient group.
- There should be central and regional planning of tiered and cost-effective patterns of care provision to reflect the many drivers of change in both primary and acute health sectors.
- There should be substantial developments, jointly with health and social care, in rehabilitation – in the context of unscheduled care, in post-acute care and via community based services.

- There should be an R&D agenda that reflects the realities of demography and need in order to support care of Scotland's older people.
- There should be clear targets/outcomes for services provided to older people by the Community Health Partnerships.
- There should be indicators specific to an anticipatory and co-ordinated approach to management of older people with co-morbidity and complex needs within the new General Medical Contract.
- The new Pharmacy contract should reflect the extended role that pharmacists and in particular community pharmacists could play in the monitoring and review of older people's medications and health status.

Long-term conditions

36 Long-term conditions (we use this term in the report interchangeably with "chronic diseases" and "long-standing illnesses") require ongoing medical care, limit what people can do, and are likely to last longer than one year. They are common in the Scottish population, more common in people living in deprived circumstances, more common in older people and, because Scotland's population is ageing, they will become even more common in future. If we do not continue to improve our management of long-term conditions at a local level, demand on acute services will continue to increase.

37 The evidence we have brought together shows that;

- Chronic disease is a vitally important health issue and is growing in importance
- Your social circumstances affect your chances of having a chronic disease
- A growing number of people have multiple chronic diseases which make their care particularly complex
- A small number of patients account for a disproportionate amount of health care use (especially hospital care)
- There is growing evidence that chronic disease can be better managed through:
  – increased support for self care
  – strengthening and extending primary care
  – offering responsive specialist care
  – managing vulnerable cases by anticipating their needs.

38 The management of chronic diseases has been improving in Scotland in recent years. For example, mortality from coronary artery disease is falling and, despite an increase in the prevalence of asthma, rates of hospital admission and sickness absence due to asthma have been decreasing. This improvement is largely due to the significant efforts made in the organisation of chronic disease management in primary care as well as closer working between primary and secondary care and health and social care. This section, therefore, focuses on how we can build on these improvements rather than recommending a change in the direction of travel. We need to support and strengthen the role of general practice and the extended primary care team while at the same time promoting better working across the entire health service and between health and social care to support patients and their carers to manage their conditions.

39 Prevention of chronic disease is crucial. As the WHO Report of 2002 said:

"Chronic conditions will not go away; they are the health care challenge of this century. Alteration of their course will require determined effort among decision-makers and leaders in health care in every country in the world. Fortunately there are known, effective strategies to curtail their growth and reduce their negative impact"

(World Health Organisation 2002)

40 We need to continue to move away from reactive, episodic care to continuous support in primary care for people with long-term conditions. We have an opportunity to look at our acute services and how we might provide them more effectively for people with long-term conditions.

41 Effective long-term condition management should be based on generic approaches to managing specific conditions, rather than condition specific approaches i.e. the basic principles of long-term condition management are the same, irrespective of the specific condition. Using individual separate approaches for the management of every possible long-term condition would be unworkable at a local level, would not address the issues raised by co-morbidity and would be confusing and inconvenient for patients and their carers. This does not preclude using locally developed protocols for common long-term conditions where these are found to be effective.

42 Intelligence is central to the delivery of care. This allows practitioners to make the most appropriate decisions about patient care on a person-to-person basis and will also enable us to predict what is required of our services. This means that evaluation and research need to be firmly embedded within the system, requiring collection, analysis and utilisation of appropriate data. Research topics could include: finding out what works and what doesn't; how best to use current knowledge and resource; monitoring ongoing trends in, for example, admission rates for chronic conditions, hospital utilisation by particular groups, number of GP consultations related to chronic disease; monitoring of the level of use of care pathways; assessment of patient experiences of their care, and the effect of the new GMS, Consultant and Community Pharmacy contracts.

43 The key to reducing unplanned admissions lies in primary care. Small changes in primary care can have a large impact on secondary care. As we have seen, it has been estimated that if each GP made one fewer referral every three months, there would be a 5% reduction in referred emergency admissions to hospital. Providing more facilities at a primary care level, such as access to a range of diagnostic services, could support better long-term conditions management.

44   However, we strongly believe that it is essential to take a whole systems approach to long-term conditions management and that the traditional boundaries between primary and secondary care and between health and social care need to be removed. In future, the use of terms such as primary and secondary care may not be useful.

45   The new General Medical Services (GMS), the Consultant and the Community Pharmacy contracts provide opportunities to put in place appropriate incentives for improving long-term conditions management. In particular, the GMS contract rewards practices for achieving specified quality outcomes in the treatment of patients with chronic conditions. This contract needs to continue to be responsive to service change and the need to deliver more and better treatment of long-term conditions at a local level.

46   Pharmaceutical care is an area where a co-ordinated team approach will make major improvements to the care and services provided to patients. Approximately 80% of medicines are prescribed for chronic conditions. Community pharmacists have an important part to play in addressing the pharmaceutical care needs of patients with long-term conditions. Work in progress has demonstrated a willingness on the part of patients to engage in more innovative ways of obtaining their medicines and participating in self monitoring with help and support from their community pharmacist.

47   The area of mental ill health in general is one in which the kind of approach we have been outlining can be applied. Patients with such conditions need supporting and enabling community based services. The 'Doing Well by People with Depression' programme being rolled out by the Centre for Change and Innovation is a good example of what needs to be done systematically around the mental health agenda. The programme will:

- Build capacity for self-help to meet the needs of those with mild depressive disorders and to provide support through the pathway of care.
- Build capacity for psychological interventions in primary care to reduce pressures on secondary services.
- Improve assessment of symptoms and associated problems to ensure an agreed understanding of user need and the sequence of treatments and / or support.
- Improve access to a range of community based services and support.

48 **We recommend that each NHS Board should, through its Community Health Partnerships, implement a system of long-term condition management that accords with the following principles:**

An effective system of long-term condition management will:

- **Focus on the whole person**
- **Involve people in their own care**
- **Provide care in the least intensive setting**
- **Aim to minimise unnecessary hospital visits and admissions**
- **Be co-ordinated in primary care**
- **Be provided by a multi disciplinary team**
- **Integrate generalist and specialist care**
- **Use a population approach**
- **Integrate health and social care**
- **Use good information systems and intelligence**
- **Identify people with long-term conditions and place them on a general practice based register with their appropriate consent/authorisation**
- **Use a structured approach to call and recall**
- **Review care using evidence based protocols and guidelines**
- **Focus on improving medicines management**
- **Use community and voluntary resources well and provide support for carers.**

49 We have looked at work in England, Europe and the United States relating to the benefits of a) stratifying people according to such factors as risks of complications and emergency hospital admissions and b) co-ordinating the care of those identified as being at very high risk using case managers.

50 The issue of case management (in simple terms, co-ordinated care for patients with highly complex needs) was raised in each of the three groups (Long-Term Conditions, Care of Older People and Care in Local Settings). Within health services, case management is increasingly used to manage people with one or more long-term condition with the broad aim of minimising symptoms and reducing hospitalisation. However, many patients have a mix of health and social care needs and case managers can also have a key role in co-ordinating services from both health and social care providers.

51 As our own data has shown, people with multiple chronic conditions are more likely to be hospitalised. Studies in the US have found that they are more likely to see a variety of physicians, take prescription drugs, and be visited at home by health workers. For example, people with five or more chronic conditions fill an average of 48 prescriptions, see 15 different doctors and receive 16 home health visits a year (Partnership for Solutions, 2002). One study showed that people with four or more chronic conditions were 99 times more likely to have an unnecessary admission to hospital than someone without a chronic condition (Wolff et al., 2002).

52 Given these complexities, care co-ordination seems essential. However as a recent review of the literature on behalf of the Kings Fund (Hutt et al., 2004) suggests, the evidence of its effectiveness is not yet clear cut. We do have some evidence, however. In the Castlefields Health Centre in Runcorn, Cheshire, a nurse, working closely with a social worker, considers patients eligible for care co-ordination if they are over 65 and meet at least three of the following criteria:

- four or more active long-term conditions;
- four or more medicines, prescribed 6 months or more;
- two or more hospital admissions in the past 12 months;
- significant impairment in one or more activity linked to daily living;
- significant impairment in one or more of the instrumental activities of living, particularly where no support systems are in place;
- in the top 3% of frequent visitors to the practice;
- older people who have had two or more outpatient appointments;
- older people whose total stay in hospital exceeded four weeks in a year;
- older people whose social work contact exceeded four assessment visits in each three month period;
- older people whose prescribing costs exceeded £100 per month.

53 The results were significant and sustained (Audit Commission, 2002):

- 15% reduction in hospital admissions;
- 31% reduction in average length of stay in hospital;
- total hospital bed days down by 41%;
- improved links between practice staff and other agencies in the community, leading to more appropriate referrals to other services and faster response times for assessments.

54 The King's Fund review cited above suggests that there is no ideal model that fits all requirements. We certainly do not have the evidence at this stage to apply a single national approach. **But there is sufficient evidence to suggest that we should do some extensive trialling of case management. It may be that some supporting finance will be necessary to enable NHS Boards to undertake and evaluate trials.**

55 **In taking forward this work, we recommend that:**

- **NHS Boards need to be clear from the outset what they are trying to achieve and the nature of their target group.**
- **Since the emerging data on case management suggests that the more thorough and comprehensive is the case finding and the stratification of need, the better the results, we need to examine carefully the options available.**
- **Case management should be developed in close collaboration with social care providers to ensure that an appropriate range of health and social care services is available to prevent hospitalisation and to avoid duplication.**
- **All case-management initiatives should be evaluated in terms of their impact on health service use and patient outcomes.**

Care in local settings

56 The overwhelming majority of people's health needs can and should be met locally. We start from a strong base in general practice. There are some who would have us believe that the NHS in Scotland is a highly centralised, super-specialised bureaucracy. That is far from accurate. It has been estimated that in the United Kingdom an order of magnitude of two billion 'health incidents' occur each year. Of these around only one in eight result in a contact with the formal health services (other than pharmacy). The vast bulk of 'health incidents' are dealt with by some form of self-care – being dealt with by the individual concerned, involving a visit to the chemist or with the help of family or friends. The patient's interaction with formal health care starts and ends in primary care in the vast majority of cases – 90% or so.

57 In order to 'road-test' its main ideas against the needs of specific patient groups, the Care in Local Settings Action Team set up three sub-groups:

   – Care for People with Cancer
   – Older People with Mental Ill-health
   – Children with Complex Needs.

58 In particular, the sub-groups were asked to look at the potential for improvement in terms of four areas of benefit for patients:

   – supporting people at home
   – preventing avoidable hospital admission
   – identifying opportunities for more local diagnosis and treatment
   – enabling appropriate discharge and rehabilitation.

59 Despite the wide differences in the characteristics of the patient groups, the thinking of the three sub-groups overlapped considerably with common themes emerging.

60 All the groups, for example, stressed the importance of a tiered approach to care which was explicitly thought through so that patients were assigned to an appropriate level of intensity of care and care co-ordination. The importance of having a single individual with responsibility for co-ordinating all the elements of care was emphasised by the Children with Complex Needs group – in the form of a key worker – and by the groups looking at older people with mental ill-health and at cancer care – in the form of a care co-ordinator.

61 We set out below a very brief summary of the main findings and recommendations of the three sub-groups.

> **The full reports and detailed recommendations of these sub-groups are to be found as Annexes to the report of the Care in Local Settings Action Team at www.show.scot.nhs.uk/sehd/nationalframework**

Care for people with cancer

62 There is recognition, across the Cancer Networks, that patients should have the opportunity to remain at home or as close to home as possible for the majority of their illness. However, many patients with cancer in Scotland continue to receive hospitalised care that can be remote from their home and their family. In a number of these situations it is likely that hospital admissions could have been avoided had there been greater support available locally.

63 Despite some good progress by the Cancer Networks over recent years, cancer service delivery in Scotland is focused largely within an acute care setting. Much has been done through out-reach and flexible working practices to move key elements of care from tertiary centres to the local District General Hospital. But can we go further still?

64 Currently in Scotland there is a definite shift to delivering cancer care outwith the specialist centres particularly in relation to the delivery of chemotherapy and supportive care. For example, within Ayrshire and Arran all patients with breast cancer and around 90% of patients with lung or colorectal cancer now receive their chemotherapy within the District General Hospital and by involving community hospitals, there is a potential to devolve this further. If this is to be further developed then engaging patients in self care will be an important role for cancer clinicians and the voluntary sector.

65 Growing evidence of the positive effect on outcomes of self-care and self management both in general and for patients with cancer suggests that much more should be done in this area. Within cancer care, promoting self care is vital as patients spend very little time within a supervised environment and the majority of time within their own homes. NHS Boards and Cancer Networks should develop and implement self care strategies aimed at improving patient outcomes. Information and communication technology to support self-care and promote communication between care providers and patients should be utilised.

66 In relation to surgical intervention the relationship between volume and outcomes is particularly important. There is now substantive evidence that for complex cancer surgery (for example pancreatic or oesophageal cancer) there is an inverse relationship between surgeon volume and mortality. For more common cancers there is also evidence that a specialist surgical intervention is associated with improved survival although the thresholds for this are far from clear. Therefore whilst surgery for certain cancers is safe within District General Hospitals a critical mass of relevant expertise is required and should be maintained at a regional level.

67 National protocols for delivering more cancer treatments within local communities should be developed and implemented. To support more local treatments remote patient monitoring linked to the electronic health record should be adopted.

68 The delivery of palliative care within the home setting reduces hospitalisation during the last three months of life, preventing avoidable admissions close to death. The delivery of co-ordinated care, particularly palliative care, involving practice based teams, specialists and social care can reduce avoidable hospital admission.

69   All patients with cancer in Scotland should have timely and supported discharge and follow-up care and should have access to a cancer specific rehabilitation programme. However patient perspectives on the quality of care received in the community after discharge indicate that current service provision is inadequate and that many patient needs are unmet.

70   There is a clear need therefore to undertake empirical research in this area with a view to delivering more effective discharge, follow up and rehabilitation within local communities that is acceptable to patients and does not compromise patient outcomes.

Older people with mental ill-health

71   Most care for older people with mental ill-health will be provided by local health and social care teams receiving clinical leadership from primary care practitioners. The role of specialist services will be specialist assessment, the provision of complex, possibly innovatory, treatment, monitoring highly complex cases and providing provision and support to other practitioners.

72   NHS Boards should develop plans for the phasing down of existing NHS Continuing Hospital Care places for older people who experience mental ill-health, with a clearly identified end-point.

73   Unpaid carers, primarily family members, make a massive contribution to supporting older people with mental ill-health. Much more attention must be given to the identification, assessment, support and training of carers.

74   E-health or tele-care offers immense potential over the coming years to enhance our capability for supporting older people with mental ill-health at home.

75   A robust Primary Care Service working to defined standards will ensure early identification and treatment of this client group. Practices will need to have registers of patients in these categories and have systems in place to monitor their health and behaviours. This will ensure that an early warning system exists and that people are not inappropriately admitted to hospital.

76   Health-care systems should ensure a holistic approach to this area to avoid the mental health needs of older people being overlooked when the 'presenting' health problem is physical.

77   Specialised intensive home treatment in the form of a rapid response service has been successful in treating older people with major depressive disorder and paranoid states and in providing hospice care for people with psychiatric illness at the end of their lives.

78   The provision of appropriate day facilities is critical. Day hospitals will act as an alternative to inpatient admission, as a means of preventing admission or as a "step-down" on discharge from inpatient care – or a combination of these.

79   Effective models of care management for people with complex long term conditions such as dementia will need to combine intensive clinical care with the co-ordination of other health and social services.

Children with complex needs

80   The number of children with complex needs and severe disability is increasing. This is due to a number of factors including increased survival of pre-term babies and increased survival after severe trauma or illness.

81   All children and young people with complex needs should receive an effective multidisciplinary assessment that leads to accessible and timely intervention, care and support for children and their families and maximises the potential of each child.

82   Children, young people and their families should receive appropriate information about their care package and be involved in planning the care package.

83   Each child should have a named key worker who will coordinate all their primary care needs across health, local authority and voluntary sector providers and a named paediatrician who will support the key worker and the child by coordinating all secondary and tertiary care with pathways for service delivery. The key worker has the overall responsibility for the co-ordination of all aspects of care and should aim to integrate children into mainstream and local services wherever possible.

84   Children and young people with complex needs have the right to a formal multi-agency annual review of their needs with regular assessment and evaluation. The review should be linked to the Coordinated Support Plan process and in many cases be integrated within the CSP.

85   Children with complex needs and their families are entitled to expect that children who have packages of care provided from home on an intensive basis will be offered a choice between their existing package of care and a model where some care is provided in a specially designed facility. Such provision would allow a number of children to be looked after in a homely setting.

86   Discharge planning for children with complex needs, and in particular those on ventilation, has been shown to be variable across the country with no clear process and consistency of discharge planning arrangements available. A discharge pathway should be in place for all children with complex needs. This should be developed in conjunction with NHS QIS.

87   From the Care in Local Settings group a number of common issues were identified:

- delivery of more care in local settings is possible assuming appropriate support networks
- patients, carers and professionals want safe and effective care as close to the patient's home as possible
- regional, and in some instances national, planning is required to support the delivery of care in local settings
- there must be local ownership of service change to ensure sustainability.

A system of local care

88 The Action Teams whose work has been reported in this chapter have addressed similar and overlapping issues from complementary perspectives. Their findings have all pointed in broadly the same direction. What should a system of care look like which will deliver on these recommendations?

89 Not all local care is concerned with long-term conditions or the needs of older people. "As local as possible…" is a theme which permeates this Framework and local care is dealt with at various points in the Report. In particular Chapter 7 contains detailed recommendations on the configuration of services for unscheduled care and Chapter 10 looks at the specific requirements of health care in rural Scotland.

90 That said, the main business of a system of local care will be in the related and overlapping areas of care of older people and support for people with long-term conditions. The better designed is such a system and the more smoothly it runs, the more successful we will be in shifting the balance of care out of the hospital and closer to the patient's home.

91 In Scotland, the main organisational vehicle for the delivery of care in local settings will be the Community Health Partnership. Everything which is said in this Chapter will be of particular relevance to defining the mission of Community Health Partnerships.

92 Perhaps the best overall vision of what a system of local care should look like can be derived from the Chronic Care Model (Figure 4.4). This model has been developed and applied over a period of years in the United States and elsewhere and has been highly influential for example in the Department of Health's thinking about supporting long-term conditions. (DoH, 2004; DoH, 2005).

Figure 4.4
A system of Local Care: The Chronic Care Model.

http://www.improvingchroniccare.org/change/model/components.html
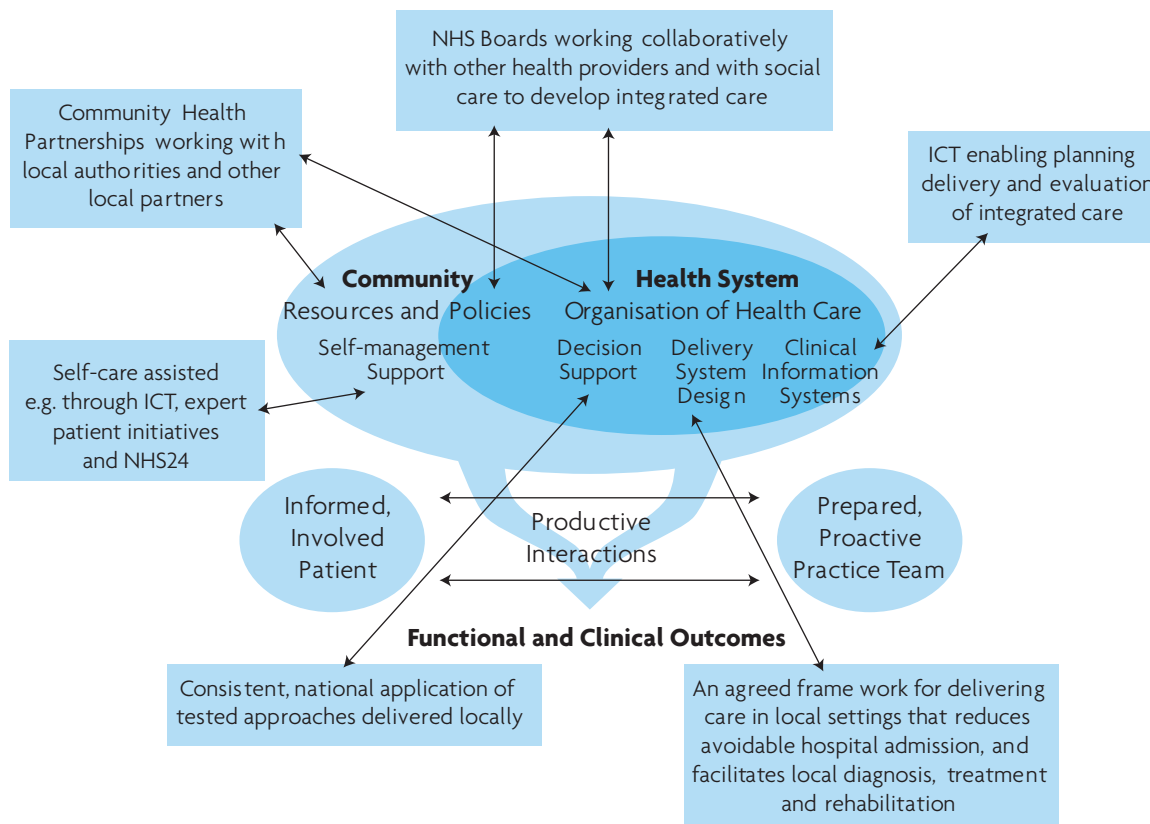
93 We recommend that NHS Boards and Community Health Partnerships adopt this model for local care as the basis for their planning of services to be delivered in a local setting.

94 Following the broad outlines of the Chronic Care Model the following are some of the main components of a good system of local care:

- whole system working
- care co-ordination and case management
- care assessment and stratification
- active, involved patients and carers
- a comprehensive population based information system
- mechanisms for delivering service change and quality improvement.

Whole system working

95   There is a lot of talk about whole systems working but a tendency that in doing so, not everyone is on the same page. The whole system can look different depending on your perspective. The Audit Commission, in their report "Integrated services for older people – building a whole systems approach in England" in the context of an exemplary blueprint for services for older people provide a useful description of whole system working:

Whole system working takes place when…

- **Services are organised around the user.**
- **All of the players recognise that they are interdependent and understand that action in one part of the system has an impact elsewhere.**
- **The following are all shared:**
  - **vision,**
  - **objectives,**
  - **action, including redesigning services,**
  - **resources,**
  - **risk.**
- **Users experience seamless services and the boundaries between organisations are not apparent to them.**
  Audit Commission, 2002.

96   In order to ensure a degree of consistency in the approach taken by local organisations to deliver local care, we recommend that each NHS Board adopts a system of local care that is likely to lead to integrated, patient-centred delivery. Looking at the Audit Commission work and a range of other approaches, it is possible to identify a number of common features. Successful, integrated whole systems will tend to include:

- a recognition that health care is part of a wider system
- a clarity about what are the system aims and priorities
- a means to develop partnership and co-ordination to achieve those aims
- an integrated approach using IT to link patients and providers
- an enhanced role for the patient.

97   In Chapter 12 we discuss some of the main mechanisms for achieving greater collaboration and integration in service delivery such as Regional Planning Groups, Managed Clinical Networks and Community Health Partnerships.

98   The NHS is of course only one part of the whole system of care. In Chapter 12 the framework for working with local authorities and social care in particular is outlined. In Chapter 5 we discuss the need for working with a range of partners, from patients themselves through carers and volunteers to the voluntary sector itself.

Care co-ordination and case management

99 Some level of care co-ordination is required for everyone with a long term condition as was outlined in the recommendations of the Long Term Conditions Action Team. However the need is greatest for those whose needs are most complex – those who are older, frailer and with more than one long-term condition.

100 We do not recommend one particular model of case management. The Castlefields model – now also known as UNIQUE care – has already been presented as illustration. The Evercare model is being widely piloted and evaluated in England. (DoH, 2005).

101 What the different methods of case management share is more important than what distinguishes them. As we have seen, as the population ages, the task of the care system will be increasingly that of looking after older people often with multiple long term conditions and a range of social issues. Their care and management is extremely complex involving a range of agencies, practitioners and specialisms. There needs to be a mechanism for ensuring that all the elements of care are delivered in a co-ordinated fashion.

102 Perhaps the simplest way of ensuring this is to have one person responsible for the co-ordination of the care of a given individual. It is important that the care provided is not simply reactive when a crisis has occurred. The power of case management derives from the provision of co-ordinated care which is proactive and preventive: it is primarily concerned to ensure that everything which can be done is done to prevent crises happening rather than waiting to react once crises have happened.

Care assessment and stratification

103 An essential feature of a local system of care for long-term conditions is that all patients with a long term condition are assessed so that an appropriate level of care co-ordination can be allocated. As outlined in the recommendations of the Long-Term Conditions Group, the more thorough and comprehensive is the case-finding of patients with complex needs and the assessment of requirements for care co-ordination among the entire population of people with long-term conditions, the better are the results.

104 The Department of Health's strategic guide to support for long term conditions (Department of Health, 2005) is a recent example of a unified approach to care stratification. Their approach is developed with reference to the 'Kaiser-Permanente pyramid' relating to care for long-term conditions.

Active, involved patients and carers

105 Partnership between professional health care staff and informed and involved patients and carers is a fundamental pre-requisite for the model of care outlined here. In the next Chapter we outline how the NHS needs to go much further in working with patients, carers and other partners in providing or co-producing care for each patient.

A comprehensive population based information system

106 Progress in improving the system of local care can of course be made without an integrated patient-based information system. However given that the main task of such a local system of care will be managing a growing group of patients with complex needs and input from a wide range of agencies and services, an information system which will act as the 'glue' for the system becomes ever more important. In Chapter 13 we outline what is required from an information system able to support a system of care organised according to the Chronic Care Model. The three key requirements are assessment of need or care stratification at a population level; care planning and co-ordination at an individual level; and monitoring of outcomes and evaluation for quality improvement.

Mechanisms for delivering service change and quality improvement

107 A culture of quality improvement needs to be built in to the delivery of care in local settings. Too often in Scotland excellent and innovative initiatives are developed in one locality without being adopted as best-practice in other areas. Good information systems and audit must be used to generate rapid feedback of key parameters as part of the process of quality improvement and service redesign.

108 A considerable amount of work has been done by clinicians, NHS Boards and by the Centre for Change and Innovation to redesign services. This work needs to continue and to quicken in pace to meet the demands of a more rapidly changing environment. Crucially, and this is something that has been raised consistently with us by NHS staff and the public, we need to find a way to evaluate these changes quickly and, if there is evidence about their effectiveness, roll them out across the system. If change is shown to work, then the whole of Scotland needs to have equitable access to that redesigned service.

An agenda for Community Health Partnerships

109 Community Health Partnerships will be the main vehicles for developing a modern system of care in local settings. CHPs will be expected to:

- deliver services more innovatively and effectively by bringing together those who provide community based health and social care;
- shape services to meet local needs by directly influencing Health Board planning, priority setting and resource allocation;
- integrate health services, both within the community and with specialist services, underpinned by service redesign, clinical networks, and by appropriate contractual, financial and planning mechanisms;
- improve the health of local communities, tackle inequalities and promote policies that address poverty and deprivation by working within community planning frameworks;
- be the main NHS agent through which the Joint Future agenda is delivered in partnership with local authorities and the voluntary sector.

110 All of this fits well with our analysis of what needs to be done but it is an ambitious agenda for these new organisations. We suggest that CHPs need to focus their activities on the four priorities which have structured our work on care in local settings:

- supporting people at home,
- preventing avoidable hospital admission,
- identifying opportunities for more local diagnosis and treatment,
- enabling appropriate discharge and rehabilitation.

111 We also recommend that in order to establish a coherence and consistency to the work of CHPs that we should establish some clear and specific targets for them. For example the 2004 Spending Review contains the target that by 2008-09 we will reduce the proportion of older people (aged 65+) who are admitted as an emergency inpatient two or more times in a single year by 20% compared with 2004-05 (Scottish Executive, 2004).

112 In order to achieve these objectives, CHPs should introduce **care co-ordination** or **case management** as one means to ensure that the benefits of service integration flow through to patients. Care co-ordination programmes should be aimed at achieving progress on one of the four strands and in the first instance should be targeted at the highest risk populations.

113 The fact that three quarters of the heavy users of the health-care system are aged 75 and over, the fact that the whole growth in emergency admissions to hospital over the last 20 years is accounted for by over 80s, the fact that most of these frail elderly people have multiple chronic diseases tells us something about where we need to focus our attention. However we need to be precise in this area. We recommend that a nationally consistent approach is taken to developing a means of identifying those patients most at risk of avoidable hospital admission and with the greatest need for intensive case management.

114 Achieving integration of care services has been a key policy objective of government at a Scottish level since devolution and before. Integration is seen as a key factor in removing the frustrations and delays which are seen as bedevilling health care in Scotland. The implementation of an integrated care system is seen as a central component of a modernised health care system. In Chapter 12 we outline the main mechanisms available for ensuring that we attain the necessary levels of integration in service design and delivery – with Community Health Partnerships at the heart of this endeavour.

Summary of recommendations

Meeting the health care needs of older people with long term conditions is the biggest challenge for the NHS in Scotland. It requires a shift in the balance of care from fragmented, episodic care to integrated, continuous care. To enable this shift:

- Each NHS Board, through its Community Health Partnerships (CHPs), should introduce a systematic approach to managing long term conditions in accordance with the following principles:
  The approach should:
  – be holistic, i.e. focus on the whole person
  – involve people in their own care
  – provide care in the least intensive setting
  – aim to minimise unnecessary hospital visits and admissions
  – be co-ordinated in Primary Care
  – be provided by a multi disciplinary team
  – integrate generalist and specialist care
  – integrate health and social care
  – use a population approach
  – use good information systems and intelligence
  – identify people with long term conditions and place them on a general practice based register with their appropriate consent/authorisation
  – use a structured approach to call and recall
  – review care using evidence based protocols and guidelines
  – focus on improving medicines management
  – use community and voluntary resources well and provide support for carers.

- The approach adopted should have measurable outcome targets (set by The Scottish Executive) to demonstrate progress

- All CHPs should prioritise the following actions;

  – supporting patients at home
  – preventing avoidable hospital admission
  – identifying opportunities for more local diagnosis and treatment
  – enabling appropriate discharge and rehabilitation.

- The Scottish Executive should initiate a project to identify the group of patients with long-term conditions most at risk of hospitalisation with a view to providing them with proactive care

- The Scottish Executive should work with NHS Boards to trial and evaluate a number of approaches to care co-ordination

Workforce implications

The shift away from episodic, reactive care based in hospitals to team-based continuous, preventive care based in local settings will require a wide-ranging set of changes in the recruitment, training and continuous professional development of NHS staff.

An increased need for the roles of care co-ordination and case management will require the development of training initiatives so that staff from a range of backgrounds can be trained in new roles.

Shifting of the balance of care towards local settings will provide increased scope for the development of GPs with Special Interests.

Separation of diagnostic testing from diagnostic reporting will allow more diagnostic testing to be done locally. There will be a potential for this testing to be carried out by expanding the roles of, for example, nurses and AHPs.

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CHAPTER FIVE
**SELF-CARE, CARERS, VOLUNTEERING
AND THE VOLUNTARY SECTOR: TOWARDS
A MORE COLLABORATIVE APPROACH**

05

01   A key message from the previous chapter was the need to adopt a whole-system approach in redesigning health care. The NHS is only one part of a much wider 'whole system' of health care.

02   The elements of this wider system we will look at in this chapter are:

- people experiencing ill health who contribute in terms of self-care and self-management
- carers of people with health problems (unpaid, most often family members)
- people who assist as volunteers
- the professional voluntary sector.

03   The service needs to find ways to develop the full potential of patients, carers and other 'non-state' providers to enable them to become co-producers of health care. This will bring

- benefits for patients
- benefits for carers
- benefits for volunteers
- benefits for the NHS

Self-care and self-management

04   Self-care involves the individual taking action to maintain health, prevent illness, seek and adhere to treatment, manage symptoms and side effects, accomplish recovery and rehabilitation and cope with chronic illness and disability. Engagement in self care facilitates a partnership between health service users, their carers and health professionals to ensure optimal health outcomes.

05   Self-care takes many forms, ranging from relatively casual actions to deal with occasional events such as taking an aspirin for a headache, to the development of high levels of patient expertise in managing a long-term condition such as diabetes.

06   There is growing evidence to show that supporting self care has a range of positive outcomes, such as:

- better health and quality of life, with improvements in overall life expectancy and positive impacts on specific symptoms such as pain, anxiety and depression
- improved patient satisfaction
- significant impact on use of care services with reductions in GP visits, outpatient attendances, Accident and Emergency department visits and inpatient admissions (Department of Health, 2005a).

07   The majority of acute healthcare events are self diagnosed and self treated. The service needs to become much better at supporting and informing self care, whether by means of home healthcare manuals such as the Kaiser-Permanente Healthwise Handbook, the provision of enhanced and authoritative information on the internet, or further development of telephone resources such as NHS 24.

08 The greatest potential for self care, however, is likely to be in the context of the management of long-term conditions. The Chronic Care Model introduced as a framework for care in local settings is predicated on support for self care and partnership with informed and motivated patients (Box 5.1).

Box 5.1 Self care in the Chronic Care Model

Empower and prepare patients to manage their health and health care:

- **emphasise the patient's central role in managing his or her health**
- **use effective self-management support strategies that include assessment, goal-setting, action planning, problem-solving and follow-up**
- **organise internal and community resources to provide ongoing self-management support to patients.**

All patients with chronic illness make decisions and engage in behaviours that affect their health (self-management). Disease control and outcomes depend to a significant degree on the effectiveness of self-management.

But effective self-management support means more than telling patients what to do. It means acknowledging patients' central role in their care, one that fosters a sense of responsibility for their own health. It includes the use of proven programmes that provide basic information, emotional support, and strategies for living with chronic illness.

But self-management support can't begin and end with a class. Using a collaborative approach, providers and patients work together to define problems, set priorities, establish goals, create treatment plans and solve problems along the way.

Source: Improving Chronic Illness Care: The Chronic Care Model.
http://www.improvingchroniccare.org/change/model/smsupport.html

09 In England, support for self care and self management is a key component of the strategy for supporting people with long-term conditions (Department of Health, 2005b). Figure 5.1 is an adaptation of the Department of Health (DoH) diagram showing the relative contribution of self-care at different levels of the chronic-care pyramid. It can be seen that for the vast majority of people with long-term conditions, care is primarily self-care based. The DoH cites the following as an example: '... people with diabetes have on average three hours contact with a healthcare professional and do self care for the remaining 8757 hours in a year, using the advice given by professionals during the three hours or using skills learned through structured self-care education programmes.'

Figure 5.1 Chronic-care pyramid (Department of Health 2005a)
Patients with long-term conditions: self care and management.

Complex cases with co-morbidities

High proportion of professional care

Professional Care

Higher risk cases

Equally shared care

Self Care

70-80% of people with long-term conditions

High proportion of shared care
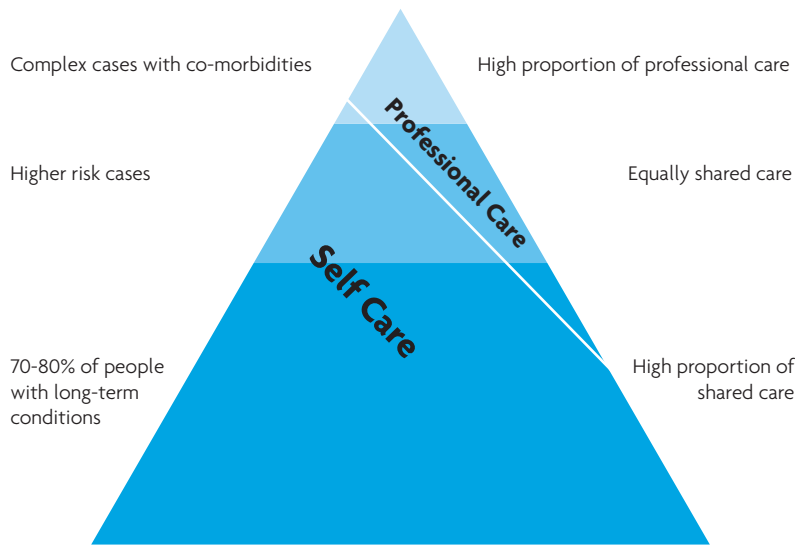
10   A recent DoH report on self care outlines a wide range of initiatives to support self care across the entire spectrum of services, from improving health literacy to installing home adaptations (Department of Health, 2005a). Self-care support is presented as a crucial element of the whole system of care, and it is emphasised that self-care support initiatives can only be embedded successfully in the care system if they are integrated into its routine business and have the full backing of care professionals, practitioners and managers.

11   Programmes to develop and support self management take a variety of forms. They can be specific to a particular condition, or generic in nature. They can be professionally led, or led by patients, i.e. lay-led or patient-led self-management.

12   The last of these options is becoming increasingly important and has been described as follows: 'In essence, lay-led self-management programmes are a conduit through which people living with long-term illnesses can develop self-efficacy, enhancing skills which enable them to feel more in control of their condition. The aim is to complement existing healthcare provision and encourage the development of a partnership between the patient and the health professional, in which the patient becomes the manager of the condition, learning to make the best use of the resources available to him, one of which is the health professional' (Cooper and Clarke, 1999).

13   An early condition-specific example of a patient-led self-management programme was the Arthritis Self-Management Programme which became the basis of the Challenging Arthritis initiatives implemented by Arthritis Care in the 1990s in England and in Scotland. Acknowledging patients as experts in their own care is fundamental to enhancing self care activity.

14   The Expert Patient Programme adopted in England is based on a generic approach in which patients with a variety of long-term conditions come together in a group to be trained in self-management techniques by lay trainers who have themselves come through the system. In England, the Expert Patient Programme has been the basis of a major investment in patient self management and has been given the 'green light' to go mainstream, with the target of rolling it out to all Primary Care Trusts by 2008 (Department of Health, 2005b).

15 In Scotland, the Braveheart Project is a notable initiative combining elements of lay-led and professionally-led approaches to self management (Box 5.2). Participants are patients aged 60 and over with a clinical diagnosis of ischaemic heart disease. They participate in a series of meetings of a mentor-led support group over a period of a year. Mentors are not health professionals, but are individuals with experience of the same or similar conditions who undergo specific training for the project with input from a range of health and other professionals. Sessions cover a wide variety of issues on management and self-management of cardiovascular disease and the promotion of general wellbeing. A randomised controlled trial relating to the project showed significant improvements in exercise, diet and physical functioning among participants, as well as reductions in outpatient attendances (Coull et al., 2004).

Box 5.2 Volunteer mentorship, self help and the professional role in the Braveheart Project (NHS Health Scotland/Braveheart, 2003)

Mentorship
Mentorship isn't about 'doing' things for people. Nor is it about 'telling' people what to do. It is much more about partnership, a partnership in which the mentor acts as a role model and confidant, actively guiding and assisting group members to take the steps to bring about important changes in the way they live their lives.

Braveheart was based on a mentoring model that brought together elements of self-help, patient participation, decision-making and the sharing of individual experiences and challenges in a group setting.

Benefits of volunteer mentors
Volunteer mentors:

- have experienced the same or similar problems as their peer group, which gives them credibility
- can serve as positive role models
- can offer advice and support in non-institutional settings such as community centres or day centres
- can provide vital contact with the community for more isolated people
- can expand the support system for their peers, helping them to be more aware of other community resources.

Self help and the professional role
Self help offers a challenge to individuals to take responsibility for their actions and their health. It may also present a challenge to healthcare professionals who are more used to 'doing' things for and to patients and who may feel uncomfortable about patients 'taking control' of their own lives.

Braveheart demands that professionals should look at their relationships with patients in a different way. It requires them to see themselves as educators and facilitators, setting up a cascade of information, advice and encouragement that is passed from the mentors to the patients.

16 In general, however, apart from some excellent and pioneering initiatives, support for self care and self management in NHS Scotland is relatively underdeveloped. Moving self care and self management into the mainstream of health care will be a major undertaking. It will require changes in the culture of healthcare delivery away from a top-down 'doctor knows best' approach towards a more collaborative approach in which one of the major roles of the healthcare professional will be to facilitate a range of methods for patients to learn how best to manage their own conditions.

17 **We recommend that NHS Scotland seeks to build on some of the success stories in Scotland (such as the Braveheart Project) and looks at what can be learned from the DoH's Expert Patient Programme with a view to developing a more systematic approach to self management. We see this as having particular relevance to managing long-term conditions.**

18 **The Scottish Executive should work with NHS Boards to pilot self-management approaches supported by information technology.**

19 **In addition, we recommend that the Scottish Executive Health Department should fund and develop a Scottish Long-Term Medical Conditions Alliance to articulate patients' views across a wide range of conditions. This would help to meet the aim of effective long-term condition management based on generic approaches to managing specific conditions, making patients equal partners in their own care and encouraging self-help initiatives.**

Carers

20 One of the issues that came up consistently in our public consultation meetings was the vital role played by unpaid carers and the perception that their contribution was generally undervalued.

21 A central theme of Scotland's Health White Paper, *Partnership for Care* (SEHD, 2003), is the need to work in partnership with patients and carers (Box 5.3). Full partnership between the NHS and unpaid carers can bring immense benefits to patients, carers, the NHS and to local authorities in their key role of supporting carers and the people they care for. Supporting the caring relationship can lead to improved physical and mental health for both patients and carers.

Box 5.3 Partnership for Care: Carers

'Carers are 'key' partners [in the provision of care] because they are different from other partners in the care-giving system in their status and their contribution. Carers are usually the main care-providers for the person they look after, but unlike other care-providers, they are not paid to provide that care. Carers generally have a close personal relationship with, and commitment to, the person they care for. For all these reasons carers play a unique role in the overall provision of care to the person they care for, and in care in the community as a whole.'

Source: Scottish Executive Heath Department (2003) *Partnership for Care: Scotland's Health White Paper.* Edinburgh: SEHD.

22 Development of the relationship between Scotland's NHS and unpaid carers provides significant opportunities to achieve shared national objectives: better health and care provision in the community, increasing emphasis on self care, and reduced NHS and social care intervention.

23 The role of carers in supporting the health and welfare of those they care for cannot be underestimated. Just under a third of carers are the main support for the people they care for, either alone or jointly. Carers living in the same household as the person for whom they care provide high levels of practical and health care – 51% provide personal care, 57% provide physical help such as assistance with walking and 44% give medicines.

24 For many carers, caring is a long-term commitment. One in five carers (21%) has been caring for someone for at least 10 years and nearly half (45%) have been caring for someone for five years or more (ONS, 2002).

25 In addition to providing health care, carers help to promote independence, prevent or delay admissions to hospital or care homes and facilitate early and effective discharge from hospital.

26 There is evidence that caring can affect carers' own health and that their health is increasingly at risk as their caring responsibilities increase. Female carers with the greatest caring responsibilities have a 60% higher chance of experiencing distress than non-carers, with the risk increasing with the intensity of caring (Hirst, 2004). Carers in Scotland providing high levels of care are a third more likely to suffer ill health as non-carers. Nearly 60,000 in Scotland (out of an estimated 600,000) say they are in poor health (Carers UK, 2004).

27 When a caring relationship breaks down (often because unsupported carers can no longer cope), it can result in the admission of the cared-for person, the carer, or both, to hospital or local authority care. This is particularly true where older carers are caring for older spouses, partners or friends.

28 Recent years have seen major developments in the legislative and policy environment relating to carers. In particular, the Community Care and Health (Scotland) Act 2002 and subsequent Scottish Executive guidance formally recognise carers as 'key partners in the provision of care' and, for the first time, define a legislative duty on NHS Boards to identify and support carers through the development of local NHS Carer Information Strategies. The Scottish Executive guidance also emphasises that unpaid carers require appropriate resources and support to be able to manage their role.

29 Carers require the following types of support and resources:

- information and advice
- training
- practical and emotional support.

Information and advice

30 Unpaid carers require appropriate information and advice at every level of the caring journey. They prefer information directly from NHS contact points or from 'one-stop shops' such as local Carer Centres, rather than having to piece together information from a wide range of sources and agencies. Among the main types of information most needed by carers are:

- **Information on the health and medical condition of the person for whom they care.** Understanding the gradual impact, symptoms and processes of illnesses such as dementia and Alzheimer's disease, or the causes and patterns of schizophrenia, epilepsy, stroke or kidney dialysis, can enable unpaid carers to understand and plan appropriate medical or care support. This will lead to the empowerment of carers, who can then assist in predicting and preventing crisis interventions, potentially avoiding the need for admissions to acute services.

- **Information on health promotion and healthy living.** There is increasing evidence that the pressures of caring lead to stress, mental ill health and neglect of people's health and dietary needs. Protecting the health of unpaid carers is viewed by many carer organisations as a public health issue. Viewing the health of carers in this way will provide long-term benefits to the NHS. Healthy carers in the community can be as essential as healthy nurses.

- **Information on the range of support that is available to them.** Although support is available to carers, information on how to access it is not always readily available. Carers require information on finance and benefits for themselves and the person they care for; short breaks and breaks from caring (respite); equipment and adaptations to support daily living; and practical and emotional support. Making this information easily accessible provides carers with choice on the services best suited to their needs and prevents the inevitable frustrations associated with navigating the 'system'.

Training

31   NHS research has shown that systematic training for unpaid carers produces a better quality of life for the carer and person cared for, as well as tangible economic savings from reduced NHS and social care intervention and prevention of repeated hospital admission.

32   A recent randomised controlled trial, for example, looked at the effects of providing unpaid carers of disabled stroke survivors (patient median age 76) with training in basic nursing techniques relating to stroke and hands-on training in areas such as lifting and handling and continence. Improvements were shown across a range of outcomes for carers (in quality of life, anxiety and depression scores) and patients (in quality of life and burden of care) (Kalra et al., 2004). An economic evaluation showed significantly reduced costs of care (Patel et al., 2004).

33   Appropriate training courses on different aspects of caring, preferably early in the caring role, can play a significant part in building carer knowledge and confidence and facilitating peer support.

34   In line with the concept of the 'expert patient', training for carers can create 'expert carers' who are knowledgeable in medication regimes, early symptom recognition, and pain and behavioural management. The 'expert carer' can effectively work alongside the health professional to deliver quality care and, guided by professional advice, can provide peer support in similar circumstances.

35   Training courses for carers funded and promoted by the statutory sector will allow all to participate. Funding for alternative caring arrangements while carers are undertaking training – particularly for those with the heaviest caring responsibilities – will enable carers to participate and provide long-term benefits to the NHS.

36   Training programmes should be designed with the appropriate balance of professional input and peer support to cover topics such as: assessment; pathways to NHS and social care support; use and effects of medication; moving and handling; emotional aspects of caring; healthy living and health promotion.

37   Ideally, carers should have the opportunity to choose from a mixed programme of generic courses, specialist courses and group-work programmes (on emotional aspects of caring) to develop the appropriate mix of training support for their specific needs at different stages in the caring journey.

Practical and emotional support

38   Carers report that they need emotional and practical support to assist in their caring responsibilities. The practical support needs of carers, particularly of those in intensive caring situations providing 50 hours care and more per week, centre specifically on aids and adaptations and the provision of regular and planned breaks from caring (respite). The emotional support required takes the form of mentoring, counselling and peer support.

39 **Practical support: aids and adaptations** Appropriate aids and adaptations play a significant part in easing living routines, particularly where provision is part of long-term planning to allow patients and carers to shape the environment to their long-term needs. Carers report great improvements to their lives and caring roles as a result of often small adaptations and supporting aids.

40 Many NHS Boards and local authorities provide extensive aids and adaptation stores. These can be accessed by patients and carers, but are not always widely promoted. Carers often report a lack of information about their existence.

41 Increasing carers' access to information about aids and adaptation stores, and reducing the bureaucratic procedures associated with accessing equipment, will enable carers to work alongside professionals in maintaining the patient at home.

42 **Practical support: rehabilitation, short breaks and breaks from caring** The provision of short breaks and planned breaks from caring is reported by carers as an essential requirement in maintaining the caring relationship. Although 'respite' is often seen as a social care issue, joint planning to increase the capacity of flexible and planned respite services would further assist in the caring role.

43 **Emotional support** The ability of thousands of unpaid family carers to cope with their role as care providers depends on managing the emotional impact of impairment, illness and caring. Impairment and illness often have significant impacts on 'natural' relationships between people and their life expectations. Frustration, anger, guilt, depression and a sense of hopelessness mix with desires to provide the best possible quality of life for people with support needs and their families.

44 The impact of impairment and illness on the mental and emotional health of carers, siblings and other family members is increasingly well documented. Planned support for unpaid carers should include the provision of emotional support, counselling, peer group support and mentoring.

45 As with training programmes on the practical aspects of caring, NHS investment and support of emotional support programmes and facilities would provide a significant resource to support carers to cope positively with their role.

What the NHS can do to support carers

46 The NHS should take the following steps to help support the agenda outlined above.

47 **Make carers' health a public health issue.** With increasing evidence of the detrimental impact of caring on the emotional and physical health of unpaid carers, NHS support for unpaid carers should be regarded as a public health issue. Preventative action, healthy living and health promotion for carers are considered to produce health and quality-of-life benefits for carers and the person for whom they care. A practical example is NHS Lothian's inclusion of carers of all ages in free 'flu inoculation programmes (previously only supplied to people over the age of 65).

48 **Implement fully NHS carer information strategies.** Full and systematic implementation of local carer information strategies is needed to identify and support carers at the point of patients' entry to the NHS. In this context, the systematic implementation of carer registers within new GP contracts would address one of the key gateways for recognition and support identified by unpaid carers and health professionals.

49 **Encourage carer participation and partnership involvement in planning.** The continued recognition of carers as key providers rather than users of services is fundamental to their role as strategic partners at all levels of health care. Consideration could be given as to how to strengthen the formal role of carer representation within emerging planning structures, enabling carers to provide information on what could be developed locally to facilitate hospital discharge and prevent hospital admission.

50 **Develop and provide carer training.** The previous section outlined the types of training required so that carers can maintain their own health and wellbeing and maximise their contribution to the health and wellbeing of the person they care for. The NHS should develop a national framework for the development and implementation of the training programmes required.

51 **Building 'carer awareness' into professional training.** The 'carer dimension' should be included in the professional training and study programmes of professional staff at all levels. A lead has been taken by the Royal College of Psychiatrists. From 2005, the College will require postgraduate accreditation to have a carer-led carer awareness component to the curriculum. Current draft statutory guidance states that NHS Boards and local authorities must ensure that frontline staff and professionals are trained in carer awareness issues. This should include awareness-raising about issues relating to young carers. Training should be provided in a range of ways including induction, joint training and ongoing education and communication in relation to health and social care.

Supporting carers to support the service

52 Better support and training for carers provides three levels of benefit: benefit for carers, benefit for the people they care for, and benefit to the NHS. The system of unpaid care is currently in a fragile condition. Growing numbers of older people and an associated burden of ill health mean an ever-growing demand for unpaid care. Current evidence is that the supply of unpaid care is not keeping pace with this growing demand. Even more ominous is an 'intensification' of caring relationships, with more care being provided by close family members, especially partners, and more care being at the 'intensive' end of the spectrum, involving long hours and high levels of responsibility. If this increasingly fragile system of unpaid care is not supported adequately, its breakdown will pose heavy demands on the healthcare system.

53 Carers will play an increasingly important role as partners as various methods and levels of care and case management are progressively adopted as part of the move towards a more preventative and proactive model for dealing with long-term conditions. These developments are likely to be of great benefit to carers in reducing fragmentation and duplication in the provision of care.

54 As was pointed out in a recent Australian report: 'Care co-ordination and case management, often viewed as primarily a service to care recipients, carries direct benefits for carers, particularly carers of people with impaired decision-making capability. Primary carers have been likened to 'bridges', connecting their care recipients to health and community care networks. Case management... can relieve carers from the time-consuming detail of investigating alternative services etc... Case management is a necessary rather than optional form of support for the 'bridging role' of primary carers...' (Australian Institute of Health and Welfare, 2004).

55 A health service that is increasingly orientated towards the establishment of ongoing relationships with patients in the management of long-term conditions will be one in which supportive, continuous and collaborative relationships with carers will be an essential element.

Volunteering in health

56 Volunteers are a group whose contribution is often overlooked. Not only can volunteers make a valuable contribution to making health care a more 'human' and caring process, but the health and psychological benefits to the volunteers themselves are becoming ever more apparent.

57 The range of contributions made by volunteers in health care is vast. It ranges from generic services such as driving or running shops and tearooms to roles which involve an irreplaceable level of empathy and expertise, such as mentors in patient-led self-management programmes. The benefits of volunteering are summarised in opposite.

58 The Scottish Executive adopted a volunteering strategy (Scottish Executive, 2004) which emphasises four key strands:

- ensuring young people are involved in volunteering
- dismantling the barriers to ensure participation by hard-to-reach groups
- improving the volunteering experience
- employing mechanisms for monitoring, evaluation and ongoing policy development.

59 **We recommend that each NHS Board develops proposals to enhance volunteering in line with the principles above.**

Box 5.4 Benefits of volunteering

Volunteering in health is...

Good for volunteers
Volunteering
- offers a sense of purpose
- is a chance to give something back
- can be good for your health
- provides social contacts
- offers the chance to gain experience
- can be a way out of dependency

Good for patients
Volunteers
- offer friendship
- can give more time than hard-pressed staff
- do things other people cannot manage
- are often 'people like me'
- may have experience of the same conditions – so understand 'what it's like'

Good for health services
Volunteering
- forges strong links with the community
- frees up scarce professional resources
- breaks down institutional barriers
- creates an informed and involved public

Good for society
We all benefit if more people
- get involved in the community
- take responsibility for each other
- understand the importance of healthy lifestyles
- have a stake in improving public services

Source: *Volunteering in Health*, Volunteer Development Scotland
www.vds.org.uk/volunteeringinhealth

The voluntary and community sector

60   The voluntary and community sector in Scotland makes a major and growing contribution to the healthcare system. The sector is active in all spheres of health improvement, patient care and patient and public involvement. Thousands of community groups are involved in the health improvement and tackling health inequalities agenda with, for example, more than 100 groups involved in the Have-a-Heart Paisley initiative.

61   Voluntary organisations play a particularly important role in the context of long-term conditions. Patient groups focused on a particular condition or group of conditions, such as Diabetes Scotland, Asthma Scotland, Cancer Bacup and Alzheimer's Scotland, are major resources in supporting self care and self management.

62   Voluntary organisations are also often especially valuable in working with groups the NHS finds hard to reach, such as minority ethnic groups, lesbian/gay/transgender groups, refugees and asylum seekers, homeless people, travellers and gypsies, as well those in isolated and rural locations. They help make services accessible and acceptable.

63   Voluntary organisations nationally and locally are usually supported by a mixture of paid staff and volunteers. Many smaller voluntary organisations could not exist without the support of volunteers, but some of the larger organisations will use only paid staff. Community-based groups are generally active at community or neighbourhood level. They work developmentally and frequently depend upon volunteers and community activists.

64   The sector consists of a wide range of organisations and groups with varying capacities and abilities, many different visions and a range of internal structures. The challenge for the NHS is to engage in productive partnerships with this diverse and multi-faceted set of groups and organisations.

65   The statutory and policy framework in Scotland is increasingly emphasising the potential of the voluntary and community sector as a partner of the NHS in delivering health care. In general terms, this builds on the Scottish Compact between the Scottish Executive, its agencies, the NHS and the voluntary sector.

66   **As part of the Patient Focus and Public Involvement Agenda, NHS Boards throughout Scotland are encouraged to bring a renewed focus to their relationship with the voluntary sector and recognise the valuable contribution it can and does make to health care in Scotland. Local compacts are emerging as an important vehicle for developing the relationship between the NHS and the voluntary sector.**

67   **Full and equal partnership with the voluntary sector is an inbuilt element of the development of Community Health Partnerships (CHPs). The voluntary sector presence in CHPs will encompass a range of roles including service provision, patient advocacy and involvement in service planning.**

Summary of recommendations

The Scottish Executive should establish a national group, including patients, carers, the voluntary sector and health professionals to develop a supported approach to self-management and should fund and develop a Scottish Long-Term Medical Conditions Alliance, to articulate patients' views.

The Scottish Executive should work with NHS Boards to pilot self-management approaches supported by information technology.

The NHS should:

• Make carers' health a public health issue
• Implement fully NHS carer information strategies
• Encourage carer participation and partnership involvement in planning
• Develop and provide carer training
• Building 'carer awareness' into professional training

NHS Boards should develop proposals to promote volunteering in health in accordance with the principles of the Scottish Executive Volunteering Strategy.

As part of the Patient Focus and Public Involvement Agenda, NHS Boards should bring renewed focus to their relationship with the voluntary sector. Local compacts should be developed as an important vehicle for the relationship between the NHS and the voluntary sector. Full and equal partnership with the voluntary sector will be an inbuilt element of the development of Community Health Partnerships.

Workforce implications

The agenda set out in this chapter will have implications primarily in terms of training where there will be a need to build in, for example, carer awareness and awareness of the importance of encouraging self-care across the spectrum of training for NHS staff. Development of self-care and self-management approaches will require the acquisition of specific skills. Dedicated staff resources will be required to further develop the self-management, carers and volunteering agendas.

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CHAPTER SIX
TACKLING HEALTH INEQUALITIES

06

The challenge of health inequalities in Scotland

01 In Chapter 3 we saw that, while Scotland's health is improving, it is improving more slowly than any other Western European country and as a result Scotland is losing ground. It is likely that most of the improvement in life expectancy in Scotland is being enjoyed by people living in more affluent areas and those living in poorer areas are being left behind. For example, as we show below, the gap in life expectancy between the most affluent and deprived areas in Scotland seems to have been widening in recent years.

02 For many Scots this relatively low life expectancy is associated with serious health problems which limit their capacity to lead effective lives. Again there is a gap between rich and poor with, for example, 21% of women in deprived areas reporting a limiting long-standing illness compared to 8% of women in affluent areas.

03 In this chapter we set out proposals which will address the issue of health inequalities by carefully targeting those individuals who, largely because of their deprived circumstances, have been missing out on what modern health care has to offer.

04 Inequalities in health among socio-economic groups are a problem facing all developed countries (van Doorslaer et al., 1997), but are a particular issue in the UK. Scotland has particularly high levels of health inequality, despite having lower levels of income inequality than England as a whole (Gravelle and Sutton, 2003). It is the poor-health consequences of poverty that set Scotland apart.

05 The level of health inequality in Scotland shows up across a wide range of indicators of health-related behaviour, health and mortality. For example, in 2002, 37% of mothers in the most deprived fifth of Scotland's postcode sectors smoked during pregnancy, compared with 14% in the most affluent fifth. The all-cause mortality rate per 100,000 women aged under 75 in deprived areas in 2001 was 452, compared with 245 in affluent areas (Scottish Executive Health Department, 2003).

06 In 2002, life expectancy at birth for men living in deprived areas was 69.5 years, compared with 78.4 years in affluent areas. The life expectancy for women was 77.3 years, and 82.3 years in the affluent areas. These gaps in life expectancy between rich and poor are widening (Figure 6.1), and the gap between best and worst areas of Scotland is now substantial.

**Figure 6.1 Change in Male Life Expectancy, 1991-2001
Best and Worst Constituencies**
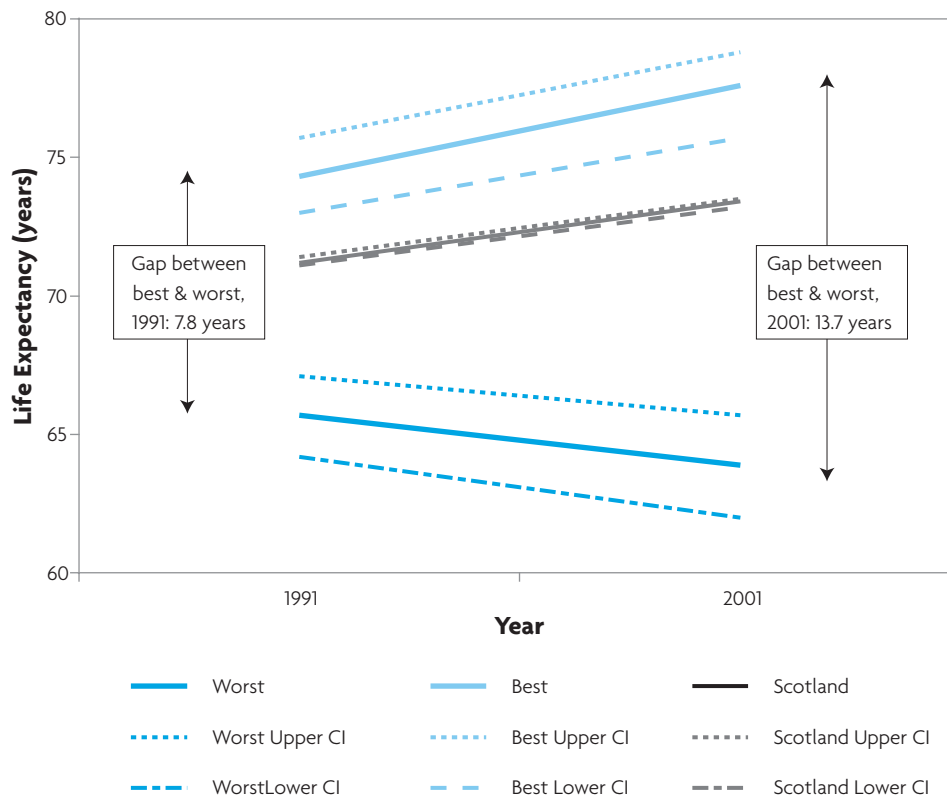
(Source: GRO(S), NHS Health Scotland) Best and worst constituencies

07   A traditional view was that health care can have only a relatively limited impact on population health compared with lifestyle factors and the social environment (McKeown, 1976). More recent thinking holds that better health care – and in particular strong primary and community health systems – can have a significant effect on health (Bunker, 1995; Macinko, Starfield and Shi, 2003; Shi, Starfield, Politzer and Regan, 2002). The effects may be strongest for deprived groups (Shi and Starfield, 2001), suggesting that redesign of health services in the community could play an important role in reducing health inequalities.

08   A range of sources suggest that deprived groups in Scotland often suffer under the inverse care law, which states that most health care is provided to those who need it least. Deprived groups may also receive inappropriate services characterised by relatively high rates of emergency care and low rates of scheduled care. A recent review of the structure of general practice found that practices serving deprived areas had poorer structural and organisational conditions than other practices. They tended to be smaller and were more likely to be staffed by less experienced GPs. They were also less likely to participate in voluntary schemes that promote quality care and open access to additional resources, such as Personal Medical Service pilots and training and accreditation by the Royal College (Mackay and Sutton, 2003).

Tackling inequalities in health

09 The NHS invests heavily in a variety of activities aimed at improving health. Behaviour change campaigns that focus on smoking, diet and exercise are highly visible and usually have some effect. The fact is, however, that the individuals best able to respond to invitations to change their lifestyles tend to be more affluent and, as MacIntyre (2003) has pointed out, such programmes may actually widen health inequalities if not adequately thought through and targeted.

10 The health service has had an explicit presence in tackling adverse life circumstances in recent years through involvement in community planning processes and engagement with a wide range of agencies providing social, educational, employment and housing support to deprived communities. But again, MacIntyre has warned that many of the projects emerging from multi-agency working have not been properly evaluated and may fail to have the desired effect in narrowing health inequalities.

11 Social and environmental change will eventually lead to significant reductions in health inequalities. In the process, great strides will be made in persuading individuals to adopt healthy lifestyles. But it may take many years for such benefits to become apparent.

12 We know that healthcare interventions available to the population are effective, and we also have strong evidence that people living in deprived areas have less access to those interventions. The quickest way to make an impact on health inequalities is therefore to enhance access to care for the most deprived sectors of the population.

13 It is proposed that NHS Scotland should tackle health inequalities by focusing its resource more closely on the early detection and management of problems in deprived communities.

14 Early intervention can contribute to better outcomes for many serious illnesses, but patients in deprived areas may be less willing to seek advice for their condition early, meaning they present to clinicians with more advanced disease which is harder to cure.

15 A study carried out in the West of Scotland (Stirling et al., 2001) found the average GP consultation length was around 1-2 minutes longer for patients from an affluent background than for patients from deprived areas. Analysis of Scottish hospital admission records shows that patients from the most deprived areas are more likely than patients from the most affluent to present for medical care with several significant conditions. Patients from deprived areas therefore face a 'double whammy' of having more health problems and less time available to have them addressed.

16 We suggest, therefore, that the most appropriate place for the NHS to begin to narrow the gap between rich and poor is through the systematic adoption of the principles of anticipatory care and preventive medicine. Resources should be selectively targeted to deprived areas to ensure that patients have enhanced opportunities to be seen and have their problems dealt with at an early stage.

Enhancing primary care

17   NHS Scotland should embark on a programme of enhancing primary care capacity to allow it to meet the needs of the most deprived members of our society. It should do this by expanding the numbers of professionals available to see patients, ensuring they have adequate time to discuss their problems and obtain treatment.

18   NHS Scotland also needs to invest in services to identify patients at risk, actively recruit them into intervention programmes and follow them up to ensure the process is effective. The essential platform for an early-detection and prevention programme is a system that provides good community-based data. Scotland has the basis of such a system as we move towards the full implementation of the Community Health Index into NHS computer systems.

19   We should pursue the creation of an Electronic Health Record (EHR) for everyone living in Scotland as a matter of urgency. Using the EHR will improve our ability to identify all those individuals who need to have blood pressure, cholesterol, body mass index and other prognostic factors for chronic ill health more closely monitored.

20   The suggested approach offers opportunities for positive health promotion initiatives. An individual with an elevated blood pressure, for instance, might be offered smoking cessation advice or advice on alcohol consumption. With sufficient resource invested in primary care, the patient could be directed into smoking cessation programmes or other appropriate health promoting programmes. At present, opportunities to offer patients services such as this are highly dependent on local conditions.

21   Much of our thinking on current models of health centre on the need to strengthen the capacity of individuals to take control of their own wellbeing. The problem that exists among people living in deprived communities is that their self-esteem and confidence may have been eroded through years of unemployment, poor education opportunities, poverty and bad housing. It should be possible through the development of Community Health Partnerships (CHPs) to expand health and local authority services in a way that offers a holistic approach to individuals who need to build confidence and the ability to control their own lives.

22   It is unlikely that a primary care system focused on prevention of ill health can be adequately staffed by the creation of more GP principals. It may be that salaried GPs could be recruited in deprived areas, but it is much more likely that appropriate capacity will be developed through extending the role of nurses, allied health professionals and other staff.

23   Inevitably, this approach sees additional resource being targeted at general practices in deprived areas. GPs whose practice contains predominantly affluent patients may still have individuals in their practice living in poverty. They may feel that their patients are being discriminated against. The resource should be made available across a Community Health Partnership to be targeted at individuals who need it. The management of such resource should be left to the CHP to determine.

24   We need to recognise that patients in deprived areas have been under-served by existing systems. The approach set out here is aimed at redressing the inequity that has existed since the NHS was first set up.

Recommendations

At policy level

25   The Scottish Executive should commit to targeting new investment to allow people from deprived communities to have enhanced access to a range of health interventions. In the first instance, this might be through targeting new resources to tackle the problem of unmet need within GP practices with high numbers of patients from deprived areas.

At national level in the NHS

26   Protocols which outline the action to be taken to tackle problems such as undiagnosed or untreated high cholesterol and other risk factors for heart disease should be developed as a matter of urgency. Many evidence-based and widely-accepted protocols already exist. Action should be taken with CHPs to agree a standard protocol-driven approach for GPs across Scotland.

27   Protocols for the identification of individuals at risk of having cancer should be developed. Local health economies should consider ways in which investigation of patients with cancer can be taken forward in the light of existing waiting time guarantees which will come into operation at the end of 2005.

28   The Managed Public Health Network should consider what other conditions within deprived communities need to be identified as being suitable for a preventive approach. They might include chronic obstructive lung disease, osteoporosis, alcohol-related problems and significant mental illness. Directors of Public Health should commission work to develop protocols to allow case finding, early detection and appropriate treatment.

29   Health promotion managers should consider appropriate interventions for individuals to encourage smoking cessation and control of substance abuse. Programmes for obesity management should be developed.

NHS Boards and Community Health Partnerships

30   NHS Boards should ensure that appropriate administrative and management support is available to assist GPs to identify patients from deprived areas and those identified as having significant health problems.

31   NHS Boards and CHPs should develop information systems to allow monitoring of individuals and collection of health-needs data, treatment offered and follow-up data to allow evaluation of health improvement impacts.

32   NHS Boards and CHPs should organise appropriate financial support for individual practitioners to allow systems to function effectively and to permit an eventual calculation of the cost effectiveness of the programme.

33 NHS Boards and CHPs should develop workforce plans to ensure an appropriate skill mix of professionals is available to support GPs in the delivery of this targeted programme of care.

Underpinning the process with better information

34 The creation of an Electronic Health Record linked to an effective decision-support system is essential in identifying appropriate individuals and recommending the right course of treatment. The programme can, however, be piloted in selected areas without a completely electronic information system.

Workforce implications

Case-finding and providing the additional preventive interventions called for in this approach will require extra staff resources (primarily administrative, IT, nursing and AHP) to be assigned to extended primary care teams in the targeted areas.

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CHAPTER SEVEN
ACCESS TO THE RIGHT LEVEL OF UNSCHEDULED CARE AS LOCALLY AS POSSIBLE

07

01   Of all the issues raised in our public consultation, the most contentious was emergency care.

02   There were concerns about NHS 24 and about new out-of-hours (OoH) services with local GPs opting out. But the biggest concern centred on the perceived downgrading of Accident and Emergency Units in local hospitals. This section of the report seeks to address those concerns.

03   The challenges are significant. As we know from the drivers for change outlined earlier (Chapter 3), the rise in emergency admissions to hospital has been the biggest pressure on the NHS. In the last 20 years or so, the balance between planned and unplanned care has shifted dramatically. In 1983, 59% of bed days were occupied by emergency patients. Now, the figure is closer to 80%.

04   We will not resolve these pressures simply by improving our unscheduled care system. We need to better manage patients with long-term conditions to prevent them becoming unscheduled admissions; and provide the right level of care in the community to prevent admission to hospital by default. This is dealt with elsewhere in this report. Nevertheless, a more structured and systematic approach to unscheduled care that gets people access to the right care, first time, can and will help.

Unscheduled care

05   It is worth considering what we mean by unscheduled care. We have used the following definition:

'NHS care which cannot reasonably be foreseen or planned in advance of contact with the relevant healthcare professional, or is care which, unavoidably, is outwith the core working period of NHS Scotland. It follows that such demand can occur at any time and that services to meet this demand must be available 24 hours a day.'

06   In his report 'Securing Future Practice', Sir John Temple concluded:
'To comply with working time regulations by 2009, we will not have sufficient doctors across all grades to provide 24/7/52 care in every locality and unit functioning today…A major challenge is the delivery of emergency primary and secondary care. This is likely to impact more on doctors than on other care staff hence their particular interest in seeing how care is provided around the clock. It matters also to the public and patients, who need to have confidence in a 24/7/52 quality acute service. With the limitations on medical staff time, this is a powerful lever for service redesign. Decisions on the localities and clinical situations for which triage and transfer arrangements are appropriate must be made on the basis of patient safety, balancing issues of speed of access to specialised medical services against what will be possible to provide and sustain locally. We recommend that this is addressed urgently and realistically, as in many situations the status quo cannot survive.' (Scottish Executive, 2004)

07   We agree with Sir John's focus on service redesign. Service change and improvement is at the heart of our proposals to retain local services wherever possible. But those services will have to be redesigned, and will require new roles and high-quality teams.

08 Care must be taken not to characterise NHS Scotland as a purely medically-skilled service. In fact, the vast majority of unscheduled care contacts do not require on-site medical skills. The focus must be on fostering a multidisciplinary clinical team approach that enables flexibility to meet the needs of patients. Doctors are not required in every unit functioning today, and a significant proportion of those currently attending Accident and Emergency departments could in fact be seen close to home by different members of the healthcare team.

09 It is true that highly-specialist medical skills will be required to deal with true emergency 'life and limb-threatening' unscheduled care cases. Dealing with these cases requires appropriately staffed and well-resourced emergency services, which in turn may need to be provided in fewer locations that can concentrate on these cases.

10 In 2001, there were 1.68 hospital medical staff per 1000 people in Scotland, compared with 1.35 in England (Civitas, 2004). However these medical staff in Scotland are currently spread over a far greater number of acute receiving hospitals and Accident and Emergency departments per head of population. Scotland has 34 Accident and Emergency departments or one for every 149,000 people, compared with 209 equivalent Accident and Emergency departments in England or one for every 239,000 of the population.

11 Given the restrictions on doctors' working hours imposed by the European Working Time Directive (which will be fully in place by 2009) and the move away from independent junior doctor working (represented in *Modernising Medical Careers*), NHS Scotland has no option but to redesign its unscheduled care services to allow for the concentration of medical staff in emergency centres with Working Time Directive-compliant rotas and where genuine emergencies will be treated by highly-skilled teams. This will mean using the non-medical workforce to maintain or extend local unscheduled care services, building on existing best practice in the UK.

12 In order to reach a view about how to deliver unscheduled care in the future, we have sought to understand more fully the nature of current demand. By far the largest group of patients who require unscheduled care avoid Accident and Emergency services. They may have their unscheduled care need met through one of the following routes:

- by getting an urgent appointment with their GP
- by getting advice from NHS 24
- by referral to the Out-of-Hours service (by NHS 24).

13 In the Out-of-Hours period, NHS 24 fronts all primary care Out-of-Hours services. For every 100 callers to NHS 24, 40 will be given advice to self-care or be directed to the appropriate in-hours scheduled care service, five will be directed to Accident and Emergency, two will have an emergency ambulance sent to them, and the remaining 53 will be seen face to face by local OoH services. These figures relate only to the out-of-hours period, and do not take into account Scottish Ambulance Service 999 callers or those who present at Accident and Emergency directly.

Accident and Emergency

14 **What about those who do attend Accident and Emergency: do they need to be there? Our analysis suggests that many people do not. They could be safely and appropriately treated in, or close to, their local community.**

Table 7.1
Indicative workload proportions attending current Accident and Emergency services, mapped against severity of clinical need

Patient flow	Proportion of workload in this category
Minor ailments	30 - 40%
Minor injuries	30 - 40%
Admissions	20-30%
Resuscitation	0-5%

These workload proportions are indicative. They are based on 'live' data captured over an extended period in NHS Forth Valley.

15 We can categorise demand for unscheduled care at Accident and Emergency departments as follows:

- patients requiring assessment and treatment for 'minor' or 'routine' injury and illnesses (the first two rows in Table 7.1)
- patients requiring assessment and diagnosis ahead of potential admission to hospital for surgical or medical treatment
- acutely unwell patients requiring resuscitation.

16 The majority of patients attending A&E are those with minor or routine ailments and injuries which do not require admission to an acute hospital, and in fact do not need to be treated in a traditional Accident and Emergency department. The reasons for their attendance at Accident and Emergency are not clear. It may be that the alternatives are not sufficiently well known to the public, are considered to be less attractive, or because sufficient alternative provision has not been made.

17 Approximately one-third of all current attendances at Accident and Emergency in the area we considered are for some form of minor *injury* – a deep cut, a sprain, a straightforward fracture – which can be treated by appropriately-trained non-medical clinical staff in a range of settings. These injuries do need to be assessed carefully and managed according to clear agreed protocols, but they can be managed very effectively by an appropriately-trained GP, nurse or paramedic. They do not need the direct (and scarce) input of an Accident and Emergency consultant.

18   Approximately another one-third of Accident and Emergency attendances are for some form of minor or routine illness which needs assessment, diagnosis and treatment, but does not require admission to a hospital. These are often the kinds of condition – a cough, cold or 'flu-like illness' – for which patients would normally seek attention from their local GP practice but, for a variety of reasons, choose not to on occasion. These are patients who do not necessarily need to be treated in an acute hospital facility if appropriate alternatives are in place. Thus minor injuries and ailments constitute a significant proportion of the work at A&Es – all of which could be seen elsewhere if alternative provision were made.

19   A third group of patients is identified requiring (or potentially requiring) admission for forms of treatment which cannot be provided anywhere but in an acute hospital. These patients constitute approximately 20-30% of all attendances at Accident and Emergency departments in the NHS Board we considered.

20   This group might include, for example, those patients who require admission to a coronary care unit following a heart attack, or the older patient who needs further investigation of chest pain. These constitute the 'medical' component.

21   This group of patients also includes those who are brought into hospital for emergency surgical procedures such as repair of a major blood vessel, pinning of a lower limb fracture or abdominal surgery.

22   In most cases in this broad third 'admissions' group, patients would ideally be admitted, diagnosed, treated and discharged from their local hospital quickly. **There is, however, a paucity of step-down units and facilities outwith hospitals which must be dealt with as a matter of urgency for this to become the reality.** There is a role for community hospitals in providing this facility. (see Chapter 10).

23   NHS Scotland is only one part of the whole system of care. Stronger links with social care are required, as a matter of priority, to help provide alternatives to emergency admission and appropriate care in the community for those who no longer require services in an acute setting. Problems in this area have long been recognised but persist and must be addressed as a matter of urgency.

Critically unwell patients

24   The patients who rightly generate the most public interest and anxiety are those acutely unwell patients requiring 'resuscitation'. These patients need very specialised care for acutely life-threatening conditions and problems that might arise as a result of, for example, a car crash, a heart attack, a ruptured aneurysm, or a similarly urgent healthcare need.

25   Patients such as these constitute approximately 3% of attendances at Accident and Emergency departments.

26   Acutely unwell patients requiring resuscitation need treatment in an Emergency Department that is both well-staffed and well equipped.

27   In some cases, however, the need for specialised treatment requires transfer to another hospital for further treatment. This is particularly true of patients requiring treatment for a less common health problem such as emergency cardiac surgery or neuro-surgery. We believe that numbers of patients who would require transfer from a District General Hospital to a more specialised facility is in the order of 1.5%.

Accident and Emergency workload

28   **The evidence gathered demonstrates that the majority of current Accident and Emergency work could be carried out in every local hospital: but much of it will be dealt with in a different way than at present. If we are to keep services locally available, we will need to redesign them in a way that is less reliant on doctors and much more multidisciplinary in nature.**

29   In some areas, this might mean a re-profiling of existing services from Accident and Emergency departments dealing with all-comers to a combination of *community casualty departments* dealing with less serious injuries and ailments and appropriately staffed and resourced *emergency centres* offering world-class treatment for genuine emergencies and for those likely to require hospital admission.

30   The NHS in Scotland has an opportunity to reconfigure services to better match service provision to the nature of the demand. We have an opportunity to:

  • better meet the needs of patients
  • reduce pressure on busy Accident and Emergency departments
  • deploy medical staff so as to make the most of their skills and remain in accordance with the European Working Time Directive.
  • deliver the vast majority of unscheduled care locally.

31   These are opportunities the system must take.

Preventing avoidable emergency admissions

32   Considerable work has been undertaken within NHS Scotland on the prevention of avoidable emergency admission, most notably the Emergency Medical Admissions Scoping Group Final Report (NHS QIS, 2004). This report represented an important breakthrough for NHS Scotland, highlighting several key issues which require resolution.

33   Foremost among these issues is that the number of admissions to medical and surgical specialties in Scotland has risen consistently over the last 20 years, particularly medical admissions. This appears to have arisen as a direct result of the number of long-staying admissions, particularly among the over-80 age group and those patients who have multiple admissions within the same 12-month period. More emphasis on admission avoidance supported by improved diagnostic support and increased primary care-based support is required. These principles also apply to general surgical admissions, another major stream of activity.

34   Service planners and clinicians in NHS Scotland must now take these messages on board and develop local treatment strategies to keep patients out of hospital unless absolutely necessary. Working across organisational and professional boundaries will be necessary. A clear role can be identified for the emerging Community Health Partnerships, given their requirement to integrate primary care with secondary care, local authorities and other statutory and non-statutory agencies.

35   **The emphasis on prevention of avoidable admission by assessing, diagnosing, and treating patients as locally as possible should be a matter of priority for the Centre for Change and Innovation's Unscheduled Care Collaborative. The work will be supported by a new measurement of Accident and Emergency performance.**
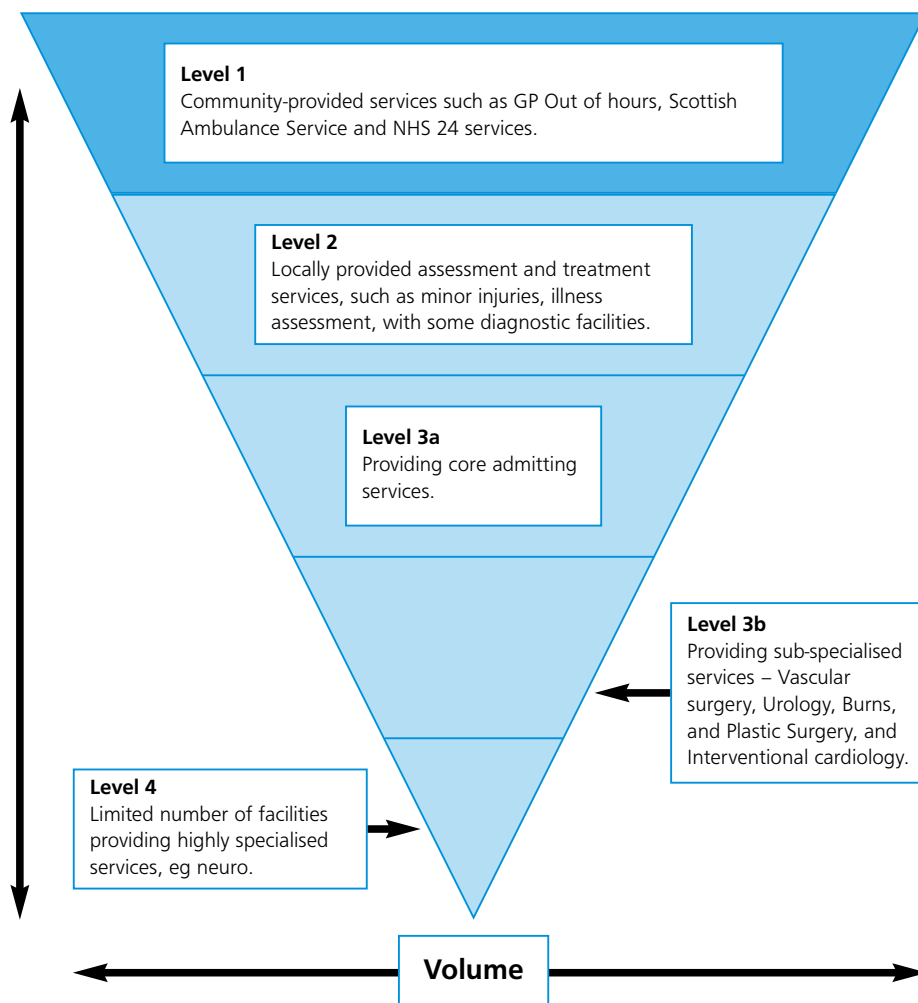
A Tiered model of care

36   We describe in the following section a tiered model of unscheduled care. This model represents **a single unscheduled care system for NHS Scotland**. We make clear where planning responsibility lies for each level. We present here a summary of the far more detailed work of the Unscheduled Care group. This should be read in conjunction with the report of that group which can be found at www.show.scot.nhs.uk/sehd/nationalframework

37   The model concentrates on providing the vast majority of care at local and community levels, thereby preventing inappropriate travel to, and unnecessary stays in, hospital. It implies a need for fewer of the traditional all-encompassing 'admitting emergency units' and suggests that the type of services they provide will change.

38   We believe that current configurations do not appropriately match supply with demand and that highly-trained consultants should focus more on true emergencies, based in well-staffed and resourced departments.

39   'Routine' injuries and ailments will be dealt with in local, dedicated facilities. These will be available in all general hospitals; in many community hospitals; and perhaps in hybrid facilities alongside primary care and OoH services. They may also be located alongside a unit designed to handle emergency admissions. In this case patients will be streamed on arrival to the dedicated 'routine' facilities.

40   NHS Scotland must provide a better balance between local unscheduled care services and unscheduled care services for life and limb-threatening conditions.

41   The adoption of the tiered model is necessary to ensure sustainability, given the drivers for change outlined in Chapter 3 and more specifically in the Unscheduled Care Action Team report. The model represents a better use of resources, and, crucially in the light of public demands, maintains services for the vast majority of unscheduled presentations at a local level – in some cases *more* locally than at present.

42 We worked through the logic of the tiered model of unscheduled care using activity data from the population of NHS Forth Valley. For every 100 residents of Forth Valley requiring unscheduled care:

- at least 50 will have appropriate care provided by NHS 24, the Scottish Ambulance Service and GP OoH unscheduled care services: this does not include 'in hour' primary care attendances
- up to 35 may have to travel a short distance to be assessed or treated for a minor ailment or injury in a local facility with appropriate equipment and staffing
- 12 may have to be admitted to a local general hospital
- 2 would have to travel to a regional centre for diagnosis and treatment for an uncommon, but not rare, health condition
- 1 may have to travel to one of two or three national centres for a less common test or treatment.

The unscheduled care model is shown in Figure 7.2 as a pyramid of care. More detail can be found at in the Unscheduled Care Action Team Report which can be found at www.show.scot.nhs.uk/sehd/nationalframework

Figure 7.2
Tiered Model of Unscheduled Care

Level 1
Community-provided services such as GP Out of hours, Scottish Ambulance Service and NHS 24 services.

Level 2
Locally provided assessment and treatment services, such as minor injuries, illness assessment, with some diagnostic facilities.

Level 3a
Providing core admitting services.

Level 3b
Providing sub-specialised services – Vascular surgery, Urology, Burns, and Plastic Surgery, and Interventional cardiology.

Level 4
Limited number of facilities providing highly specialised services, eg neuro.

Volume

43 It is important to be clear about the services patients can expect at each of these levels; the competencies they can expect the members of staff providing care to have; and where we think the services can and should be safely provided.

44 As ever, our approach is to deliver care as locally as possible, but we have to recognise that we need to make the skills of Accident and Emergency consultants available to local facilities in more imaginative ways. For example, evidence suggests that it is unlikely that a 24/7/52 rota for a high-intensity specialty such as acute medicine, general surgery or orthopaedics could be sustained with any less than an average of ten doctors as a result of the need to secure compliance with the European Working Time Directive by 2009. Many of the services in Scotland are currently staffed by less than this, and not all will be able to recruit the necessary additional staff.

45 Even if sufficient numbers of staff can be recruited, the throughput of patients will not be sufficient to maintain the skills of all staff in some areas. **Innovative networking solutions will therefore need to be found if these services are to be maintained.** The work on the Rural General Hospital in Chapter 10 provides some guidance on this question.

The model levels

46 **Level 1** services are those currently provided on an assessment, diagnosis and treatment basis by GPs, pharmacy, the Scottish Ambulance Service, district and community nurses and NHS 24.

47 These services will provide more unscheduled care in future than at present, especially for minor illness in the community. They will act as the first point of contact to the NHS Scotland Unscheduled Care System, and to this end every attempt should be made to harmonise the protocols and diagnostic algorithms used by each service. In simple terms, patients should be directed, following assessment, to the most appropriate part of the service, no matter whom they contact initially.

48 Clinical staff at this level should have the following core competencies:

   • history-taking
   • rapid assessment of severity of clinical need
   • understanding of patient pathways for onward referral
   • prescribing of appropriate basic medicines, such as those used for pain management
   • utilisation of basic diagnostic technologies, including tele-medicine
   • utilisation of basic patient record systems
   • basic resuscitation techniques (such as cardiopulmonary resuscitation (CPR)) and first aid (splinting, for instance)
   • basic pain management.

49 Further work on these competencies should be developed by NHS Education for Scotland (NES) building on the work carried out to date to support the reconfiguration of NHS Board Out-of-Hours services and NHS 24.

50 Staff at this level should be able to access quickly and precisely the services provided at other levels of the system.

51 These services will form a significant growth area in the context of unscheduled care in Scotland. They will have a significant role in utilising appropriate assessment and diagnostic techniques to redirect work currently carried out on an unscheduled basis to a scheduled setting. In particular, we see great potential here in applying the new GMS contract and the forthcoming Community Pharmacy contract to tackle illness assessment, chronic disease management and the proactive management of older patients so that reactive emergency/unscheduled attendances are reduced.

52 **Level 2** facilities will represent the lynchpin of the unscheduled care framework. These practitioner or GP led 'Casualty' facilities will deliver the vast majority of treatments currently available in Accident and Emergency services. They will deliver them locally in communities without requiring the additional travel often associated with service reconfiguration. They are capable of being delivered 24 hours per day, seven days per week in any local hospital or hybrid healthcare facility.

53 Level 2 facilities should work very closely with Level 1 and Level 3 services. A crucial role will be the identification of cases that require referral to another part of the service. Appropriate risk management and quality standards will need to be put in place. Again, there is a role here for NHS Quality Improvement Scotland (NHS QIS) and NHS Education for Scotland (NES).

54 **This level of service should include assessment, diagnosis, and treatment for routine injuries and ailments. In most areas, the service will be co-located with Out-of-Hours services, forming multidisciplinary teams.**

55 NHS Boards will be expected to ensure that appropriate diagnostic and treatment facilities are in place for the delivery of Level 2 services. Each local facility will have a tele-medicine link to a consultant-led unit where advice can be sought as necessary.

56 The following basic competencies would be required by staff working in these facilities:

- history-taking
- assessment of severity of clinical need
- understanding of patient pathways for onward referral
- prescribing of basic medicines
- utilisation of basic diagnostic technologies, including tele-medicine
- utilisation of basic patient record systems
- basic resuscitation techniques (CPR) and first aid (splinting)
- basic pain management
- stabilisation and transfer of critically ill patients.

For routine injuries:

- requesting and interpreting x-rays and other basic diagnostic tests
- use of tele-medical technology
- suturing
- pain management and prescribing of basic medicines
- decision-making
- organisation of follow-up information, appointments and diagnostics as appropriate
- plastering and application of splints.

For routine ailments:

- ordering and interpretation of diagnostic tests such as bloods and clinical chemistry
- observation of conditions and patients
- utilisation of early warning protocols and procedures
- redirecting of patient to 'lower' level of care, if appropriate.

57 **Level 3a** represents the core of admitting services for acute assessment and medical and surgical admission. NHS Boards will need to make sensible, pragmatic decisions about how services can be sustained. To this end, the following services should be provided:

- General Surgical 24/7 receiving services
- General Medical 24/7 receiving services (including provision for admissions of older people)
- Orthopaedic Surgery 24/7 receiving services
- Anaesthetic services on a 24/7 basis, including general critical care services
- Radiology services on a 24/7 basis.

58 In addition, these services may be supported by one or more of the following services, depending on local demand:

- Paediatric receiving services
- Obstetric receiving services
- Gynaecology receiving services.

59 These services together will allow appropriate assessment, diagnosis and treatment for the majority of admission or potential admission cases. In addition, this will allow for the appropriate transfer for further sub-specialised treatment if so required.

60 These services should be provided by medical practitioners conforming to the definition of trained practitioners outlined in *Securing Future Practice* (Scottish Executive, 2004)

61 It is important to be clear about what this means for hospital services as we currently conceive them. Not every hospital currently defined as a District General Hospital will be able to support these services. They will all be able to sustain Level 2 services, but not necessarily Level 3. This means that the vast majority of cases will still be dealt with at least as locally as at present.

62 **In planning the location of Level 3 care, it will be important to consider the recommendations of the Planned Care Action Team for setting up a range of hospitals focused on elective services. Each of these should provide Level 2 services but few, if any, will provide Level 3.**

63 **Level 3b** services are those required to accurately diagnose and treat certain less-common conditions in an emergency situation. They are required in a much smaller proportion of cases; consequently, they require a smaller workforce, and a much larger population is required to provide an appropriate critical mass. These services should therefore be planned on a regional basis.

64 Level 3b services could be provided in one of two ways. There could be a network between sites providing Level 3a services, or in areas with high populations and high population densities, they could be concentrated on a site with Level 3a services.

65 These services should also provide robust assessment and diagnosis links to Levels 1, 2, and 3a. Services covered might include:

- Vascular Surgical services
- Burns and Plastic Surgery
- Oral and Maxillo-facial services
- Urological services
- Interventional Cardiology services.

66 L**evel 4** services are those that can only be provided in a very limited number of locations in Scotland. They are highly specialised, providing services for rare or particularly complex conditions, and will include the following:

- Cardiac Surgery
- Thoracic Surgery
- Neurosurgery
- sub-specialised critical care (for example, a renal Intensive Care Unit)
- sub-specialised diagnostic services (such as Magnetic Resonance Imaging (MRI), Positron Emission Tomography (PET), full vascular intervention including neurovascular (coiling) and transendoscopic ultrasound (TEUS)).

67 For each of the levels of system, standards based on quality and sustainability should be developed and monitored centrally within NHS Scotland. This process should include Regional Planning Groups, current NHS Boards, NES, NHS QIS, Royal Colleges and recognised professional bodies.

68 Another key issue must be fed into service planning of unscheduled care. As Chapter 10 of our report shows, Scotland has large rural areas with dispersed populations. It should be a matter of urgent priority for NHS Boards covering these remote and rural areas to consider how unscheduled care services should be provided in line with the tiered model. The model of the Rural General Hospital described in Chapter 10 is relevant here, and combines a mixture of Level 2 and Level 3a services.

69   This process is about configuring unscheduled care services to most effectively meet need while maximising the use of all staff. The needs of remote and rural communities (including issues of travel time) are likely to mean that emergency care at a given level will be provided for smaller populations than would be reasonable in urban areas.

70   We believe that the unscheduled care service must be planned in a more effective way than at present, particularly with reference to decision-making across NHS Board area boundaries.

71   **Levels 1 and 2** of the pyramid of care should be planned within current NHS Board areas, with the exception of NHS 24 and the Scottish Ambulance Service which, while Level 1 services, are planned nationally.

72   **Level 3 services and above** should be planned collaboratively with Regional Planning Groups working alongside NHS Boards (on Levels 3a and 3b) and working with the Scottish Executive to plan national services at Level 4.

Summary of recommendations

01   NHS Scotland should work to ensure that as much unscheduled care as possible is delivered in or near the home by NHS 24, the Scottish Ambulance Service or local unscheduled care providers (including local casualty units).

02   NHS Scotland should continue to invest in triage and assessment systems to ensure that patients can be directed to the most appropriate service for their needs, minimising unnecessary travel. NHS Scotland should move towards presenting a unified point of entry into the system. This unified 'front end' will assist patients in accessing the appropriate service, be it the ambulance service, telephone clinical triage (NHS 24) or patients' information services. Clinical skills should be integrated into these systems as appropriate.

03   The Scottish Ambulance Service should continue to expand the range of 'on-site' treatments paramedics can deliver to prevent unnecessary travel to unscheduled care facilities and develop the 'hospital-at-home' model. This will entail improving communications between the first healthcare professional to attend a patient and the rest of the unscheduled care team.

04   NHS Scotland should work to:

• Maximise the number of patients requiring unscheduled care who can be safely and effectively treated by triage services without having to leave their homes.
• Provide services capable of dealing with patients with non-complex injury and illness on a local level, potentially in hybrid facilities bringing together GP and minor injury services. These should have access to appropriate diagnostic services and should be linked to other levels of the service by tele-health links to facilitate local assessment.
• Reconfigure admission services to more appropriately serve the population. Planning of services should emphasise the prevention of admission where this is safe and adequate services can be provided out of hospital. These services should be supported by appropriate diagnostics and critical care.

- Plan unscheduled emergency admitting services on a regional basis. These services are sub-specialised and have poorly-distributed workforces which need to be more appropriately deployed throughout Scotland.
- Work towards the provision of a single telephone point of entry for unscheduled care services 24 hours a day. This will be a multi-disciplinary triage system that will allow callers access to appropriate advice as early as possible, with patients being referred on as appropriate.
- Develop a system of integrated decision-making support. The current organisation of health services does not always facilitate communication between clinical and care teams. Autonomous decision making is a factor in over-referral to hospital. Investment in information and communications technologies (ICT) (including electronic patient records and tele-medicine) is a necessary first step in delivering the necessary support to the service. The system will need to be supported by continuous audit of, and feedback on, referral patterns to hospitals.

05 These proposals will be supported by:

- Further development and increased utilisation of the Scottish Ambulance Service, not solely to provide transport, but as an element of 'a hospital at home'.
- Improved training programmes for all NHS Scotland staff. NES has carried out excellent work on skills for staff involved in the provision of primary care OoH. NES should be charged with developing competency-based education frameworks to support these recommendations.
- The full exploitation of information and communication technologies, including maximising telephone assessment and telephone management, tele-medical linkages and remote diagnostic technologies. The group sees considerable scope for further integrating this with NHS 24 and the Scottish Ambulance Service, building an assessment, diagnostic and management network on a pan-Scotland basis. This network should be supported by appropriate incentives for its use and audit of referral patterns to hospital.

Workforce implications

Workforce implications

Implementation of the unscheduled care recommendations will have significant workforce implications, most notably by increasing the demand for nurse, paramedic or AHP unscheduled care practitioners.

We can foresee the need for a multidisciplinary team in each area specialising in unscheduled care. The professional designations within the team are blurred, but the following competencies will be crucial to all members of the team:

- **recognition and assessment of the acutely unwell patient**
- **stabilisation of the acutely unwell patient**
- **appropriate transfer of the acutely unwell patient**
- **decision-making skills**
- **communications technology skills**
- **supporting discharge.**

Moving NHS Scotland from a service provided by doctors in training to one provided by trained, 'judgement-safe' doctors will have significant implications for the structure of the unscheduled care service.

The redesign of service and education provision to maintain appropriate acute care services and medical training opportunities in smaller and remote hospitals will be fundamental to the success of the unscheduled care model. The clinician supporting this service will require skills in areas that have historically been considered the domain of the GP, acute physician or Accident and Emergency specialist.
The ability to assess 'front-door' arrivals, including minor injuries and acute medical and surgical presentations will be an important part of the skills of such a clinician.

The provision of high-quality advice, guidance and diagnostic support linking across primary and secondary care via tele and video-conferencing will be an increasingly important part of the medical contribution to unscheduled care. Tele-medicine and remote medical support roles will be crucial to the success of unscheduled care provision, not only in remote and rural services, but also in supporting new practitioners to develop and maintain their skills and competencies.

It is clear that the roles and competencies considered appropriate for the OoH service correlate closely with those required of new practitioners across the broader canvas of 'unscheduled care'. Further, the service changes necessitated by the GMS contract have created new cross-sector models with nurse and paramedic practitioners working between primary and secondary care.

The Scottish Ambulance Service should continue to up-skill its workforce to allow paramedics to deliver more on-site care and to develop integrated solutions to particular healthcare challenges, for example in rural and remote areas. This will mean more integrated working with primary and secondary care in these areas.

Alongside the development of existing professional roles through additional education and skill enhancement, there may be opportunities to draw entirely new types of healthcare workers into specifically-targeted areas of the service. For example, new practitioner models that seek to develop science graduates who would not previously have chosen to undertake nursing or medical training are currently being explored across the UK. There may also be virtue in examining, and piloting, some of the wide range of practitioner roles employed in non-UK healthcare systems.

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CHAPTER EIGHT
MANAGING ACCESS TO QUICKER PLANNED CARE AND DIAGNOSTICS

08

A. Planned Care

01 The White Paper, Partnership for Care (2003), stressed the importance of looking at the pathway of care from the patient's point of view to make it smoother, more accessible and less subject to delays.

02 This is both challenging and necessary, given the volume of patients who receive care within NHS Scotland. In 2003/04, around 683,000 patients were discharged following an episode of inpatient care. Of these, 205,000 were elective admissions and 477,000 emergency. A further 360,000 were treated as day cases.

03 Despite all the advances in improving patient access and experience, there is still a lingering perception among patients, with some justification, that their journey remains littered with barriers, pitfalls, duplication and delay.

04 It is worth reflecting on the announcement made by the Minister for Health on 15 December 2004. He said:

'The NHS does a great job for the people of Scotland – and in many aspects offers patients the best service in the UK. But patients rightly expect improvements. It is my job to deliver them and that's what I'm going to do. Over the next three years, there will be significant change to get rid of excessively long waits for good, make the service much more focused on patients and extend choice – fair to all and personal to each. Not so long ago, patients were waiting up to 18 months for inpatient/day case treatment. We've cut that down to 12 and now nine months, reducing to six months by the end of next year. We have met all our previous targets and we will meet those we have set for the end of 2005. Because of that we can now go further: for all procedures, by the end of 2007 no-one will wait more than 18 weeks from GP referral to an outpatient appointment. For inpatient and day cases no-one will wait more than 18 weeks from diagnosis to treatment. Together, these will benefit an estimated 270,000 patients a year.'

05 The bar has been raised for access to elective care and the National Framework will make a contribution towards the achievement of these targets.

06 There is a debate that needs to take place about how the issue of waiting is targeted in the NHS. Internationally, there is clear evidence that speeding patient flow through the system can be delivered effectively in health care just as many other organisations in other sectors deliver quicker services to their customers. In England, much of the early success in reducing waiting has been credited to the National Patient Access Team. Consideration should be given to whether resources for tackling waiting times should be centrally managed or devolved to Boards. We should learn from some of the successes in Scotland and elsewhere – building, for example, on the impact of patient focused booking.

07 One of the main threats to the smooth delivery of much elective care comes from the kind of emergency pressures which have already been outlined. Before a surgical procedure can be carried out, a range of resources have to be brought together at the right time and the right place: surgical staff, nursing staff, anaesthetist, theatre time and a bed. Remove any one of these components, and the operation has to be cancelled.

08 Where the same staff and resources are available for both elective and emergency care, emergency treatment will always come first - because it is an emergency. The need to perform emergency treatment can mean the loss of one or more of these components.

09 This is a further example of where a whole-system solution is required. Stresses in the provision of emergency care have knock-on effects to planned activity causing the frustration of cancellation and delay. To some extent, the answer to providing better and quicker elective care lies in smoothing the mismatch between the variation in demand and supply of emergency care. But it also involves more role enhancement and smarter working, particularly streaming elective care away from emergency care when it is sensible to do so.

10 There has been a progressive transfer of many forms of elective surgery from an inpatient to a day-case setting over the last twenty years. The pattern has been extended as increasing numbers and types of procedure are carried out in an outpatient department or in primary care – endoscopy and minor surgery, for example.

11 This tendency towards localisation of elective care has occurred in part for reasons of efficiency and in part for reasons of patient comfort and convenience. It has involved widening empowerment of staff as surgery has ceased to be the exclusive preserve of surgeons and other hospital-based clinicians, and has provided opportunities for healthcare professionals to widen their skills and the scope of their relationship with their patients.

12 This shift along the spectrum from inpatient settings to primary care can be regarded as the result of creative responses to increasing demand and increasing technological potential. But in many areas – such as the performance of minor surgery in a primary care setting – it is still early days and there is a considerable potential for further shifts.

13 The process has not gone as far in Scotland as it has in England. A recent Audit Scotland Report showed that overall, Scotland has lower day surgery rates than England (Audit Scotland, 2004).

14 Our work on elective care has identified the need for action in three areas:

- improving pre-admission processes
- streamlining the hospital component
- identifying and rolling out best practice on discharge and after-care.

Pre-admission

15 One of the challenges for the NHS is to incentivise its strategic outputs. Each element of the service has to have a stake in the performance of the others. So, for instance, long waiting times in the acute sector have traditionally been blamed on inefficiencies or inadequate investment in that sector without taking into account the impact of primary care on demand and demand management. Similarly, poor access to diagnostics for primary care clinicians has been blamed on inefficient, poorly managed or increasingly expensive and technical investigation services. Neither sector has had responsibility for health improvement, nor has there been any overview of the patient's journey and the patient's experience. We need to change that approach.

16   The introduction of a shared **referral management system** adds value for both primary and secondary care. Referral information is the first step to collecting information on demand and to working within primary care and community services to finding alternatives. But to maximise its contribution to the diagnostic process as well as treatment, it is important to design referral management as more than a purely administrative process.

17   Referral management enables a more sophisticated single point of referral from GPs and other healthcare professionals within primary care. The referral management service arranges the most appropriate appointment, either within primary care or at hospital. Pathways can be developed, implemented and monitored, and booking can be added to the process, where appropriate, to maximise co-ordination. GPs can refer patients to GP's with Special Interests (GP wSI) or to other healthcare professionals within primary care, as well as to the acute sector. This is an excellent opportunity for new Community Health Partnerships to demonstrate a contribution to reducing waiting times.

18   There is also real benefit in extending the principle of referral management beyond the local context. Regional centres for specific waiting time services for elective work in areas such as orthopaedics could be developed, allowing GPs and patients access to all appropriate NHS facilities and expertise. This would also ensure the best use of existing NHS services and give choice at the point of contact.

19   The NHS needs to be more imaginative about the use of imaging, innovations such as mobile MRI scanners, and the skills of primary care clinicians who have developed expertise in areas like endoscopy could be used in the secondary sector.

20   The settings for the delivery of care also need to be reviewed. In Scotland, as in England and Wales, there are huge numbers of new outpatient appointments (approximately 1.2m with 3m follow-up appointments). Eighty per cent of patient contact is with acute hospital care and 70-80% of patients are referred to orthopaedic consultants unnecessarily. The potential for shifting care is significant.

21   Referral Information and Management Services are being piloted from April 2005 in Glasgow and Lothian as part of the Centre for Change and Innovation Outpatients Programme. Experience from England suggests that by sharing up-to-the minute referral, waiting times and capacity information between primary and secondary care, waiting times can be reduced by lessening variation in referral patterns and redesigning services to provide, for instance, General Practitioner with Special Interest services. **We recommend that Referral Management is introduced across Scotland,** building on initial pilots.

22   We also need to act now to develop alternatives to traditional patient pathways. At present, patients presenting to primary care with signs or symptoms of illness are assessed clinically by a GP. The GP practice or primary care allied health practitioner (AHP) undertakes an agreed work-up schedule for each clinical scenario. If the GP feels the patient requires further investigation or a consultation in the secondary care sector, a referral is made usually by way of a letter, standard referral form or, in more urgent cases, by telephone.

23   On receipt of the referral, the relevant hospital department confirms that the referral is complete and appropriate through a process of 'vetting' of the referral by appropriate clinical staff. Administrative staff then allocate an appointment slot and send details to the patient by post.

24   The timing of the appointment is dependent on factors such as the level of urgency indicated by the GP on the referral (confirmed during the vetting process) and waiting times. One critical factor is that the number of 'urgent' referrals is related to waiting times. Waiting times of several months generate a high proportion of urgent referrals; waiting times of one to two weeks obviate the need for 'urgent' referral in the vast majority of cases.

25   Patients may be referred to multiple locations within the secondary care sector simultaneously, for instance to a consultant-led clinic, radiology department, and clinical laboratory. There is little co-ordination between departments at present, frequently resulting in the patient making multiple trips to hospital on different days, misleading reporting of waiting times, and unexplained DNAs (did not attend for appointment).

26   Results from tests and consultations are sent back to the GP when available by post. Not infrequently, only some (or none) of the results are available at the time of the GP return appointment. This can result in wasted time and undermines the patient's confidence in the healthcare system at an early stage in his or her journey.

27   This model of care wasn't designed, but evolved around traditional boundaries that exist between departments and primary and secondary care. The GP role in overseeing this complex process is considerable. The burden on the patient trying to cope with illness is magnified by organisational inefficiencies, multiple points of contact and multiple visits.

28   In this traditional approach, the diagnostic pathway chosen by the GP is based on a combination of factors including the clinical impression gained during the consultation, clinical experience of similar cases, individual clinical preferences and services available at the local hospital.

29   To reduce stress and improve the quality of care, a more controlled and co-ordinated approach is proposed. **We recommend the introduction of Diagnostic Pathways that will address the problem of urgency by stratifying and managing risk in relation to serious illness/pathology.** This, combined with a streamlined administrative process or referral management system, will not only allow for timely diagnosis of serious conditions, but will also facilitate speedy exclusion.

30   The **'Team Diagnostics'** approach is more patient centred, as a multidisciplinary clinical team will be configured around the patient to optimise individual care. The 'team' includes staff within traditional primary and secondary care boundaries and in effect removes the interface. The constitution of the team will vary depending on the type of clinical challenge, and the clinical partnership formed will develop and agree local management protocols.

31 Diagnostic Pathways will be optimised to individual clinical scenarios (based on agreed referral criteria and all available diagnostic tools) with an emphasis on using technology appropriately and efficiently. An example would be using CT scanning and a fibre-optic examination as the first line investigation in preference to standard x-rays, if justified by the patient's clinical condition at the time of referral. The new model of team diagnostics includes:

- maximum work-up in primary care
- identifying key diagnostic indicators
- triage on the basis of these
- clear understanding of which imaging and diagnostics routes are direct access and which are restricted following triage.

32 The key principles of this model are as follows:

- Where the differential diagnosis makes it likely that the patient can be managed in primary care, then the primary care clinician should have direct access to the investigations that will support the patient's management.
- Where the differential diagnosis is not deemed to be manageable in primary care, the Team Diagnostic route would apply, including primary care-based advance work-up, triage access with direct pathways to imaging, and surgical or medical intervention.
- Clinicians using an agreed 'patient journey' model including full work-up in the primary care setting and better management of referrals by receiving secondary care will improve patient experience. Primary care clinicians are concerned that using a Referral Management Centre and Team Diagnostics might restrict choice or control. We need to develop a methodology for incentivising primary and secondary care to work together, perhaps by joint incentivisation of patient journeys by patient or by result, or transferring the funding for outpatient services or waiting times to Community Health Partnerships.
- We must locally empower clinical leadership to redesign services. Managed Clinical Networks should reflect local relationships between clinicians across primary and secondary care and further develop safe and effective pathways of care for patients.

33 We referred above to the impact emergency admissions can have on elective care. Repeated case studies have shown, however, that elective admissions are commonly the biggest cause of variation across the system, often being more variable and unpredictable than emergency admissions!

34 Variation in the admission process can and must be managed. Analysis of Scottish hospital inpatient statistics still show significant numbers of patients undergoing an elective operational procedure with a pre-procedure length of stay from 0-3 days. Patients are often admitted at a weekend for an operating list on a Monday or Tuesday, simply to guarantee the bed. Because pressures on emergency beds are highest at the beginning of the week, experienced clinicians will use a variety of strategies to ensure that elective patients scheduled for operation at the beginning of the week will have access to a bed. This practice results in many thousands of wasted bed days.

35 Hospitals need to take a whole-system view of the use of bed resources. Use of the System Watch monitoring package has demonstrated predictable variation in patient workload. This consistently shows the highest numbers on Mondays and Tuesdays with significantly lower numbers towards the end of the week. Hospitals should recognise this and design their elective work flow so that fewer patients are admitted on Mondays and Tuesdays, and larger numbers progressively during the week for those requiring an inpatient bed. Day case procedures and surgery can be evenly distributed during the working week, depending on the capacity of day case units. **We recommend that all NHS Boards undertake a rigorous review of emergency and elective workflows and synchronise these to the predicted available beds.**

36 Some patients are admitted to hospital in advance of their elective operation so that certain tests and assessments can be carried out prior to the procedure. This might include checking on blood results, x-rays, or an assessment by a consultant anaesthetist. Many hospitals and departments have adopted pre-admission clinics as the way to deal with problems prior to surgery. Pre-admission clinics are usually run by nurses with anaesthetic support for difficult cases. Patients can be assessed for surgery and, if low risk, can be thoroughly prepared with all investigations required beforehand. Corrective action can even be taken, such as prescribing a course of iron tablets to correct anaemia. Pre-admission clinics can also plan the discharge of patients, agreeing with patients the level of community support required, and ensuring primary care and local authority colleagues are notified well in advance of the operation date.

37 Consultant anaesthetists can be available to assess patients at moderate to high risk and undertake necessary investigations or change in clinical care to prepare the patient for surgery. When this is done on an open 'rota' basis, where one consultant is acting on behalf of other colleagues who will actually administer the anaesthetic, this is both efficient and time saving.

38 Patients who are clearly unfit for operation, or whose condition has changed while they have been on a waiting list, may be advised to have their operation delayed for some time to improve their clinical status, or may be advised that the operation is no longer appropriate or too risky.

39 Pre-admission clinics can also be used to support good practice in obtaining informed consent. Experienced nurses will be able to discuss the features of common operations, and even anaesthetics, with patients who have previously been given the information by their surgeons, both verbally at the time of consultation and in writing afterwards. Pre-admission clinics give the opportunity for the patient to ask questions. Appropriately trained nurses can then obtain informed consent which also helps to confirm that the patient actually wants the proposed operation.

40 Well-organised and well-run pre-admission clinics allow patients to be admitted on the day of their procedure, and give surgeons and anaesthetists the confidence that the patient has been properly prepared, informed consent has been obtained, and a discharge date and plan agreed beforehand.

Streamlining hospital stays

41   A streamlined journey for patients will provide:

  • a multidisciplinary intervention where appropriate
  • consultation, investigation and diagnosis at a single visit
  • enhanced communication from start to finish of the journey
  • efficient use of resources, particularly theatre time, beds and patient capacity
  • optimisation of resources such as staff and equipment.

42   Where possible, outpatient and diagnostic services should be provided in local communities and should be delivered by primary care clinicians aligned to the Team Diagnostics concept. 'Low-technology' diagnostics should be provided at practice level with higher technical diagnostics at community hospitals. It may be necessary to consider access to diagnostics at regional or even national level as a way of improving access and therefore reducing waiting times. This would be particularly relevant where significant investment has already taken place. A robust IT system is essential for any of these developments to happen.

43   **We believe that day surgery rates can increase, and variation in day surgery rates needs to be robustly managed out of the system.** The growth in the amount of day surgery performed over the last 20 years has been possible due to technological and medical innovations such as less invasive surgery and improved anaesthesia (Hurst & Siciliani, 2003).

44   There are significant advantages to increasing the amount of day surgery:

  • care is provided through an evidence-based pathway which in turn is likely to produce better outcomes with reduced rates of healthcare acquired infection (HAI)
  • it is less disruptive to patients and their families and there is a high preference if this option is made available
  • it is likely to enable the care to be provided in a local hospital
  • staff who are involved in day surgery areas are able to work flexibly with more family-friendly rotas
  • nursing staff may have a greater level of autonomy and patient contact as they can be responsible for nurse-led pre-admission assessment, post-operative care and discharge.

45   Comparisons against Scottish targets and with English performance demonstrate that there is still potential to increase day surgery rates, which vary across NHS Boards (Audit Scotland, 2004).

46   Research by the NHS Modernisation Agency suggests that the major reason for slow growth in day case surgery is that hospitals predominantly organise themselves as providers of inpatient care. In their '10 High-Impact Changes' (NHS Modernisation Agency, 2004), they assert that inpatient care should be the exception in the majority of elective procedures, not the norm. Rather than asking, 'is this patient suitable for day case?', we should ask, 'what is the justification for admitting this patient?'.

47   The variation in day case rates referred to above cannot be explained solely by differences in case mix. Evidence suggests that a sizeable proportion is due to differences in clinical practice. We need to introduce in Scotland a list of suitable day case procedures, such as the Audit Commission's basket of 25 procedures (Audit Commission, 2001) or that approved by the British Association of Day Case Surgeons. Then we need to measure and act on variation.

48   This approach to day surgery is part of our overall drive to shift the balance of care. Our goal is to design a system that ensures the time patients spend in hospital is time that adds value for them. But the change also has the potential to free-up resources. The Modernisation Agency suggests that if we could switch just 4000 patients to day surgery, we would release 5600 bed days and save more than £1m.

49   **The NHS needs to look at the separation or streaming of elective care to maximise capacity and reduce the impact of diverted resources to emergency care.** One of the major questions we face over the separation of scheduled and unscheduled care is how far the concept of separation (streaming) can be taken. Streaming is the separation of elective care from emergency pressures (through dedicated theatres, beds and staff), reducing cancellations, achieving a highly systematic and predictable workflow, and therefore improving the quality of service to patients. Patient safety has to be at the forefront of any proposal that involves elective care being delivered at a distance from critical care back up.

50   The Department of Health has carried out an initial analysis which groups elective procedures by prevalence of an associated critical care stay. This provides an indication, at a very high level, of what could safely be streamed in a facility which does not have critical care facilities readily accessible. The provisional results are as follows, and are shown diagrammatically in Figure 8.1.

Figure 8.1 Percentage of Elective Care in need of Critical Care
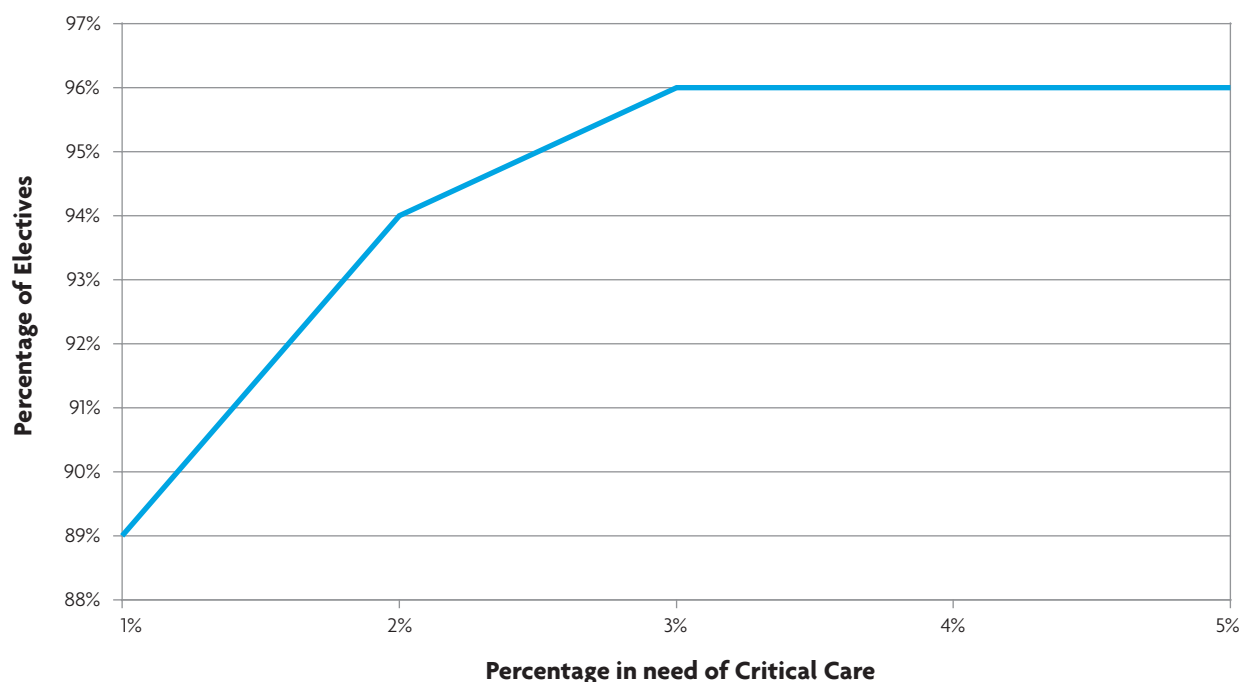
- **89%** of elective care by volume requires a critical care stay in fewer than **1%** of cases
- **96%** of elective care by volume requires a critical care stay in fewer than **4%** of cases.

51   These volumes give some indication of what work could be carried out safely in a streamed
      environment, regardless of proximity to critical care, if risks are carefully managed and with
      relatively modest predictive filtering out of higher risk patients (such as using ASA/BMI criteria).
      The range of procedures which might be streamed in practice will clearly depend on safety factors
      such as the extent of back-up and proximity to critical care facilities, as well as economic factors.

52   Models are varied, dependent on availability of dedicated resources, access to support departments
      and proximity to essential services. It follows, therefore, that the implications of separation
      would have to be individually examined dependent on the service design chosen for a particular
      health economy.

53   Streaming of scheduled care will undoubtedly provide significant improvement in a range of key
      outcome indicators in areas such as a predictable and increased workflow, reduction in cancellations,
      value for money, improved recruitment and retention and, importantly, reduced waiting times
      for patients.

54   There are a number of different models by which the elements of elective care can be mixed
      and combined. There is a range of issues that should be addressed fully before any implementation,
      depending on the model chosen. For example, a purpose built/designed unit will create additional
      capacity, but may face staffing problems due to national shortages in certain professions.
      Refurbishment/redesign of existing acute areas has proven very attractive to staff who choose
      to move from other high-pressure emergency areas on the same site. This, however, may create
      problems among staff groups.

55   This highlights only a few of the key implications. In an attempt to provide a more comprehensive
      overview of the risk elements, Appendix 3 in the Elective Care Action Team Report details a
      range of issues that need to be considered. No assumptions have been made over specific
      service design – the appendix merely suggests potential risks that would need to be considered,
      dependent on the patient pathway chosen. The report can be found at
      www.show.scot.nhs/sehd/nationalframework

56   Streaming can be carried out on a local, regional or national basis. Locally, the hospital could be
      designated as an elective care centre and used entirely for day surgery or short-stay surgery (1-3
      days). Within a health board area, it may be possible to stream elective care across hospital
      sites, so that one hospital is designated primarily as an elective care hospital with an ability to
      deliver a streamlined service uninterrupted by emergency admissions or cancellations across one
      or several specialties.

57   Streaming also has great potential at regional or national level. Regions of Scotland often have
      multiple hospitals performing unscheduled and scheduled care; travelling distances for much of
      the Central Belt are 30 minutes or less to a wide range of hospitals. Regional planning should
      enable demand across a wider population to be met by streaming hospitals for particular
      specialties or groups of specialties. This should enable extra capacity to be levered, provided
      that key staff and patients are willing to travel for a more stable service.

58 Just as we have seen variation in day case rates, so is there variation in operating theatre utilisation. The Audit Commission's report on Operating Theatres (Audit Commission, 2003) suggests that the Bevan Report (1989) standard of 90% theatre session utilisation is still valid. To streamline activity to maximise the use of theatres, the Audit Commission identified 3 main reasons for poorly utilised sessions which should be avoided;

- persistent bottlenecks elsewhere in the hospital, such as lack of ITU beds or general ward beds that were not foreseen when the list was planned
- operations being cancelled because patients were not pre-assessed or because they failed to turn up
- theatre timetables not being updated to reflect changes in workload.

59 NHS Boards with hospitals working below 90% theatre session utilisation should implement action plans to address the issue.

60 Action is also required to ensure that all surgical staff meet minimum expectations for surgery time and throughput. Professor John Yates has highlighted a study into the work of 182 orthopaedic surgeons that found they operated for seven hours per week on average (Yates, 2000). A fifth were working below the minimum standard recommended by the British Orthopaedic Association. Professor Yates recommended that all orthopaedic surgeons should be able to operate for a minimum of eight hours per week – four sessions of 3.5 hours or three 5-hour sessions. Theatres are mainly used 09.00-17.00 weekdays, but extending the working day to allow two 5-hour lists would increase capacity by 50%.

61 The recent benchmarking exercise, carried out by ISD Scotland highlighted the **variations in length of stay across Scotland** and the fact that the number of days a patient spends in hospital prior to an elective operation in Scotland is higher than England.

62 There is evidence to suggest great variation in the pattern of discharge from hospital due to the way the process is managed (NHS Modernisation Agency, 2004). Waiting for ward rounds that take place at set times, accessing test results or awaiting discharge prescriptions inevitably leads to a variable and unpredictable length of stay.

63 Friday is generally the busiest day for discharges, with limited activity over the weekend. Patients are admitted as emergencies over a 7-day period, but are discharged over five days. Patients admitted on Fridays could potentially have a length of stay 25% longer than those admitted on Tuesdays.

64 This is an area that can be managed effectively, and bottlenecks within the system can be reduced. Effective management brings benefits for patients who have a reduced length of stay and can plan their lives accordingly. There are also significant benefits for patients from remote and rural areas in reduced time away from home and improved co-ordination of transport arrangements.

65 The Centre for Change and Innovation's Unscheduled Care Programme, which launches in May 2005, will work with NHS systems across surgical and medical flows and will look specifically at variations in discharge processes. This element of the programme needs to be given a high priority.

66 As can be seen from the analysis above, we think there is a substantial amount that can be done at the front end of the patient journey. Much of the current emphasis across the NHS is concentrated in this area, but we need to look too at post-operative care.

67 Each year in the UK, 37 million 'follow-up' appointments are made, where patients are asked to return to hospital to have their progress checked, to undergo tests or to get test results. To date, common practice has been to invite patients for a follow-up appointment 'just in case'. If we were to change that practice to one which is based on 'follow-up where there is clinical need', this would undoubtedly reduce the number of appointments. Since 75% or so of outpatient 'Did Not Attends' (DNAs) are for follow-up appointments, it is clear that some patients are reaching their own view about this issue.

68 Follow-up appointments should take place in the right healthcare setting and be delivered by the appropriate healthcare professional. This means investing in alternatives to the traditional consultant-led, hospital-based appointment. It also means managing the variation that exists between consultants in the numbers of repeat follow-ups they undertake.

69 The first question to be asked should be: 'is a follow-up visit clinically necessary?' If it is, the assumption should be that it is performed in a primary care setting. Automatic hospital-based follow up should be used only where necessary and clinically appropriate. NHS Boards need to actively manage this shift.

70 To illustrate the point, we looked at orthopaedic follow-up. Traditionally, orthopaedic elective patients have attended the hospital for routine follow-up. This is often inconvenient for patients and is costly in terms of consultant and clinic time.

71 With improved pre-operative assessment and preparation, the orthopaedic patient's discharge is now planned prior to admission, thus avoiding delays. Multidisciplinary supported-discharge teams are now established to facilitate prompt return home. Patients do not need to attend hospitals in the early post-operative period. Procedures such as wound checks and removal of sutures can effectively be managed in primary care.

72 Telephone follow-up, either conducted routinely or by providing patients with access to advice should he or she have concerns, avoids unnecessary anxiety or inappropriate GP or hospital visits. Thereafter, arthroplasty follow up can effectively be managed by either nurse or AHP practitioners. Follow-up timing can be arranged in agreement with local guidelines, and follow-up assessment can be conducted according to agreed protocols with validated outcome measures and radiological markers identified.

73 There is no need for patients automatically to see the orthopaedic surgeon. Should progress not be in line with accepted protocols, consultant review will be arranged. In practice, this will involve a small number of patients.

74 With access to required imaging, this service could be provided in primary care settings, decreasing the burden on the acute sector while improving accessibility and convenience for patients.

75 Implementation of the service would also facilitate collection of robust outcome data which is important for clinical governance and monitoring of revision rates.

Summary of recommendations

Lead responsibility: Scottish Executive
- Benchmark performance of NHS Boards (and individual hospitals) in delivering planned care and manage variation firmly and appropriately
- Develop a delivery function that will draw on best practice across the world to further speed up patient access.

Lead responsibility at National Level
- The introduction of Referral Management Services across Scotland
- To treat day surgery as the norm for elective surgery

Lead responsibility at Regional Level
- The development centres/facilities that deal only with elective care either on existing hospital sites or in new buildings

Lead responsibility at Local Level (CHP)
- Maximise pre-admission services and post-discharge recovery in primary care

Planned care: workforce implications

Training and education for health service staff must ensure that the appropriate skills and competencies are available and delivered in an appropriate setting to each patient. An integrated approach to service delivery and education must be taken to ensure that an unbroken continuum of elective care is provided throughout the primary, secondary and tertiary care sectors, which may challenge traditional professional and care location boundaries. Improving training for NHS staff will develop and maintain the required skills and competencies for a new approach to elective care and greatly empower the diversity of health carers.

Redesign of services for elective care on this scale will inevitably result in pressures on the current systems of training and education, and has the potential to adversely affect research. There is recognition that much of what has been suggested is already in practice in parts of our current system, and many of the associated challenges have been identified and dealt with on a local basis. Utilising the experience from these pilot sites to form appropriate templates and frameworks for training and education for all staff groups (and patients) should allow early transition to an active system.

A key component will be flexibility in roles, responsibilities, skills, competencies and the extension or realignment of current care teams. Local issues such as geography, staff availability and availability of specialist diagnostic or treatment facilities may prompt the need for more individualised solutions on a locality or specialist basis. Each service may require specialised support.

Solutions for training and education will lie with the development of a strategy for an integrated approach to joint and multi-professional training between the groups of education stakeholders and providers, including the Royal Colleges, universities, further education establishments, NHS Education for Scotland, the NHS and other groupings and institutions. Shared training, where appropriate, will foster trust between professions and allow more understanding of roles and responsibilities, and will hopefully result in more integrated and quality care.

To facilitate the change in the provision of elective care, NHS Scotland, NHS Education for Scotland, professional bodies and educational institutions must:

1 Identify existing skills and competencies within the overall healthcare workforce.
2 Identify new skills and competencies required in each specialty and elective care setting.
3 Develop training and education programmes to fill the 'gap'.
4 Develop programmes to maintain these newly-acquired qualities and skills.
5 Develop national standards for curricula to ensure consistency throughout elective care.

A model to facilitate multi-professional roles and education should link the required skills and competencies to current initiatives such as Agenda For Change, changes to nursing and medical career structures, Modernising Medical Careers and the Scottish Credit and Qualifications Framework (SCQF). This would enable health service and education planners to use an integrated and robust template to provide the appropriate skill mix for the future health service.

B. Diagnostic services

76 Diagnostic services have often been characterised as a 'bottleneck' in the patient's journey of care. Diagnostic services respond to multiple demands from primary care (in cases of direct and open access), screening services, outpatient clinics, Accident and Emergency and inpatient services. They are subject to rapid changes in technology and struggle to keep pace with changing patterns of care.

77 In the past, these services have been unsuccessful in influencing demand in a significant and sustainable way. Despite all efforts, they have been reactive.

78 As in many areas of the NHS, there has been insufficient emphasis on the measurement of demand, activity and capacity or on the application of queuing theory, understanding the importance of flow or addressing fluctuation in demand. Accordingly, there has been a mismatch between activity levels and demand leading to a general perception that diagnostic services lack capacity. There are few examples in Scotland of managed healthcare systems which match clinical developments in referrer services to their impact on the demand for diagnostic services.

79 Three distinct drivers are coming to bear which will have an impact on demand for diagnostic services and the way they are organised and provided.

i) Reducing patient waiting times
- including waiting times for Accident and Emergency treatment and initiation of treatment following a primary care referral
- Fulfilling the *Fair to All, Personal to Each* (SEHD, 2004) commitment to develop waiting time standards for key diagnostic services.

ii) Providing local diagnostic services
- The drive to provide as much care as possible locally, including diagnostic services, has implications for where and how diagnostic services are delivered. This imperative is qualified by the need to maximise efficient use of available capacity nationally. While diagnostic tests should be available as locally to the patient as possible, it is crucial for planners to understand that this does not necessarily require that processing and analysis of images or specimens needs to be co-located with testing. Indeed, geographical separation may lead to real efficiencies in the system. The benefits of clinical contact between the referrer and the diagnostic service should not, however, be undervalued.

iii) The changing nature of demand for diagnostic services
- The changing age profile of the population and concomitant epidemiological changes, for example the increased prevalence of such age-related illnesses as cancer and maturity onset diabetes, has led to an inevitable growth in demand for certain diagnostic services.
- There has also been a significant growth in one-stop clinics, where multiple tests are available at one visit. These do not always offer the most efficient use of the diagnostic workforce, but are seen as crucial to the development of patient-centred service design in some settings. It is estimated there are now around 400 such clinics in Scotland.

- The service imperative to roll-out new technologies and procedures as they become available has an impact on diagnostic services. Critical shifts are evident, for example, in the diminishing proportion of plain x-rays compared to 'complex' imaging, including computerised tomography (CT), magnetic resonance imaging (MRI) and ultrasound (US). A significant role shift in who actually performs US image acquisition is well underway. This currently involves training sonographers, who come traditionally from a radiography background. However there is an urgent need to move towards a more inclusive AHP model for sonographer role development as education programmes evolve. Regulatory changes to enable these developments are underway and must be encouraged. In Pathology and Laboratory Medicine, continuing rapid advances in automation mean that consideration should be given to the rationalisation of some non-acute routine and screening functions. There are, of course, many benefits arising from new technologies and investigative modalities. The imperative is to have these not only more widely available, but also more accessible to patients.

- Imaging and laboratory tests are playing an ever greater role in accurate diagnosis. As testing is refined and, with improved user knowledge, skill and experience, becomes more diagnostically focused, this means that there is increased pressure on services. As technology advances, there is not only an opportunity to provide diagnostic services more effectively in traditional settings, but also to develop new investigation pathways that add value in additional areas of clinical practice.

Redesigning services

80 The NHS Modernisation Agency's report, *10 High-Impact Changes for Service Improvement and Delivery* (NHS Modernisation Agency, 2004) is a valuable introduction to some of the main redesign concepts. It states:
'We tend to think that diagnostic bottlenecks are caused by a lack of capacity. In fact, they are often caused by the mismatch in the variation in demand and the variation in supply. Systematic application of some basic redesign tools to match capacity and demand can have a dramatic effect on the "flow" of patients through the system.'

81 A proactively planned and managed system of matching capacity to demand and a better understanding of the key constraints on local capacity (human and technological) is an imperative for the future. Demand management needs to be the responsibility of the supplier service in partnership with referral services. The control of demand needs to be determined by clear and accessible written (electronically embedded) guidance and decision support. An example of such guidance would be the RCR/EU referral guidelines for prescribers of ionising radiation. This would be most effective if available electronically at the time of request.

82 Evidence suggests that the pattern of demand for a diagnostic service can be significantly improved (inappropriate demand reduced, appropriate demand increased) by targeting referrers with a variety of techniques. While there are no 'magic bullets', audit and feedback combined with condition-specific prompts are effective. Diagnostic services will become a uniformly 'enabling' aspect of the service when all demands are understood and, where appropriate, managed.

83   In any given diagnostic service, capacity is limited by the key constraint, such as the availability of given equipment or of a key professional. Activity is not the same as capacity. Activity measures what is done, not what is theoretically capable of being done when set to the key constraint. Redesign has an important role to play in identifying bottlenecks in processes and duplication or secondary constraints which fail to achieve best use of capacity.

84   Experience of redesigning services in Scotland provides some general principles to guide future diagnostic service redesign efforts:

- Waiting list initiatives are a useful means by which to remove historical backlogs, but must support redesign rather than take its place. Without redesign, backlogs will quickly reappear. Waiting list initiatives should be seen as short-term fixes which do not address the underlying problem. It is analysis of the underlying problem which is the key to successful redesign. Waiting list initiatives should be co-ordinated with performance management so that poor performance is not rewarded with additional resources.
- Unscheduled and elective work should be disengaged wherever possible to protect capacity in both.
- If at all possible, 9 to 5 activity should be optimised and the working day extended before resorting to the acquisition of additional equipment. Services should work smarter by, for instance, staggering lunch hours and start and finish times to maximise throughput. Rigorous forward planning of leave and other predictable absence is essential.
- Audit and performance management driven by effective data collection using agreed definitions should be carried out.
- Clinical leaders with sufficient time, vision and focus should be engaged to drive reform. Any short-term loss of capacity is more than compensated by the potentially huge long-term gains.
- Interfaces between primary care, secondary care and Managed Clinical Networks should be reduced. James Paget Hospital in Norfolk reduced treatment time for lung cancer by allowing direct referral from radiologist to physician, rather than radiologist to GP to physician. The breakdown of these types of artificial barrier is central to providing patient-centred care.

85   We looked in detail at two sets of diagnostic services: imaging, and pathology.

Imaging

86   Diagnostic imaging services are widely viewed as a bottleneck in patient flow. This is often attributed to a significant shortfall in radiographer and radiologist workforce or a perceived lack of equipment, but also reflects unprecedented levels of demand.

87   The increase in demand for imaging services is a consequence of technological development and maturity; the changing nature of clinical management (particularly the expanded role of cross-sectional imaging in cancer) and higher patient expectations. Greater public awareness of and interest in health has generated a better-informed population that knows what could and should be available.

88 We have identified 5 key challenges for imaging:

- workforce,
- information,
- digital imaging,
- service configuration,
- remote and rural provision.

89 The growing demand for diagnostic services will require careful planning to meet future needs. However it is recognised that there are **significant challenges to be met in providing a sustainable workforce for existing service capacity.** Shortages of key groups of imaging professionals, including radiologists, radiographers and sonographers, are widely recognised as a limiting factor for expansion of services in Scotland, the UK, and the international radiological community.

90 A survey of the vacant consultant radiologist posts in Scotland in January 2005 by the Scottish Standing Committee of the Royal College of Radiologists put the vacancy rate at 49.4 posts, or 17.7% of all established posts. It is clear that more radiologists and radiographers are required, but we need to re-profile the workforce as well as train more people.

91 NHS Scotland must move towards providing imaging services when they are needed. This will involve greater flexibility in working patterns including promotion of the extended working day. While the move to flexible or less than full-time working is to some extent inevitable, it should be underpinned by recognition of the needs of patients and the imperative of providing a core service.

92 The following steps should be taken to support the re-profiling of the diagnostic imaging workforce skill set to meet the needs of the service:

- provision of an education framework sharing common multi-professional competency standards.
- development of assistant practitioner standards which meet anticipated 2007 national registration standards.
- national definition and accreditation of new roles within diagnostic services.
- maximisation of unique core skills and competencies.
- accurate service and training needs analyses to ensure that individual and multi-professional skill sets meet patient needs.
- career pathways that seek to retain skilled and experienced clinical practitioners within frontline diagnostic services.
- assurance that members of the team are skilled and competent to perform their functions, supported by appropriate training and clinical governance.

93 An adequate **Radiology Information System** with nationwide coverage and agreed definitions and application should be a priority. The system could serve as a clinical governance tool but, if comprehensively and rigorously populated, would also provide a sound basis for service management, delivery, planning and modernisation.

94   NHS Scotland has been providing pump-priming funds for one particular Radiology Data
      Collection system, CiRiS. The ability to opt in and out of CiRiS has meant incomplete coverage
      across NHS Scotland, with at least one large area opting out (until recently). The data set is
      therefore incomplete, reducing benefits in terms of availability of comparable data,
      benchmarking, and transferable lessons.

95   Although feedback from the CiRiS system to the service has been slow to materialise, information
      recently available provides a valuable insight into the staff and service. For example, approximately
      47% of plain radiography is provided outwith 'normal' working hours thus reinforcing the
      desirability of a 24/7 service.

96   Mandatory use of CiRiS appears to be the best option available to NHS Scotland in the short
      term. In the longer term, a single, national, clinical information system for all specialties should
      be the goal for the service.

97   **Digital imaging** will be at the heart of clinical services in future. A Picture Archiving and
      Communication System (PACS) captures, stores and displays digital images such as digital
      radiology images, x-rays or scans, removing the need to print images and store them manually.
      MRI or CT scans create large data sets where there can be 1000 images for a routine study. Not
      only is PACS an efficient tool to acquire and store images, but it also allows flexibility in display,
      adding diagnostic value to surgeons in particular.

98   The national Scottish PACS procurement is now at an advanced stage. It is essential that PACS
      is rolled out quickly to all parts of Scotland. Individual NHS Boards must be made aware of the
      priority placed on this by NHS Scotland.

99   The real clinical benefits will come when PACS is linked to a single CHI-based care record; a
      radiology information system and a robust mature voice-recognition software. It is critical that
      PACS roll-out is linked to equipment replacement and digitisation. This will require a well-
      resourced, centrally-supported project management team. It is clear that under-resourced
      project management could entail a huge additional cost burden in terms of wasted investment
      or delayed realisation of potential efficiencies.

100   There is great scope in NHS Scotland, facilitated by the application of the technologies described
      above, to **reconfigure imaging services** by separating image acquisition (e.g. scanning a patient)
      from analysis and reporting. Accordingly, the patient and the reporter (the person carrying out
      the analysis and reporting: usually, but not necessarily, a radiologist) do not need to be in the
      same place. The patient can thus avoid travel to a specialist centre for some tests: this being
      determined by the local availability of equipment rather than of reporters. As such, there is
      potential to provide more diagnostics in local settings if justified in terms of overall capacity.
      This is a shift which should be encouraged.

101 The radiological reporting process is subject to many interruptions, which create discontinuity of thought with consequent impacts on patient safety. Reporters need to be focused on an individual patient's images. Working practices should reflect the need for a controlled reporting environment and limited multi-tasking. There are occasions when clinicians find added value in discussing cases with the radiologist who has reported examinations, and there is no reason why this could not be facilitated if robust systems are put in place.

102 This development could help maintain or develop services in remote and rural areas. PACS and CHI-based tele-technologies must be developed to enhance the potential for geographical separation of image acquisition and reporting.

103 Tele-assessment underpins much of the desired objective in unscheduled care of providing care locally and avoiding unnecessary referral to tertiary centres. This opens up the possibility of a centrally co-ordinated radiologist on-call service for imaging. **It is recommended that the feasibility of such a service be assessed.** In the longer term, there is potential for Accident and Emergency reporting to be performed in and out of normal working hours by this method.

104 Scotland's dispersed population presents specific challenges for the provision of fair and equitable **access to diagnostic services in remote and rural areas.** In addressing these issues, the aim should be to provide safe patient focused care while acknowledging the important operational issues relating to economies of scale, logistics and clinical governance.

105 The level of imaging required to support a general clinical service has moved on greatly in the last two decades. It is no longer acceptable to provide imaging services to a District General Hospital (DGH) without ready access to ultrasound, CT and, increasingly, MRI, in addition to plain radiography.

106 Most District General Hospitals in Scotland had up-to-date ultrasound equipment and CT scanners at the last national survey, and the majority had access to nuclear medicine and MRI. Some DGHs provide excellent vascular and interventional services: this should be dictated by local expertise and volume of local clinical activity and be subject to clinical governance. As a general principle, however, low-volume, highly-specialised equipment and techniques should be sited within specialist centres.

107 Most DGHs provide emergency neuro-imaging and have some form of tele-radiology link with specialist neurosurgical centres. These links, however, are often far from robust. Some have been forged by the enthusiasm of the local clinical team with little managerial or financial support.

108 In a country such as Scotland, which has a dispersed population, there should be formal recognition of tele-radiology and tele-conferencing services. Quality assurance systems must be developed and maintained around working practice and skills maintenance. Tele-radiology links require to be strengthened not just for neuro-imaging, but for all services, including oncology, surgery and emergency support.

109 Tele-radiology linkage should be an obligatory part of healthcare provision in tertiary centres. Currently, the responsibility for the tele-radiology link falls to the DGH as the referring centre, and there is little incentive for the receiving tertiary centre to facilitate, support or fund the link. This obstacle will not be resolved until acceptance and support of tele-radiology is a mandatory requirement for both DGHs and tertiary centres. Regional planning mechanisms should ensure adequate bi-/multi-partite support for such services.

110 There should also be integration of tele-radiology links with other tele-medicine initiatives, including the facility to offer education by broadcast and other innovative media. Managed Clinical Networks will be helpful vehicles for this and must be integrated with Managed Diagnostic Networks.

Pathology and Laboratory Medicine

111 Pathology and Laboratory Medicine includes the following main specialties:

- Clinical Biochemistry
- Cytopathology
- Genetics
- Haematology
- Histopathology
- Immunology
- Medical Microbiology
- Transfusion Medicine
- Virology.

Many of these specialties include one or more sub-specialties.

112 There are Pathology and Laboratory Medicine departments in every acute hospital in Scotland, although not every specialty is represented in each.

113 It is generally accepted that 60-70% of diagnoses rely on output from these services. The workload is rising across all specialties. In Clinical Biochemistry, for example, the national workload has doubled in less than ten years. **The highest annual increase occurred in 2004, due in large measure to a rise of almost 20% from the primary care sector.**

114 There are several drivers for this increased workload including:

- greater clinical activity
- changing clinical practice, including a shift from secondary to primary care
- an ageing population
- greater public awareness of health issues
- public health issues, including healthcare acquired infection
- evidence-based clinical guidelines (Scottish Intercollegiate Guidelines Network (SIGN), National Institute for Clinical Excellence (NICE) etc)
- expansion of cancer screening programmes
- the new Consultant and General Medical Services (GMS) contracts
- government targets
- the availability of new services (especially molecular diagnostics).

115 The rise in laboratory workload has not been matched by a rise in resources because laboratories have commonly been viewed as a cost centre. Staffing budgets have remained largely static in real terms during this rapid growth phase, and budgets have failed to take full account of increased demands. As a result, there has been pressure to reduce staffing levels, despite the rapid increase in workload, to meet overall financial targets.

116 As with all diagnostic specialties, modern information technology and management is crucial to Pathology and Laboratory Medicine. Many laboratory information and management systems contain very large databases of patient information that need to be interrogated, updated and communicated on a 24/7 basis. Lack of investment means there is often incompatibility between laboratory systems in the same hospital and serious deficiencies in connectivity between laboratory, hospital and community information and management systems.

117 Pathology and Laboratory Medicine services vary in the urgency with which results are required, which influences the need for locally available services at the point of contact. Core Clinical Biochemistry, Haematology and Blood Transfusion services are required to deliver a turnaround time of less than:

- one hour for urgent requests for areas such as Accident & Emergency departments, intensive therapy units, acute medical receiving units and obstetric services
- four hours for standard requests such as those from inpatients departments
- 24 hours for other non-specialist requests, including outpatients departments and primary care.

This means that 24/7 on-site services are essential in each acute hospital.

118 There is a need to develop a strategy for the modernisation of Pathology and Laboratory Medicine. The strategy should have the following key elements:

- reconfiguration of the service
- Managed Clinical Networks
- performance management
- new technology
- service redesign.

119 Currently, the **configuration** of Pathology and Laboratory Medicine services in Scotland is very variable and owes much to history. For example, some NHS Boards have sizeable DGHs without an on-site pathology department, while others provide a more dispersed pathology service across all DGH sites. It is recognised that there is not a single model of laboratory service configuration which will suit all areas of Scotland.

120 It is logical and highly desirable that laboratory services be aligned with the clinical services they support. This will facilitate relevant and efficient laboratory services and the inclusion of the laboratory specialist as a member of the multidisciplinary team. The future configuration of Pathology and Laboratory Medicine services will therefore depend on changes to and developments in clinical services.

121 Interaction of disease-specific and laboratory Managed Clinical Networks will be crucial in managing this process. Different models will apply according to the clinical service and other factors, including population demographics and geography. For example:

- On-site core Clinical Biochemistry, Haematology and Transfusion services will be required in all acute medical hospital settings, with the availability of 24/7 results within a clinically acceptable turnaround time
- locally-available services will be required for Pathology, Immunology, Microbiology and Virology, but not necessarily on every acute site
- specialist Pathology and Laboratory Medicine services should be tailored to meet the needs of regional and national Managed Clinical Networks in areas such as cancer, cardiovascular disease and transplantation
- highly-specialist Pathology and Laboratory Medicine services are best provided through managed national provision from one or more centres; the Scottish Molecular Genetics Consortium is the best current example.

122 A **Managed Clinical Network** in Histopathology/Cytopathology is being implemented. This has been set up through the Regional Planning Groups and the Scottish Cancer Group and should be viewed as the start of a more extensive programme of modernisation. The network will function as a model for other potential Managed Diagnostic Networks.

123 It seems likely that there will be an expansion of regional and national Managed Clinical Networks in Scotland. It is also possible that Managed Diagnostic Networks could develop to support some areas of clinical practice. The active involvement of laboratory medicine specialists as team members of multidisciplinary Managed Clinical Networks and future Managed Diagnostic Networks is to be commended as good practice. It will ensure:

- the delivery of effective, targeted laboratory services
- optimal use of laboratory services by clinical users
- the implementation of evidence-based guidelines
- the organisation and development of specialist services and a sharing of resources at regional and national level
- co-ordination of diagnostic services in targeted applications
- multidisciplinary and multi-centre clinical audit and research.

124 **Workload management** and requesting behaviour can be influenced through the provision of evidence-based support material, which can help to ensure realistic use of available resources. A project in Grampian and Moray, for example, demonstrated that the combination of test report reminders and enhanced educational feedback reduced requesting from the primary care sector by 16.8%, resulting in a reduction in consumable budget of £130,000 per annum. This approach is being further developed in England through the Good Practice in Primary Care project, which has the support of all relevant stakeholders. Successful workload management requires, however, considerable investment in ICT and consultant laboratory specialists' time if it is to be maintained.

125 **Information and Communications Technology** (ICT) and information management are central to the accurate and effective use of Pathology and Laboratory information services and have much to contribute to improved turnaround time, reduction in waiting times and reduction in the transmission of infections.

126 The state of ICT in Scottish laboratories is variable but is generally well below that required for a modern, efficient service. There is an urgent need for ICT and information management systems that will allow seamless connectivity across laboratory specialties, with other diagnostic services, and with hospital and community-based information systems. The introduction of the unique patient identifier (CHI) will facilitate this process. Increased use of voice recognition technology will speed up the production of pathology reports and so facilitate the on-line authorisation already widely used in laboratory medicine.

127 In considering the scope for **service redesign**, Pathology and Laboratory Medicine departments should focus on ways of using available resources better. The introduction of an extended working day in appropriate laboratory settings, for example, will enable better use of expensive equipment and automated analytical platforms. Extended working will also allow work from primary care to be processed to make results available when primary care centres are open.

128 The Pathology and Laboratory Medicine MDNs should take on the role of gathering and communicating good practice information on service redesign and new ways of working in laboratory services in Scotland. Advising the workforce development and planning aspects of new ways of working should be part of this role.

129 **A full list of recommendations from the Diagnostic Services Action Team can be found in its full Report at http://www.show.scot.nhs.uk/sehd/nationalframework**

Those recommendations are endorsed in full, but can be summarised as:

Organisation
- Develop a Regional and National overview of diagnostic services within the framework of the Regional Planning Groups.
- Develop Managed Diagnostic Networks based on the existing Scottish Pathology Network, linked to Managed Clinical Networks.
- Develop and support clinical leadership.

Capacity, demand and redesign

- Balance capacity and demand. Expand capacity by using redesign to eliminate rate-limiting steps and manage demand using decision-support and referral protocols wherever possible.
- Use waiting list initiatives to remove backlogs only in support of redesign.
- Benchmark and monitor performance utilising robust electronic data collection, ideally linked to departmental information systems to minimise manual entry.
- Agree data definitions and enforce nationally.
- Disengage acute from elective work wherever possible.
- Promote local access wherever possible as determined by overall service capacity.
- Utilising technology, disengage interpretation from point of image capture/testing to improve local access and overall quality of care.
- Centralise highly-specialised services to improve overall access on a 24/7 basis.
- Reduce interfaces between primary, secondary and tertiary care.

Workforce

- Promote recruitment and retention by encouraging flexibility in the workforce and by enhancing the roles of non-medical professionals.
- Plan to backfill for staff up-skilling.
- Increase recruitment into undergraduate programmes and improve careers management.

Technology

- Accelerate the National use of CHI as the unique identifier.
- Develop a national strategy for Electronic Care Record implementation supported by adequate resource and project management.
- Develop electronic systems for decision support embedded in referral protocols.
- Accelerate the National PACS roll out/tele-medicine network, voice recognition implementation and co-ordinate with equipment replacement.
- Make CiRiS mandatory (radiology) and interface with RIS systems if possible.

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CHAPTER NINE
**CARE DESIGNED
TO DELIVER BEST
OUTCOMES**

09

A. Volume and Outcomes

01 Patient expectations and the desire to deliver services close to home where possible are powerful reasons to build service configurations around patients.

02 But what patients need above all is high-quality care and the best possible outcomes. For highly specialised services, this may lead to a tension between the convenience of care close to home and the need to access very specialised care in a centre of excellence.

03 Improving quality of care will always be an important factor in developing proposals for service change, with patient safety coming first underpinned by research evidence and professional opinion. The link between volume and outcome is one aspect of quality that has been hotly debated. The relationship between volume and outcome has become a proxy for testing the arguments for and against specialisation. As the Scottish Parliament's Health Committee say in their 2005 Report on workforce planning;

'Increasing specialisation also appears to be at least partly responsible for a strong tendency towards centralisation within the Scottish NHS, particularly towards fewer, larger hospitals, resulting in the closure or downgrading of smaller units... There is evidence to suggest that for particular procedures increased specialisation works in terms of delivering better outcomes for patients. ...However, when questioned, witnesses before the Committee were unable to provide any detailed evidence to support the benefits of specialisation across the board.'

04 Those who argue that there is no relationship between volume and outcome, or that at best the relationship is unclear, most frequently quote the work published by the NHS Centre for Reviews and Dissemination at the University of York in 1997. In view of the importance of the issue, the Advisory Group asked Prof. Graham Teasdale (President of the Royal College of Physicians and Surgeons of Glasgow) and Prof. Gordon Murray (Professor of Medical Statistics, University of Edinburgh) to look again at the research evidence. The purpose was to re-review the research evidence, in particular taking account of papers published since 1997. In view of the time constraints placed by the timetable of the work of the Framework, it was accepted that the approach taken would be that of a conventional narrative review, not a formal, comprehensive systematic review.

05 In view of the importance of the work, the following section of the chapter sets out their findings in full. The report itself and full Appendices can be found at http://www.show.scot.nhs.uk/sehd/nationalframework

Background

06 In 1979 Luft and his colleagues focused attention on the possibility of a connection between an increased volume of clinical work and improved outcome. Since then, many further studies have reported this relationship. Nevertheless, certain issues identified by Luft remain to be clarified so that controversy, even conflict continues about the importance of the "complexity" of the condition and the risks of treatment, the existence of "thresholds" in the relationship, and the relative roles of individual practitioner versus unit or hospital volume. The need for risk stratification and the importance of using an appropriate index of outcome in investigating these issues has been recognised.

07 Much of the relevant information is derived from routine statistics. These allow little opportunity for risk stratification and provide outcome only as mortality. For interventions with a low risk of death, large numbers must be studied in order not to overlook an effect that could be important if the intervention is very common. For many interventions, mortality is not an appropriate index and other indicators of effectiveness, of quality of care and of patient satisfaction are required.

09 In 1997, the NHS Centre for Reviews and Dissemination at the University of York published a systematic review of the evidence available on the volume/outcome relationship in health care, based upon data available up to 1996 (Sowden et al 1997). Although they identified many studies that they considered suitable, that showed a volume/outcome association, in essence, the conclusion reached was that the bulk of research evidence was methodologically flawed and of little value in forming decisions about the planning of the delivery of health services. Since then, substantial additional literature has been published, including other comprehensive reviews.

09 The York Review (Sowden et al, 1997) reached three main conclusions on volume/outcome relationships:

- Case-mix: 'Most of the existing research, because it does not sufficiently take account of differences in case-mix, probably overestimates the impact of volume on the quality of care' (Summary Report, page 10).
- Causation: '...because none of the research indicates that increasing activity over time leads to improvements in clinical outcome, it is difficult to infer from results of cross-sectional studies which show better outcomes in higher-volume units that similar differences in outcomes can be expected by the expansion of an existing unit' (Summary Report, page 10).
- Thresholds: 'The most that the research evidence can support is a conclusion that if there are significant quality gains from increased volume, these gains appear to be exhausted at relatively low threshold levels. Volumes of activity above these thresholds should be achievable without significant structural changes, but may require a more sharply defined internal division of labour across consultant staff (which may be consistent with increased sub-specialisation within disciplines).' (Summary Report, page 11).

Methods

10 A general literature search was undertaken on volume/outcome relationships, together with more focused literature searches on methodological aspects of volume/outcome relationships, on studies relating to volume/outcome relationships which evaluated the impact of an intervention to increase regionalisation, and methodological aspects of assessing clinical 'learning curves'. These searches concentrated on publications from 1997 onwards, although some key references predate this.

11 These literature searches showed that more relevant papers have been published between 1997 and 2004 than were published up to and including 1996 and so it would be a major undertaking to perform a formal systematic review of the more recent literature.

12 This review was therefore selective, based on reading abstracts and obtaining full papers when appropriate and when they were relatively easily accessed. As most papers in this area are observational and cross-sectional by design and are often very specific to a local area (such as a single US state), they tend to be published in low-impact journals which are not held by the local university libraries. Thus most of the full papers reviewed are either from high-impact journals we could access or from journals. whose contents can be accessed electronically.

Results

13 Over 500 abstracts and 50 full papers (see Appendix I of the Report of the Volume/Outcome Subgroup) were reviewed in detail. The vast majority of the papers related to surgical procedures with outcomes assessed in terms of short-term ('in-hospital' or '30-day') mortality. There is also an increasing number of papers relating to surgical oncology with outcomes assessed in terms of long-term (5 years plus) survival.

14 Many common procedures have very low surgical mortality rates, so that even if a volume/outcome relationship does exist for mortality, it would be difficult to demonstrate and might be of limited clinical relevance. So studies focused on morbidity outcomes are also becoming more common. For example, avoidance of a stoma in bowel surgery has a major impact on quality of life, making it a very relevant patient-centred outcome measure (Hodgson et al, 2003), and similar issues apply in prostate cancer (Begg at al, 2002). Sometimes, there may be a long delay between intervention and its consequence (in obstetrics, for instance) and/or the effect may exerted indirectly (such as in screening for cancer), so that 'intermediary' indices of patient outcome are needed.

Methodological quality

15 The York Review (Sowden et al, 1997) was rightly critical of the methodological quality of volume/outcome studies published prior to 1997. There is clear evidence that case-mix adjustment using clinical data on individual patients leads to the most reliable results and that case-mix adjustment using only administrative data tends to overestimate the magnitude of volume/outcome relationships.

16   Studies that use no case-mix adjustment at all are even more likely to overestimate such effects. This is now widely recognised, and methodological standards are higher in recent studies. For example, in the Gandjour review (2003), 16 of the 'best' 33 hospital volume/outcome studies published between 1990 and 2000 were published in 1999 or 2000.

17   Increasingly (and appropriately!) sophisticated statistical approaches are now being used to try to disentangle the complex issue of whether it is surgeon volume or hospital volume which drives the observed volume/outcome relationships (Birkmeyer et al 2003; Panageas et al 2003).

Findings

18   Methodologically flawed studies are still published, but there is now a strong core of methodologically sound papers which use high quality data and appropriate statistical methods to explore volume/outcome relationships. These papers are based either on series of patients with data extracted from administrative systems (giving very large sample sizes but incomplete case-mix adjustment) or on series of patients with data extracted from clinical databases (giving smaller sample sizes but good case-mix adjustment). Even when one restricts attention to these higher quality studies there is still very strong evidence of an association between volume and outcome in the direction that high volume surgeons and high volume hospitals tend to have superior outcomes compared to low volume surgeons and hospitals. The magnitude of this effect, and how it depends on the clinical area, is discussed later in the chapter..

19   Two particularly useful systematic reviews were identified. Halm et al (2002) reviewed studies published between January 1980 and December 2000, and Gandjour et al (2003) reviewed studies published between January 1990 and December 2000.

20   Halm et al was a conventional systematic review covering 27 procedures and diagnoses. In the 135 studies that met their criteria, a statistically significant relationship between higher volume and better outcomes was found for 69% of studies of clinician volume (see Table 9.1) and for 71% of studies of hospital volume (see Table 9.2).

21   The review of Gandjour et al, covered 34 diagnoses and interventions and included another 26 reports not analysed by Halm et al. In a total of 76 studies, higher hospital volume was statistically significantly better in 51, non-significantly better in 21, non-significantly worse in three and significantly worse in only one. These authors took the unusual additional approach of identifying the single most reliable study (based on criteria such as the quality of case-mix adjustment). In 20 such 'best' studies, high volume was significantly better in 10, non-significantly better in six, non-significantly worse in three, and significantly worse in one.

Thresholds

22 Ramsay et al (2001) undertook a systematic review of methods used to analyse learning curves in health care and, more recently, Cook et al (2004) proposed methods for adjusting for learning-curve effects in randomised trials of surgical interventions.

23 There was no clear consensus on appropriate ways to analyse learning effects, with one of the major problems being that as experience is gained in a new technique, it tends to be deployed for higher-risk patients. This means that outcomes can deteriorate as experience is gained. Careful case-mix adjustment is required to interpret this correctly, but almost by definition there is insufficient data for such analyses early in the learning experience.

24 Great importance is placed on volume thresholds by the Leapfrog Group, a large US-based consortium of healthcare purchasers (Birkmeyer et al 2004). The impression from the literature, however, is that definitions of 'low volume' and 'high volume' relate more to *potential* volumes than to any objective evidence on the *actual* level of activity required to achieve and/or maintain competence. For example, a unit performing 100 carotid endarterectomies per year could be classified 'high volume', while a unit performing 400 coronary artery bypass graft procedures per year could be classified as 'low volume' (Gandjour et al 2003, Birkmeyer et al 2004).

25 Studies which present outcome data for a range of activity volumes, as opposed to a simple low volume/high volume dichotomy, do often report poor outcomes at low-activity levels, then a levelling-off with outcomes in moderate-volume units being comparable to outcomes in high-volume units. This is partly the result of a statistical artefact, with greater variation being observed in the small samples which derive from low-volume units. There is, however, still evidence of discrepant outcomes being observed in very low-activity units when this excess variation is taken into account (see, for example, the review by Shahian and Normand, 2003).

Causation

26 In spite of very strong evidence of an association between increased volume and better outcomes, there are remarkably few studies that try to assess **whether** the association is causal. Indeed, it was stated in the York review that there was no evidence that increasing the volume of activity in a given unit would lead to an improvement in outcomes. This reflected a lack of evidence, rather than evidence of a lack of effect.

27 The evidence in this area is still extremely limited, but a number of studies are beginning to appear which evaluate the impact of interventions designed to concentrate activity.

28 Trauma systems are an area with a long history of regionalisation. The different approaches adopted by different countries thus constitute a 'natural experiment' on the organisation of trauma care. Nathens et al (2004) review the history of trauma management in the US and in France, and demonstrate how outcomes of trauma victims improved in the US following the introduction of regionalisation. There was a substantial lag period, however, between the introduction of regionalisation and an observed improvement in outcome.

29   The UK Neonatal Staffing Study Group (2002) reviews the evidence for regionalisation of neonatal intensive care units. The situation is complex, but evidence of volume/outcome relationships from older studies is not seen currently. This is ascribed to lower-volume units adopting developments in treatment that were initially used only in high-volume units. Training and staffing levels appear to be more important than volume per se.

30   The study also raises the caveats that high-volume units with a large number of consultant staff had higher levels of nosocomial bacteraemia, and that units running close to capacity have worse outcomes then when there is 'slack' in the system. These findings on the importance of staffing levels are consistent with the analysis of English hospital death rates published by Jarman et al (1999).

31   Nobilio et al (2004) report on the impact of regionalisation of cardiac surgery in an Italian region. They looked at patient outcomes, accessibility for patients and the efficiency of referral systems following the adoption of a 'hub and spoke' model. The study does provide evidence of benefit, and the authors conclude that their findings suggest 'that policies aimed at increasing cooperation rather than competition among health service providers have a positive impact on quality of care.'

32   This finding is consistent with data from the Lothian Surgical Audit which was presented at the Annual Conference of the Association of Surgeons of Great Britain and Ireland (Robson et al., 2005). In the Lothian experience, restructuring of emergency surgical care, focused on sub-specialisation appropriate to upper and lower abdominal conditions, has led to improved quality of care and outcomes.

Examples of the magnitude of volume/outcome associations

33   Halm et al (2002) summarised volume/outcome effects in terms of absolute differences in mortality between high- and low-volume hospitals (see Tables 9.1 and 9.2). Gandjour et al (2003) presented mortality rates for high-volume relative to low-volume hospitals. Absolute differences in mortality rates of the order of 10% are reported when high-volume units are compared to low-volume units in a number of complex high-risk surgical procedures, including paediatric cardiac surgery, surgery to repair ruptured abdominal aortic aneurysms, pancreatic cancer surgery and oesophageal cancer surgery.

34   Relative differences in mortality rates of at least 10% are reported in a range of common lower-risk procedures, including percutaneous transluminal coronary angioplasty, carotid endarterectomy, knee replacement and surgery for hip fracture.

Table 9.1
Findings in articles relating physician volume and death: abbreviation of summary data from Halm et al, 2002 Table 3

Procedures or Diagnosis	Number of Studies	Number with Significant Volume/ Outcome Association	Median Average Mortality	Median Absolute Difference High-Low Volume
Ruptured Abdominal Aortic Aneurysm	3	3	54%	14.50%
Pancreatic Cancer	2	1	10.5%	8.5%
Unruptured Abdominal Aneurysm	1	-	7.6%	3.2%
Paediatric Cardiac	1	1	6.8%	2.9%
Gastric Cancer	2	2	9.2%	4.8%
Breast Cancer	1	1	10%	13%
Coronary Bypass	3	3	3.7%	2.2%
Colorectal Cancer	5	4	3%	1.9%
Carotid Surgery	12	7	2%	1.4%
Lung Cancer	1	-	1.9%	1.1%
Coronary Angioplasty	5	1	1.0%	0.06%
Hip Replacement	3	2	0.4%	0.8%
AIDS	1	1	NA	NA
Myocardial Infarction	1	1	NA	NA

Table 9.2
Findings in articles relating to hospital volume and death:
abbreviation of summary data from Halm et al 2002

Procedures or Diagnosis	Number of Studies	Number with Significant Volume/ Outcome Association	Median Average Mortality	Median Absolute Difference High-Low Volume
AIDS	6	6	17%	9%
Myocardial Infarction	2	2	14.5%	2.3%
Oesophageal Cancer	3	3	14%	12%
Cerebral Aneurysm	3	3	14%	8%
Gastric Cancer	3	1	11%	6.5%
Pancreatic Cancer	10	9	10%	13%
Ruptured Abdominal Aortic Aneurysm	8	2	50%	8%
Unruptured Abdominal Aortic Aneurysm	8	7	7.5%	3.3%
Paediatric Cardiac	3	3	7%	11%
Colorectal Cancer	10	4	6%	2%
Lung Cancer	4	2	5.5%	2%
Coronary Bypass	8	6	4%	1.6%
Limb Vascular	2	1	3.5%	1.2%
Transurethral prostatectomy	2	2	1.9%	0.8%
Carotid Endarterectomy	15	7	1.8%	0.4%
Coronary Angioplasty	9	5	1.4%	0.2%
Hip Replacement	8	3	0.8%	0.7%
Hip Fracture	2	2	NA	NA
Open prostatectomy	2	2	0.3%	1.5%
Breast Cancer Surgery	1	1	-	60% higher 5 year mortality
Knee Replacement	1	1	0.2%	0.1%

Conclusions from review

35   Returning to the three conclusions extracted from the York Review, it is clear that concerns over case-mix adjustment no longer hold. There is now a core of studies of adequate methodological quality to establish striking volume/outcome associations in certain complex high-risk surgical procedures and more modest but clinically-relevant effects in a wide range of common procedures.

36   There is still only limited evidence to suggest that the observed associations are causal, and that interventions to manipulate volume can lead to better outcomes. It is, however, very important to note that the issue here is that evidence is sparse, rather than there being strong evidence of a lack of a causal association. The relevance of the observed volume/outcome relationships to health service planning depends crucially on how one interprets the underlying mechanisms which generate the associations.

37 The recent literature appears, in general to support the final conclusion of the York Review. Benefits arising from manipulation of volume are likely to be most clearly apparent at a relatively low threshold level.

Commentary: Implications of findings

38 The interpretation of the results of volume/outcome studies is complex. At the time of the York Review, methodological deficiencies in the evidence base meant that the studies had little if any relevance to health service planning. Recent improvements in the methodological rigour of at least a proportion of published volume/outcome studies mean that there is now a large body of credible evidence. This shows both substantial effects in a limited range of complex high risk surgical procedures and modest but clinically relevant effects in a wide range of more general procedures. Questions remain about the nature of the effects and their implications for service planning. Clarification of these depends upon somewhat different avenues of thinking.

39 The effects are likely to be most clear in circumstances where the condition is complex, and its treatment associated with high risk, and where data from substantial numbers of patients are available, covering a wide spectrum of levels of volume. This is reflected in the abundance and consistency of evidence about complex, high risk surgical procedures. This is already accepted into service delivery. Indeed, in specialities such as neurosurgery, cardiac surgery and transplantation, the debate is not if they should be regionalised but if greater, even national concentration is appropriate. Furthermore, the relationship between increased volume and improved outcome in these circumstances is likely to be continuous, with improvement even at relatively high levels of experience. One exception may be if the volume becomes excessive, so that penalties of "overwork" lead to deterioration in outcome.

40 For some disorders, even though evidence is less abundant and the extent of the effect not dramatic (and hence less easy to show and more controversial), the consequences may still be important. For example, reduction by a few percent in mortality for myocardial infarction could save many lives in Scotland.

41 Another issue is the fact that the volume/outcome literature looks at average effects. Although high volume is associated with good outcome in general, there are low volume hospitals whose outcomes are superior to typical high volume hospitals and there are high volume surgeons with poor results who work within high volume hospitals. However this does not deflect the criticism that, in the NHS, too many operations are still taking place in hospitals with low volumes and that this may change if patient choice is effective (Taylor 2004).

42 Is it the volume of activity for an individual surgeon or physician which is important or the volume of the relevant unit or hospital? More studies have looked at hospital volume than have looked at surgeon volume. There is evidence that each can be influential, with perhaps hospital volume stronger but there is no consensus. A related point is whether the surgeon/hospital needs to be 'high volume' for the procedure in question, or is high volume in general associated with good outcomes for all procedures? Urbach and Baxter (2004), for example, argue that volume in general is more important than volume for the specific procedure.

43 There is an increasing focus on indicators of outcome other than mortality. The occurrence of infection or other post-operative complications are generally applicable indices. Procedure specific "clinical" indicators can include: whether intestinal surgery is followed by a stoma or, if this avoided, by anastomosis; recurrence after procedures for hernia and varicose vein; and the persistence of reduced mobility and pain after orthopaedic surgery. Indices appropriate to 'medical' care are well established but rarely if ever available from routine sources of information. Quality control of diagnostic work is well established and recent evidence links volume with accuracy of breast screening. (Théberge et al, 2005). In a service increasingly taking account of patient choice, satisfaction with the whole process of care will need to be taken into account, with the potential of benefit from high volume, highly experienced specialised team care to be set against local familiarity and convenience.

44 It becomes a value judgement to explain the observed volume/outcome relationships. The two widely cited explanations are:- 'practice makes perfect' and 'selective referral' (i.e. patients are selectively referred to clinicians or hospitals that have historically achieved good outcomes). The former would suggest that volume/outcome associations are causal but the latter would imply that the observed associations are artefactual rather than causal. There are also issues around aspects of process and/or structure which are associated with high volume (e.g. a large well staffed intensive care unit) and which might lead indirectly to better outcomes.

45 A major current problem in applying these findings is the shortage of evidence supporting the hypothesis that the volume/outcome association is a causal association, whereby manipulating volume will have a beneficial impact on outcome. It should be noted that the problem is a lack of evidence rather than clear evidence of a lack of a causal effect. There is some limited evidence accumulating to support the association as being causal, but a great deal more research is needed in this area. The extent to which benefits can be achieved through diffusion of 'best practice' from 'centres of excellence' needs to be defined. Rigorous evidence of the effectiveness of clinical networks established since 1998 would be important.

46 Service planners may complain of the lack of clear cut, quantitative relationships, particularly concerning thresholds. In practice, the responsibility perhaps now lies with planners to specify the extent of effect that will be crucial in their decision making. Evidence may need to be stronger if it is the only or main factor for change in an existing arrangement. Where reconfiguration is needed in response to other factors, a general presumption of a volume/outcome relationship is a reasonable starting point, and the issue may be more what level of effect is relevant in the circumstances under consideration. The more sensitive the indicator of outcome used, and the more common the condition, the longer the list of interventions to which the volume/outcome effect will be relevant.

B. Designing Highly Specialised Care: Neurosurgery.

47   We commissioned work in two areas to give a 'real world' context to our thinking around specialised care.

48   The analysis of the future configuration of children's tertiary services is set out in Chapter 11. Our thinking in relation to the future configuration of adult and paediatric neurosurgery in Scotland is set out below.

49   In selecting these two areas for detailed scrutiny, we were conscious that a particular set of issues would arise in relation both to low volumes of activity and to reliance on scarce skills and expertise.

50   Through these two areas of work we were also keen to identify a planning approach which would be established as a methodology for use in the NHS when considering specialised services in the future. This approach is evident in the section which follows on adult and paediatric neurosurgery and in chapter 11, and is detailed in the Highly Specialised Care Methodology report which can be found at www.show.scot.nhs.uk/sehd/nationalframework

Adult and paediatric neurosurgery

51   Neurosurgery services in Scotland have been subject to three previous reviews (Carter, 2000; Teasdale, 2003; Scottish Colleges Committee on Children's Surgical Services, 2001). The NHS has nevertheless continued to experience significant difficulties in defining the shape of neurosurgery services for the future. It has also had problems addressing the particular pressures of sub-specialisation in a relatively low-volume speciality, and of workforce disposition to provide 24-hour cover. Some of the existing problems have been exacerbated due to lack of progress in implementing previous reviews' recommendations.

52   We were very aware of the previous work in the field and advice received from professional organisations, but acknowledged the need for objective criteria to support service planning. We didn't want to repeat previous work, but recognised the need to define the level of support for the proposals set out in it, particularly the expressed preference for a single site for neurosurgery in Scotland.

53   We explored a number of themes:

- the need to change
- current range and organisation of services
- current activity
- future needs of neurosurgery
- standards
- clinical and data information needs
- the service model
- configuration of neurosurgery
- future planning and commissioning arrangements for neurosurgery.

54　We adopted a number of techniques and tools to try to take an objective perspective, and referred to the previous work and reports. Data on neurosurgical activity in Scotland and information on travel times to the four neurosurgery units were also assessed. The tools included:

- a self assessment audit by the four centres using the 'Standards for Patients Requiring Neurosurgical Care' developed by the Joint Standards Development Group of the Clinical Standards Committee of the Society of British Neurological Surgeons (SBNS) and the English Regional Specialised Services Commissioning Group
- an option appraisal involving the agreement of key criteria for the service
- population of the SBNS consultant workforce tool
- securing an independent opinion on medical workforce issues as they impact on the number of locations that can support 24-hour neurosurgical services.

Activity

55　Neurosurgery is currently delivered from four centres: Aberdeen Royal Infirmary and the Royal Aberdeen Children's Hospital; Ninewells Hospital, Dundee; the Western General Hospital and Royal Hospital for Sick Children in Edinburgh; and the Southern General Hospital and Royal Hospital for Sick Children, Glasgow.

56　Each of these units is an integral part of a multidisciplinary neurosciences service and is connected to a university medical school. Each unit provides a 'core service' for its local population and some sub-specialisation on a Scotland-wide basis.

57　The majority of inpatient neurosurgical activity takes place at the Southern General Hospital in Glasgow, which accounts for around 43% of the total. Aberdeen Royal Infirmary and Ninewells Hospital together carry out approximately the same amount as The Western General Hospital in Edinburgh. Significantly more day case activity occurs in Edinburgh than elsewhere.

58　The volume of new outpatient activity is fairly evenly spread across the four centres, but Aberdeen sees more new outpatients as a proportion of total outpatients than elsewhere and is the only centre that does significant outreach. Table 9.3 summaries this activity.

Table 9.3
Neurosurgical activity in Scotland 2002/03 – all ages

	Aberdeen	Dundee	Edinburgh	Glasgow	Total
Inpatient episodes	996 14.6%	870 12.8%	2005 29.4%	2942 43.2%	6813 100%
Day Cases	120 17%	77 11%	363 51%	153 21%	713 100%
New Outpatients	1273 28%	1054 22%	1147 26%	1056 23%	4530 100%
Total Outpatients	2557 19%	3365 26%	3813 29%	3434 26%	13169 100%

Source ISD Scotland (Form ISD(S)1)

Notes: Aberdeen includes Aberdeen Royal Infirmary, Royal Aberdeen Children's Hospital, Woodend Hospital, Tor-Na-Dee Hospital, Raigmore Hospital; Dundee includes Victoria Hospital; Edinburgh includes Western General Hospital, Royal Hospital for Sick Children.

59   The majority of activity in adults is carried out on an elective basis, but this is reversed in children with more emergency activity. In all age groups, the level of transfer is not insignificant, reflecting the degree of sub-specialisation and the role of certain sites as tertiary centres.

60   Despite looking at the needs of patients over a 20-year horizon, including the implications for the next generation of the workforce, we have found it difficult to predict the level and nature of demand. There is no needs assessment in this area. A view was taken, however, on what the need for neurosurgery might be in the future, based on assessing the changes over the last 20 years and our knowledge of technological development and research into, and the development of, drug and therapeutic interventions.

61   We believe the overall level of need may not change, but the type of neurosurgery will. Developments in genomics, drugs and therapeutic interventions will probably have the most significant effect on neurosurgery and the biggest impact on need.

62   It is likely that the complexity of neurosurgery will continue to advance in terms of technological adjuncts, and in the need for these to be delivered in highly-specialised neuroscience centres, such as development of stem cell therapy for Parkinson's disease.

63   A proportion of neurological disease is associated with ageing. The changing demographics of Scotland will therefore influence the nature of demand. We expect an increase in functional neurosurgery – epilepsy and tremors – associated with ageing. We also expect a decrease in paediatric neurosurgery due to the declining birth rate.

64   There is a level of unmet need in some areas, such as epilepsy surgery, that should be addressed. As the population grows older, brain tumours will become more common, meaning an increase in need for neuro-oncology services.

65   Extrapolating from practice in recent years, we believe it is likely that we will see a continued decrease in trauma, with the number of patients with head injuries being admitted to neurosurgical units reducing.

Patient views

66   It is generally accepted that patient expectations have increased and will continue to do so. Neurological Alliance Scotland worked with us to identify the elements of service that are important to patients and develop criteria for the future service.

67   Standards of care set out in the Neurological Alliance document 'Levelling Up' (Neurological Alliance, 2002) were also considered. They are summarised in Table 9.4.

Table 9.4
Neurological Alliance standards of care (Neurological Alliance, 2002)

• Independence and Quality of Life	• Speedy Access
• Comprehensive Assessment	• High Quality Information
• Well Trained Interdisciplinary Professionals	• Access to Voluntary Organisations
• On-going Access	• Equity of Service Provision
• Co-ordinated Care across Sectors	• Prevention
• User Involvement	• Holistic Rehabilitation
• Established Care Pathways	• Good Record Keeping
• Addressing the needs of Carers	

68   Alliance members advised us to focus on patients and services, not organisations, structures and sites. The key patient priority was the development of an integrated Scotland-wide service. The model should provide equity of access with diagnosis, assessment and treatment provided as locally as possible.

69   They told us that irrespective of the final configuration proposed, the model should adopt a Managed Clinical Network approach on an all-Scotland basis, including clinicians as part of a 'virtual' organisation that actively involved patients in service design. It would also promote interdisciplinary working at all levels and with other agencies, such as voluntary organisations.

70   They acknowledged that a balance needed to be struck between centralisation, critical mass issues and the needs of local and rural communities, and expectations of patients, families and carers.

Volume and outcome

71   We were particularly keen to understand the extent of the evidence base on the relationship between volume and health outcomes. Specific papers published on neurosurgical interventions were taken into account, and from these, we concluded that there is evidence of a relationship between the volume of procedures undertaken and health outcomes. It is not, however, universal, and the threshold level might be relatively low.

Standards

72   The adoption of, and audit against, explicit standards is a fundamental element in ensuring the service is more integrated with easy access and consistent service quality. The service should work with patients to set out explicitly the standards of care it seeks to deliver, and be prepared to be assessed regularly against these standards.

73   There is still a lack of information about services in Scotland. Items such as activity data, clinical audit and clinical information, which should form an evidence base to support service development, are lacking. Information that is available is either incomplete or the data bases were neither sufficiently large nor consistent to provide meaningful comparison.

74   In designing the service for the future, we are keen that arrangements for participation in data and information collection and clinical audit are included as core components. The NHS should adopt the Department of Health Definitions for Specialised Neurosciences Services, as applicable to Scotland, to support the database.

Workforce issues

75   Some of the key drivers for change in the service are about workforce issues. Workforce pressures are not unique to Scotland and are being felt on a global basis, but NHS Scotland needs to create its own solutions. For neurosurgical services, this means creating satisfying jobs and opportunities for career progression across the spectrum of the workforce.

76   The key issues are:

- the scarcity of skilled staff – medical, nursing and allied health professions (AHPs)
- the implementation of the new contract for consultant medical staff
- the implementation of the requirements of the Working Time Regulations (WTR), with particular implications for consultants and junior medical staff
- the demographic changes in Scotland which project a smaller workforce in the future.

77   There are also issues concerning continuing professional development of staff in units with relatively small caseloads and which see limited numbers of cases of unusual type. These include practical issues of cover to release staff to develop skills and experience in sub-speciality areas.

78   Designing and providing a service that recruits and retains these scarce, skilled staff must remain fundamental to neurosurgery in Scotland. In a global market, the service must remain attractive and provide opportunities for career development. It also needs to recognise the contribution and needs of its current staff and acknowledge the potential risk of service reconfiguration on staff retention.

79   Workforce issues concerning implementation of the new Consultant Contract and the WTR could be addressed through employing additional medical staff, if the investment and suitably qualified and experience staff were available. But this would increase consultant numbers to a level where the need expressed in volume of activity from the population catchment of each unit, or indeed for Scotland, would not be sufficient to support maintenance of skills, nor support skills training or acquisition of experience in junior doctors.

Option appraisal

80 An option appraisal was carried out to inform this section of the report. It was beneficial in making explicit the key criteria for the future service model and in informing recommendations on the configuration of the service model.

81 Briefly, the methodology followed was:

1 A number of criteria were identified and agreed
2 A weighting was applied to each criterion using the median score from individual weightings applied by Team members
3 A number of options were identified and agreed
4 The options were scored against the criteria by Team members individually
5 The weightings were then applied to the scored options using the median score from the individual scoring applied by Team members.

82 We agreed 17 options for the configuration of the service (Table 9.5).

Table 9.5
Options for configuration of the service

One Location	
1.1	A new location
1.2	Glasgow
1.3	Edinburgh
1.4	Aberdeen
1.5	Dundee
Two Locations	
2.1	Glasgow and Edinburgh
2.2	Glasgow and Aberdeen
2.3	Glasgow and Dundee
2.4	Edinburgh and Aberdeen
2.5	Edinburgh and Dundee
2.6	Aberdeen and Dundee
Three Locations	
3.1	Glasgow, Edinburgh and Aberdeen
3.2	Glasgow, Edinburgh and Dundee
3.3	Edinburgh, Aberdeen and Dundee
3.4	Glasgow, Aberdeen and Dundee
Four Locations	
4.1	Glasgow, Aberdeen, Dundee and Edinburgh - planned proactive change
4.2	Glasgow, Aberdeen, Dundee and Edinburgh - status quo

Outcome

83 We acknowledge that the option appraisal was an inexact process, but it gave us a direction of travel. It allowed us to give serious consideration to the implications of the outcome of the process, and how the model of service, described below, would be organised through the proposed configuration.

84 Table 9.6 summarises the outcome of the option appraisal process. The full detail is in the Neurosciences Action Team report, which can be found at www.show.scot.nhs.uk/sehd/nationalframework

Table 9.6
Total of ranked weighted median scores for options

Rank	Configuration	Total Score
1	One prime site in Glasgow	835.8
2	Two sites – Edinburgh and Glasgow	823.0
3	One prime site in a new location	798.5
4	Two sites – Aberdeen and Glasgow	790.5
5	Two sites – Dundee and Glasgow	773.3
6	One prime site in Edinburgh	768.5
7	Two sites – Aberdeen and Edinburgh	758.0
8	Three sites – Aberdeen, Edinburgh and Glasgow	752.8
9	Two sites – Edinburgh and Dundee	750.8
10	Three sites – Dundee, Edinburgh and Glasgow	720.8
11	One prime site in Dundee	699.3
12	Four sites with planned, proactive change	687.8
13	One prime site in Aberdeen	684.8
14	Three sites – Aberdeen, Dundee and Glasgow	678.3
15	Three sites – Aberdeen, Dundee and Edinburgh	648.3
16	Two sites – Aberdeen and Dundee	641.5
17	Four sites – status quo	547.8

86 The outcome indicated that Scotland should move from its current configuration (which was rated last in the option appraisal) towards a single centre for neurosurgical intervention for adults and children as part of a service model that would provide local outpatient, rehabilitation, and pre- and post-operative care and diagnosis.

The Neurosurgery Service for Scotland

87 There is consensus that neurosurgery in Scotland should be regarded as a single service delivered on a number of sites. This means that planning, service development and decisions on investment in staff, equipment and facilities will be on an all-Scotland basis.

88 The single service will require planning and commissioning on an all-Scotland level to establish a world class service. It would adopt a managed clinical network approach that would provide an improved service, attract and retain staff, provide a robust basis for research and development, and support academic neurosurgery.

89 Our work identified a number of underpinning components for the service and key criteria for planning.

Service description

90 Adult and paediatric neurosurgery should be co-located on university teaching hospital sites with other neuroscience specialties. It should have access to identified specialty beds, theatre facilities, intensive and high-dependency care and multidisciplinary teams. These teams should provide 24-hour care.

91 The service will be integrated, using a managed clinical network approach, across specialist, secondary and primary care, and will be provided as locally as possible. The service will have explicit standards for care across the integrated care pathway.

92 The integrated service will provide patients with access to a network of care with specialists at the centre. It will be based on agreed patient pathways, supported by protocols providing consistent, equitable care wherever and whenever a patient requires it.

93 The establishment of Managed Clinical Networks for agreed areas will be fundamental to securing integration. The experience of developing Managed Clinical Networks has shown benefits in the development of standards, pathways and, importantly, the involvement of patients. MCNs may have a national, regional or local focus, but clear links between all levels will be important.

94 We agreed that national sub-specialisation, as has already taken place in some areas, should be continued on an ongoing basis and this should be an immediate next step. But experience has shown that this should be done on a planned and managed basis. Initial areas should include acoustic neuroma, epilepsy surgery, functional surgery, cerebrovascular surgery, oncology, pituitary tumours, posterior circulation aneurysms, arteriovenous malformations and complex spinal surgery.

95 This principle should include the sub-specialty of paediatric neurosurgery, which should be concentrated on one prime site co-located with paediatric intensive care. Previous work in this area had indicated that Scotland should move towards a single lead paediatric neurosurgical unit at the centre of a Managed Clinical Network. Care in this unit should be undertaken by sub-specialty paediatric neurosurgeons within a tertiary paediatric service with provision of rapid access to local neurosciences care through a national Managed Clinical Network.

96 The Specialised Paediatric Services Action Team was considering paediatric intensive care provision in Scotland and to ensure consistency with their recommendations, an immediate action should be the establishment of this national Managed Clinical Network.

97 We considered the issue of how unplanned neurosurgical activity would be managed locally within the model. The service model supports local unplanned care and subsequent transfer, where necessary, to specialist services through agreed pathways. It is recognised that there will need to be investment in training of local staff to deliver this and the neurosurgical centres will have a significant role to play in this.

98 The single service can be described as being delivered at a number of levels (Table 9.7). Each level will provide Level N1 for their local population, there will be a number of Level N1 locations within the population covered by a Level N2 location and there will be a number of Level N1 and N2 locations within the population covered by a Level N3 centre.

Table 9.7
Levels of the single service

• Level N1

Focused through Community Health Partnerships, community casualty service and GP Practices, this level will have access to neurological teams facilitating access and re-access when needed supported by nurse led clinics and rehabilitation facilities. It will be able to refer to Level N2 and directly to Level N3. It will provide:
- Simple tests
- Referrals
- Decision support
- Pre-admission clinics
- Local neurology

• Level N2

Focused through District General Hospitals, this would be supported by neurologically trained accident and emergency resuscitation staff as well as specialist outreach and follow up clinics with rapid access to deal with the urgent Neurological emergencies. It will provide:
- Simple tests
- Referrals
- Decision support
- Pre-admission clinics
- Local neurology
- CT/MRI with image transfer
- Rehabilitation
- Stroke Medicine
- General Neurology
- Neurophysiology (linked to level N3 centre)
- Local orthopaedic service
- Outpatient neurosurgery
- Post operative care for neurosurgery (supported by education and training from level N3 centre)
- General Intensive Care

> - **Level N3**
>
> Specialist Neurosurgical Centre co-located with all neurosciences specialties and the major specialties of a teaching hospital. Provides a comprehensive range of sub-specialty expertise and national subspecialties. It will provide:
> - Simple tests
> - Referrals
> - Decision support
> - Pre-admission clinics
> - Local neurology
> - CT/MRI with image transfer
> - Rehabilitation
> - Stroke Medicine
> - General Neurology
> - Neurophysiology
> - Local orthopaedic service
> - Outpatient neurosurgery
> - Post operative care for neurosurgery
> - Complex medical and surgical management
> - CT/MRI/CTA/MRA/angiography
> - Interventional Neuroradiology
> - Neuro Critical Care
> - Inpatient Neurosurgery
> - Emergency surgery
> - Paediatric Neurosurgery

99 The underpinning components to support the above network of care are:

- development of e-health to support local delivery of diagnosis and care, particularly local access to scanning linked to specialist centres for interpretation and advice
- development of robust information technology infrastructure to support transfer of clinical information across NHS Scotland to support local delivery of care
- transport services for patients to flow into and out of neurosurgical centres in a timely and safe manner.
- a minimum core dataset and agreed, funded audit programme.

100 The integrated service is illustrated in Figure 9.8.

Figure 9.8
Integrated neurosurgical service

Care Pathways

Level N1	**Level N2**	**Level N3**
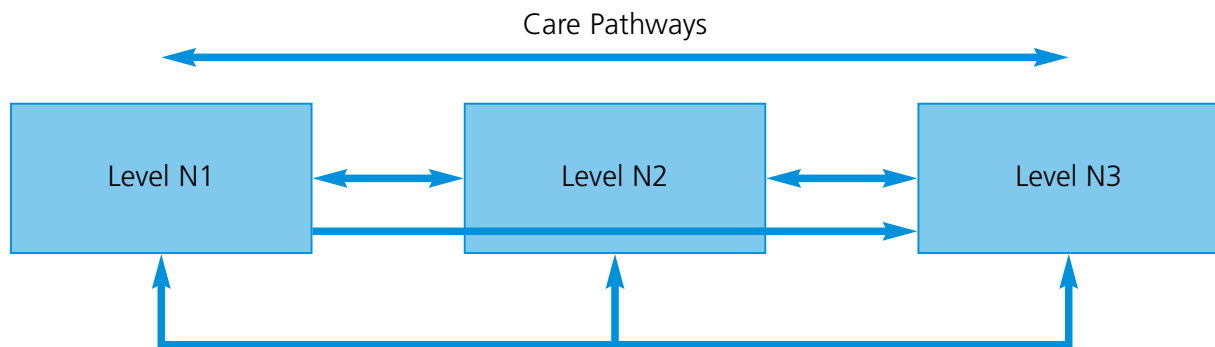
Service Specification:
- Standards
- Minimum data set
- Audit programme
- Discharge and referral protocols
- Specialist Centre supports all levels (training)
- Transport
- Information
- MCNs

Planning and commissioning model

101 Limited progress with implementing recommendations from previous reviews of neurosurgery indicates that clear accountability is required. This needs to reflect the organisation of the service, which vests accountability with NHS Boards. The strengthened role of Regional Planning Groups may provide opportunities to clarify accountability, but an all-Scotland approach to planning and commissioning neurosurgery is necessary.

102 The difficulties faced by neurosurgery are around workforce issues. It is therefore essential that the planning of neurosurgical services is aligned with workforce planning, including identification and development of education and training programmes.

103 Decisions on major investment in resources of staff, equipment and facilities would be taken on a national basis, using the service model described previously. A national overview will ensure implementation of recommendations and continued service development on a consistent basis.

104 The national approach will enable a consistent service specification to be developed and implemented for NHS Scotland, and will allow trends in neurosurgery to be monitored and consequent changes in service planned.

105 It will also support the centres in working collaboratively in the areas of research and training, providing a larger population catchment. Discussions with the medical schools concerning the organisation of undergraduate and postgraduate training will be required.

106 In planning neurosurgical services for children and young people, the recommendations of the National Framework Child Healthcare Services report (Chapter 11) proposals concerning age-appropriate services should be taken into account.

107 Patient involvement in Managed Clinical Networks has provided many benefits and they should continue to be involved in the planning and development of neurosurgery.

108 There are a number of options in how neurosurgical service planning might be organised:

- Designation as a national service commissioned by National Services Division (NSD). The service does not meet the criteria for such designation, and this approach has the potential to isolate neurosurgery from other specialities locally.
- An individual NHS Board would take lead responsibility on behalf of NHS Scotland. This would require infrastructure and resource to support. Experience with other services has shown limited success for this approach.
- Regional Planning Groups take responsibility, either by working collaboratively or by one of the groups taking lead responsibility.
- The Scottish Executive Health Department assumes leadership responsibility for planning neurosurgery, establishing a National Planning function to co-ordinate those services where an all-Scotland approach is considered appropriate. This National Planning function would link with Regional Planning Groups to ensure co-ordination between national and regional agendas – **this is the preferred option.**

Organisation and location of services

109 Specialist centres must provide practical support to local teams in terms of skills and gaining experience. This can be done through multi-disciplinary outreach and in-reach being focused on education opportunities, development of video and telephone conferencing for advice and training, and the establishment of more outreach services, including potentially one-stop diagnostic clinics. These could be developed through agreed service frameworks between specialist centres and local services which complement Managed Clinical Networks. They would be part of the specification for the service commissioned on a national basis.

110 The pattern of work will need to be re-organised to ensure that staff time is utilised effectively. Rotations and the organisation of outreach services on a block basis, such as spending complete days in local hospitals, will need to be explored.

111 The configuration of the service model depends on how many locations NHS Scotland can support to give 24/7 care in neurosurgery. This refers to Level N3 in the service model described previously.

112 Interventions that do not require 24 hour/7 day care were identified. These might be limited to common spinal surgery which, although of relatively high volume in neurosurgery, would not constitute a substantial service nor be an attractive job for staff.

113   In considering the entirety of the issues associated with providing a neurosurgery service, particularly the service model which establishes it as a single national service, underpinned through standards and audit, we consider that the current configuration of neurosurgery is not the optimal way to continue to provide comprehensive, high quality care to patients.

114   There is consensus that the service should move towards one prime site for adult and paediatric neurosurgery within a network of care as previously described.

Summary of Recommendations

- NHS Scotland should move towards providing adult and paediatric neurosurgical intervention on one prime site for the whole of Scotland within the service model described in this report.
- Neurosurgery should be regarded as a single service for Scotland, delivered on a number of sites.
- Neurosurgery services should be planned and commissioned on a national basis, with future decisions concerning investment in staff, facilities and equipment taken through the planning and commissioning model described in this report. Decisions should not be taken by individual NHS Boards. Staff may be appointed to geographic areas wider than individual NHS Boards.
- SEHD should assume strategic leadership responsibility for planning and commissioning neurosurgery on an all-Scotland basis, working with Regional Planning Groups and NHS Boards.
- A needs assessment for neurosciences should be undertaken to support future planning of services. This should initially be undertaken by the implementation team identified to take forward the recommendations of this report, and thereafter should form part of the planning arrangements.
- Patients should continue to be involved in the future planning of neurosurgical services, both locally and in the service model adopted for NHS Scotland. Patients and patient representative groups should be at the centre of future development and decision making.
- Explicit standards for the neurosurgery service should be agreed and set out in the service model. This should also include a mechanism for assessment against these standards and action plans to address areas for improvement. Patients should be involved in this process.
- The standards should be based on the SBNS standards currently being used elsewhere in the UK and the service should work with the SBNS in their further development. The service should make them relevant to Scotland while ensuring comparison with other units.
- Neurosurgery centres should work collaboratively to address areas for improvement, sharing good practice and developing action plans.
- A common minimum data set of activity information should be agreed, collected and reported back to the service to inform planning and performance management. The data set should be relevant to the service and based on Department of Health definitions.

- The future planning of neurosurgery should take account of evidence in the field of associations between volume and health outcomes.
- A planned audit programme for the service should be developed, agreed and maintained. Arrangements including funding for clinical audit and data collection, analysis and reporting should be main-streamed into the future model for neurosurgery.

Workforce implications

- There is a need to ensure that the required skills and experience are identified and in place in the agreed location, in advance of any reconfiguration of the service. Experience has shown that medical staff may move location with the service, but other staff tend not to do so. There will therefore be a potential loss of skilled and experienced staff in neurosurgery. These staff will nevertheless be valuable to local services, and may require some training in different fields, therefore there is a need for robust transition plans to be put in place to retain staff in the service until it is reconfigured with, for example, guarantees of suitable posts locally if they choose not to transfer.

- Medical education in particular, but also nursing and AHP education establishments will need to consider how necessary training and placements will be accommodated in a re-configured service. Students and those undergoing specialist training will probably need to work in a variety of locations to get comprehensive training and experience and to support local hospitals. Institutions will also need to present the service as an all-Scotland service, and students should expect to work in a different way across more than one location in Scotland, once qualified.

- Changes in the demand for neurosurgery indicate that surgical intervention may decrease in terms of numbers, but increase in terms of complexity. Different types of interventions will also increase, requiring a different type of neurosurgeon/ neurointerventionalist.

- There will be need for staff with expertise in transfer and transportation of neurosurgical patients in a planned situation, and a demand for staff who will do this either as part of their job in, for example, an integrated team on an outreach basis, or as part of a dedicated service.

- Staff in local hospitals will need to be skilled-up in neurological emergency interventions and stabilisation. There will need to be investment in training in this area. There will also need to be investment in staff specialising in neurological rehabilitation, particularly AHPs.

- Recruitment and retention plans need to be put in place for staff in this specialist area. These staff are generally scarce, particularly AHPs, nurses and neurophysiologists.

- There will be training requirements for all staff in the use of tele-medicine techniques, including video-conferencing.

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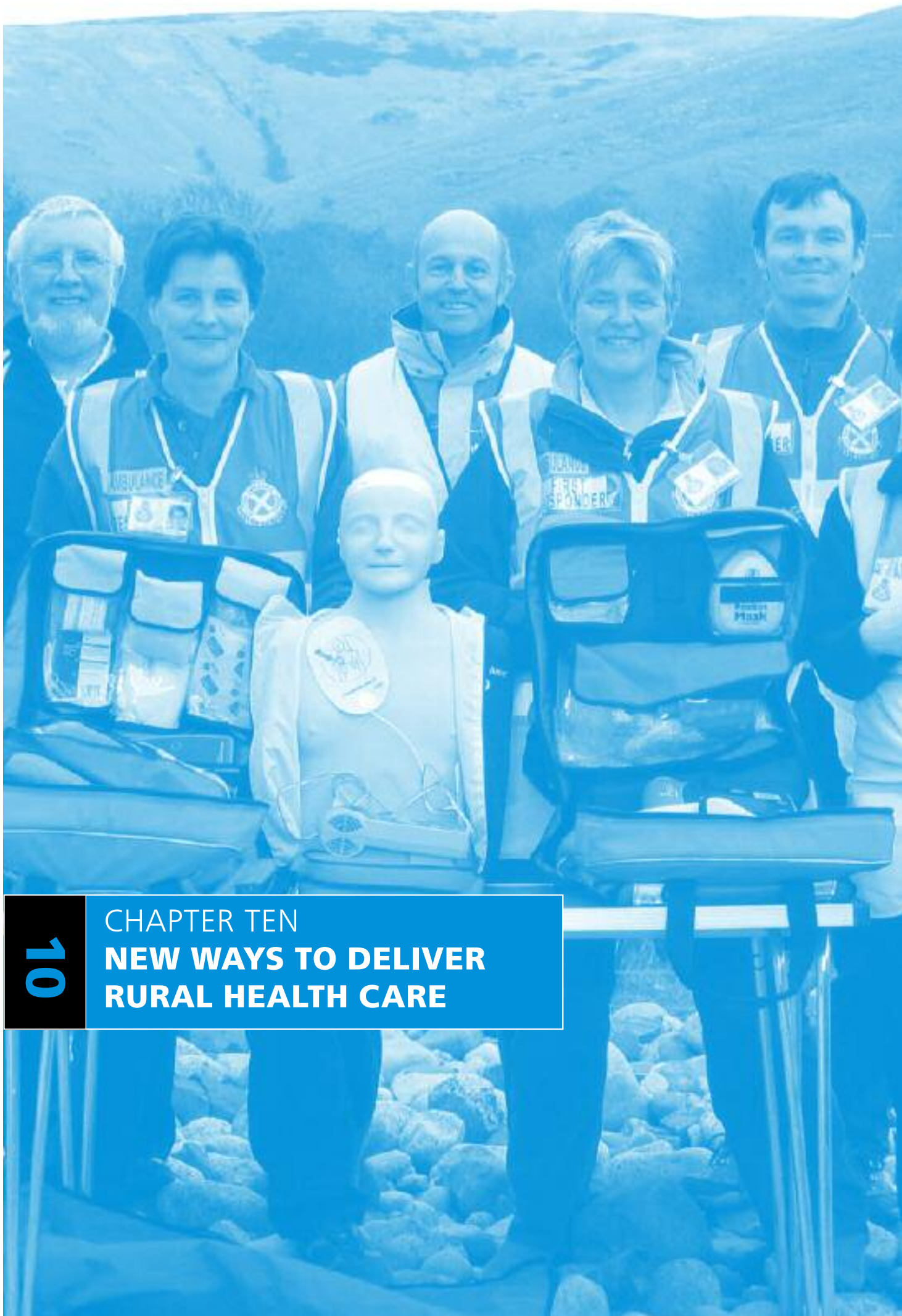
CHAPTER TEN
NEW WAYS TO DELIVER RURAL HEALTH CARE

10

01   One fifth of the Scottish population lives in a rural area (Scottish Executive, 2004). Of these, a significant number live in very remote areas that require healthcare arrangements suited to times of enforced self reliance due principally to weather and transport difficulties.

02   The dominant model of healthcare thinking in Scotland is distinctly urban based. It is from this model that assumptions have been made and systems applied to remote and rural care, including assumptions on clinical safety, training and education and workforce planning. The bulk of rural health delivery occurs in primary care, but access to secondary and tertiary care facilities are also critically important for rural people, and can be the source of considerable individual and community concern.

03   We need to address the following key issues to plan adequately for the health of people in remote and rural Scotland:

   • recruiting and retaining a workforce that has the skills and competence to deliver a general healthcare service by working collaboratively in multidisciplinary teams.
   • improving education and training structures and processes that are currently not readily accessible, often have low levels of relevance to remote and rural practice, and can result in lengthy amounts of time away from base for participants
   • establishing transport infrastructures and systems to allow access to services for people in remote and rural Scotland
   • recognising deprivation that is often not transparent and addressing unmet needs
   • improving information systems and research programmes that are not sufficient to support service development and ensure safety.

Remoteness, rurality and clinical peripherality

04   In addressing these issues it is important to establish a definition of rurality and remoteness that is relevant to healthcare provision and to the development and maintenance of the rural health workforce. The bulk of rural health delivery occurs in primary care, but access to secondary and tertiary care facilities are also critically important for rural people, and can be the source of considerable individual and community concern.

05   Defining rurality and remoteness is a complex issue, and the definition chosen may vary (Farmer et al 2001). Previous work has focused on drive time to major population centres, settlement size, or some measure of population density to define rural and remote communities. The Scottish Executive has recently adopted a six-fold classification of settlements, adapted from the earlier Scottish Household Survey classification, for much of its work on rural policy (Scottish Executive, 2004). It is generally recognised that composite measures may be more valuable than a single index to reflect the characteristics of a community.

06   Consequently in considering a framework that would be of relevance to healthcare in remote and rural areas, an index of "Clinical Peripherality" has been developed. The index reflects the characteristics of rural and remote general practices and the communities they serve, including their access to secondary care facilities and to centres of decision making and professional education and support.

07 A study in West Highland demonstrated that this index correlates well with the range of demands on rural healthcare providers (Swan et al., 2004). The study examined multiple demographic and geographic characteristics of all 59 general practice communities in three rural local health care cooperatives (LHCCs) and concluded that four main factors directly contributed to the peripherality of a practice:

- practice list size
- population density at the practice ward area level
- travel time from the practice to the nearest acute receiving hospital (that is, a hospital providing consultant-led services)
- travel time to the regional health board headquarters (which was recognised as a centre of decision making and professional support).

Travel times took account of single-track roads and ferry services, where appropriate.

08 The four factors were combined using factor analysis to generate a clinical peripherality index. This was found to correlate strongly with the spectrum of roles undertaken by health practitioners.

09 A summary plot of clinical peripherality scores for non-urban practices in each NHS Board area is shown in Figure 10.1. NHS Boards serving the more remote and rural areas of Scotland show greater median values and a wider scatter of clinical peripherality values for their practices.

A detailed analysis can be found in the Rural Action Team Report.
http://www.show.scot.nhs.uk/sehd/nationalframework

Figure 10.1
Clinical peripherality scores by NHS Board area (Swan et al., 2004)
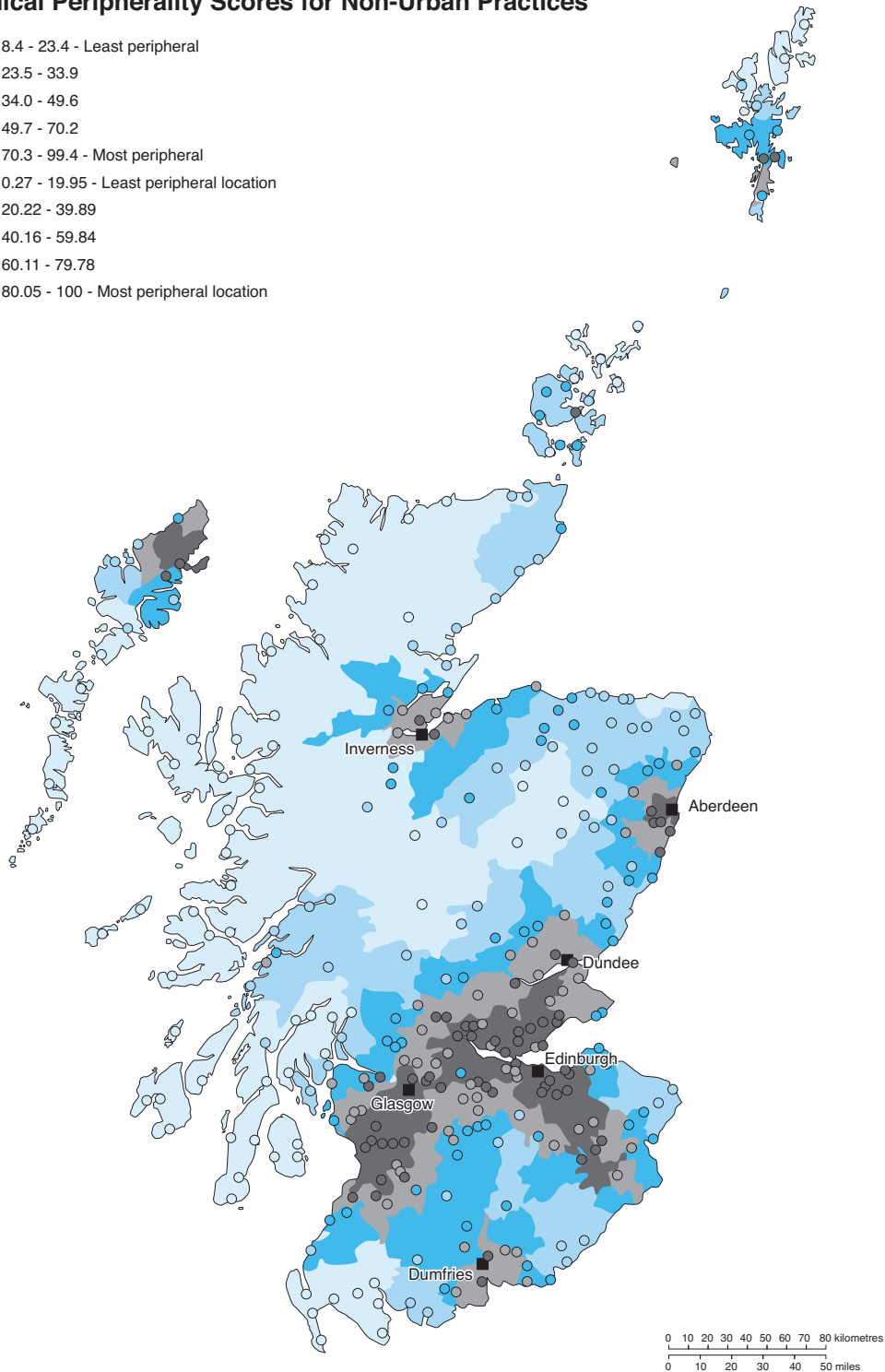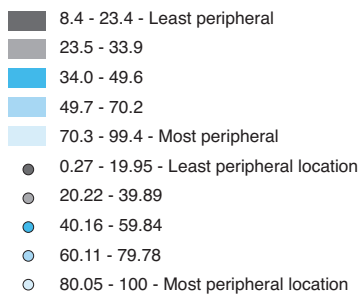

Clinical Peripherality
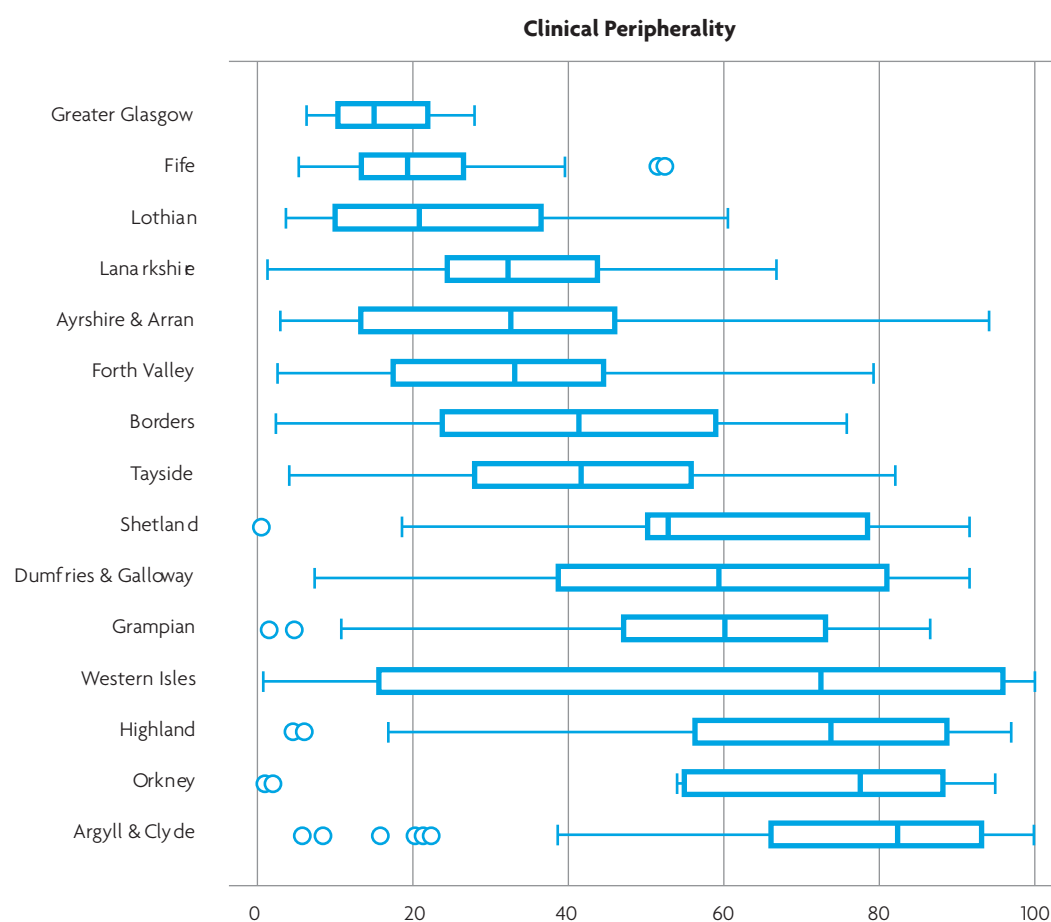
The box plot shows median values and interquartile range of scores for each NHS board area. Higher values represent greater clinical peripherality.

10 Although the median data by NHS Board area provide some insights into the scale of peripherality issues faced by boards, they conceal individual areas of more extreme peripherality within Boards such as several island communities and the western portion of Dumfries and Galloway. A more comprehensive picture of clinical peripherality is therefore provided by mapping scores from individual practices, as shown in Figure 10.2.

Figure 10.2
Clinical peripherality scores for individual non-urban practices

Clinical Peripherality Scores for Non-Urban Practices

- 8.4 - 23.4 - Least peripheral
- 23.5 - 33.9
- 34.0 - 49.6
- 49.7 - 70.2
- 70.3 - 99.4 - Most peripheral
- 0.27 - 19.95 - Least peripheral location
- 20.22 - 39.89
- 40.16 - 59.84
- 60.11 - 79.78
- 80.05 - 100 - Most peripheral location

11 What is the significance of clinical peripherality for health service planning? Underlying the clinical peripherality of practice communities is a concept of insularity. Islands, remote from their nearest receiving hospital and NHS Board, are inevitably peripheral. But mainland communities located at the end of poor road communications are also effectively insular. This has great relevance when configuring rural transport services and emergency retrieval systems. Figure 10.2 shows that such practices exist even within the geographical centre of the country.

12 Change in the location of acute receiving hospital facilities or decision-making centres such as NHS Board headquarters can profoundly affect the level of peripherality of individual practice communities. The range of services provided by rural general hospitals and their location consequently becomes a key determinant of peripherality.

13 Health practitioners (GPs, nurses and others) in more remote areas have to offer a broader range of services than their urban counterparts (Boerma et al., 1998). This has specific implications for education and training, and is mirrored in the training requirements for rural hospital practitioners.

Action required

14 Taking all of this into account, we have identified six areas where action is required to ensure that the future healthcare needs of remote and rural Scotland are fully recognised and met:

- maximising services provided locally
- delivering integrated health care across traditional boundaries
- providing out-of-hours (OoH) care
- defining the role of rural general hospitals
- developing a skilled and competent workforce
- creating an integrated transport system.

15 In our view, the key to the first of these challenges – retaining and expanding local services – lies with achieving the integration required by the second challenge – delivering integrated health care across traditional boundaries. In addition to maximising care delivered locally, we need to ensure that patients aren't disadvantaged by their distance from specialist centres. A recent Royal College of General Practitioners (RCGP) statement on rural general practice (Mungall et al., 2004) warns:

'rural patients have greater access difficulties for health care. It is a safe assumption that poor access will adversely affect outcomes.'

16 The challenge is to design a service that overcomes some of these difficulties in accessing services. The action required will include new approaches to training for rural practitioners, developing the role of community and rural general hospitals, creating rapid emergency retrieval services, improving transport infrastructure, increasing the use of tele-health services and mobile diagnostics, and continuing to develop Managed Clinical Networks by ensuring they include the rural dimension to service provision.

Primary care

17 At the forefront of our framework for rural health care is the enhancement and extension of primary care. We need to maximise services that can safely be made available in rural towns and villages. That will mean an extended role for GPs and other members of the rural healthcare team.

18 There should be further development and piloting of the Family Health Nurse role. This model embeds the role of the skilled generalist in primary care and encompasses a broad range of duties. Family Health Nurses deal with many issues as the first point of contact and refer on to specialists where a greater degree of expertise is required. The impact of this role has been reported through the findings from the initial phase of the World Health Organization (WHO) Europe pilot (Scottish Executive, 2003).

19 In addition to the need for the broad-based generalist role, there is scope to develop specialist nursing and allied health professional (AHP) roles in remote and rural areas. These roles will support and complement services delivered through a generalist model, providing supervision to isolated practitioners.

20 Rural GPs value their generalist skills. GPs in small remote practices have developed extended skills to allow them to manage the early stages of severe sudden illness and trauma. The uptake of Advanced Training Life Support (ATLS) and British Association for Immediate Care (BASICS) courses is high among rural GPs and community nurses, who recognise the delivery of immediate care as an important part of their role in the community. We need to ensure access to this type of continuing professional development for new and existing rural practitioners.

21 There is scope to develop GPs with a special interest (GPwSI) in specialties such as dermatology, ENT, ophthalmology and musculoskeletal medicine in rural localities serving larger populations, as has been the case in England. These practitioners could work closely with and support the visiting consultant service provided within these localities.

22 The future of visiting clinics may be threatened with the inclusion of travel time within contracted hours under the new Consultant contract. NHS Boards need to maintain links between specialists and rural communities. Maximising the efficiency of these clinics with GPwSIs will allow consultants to concentrate on the most complex cases and provide support and education to local clinicians. The GPwSI will act as a resource within the locality. He or she will accept referrals and provide advice and support to colleagues.

23 Practices across the area should be encouraged to work collaboratively to provide the widest range of services to the whole community. The Centre for Change and Innovation is currently supporting a number of pilot projects among NHS Boards under the Community Outpatients initiative.

24 Developing enhanced roles for GPs in emergency medicine, minor surgery, palliative care and care of older people will be more appropriate for some localities (see Box 10.1). As well as their continuing generalist role, the GPwSI would be responsible for leading service development and ensuring that all clinicians in the locality are providing safe, effective and high-quality services in their specified area. They would work closely with nurses and AHPs who are also developing enhanced roles in many of these areas and who can often undertake the lead role.

25 But it's important to endorse the generalist skills rural GPs will continue to require. The OoH component of their work may require expertise in the management of a wide range of conditions including traumatic, cardiac, obstetric and psychiatric emergencies. The development of GPwSIs should be complementary to the support given to rural doctors to develop their extended generalist skills.

Box 10.1 GPs and minor surgery in rural areas

As a result of redesign work in Grampian around four years ago, several GPs were trained and accredited to a higher level than General Medical Services (GMS) surgery by the Director of Day Surgery. This enabled them to perform more complex procedures such as the removal skin lesions and vasectomies.

Each LHCC took things forward in a slightly different way. In North Aberdeenshire, two GP surgeons were appointed, one with a background in general surgery and one with a long history of providing GMS surgery at practice level.

These GPs:

• operate at four community hospitals, providing rapid local access to treatment
• have time dedicated to supporting the network of GPs providing minor surgery within their own practices
• have performance-related pay based on waiting times, quality outcomes and demonstration of support for GMS surgeons

At one community hospital, the local general surgery clinic waiting time fell from 22 to eight weeks.

These 'referral' surgeons' have now been organised into a network of surgeons covering practices providing the enhanced service in minor surgery.

26 Clinical nurse/AHP specialists and nurse/AHP consultants in remote and rural areas can deliver enormous benefits to patient care, both in terms of a direct clinical role and in supporting the local delivery of services. We believe nurses and AHPs have three core functions across the range of services:

- first-contact care: assessment, treatment, care, referral and discharge
- management of long-term conditions and providing continuing care and rehabilitation
- public health and health promotion to improve health and reduce inequalities.

27 These roles can be expanded to include diagnosis, treatment, and direct referral to medical consultant services (including direct referral for surgery, where appropriate). Practitioners will also be involved in the pre-elective episode of care, providing continuity throughout the patient journey by co-ordinating pre-admission and aftercare.

28 Integral to role expansion will be robust arrangements for competence assessment, supervision, education and continuing professional development.

29 Building the knowledge and expertise of community practitioners around the public health agenda is an essential in remote and rural areas. Increasing local capacity is necessary to address key health issues such as poverty, alcohol misuse, smoking, and sexual and mental health.

30 Role extension is an essential prerequisite of the extension of primary care. Our vision of extended primary care in rural Scotland shares many of the features of 'intermediate care' as described by Temple in his 2002 report to Ministers, Future Practice (Temple, 2002). He wrote of intermediate care:

'We define this as lying at the interface of Primary and Secondary Care, it will have a key role in delivering the service of the future. It is important to explain and secure the support of the public for this new approach to service delivery. Its hallmarks are:

- New relationships between Primary and Secondary Care Practitioners that ensure that the skills of both are applied to each patients care in the most effective way;
- Specific roles for General Practitioner/Community Hospitals providing care more locally and relieving pressure on the secondary sector;
- Closer working with Social Care to develop the hospital at home, supporting timely discharge, and prevention of re-admission schemes;
- An extended role for General Practitioners and an increase in the capacity of Primary Care and;
- Improved access from Primary Care to investigations e.g. imaging perhaps through Ambulatory Care Centres'

31 Consideration should be given at NHS Scotland level to developing a Scottish Network for Extended Primary Care, through which best practice can be exchanged.

Community hospitals

32 The general practice will be a key resource in providing extended primary care in rural communities. So too will the community hospital.

33 Patients receiving care in community hospital beds will be those who cannot be cared for at home, but who do not require the expertise and specialist diagnostic and treatment facilities of a more distant hospital.

34 In a community hospital setting, extended primary care services will care for patients needing clinical assessment, re-assessment or who have a condition or problem that requires clinical and supporting interventions.

35 The service will provide care and treatment for local patients admitted from their own homes/communities or who are transferred from other parts of the healthcare system prior to complete hospital discharge. They may also, on occasion, admit patients from other localities.

36 It is a vital role that will become more important as tertiary health care becomes increasingly focused in specialist centres located in cities or large towns.

37 It is essential to maintain the accessibility of community hospitals to patients throughout Scotland. With extended primary care provision as their fundamental function, particular services provided in different areas may vary. Differences in service provision will occur due to local need, accessibility of other services and a desire to develop specialist or enhanced roles within the extended primary care team arising from an overall strategic assessment of actual local needs and service provision at Community Health Partnership level.

38 A recent stakeholder questionnaire (SEHD, in press) shows that community hospitals provide a variety of services, including palliative care. There is, however, a mistaken view that community hospitals provide only care for older people, but this need not and should not be the case in future. They could and should add pre-admission and routine testing, outpatient and specialist clinics, day surgery, convalescence and rehabilitation to their repertoire of services.

39 Integration of community hospitals within the healthcare system will be enhanced by the continuing development of clinical and care networks facilitated by appropriate communications technologies such as tele-medicine and video links.

40 Joint Future, the introduction of Community Health Partnerships and the prevailing policy climate highlight the desirability and importance of shared goals, understanding and team working across all the stakeholders involved in primary and community health care. Patients benefit when teams integrate, share skills, share information and avoid duplication of work.

41 Responses to the community hospital stakeholder questionnaire, referred to above, showed that a clear strength of current community hospitals is their encouragement of multidisciplinary working. Respondents made it clear that a shared vision for development of community hospitals involved their use as resource centres for the local extended primary care team and, indeed, the local community.

42   We suggest that community hospitals could form a 'hub' or 'base' to house 'traditional' community and primary care, social work and voluntary sector staff, AHPs and visiting consultants/outreach service providers. Co-locating these staff would foster interdisciplinary work and help to develop the culture of collective understanding and shared information inherent in the ethos of Joint Future.

43   Co-location would also foster team-working, allowing the development of appropriate skills within multi-skilled teams rather than within individuals or professional groups. This is an important feature in ensuring breadth and coverage of skills across the team and for long-term sustainability of services. Quality standards developed for community hospitals should apply across the team and consideration could be given to developing standards for team-working.

44   Resource centres could progress in relation to local needs and may consider developing diagnostic services and near-patient testing. Clinical pharmacy may also have a role, but its development in situ should be considered with reference to existing local pharmacies and dispensing general practices whose sustainability may otherwise be fragile.

45   In their role as local resource centres, community hospitals could provide an ideal base for OoH providers. Again, a multidisciplinary perspective could help to ensure the appropriate skill mix of OoH teams. There is also an urgent need for the service to develop expertise in the OoH hub in co-ordination of service provision in remote and rural areas and review its governance and management arrangements. A feasibility study on the development of a single national system of triage and service co-ordination that links local knowledge to triage and dispatch activities should be undertaken.

46   The ultimate realisation of the community hospital as an extended primary care community resource would be seen in the formation of partnerships with the local community in using the resource centre for a range of health-enhancing activities, including sports, exercise, educational and social activities.

Implications

47   These proposals have implications:

   • appropriate contractual arrangements need to be in place
   • the budget for extended primary care services needs to acknowledge their place in the system
   • investment in equipment, staff and training will be required
   • consideration needs to be given at strategic level to the number and location of extended primary care facilities; current services may not be in the right place, and there may be a case for extended primary care facilities in urban areas.

48   Development may imply investment in buildings, staff, skills, equipment and other resources. Development of community hospitals as an out-of-hours base would require equipment and medicines availability.

49   Appropriate contractual arrangements need to be in place for resource centres to ensure in-hours and out-of-hours providers work seamlessly and effectively, and appropriate supporting measures (information, communication and resources) should be introduced to assure this.

50 Extended primary care resource centres could produce economies of scale in support staffing, but co-locating the extended primary care team might pose other administrative and management implications. The team would require administrative and technical support. As a key part of an extended primary care system operating on a multidisciplinary basis, it would be important to ensure appropriate management arrangements were in place to set out clearly local responsibility for the operational and strategic management of the centre. The possession of local working knowledge will be crucial when making such appointments. Budgets could reside in local teams through the CHP, further engendering an imperative for joint working.

Access to urgent and unscheduled care

51 Access to urgent or unscheduled care was a major issue during our consultation meetings in rural Scotland. Many of the presentations of illness that occur out of hours can be adequately dealt within the local community.

52 The main area of concern for remote and rural communities is the retention of appropriate systems to cope with the 5% of OoH activity that is genuinely emergency. Traditionally, there has been a reliance on the local GP to bridge both the time and care gap. These GPs provide emergency and trauma care services in addition to primary care, and often augment the local ambulance response.

53 A resilient rural community would have the following in place.

- Immediate telephone access, perhaps through a satellite link, to an emergency triage and dispatch organisation. The organisation would assess the level of emergency need and either dispatch appropriate response or arrange for further assessment.
- First responders – people drawn from the local community who were trained and supervised by the local health systems.
- Professional emergency response graded to need. This would include nursing, paramedic and medical personnel. Healthcare outcome improvements have been linked to the delivery of medical expertise at the site (Brampton, 2001).
- Access to diagnostic facilities where definitive diagnosis cannot be made at the incident site. Patients would be transferred to the nearest diagnostic centre capable of defining the condition and stabilising the patient. This may be a community hospital or rural general hospital or, in extreme cases, a specialist trauma centre.
- All of these expertise needs would be available within agreed response times that were achievable and sustainable for the individual community.

54 The difficulties of travel across remote and rural Scotland must be taken into account in any consideration of an emergency scheme. While road transport will remain the mainstay for most remote and rural communities, support will be required from high-quality air transport systems involving a mix of helicopters and fixed-wing aircraft.

55 The Helicopter Emergency Services (HEMS) system offers a more appropriate means of providing medical assistance in remote areas, with a significantly wider action range (Lackner and Stolpe, 1998). Helicopters have a role in providing emergency cover over large and remote geographical areas and in situations inaccessible to land ambulances. But planning and investment in infrastructure will be necessary to ensure an effective and sustainable response.

56 A robust analysis of the benefits of helicopter transport is given in a study for Northern Ireland services in 2003 (Booz Allen Hamilton, 2003). In essence this report says;

'Effective HEMS (in any response role) requires an integrated (as opposed to fragmented) pre-hospital emergency care system and the development of a significant amount of (usually new) 'institutional' mechanisms including a system of clinical coordination, and implementation of an effective operational and clinical audit regime.'

57 While it's tempting to think that rapid transportation of patients can solve many of the emergency problems in remote and rural areas, this is not borne out by the literature. International evidence shows a clear need for the integrated system of care proposed in this chapter.

58 Airway management at the scene has been identified as the crucial factor in survival pre-hospital (Nicholl, 1996). The emphasis in air transport is focusing more and more on primary transport of patients who have already been stabilised by ground rescue squads .

59 As distance and time increases with rurality and remoteness, so there is a greater need for an integrated pre-hospital emergency care system.

60 We recommend that:

- The interdependence of local NHS Boards, NHS 24 and the Scottish Ambulance Service in providing effective unscheduled care services in remote and rural areas needs to be recognised. An integrated unscheduled care service should be planned at regional level building on the approach outlined elsewhere in this chapter, and delivered locally.
- The Scottish Ambulance Service should be asked to lead a review of current first-responder schemes, involving local NHS Boards and local communities, with a view to establishing a national system of first response in remote and rural areas with appropriate accreditation, support and governance.
- The role of HEMS should be reviewed and, if necessary, enhanced in remote and rural Scotland.

Rural general hospitals

61   While our work has been aimed at extending local provision of rural health care, we also recognise the importance of the Rural General Hospital (RGH). We defined the Rural General Hospital as:

'A hospital sited in an area distant from urban conurbations which because of compromised patient travel times provides a locally based consultant led service to meet the healthcare needs of a population.'

62   The role envisaged for the RGH builds on that described by the West Highland Solutions Group in their report of October 2004. It described a model of acute health care based on the collaboration and joint working of staff in Belford Hospital in Fort William and Lorne and Islands Hospital in Oban.

63   We see the Rural General Hospital as providing care in the following areas:

- emergency medical care: triage, diagnosis, resuscitation and stabilisation on a 'treat where possible, transfer when necessary' basis
- locally-based routine elective care: diagnosis, treatment or transfer and follow up
- care for long-term conditions: care of older people, stroke and diabetes care and renal dialysis.

64   Collaboration is key to ensuring that this model is effective. All Rural General Hospitals must have defined links to one another and with larger hospitals. The larger hospitals, in collaboration with Rural General Hospitals, have responsibility for ensuring that the bulk of the remote community's healthcare needs in emergency and planned care are met.

65   The RGH model of service will provide scheduled and unscheduled care to its community. A range of medical and surgical skills will be required if most problems are to be dealt with on site, but it will be just as important to be clear about limits in competence of the RGH as it will to have a suite of core procedures that can safely be delivered.

66   Skills must extend to first-class resuscitation for those requiring transfer, especially with trauma. But the Rural General Hospital cannot be sustained on trauma and acute illness alone, and a range of planned services should be provided, maintaining local services and consultant skill levels.

67   Each RGH should examine what level of elective service it can safely support using the basket of day case surgery discussed in Chapter 8 as a starting point and considering how it might appropriately be extended through Managed Clinical Networks. Over time, we would expect to see a more definitive range of services emerge. The North of Scotland Regional Planning Group should act as a facilitator for developing the menu of services, given that some may only be sustainable with networked or visiting support from a larger hospital.

68 We recommend that:

- NHS Scotland should recognise the key place of Rural General Hospitals at Lerwick, Kirkwall, Stornoway, Wick, Fort William and Oban in the delivery of scheduled and unscheduled care.
- The North of Scotland Regional Planning Group, in collaboration with the West group, should be charged with establishing a strategic network to oversee the development of the Rural general Hospita as outlined above, including the development of formal links with specialist centres and the development of hospital at night models.

Transport

69 At present, many rural communities have a range of transport services available to them, some provided by statutory agencies, others by charities or volunteers. A step-change is needed to provide systems that will foster an integrated transport solution in Scotland and allow healthcare providers to support rural patients to gain access to services.

70 Active co-ordination of transport for patients is vital. This must be planned as a key component of networked services to ensure that people who are distant from provider centres have transport that is:

- easily accessible
- patient focused, by having the flexibility to meet the changing needs of the patient
- sustainable
- capable of becoming part of an integrated transport network.

71 We recommend that:

- Community Health Partnerships should have responsibility for the planning and co-ordination of transport systems to meet the healthcare needs of the community.
- The Scottish Ambulance Service should work with Community Health Partnerships, NHS Boards and Regional Planning Groups to ensure that appropriate transport solutions are developed to support local sustainability.
- Regional Planning Groups should link with the new regional strategic transport partnerships to ensure integration of health needs in statutory transport plans.

Workforce issues

72 Staffing of remote and rural healthcare services must be planned and rational. This will require recruitment of individuals with the skills needed to provide the core service at local, regional and national levels. Opportunities for development of cross-boundary (primary and secondary) care is essential to the success of this model.

73 The remote and rural healthcare workforce requires a wide base of skills and competences to meet health requirements and sustain services. Education programmes should be tailored to meet these needs.

74 The education opportunities in rural general practice or in RGHs must not be overlooked. Trainees will make worthwhile contributions to the service as part of their learning experience. Education will also underpin the innovative role development opportunities available to nurses and AHPs, which must be pursued actively.

75 Sustainable remote and rural services will depend on career pathways which support practitioners in remote and rural environments. NHS Scotland should ensure that a culture of positive value is developed for remote and rural practice. Career management should be underpinned by:

- development of career pathways for the remote and rural environment
- access to mentors
- joint appointments/attachments with larger centres for 'hard to fill' posts
- succession planning, in collaboration with partners
- professional networks with larger centres and among remote and rural practitioners
- links with the higher and further education sector, including access to research and study facilities and time.

76 We recommend that:

- Rural General Surgeons and Physicians should be recognised by NHS Scotland and the Royal Colleges as specialisms in their own right, and appropriate training and career pathways should be developed.
- All healthcare practitioners in remote and rural areas should have access to ongoing education, mentorship, research and attachments to larger units. The remote and rural environment is, however, a good learning environment and should be recognised as such.
- NHS Scotland should develop local access programmes to attract people in remote and rural communities into healthcare careers, and most education should be accessible as locally as possible.

Summary of recommendations

- Recognition of the interdependence of local NHS Boards, NHS 24 and the Scottish Ambulance Service in providing unscheduled care to remote and rural areas.
  Lead responsibility at Regional Level
- There is a review of current first-responder schemes.
  Lead responsibility Scottish Ambulance Service
- Develop expertise in OoH hubs in co-ordination of service provision in remote and rural areas.
  Lead responsibility at Regional Level
- Review governance and management of OoH hubs, undertaking a feasibility study on the development of a single national system of triage and service co-ordination.
  Lead responsibility at National Level
- Undertake a review of HEMS and if necessary enhance in remote and rural areas.
  Lead responsibility at National Level
- There is recognition of the key place of Rural General Hospitals in the delivery of unscheduled and scheduled care.
  Lead responsibility at National Level
- The development of rural general hospitals, formalising links with specialist centres.

Lead responsibility at Regional Level
- There is planning and co-ordination of transport systems to meet the needs of the community.
Lead responsibility at Local Level (CHP and NHS Board) and Regional Level
- Links should be formed with the new regional transport partnerships to ensure integration of health needs in statutory transport plans.
Lead responsibility at Regional Level
- Rural General Surgeons and Physicians should be recognised by NHS Scotland and the Royal Colleges as specialists with the development of appropriate training and career pathways.
Lead responsibility at National Level
- There is development of local access programmes to attract people in remote and rural communities into healthcare careers, with most education being delivered locally.
Lead responsibility at National Level
- Develop networks of rural hospitals to ensure continued access to key elements of acute care and establish a Virtual School for Rural Health Care to ensure workforce development.
Lead responsibility at National Level

Workforce implications for remote and rural health services

Attention must be paid to the education, training and lifelong learning needs of staff to sustain remote and rural health services.

The rural workforce often work generically as teams across a broad knowledge and skills base. Teams are at times required to extend their skills into specialist fields according to patient need or choice.

Currently, NHS Education for Scotland (NES) and selected higher and further education institutions (such as the University of Aberdeen Medical School) are developing an approach to rural workforce education and development that involves tailored programmes for rural practitioners. These include:

- The University of the Highlands and Islands and NES have exploited innovative technologies such as e-learning, broadcast and tele-education and distance learning to support workplace-based post graduate/post-registration learning. These modalities are particularly encouraging multiprofessional and team-based approaches to learning.
- NES is collaborating with the Scottish Medical Royal Colleges to further develop rural specialist training programmes, planned to meet the future requirements of the rural general hospital model.
- NES has developed GP vocational training schemes that allow trainees to spend most or all their time in training in a rural environment.

It will be necessary to continue to redesign national and UK programmes to meet the specific needs of rural health systems. NES is actively engaging with the service (including emergent CHPs and Regional Planning and Workforce Groups) to support the design, development, commissioning and quality assurance of rural education and training. Examples include the development of GPs with special interest (GPwSI), and the 4-tier practitioner framework for AHPs developed by NES, which has the potential to develop practitioners with special interest (PwSI).

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01 The health service needs of children are very different from the needs of adults. After a vulnerable period immediately after birth, children are at very low risk of death with only around 170 deaths per year in the age group 1-15, but they have a relatively high rate of contact with health services. Some contacts are in the form of preventive care, such as provision of immunisations and regular surveillance from Health Visitors. Most of the management of acute illness is carried out by General Practitioners and other members of the primary care team, but children also have a high likelihood of requiring hospital admission at some time during childhood.

02 The public expects equitable access to safe, high quality, paediatric services. A number of key drivers impact on the provision of paediatric services in Scotland and understanding these is crucial if we are to put the service in a position to be proactive rather than reactive. The detail of these drivers can be found in Chapter 3.

03 The current pattern of provision of specialist paediatric services means that some care is only provided in one or two locations in Scotland and in some instances in other centres in the UK. This pattern of service provision has evolved due to either the scarcity of expertise, the investment required in technology and infrastructure, the rarity of the condition or a combination of all or some of these. Decisions about how these services are provided in the future need to be taken on a whole Scotland basis and in a context of that element of a child's or young person's care being part of a pattern of care of which the majority is provided as close to where they live as possible.

04 A number of reports have made recommendations about the location and provision of children's services including the Kennedy enquiry into cardiac deaths in Bristol, Child Health Support Group (CHSG) Tertiary Services Report and the two National Service Frameworks for Children out for discussion in England and Wales. The main themes arising from these reports include:

- The establishment of clinical networks with clear referral mechanisms for patients.
- Diagnosis and treatment should be provided in age appropriate environments.
- Co-location with adult services especially in relation to the treatment and diagnosis of adolescent conditions.
- Ensuring appropriate referral between levels of care, ease and equity of access to specialist services.

05 These recommendations present specialist services in Scotland with a challenging agenda if we are to meet the aspirations and requirements that are being set. The current fragmented approach to service development will need to change to support an integrated service which improves access and equity of care and addresses the challenges presenting now and in the future.

06 Currently there is no national policy advice relating to age in paediatric care, and practice differs across Scotland. The Children (Scotland) Act 1995 defines a child as a person under the age of eighteen years for the purposes of support for children and their families including services from the NHS.

07 The health care needs of children and young people up to the age of eighteen should be properly assessed and care provided in an appropriate environment by trained staff. But we know that children have a range of needs and accordingly we advocate a set of guiding principles rather than a hard and fast rule. **We recommend that NHS Scotland adopts the guiding principle that the age for admitting children and young people to acute care in paediatric facilities is up to their 16th birthday, dependent upon their clinical need and patient choice. For young people between the ages of 16 and 18 there should be discussion with their clinician(s) regarding where their care is best delivered, recognising their right of choice, unless there are clear clinical reasons which determine whether admission is to paediatric or adult services.**

08 We heard a strongly held view that greater attention should be given to defining and providing services for adolescents. This would include potential designation of adolescent beds and access to specialist adolescent medical, nursing or therapy opinion, which would not only enhance the care of young people but also aid their transition into adult services.

09 **We recommend that each NHS Board Area should review its services for young people and develop proposals for age appropriate care and arrangements for transition from child to adolescent and adolescent to adult care.**

10 As we refer to services for 'children' in the remainder of this section, it is with that guiding principle in mind. Our analysis looks across the continuum of care from specialised child health services to primary care. In Chapter 4 we have also considered what needs to be done, in a local setting, to deliver care to the particularly vulnerable group of children with complex needs.

Specialised Care

11 Specialised services tend, by their nature, to focus on relatively low volume activity. In paediatric practice the principal patient groupings dependent on such services are:

- Children whose condition is so serious or rare that all treatment relating to the condition would be considered specialised.
- Children with severe or intractable variants of otherwise more common conditions.
- Children in whom complex co-morbidity complicates the conduct of otherwise relatively straightforward procedures.
- Neonates or very young children in whom even simple procedures necessitate specialised support services e.g. anaesthetics, neonatal intensive care.
- Children in whom the need to repeat procedures that have not proved effective when first performed argues for specialist involvement.

12 Although such specialised services will inevitably, and rightly, have interfaces with other services in primary and secondary care they are normally clearly defined in terms of the staff groups who deliver them and/or the localities in which they are provided.

13 In addition specialised services, by their nature, tend to be characterised by:

- Highly specific workforce challenges as a result of small staff numbers, specialised training needs and, in some cases, the significant time demands of providing shared care or outreach services.
- A relatively small volume of patients needing the service.
- Complex interdependencies, often with other specialised services, as a direct result of the severity and complexity of patients' conditions.
- Strong links to research and innovative leading edge practice particularly in terms of technology dependent interventions and drug therapy.
- Significant financial implications in terms both of revenue and capital investment.

14 **We recommend that this descriptive definition of specialised services underpins the future planning of children's health care and that the NHS adopts the Department of Health Specialist Services definitions as they apply to children and as appropriate for Scotland.**

15 We identified the provision of paediatric intensive care (PIC) and high dependency care (HDC) as an immediate issue for NHS Scotland in the light of trends in activity and case mix that may not be sustainable within the current provision. The planning of PIC must be integrated with that of paediatric high dependency care and neonatal surgical intensive care (NSIC), and there are critical interdependencies with a number of specialist paediatric services; thus the planning of PIC is a key factor in the planning of specialised paediatric services.

16 Two particular aspects were identified:

- An assessment of whether paediatric intensive care can continue to be sustained in Glasgow and Edinburgh for the foreseeable future, and whether neonatal surgical intensive care can be sustained in Glasgow, Edinburgh and Aberdeen.
- An assessment of the level of paediatric intensive care and neonatal surgical intensive care required for the population of Scotland, projecting this forward for 5-10 years.

17 Our work identified a number of key changes in practice in the areas of both PIC and HDC:

- Since 1997 there has been considerable reorganisation of paediatric intensive care in Scotland. The majority of paediatric intensive care is now delivered on 3 sites: Glasgow PIC Unit, Edinburgh PIC Unit and the Intensive Care Unit at the Institute for Neurosciences at the Southern General Hospital, Glasgow.
- Professional guidelines are increasingly recommending that certain paediatric procedures are carried out only on sites with PIC backup.
- Since the establishment of the national paediatric transport service for critically ill and injured children, there has been an increasing trend towards transferring children to the Royal Hospitals for Sick Children in Edinburgh and Glasgow from hospitals in the rest of Scotland. Moreover there has been increasing joint working of the two PIC sites so that each cross covers the other, and together they provide a co-ordinated national service for the whole of Scotland reflecting the different case mix of patients in Edinburgh and Glasgow.

- The focus of individual specialised services on single sites, e.g. cardiac surgery and interventional cardiology for children in Scotland, means that the total number of PIC beds available to Scotland will have to be used flexibly to cope with fluctuations in need. As a result, there is an increasing need for the service to be run as a single national service on two sites.

- There has been an upward trend in referrals to Edinburgh and Glasgow which is set to continue, with spikes in need that exceed current capacity, for example when a high number of children with complex needs are in PIC for extended periods thus restricting the availability of beds for emergency admission.

- Increasing numbers of children requiring high dependency care (as distinct from intensive care) are being transferred by the critical care retrieval teams from Edinburgh and Glasgow. These retrievals are largely requested from hospitals without the ability to provide paediatric high dependency care but trends suggest that consultants in district general hospitals that previously provided such care for children now consider that a transfer to specialist centres is required.

- On some occasions, transfer is arranged from hospitals with HDC facilities to the PIC Units in Edinburgh or Glasgow if a child's condition is deteriorating even if, in the event, only HDC rather than PIC is required on arrival.

18 Additionally there are a number of developments which need to be planned into PIC and HDC provision:

- There is a trend towards increasing volume and case mix complexity in specialist centres. New techniques and technologies can achieve survival and good outcomes for babies and children who would previously have died but now require much higher nursing ratios, more intensive interventions and, in some cases, extended lengths of stay.

- There is a need for clarity on where paediatric neurosurgery will be provided in future. Much complex elective neurosurgery requires only HDC post operative care; the unpredictable and complex challenging workload comes from head injury. The management of head injury needs to be planned and addressed at a Scottish level to ensure appropriate patient pathways and transfer to suitable specialist care including PIC support.

- Expectations of parents, clinicians and carers have risen. As more can be achieved, the expectation is that outcomes will be positive in all cases.

- There is a potential development involving integrating the neonatal surgical and neonatal medical facilities at RHSC Glasgow to provide improved mutual cross cover and support and increased flexibility.

- Planned "exit" or "step down" arrangements to transfer patients from the specialist intensive care units in Edinburgh and Glasgow to suitable neonatal IC or paediatric HDC facilities, where these exist, in children's and maternity hospitals are not universally in place. This is exacerbated by the absence of a "return" transport service mirroring the retrieval service for the transport of critically ill and injured children.

19 There is wide recognition that current trends in activity and case mix complexity cannot be sustained by existing levels of provision. The main limitation is the availability of skilled staff rather than the physical bed or cot numbers. There is therefore a need to develop a different approach to recruitment and continuing development of staff which provides accredited training opportunities for all staff groups within multi-disciplinary teams across the range of critical care. The conclusion from the trends described above is that in future this may cross more than one site.

20 The foundation for the management of critical illness in children in Scotland is high dependency care. All hospitals admitting children who are, or who may become, critically ill must be able to resuscitate and stabilise them. Hence hospitals that plan to provide a range of specialised services for children need to be able to arrange and provide high dependency support for short periods of time. Additionally there is broad agreement that the availability of critical care facilities is a pre-requisite to the provision of certain specialised paediatric and neonatal services. Such services require critical mass for sustainability and they cannot be provided piecemeal as a support service. Hence the location and availability of PIC/HDC/NSIC facilities are key drivers in the planning of specialist paediatric service.

21 Thus we consider that the required pattern of critical care involves the continuing provision of critical care in as many locations as it is clinically effective and sustainable to do so. The retention of dedicated high dependency units in Aberdeen, Dundee, Edinburgh and Glasgow will support the provision of a wide range of children's services within these cities; and the capacity to support children's services in local hospitals on an outreach basis.

22 The key is to ensure that there is rapid and reliable transfer to and from local hospitals to the major children's hospitals that provide paediatric high dependency care, backed up by the ability to stabilise and resuscitate babies and children when necessary until transfer can be effected.

23 There is also a need for clear procedures to be in place for escalation of the intensity of care when required, for example, if a child's condition deteriorates, including rapid and reliable intensive care transfer to and from the lead PICUs in Edinburgh and Glasgow.

24 **We recommend the following framework for specialised paediatric critical care:**

- Accident and Emergency Departments and Inpatient services for babies and children should be supported by the capability to provide - at least short term – critical care support for children. This needs to be backed up by 24 hour access to medical and nursing advice from lead critical care centres. Critical care undertaken outside a lead centre should be delivered in accordance with the standards set by the PIC Society and according to protocols developed in liaison with lead centres. NHS Boards should review their current provision and develop action plans.
- A National Managed Clinical Network for paediatric critical care should be developed to link critical care services across Scotland to provide a co-ordinated support service for critically ill children.

- The dedicated HDUs in Aberdeen, Dundee, Edinburgh and the soon to be established HDU in Glasgow should be developed into regional lead HDU centres within the national network, and the two PICUs in Edinburgh and Glasgow should be developed as the lead national PIC centres within the network – operating as a single PIC service on two sites.
- Change is expected over the next 5-8 years as a result of the commitment to rebuild the children's hospitals in Glasgow and Edinburgh. During this period of change the PICU service should be nationally commissioned for a minimum of 5 years to oversee the establishment of the national critical care network and explore ways in which arrangements between the two PIC units can be strengthened.
- Regional Planning Groups should work with Ambulance Services and referring clinicians to plan paediatric services across regions with a view to ensuring that;
  - the first hospital to which the child is taken is appropriate in relation to the child's need for critical care support as far as possible.
  - rapid and reliable transfer arrangements are in place to escalate the level of support when needed.
  - return transport arrangements are available as part of agreed discharge protocols.
- NSD should project-manage a detailed 2 year audit of high dependency care for children to provide information about the provision and outcomes of these services.
- NHS Education for Scotland (NES) should engage with the clinical specialist teams, the Educational Institutions, Colleges and Post Graduate Deans in discussions to adapt the existing arrangements for training accreditation so that training can be provided through rotational posting across a number of sites within one service, and to develop accelerated accredited training for nurses to advanced practitioner.
- There should be appropriate investment to ensure that PICUs and HDUs are equipped to provide the support necessary. An immediate investment should be made in the PIC service in Glasgow to bring occupancy levels down to 80%. There must also be investment in nurse education and development.

25   We have not looked at specialised services in isolation but rather as a part of the system of care that children in Scotland require. Specialised services will be accessed by a relatively small proportion of children but those who do need to access that level of care should have the assurance that they are optimally planned and provided. That is the purpose of the recommendations referred to above.

26   In looking at the interface issues between specialised care and other child health services, we recognise that a child's journey of care into specialised services may start through contact in a range of settings. There is therefore a need to explore opportunities to ensure that out of hours services e.g. Accident and Emergency departments, Minor Injuries services, Primary Care Out of Hours and NHS 24 are made aware of children with complex conditions, including named consultant contact information. The provision of an electronic patient record is the most obvious means of achieving this.

27   A network involving shared care, inreach and outreach arrangements supports the development of partnership across the care continuum to the benefit of all concerned, particularly children. These types of arrangements have empowered local teams to take on the management of care supported by specialist centres.

28   During our deliberations there was a strong feeling expressed that there was a need to plan across geographical boundaries to strengthen access to specialist advice. We could not offer a specialised children's hospital in every DGH but we should make sure that access to the range of services provided in children's hospitals in Aberdeen, Glasgow, Edinburgh and Dundee is easy and equitable. The development of Managed Clinical Networks was seen by many as a positive mechanism for achieving these aims particularly in areas such as child protection.

29   **We recommend that NSD, together with the Regional Planning Groups, should produce a national strategy on the development and approval of MCNs for Child Health by September 2005. This strategy will make recommendations about which MCNs should operate and interrelate at national, regional and at Health Board level. It will include a phased programme for MCN development over the next 5 years.**

30   A number of NHS Boards identified diagnostic imaging of children as a service that could potentially be provided closer to a child's home and prevent the need for travel to a tertiary centre. In a few areas there was a reluctance to undertake the actual test on a child due to problems with interpretation of results but in most areas the view was that children could have the test locally if there were effective tele-radiology links to ensure appropriate interpretation of results by a paediatric radiologist.

31   **We recommend that NHS Scotland's information technology strategy should support the roll out of technologies such as tele-medicine and digital image transfer to support delivery of specialised paediatric services in partnership with local services as a matter of urgency.**

32   The key principles described earlier support as much care being delivered as close to where a child lives as possible. However there will be occasions where ill children will have to be transported to receive care. The issue of transport arose consistently in responses to our dialogue with the service. At all times the safety of the child and their clinical condition will be the prime considerations. The Paediatric Intensive Care Retrieval service and neo-natal transport service provide examples of how this can be done and the Scottish Ambulance Service provides transport by surface and air.

33   **We recommend that further transport options should be considered in partnership with the Scottish Ambulance Service including retrieval for ill children.**

34   It is extremely stressful for a child and their family when they need to interact with specialist services. Support must be integrated across the care pathway. The support that is required should be identified at point of referral and should include arrangements for when the child is referred back for local care.

35   With District General Hospital services for children, we found that there is variability in how children requiring surgery are managed, depending on the experience and interests of individual surgeons and anaesthetists. The lower age range to perform surgery in DGHs ranges from 1 to 5 years with some DGHs also performing surgery on under one year olds on "some occasions". Concerns were expressed that current service arrangements may not be sustainable if more general surgeons did not develop skills in paediatric care, and that if less paediatric surgery was performed in DGHs vital skills would be lost to support emergency care of acutely ill children.

36 We also heard from a number of NHS Boards about difficulties providing surgical specialties such as ENT, plastic surgery, orthopaedics and ophthalmology on different sites from paediatric in-patient provision. Surgeons in these specialties reported that they experienced difficulties in gaining consensus with their anaesthetic colleagues on provision of surgery in non-specialist centres for young children.

37 We heard different views during our consultations on the workforce of the future for general surgery for children, with some respondents stating that specialist paediatric surgeons would be providing all this care over time as fewer general surgeons had the training and experience and others who felt that appropriate national and regional planning of training posts and consultant posts could reverse this trend. It may be that there will be different models in different regions but most respondents agreed that more care could be provided in local DGHs through outreach, hub and spoke models and appropriate regional planning.

38 A number of Boards have already set up ambulatory care services which run on a day basis i.e. 8 am to 8 pm. These services seem to be working well and good practice is already being shared across Scotland. They not only ensure the sustainability of local paediatric services but provide support for locally based community paediatric nursing.

39 **We recommend that;**

- Paediatric surgery should be planned and organised on a regional basis with hub and spoke models and regular training courses for surgeons and anaesthetists by the specialist centres to ensure that skills in the DGHs are kept up to date. NHS Boards and regions must be sure that the agreed standards are met in all hospitals providing paediatric surgery. The ability to meet these standards will determine the regional provision of paediatric surgery.
- A national short life working group should be established to provide clear guidance to regions on elective and emergency provision of general surgery and anaesthesia for children taking into account standards, workforce issues, training requirements and specifying actions required with Colleges, NES, SEHD, NHS Boards and Regions. The group should also consider levels of care and provision of day surgery in DGHs and ambulatory care centres. It will also need to address the issue of provision of emergency care and options for delivery in DGHs caring for children which cannot sustain an out of hours emergency service for surgery. It should address workforce and training issues including the role of NHS Boards and NES in planning future posts and training opportunities. The group should report within 3 months.
- The development of Ambulatory Care should be encouraged as part of a strategy to provide more care closer to home. Regional planning groups and NHS Boards should develop ambulatory care plans for children including outpatient services in a range of sites including integrated community schools, rapid access clinics and common protocols. Protocols should be in place setting out clearly the criteria for children and young people who can be seen in ambulatory care units and transport arrangements should be in place and communicated.

Primary Care

40 Notwithstanding what we have said above about hospital services for children, it remains the case that around 90% of children are seen and treated within primary care. It is essential therefore that the role of the GP practice team in providing care for children is maintained.

41 There was support in our consultations for the development of the role of GP with a special interest in child health. This role may be placed within a Community Health Partnership with a remit to lead/promote child health care, working with colleagues general practice, nursing, schools and social work as well as participating in outpatient clinics. We also heard expressions of concern that the new General Medical Services contract had no specific child health content, reinforcing the perception of low priority, and risking a true drift in GP motivation to provide optimal preventive and therapeutic efforts.

42 The need for primary care to provide accessible services to vulnerable families and also to young people was emphasised in the feedback we received.

43 We also received feedback that parents, particularly those with their first child, required more support in managing childhood illness. Parents deal with most minor illness in their children at home and informal support from experienced family members or friends can significantly improve such care, and reduce natural anxiety that leads to increased demand on health services for unscheduled care. Early minor illness events in children of inexperienced or isolated parents, especially if they result in unnecessary medication or hospital referral, may lead to significant anxiety and a perception that their children are particularly vulnerable. Thus a cycle of recurrent demand for professional care may develop. A supportive reassuring approach during early consultations for acute illness combined with consistent specific advice about managing future similar episodes may significantly improve future parental care.

44 **We recommend that;**

- All GPs should maintain their skills and competences in the care of children. The importance of child health should continue to be reflected in the availability of accredited training for GPs and feature strongly in the practice accreditation process.
- Training and appointment of GPs with a special interest in child health should be continue to be developed. General Practices should continue to encourage identification of a GP who "leads" on child health issues and Community Health Partnerships should consider establishing a wider role and identifying a GP who can undertake a leadership role in child health care.
- Nursing staff working in primary care who have contact with children e.g. public health nurses, health visitors, school nurses, practice nurses should maintain their skills and competences in the care and treatment of children. They should work in partnership with community paediatric nurses and specialist paediatric nurses.
- There should be easy direct access to senior hospital staff for clinical advice about care and treatment of children in the community. While many children are referred to hospital for treatment appropriately a significant number could be dealt with by advice alone or seen at rapid access clinics rather than as an acute admission. Technologies such as imaging transfer or video conferencing will be important tools to support this new way of working.

- NHS Boards should develop local referral protocols and referral guidelines for childhood conditions for primary care practitioners. There are examples from Greater Glasgow and Grampian that could be used to prevent duplication of effort.
- CHPs should ensure that there are effective pathways in place for the provision of health care services to vulnerable children. Implementation of proposals of Health for All Children (Hall 4) should support this. There should be proactive follow up of non attenders and effective integrated working with social work and education departments.
- CHPs should put in place plans to improve access for young people to primary care services. This could include the use of the internet and mobile phone access to health care advice as well as dedicated young people's clinics.
- There are a range of initiatives and policies to support parents and the management of childhood illness which should be incorporated to parenting programmes.

Emergency Care

45   A review of Emergency Care for Children and Young People has recently been undertaken on behalf of the Child Health Support Group. The following paragraphs represent a summary of its findings.

46   Children and young people make up approximately 20% of the Scottish population but represent a significant proportion of accident and emergency department attendances (25-30%) and calls to out-of-hours GP services. Children are more likely to be admitted to hospital as emergencies than as planned admissions. In spite of this a significant number of hospitals lack staff qualified in the care of children and young people and do not provide a child-friendly environment.

47   The variation in population density in Scotland is such that a 'one size fits all' approach to emergency care is not tenable. An emergency care framework for children and young people has been developed for the different types of emergency care facility available (Figure 11.1). The framework provides a template for optimal emergency care provision for children and young people.

48   The first contact for an acutely ill/ injured child or young person with health services is often their primary care provider (general practice), an out-of-hours service, ambulance paramedics and increasingly, through telephone contact with NHS 24. Many emergencies can be managed at **Level 1.**

49   Minor injury facilities provide a convenient local solution in many areas. However they can lack the full services and expertise of an A&E department, especially in terms of caring for children and young people. It is important that health care professionals and the public view their role realistically, understand their limitations and use them appropriately.

50   **Level 2** facilities (i.e. general hospitals with an Accident and Emergency Department but without a Paediatric Inpatient Unit) may have facilities for assessing and observing children and young people over a period of time prior to making a decision about whether to discharge or not. However these facilities are often open for a limited number of hours during the day and children and young people who require admission need to be transferred to the local Inpatient Unit.

51 **Level 3** emergency care should be available from a general hospital with a paediatric inpatient unit which will have significantly more capacity to manage the unwell child or young person than a hospital without such facilities.

52 **Level 4,** can be provided by specialist children's hospitals or units, which provide paediatric intensive care and/ or High Dependency Care, paediatric surgery and a range of specialist services and advice, all of which are available on site.

Figure 11.1:
Tiered Framework for Emergency Care for Children & Young People
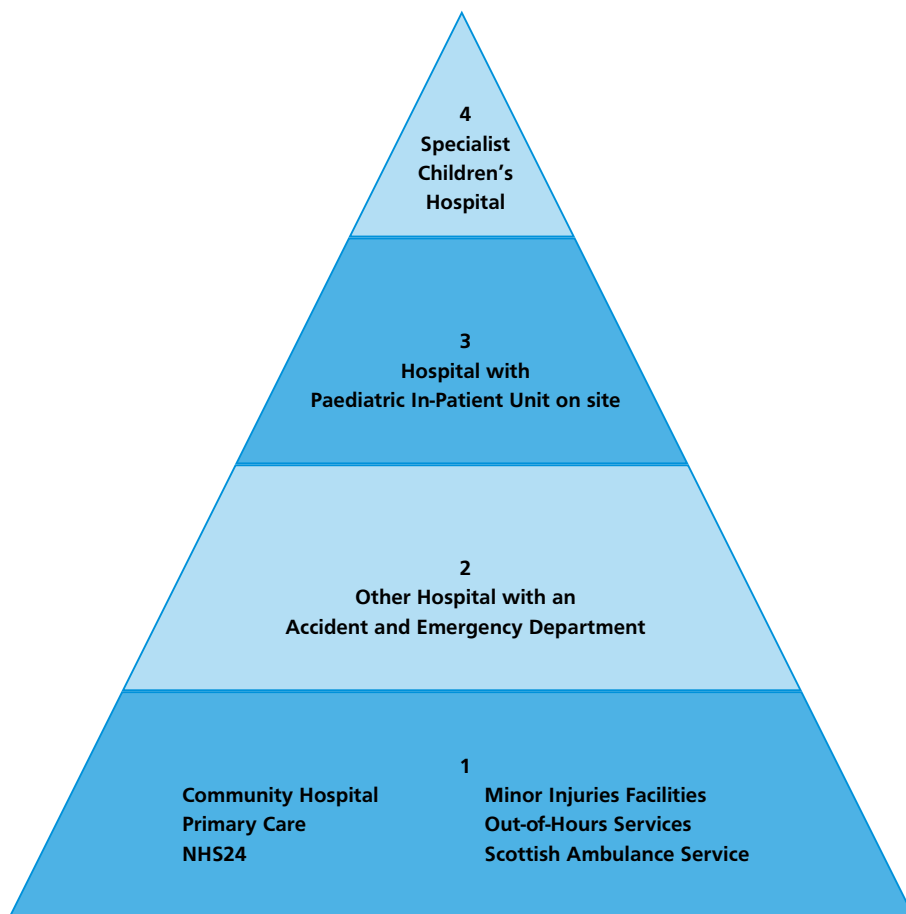
53 It is recognised that it can be beneficial to co-locate children and young people's services with adult services on the same site. This would be of particular benefit for emergency care situations that involve adult and child members of the same family.

54 **We recommend that;**

- Regional Planning Groups and NHS Boards should identify the level of care that should be provided at each of their emergency care sites in accordance with the proposed emergency care framework.
- All emergency care sites should provide a safe and non-threatening environment for the treatment of children and young people and staff providing care in emergency care sites should have a core set of skills and competencies to provide care to children and young people and access to support and advice from a registered children's practitioner on a 24/7 basis
- A standard assessment method should be developed for use with children and young people at all emergency care facilities. This assessment method should recognise the severity of illness or injury, the degree of pain and distress and the potential vulnerability of the child or young person.
- National guidelines and best practice statements should be developed for the management of common acute and potentially life threatening conditions for children and young people.
- A multi-professional emergency care competency system should be developed by NHS Education for Scotland for practitioners who provide emergency care for children and young people. Once developed competencies should be maintained and updated.
- The development of expanded roles for emergency care practitioners should consider the needs of children and young people and be undertaken under the guidance of NHS Education for Scotland and the relevant professional bodies.
- NHS Boards should clearly identify which sites in their area will at all times provide emergency advanced imaging facilities for children and young people. This information should be shared with NHS 24, primary care teams, out-of-hours services and the Scottish Ambulance service.

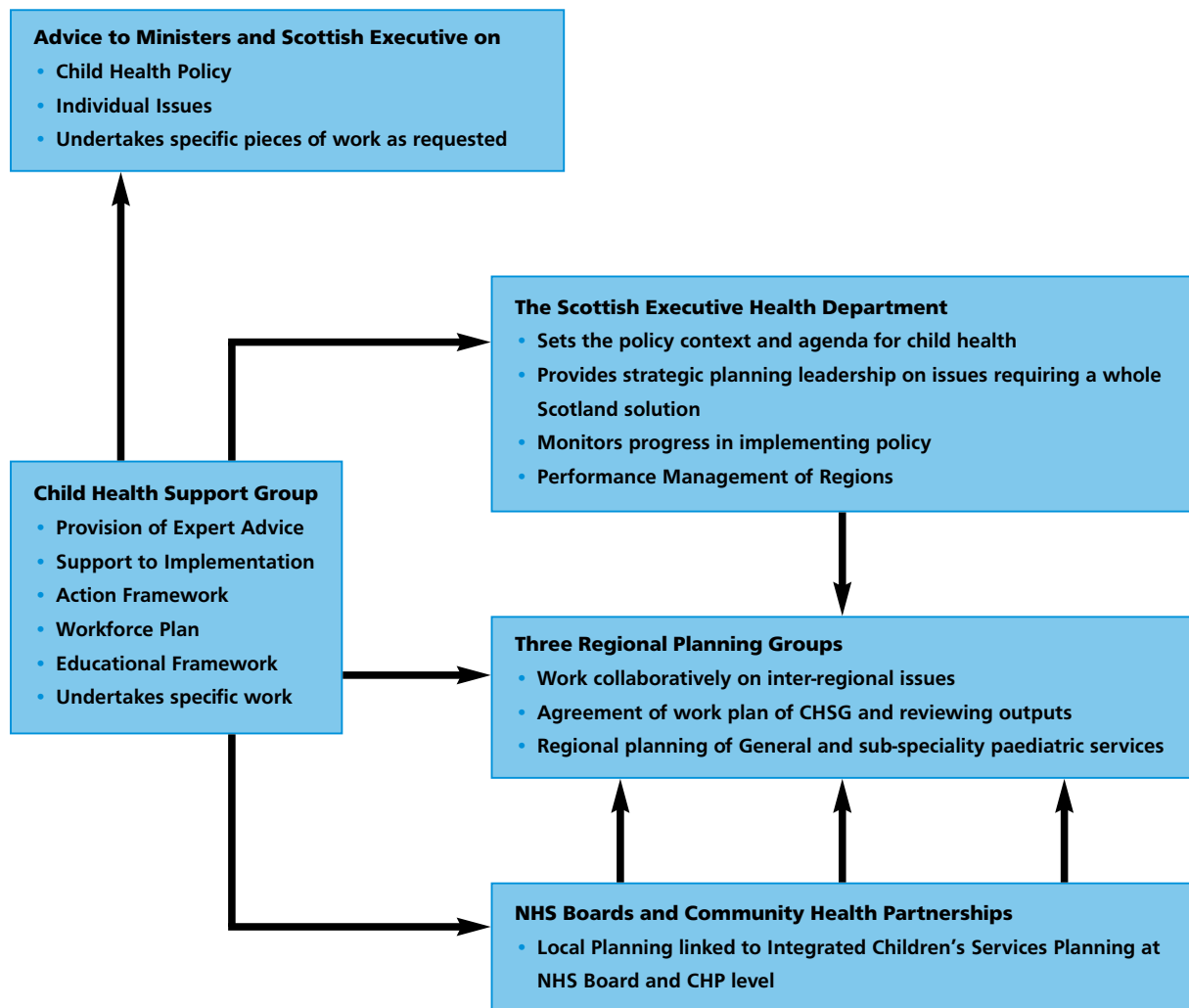## Workforce Planning and Role Development

55 There is a clear need for workforce planning and role development on a multi-disciplinary basis to support the models of care developed. This needs to incorporate identification of educational needs and delivery of educational programmes by the multiprofessional specialist services in conjunction with Universities and other educational institutions. In the future specialist teaching and training of staff will take place in a variety of settings across a network of care provision.

56 Planning should be carried out in tandem with service planning and on an all-Scotland basis for specialised services, regional basis for secondary services and local basis for primary and community services.

57 It should be assumed that the NHS will always experience workforce pressures and should continually review its recruitment and retention strategies. It must continually explore the development of new roles, specific to the different settings of care delivery, for example advanced and extended practitioner roles and developing GPs with a special interest in paediatrics may be more appropriate for remote and rural settings as they will see more children routinely in their work than adult specialists. New roles should be attractive to staff and offer career progression. The roles of clinical practitioner, AHP and nurse consultants, hospital play specialists and clinical support staff should be developed further. Parents and children will need to be prepared to understand and accept new roles.

Integrated Services

58   The Framework acknowledges the importance of integrated services amongst the health service and its partners. It also recognises that different parts of the service will benefit from discrete arrangements for planning, commissioning and decision making to reflect their particular issues. This should be carried out in partnership with children, young people and their families.

59   Supportive mechanisms and arrangements should be put in place to ensure integrated service planning and delivery which consistently put children and young people at the centre. Arrangements need to encourage a proactive approach to identifying changes in need, services and the environment, consideration of the implications of these changes for children's services and development of plans to address these implications on an all-Scotland, regional and local basis.

60   Acknowledging the specific work that has already been done in the area of Child and Adolescent Mental Health, it is important that this is included in planning for children's health services in a way that both supports the discretion of these services and integration within children's health services.

61   A number of Boards identified issues concerning providing some aspects of specialist child protection services. We consider that standardised, integrated pathways of care must facilitate smooth passage between local care and specialist services. A national managed clinical network will provide a vehicle for their development as well as providing a 24 hour service for urgent clinical child protection cases.

62   NHS Scotland should build on the work of the Child Health Support Group and the momentum established through that work, connecting it strongly with the Service and providing a focus for Child Health.

63   The CHSG has undertaken two important phases of work to date. They have raised the profile of child health in Scotland and produced a work plan, which was presented to the Minister and resulted in the issue of an Heath Department Letter setting out a range of work to be undertaken. These involved visits to all territorial NHS boards, production of reports following these visits with recommendations for the local service, and active support to these services to make changes; these changes have led to real improvements in services.

64   It has also commissioned work in a number of areas which are now coming to a point of decision and implementation. These include:

   • Review of Tertiary Paediatric Services, led by Professor George Youngson.
   • Children and Young People's Mental Health: A Framework for Promotion, Prevention and Care, led by Dr Graham Bryce.
   • Report on Child and Adolescent Mental Health Services Inpatient Services by Bruce Dickie.
   • Report on Emergency Care for Children by Dr Tom Beattie.
   • Recommendations on HALL4 led by Dr Zoe Dunhill.
   • These include a large number of recommendations which need to be prioritised and decisions made on changes that need to take place.
   • Appointment of a Clinical Lead for Children and Young People's Health in Scotland Mr Morgan Jamieson.

65   The CHSG has been charged by the Minister with production of an action framework. This will be driven by the outcome of this National Framework for Service Change in the NHS in Scotland and informed by the range of reports that have already been submitted. A wide range of recommendations will be translated into a prioritised, time bound, costed plan, developed through a risk management approach focused on broad programmes of action.

66   The CHSG has recognised the need to make a stronger connection with the service, particularly to support implementation and to bring their strength as an expert advisory group.

67   Feedback from the Service identified a need to plan, and in the case of specialised paediatric services, commission, child health services on a wider population basis than currently. An all-Scotland view needs to be taken in terms of the planning of those paediatric services where the need is small in terms of incidence and the skills, expertise and equipment to provide care is scarce. The SEHD should provide strategic and corporate leadership in the planning of highly specialised child health services that require a whole Scotland solution. There is also a need to plan for general secondary paediatric services on a regional basis, across larger populations than individual NHS Boards.

68   The feedback also mirrored concerns expressed by the CHSG regarding the delivery of planning, the implementation of reports and outcomes of service reviews. It also raised the need to embed accountability for supra-Health Board services within the system in a way which facilitates their planned development on an equitable and consistent basis.

69   Therefore arrangements put in place need to give:

   • Clarity of responsibilities at local, regional and national level.
   • Meaningful accountability focused with Health Boards working collaboratively through regional planning groups who work with the Health Department and National Services Division on a national basis.
   • Strengthening of the role of the SEHD in setting the child health agenda, providing strategic planning leadership, particularly on services requiring an all-Scotland approach, and monitoring progress.
   • Closer links between the CHSG, Regional Planning Groups and NHS Boards to ensure that the work plan of the CHSG supports the priorities of Boards and Regions and that there are clear delivery mechanisms for implementation.
   • An enhanced role for the CHSG in supporting the service through providing expert advice and supporting planning and implementation of national policy, which will require a revised remit and membership.
   • Mechanisms for children, young people and their families and partner agencies to participate in planning and development of services.

70   Therefore we propose the model in Figure 11.2 which sets out the different levels of planning child health services.

Figure 11.2
Planning Roles

Advice to Ministers and Scottish Executive on
- Child Health Policy
- Individual Issues
- Undertakes specific pieces of work as requested

Child Health Support Group
- Provision of Expert Advice
- Support to Implementation
- Action Framework
- Workforce Plan
- Educational Framework
- Undertakes specific work

The Scottish Executive Health Department
- Sets the policy context and agenda for child health
- Provides strategic planning leadership on issues requiring a whole Scotland solution
- Monitors progress in implementing policy
- Performance Management of Regions

Three Regional Planning Groups
- Work collaboratively on inter-regional issues
- Agreement of work plan of CHSG and reviewing outputs
- Regional planning of General and sub-speciality paediatric services

NHS Boards and Community Health Partnerships
- Local Planning linked to Integrated Children's Services Planning at NHS Board and CHP level

71   As referred to above there is recognition that current arrangements for the planning and delivery of specialised and general health services for children in Scotland are fragmented and that practice differs across Scotland. The subject of how these services are to be planned and organised in the future and the need for improved arrangements for this were significant issues throughout our discussions.

72   The Review of Tertiary Paediatric Services in Scotland identified that there are a number of vulnerable services which would benefit from an all-Scotland approach and NHS Boards reported the challenges they were facing concerning sustaining secondary paediatric services. They also identified some imaginative solutions which worked across Health Board boundaries. For example a joint appointment between Tayside and Lothian NHS Boards and supportive working arrangements between Grampian and Highland NHS Boards. The pressures identified earlier in the report are current, and the Service is concerned that these services should be prioritised for consideration.

73 We identified a particular need to plan specialised paediatric services in a different way. Specialised paediatric services are part of the spectrum of child health services and they should be integrated in a way that supports local delivery of care and sustainability of local services. The model described for specialised paediatric services both supports an all-Scotland approach to this element of care and integration with regional and local services.

74 These specialised paediatric services, as defined by the Department of Health Specialised Services Definition Set and referred to earlier in the report, should be regarded as a single service delivered through Managed Clinical Networks across a number of locations. The services should be planned on an all-Scotland basis and managed and delivered through local NHS Board systems. The single service approach will be delivered as:

• A structure which gives clarity of accountability for planning and delivery of services planned at population levels larger than individual NHS Boards.
• A planning template for the review and development of the services individually and in a complementary way with due regard to interdependencies between the services and with other local services.

75 Strategic leadership should be provided by the Scottish Executive Health Department including developing a capacity to support planning of those child health services that require a national solution. It should also bring together the Regional Planning Groups, the CHSG and other partners in prioritising services which require a national approach and in planning these services. Involvement of children, young people and their families in this planning process is vital.

76 The remit and membership of the CHSG will need to be revised to support its enhanced role which will comprise:

• Expert advice to Scottish Ministers on Child Health Policy.
• Expert Advice to Scottish Ministers on individual issues.
• Expert support to Regional Planning Groups and NHS Boards on planning of services and implementation of national policy.
• Leadership on the development of comprehensive workforce planning for Child Health Services.
• Leadership on the development of comprehensive, multi-agency involvement of children and families in the planning and provision of Child Health Services.

77 The role of Regional Planning Groups will be fundamental to this approach taking responsibility for planning, commissioning and performance management of a wide range of secondary children's health services; additionally they will work collaboratively on an all-Scotland basis providing consistency and equity in planning services that span regions. They will provide planning integration to their constituent NHS Boards in terms of local children's services planning with partners.

78 Each Regional Planning Group should establish a Children's Health Services Planning Group as one of their Service Planning Groups (HSG(2004)46) under the leadership of a Chief Executive of one it its constituent NHS Boards. This group will plan secondary children's health services and through this identify those services which require either an all-Scotland or inter-regional approach. Regional Planning Groups should ensure that there are close links between planning children's health services and maternity and neonatal services.

79 Within these arrangements there is the opportunity to expand collaboration particularly through MCNs and on an inter-regional basis, and this should be encouraged, particularly between the East and North of Scotland.

80 This mechanism will facilitate the identification of those services which are very small and should be subject to explicit commissioning arrangements. The SEHD and Regional Planning Groups will work with the National Services Division in taking these forward for consideration for designation as a national service.

81 These arrangements are depicted in Figure 11.3.

Figure 11.3
Integrated Planning Model – Involvement and Accountability
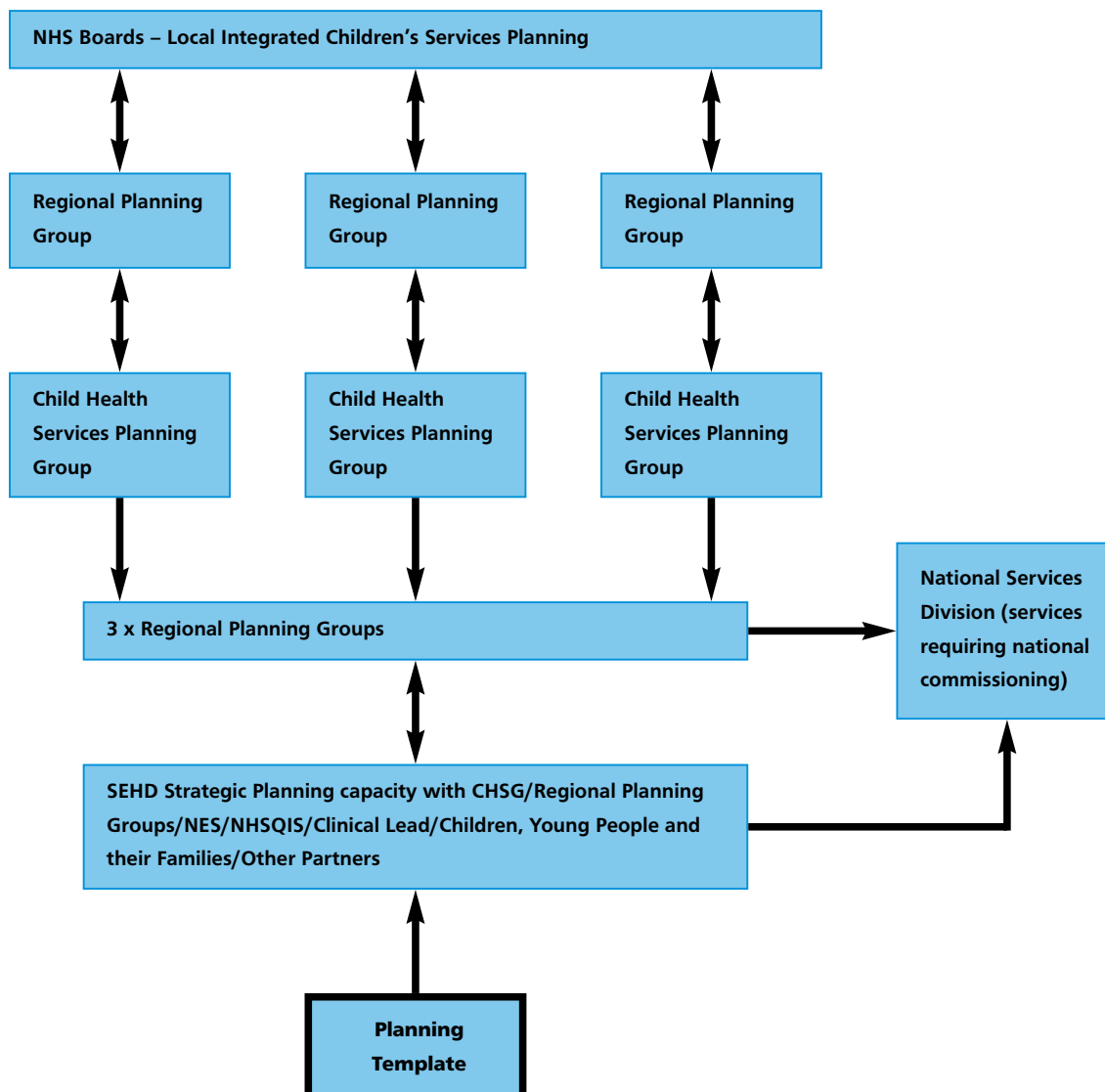
82　The single service will work to a planning template. The template would consider and set out for each service within its national MCN, arrangements in the following areas:

- Demonstration of high quality care through the evidence base, agreed audit programme and information base.
- Funding arrangements.
- Workforce plan including education and training.
- Patient pathways demonstrating integration of care.
- Development of standards for services which are delivered consistently at every stage of the patient pathway.
- Performance management of service delivery measures.
- A Scotland-wide overview of plans for investment in major buildings, equipment and staff resources, e.g. succession planning arrangements, capital developments.
- Involvement of children, young people and their families in standard setting and performance management.
- Relationship with regional and local MCN(s).
- Implications on other services.

83　The planning template will be a dynamic tool, capable of responding to change in best practice and feedback from users. Consistent with this it will adopt and further develop the methodology used in the Review of Tertiary Paediatric Services in Scotland.

84　It will also be useful to inform planning activities at local NHS Board and Regional levels.

85　Additionally it will set out explicitly the specialist service's part in sustaining local services through its relationship with local services, particularly in terms of training and skills transfer. This will be described as the Service Template.

86　This approach supports national policy on Community Health Partnerships, Regional Planning, Community Planning and Joint Future. It recognises the interdependence with other paediatric services, e.g. anaesthetics, adult services, neonatology, and provides strategic leadership of specialist paediatric services.

87　An integrated approach will improve access and equity of care by doing away with the current fragmented approach to service development inherent in the current organisational arrangements. Children and young people will have access to a network of care with specialists at the core. The creation of a cohesive service gives the opportunity to prevent the collapse of individual small services.

88　A unified single service approach will increase collaboration, improve morale and improve planning to the benefit of children and young people. The scarce resources will be better planned and utilised across Scotland.

89 **We recommend that:**

- The models for integrated services and planning described above should be implemented. Specialised paediatric services should be planned nationally, secondary paediatric services should be planned and organised on a regional basis.
- The Scottish Executive Health Department should provide strategic and corporate leadership in planning Specialised Paediatric Services. It should develop this capacity and work with the Regional Planning Groups, Child Health Support Group, National Clinical Lead and other partners in prioritising and planning services requiring a national approach.
- Regional Planning Groups should establish Children's Health Services Planning Groups under the leadership of a Chief Executive of one of its constituent NHS Boards.
- Children, young people and their families should be involved in planning services.
- The work programme and methodology set out by the Review of Tertiary Paediatric Services and the planning template should form the basis of planning for specialised paediatric services.
- The role of the Child Health Support Group should be enhanced to provide expert advice and support to the service in planning and implementation of national policy and plans. The membership should be reviewed to support this enhanced role.
- Specialised Paediatric Services should be developed through Managed Clinical Networks, linking the specialist centres with local services and including children, young people and their families.
- Regional Planning Groups should use the Financial Framework for Regional Planning to agree hypothecated funding to support the delivery of plans for children's services agreed through the regional planning mechanisms.

Summary of Recommendations

National

- NHS Scotland adopts the guiding principle that the age for admitting children and young people to acute care in paediatric facilities is up to their 16th birthday, dependent upon their clinical need and patient choice. For young people between the ages of 16 and 18 there should be discussion with their clinician(s) regarding where their care is best delivered, recognising their right of choice, unless there are clear clinical reasons which determine whether admission is to paediatric or adult services.
- The definition of specialised services set out underpins the future planning of children's health care and the NHS adopts the Department of Health Specialist Services definitions as they apply to children and as appropriate for Scotland.
- A National Managed Clinical Network for paediatric critical care is developed to link critical care services across Scotland to provide a co-ordinated support service for critically ill children.
- The Paediatric Intensive Care service should be nationally commissioned for a minimum of 5 years to oversee the establishment of the national critical care network and explore ways in which arrangements between the two PIC units can be strengthened.
- There should be appropriate investment to ensure that PICUs and HDUs are equipped to provide the support necessary. An immediate investment should be made in the PIC service in Glasgow to bring occupancy levels down to 80%. There must also be investment in nurse education and development.

- NSD project-manages a detailed 2 year audit of high dependency care for children to provide information about the provision and outcomes of these services.
- NHS Education for Scotland should engage with the clinical specialist teams, the Educational Institutions, Colleges and Post Graduate Deans in discussions to adapt the existing arrangements for training accreditation so that training can be provided through rotational posting across a number of sites within one service, and to develop accelerated accredited training for nurses to advanced practitioner.
- NSD, together with the regional planning groups, should produce a national strategy on the development and approval of MCNs for Child Health by September 2005. This strategy will make recommendations about which MCNs should operate and interrelate at national, regional and at NHS Board level. It will include a phased programme for MCN development over the next 5 years.
- NHS Scotland's information technology strategy should support the roll out of technologies such as tele-medicine and digital image transfer to support delivery of specialised paediatric services in partnership with local services as a matter of urgency.
- A national short life working group should be established to provide clear guidance to regions on elective and emergency provision of general surgery and anaesthesia for children taking into account standards, workforce issues, training requirements and specifying actions required with Colleges, NES, SEHD, NHS Boards and Regions.
- A standard assessment method should be developed for use with children and young people at all emergency care facilities. This assessment method should recognise the severity of illness or injury, the degree of pain and distress and the potential vulnerability of the child or young person.
- National guidelines and best practice statements should be developed for the management of common acute and potentially life threatening conditions for children and young people.
- A multi-professional emergency care competency system should be developed by NHS Education for Scotland for practitioners who provide emergency care for children and young people. Once developed competencies should be maintained and updated.
- The development of expanded roles for emergency care practitioners should consider the needs of children and young people and be undertaken under the guidance of NHS Education for Scotland and the relevant professional bodies.
- The Scottish Executive Health Department should provide strategic and corporate leadership in planning Specialised Paediatric Services. It should develop this capacity and work with the Regional Planning Groups, Child Health Support Group, National Clinical Lead and other partners in prioritising and planning services requiring a national approach.
- The work programme and methodology set out by the Review of Tertiary Paediatric Services and the planning template should form the basis of planning for specialised paediatric services.
- The role of the Child Health Support Group should be enhanced to provide expert advice and support to the service in planning and implementation of national policy and plans. The membership should be reviewed to support this enhanced role.

Regional

- Regional Planning Groups should work with Ambulance services and referring clinicians to plan paediatric services across regions with a view to ensuring that:
  - the first hospital to which the child is taken is appropriate in relation to the child's need for critical care support as far as possible.
  - rapid and reliable transfer arrangements are in place to escalate the level of support when needed.
  - return transport arrangements are available as part of agreed discharge protocols.
- Paediatric surgery should be planned and organised on a regional basis with hub and spoke models and regular training courses for surgeons and anaesthetists by the specialist centres to ensure that skills in the DGHs are kept up to date. NHS Boards and regions must be sure that the agreed standards are met in all hospitals providing paediatric surgery. The ability to meet these standards will determine the regional provision of paediatric surgery.
- Regional Planning Groups should establish Children's Health Services Planning Groups under the leadership of a Chief Executive of one of its constituent NHS Boards.
- Regional Planning Groups should use the Financial Framework for Regional Planning to agree hypothecated funding to support the delivery of plans for children's services agreed through the regional planning mechanisms.

Local

- Each NHS Board Area should review its services for young people and develop proposals for age appropriate care and arrangements for transition from child to adolescent and adolescent to adult care.
- Accident and Emergency Departments and Inpatient services for babies and children should be supported by the capability to provide – at least short term – critical care support for children. This needs to be backed up by 24 hour access to medical and nursing advice from lead critical care centres. Critical care undertaken outside a lead centre should be delivered in accordance with the standards set by the PIC Society and according to protocols developed in liaison with lead centres. NHS Boards should review their current provision and develop action plans.
- All GPs should maintain their skills and competences in the care of children. The importance of child health should continue to be reflected in the availability of accredited training for GPs and feature strongly in the practice accreditation process.
- Training and appointment of GPs with a special interest in child health should be continue to be developed. General Practices should continue to encourage identification of a GP who "leads" on child health issues and Community Health Partnerships should consider establishing a wider role and identifying a GP who can undertake the necessary additional training to support this role.
- Nursing staff working in primary care who have contact with children e.g. public health nurses, health visitors, school nurses, practice nurses should maintain their skills and competences in the care and treatment of children. They should work in partnership with community paediatric nurses and specialist paediatric nurses.

- There should be easy direct access to senior hospital staff for clinical advice about care and treatment of children in the community. While many children are referred to hospital for treatment appropriately a significant number could be dealt with by advice alone or seen at rapid access clinics rather than as an acute admission. Technologies such as imaging transfer or video conferencing will be important tools to support this new way of working.
- NHS Boards should develop local referral protocols and referral guidelines for childhood conditions for primary care practitioners. There are examples from Greater Glasgow and Grampian that could be used to prevent duplication of effort.
- CHPs should ensure that there are effective pathways in place for the provision of health care services to vulnerable children. Implementation of proposals of Health for All Children (Hall 4) should support this. There should be proactive follow up of non attenders and effective integrated working with social work and education departments.
- CHPs should put in place plans to improve access for young people to primary care services. This could include the use of the internet and mobile phone access to health care advice as well as dedicated young people's clinics.
- There are a range of initiatives and policies to support parents and the management of childhood illness which should be incorporated to parenting programmes.
- All emergency care sites should provide a safe and non-threatening environment for the treatment of children and young people and staff providing care in emergency care sites should have a core set of skills and competencies to provide care to children and young people and access to support and advice from a registered children's practitioner on a 24/7 basis
- NHS Boards should clearly identify which sites in their area will at all times provide emergency advanced imaging facilities for children and young people. This information should be shared with NHS 24, primary care teams, out-of-hours services and the Scottish Ambulance service.

National, Regional and Local

- Further transport options should be considered in partnership with the Scottish Ambulance Service including retrieval for ill children.
- Children, young people and their families should be involved in planning services.
- Specialised Paediatric Services should be developed through managed clinical networks, linking the specialist centres with local services and including children, young people and their families.

National and Regional

- The models for integrated services and planning described above should be implemented. Specialised paediatric services should be planned nationally, secondary paediatric services should be planned and organised on a regional basis.
- The dedicated HDUs in Aberdeen, Dundee, Edinburgh and the soon to be established HDU in Glasgow should be developed into regional lead HDU centres within the national network, and the two PICUs in Edinburgh and Glasgow should be developed as the lead national PIC centres within the network – operating as a single PIC service on two sites.

Regional and Local

- The development of Ambulatory Care should be encouraged as part of a strategy to provide more care closer to home. Regional planning groups and NHS Boards should develop ambulatory care plans for children including outpatient services in a range of sites including integrated community schools, rapid access clinics and common protocols. Protocols should be in place setting out clearly the criteria for children and young people who can be seen in ambulatory care units and transport arrangements should be in place and communicated.
- Regional Planning Groups and NHS Boards should identify the level of care that should be provided at each of their emergency care sites in accordance with the proposed emergency care framework.

Workforce implications

- A workforce plan for specialist paediatric services will need to be developed on a multidisciplinary basis. This will need to identify educational needs and delivery of educational programmes in conjunction with Universities and other educational institutions. The plan should also encompass other secondary paediatric services which are considered vulnerable.

- In particular discussions should be taken forward to adapt existing arrangements for training accreditation so that training can be provided through rotational posting across a number of sites within one service to support the "one service, more than one site" model to service delivery, e.g. paediatric intensive care.

- Further support and encouragement for GPs interested in accessing training programmes to establish GPs with a special interest in child health.
- NHS Boards through the specialist paediatric centres and local hospitals, should work together with NES and educational institutions to develop training programmes in the following areas to support child healthcare services:
  - ensuring that surgeons' and anaesthetists' skills in the care of children are kept up to date
  - developing tailored training for paediatric care in remote and rural settings
  - establishing arrangements for primary care Nurses, AHPs, Health Visitors, School Nurses and Practice Nurses to maintain their skills and competencies in the care and treatment of children, working in partnership with community paediatric nurses and specialist paediatric nurses

- Emergency care sites should include the skills and competencies in dealing with children and young people. In particular the enhanced role of emergency practitioner should include these skills and competencies. This should be developed by NES in the form of a competency scheme.

- NHS Boards should consider joint appointments in specialist paediatric services to underpin services locally.

- Staff will require training in the use of e-health technologies, e.g. tele-medicine, tele-radiology.

- The roles of specialist paediatric clinical practitioners, AHPs, nurse consultants and hospital play specialists should be developed to support local care integrated with specialist centres.

Maternity Services

90 The work streams of the National Framework for Service Change do not specifically cover maternity services. The S.E. Framework for Maternity Services and reports of the Expert Group on Acute Maternity Services already set a framework to plan and deliver such services across Scotland. However we felt it important to report on progress on implementation and make recommendations for further work.

91 For the purposes of planning and delivery the "maternity" service includes all the elements of childbearing from pre-conception and antenatal care, preparation for parenthood, through to childbirth, postnatal support, and all aspects of neonatal care. Support throughout these phases is multi-faceted, multi-disciplinary and will be unique to each and every woman and her family. To support the provision of such a service and set a vision and philosophy for these services the Executive produced 'A Framework for Maternity Services in Scotland' in 2001 and the reports of the Expert Group on Acute Maternity Services (EGAMS) in 2003.

A Framework for Maternity Services in Scotland

92 The Framework for Maternity Services stated that:

'Maternity Services should provide a woman and family-centred, locally accessible, midwife managed, comprehensive and effective model of care during pregnancy and child-birth, with clear evidence of joint working between primary, secondary and tertiary services'.

The Framework also stresses the importance of evidenced based high quality care; the normality of childbirth and maternity; maternal choice; holistic assessment of needs; person centred care; one-to-one midwifery care in labour; clear pathways of referral within the incremental care pathways of tiered care; support for breastfeeding; clear protocols for comprehensive risk management and assessment; clear communication between clinicians and families and transport issues.

The Expert Group on Acute Maternity Services

93 Following the Framework, the short-life Expert Group on Acute Maternity Services examined the principles of the Framework and how they should be applied to care during childbirth (intrapartum care). The group reviewed the available evidence and agreed that the majority of care should be provided as locally as possible and, that where possible, midwives should be the lead professional for low risk women, but within the appropriate referral pathway and risk management strategy. It suggested core competencies and skills for all maternity professionals at each level of care, and highlighted the importance of a multi-professional, multi-disciplinary, integrated approach to education. Further it highlighted the importance of regional planning in the context of local and national planning, multi-professional working, good communication and IT systems, consumer involvement and transport systems.

94   The principle conclusion of the Group was, that the current configuration of acute maternity services was no longer sustainable and that change was needed. Maternity Services are subject to the same pressures as many other health services that have been brought about by training reconfiguration, recruitment and retention difficulties, changes to contracts and other workforce issues. However, there are a variety of reasons why the current configuration of maternity services is no longer sustainable including significant demographic changes: a decline in birth and fertility rates, reduced family sizes, commencing families at an older age; and changing expectations of all stakeholders, technological advances in care, and parental choice.

Current Activity

Regional Planning

95   Following the publication of EGAMS the Scottish Executive issued funding to each Regional Planning Group to enable them to facilitate real regional planning for maternity services. Given the differing priorities and stages of progress this work has taken a different shape in each of the 3 regions. All 3 regions now have a sub-group for maternity services and are taking forward the implementation of EGAMS through this mechanism. They have been encouraged to work together and across regional boundaries.

National Maternity Services Workforce Planning Group

96   This group was established in 2003 under the chairmanship of Professor Andrew Calder with a multi-professional membership, including regional representatives, national bodies and Royal Colleges. The role of the group is to review the current workforce and service profile, identify gaps, recommend solutions and from this advise and support NHS Boards, Regional Groups and other relevant bodies.

97   The interim report of the National Group will be published in Spring 2005 and this will set out the current profile of the maternity workforce, including neonatology and anaesthesia, and set out further action taking into account the various drivers for change and emerging models of service delivery.

Scottish Multi-professional Maternity Development Programme

98   EGAMS identified core skills and competencies necessary for all healthcare maternity staff providing intrapartum care in each level of maternity care within the tiered approach, including antenatal, intrapartum, postnatal and neonatal care. In order to achieve these competencies a Maternity Development Programme was established to develop and deliver national evidence-based and clinically focussed multi-professional courses. The Programme is managed by the Scottish Multi-professional Maternity Development Group and each course within the Maternity Development Programme is validated by NHS Education for Scotland and accessed via www.scottishmaternity.org.

Recommendations For Action

Promoting Normality

99   Midwives see all women and their families antenatally, during labour and postnatally and have a strong role in ensuring that care throughout pregnancy and beyond is appropriate for each individual case and that choices about birth are properly informed. In order to increase the profile of midwives as lead practitioners for low risk women, midwives should be the first point of contact once a woman thinks or establishes that she is pregnant. In doing this the midwife will take an appropriate history, develop a care plan which focuses on the woman and maximising the opportunities for a normal birth, but in a risk management context and refer to the Obstetrician and Neonatologist as appropriate. Skilled one to one midwifery care in labour increases the opportunities for a woman to have a normal birth and a healthy postnatal period and reduces the need for unnecessary medical intervention.

We recommend that:

- High quality maternity care should be based on the available evidence about clinically safe and effective practice, and must be woman and baby centred.
- A strong multiprofessional team approach is integral for the delivery of an appropriate seamless maternity services.
- The principles in "A Framework for Maternity Services in Scotland", especially the tiered and incremental framework for antenatal, intrapartum, postnatal and neonatal care, should be fully implemented.
- The concept of risk assessment and management should be developed at all levels of maternity service provision.
- The role of the midwife as the lead professional in low risk pregnancy, childbirth and peurpeum should be promoted and supported.
- One to one maternity care should be the norm in childbirth.
- Community Maternity Units, where deliveries are midwife-led, should be developed, either standalone or co-terminous with a Consultant-led Unit.
- All healthcare maternity professionals should have the appropriate skills and competencies to deliver the appropriate service at each level of care, supported by appropriate communication and explicit referral networks for required incremental care.
- The rates of caesarean section and instrumental vaginal delivery should be regularly audited and reviewed locally and nationally.

Maintaining Local Services

100   Maternity services should continue to be delivered as locally as possible. It is important to note that the majority of antenatal and postnatal care, and intra-partum care for low risk women is available in the local community but sustainable and more specialist services for childbirth may not be as easy to maintain. There is no such entity as "zero risk" for women who are pregnant and giving birth – an element of risk applies to all pregnancies and all childbirths.

101   The majority of medical needs of most critically ill newborn babies can be met by the neonatal intensive or high dependency care within most consultant led maternity units. Neonatal surgery and the associated intensive care needs, especially for those babies with complex congenital abnormalities, require specialist surgical and other complex interventions provided by specialist

multi-disciplinary teams, which can only be provided in a smaller number of specialist centres.

We recommend that:

- Regional Maternity Planning Groups must be established and maintained.
- Maternity services should be planned regionally with the involvement of all relevant clinical disciplines, the Scottish Ambulance Service and consumers. Some specialist services should be considered nationally.
- Local planning and commissioning of maternity services should take place within this regional context.
- Local and regional referral pathways for increasing levels of all specialist maternity care should be developed.
- Protocols and guidelines for women in labour and specialist neonatal care should be developed.
- New models of service delivery, manpower roles and responsibilities and technological advances should be nationally evaluated and best practice disseminated through communication networks.
- Formal communication and information networks should be developed between all maternity clinicians, both regionally and nationally.
- The configuration of maternity units providing the various levels of intra-partum care should be agreed and developed regionally.
- The configuration of maternity units providing the different levels of neonatal care should be agreed and developed regionally.
- The three Regional Neonatal Transport Services should be developed and maintained to ensure a quick, effective and safe retrieval and transport of neonates to specialist care, when appropriate and required.
- Neonatal surgery and the associated neonatal intensive care requires to be planned and delivered in conjunction with fetal medicine as an integral part of maternity services, taking the configuration of specialist paediatric services into account.

National Review of Services

102 Local Maternity Services should be subject to on-going review and monitoring subject to the most up to date evidence and best practice. Where necessary national policies should be reviewed and changed in consultation with NHS Boards, Regional Planning Groups and consumers.

We recommend that:

- The National Maternity Services Workforce Planning Group should ensure the on-going monitoring of the service and workforce profile and assist Regional Groups to map current and future services.
- The Scottish Executive should continue to review national policy documents, in conjunction with NHS Boards and consumers and identify areas for action.
- Quarterly meetings between the Scottish Executive, NHS Health Scotland, NHS Education for Scotland, NHS Quality Improvement Scotland, National Services ISD and the Scottish Ambulance Service should be arranged to map and monitor national work to support maternity services.

User Involvement

103 Service Users, Voluntary Groups and Communities should all be encouraged to be involved in developing and monitoring maternity services. Locally this is vital as maternity services do not only impact upon the patient (ie mother / child) but the wider family.

We recommend that:

- The Scottish Executive and NHS Boards should put in place systems to encourage and support user involvements in service development.
- Maternity Service Liaison Committees should be developed and maintained within NHS Boards.
- Women must be informed about risk with unbiased evidence based information to help them decide where to receive care and give birth. Professionals should balance maternal choice, demand and need against assessment of risk and the availability of services.

Maternity Services Support Group

104 A formal, high profile and well established mechanism exists to promote and develop child health and child health services in the form of the Child Health Support Group. This group does not take into account maternity services, although there is a significant overlap with regard to neonatal services, which are an integral part of maternity services.

We recommend that:

- A National Maternity Service Support Group should be established
  Or
- The remit of the Child Health Support Group should be extended to include maternity services.
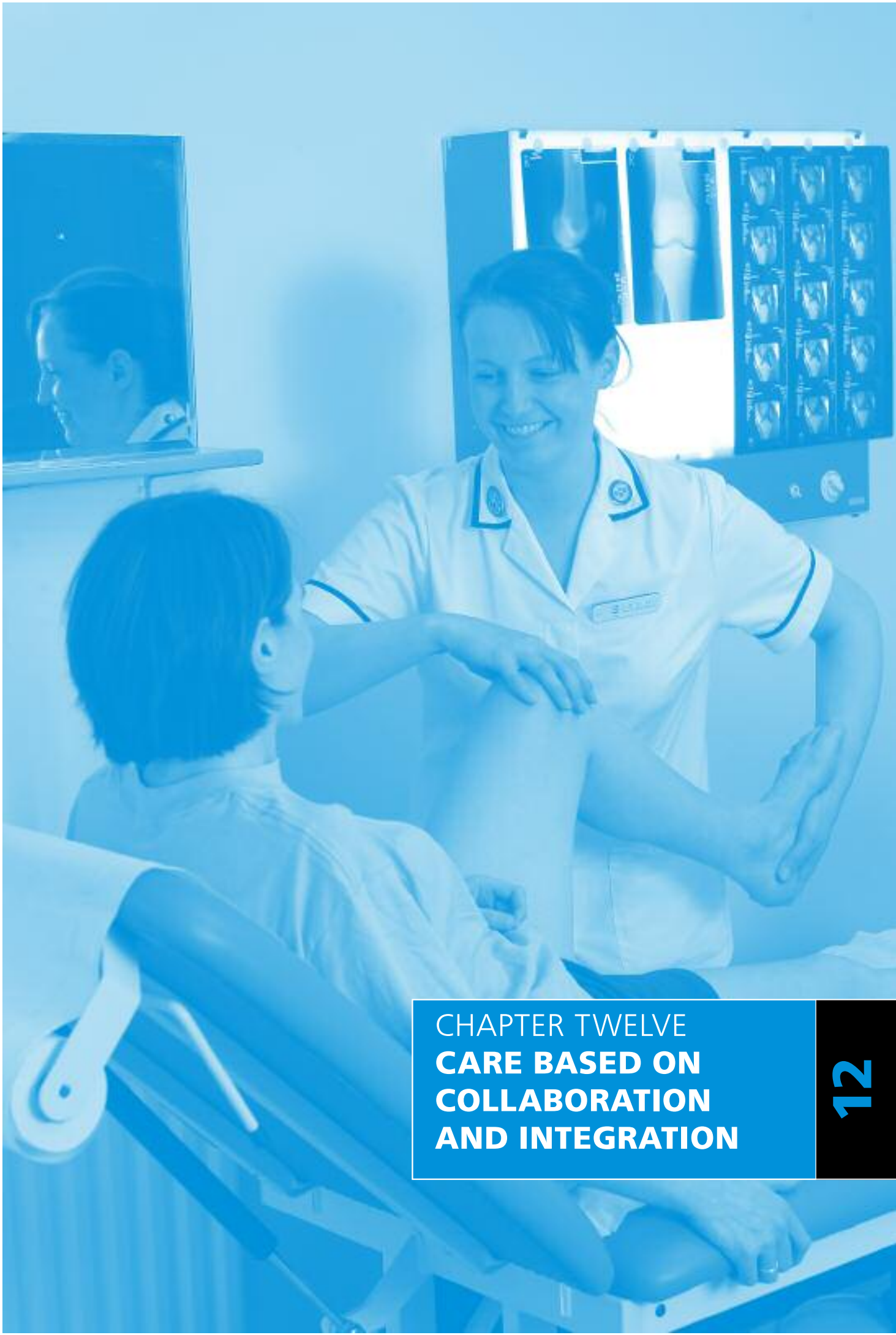
CHAPTER TWELVE
**CARE BASED ON
COLLABORATION
AND INTEGRATION**

12

01   The models of care we describe in this report are based on collaboration and integration. That is an explicit policy direction on our part. We asked Donald Light, Professor of Comparative Health Care Systems at the University of Medicine and Dentistry of New Jersey, for his observations on integration. His insight is interesting. He reported:

"The complexities and understandable divisions of modern medicine have led to a growing interest in integration, or at least greater co-ordination or collaboration, in part because many serious health problems in one organ system have consequences for others and for the patient as a whole. A patient-centred focus also has market and political appeal, so that integration has become an end in itself. It has become a political and organisational movement. But what evidence exists that various forms of integration lead to better clinical outcomes? This would seem to be the "bottom line," though integration has other benefits such as reducing administrative barriers, inducing valuable co-ordination among diverse service providers, and reducing steps, hand-offs and costs, even if outcomes are not measurably better.

Five dimensions of integration have been identified:
1.   Administrative: co-ordination or consolidation of administrative functions and planning
2.   Organisational: horizontal and vertical networks, joint projects, mergers
3.   Funding: shared budgets, incentives, disincentives
4.   Service delivery: team-based services, integrated measures of quality and outcomes
5.   Clinical: shared knowledge and models of diagnosis, language, practices, standards, measures, and feedback.

Inherent tensions challenge integration efforts and other, related goals. Any one kind of integration can lead to new kinds of divisions or barriers at other levels. Hospitals, for example, have long prevailed in part because they bring together in one place a large number of specialty services and equipment – a one-stop shop for the seriously ill and all the specialties that might be pertinent to a given case. Yet the hospital is considered by many now as the textbook case of fragmented care, and the hospital-community division as the principal obstacle to integrated care.

Decentralisation and devolution as policies aim to integrate care close to patients; yet they are fraught with the dangers of localism, the loss of integrated regional services, and barriers to higher quality services. The models of integrated care, such as the Mayo Clinic in the United States, or the Kaiser Permanente health care system for several million people, involve highly coordinated and centralised standards, information systems, budgeting, and planning. In short, the contradictions between decentralisation or community-based services and integrated services need serious and continuing discussion."

02   Thus integration while remaining a desirable outcome in the interests of delivering seamless services to patients is not without its own problems and contradictions. The bottom line is to develop mechanisms for the planning and delivery of services which are not handicapped and distorted by traditional and inappropriate organisational divides.

03   Within health care in Scotland, the policy environment has been moving steadily in a direction aimed at fostering integration at an operational level. The abolition of Primary and Acute Trusts and their subsumption into unified NHS Boards; the development of Community Health Partnerships and the fostering of Managed Clinical Networks have all been aimed at removing organisational barriers between health care sectors and fostering linkages between them. The organisational underpinnings are increasingly in place and yet there is a sense that the seamless, co-ordinated care at the patient level which integration is meant to foster has yet to happen.

04   Within health care the major fault line which has stood in the way of an integrated system of care is the division between primary and secondary care. In particular this division stands in the way of developing integrated systems of care at a local level.

05   An analysis of models of integrated health care in Scotland pointed out that:

"the traditional hierarchy of primary, secondary and tertiary care fails to acknowledge the potential to do more than ever before close to or in the patient's own home. The absence of locally integrated primary and social care inhibits the realisation of this potential and can contribute to the spectacle of hospitals under pressure, unable to admit or discharge patients fast enough to keep pace with demand"

(Woods, 2001)

06   As implied here, the lack of alignment between practitioners in primary and secondary care may well have been a major factor underlying recent rises in emergency medical admissions especially among older people.

07   The general direction of travel in the health service whereby services involving complex procedures and highly specialist skills are likely to become more concentrated and all other services will be devolved to the local level ('as local as possible, as specialised as necessary') means that the traditional rigid demarcation between primary and secondary care will become increasingly obstructive and anachronistic.

08   If specialist services are increasingly concentrated into centres of excellence, local systems of care will need to develop new integrated models. A local example is shown in Box 12.1 (overleaf).

Box 12.1 Integrated local care in Lomond

Proposals are being developed in the Lomond area of Argyll and Clyde for a system of integrated local care.

Various factors are combining to make the current model of care centred around the Vale of Leven Hospital as an acute centre unsustainable. For example, issues such as the European Working Time Directive and the sustainability of training mean that it will no longer be feasible to maintain 24/7 anaesthetic cover at the site. At the same time, extensive public consultation and local campaigns have made clear a strong desire on the part of the public to keep as much care as possible local.

This has led to imaginative proposals for an system of local care which will bring together as an integrated network out of hours care, medical assessment, rehabilitation and a high proportion of the care currently carried out in A&E. The model involves redrawing – to a large extent removing – the boundaries between primary and secondary care thus improving their integration.

The model will see GPs extending their role into functions formerly seen as part of the acute sector. The split between the GP and the secondary care doctor will become much less clear cut. Ultimately a new kind of doctor will be recognised – a specialist in the kind of integrated, general care which is needed. Training fellowships in Integrated Care have been approved by NHS Education Scotland. The model will be underpinned by changing and expanded roles for nurses and others in the primary care team.

The proposals involve a major shift in vision, culture and beliefs. The new system will do away with out-dated organisational divisions and rigidities which too often have acted as barriers to delivering seamless and appropriate care for patients.

09   It is perhaps no coincidence that these proposals were only developed in a situation of potential crisis where the impending lack of sustainability of services under existing models of care came face to face with public insistence that services should be maintained at the local level.

10   The wider challenge is to make this sort of change happen throughout Scotland – not as a response to impending crisis but as the key to better patient care.

11   It is an irony of the stress on integration as the way forward in Scotland, that this model of care – reliant as it is on consensus and collaboration – may lack the kind of levers for change or incentive structures necessary to drive it forward.

12   There is no instant solution to delivering integrated care. It will take consistent and continued efforts from everyone involved with the NHS in Scotland including policy makers, managers and professionals and it is unlikely to happen overnight.

13   Denmark has an integrated yet decentralised system of health and social care. It has been pointed out that this is the product of twenty years of consistent policy making at a national level (Stuart and Weinrich, 2001).

14   Building on the message at a national level there is a need for sustained and consistent use of a range of levers for change. These would include:

- professional engagement and buy-in
- leadership at all levels (national, regional, local)
- development of new roles and clinical specialisms (e.g. specialist generalists)
- clear and consistent accountability and performance management framework
- incentives wherever possible (e.g. built in to contracts)
- national support and expertise e.g. for redesign
- resources for innovation and implementation.

15   Integrated services may take on something of the nature of the Holy Grail and yet they are nothing more than the means to an end. Too often the patient journey through the NHS is time wasting, frustrating and illogical. Its shape is determined by outdated organisational structures and procedures rather than the needs of the patient. What integration needs to deliver is a patient journey which makes the organisational divisions in the NHS invisible to the patient.

Mechanisms for Collaboration: Regional Planning and Managed Clinical Networks.

16   In this section we give consideration to two further mechanisms for achieving greater integration and collaboration in planning and delivery: Regional Planning Groups and Managed Clinical Networks. Later in the Chapter, we will return to the topic of Community Health Partnerships whose central role in shifting the balance of care was discussed in Chapter 4.

17   **Regional Planning Groups.** NHS Boards have long standing statutory responsibilities to obtain the health care and treatment required for the residents of the Board area. The new duty of co-operation contained in the National Health Service Reform (Scotland) Act 2004 requires Boards to work across current geographical boundaries. Health Department Letter (HDL) (2004) 46 of November 2004 set out the Scottish Executive's expectations about how Boards would respond to the new duty through a greater emphasis on regional planning. It was envisaged that regional planning would be necessary in order to:

- implement national priorities for NHS Scotland;
- examine the sustainability of services;
- improve patient pathways of care and enable more appropriate access to services;
- allow local access to services previously available only in specialist centres where providing that local access will improve the clinical outcomes;
- assess the regional implications of NHS Board Service Plans, including the case for migrating more complex activity to tertiary centres;
- develop capacity in workforce planning and development which support changing models of care;
- co-ordinate campaigns on health improvement or lifestyle issues in order to maximise benefits;
- review the provision of emergency healthcare services at a regional level;
- commit to develop public involvement strategies at a regional level;
- promote service redesign through a sponsoring or supervisory role in relation to appropriate MCNs;
- tackle issues that are common to all Boards.

18   Effective Regional Planning is essential to support the delivery of a modern, integrated and sustainable NHS. Ministers have been clear that they expect to see a step-change in the development of regional approaches to service improvement. The three Regional Planning Groups are required to ensure a more systematic approach to planning and delivering those health care services which are best provided to the people of Scotland at population levels above that of the individual NHS Board. Accordingly, Regional Planning requires NHS Boards to recognise the benefits of sharing their responsibilities and resources in respect of such regional services.

19   In subsequent discussion with NHS Boards, a number of principles were developed. Too often in the past, regional planning has been used as a fall-back – occasionally even as an approach of last resort. The idea behind the principles is to establish some ground-rules that will determine when regional planning will become the default position – rather than the fallback:

Box 12.2 Principles underpinning regional planning

NHS Boards will plan health services regionally rather than locally where one of the following principles/tests are met:

- **It will develop models of care likely to deliver better patient outcomes.**

- **It will result in quicker or more equitable access to services across a Region or across Scotland.**

- **It will enable a more effective utilisation of the clinical workforce.**

- **It will enhance clinical or financial sustainability.**

- **It will allow inter-dependent services to be developed more coherently.**

- **It will facilitate service redesign and improvement.**

- **It will deliver best value.**

20   Our Report has a number of proposals that give flesh to the bones of the principles. For example, in unscheduled care, we recommend that those facilities providing emergency admission should be planned regionally. In elective care, we recommend that the planning regions need to come together to plan and deliver the streaming of elective care (away from unscheduled care) and the diagnostic and treatment configuration required to support such an approach. We also suggest a regional approach to referral management giving patients a range of choices about how, where and when their referral is taken forward.

21   This will require a more systematic and better resourced approach to regional planning. Taking account of how little dedicated resource has gone into regional planning, the three Regional Planning Groups (North; West; and South East and Tayside) have achieved a great deal. They are making progress with planning specialised services such as cancer (in co-operation with the cancer networks), paediatric services and specialised mental health services. All three are also embarked on reviews of acute service provision and scoping work around maternity services.

22   This report calls for a step change in that activity. The regional Groups will require additional dedicated resource if they are to take forward the challenging agenda described above.

23   **Managed Clinical Networks.** It will be clear from the earlier chapters of the report that Managed Clinical Networks (MCNs) are seen as the way of implementing many of the recommendations from the individual Action Teams. The concept of MCNs was formalised by the report of the Acute Services Review (Scottish Office, 1998), as a way of building on the collaborative working which was already common amongst clinicians. The key difference which MCNs made was to insist on giving patients a strong voice in the way the service is delivered (see the core principles of MCN development, as set out in HDL(2002)69).

24   A wide range of MCNs is now in existence or under development at NHS Board, regional and national level, with demonstrable improvements in service delivery to their credit. This approach should continue, since MCNs have a number of functions to perform. They should continue to be the engine room of quality and clinical improvement and re-design. There is also a continuing need for the integration of services which MCNs bring about, not just within the NHS but across the boundary between the NHS and local authority services. The Networks providing this wider integration are generally referred to as 'Managed Care Networks'. In the more rural parts of the country, MCNs also have a particular role in helping to make sure services are fully sustainable, as well as providing a combination of local access and ready referral to specialist advice when needed.

25   Experience to date suggests there are a number of key factors which need to underpin all MCN development in the future:

• providing MCNs with their own commissioning budgets may risk increasing bureaucracy by creating mini health economies. MCNs therefore need to be fully integrated with NHS Boards' functions. One way of achieving this is to make sure that MCNs have access to collaborative contracts, as these are developed by CHPS, thereby helping to target resources to the developments to which the MCNs give priority. Performance management arrangements also need to take more explicit account of the role of the MCNs. NHS Boards should recognise the MCNs' work, and should be held to account if they fail to do so. Management in Operating Divisions needs to participate in and assist the aims of MCNs, and should be challenged if they do not do so. There needs, however, to be clarification of roles, responsibilities and accountability between MCNs and Boards or Regional Planning Groups.

- there needs to be a more systematic approach to the development of MCNs. The process has been organic so far. There therefore needs to be greater clarity about the tests to determine whether the creation of an MCN is the most appropriate response to a particular concern. One of the most significant of these tests would be the extent to which the development of an MCN would promote patient choice, as opposed to professional opinion. Boards need to accept a role in stimulating MCNs in [service/specialty] areas where there is no clinical champion but it is clear that patients would benefit from an MCN approach.
- the work on MCNs needs to take account of the advent of Community Health Partnerships, which are about better supporting people at home, a reduction in avoidable hospital admissions, enabling greater access to diagnostic services and improved discharge planning and rehabilitation. MCNs are involved in each of these aspects of service delivery, and this should form the basis for the links which need to be developed between MCNs and CHPs;
- a strong IT base provides an essential stepping stone for MCN development, and the sharing of information helps to unite patients and health professionals. The IT needs of MCNs must therefore be an essential element in their resourcing [by NHS Boards or Regional Planning Groups], on the grounds that what cannot be measured cannot be improved. The collection of audit data is a fundamental feature of MCN activity.
- the role of Lead Clinicians needs to be fully recognised, especially in terms of the allocation of time needed to do the job properly. This would be assisted by the introduction of a process of appraisal of the performance of Lead Clinicians, which should probably be undertaken by the relevant NHS Board. More generally, the performance of health professionals within MCNs should form part of the overall assessment of their performance.

26 We think that the MCN model should be expanded, learning the lessons from those already accredited. In expanding the model, it will be important to recognise the implications of the trends identified earlier in this report: we will need to provide ongoing care to patients with a combination of conditions. The MCN of the future needs to be able to deal with the whole patient and not just a single disease.

27 These points should be incorporated in a new Health Department Letter on MCNs, which the Department should issue as soon as possible after the publication of this report. This will help implement those of our recommendations which depend on an MCN approach, as well as sending a clear signal that MCNs continue for the foreseeable future to be an essential part of the Scottish approach to service development and integration.

Health care as part of a wider system

28 The Health Care system on its own cannot deliver the aspiration for more local care, more effective rehabilitation and discharge from hospital, better assessment and avoidance of emergency admission. Nor can it deliver improved quality of life, reduction in health inequalities and health improvement without the wider network of public services, the voluntary sector and service providers.

29 The most significant interface is with local authorities, and particularly with social work services.

30 Housing services also have an important part to play, since the ready availability of suitable accommodation, either purpose-built or adapted, it is critical to the support of children and adults of all ages in their own homes.

31 In relation to children, integration has mainly focused on how social work, health and education work together.

32 Services must ensure there is a steady flow within and across systems to maintain efficiency and reduce duplication. To achieve this we must clearly understand the whole system, isolate the key areas where flow is compromised and re-design systems where necessary.

33 The joint working agenda between health and social care for adults is usually referred to as "Joint Future" following the Scottish Executive report of the same name in 2000.

34 Joint working is now embedded in the way health and councils work together. For example, 32 joint partnerships were set up in 2002, reflecting the 32 local authority areas, and national guidance for health and local authorities on developing joint services, called "Better Outcomes for Older People" has been developed. It will now drive the mainstreaming of joint services, firstly for older people and then all care groups.

35 The scope of Joint Future activity is wide-ranging, taking account of community care services, free personal care, single shared assessment, the delivery of equipment and adaptations and other areas where there is the potential to add value through joint, aligned or pooled services or resources.

36 There is also a national high level partnership between Ministers and CoSLA which has recently set out four National Outcomes that local partners should achieve through joint working:

- *Supporting more people at home, as an alternative to residential and nursing care, through local agreed joint service developments such as:* Increasing the range and use of domiciliary services e.g. Care and Repair, equipment and adaptations (including SMART technology) and intensive home care packages.
- *Assisting people to lead independent lives through reducing inappropriate hospital admissions, reducing time spent inappropriately in hospital and enabling supported and faster discharges from hospital through service developments such as:* providing more "half-way house" services, e.g. step up, step down, rehabilitative services etc; more rapid response services.
- *Ensuring people receive an improved quality of care through faster access to services and better quality services, through developments such as:* single shared assessment; self assessment; quicker integrated care packages being delivered; greater satisfaction of service users and carers; the range and quality of their care package and the way in which staff from different organisations work together to assist them; one stop access to jointly delivered care packages.
- *Better involvement and support of carers through developments such as:* carers' partnerships and carers' strategies; better quality of services for carers, fit for the purpose and fit for their future; increasing the range and flexibility of carers' services; clear signposting and promotion of the range of care packages and support available to individuals and groups.

37   In turn, all local partnerships must set annual Local Improvement Targets, for 2005-06, for these National Outcomes. These targets focus on 7 core areas such as more intensive home care, more and faster equipment and adaptations services and better support for carers.

12.3 Integrated Children's Services

2001. Scottish Executive Report and Action Plan: "For Scotland's Children: Better Integrated Children's Services" – the vision which drives the integration agenda.

Health and education as universal services – accessed by all children.

More vulnerable children: known to a number of agencies – need more targeted services which can meet their complex needs.

For all children early identification and intervention, co-ordinated assessment and care planning are vital.

Joint strategic planning viewed as essential to driving forward the integration agenda.

38   A joint performance assessment framework measures how well the partnerships are implementing both organisational arrangements such as joint committees and – more importantly – delivering better joint services for people. A Joint Improvement Team has been set up to assist partnerships where there are difficulties.

39   At the strategic level, the key mechanism for driving integration and health improvement is the Community Planning Partnership.

40   These Partnerships, based on local authority boundaries, bring together representatives of major stakeholders within that geographical boundary. This includes not only agencies such as the local authority, the health service, the Police, the Fire Service and Scottish Enterprise but also community representatives, the voluntary sector, and business interests.

41   The purpose of Community Planning Partnerships is to deliver co-ordination of local strategies of all key organisations in a local authority area, with full participation of community representatives. For some purposes, the Community Planning Partnership also allocates resources from the Scottish Executive, which are provided for purposes across more than one agency, for example, Better Neighbourhoods Services funding.

42   The Community Planning Partnership is particularly well placed to deliver health improvement outcomes and to develop cross-agency strategies which address health inequalities. There are many good examples of this across Scotland.

43   Joint working and joint services have been given significant impetus by the Joint Future initiative. Good examples of joint services such as rapid response teams for adult people leaving hospital have now been rolled out in almost every partnership in Scotland. This reflects the fact that many people have complex needs – both health and social care – and joint working can mean a quicker and better response to assist individuals.

Community Health Partnerships

44 As we highlighted in the section on care in local settings, Community Health Partnerships (CHPs) are explicit vehicles for collaboration and the integration of services at a local level. They provide a focus for integration between primary care and specialist services and with social care. To achieve this CHPs will need to link clinical teams; work in partnership with local authorities, the voluntary sector and others to support the improvement of the health of local communities; and most importantly involve the public, patients and carers in decisions concerning the delivery of health and social care for their communities.

45 It is expected that there will be change at the leading edge of service delivery – by developing integrated care and treatment for local people; and providing access to community based services which would otherwise require a trip to hospital.

46 As partnership arrangements with local authorities develop, it is likely that the range of services with joint outcomes and performance management will increase. This trend will require practitioners to consider shared healthcare governance arrangements to support joint working arrangements.

47 A critical aspect of the work of every CHP will be to place the public at the centre of the drive for quality improvement and service design and delivery. Consequently frontline practitioners will need to be geared up to respond to the increasing pressure from the public/patients and carers (often channelled through Public Partnership Forums within each CHP) to improve standards and patient safety.

CHPs: levers for integration

48 Given the importance of their role and the fact that CHPs are in their infancy, it will be important to ensure that they are equipped in terms of vision, aims, objectives, performance, governance and accountability. We recommend that NHS QIS develop a set of CHP quality indicators. This would provide a comprehensive framework, consistent with their contractual obligations, to set out for CHPs, their staff and the public the quality standards they are expected to meet and against which their performance will be assessed. In addition the Scottish Executive, working with NHS QIS should develop a methodology for accrediting CHPs against these standards, possibly based on that used for managed clinical networks.

49 One of the factors which the quality indicators must address is the desired outcome of integration between primary and secondary care. That means that clinical leaders from general practice and from hospitals must be brought together as members of the CHPs to provide direction.

50 One of the outcomes of the accreditation process might be to evaluate the extent to which CHPs are able to take on financial delegation from NHS Boards. We are convinced that such delegation must take place. Budgets for developing integrated care solutions are currently tied up in hospital based services. In Professor Light's work for the National Framework about the obstacles to productive and integrated care, he suggests that budget barriers such as this create "blocked incentives" which are in turn responsible for unnecessary referrals and admissions to hospital, clogged waiting lists, poor discharge etc. and suggests "collaborative contracting" as a possible solution.

51 We were struck that if we can get the collaborating parties working jointly in CHPs, (with delegated budgets within which they could re-invest savings), then we might be able to find shared incentives to deliver integrated care. In the NHS, the key collaborating parties are General Practitioners (as gatekeepers to the system) and Hospital Consultants. Both must be firmly embedded in the CHP structure. But for CHPs to be a success, so too must other clinical leaders.

52 There should be scope too for this collaborative contracting approach to facilitate the more effective use of diagnostic services and for it to dovetail with the referral management approach mentioned earlier in the report. There is also potential for Managed Clinical Networks to put together collaborative bids for operational budgets aimed at improved integration. Over time, the CHP would become responsible for financing from its delegated budget all services provided for its community whether they are community based services or hospital based services. It would be responsible for waiting times and quality.

53 We recommend that as CHPs mature, and meet the quality standards referred to above, that we should pilot this approach in a number of CHPs. It will require clearly agreed outcome targets, tariffs to be set to enable appropriate budget shares to be assigned to the CHP and careful evaluation. But we believe it has the potential to incentivise integrated care.

Integration and collaboration: the pay-off

54 The mechanisms outlined above – Regional Planning Boards, Managed Clinical Networks and Community Health Partnerships – greatly improve the prospects that the NHS in Scotland will in future be able to plan and provide services which are integrated and collaborative and meet the needs of the patient for a seamless service. However there may still be some nervousness about whether it is all worth the effort. Is an integrated NHS worth pursuing or is it a holy grail that may be sought but never found?

55 As mentioned above, we asked Professor Donald Light to advise us on whether there was evidence that service change aimed at integration of care had delivered a successful outcome in terms of patient care, quality of care and cost effectiveness. Professor Light reported to us that in his view, "the most successful integration of a large public health care system is the Veterans Health Administration (VHA) in the United States".

56 The VHA case study referred to below suggests that the search for integration might just be worth all the effort. The supporting material is drawn from two sources – an article in the American Journal of Managed Care by the VHA's Under Secretary, Jonathan Perlin and others (Perlin et al., 2004) and an article by Carol Ashton and others in the New England Journal of Medicine (Ashton et al, 2003).

57 The Veterans Health Administration is the United States' largest integrated health system. Once disparaged as a bureaucracy providing mediocre care, it has reinvented itself over the last decade through a policy shift mandating structural and organisational change, rationalisation of resource allocation, explicit measurement and accountability for quality and value, and development of an information infrastructure supporting the needs of patients, clinicians and managers. Today the VHA is recognised by independent observers for leadership in clinical informatics and performance improvement: it cares for more patients with proportionally fewer resources, and sets national benchmarks for patient satisfaction and quality of care.

Figure 12.1 Decrease in Hospital Admissions and Increases in Outpatient Visits in the Department of Veterans Affairs from 1995 to 2003.
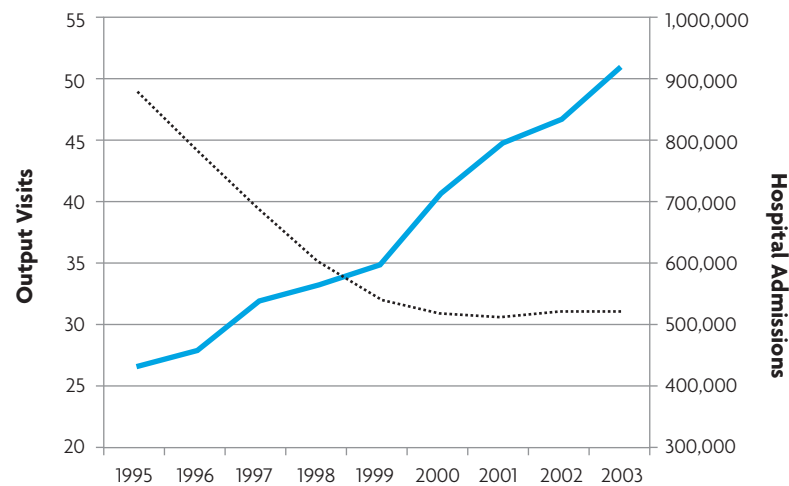
Source: Perlin et al, 2004

58   The VHA embarked on its transformation in 1995. It had long been organised around its hospitals and subspecialty services with individual hospital level units operating with relative independence from each other. But new developments in medicine had shown that many serious and chronic problems could be treated more effectively and at less cost using a home- and community-based delivery system centred on primary care.

59   Between 1995 and 1999, the transformation established over 300 new community-based outpatient clinics with telephone-linked care to specialists at VHA hospitals. Annual inpatient admissions declined by more than 32%, while ambulatory visits increased by more than 45%. The proportion of outpatient surgeries increased from 35 to 70 percent. Sixty percent of VHA beds were eliminated, while the number of patients treated per year increased by 25%. By 2003, the VHA had 850 community-based outpatient clinics and more than 300 long-term care facilities, domiciliaries and home-care programs. Total beds had been reduced from 92,000 in 1995 to 53,000 in 2003, and hospital admissions from 900,000 to 600,000, while outpatient visits had increased from 26 million to 52 million.

60   The structural transformation of VA was characterised by the creation of 22 geographically defined Vertically Integrated Service Networks (VISNs). Resources were allocated to the network rather than, as previously, to the individual hospital or facility thus creating financial incentives for co-ordination of care amongst previously competing facilities. The similarity to the unified NHS Board structure in Scotland is striking and the incentives apply here too. Too often, additional resources are used to fund more of the same ways of working. We need more of a zero based approach with incentives to rethink how we deliver services.

61   The reduced hospital use has had no adverse consequences as measured by long term survival rates. Carol Ashton was good enough to come to Scotland to brief us on her analysis of patient outcomes. She found that over the period between 1994 and 1998, when bed day rates fell by 50% and urgent care visits fell by 35%, there was no significant change in survival rates over a range of conditions. (Figure 12.2.)

Figure 12.2:
Hospital Use and Survival among VA Beneficiaries.

Changes in VA Hospital Use and Survival. 1994-1998					
Cohort	Hospital Days per Person – year:			One-Year Survival Rates:	
	1994	1998	% Change	1994	1998
Heart Failure	18.7	10.6	-43.3%	78.1%	79.5%
Obstructive Lung Disease	17.0	8.4	-50.6%	85.1%	85.5%
Diabetes	12.8	6.5	-19.2%	94.4%	94.1&
Major Depressive Disorder	23.2	9.4	-59.5%	97.9%	98.4%

Source: Ashton et al, 2003.

62   What are the lessons from this remarkable transformation? The first lesson is to develop a clear, comprehensive vision of where one wants to go and stick to it, in this case a vision of home- and community-based integrated care.

63   A second lesson is to establish an accountability system. All clinical and administrative leaders were put on performance contracts, with bonuses for achieving performance goals. As measures matured, they shifted from inputs to outputs and outcomes. Quality was objictified in terms of outcomes of interest to patients and others in six "value domains": access, technical quality, patient functional status, patient satisfaction, community health, and cost-effectiveness. A Prevention Index, a Chronic Disease Index, and a Palliative Care Index were developed and implemented system-wide. Audits are performed by an independent external contractor under the External Peer Review Program.

Figure 12.3
Outperforming the Private Sector with more challenging patients

Clinical Indicator	VA 2003	Medicare 2003	Best non-VA or Medicare
Advised tobacco cessation (VA x3, others x1)	75	63	68
Beta-blocker after MI	98	93	94
Breast cancer screening	84	74	75
Cervical cancer screening	90	NA	81
Cholesterol screening (all patients)	91	NA	73
Cholesterol screening (post-MI)	94	80	79
LDL-C <130 mg/dL post-MI	78	67	61
Colerectal cancer screening	67	50	49
Diabetes HbA checked past year	94	88	83
Diabetes HbA >9.5% (lower is better)	15	NA	34
Diabetes LDL-C measured	95	91	85
Diabetes LDL-C <130 mg/dL	77	68	55
Diabetes eye exam	75	65	52
Diabetes kidney function	70	54	52
Hypertension: BP ≤ 140/90	68	61	58
Influenza immunisation	76	74	68
Pneumococcal immunisation	90	NA	63
Mental health follow-up 30 days post-discharge	77	60	74

Source: Perlin at al., 2004

64   Of particular note is the development internally of a computerised patient record system (CPRS) that integrates data from ambulatory, inpatient, long-term care, and home care sites and provides a single, graphical interface with all providers and with the patient. Information is organised to support clinical decision making and to be patient-centric. All charts, notes and images are available through the web at all sites. The system is vital for integrating guidelines, prompts, alerts, order-checking, adverse reactions, and also for evaluating system-wide any new drug or procedure.

65   As Figure 12.3 shows, the VHA outperforms the private sector on various measures, despite having less money, sicker and older patients, and more difficult problems of access to overcome.

Cost implications

66   In recommending change, we need to have some degree of certainty that it will be sustainable and affordable. We believe that what we propose meets both criteria. Of course, as with any change programme, there is uncertainty and an absence of fully costed data. We are recommending new ways of delivering services and accordingly there is only limited data about cost effectiveness.

67 We asked Dr Andrew Walker to provide a commentary for us on the economics of our proposals. Dr Walker sounded a note of caution in suggesting that there was limited evidence of costs and benefits for changes of this magnitude and he pointed out that the studies which do exist might not generalise to other settings. He noted for example that the evidence on changes to the emergency care network was patchy.

68 But, on the other hand, he concludes that the shift away from acute care and towards preventative services and management of chronic diseases (which is central to our proposals), can improve the long term health of the population without additional spending, so long as the services involved are carefully selected. And he point out that chronic disease management can be cost effective but is unlikely to be cost saving.

69 Taken in the round, and notwithstanding the shortage of hard data, we expect the changes outlined in this report to be cost neutral for the whole NHS but that they will require more weight to be given to providing care in local communities in allocating the future increases in the health budget.

Summary of recommendations

01 The Scottish Executive should recognise and support three levels of planning:

- National – led by the Scottish Executive, working collaboratively with the three Regional Groups as the usual planning mechanism for highly specialised services that we should only deliver on one or two sites in Scotland.
- Regional – led by the Regional Planning Groups, working collaboratively with Boards as the usual planning mechanism for acute hospital services.
- Local – led by NHS Boards, working collaboratively with CHPs as the usual planning mechanism for delivering integrated care in local communities.

02 NHS Boards should reallocate and pool resources to ensure that Regional Planning is formalised with more staff allocated to it and with a clear agenda based on the priorities identified in this report.

03 The Scottish Executive should ensure that the contribution made to regional planning is more formally part of the delivery and accountability requirements for NHS Boards.

04 There should be continued and more systematic development of Managed Clinical Networks as vehicles for service redesign, quality improvement and integration of services.

05 More integrated planning and delivery of health, health improvement and social services should continue to be developed via such vehicles as Joint Future and Community Planning Partnerships.

06 The Scottish Executive should work with NHS QIS to develop a set of Community Health Partnership quality indicators. Integration between primary and secondary care should be one of the outcomes addressed by these indicators.

07 CHPs should be the main vehicle for integrating care in local communities. In doing so they should:

- ensure clinical leaders from primary and secondary care are engaged,
- develop co-ordinated data across primary and secondary care,
- work towards accreditation on the basis of standards to be developed by NHS QIS
- develop collaborative budgets across primary and secondary care, linking where appropriate with Managed Clinical Networks.

08 The Scottish Executive should explore options for aligning financial rewards and incentives to contributions to service improvement.

Workforce implications

Implementation of the vision set out in this Framework will require new, more integrated and collaborative ways of working throughout the NHS and beyond. This change process should be co-ordinated at a national level and supported locally and regionally.

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CHAPTER THIRTEEN
INFORMATION AND COMMUNICATIONS TECHNOLOGY

13

01 In all the work we have done, one issue came up again and again. It was high on the priorities of clinicians, managers and members of the public. A common information technology system that will provide the 'glue' for an integrated NHS seems to be a universally accepted requirement.

02 Given the huge increase over recent years in personal computer and internet use as well as the dramatic changes in ICT use in other industries, most people might assume that the NHS is highly electronic and computerised. The reality, however, is that the a high proportion of its business is still not computer based. In hospitals, patients' medical notes and records are still, overwhelmingly, folders of forms and handwritten notes.

03 The reasons are not difficult to find. One of the key factors is the lack of investment. Figure 13.1 shows the relative spend per employee on information technology across a number of sectors of the economy. Health care lags far behind.

Figure 13.1
Annual expenditure per employee on Information and communication technology in United Kingdom in different economic sectors, 2000
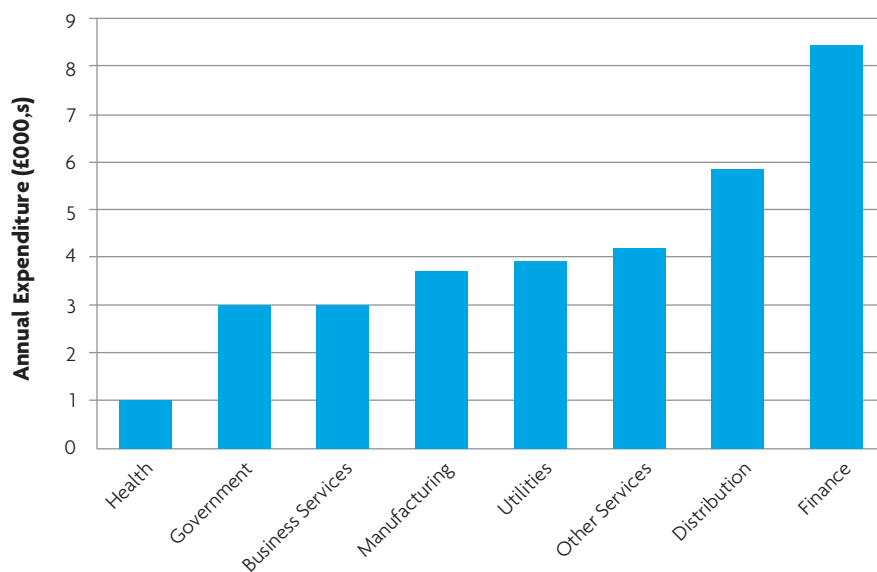
Annual expenditure per employee on Information and communication technology in United Kingdom in different economic sectors, 2000

04 The implications of the absence of an electronic record are considerable. For example, it introduces significant and unnecessary inefficiencies to the system. Work in the United States suggests that:

- something like 1 in 7 hospital admissions occur because care providers do not have access to previous medical records,
- 20% of laboratory tests are requested because previous investigations are not accessible,
- 15% of hospitalisations are complicated by drug error.

Why do we need information technology?

05 We are not alone in thinking that a dramatic acceleration of information technology provision is an essential means to achieve service change in health care. The Department of Health (DoH) in England is embarking on a major programme for information technology. Under the headline "Better information for health and patient care, where and when it's needed", the DoH say;

"Better information leading to better health and care for every patient is at the heart of the National Programme for IT (NPfIT). It's transforming the way information flows around the health service, making it possible to deliver faster, safer and more convenient patient care. At the same time it is giving patients the information they need to look after their own health."

06 Likewise, the US Department of Health and Human Services said in July 2004, on the back of a major Presidential initiative to promote IT in health care:

"Information technology can result in better care (care that is higher in quality, safer and more consumer responsive) and at the same time, more efficient (care that is appropriate, available and less wasteful). There are few other alternatives that can achieve both of these goals in a balanced and timely manner."

07 Of course, we have known this for some time in Scotland. In the 2002 report of the GPASS Review Group, the anticipated benefits from a national electronic patient record were summarised as follows;

- Enhanced quality of care
- Enhanced safety of care
- Verifiable quality, safety and outcomes of care – underpinning standards and clinical governance
- Integration of care – improved patient-centred care irrespective of site or agency (self, primary, intermediate, secondary, tertiary or social care)
- Better informed patients and health professionals
- Higher quality data for improved planning of services and informed policy development, including public health
- Novel opportunities for education, research and development and health informatics.

08 There is a reference in virtually all of our individual reports to the need for an integrated information system. We will not rehearse the demands once more in this chapter but by way of illustration, the following section from the Care in Local Settings work provides an indication.

09 The Care in Local Settings Team recommend that an essential component of a system of care in local settings (which is to be the vehicle for a shift away from reactive, crisis-management, acute-oriented care towards anticipatory, preventative and continuous care) is a comprehensive health care information system which includes an electronic health record. If patient care is to become anticipatory rather than reactive then patients must not be allowed to 'disappear from the radar'. As outlined in Box 13.1, an integrated health information health system plays a key role in implementing systematic care for long term conditions as outlined in the influential Chronic Care Model.

Box 13.1 The role of healthcare information systems in the Chronic Care model

Organize patient and population data to facilitate efficient and effective care

- **Provide timely reminders for providers and patients**
- **Identify relevant subpopulations for proactive care**
- **Facilitate individual patient care planning**
- **Share information with patients and providers to coordinate care**
- **Monitor performance of practice team and care system**

Effective chronic illness care is virtually impossible without information systems that assure ready access to key data on individual patients as well as populations of patients. A comprehensive clinical information system can enhance the care of individual patients by providing timely reminders about needed services and summarized data to track and plan care. At the practice population level, they identify groups of patients needing additional care as well as facilitate performance monitoring and quality improvement efforts. http://www.improvingchroniccare.org/change/model/clinicalinfo.html

10 Information systems should be able to support the three functions of assessment of need, care planning and co-ordination and evaluation of the quality of care.

11 **Assessment of need or risk stratification.** Registration of all individuals with long term conditions or ongoing health problems forms the basis of assignment to the appropriate level of care co-ordination and management – from some form of intensive case management or care co-ordination for those with the most complex needs to supported self-care for the bulk of the population with less severe long term conditions.

12 **Care planning and co-ordination.** An integrated electronic health record will not in itself provide co-ordinated and integrated care. However it is a crucial pre-condition for the provision of co-ordinated care by members of a multi-disciplinary team. The Electronic Health Record (EHR) enables patient records to be accessed as appropriate from across the system. Amongst the key functions of such a system would be health information and data storage (including images), results management and dissemination, order entry (e.g. for prescription drugs), decision support, referral protocols and capacity and patient information.

13 Patients and carers must be active partners in the provision of co-ordinated care. Remote monitoring and patient self-monitoring in the context of an integrated information system will enhance their ability to participate in care and will enable care co-ordination and monitoring to be performed on a more systematic basis.

14 **Monitoring quality of care/quality improvement.** The electronic health record will be indispensable for monitoring patient outcomes and the application of quality improvement methodologies to care in local settings.

What do we need?

15 Our work tells us that the NHS needs a single information technology system with the following key features:

- An Electronic Health Record
- Picture Archiving and Communications (PACS)
- Electronic prescribing
- Electronic booking
- Remote monitoring facility
- Tele-medicine facilities

16 The electronic health record is at the heart of the information requirements. It is central to NHS reform and will transform the way health and social care information is managed. It must give health and care professionals access to patient information where and when it is needed. It must meet the needs of patients and give them access to their own private health records.

17 Currently, health information is held as a mixture of paper based and computer records that can't easily be shared. Even records held electronically are effectively 'locked away' on computers that can't talk to one another. We need an electronic health record (EHR) that will change this by digitising our 5 million patient records, allowing information to be shared safely across the NHS. A patient will be treated by a variety of care professionals in a range of locations throughout their life. The EHR is a means of ensuring that the central details of the care and treatment are held in a single, easily accessible, electronic record.

18 The record needs to store a patient's essential personal details like their address, date of birth and importantly, a unique patient identifier (known as the CHI number). Over time, it will build their health and care history. It will include information such as whether a patient is diabetic or has a drug allergy, as well as details of the treatment and care they have received, building up a comprehensive patient history. This means, for example, that if someone from Dumfries is seriously injured while on holiday in Aberdeen, they can be treated by a local doctor with immediate access to the patient's medical records. The doctor can be informed of any drug allergies and previous treatments, ensuring that life-saving treatment can begin immediately. It will also mean that when a patient telephones NHS 24 the Nurse Advisor has instant up to date information about the patient which will both improve the quality of the advice and the efficiency of the intervention.

19   We have looked at the Computerised Patient Record System (CPRS) developed by the Veteran's Health Administration. The CPRS displays the patient record in a way that supports clinical decision making. It shows timely patient-centred information on its front page, including active problems, allergies, current medications, recent laboratory results, vital signs, hospitalisation details and outpatient history. The CPRS delivers an integrated record covering all aspects of patient care and treatment including:

- electronic order entry and management (i.e. the facility to order and manage requests for diagnostics),
- narrative notes entry (idealy this should be voice activated so the clinician can dictate notes directly into the system),
- laboratory results display,
- consultation requests,
- alerts of abnormal results.

The CPRS supports clinical decision makers throughout the system whether they are in primary care, a local hospital or a major centre.

20   There are considerable benefits to be gained from introducing an electronic patient record. The National Programme for Information Technology summarise the benefits as follows:

For patients:
- Improved quality and convenience of care
- Assurance that the right information about diagnosis and treatment is available when and where it is needed
- Improved communications with health and care professionals
- Immediate treatment can be given in an emergency as the patient's medical record is known
- Confidence in the accuracy and appropriateness of information in the patient's record
- Absolute confidentiality of care records through the unique NHS number, password protection, and a trail of any access (i.e. by whom, when and where) attached to a record
- Patients have access to their own record and the opportunity to become more involved in their own care
- Patients have opportunities to confirm details of their appointments and prescriptions

For clinicians:
- Greater support in diagnosis through the NHS Care Records and easier access to up-to-date information
- Improved information and support through access to patient records and diagnoses 24 hours a day, seven days a week
- Knowing which care providers have been involved in treating a patient
- Reduced administration and less duplication of record-keeping
- More efficient and appropriate referrals and communications of test results and discharge summaries between, for example, GPs and hospitals
- Increased safety in prescribing and monitoring prescriptions, and warning about possible conflicts in treatment
- News about changing trends in diseases

For the National Health Service:
- A transformed service focused on the individual patient with improved care experience and confidence in the service
- Savings in cost and time from cutting out paper-based transactions, filing and storage, to be replaced by automatic filing and archiving
- Greater integration of health and social care services
- Better quality information to support research, audits, and performance management.

21 **We recommend that the Scottish Executive secures an electronic health record system with the functionality described above.** The work of the GPASS Group referred to earlier suggests that the EHR should be purchased and introduced in line with the following guiding principles.

- Patient-centred care requires patient-centred records (not unit, agency or professionally based records as at present)
- Accessible, complete and accurate information to be available in the right place and at the right time for the benefit of both patients and health professionals
- High clinical functionality essential for the specific locus of care and for the professional administering that care
- The system must be highly secure and resilient (available 24/7) with robust technical back-up guaranteed
- Patient confidentiality must be assured at all-times, access levels agreed for each individual health professional and access audit trails in place
- Systematic arrangements should be in place to ensure standardisation, maintenance and updating of hardware and software
- Adequate training support/programmes essential for all users – including the promotion of excellence in health informatics.
- Ownership and priority setting for developments requires necessary and sufficient "buy-in" by users of the system – including patients. Mechanisms need to be robust and transparent to secure this. Will require clinical leadership at all levels to secure this (national, regional and local, strategic and logistic)
- Appropriate and sufficient resources to be made available to underpin all of the above.

22 **We recommend that the EHR should be put in place within 3 years. Consideration should be given to purchasing a proven 'off the shelf' package rather than developing something specific to Scotland. It should be compulsory not optional and should result, over time, in a paper free system. It should be capable of interface with social care systems and the CHI number (patient identifier) should be recognised across the health and social care systems to ensure a joined-up approach.**

23 **Picture Archiving and Communications Systems (PACS)** capture, store, distribute and display static or moving digital images such as electronic X-rays or scans. PACS takes away any need to print on film and to file or distribute images manually. This means that as images are created they can be immediately sent and viewed across several NHS locations. These digital images should form an essential part of every NHS patient's EHR. They should extend not just to X-rays and scans, but to pathology slides, cardiology results, wound photos, endoscopies etc.

24 Electronic imaging, such as PACS can transform patients' experience of the care they receive as well as enable clinicians using any sort of image to provide a much faster, more effective and straightforward service. The particular benefits will include:

- More effective care as clinicians and care teams work together in one or more locations (much easier to separate the capturing of the image from the reading of it – meaning the image can travel rather than the patient)
- Faster access to high quality medical imaging services and results
- Reduced re-testing
- Quicker discharge from hospital and better care planning resulting from easier access to images and test results
- Fewer appointments and operations postponed because of non-availability of images
- Images available 24 hours a day, seven days a week
- Simultaneous image viewing across multiple sites and locations
- More efficient use of facilities and staff.

25 The NHS in Scotland needs an **electronic prescribing system** similar to the Veteran's Administration's Bar Code Medication Administration (BCMA). Electronic prescribing can increase patient safety by reducing prescription errors and providing better information at the point of prescribing and dispensing. This also creates the opportunity to reduce adverse drug events where the patient responds poorly to medication. The prescription information should form part of each person's NHS care record.

26 An **Electronic Booking Service** allows GPs and other primary care staff to make initial hospital or clinic outpatient appointments at a convenient time, date and place for the patient. When a patient needs to be referred to a consultant or other healthcare practitioner they will be asked by their GP where they want the treatment to take place. They will then be able to 'book' the appointment on the spot and leave the surgery with their appointment time and date. This will replace the paper-based referral system and work in tandem with the proposals for referral management centres referred to in the section on elective care. It should remove the lengthy wait (often weeks) between visiting the GP and receiving an appointment from a hospital.

27 The potential benefits include the provision for patients of greater choice of date, time and place for their appointment, better planning and management information through tracking of referrals – reflecting local needs – and more consistent, accurate and efficient referral information with none of the delays of paper correspondence.

28 **Remote patient monitoring** will facilitate support and management of patients across Scotland. Integral to the EHR, patients can be remotely assessed and early intervention instututed where necessary. Patients as well as professionals will be able to update the EHR thus ensuring real-time and comprehensive patient data is captured.

29 **Tele-medicine.** The final, vital component of the information and communications technology required to support the implementation of our Report relates to tele-medicine. We use tele-medicine here as the descriptive term for any application of ICT which removes or mitigates the effect of distance in health care. This may involve technologies as simple as the effective use of the telephone, through digital transfer of informattion, advice and images, to real time video-conferencing and consultation.

30 Amongst the reasons why telemedicine solutions should be considered are:

- Where there is no alternative, or it would be prohibitively expensive to provide the service by conventional means.
- Lack of staff with appropriate skills. This could be as a result of the specialised nature of the clinical task, the lack of experience, training or education of the healthcare professional, the difficulty of providing cover on a 24-hour basis, or because of problems recruiting and retaining staff.
- To improve the quality of service for patients (e.g. faster access, less travel).
- To improve the quality of the working environment for staff in order to improve staff recruitment and retention (e.g. access to training, peer support, information and advice, networking confidence/morale enhancing).
- As a means of providing professional education and development.
- In order to concentrate and improve access to expertise, especially where skills are highly specialised or limited in availability (e.g. pathology).
- To reduce costs (e.g. by reducing the need for face-to-face appointments, or minimising the need to travel).

31 Whilst the use of communication technology may produce better efficiency both within and between organisations, it has traditionally been seen as being used to overcome problems of distance. Therefore, Scotland with 20% of its population living in remote and rural areas and with its surrounding islands is ripe for re-design of healthcare delivery facilitated by technological solutions.

32 The Scottish Executive established the Scottish Telemedicine Action Forum (STAF) in 1999 to progress the introduction of communication technology for clinical care. STAF commissioned a number of demonstrator projects with the main focus being the introduction of communications technology to routine clinical care. STAF issued its initial report in January 2003 which highlighted a major obstruction to re-design as being the failure to convert successful projects to routine service. Combined with this has been a reluctance to embrace the potential for such projects to be used across traditional boundaries within the NHS such as primary to secondary care and across regions.

33 The most highly developed of the original STAF projects is the emergency tele-medicine initiative based in Aberdeen Royal Infirmary. Our work on unscheduled care identified the Aberdeen programme as an example of good-practice for how we will deliver unscheduled care in the future. The aim of the project was to establish a robust telecommunications infrastructure to be initially used to provide emergency care. The infrastructure is also available to deliver planned clinical care as well as education initiatives. The core project is described in Box 13.2.

Box 13.2 Grampian Tele-medicine Initiative

This project, the largest telemedicine project in the UK, is a teleconsultation service linking Aberdeen Royal Infirmary to 14 A&E centres in community hospitals throughout Grampian. Over 1600 A&E consultations have been carried out over the past year. The teleconsultations allow a decision to be taken whether to transfer the patient to Aberdeen for treatment, or to treat the patient locally. If the decision is to treat locally, the tele-link allows advice to be given about the treatment which should be carried out.

Importantly, the infrastructure (which includes 21 sites within the ARI complex) is increasingly attracting the interest of other specialties. For example, the system is used regularly for clinical pathological conferences. In addition, other uses are being explored such as televisiting.

The emergency service has recently been further developed to support paramedic delivered thrombolysis. In collaboration with the Scottish Ambulance Service and with funding from RARARI, the Pre-Hospital Ambulance Service Thrombolysis (PHAST) service allows paramedics delivering thrombolysis in the community to access clinical support from the A&E Department at ARI. The patient is taken by the paramedic to one of the peripheral A&E centres where the readout from the heart monitor is linked directly to Aberdeen A&E. The consultant at Aberdeen is able to carry out a teleconsultation with the patient, paramedic and GP and a decision can be taken whether to administer thrombolysis locally. The service is currently achieving delivery times for thrombolysis better than the targets set by the Executive.

The key message of the Grampian project is that a well supported infrastructure, combined with an enthusiastic clinical champion and team, allows additional uses to be explored and new services to be offered.

Summary of recommendations

The NHS in Scotland needs a single information technology system with the following key features:

- An Electronic Health Record
- Picture Archiving and Communications (PACS)
- Electronic prescribing
- Electronic booking
- Remote patient monitoring
- Tele-medicine facilities.

The electronic health record is at the heart of the information requirements. It is central to NHS reform and will transform the way health and social care information is managed.

The Scottish Executive should secure an electronic health record system with the functionality described in this chapter. The system should be put in place within 3 years. Consideration should be given to purchasing a proven 'off the shelf' package rather than developing something specific to Scotland. The system should be compulsory not optional and should result, over time, in a paper free system. It should be capable of interface with social care systems and be based on universal usage of the CHI number.

Local health care systems should be based on a comprehensive population based health information system able to support the functions of: risk stratification/ assessment of need; care planning and co-ordination; and quality assurance and improvement.

Workforce implications

The shift to a single electronic health record and the broadening of the reach of telemedicine will require continuing education and development for all staff within the NHS.

CHAPTER FOURTEEN
CONCLUSION

14

01   Changes in what patients need in the future from the NHS will require a shift in the balance of care. The ageing of the population, the growth of long term conditions and the continuing pressures on emergency beds can and must be dealt with by an integrated, whole system response. This will move the NHS in Scotland from an organisation reacting to illness – too often by doctors in hospitals – to an organisation working in partnership with patients to anticipate ill health and deal with it in a continuous manner through the efforts of the whole health care team.

02   **The NHS in Scotland can meet that challenge by;**

- Building a new relationship of partnership and trust with the public aligned around the direction set in this report.
- Equipping frontline staff to design service change and to develop new roles and skills.
- Ensuring all staff are working to a shared vision with a sense of pride in what they are doing.
- Providing modern information technology to improve access, quality and effectiveness.
- Maximising services in the community: delivering care that is as local as possible and as specialised as necessary.

03   This report sets out a range of actions at national, regional and local levels. There is a clear need to ensure that at each level, the recommendations in this Report (as approved by the Minister for Health) are delivered.

04   At a national level, we envisage a continuation of the National Planning Team set up to support the Advisory Group in the preparation of the report. The recognition of national planning as a continuous process, rather than a one-off event, will be important as the role of the Team shifts from analysis to implementation. In addition to taking forward implementation of the key recommendations around highly specialised care (including neurosurgery and children's tertiary services), the Scottish Executive will have a role in co-ordinating and evaluating progress on the delivery of the other recommended actions.

05   At a regional level, we have identified a need to further raise the profile and impact of Regional Planning. That will mean that NHS Boards will have to deliver a much greater level of support for the Regional Planning Groups. This report sets a challenging agenda for regional planning, not least around the re-configuration of planned care and the requirement to integrate thinking on this issue with a new model of unscheduled care.

06   At a local level, we need to actively pursue the shift in the balance of care that underpins this Report. The delivery of community based, co-ordinated, anticipatory care with the patient as a partner in providing care is at the heart of our proposals. NHS Boards and their Community Health Partnerships have a crucial role to play in ensuring that we take an effective and systematic approach to caring for people (particularly older people) with long term conditions. That care should be delivered at home or close to home where possible, freeing up the service to deal with hospitalisation where it is necessary.

07   What we require is whole system improvement, based on a clear understanding of what it is we are trying to achieve and an integrated, collaborative and co-ordinated response from the whole service working across the traditional boundaries and across Scotland.

APPENDICES

Appendix 1
National Framework for Service Change. Advisory Group Members

Name	Designation
Professor David Kerr (Chair)	Rhodes Professor of Cancer Therapeutics & Clinical Pharmacology, Radcliffe Infirmary, Oxford
Peter Bates	Chair, Tayside NHS Board
Jae Ferguson	Chair, Mid Argyll Maternity Users Forum
Dr Roger Gibbins	Chief Executive, Highland NHS Board
Dr Lesley Holdsworth	Clinical Effectiveness Co-ordinator, Forth Valley NHS Board
Alexis Jay	Head of Social Work Services Inspectorate
Professor Nora Kearney	Professor of Cancer Nursing & Director of Cancer Care Research, University of Stirling
James Kennedy	Co-chair, Scottish Partnership Forum and Director RCN Scotland
Professor Jillian Morrison	Professor of General Practice & Deputy Head of Undergraduate Medical School, University of Glasgow
Professor Gillian Needham	Post Graduate Dean, NES North, NHS Education for Scotland
Lesley Summerhill	Director of Nursing & Patient Services, Tayside NHS Board
Dr Charles Swainson	Medical Director, Lothian NHS Board
Irene Sweeney	Chair, Scottish Pensioners Forum
Professor Graham Teasdale	President, Royal College of Physicians & Surgeons of Glasgow

Appendix 2
National Framework for Service Change. Sub-group Members

Care for Children

Linda De Caestecker, Anne Murphy, Anne-Marie Knox, Bronwen Cohen, Caroline Selkirk, David Cumming, George Youngson, Graham Bryce, Ian Bashford, Janice Grieve, Joan Telfer, Jonathan Best, Lindsay Wright, Jacqui Lunday, Malcolm Wright, Margaret Kinsella, Mags McGuire, Robert Stevenson, Sally Harkness, Shiona Mackie, Stewart Forsyth, Zoe Dunhill, Derek Feeley.

Care in Local Settings

Nora Kearney, Alexis Jay, Lesley Holdsworth, Sally Wyke, Warwick Shaw, Linda De Caestecker, Anne Hawkins, Jane Arroll, Erik Jespersen, Sandra Lawrenson, Alan McKeown, Sushee Dunn, Caroline Selkirk, Derek Feeley, Steve Kendrick.

Sub-streams

- **Children with Complex Needs.** Led by Caroline Selkirk working closely with Dr Patricia Jackson, chair of the Scottish Complex Needs Group, in consultation with key professsional groups.
- **People with Cancer.** Led by Nora Kearney in collaboration with patients, carers and health professionals from Ayrshire and Arran, the North East of Scotland with input from SCAN, the three Regional Cancer Networks and the voluntary sector.
- **Older People with Mental Ill Health.** Led by Alexis Jay and Anne Hawkins working primarily with health professionals in NHS Forth Valley and input from social care and the voluntary sector.

Care of Older People

Lesley Holdsworth, Brian Williams, Margaret Hastings, David Sullivan, Colin Currie, Bill Gorman, Fiona Hird, Sandra Campbell, Bill Mutch, George Irving, Ken O'Neill, Irene Sweeney, Jillian Evans, Joanne Booth, Steve Kendrick.

Long-Term Conditions

Jillian Morrison, Martin Hill, Jacqui Lunday, Una Macleod, Mini Mishra, Bill Mutch, Alison Strath, Jane Walker, Jimmy Hutchison, Paul Martin, Will Scott.

Diagnostic Services

Gillian Needham, Peter Johnston, Pauline Ferguson, Lesley Forsyth, Elizabeth Robertson, Jocelyn Imrie, John Reid, Mike Cornbleet, Paul Duffy, Mike Lyon, Frank Carey, Michael Fuller, Carmen McAteer, Rosalind Skinner, Brian Dornan.

Elective Care

Charles Swainson, Stephen Gallagher, George Barlow, Deb Den Herder, Ian Bashford, Dermot McKeown, Greg Murray, Mandy Yule, Judith Reid, Jill Young, David Finlayson, Una Lyon.

Health Inequalities

Irene Sweeney, Harry Burns, Nick Brown.

Remote & Rural Access

Roger Gibbins, Jae Ferguson, John Glennie, Sarah Taylor, Ian Donald, Annie Ingram, Malcolm Alexander, Sandra Pratt, Alan McKay, Erik Jespersen, David Godden, Evelyn Dykes, Michael Bews, Andrew Sim, Una Lyon.

Specialist Neurosciences Services

James Kennedy, Adam Bryson, Evelyn Teasdale, Elizabeth Preston, Robert McWilliam, David Mowle, Will Scott, James Steers, David Currie, Ian Bone, Annie Ingram, Hilary Mounfield, Karen Bruce, Andy Wynd, Lynn Myles, Jennifer Brown, Jim Miller, Martin Kirkpatrick, Ian Whittle, Uwe Spelmeyer, Graham Teasdale, Aileen Keel, Mark Hazelwood, Kenneth Lindsay, Callum Kerr, Myra Duncan.

Specialist Paediatric Services

Peter Bates, Lorraine Currie, Jackie Sansbury, George Youngson, Isabel McCallum, Robert Stevenson, Zoe Dunhill, Stewart Forsyth, Callum Kerr, Andrew Dunlop, Gwen Garner, George Farmer, Deirdre Evans, Ian Bashford, Morag Dorward, Margaret McGuire, Caroline Selkirk, Catriona Renfrew, Caroline Delahunty, Charles Clark, Morgan Jamieson, Myra Duncan.

Unscheduled Care

Lesley Summerhill, Andrew Marsden, Brian Robson, Jim Ferguson, Margaret Duffy, Christine McFarlane-Slack, Derek Bell, Mini Mishra, Theresa Fyffe, Sandra Campbell, Frances Elliot, Tom Beattie, David Heaney, Mike Sabin, Sonya Lam, Marilyn Barrett, Colin Briggs, Brian Dornan.

Volume & Outcomes

Graham Teasdale, Gordon Murray, Nick Brown.

Self-Care, Carers, Volunteers and the Voluntary Sector

Bill Mutch, Bill Gorman, Jo Booth, Ken O'Neill, Fiona Collie, Helen Tyrrell, Fiona Hird, Janette Barry, Pat Begley, Morag Robertson, Sally Wyke, George Irving, Julie Haslett, Sebastian Fischer, Alison McGilvray, Will Scott, Steve Kendrick.

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