A NATIONAL CLINICAL STRATEGY FOR SCOTLAND

healthier
scotland
SCOTTISH GOVERNMENT

CONTENTS

FOREWORD

Over the last ten years there have been significant changes in Scotland's population and in the needs and demands placed on our health and social care services. In 2010, in the Quality Strategy, the Scottish Government set out its strategic vision for achieving sustainable quality in the delivery of healthcare services across Scotland, in the face of the significant challenges of Scotland's public health record, our changing demography and the economic environment. In 2011, the Scottish Government committed to integrating health and social care, to address in particular the changing needs of our growing population of people with multiple complex needs, many of whom are older. This was followed in 2012 by publication of the 2020 Vision which provided the strategic narrative and context for taking forward integration and implementing the Quality Strategy, and the required actions to improve efficiency and achieve financial sustainability.

In 2015 the Scottish Government set out the need for transformational change in NHSScotland to meet people's health and social care needs by 2020 and beyond. The Scottish Government's Draft Budget for 2016/17 proposes significant new investment in health and social care services to pursue ambitious reform. This National Clinical Strategy is an important contribution to the provision of clarity on the priorities for that reform. The Strategy is underpinned by the following set of key principles:

- Quality must be the primary concern – all developments should seek to ensure that there is enhancement of patient safety, clinical effectiveness and a person-centred approach to care.

- Developments should be guided by evidence where available: evaluation of any changes should be considered before making the changes.

- We will continue to provide caring health and social care services that will recognise the central importance of the role of people using services, their carers, and their community in providing support. This allows people and communities to manage their own health more. A system that seeks to build on this, rather than supply alternatives, is likely to improve population health and wellbeing, as well as the individual experience and outcome of illness.

- Services will be based around supporting people, rather than single disease pathways, with a solid foundation of integrated health and social care services based on new models of community-based provision.

- Where clinically appropriate we will continue to plan and deliver services at a local level. Where there is evidence that better outcomes could only be reliably and sustainably produced by planning services on a regional or national level, we will respond to this evidence to secure the best possible outcomes.

- The impact of health inequalities will be minimised by ensuring equitable access to health and social care support, removing barriers that make people less likely to access care.

The Strategy makes proposals for how clinical services need to change in order to provide sustainable health and social care services fit for the future. It sets out a vision that is both ambitious and challenging as a basis for further engagement with clinicians and the public.

Scotland has a long tradition of providing high quality health and social care services to our population and we believe that we are well placed to achieve the transformational change required.

There has been extensive engagement with clinicians, professionals and stakeholders in the preparation of this draft of the National Clinical Strategy. However, we recognise it's not the finished article and that we need to engage further about it. The national conversation on "Creating a Healthier Scotland" provides the ideal opportunity for that engagement. So we will, through the national conversation, engage with those interests but also with the public whom health and social care services serve.

Professor Jason Leitch
National Clinical Director

Dr Catherine Calderwood
Chief Medical Officer

Professor Fiona McQueen
Chief Nursing Officer

PREFACE

At the beginning of 2015 Ministers decided that it was appropriate to draft a National Clinical Strategy that would develop further the 2020 Vision, and look towards a longer time scale, up to 2025-30. The National Clinical Strategy would lay out a framework that would take account of several significant changes in Scotland, including the changing demographic composition of our population, the increased demand for health and social care that will follow the advent of Health and Social Care Integration, and significant technological changes in healthcare.

This Strategy has been developed by a small team (Dr Angus Cameron, Elizabeth Porterfield and Karen MacNee) who have been led and supported by an oversight group drawn from across the service, and consisting of:

National Clinical Director:
Professor Jason Leitch

Chief Medical Officer:
Dr Catherine Calderwood

Chief Nursing Officer: Fiona McQueen

Finance Director: John Matheson

NHS Board Chief Executives: Robert Calderwood, Cathie Cowan, John Turner (until July 2015), Jill Young

NHS Board Chairpersons: Lindsay Burley, Jeane Freeman

Senior Medical Officer: Dr Andrew Longmate

Divisional Clinical Lead: Professor Craig White

The National Clinical Strategy has been built on a process of reviewing written evidence on the organisation of healthcare, and seeking contributions and comments from a wide range of stakeholders, from within Government, and from the wider NHS in Scotland.

The National Clinical Strategy is, by necessity, both high-level and strategic, and seeks to set out a broad direction for change to help the NHS in Scotland meet the challenges ahead, with its partners in local government and the third and independent sectors, who provide social care services. The development of the Strategy has taken place at a time when there are a large number of other reviews ongoing such as the Reviews of Public Health and of GP Out of Hours Services. In addition there are a number of NHS Boards reviewing their strategic plans, particularly in the context of development of Integration Joint Boards. The Strategy seeks to give a fresh perspective to these reviews and strategic plans to help a more uniform approach to future change that is coherent across the whole system.

In developing the strategy, care has been taken to engage with a wide variety of staff across Scottish Government and NHS Boards, with a particular focus on clinicians and their representatives. The engagement process has included meetings with Chief Executives, Finance Directors, Directors of Planning, Medical Directors, Nurse Directors, Chief Pharmacists, Area Clinical Forum Leads, Directors of Public Health, Chief Operating Officers, HR Directors, the Academy of Medical Royal Colleges, the

Scottish National Partnership Forum, eHealth advisors, the Royal College of Nursing, the Royal College of General Practitioners, the Royal College of Surgeons and the British Medical Association. In addition there has been significant clinician engagement with meetings open to all clinicians held in Edinburgh, Dundee, Aberdeen, Inverness, Fort William, Glasgow and Dumfries.

The overwhelming impression from repeated engagement with these groups is firstly a strong appreciation of the need for change and adaptation to improve the sustainability of the service, and to enhance the quality of care. Secondly, the engagement process has achieved a high level of support for all aspects of the strategy as it has developed, and there is particularly strong clinical support for the main messages around the development of general practice and primary care, the development of hospital networks to deliver services planned at a population level, and a need to enhance the value to patients of services by addressing over-treatment, harm, waste and variation.

This National Clinical Strategy sets out challenging but deliverable aspirations for Scotland's future health service built on the basis of collaboration rather than competition. It acknowledges the challenges facing healthcare services in Scotland – as in the rest of the developed world – in improving health and reducing health inequalities in the context of demographic change and increasing pressure on resources. It is ambitious and visionary and describes

how we need to shape change, and the principles underpinning that change.

Having set out an agreed, evidence-based, clinical strategy that prepares us for the next 10-15 years, it will be important to share that direction with the public to enhance understanding of the need for adaptation and change, and to seek their support for the general direction. The current "National Conversation" provides an excellent opportunity to progress this stage.

Following this, the hard work of implementing change along the lines laid out in the Strategy must begin. This will take considerable effort, as change within very busy organisations is always difficult. However, the evidence laid out in this strategy points to the importance of changing in a changing world, and stresses the urgency with which this must be approached.

I would like to end by thanking all those who so positively gave time and effort to advising the group, particularly the team of librarians who carried out two very important and extensive literature reviews to support this work.

Dr Angus Cameron. MB ChB. MRCGP. MBA (Healthcare Management)

1. EXECUTIVE SUMMARY

1. EXECUTIVE SUMMARY

1.

This Strategy sets out a framework for the development of health services across Scotland for the next 15 years. It does not give prescriptive details of exactly what developments are required – it is designed to give an evidence-based, high-level perspective of why change is needed and what direction that change should take. It is intended that the National Clinical Strategy will provide a unifying direction to the range of service reviews currently underway, so that the complex whole that is healthcare across the country can progress to a coherent, comprehensive and sustainable high quality service. The Strategy also provides an outline of how the NHS in Scotland will change – describing change that will be required to help the service adapt to changing circumstances.

2.

The National Health Service in Scotland is a success story. It provides comprehensive and universal healthcare, free at the point of need. It has successfully made progress against many of the challenges to our nation's health and healthcare. This is evidenced by steady falls in mortality from the "Big Three" – cancer, heart disease and stroke – and life expectancy is steadily increasing. More treatment is provided each year, and waiting times have shown significant improvement over the last 10 years despite increases in demand and activity.

3.

The health of the population of Scotland is poorer than in many other European countries, but will continue to improve with national initiatives to support healthier lifestyle choices, to support mental wellbeing, as well as addressing socio-economic, educational, employment and environmental issues that contribute to poor health. While these initiatives will remain crucial to improving the health of the population, the National Clinical Strategy is confined to the delivery of healthcare services to meet assessed needs. This is not to suggest that such initiatives to improve the health of the population are not important – they are essential, and must be progressed with determination.

4.

Despite the success of the National Health Service in Scotland, there are challenges that need to be addressed if we are to meet our aim of providing a world-class health service for the future. We know that the fact that we all, on average, tend to live longer will result in an increasing number of older people. While many older people will enjoy better health than their predecessors did at an equivalent age, they will still have significant health needs, and the overall impact will be a steadily increasing demand for health (and social) care. Much of this need will relate to long-term conditions – such as diabetes, hypertension, cancer, sensory impairment, dementia and impairment of mobility. It is clear that for the next 15-20 years, demand for health and care services will increase.

5.

We continue to have an unacceptable degree of health inequality across Scotland, which can mean that a person who is amongst the most disadvantaged section of our society can expect to live at least 10 years less than those in the least disadvantaged. This inequality is multifactorial. The solutions do not lie solely with(in) healthcare but evidence indicates that effective healthcare services, particularly in primary and community care, can significantly reduce the impact of these inequalities.

6.

We also know that the NHS in Scotland is at present challenged by a number of factors. We have one of the most skilled workforces in the world, and a proud tradition of education and training. Overall the numbers of doctors, dentists and nurses have increased, but we know that in many specialties there are challenges in employing the numbers of highly skilled staff required to deliver sustainable healthcare services. We know that many of the current experienced staff in the service will retire in the next 10 years. While we anticipate that the biggest challenge will be in medical staff in general practice, and in hospital doctors, we know that there are also pressures in a range of other professions. We rely on a range of highly skilled staff that are crucial to the sustainable delivery of health services. We will face challenges to replace these experienced people, particularly because of the time that it can take to train experts – and we recognise that the increased demand from an older population will require more staff and/or innovative technological solutions.

7.

As a result of the financial challenges being faced around the world, there will be constraints on what can be achieved with anticipated future resources. World comparisons show that increasing expenditure on health services does not always bring about proportionate improvements in health: more and more resource input may lead to more and more marginal improvements in health. This strategy proposes that a continuous drive to deliver services of the highest quality and value is a more important and appropriate way of managing resources than an isolated focus on finance.

8.

There are concerns shared across developed countries that modern medicine, while providing enormous benefit to populations, can also cause harm to individuals. There is also concern that on occasion medical practice can result in overdiagnosis, overtreatment and waste. We know that this overtreatment probably co-exists with undertreatment. If we are to continue to provide our world-class health service we must find a way of addressing these issues. While the commitment to year on year increases in investment is important, this strategy sets out the need for a new clinical paradigm that will ensure that healthcare delivery is proportionate and relevant to individual patient's needs and uses minimally disruptive interventions (including lifestyle changes) wherever possible. In other words the emphasis is on maximising patient value from the available resources.

9.

The strategy describes the rationale for an increased diversion of resources to primary and community care. Stronger primary care across Scotland should and will be delivered by increasingly multidisciplinary teams, with stronger integration (and where possible, co-location) with local authority (social) services, as well as independent and third sector providers. The aim of an expanded health and social care team will be to provide all current services, but also to:

i) support self-management and independence for everyone by supporting patients to fully understand and manage their problems, promoting a focus on prevention, rehabilitation and independence

ii) to provide care that is person centred rather than condition focussed, based on long-term relationships between patients and the relevant clinical team(s)

iii) understand that the problems of multiple long-term conditions and the resulting loss of independence result in complex needs – many of which are best addressed by social interventions. We must not provide an overall system that defaults to medical solutions (such as admission to hospital) when the needs are predominantly social

iv) provide evidence-based interventions that reduce the risk of admission to hospital, especially for the elderly

v) provide more community-based services to replace some that have previously been provided in hospital

vi) provide sensitive end of life care in the setting that the patient wishes.

10.

There are a range of changes that will support transformation of primary/community care, such as the move to integrated health and social care from April 2016, and the new GP contract in April 2017. We will build a greater capacity in primary care, centred around practices, by enhancing the recruitment of doctors to general practice, by increasing the adaptation of technological solutions to increase access and improve decision making, and by developing newer, extended, professional roles within primary care, such as Advanced Nurse Practitioners, Pharmacists and Allied Health Professionals. This will provide the range of skills needed to meet the changing and complex needs of communities. With the advent of integration, and closer working between social work staff and healthcare staff, there will be effective and proportionate responses to health and social care needs. The planning and organisation of care delivery for individuals and communities will be based around practices, with GPs increasingly taking on a role in dealing with complex cases, and providing expert assessments of new cases. Transformation of the outdated and complex dental system will meet the needs of younger people (who need to maintain a preventive focus) whilst ensuring that the treatment needs of the older population are met. An eDental programme will improve the assurance, governance, efficiency and information on quality of services. We will consider the mix of secondary/primary care dental provision to ensure the most appropriate use can be made of each.

11.

The emphasis on primary care supports the ambition of the Scottish Government's "2020 vision" to provide the majority of care locally and to ensure "We will have a healthcare system where we have integrated health and social care, a focus on prevention, anticipation and supported self-management." There is evidence from around the world that systems with a strong primary care service tend to produce better overall outcomes for people, a better experience of managing with illness and disability, and a lower and more proportionate use of resources. The potential of prevention is seen, for example, by developments from the extended vaccination programme now being provided by primary care, with, for example, dramatic reductions in gastroenteritis amongst children following immunisations against rotavirus. Primary care will be supported by evolving IT solutions to improve efficiency and safety of the care delivered, as well as enhancing patient access to services and participation in their own care.

12.

This strategy also describes a number of changes that need to take place in secondary care settings. The first set of changes revolve around processes. Acute hospital care can be highly complex and involves multiple processes. Despite considerable recent focus on processes within hospitals, we know there is still much that can be done to ensure that we use available resources as effectively as possible, and improve outcomes for patients. The two aims are not mutually exclusive. Across health and social care for example, we need to ensure that patients experience timely discharge without delay, supported when they return to their communities by responsive health and care services. We know that this helps promote a prompt return to previous levels of independence. As another example, we intend to reduce the number of times patients are recalled to review outpatient appointments where this can be avoided. We can provide better alternative arrangements, using modern technology to best effect, that will provide people with faster access to results, see them more rapidly when they are unwell, and disrupt their lives less.

13.

The other changes needed are in relation to the structures within secondary care. There is now an overwhelming amount of evidence that suggests that some complex, and many less complex, operations are best performed in more specialist settings. There is increasing evidence that teams more specialised in doing complex operations frequently get better outcomes for patients, who tend to have fewer side effects, and typically spend less time in hospital. This strategy sets out the evidence that some services should be planned at a national, regional or local level on a population rather than geographical boundary basis. This would mean that, for some services, there would be fewer specialist inpatient units within a region. However, in order to ensure that services are provided as locally as possible (where clinically appropriate) the strategy proposes that most services would continue to deliver outpatient, diagnostic and day-case

surgery at most hospitals, as at present. By developing networks of hospital services it will be possible to deliver first class outcomes from more specialist centres/services where evidence supports interventions concentrated in such a way. However, within a specific specialty, not all interventions are complex, therefore by developing a planned delivery network, local access to all other services within that specialty would be maintained. These changes will be complex, but they are based on evidence of benefit and have considerable potential to improve outcomes for patients while at the same time maximising resources and clinical skills. The commitment to an investment of £200 million for elective diagnostic and treatment centres will support the changes in capacity that will be required as a result of an increase in surgical procedures – especially those that are significantly age-related (such as cataract extraction, and knee and hip replacements).

14.

It is essential to take forward planning and delivery locally, regionally and nationally. As noted above, planning in this way is not new but how this is achieved will need to change to meet future needs. Planning and delivery with geographical and/or other boundaries will no longer deliver what is needed; planning and delivering services for and across populations, regardless of locality, is key. We must increase the collaborative working that is the hallmark of the NHS in Scotland. It will also be necessary to adopt a performance management framework that supports service planning at the most appropriate level.

15.

The strategy describes the advances that can be made by harnessing technology – with particular emphasis on digital technology, both for clinicians and patients. It has enormous potential to provide training and clinical decision support, to support standardisation of processes where they should be standardised, and to improve safety and self-management. It has the potential to address some of the barriers to access inherent in living in a remote community, by enabling specialist input to augment local care via teleconsultations.

16.

The NHS will increasingly become an organisation that is driven by information. Currently a great deal of data is generated, and use is made of it to support service improvement and performance management. However as we become more able to draw conclusions from "big data", we should be able to:

- make more informed decisions and provide better coordinated and more personalised care

- predict risk for individuals and thus focus interventions more effectively/proactively

- collect and use more information on outcomes, especially those that matter most to patients, rather than clinical data such as biochemical or other surrogate markers

- assess outcomes from medications, and multiple medications, in different patient groups, thus developing greater understanding of complex polypharmacy

- understand degrees of variation in interventions across regions so that any inappropriate clinician driven variation is minimised

- predict future needs more accurately

- continue to drive continuous service improvement.

17.

Acknowledging that the quality of services is related to the quality of our workforce, the strategy describes the development of increasingly skilled staff, working effectively in multidisciplinary and multi-organisational settings to deliver excellence in care.

18.

The strategy ends with discussion about a new clinical paradigm. This will be a longer-term cultural and clinical change programme that will need strong national clinical leadership. At its heart will be a desire to provide proportionate and realistic care to fully informed patients, who are encouraged to understand options and choose treatment according to their preferences. It will support an approach that uses lifestyle modification first before more significant intervention. It will support self-management where appropriate, and encourage empathetic resilience building rather than dependency. This clinical paradigm will identify interventions that are of limited value or may cause harm, and reduce their use. It will address waste and variation in clinical practice. We know that patients when fully informed tend to choose less interventional healthcare. As is the case at present, we have a duty to ensure that everyone is provided with enough information to equip them to become confident partners in decision making. Technology will play a key role in realising this change.

19.

Over the next 10-15 years there will be scientific advances which have not been anticipated at present, and these will change the way that we deliver healthcare. There will also be advances that are beginning to make an impact now. The most obvious example of this is the increasing understanding of genomics and its potential. Already we have developments that mean drug treatment can be tailored to individuals – so that fewer patients may need treatment. It is hoped that genomics will, in the foreseeable future, help stratify patients into low and high risk, thereby reducing treatment for some patients and focusing it more effectively for others. This may help some of the challenges created by high-cost but effective medications – we may be able to use them more wisely, with greater certainty of benefit.

20.

In summary, the clinical strategy sets out the case for:

- planning and delivery of primary care services around individuals and their communities

- planning hospital networks at a national, regional, or local level based on a population paradigm

- providing high value, proportionate, effective and sustainable healthcare

- transformational change supported by investment in e-health and technological advances.

2. INTRODUCTION

2. INTRODUCTION: WHY DO WE NEED TO CHANGE?

The current direction of travel for NHSScotland has been set out by two documents.

The Healthcare Quality Strategy for NHSScotland, set out an ambitious approach to ensure that the National Health Service in Scotland could become one of the best health services in the world, with a world leading approach to patient safety, and more recently, a determined approach to deliver person centred care. The aspirations of the Quality Strategy remain central to the day to day work of the Health Service.

More recently, the Scottish Government set out the 2020 Vision, a high level description of the direction to be taken by the NHS in Scotland.

> Our vision is that by 2020 everyone is able to live longer healthier lives at home or in a homely setting. We will have a healthcare system where we have integrated health and social care, a focus on prevention, anticipation and supported self-management. When hospital treatment is required and cannot be provided in a community setting, day case treatment will be the norm. Whatever the setting, care will be provided to the highest standards of quality and safety, with the person at the centre of all decisions. There will be a focus on ensuring that people get back to their home or community environment as soon as appropriate, with minimal risk of re-admission.
>
> "The 2020 Vision." Scottish Government 2010

While this remains the central vision for the Health Service in Scotland, we need to change so our health and care system can deliver it, adapting to changing demands and opportunities, and ensuring sustainability. Without adapting and improving we will not be able to realise the potential of providing world-class care. The challenges we face are seen throughout much of the developed world, and countries are trying to adapt healthcare services so that they maintain a comprehensive supply of high quality healthcare in the face of steadily increasing demand. The ability to sustain services that are able to meet the increased demand effectively will be a key challenge for maintaining the delivery of high quality healthcare in the future.

Although this strategy argues the case for change, it considers only the delivery of clinical services and how they can be planned to deliver the best possible outcomes for patients. It is acknowledged that there is a need to improve the health of the Scottish population, by the development of a range of measures designed to address the determinants of poor health – lifestyle, educational, economic, employment, environmental determinants. The absence of discussion of these approaches does not reduce in any way the need for continuing the progress that has been made in recent years.

In setting out a National Clinical Strategy it is acknowledged that there are many challenges facing healthcare services in Scotland. These challenges are substantial, and thus it is essential that any Clinical Strategy is ambitious and visionary and sets out challenging but deliverable aspirations for a transformed future health service. There are multiple reasons why we need to evolve and adapt in the face of changing circumstances. For any organisation, failure to adapt successfully to both external and internal challenges will result in an increased risk of failing to comprehensively meet the objectives of that organisation. The main drivers for change are discussed in this section. It is important to detail these at some length as a failure to understand the drivers for change will mean that change, which is always difficult, will not come about, and we will fail to be a world-class health service.

The main drivers for change are:

a) Demographic changes in our population

b) The changing patterns of illness and disability

c) The relatively poor health of the population and persisting inequalities in health

d) The need to balance health and social care according to need

e) The need to manage the skilled workforce in a way that makes best uses of their skills, allows further changes in roles, and provides sustainable services despite the current recruitment challenges

f) Financial considerations

g) Developments of new treatments

h) Remote and rural challenges

i) Opportunities from increasing, better, and more joined up use of Information Technology

j) Reducing waste, avoidable harm and variations in treatment.

In discussing these drivers it is important to recognise, above all, the overriding need to maintain and enhance the quality of care, and the outcomes that care provides for our population.

A. DEMOGRAPHIC CHANGES IN OUR POPULATION

Although Scotland lags behind some other European countries, life expectancy has been steadily increasing. This is of course welcome, and is a measure of both healthier lifestyles and improved clinical care. However, the significant consequence is that the average age of the population and the percentage of older people is increasing, and looks likely to continue to do so until at least 2030.

Current projections suggest that the population of Scotland will rise to 5.78 million by 2037, and that the population will age significantly, with the number of people aged 65 and over increasing by 59%, from 0.93 million to 1.47 million. The number of households headed by people aged 65 and over is projected to increase

by almost 54% between 2012 and 2037. In contrast, households headed by someone aged under 65 are projected to increase by just 3%. The number of households headed by someone aged 85 and over is projected to more than double over the same period, from 77,400 to just over 200,000.

Estimated and projected age structure of the Scottish population, mid-2012 and mid-2037
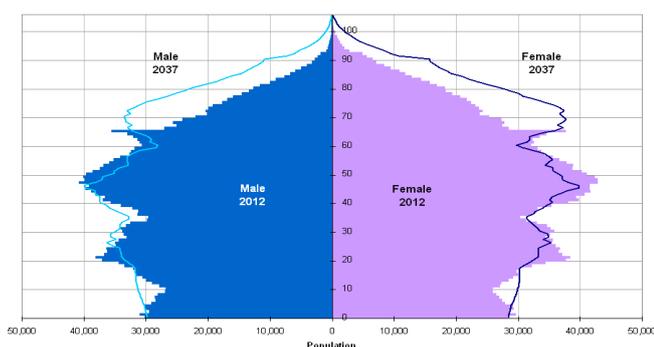
Source: NRS 2014

Whilst an older population will require more healthcare, it is possible to point to recent changes that have altered the rates of need for treatment. For example the rate of hip fracture per thousand of the population over 65 seems to be decreasing, although because of the absolute increase in the population over the age of 65, the actual number of hip fractures is increasing and is likely to continue to do so. Likewise the rate of bed day use per 1,000 of the population over the age of 75 has decreased significantly (primarily due to reduced average length of stay) from 5,421 in 2009/10 to 4,815 in 2013/14 – a reduction of 11%. Inevitably, however, this falling rate

is challenged by the increasing absolute number of the population over the age of 75.

The impact of the increasing age of the population can be demonstrated by considering two particular conditions: dementia and cancer.

Dementia

The increasing prevalence of dementia in an older population will have considerable consequences for the volume and type of health and social care that is required for the future. People with dementia have the greatest likelihood of using high cost unscheduled hospital care for extended periods of time.

A recent estimate carried out by Alzheimer Scotland suggests that there were 89,000 people with dementia in Scotland in 2013. Of that number, between 50-65% have a formal diagnosis (depending on which prevalence model is applied). Approximately 3,200 are under the age of 65. The rates of dementia are strongly related to age. There is evidence that the true prevalence, rather than the number of cases actually identified and diagnosed, at age 65-69 is around 1.8% in men and 1.4% in women. The prevalence increases rapidly so that 20.9% of men aged 85-89 have dementia, with around 28.5% of women of the same age having the condition. While the majority of people with dementia manage to live at home, with input from relatives and informal carers, the disease is steadily progressive

and it is almost inevitable that health and social services will require to provide significant input as the illness progresses. The figures above indicate how the scale of the problem will increase as the proportion of older people in the population increases.
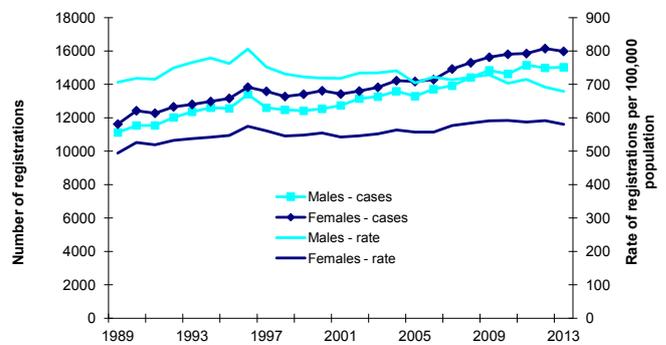
Cancer

Over the last ten years, age-standardised incidence rates of cancer in Scotland have fallen by 4% in males but increased by 7% in females. However, excluding non-melanoma skin cancers, the actual number of cancers diagnosed in Scotland has increased over the last 10 years from 27,095 cases in 2003 to 31,013 in 2013. This is likely to be largely due to an ageing population.

It is estimated that up to one in two people in Scotland will be diagnosed with some form of cancer during their lifetime. This does however include cancers that will have no detrimental impact on life expectancy, such as indolent prostate tumours. It is estimated that there are 176,000 people in Scotland who have been diagnosed with cancer over the last 20 years and who are still alive. This is approximately 3% of the population of Scotland.

New cancer registrations in Scotland, 1989-2013: number of cases and age standardised rate (European Age Standardised Rate – using ESP20132)

Figure 3. New cancer[1] registrations in Scotland, 1989-2013: number of cases and age standardised rate[2] (European Age Standardised Rate – using ESP2013[2])

Source: Scottish Cancer Registry

1 All cancers excluding non-melanoma skin cancers (ICD-10 C00-C97 excl C44)
2 The European Standard Population (ESP), which was first used in 1976, was revised in 2013. Figures using ESP1976 and ESP2013 are not comparable. The European Age Standardised Rate (EASR) is calculated using ESP2013 and 5 year age groups 0-4, 5-9 up to an upper age group of 90+.

This increased incidence, and increased prevalence, will have a very significant impact on the services that we will be required to deliver in the future. Medical technology has developed significantly, and recurrences of cancer are now treated more aggressively (and more successfully) than before. These increases in demand, along with the rapidly changing range of investigations and treatments as we develop greater understanding of cancer treatment, means that we must have a service that is able to adapt promptly to developing technology. The careful scrutiny of treatment developments,

the development of an evidence base, and the need to adapt to changing treatments requires ongoing planning of cancer services across the population. The next steps will be outlined in a cancer plan to be published in Spring 2016.

These two examples indicate how we will need to build capacity in both our social care and healthcare services to meet the increasing demands that will develop as our population grows older. These changes will require us to adapt current health and care services so that they are aligned to address the burden of ill-health in our population. We will need to focus on preventing illness, delaying progression or exacerbations, supporting self-management where appropriate, and providing health and social care safely, effectively, equitably and sustainably, aiming to return people to a state of maximum health and independence for as long as possible.

B. THE CHANGING PATTERNS OF ILLNESS AND DISABILITY

It has been recognised for at least the last 50 years that the pattern of illness experienced by the Scottish population has changed significantly from acute life-threatening illnesses, towards long-term conditions and disability.

In 2014, 46% of adults had one or more long-term conditions. The prevalence of long-term conditions increased with age, from a quarter (25%) of adults aged 16-24 to three-quarters (77%) of those aged 75 and over[1]. Long-term conditions are generally defined as conditions that have been present for at least 1 year and are unlikely to be cured. The significance of long-term conditions is that they are very likely to persist for the rest of the individual's life, resulting in ongoing need to manage the condition or conditions.

A significant number of long-term conditions are preventable with appropriate lifestyle choices, indicating the need in Scotland for continued work on influencing changes in lifestyle choices and thereby developing a healthier population for the future.

---

1   Scottish Health Survey 2014

Long-term Conditions:

- People with long-term conditions are twice as likely to be admitted to hospital and will stay in hospital disproportionately longer than people without them.

- Account for over 60% of hospital bed days used.

- Most people who need long-term residential care have complex needs from multiple long-term conditions.

- People living with long-term conditions are also more likely to experience psychological problems.

- People living with a long-term condition are likely to be more disadvantaged across a range of social indicators, including employment, educational opportunities, home ownership and income. Someone living in a disadvantaged area is more than twice as likely to have a long-term condition as someone living in an affluent area, is more likely to be admitted to hospital because of their condition, and will be more likely to develop the long-term illness at an earlier age – a difference of as much as 10 years.

ISD

Longstanding illness by Scottish Index of Multiple Deprivation (SIMD) quintiles, 2014

| Type of longstanding illness	SIMD 2012 quintiles				
	Least deprived	2	3	4	Most deprived
Neoplasms & benign growths	2%	2%	3%	2%	3%
Endocrine & metabolic	9%	7%	11%	10%	11%
Mental disorders	6%	6%	7%	8%	15%
Nervous System	4%	4%	5%	5%	5%
Eye complaints	2%	1%	2%	3%	2%
Ear complaints	1%	1%	2%	1%	2%
Heart & circulatory system	11%	10%	14%	13%	17%
Respiratory system	7%	7%	8%	10%	11%
Digestive system	4%	5%	6%	6%	8%
Genito-urinary system	2%	3%	2%	3%	2%
Skin complaints	1%	2%	3%	2%	2%
Musculoskeletal system	15%	14%	17%	20%	23%
Infectious Disease	0%	0%	-	0%	0%
Blood & related organs	1%	1%	1%	1%	1%
Other complaints	0%	-	0%	1%	0%
No longer present	-	0%	0%	-	-
Any longstanding illness	**42%**	**41%**	**46%**	**50%**	**55%**

Source: Scottish Health Survey

It should be recognised that although long-term conditions are often thought to be associated with older age, the absolute number of long-term conditions experienced by the under 65s in the population is greater. The clinical significance of long-term conditions is very varied, ranging from illness that can be considered more of a risk factor (such as hypertension and osteoporosis) to those that cause increasing disability (such as osteoarthritis, chronic obstructive pulmonary disease, heart failure, macular degeneration and hearing loss). While it is possible to provide secondary prevention to reduce the rate of progression of many long-term illnesses, and to decrease the episodes of exacerbations, the combined impact of multiple long-term conditions is to cause a progressive, cumulative disability that severely threatens the quality of life, and creates a need for greater and greater social support. While it is recognised that, overall, the majority of the support is provided by family and other carers, it is inevitable that there will be an increasing demand on health and social care services.

It is essential to recognise that the accumulation of long-term conditions and related disability results in increasing needs that may be complex, and may require social care and support more than clinical solutions. This has been one of the main drivers behind the recent integration of health and social care across Scotland – to ensure that people in need have appropriate help that addresses their needs – which may not be predominantly medical.
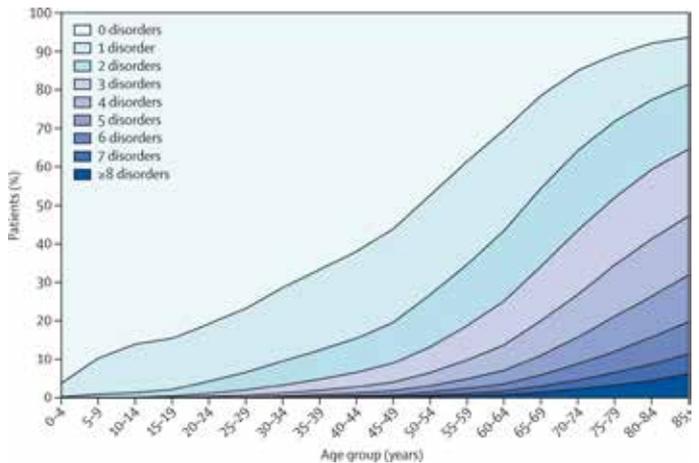
Source: Barnett et al, The Lancet 2012; 380: 37-43

The chart above shows how there are increasing numbers of long-term conditions found in older people. The accumulation of multiple long-term conditions results in progressive loss of independence and increasing need for social support.
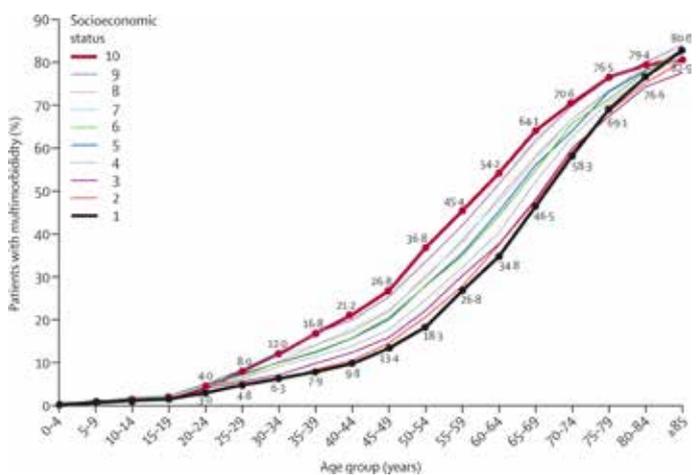
Source: Barnett et al, The Lancet 2012; 380: 37-43

This chart shows how the population that is most deprived develops long-term conditions at an earlier age – developing long-term conditions up to 10 years earlier than the least deprived.

In conclusion, the increasing prevalence of long-term conditions, and the complex needs that arise from multiple long-terms conditions will drive increasing demand for health and social care for the foreseeable future. The fact that there will be more people with multiple conditions in future means that clinicians will increasingly need to work in teams across specialisms and will need to be supported in that by improved information exchange and clinical decision support systems.

C. THE RELATIVELY POOR HEALTH OF THE POPULATION AND PERSISTING INEQUALITIES IN HEALTH

While the health of the Scottish population is improving, and life expectancy has also improved, we lag behind some other European countries across a wide range of population health measures, including dental and oral health. This alone makes the case for renewed efforts to have a comprehensive public health approach across all sectors of Government (and the third sector) as many of the long-term conditions described above can be significantly reduced by improvements in lifestyle, education, wealth, employment, environment, social cohesion and mental wellbeing.

This clinical strategy does not focus on the prevention of ill-health, but that does not in any way indicate a lack of importance of public health initiatives. As well as the obvious benefits to individuals, they can be shown to effectively reduce demand for healthcare. This has been evidenced, for

example, by the significant improvements brought about already by the nursery school tooth brushing campaign, which has substantially reduced dental decay and the need for fillings and extractions.

The use of the rotavirus immunisation in children has dramatically reduced the incidence of diarrhoea and vomiting, and thus reduced the number of admissions to hospital. The ban on smoking in public places is bringing about an increased reduction in the number of smokers, which will impact on the demand for many aspects of healthcare.
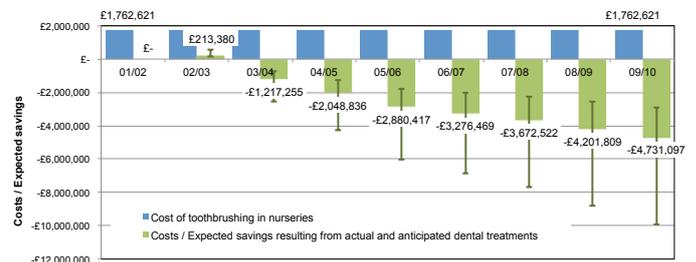
The chart above shows how the investment of £1.7 million annually on a toothbrushing campaign in Nursery Schools has led to a significant drop in the need for fillings and extractions – showing improvements for patients, and reduction in overall costs.

Although a relatively crude measure of health inequalities, the inequalities across Scotland can be demonstrated by consideration of life expectancy, and healthy life expectancy.

Life expectancy (LE) is an estimate of how many years a person might be expected to live, whereas healthy life expectancy (HLE) is an estimate of how many years they might live in a "healthy" state. HLE is a key summary measure of a population's health.

- The most recent annual estimates for Scotland are for boys born in 2013 to live 77.1 years on average, 60.8 of these in a "healthy" state. Girls born in 2013 would be expected to live 81.1 years on average, 61.9 of these years being "healthy".

- Underlying trends in both LE and HLE at birth show a general improvement in Scotland over recent years.

- The gap between LE and HLE (the years expected to be spent in a "not healthy" state during the average lifetime) has been fairly constant for females between 1980 and 2008, but tended to increase for males.

- There are considerable variations in LE and HLE at birth in Scotland among different geographical and socio-economic groupings. Men living in the most affluent parts of Scotland can expect to live 10 years longer than those in the most deprived areas. Differences in healthy life expectancy are even starker with a gap of 20 years for men living in the most and least deprived areas. As shown in the table below, even the most advantaged section of the population can anticipate a significant period of "Ill health" – with the most disadvantaged likely to experience approximately twice the number of years of ill health:

	Males – Least deprived	Males – Most deprived	Female – Least deprived	Female – Most deprived
Life Expectancy (years)	81.7	71.3	84	77.2
Healthy Life expectancy (years)	69.1	48.3	71.9	51.5
Expected years of "Ill health"	12.6	23	12.1	25.7

Source: ISD

- LE is significantly worse (lower) in Scotland than in the UK as a whole, for both males and females. HLE is significantly worse (lower) in Scotland than in the UK for males, but similar for females.

- Scotland has one of the lowest LEs in Western Europe. International comparisons of HLE are hampered by the lack of consistent health measures. However, on the basis of a related indicator, healthy life years (HLY), it would appear that, in comparison with many European countries, Scotland fares badly for males but compares better for females[2].

2   Source: Information Services Division.

D. THE NEED TO BALANCE HEALTH AND SOCIAL CARE ACCORDING TO NEED

As referred to above, the development of multiple long-term conditions leads to increasing loss of independence, and the development of complex needs that cannot be met solely by health services. For many older people who have increased restrictions on their life, perhaps from combinations of multiple long-term conditions such as sensory loss, poor mobility, chronic pain, social isolation and mental health issues, the need for rehabilitation, social support and integration into local communities may have greater immediate importance to them than the provision of medical care. The implementation of Health and Social Care Integration will mean that we are better placed to ensure that there is an appropriate balance between health and social care services. This is important to prevent health services being used as the "default" when social support might be more appropriate (as happens with a number of avoidable hospital admissions, particularly in older people).

Admissions to hospital

Analysis of admission trends show that across most age groups, the rate of admission to hospital is relatively steady. However in the over 75s, and particularly in the over 85s, the number of admissions is driven by an increasing rate of admissions in those age groups, along with the increasing numbers of patients in these age groups. There is evidence from across health and

social care that, for many of our older people, admission to an acute hospital is too often the fall-back option, when it is possible that their needs could have been satisfactorily met by enhanced support and care input within their home and community. This is important. Not only does avoidance of admission, where possible, provide a service that is preferable to most people, it can be associated with less unintended harm from treatment, less confusion and dependency, and, of course, less need to continue to increase capacity in our hospitals over the coming years.

	2011	2012	2013	2014
Emergency inpatient discharges	534,178	547,673	551,524	554,893
Routine inpatient discharges	447,989	448,263	469,543	518,743
Day case discharges	443,109	453,520	459,919	451,281

Source: ISD Scottish Hospital Activity

The steady rise in unscheduled admissions shown in the table above is likely to continue unless health and social care systems adapt. The rate of unscheduled admissions in the elderly population will increase most. Currently admissions in this group of patients are partially driven by a lack of health and care services in the community that are able to rapidly escalate the levels of care during an exacerbation of illness to maintain them in their homes.

There is evidence from a range of settings that it is possible to treat a proportion of these people in their homes, and provide similar outcomes, with a better experience, and less impact on their independence than if they are admitted to hospital.

Hospital discharge

The ability to discharge people from hospital can be delayed by an inability to promptly organise suitable support packages for them, resulting in a worse experience for the individual, the potential for further loss(es) of function, delays in admitting other patients, pressures within hospital systems and increased but potentially avoidable use of resources within acute hospitals.

We are committed in Scotland to tackling delays in discharging people from acute hospital beds – a key driver for integrating health and social care. Delayed discharges in this context are defined as patients who are still in hospital more than two weeks after they have been declared medically fit for discharge. In the census in October 2015 there were approximately 1,280 such patients. This figure is a reduction of 7% from the same time the preceding year. However the Information Services Division notes that in September 2015, a total of 48,000 bed days were used by patients whose discharge had been delayed. Again this is an improvement on the situation from the preceding year, with an 8% drop. However, this figure suggests that on average, 1,578 beds across Scotland are occupied by patients who are clinically

ready to leave hospital. This figure suggests that there is very considerable potential to relieve pressure on hospitals by continuing the improvement in addressing discharge delay. It must be considered an urgent priority to ensure that any barriers to discharge for these patients are removed and support provided for them to leave hospital. This improves their experience of healthcare, and also potentially frees up resources (beds and staff) for use by other patients in need.

We also know that the vast majority of people, if asked, declare a desire to die at home. Currently in Scotland over 50% of deaths occur in hospital, and people may (though by no means always) experience a depersonalised death that is distressing for them and their relatives. We need to ensure that we have the capacity to support individuals and their families to stay in their own homes, or return to them when this is their explicit wish.

The conclusion from this section is that we know it is better for people to be supported to stay in their own homes and communities for as long as possible, as independently as possible. We also know that demand for inpatient hospital care will increase significantly to an unsustainable level unless we fundamentally shift the balance of care from acute hospital services to comprehensive and responsive primary, community and social care services, along with comprehensive approaches to improving public health and the ability of patients to self-manage their long-term conditions.

There is a need to prioritise investment carefully to optimise the effectiveness of services. In order to improve outcomes and reduce the pressure of unscheduled admissions to hospital, it will be necessary to appropriately prioritise investment in primary health and social care to allow alternatives to admission to be developed where it is clinically appropriate to do so. This may include investment in hospital-based services that could reach out to communities – such as community facing geriatricians.

However, the increased proportion of older persons in the population will result in an increase in the need for a range of procedures – especially those that are age-related, such as cataract removal and joint replacement. Demand assessment for these operations has been carried out, as a result of which the Scottish Government has allocated £200 million over the next 5 years to increase elective capacity across the country, particularly where population projections suggest most need. Evidence from the Golden Jubilee National Hospital shows that a concentration of high volume procedures results in lower complication rates, reduced length of stay, and effective, standardised care.

E. WORKFORCE ISSUES

A sustainable health workforce which is motivated, adaptable and highly trained is crucial to delivering high quality healthcare in the changing health landscape and to meet our vision for health and social care by 2020 and beyond.

While the total NHS workforce has grown to an all-time high of 161,000[3] (138,000 WTE), that in itself will not meet the challenges we face such as increasing demand for healthcare. We need to do more to maximise the contribution from the whole healthcare workforce, and be prepared to change the way we deliver services.

We do not underestimate the challenge these changes will mean for our workforce. Through *Everyone Matters*[4] the Scottish Government set out a clear workforce vision and plan which was co-produced with NHS staff. We will support our workforce to make those changes through the priority areas identified in that plan. These are:

• Healthy organisational culture

• Sustainable workforce

• Capable workforce

• Workforce to deliver integrated service

• Effective leadership management.

Alongside the strong partnership working approach that is well established in NHSScotland, this collaborative approach will be vital in creating the sustainable workforce we need for the future.

---

3   ISD Workforce Numbers: Published December 2015
4   Everyone Matters, The Scottish Government, June 2013

Challenges

In common with many healthcare systems in the developed world, NHSScotland faces a challenge in maintaining a suitably trained workforce over the next 5-10 years. For certain professions and in certain regions, it can be extremely difficult to recruit the right staff in the right quantities. International shortages of key specialties are by their nature difficult to address in a Scottish context alone. Adding to these challenges are the differing roles played by Scottish Government and NHS Boards; the complex interactions around workforce planning; and individual circumstances applying to professional groups, service plans and policy development. We also need to bear in mind that the medical workforce in particular has an older age profile than most other employment sectors, and it is likely that a higher proportion of those over 55 may choose to retire over the next few years.

Self-evidently, gaps in the medical training establishment and workforce are likely to adversely affect the quality and sustainability of services provided to patients. Within the medical workforce, gaps in particular specialties and in particular areas could create risk to the sustainability of services. Using expensive alternatives such as locums can help address the current needs of the service, but in a way that is unsustainable, and a poor use of resources. It also demonstrates the need to better match our workforce capacity to overall demand in a sustainable and affordable way which anticipates the challenges for healthcare in the future.

In addition gaps in the workforce among care workers make it difficult to start care packages timeously, with the result that patients remain in hospital after they have been determined to be fit to be discharged from hospital. As we move to integration of health and social care, it is important that we plan for the wider workforce employed across health and social care, ensuring that the important contribution of care staff is recognised, and that these roles are as attractive as possible for potential care workers.

Achieving the right balance

Securing the right workforce within the clinical environment, and balancing this against the diverse needs of patients can be extremely difficult. Complex illnesses, and the pace of change in technology may mean patients require specialised staff who can provide the highest quality high technology care available when such specialised intervention is required. However, patients with multiple conditions may need clinicians with broader based skills who can provide more generalist care.

This complex and almost infinitely variable clinical environment means that there is no one solution to the challenge of sustainability. However we do know that too much medical specialisation has often led to disjointed, disease-focussed care for patients with multiple conditions, often provided within hospital rather than community settings, and frequently requiring referral to multiple specialists. The tension between specialist and generalist

approaches applies particularly to doctors (and was recognised by the Greenaway Report on the training of doctors in the UK[5]).

It is right that Scotland should make a full contribution to UK-wide developments on medical training. But we also seek to achieve an optimum balance for Scotland – though broadly in favour of more generalist approaches – through the Shape of Training Transitions Group, which is best placed to respond to challenges of sustainability – if necessary, by making adjustments to medical training intakes.

Although there is a demonstrable need for doctors of all roles to have a wider generalist approach (to match the multiple combinations of illnesses in their patients) we argue in this strategy for services to be planned across populations, with specialised centres for complex interventions, staffed by clinicians with specialist skills. There will be considerable planning and judgement required to develop a sustainable balance of medical, and wider clinical, workforce to provide the best possible outcomes across all ranges of complexity.

What we expect

Our expectations in Scotland are that, regardless of which profession is delivering high quality services in our NHS, it should:

- Combine generalist as well as specialist skills
- Work effectively in teams

- Value the contribution of all disciplines to addressing patient needs
- Have excellent generic skills, such as listening, communication, leadership and improvement skills
- Engage in life-long learning, recognising the pace of change in health and social care
- Remain flexible, able to adapt to changing technology and patient need.

Building our approach to sustainability and risk

To deliver a sustainable workforce supply we need to ensure sufficient supply into training, maintain those numbers through the pathway of training and retain a high proportion of those qualified staff within NHSScotland, as well as attracting high quality staff from elsewhere.

Even relatively few gaps in supply can create significant service challenges for Boards, particularly if compounded by difficulties in recruiting suitably skilled short-term locum cover. So maintaining that supply, and using the supply in the most effective ways, is a key area of focus for now and the future to mitigate those risks.

At the same time, making fundamental changes to ensure the delivery of high quality services in future, will mean using our understanding of risk to improve and develop more sensitive models of supply and demand, with gap analysis providing risk-based intelligence which informs recruitment decisions and education requirements.

---

5   The Shape of Training Review: Securing the future of Excellent Patient Care: Review group led by Prof David Greenaway

Much positive work is already being done with NHS Boards and others to obtain better intelligence about why and where vacancies occur in order to improve consistency in Board reporting of vacancies, which will:

- inform more effective workforce planning

- further develop and use mandated workload and workforce planning tools

- improve data in areas such as midwifery, neonatal nursing and community nursing

- aid profiling the GP and consultant workforces so there is a consistent evidence base to underpin decisions on future numbers.

We are extending this work into health and social care integration to develop common datasets where that is appropriate, to ensure Integration Joint Boards are fully equipped to plan and provide integrated services across Scotland.

While we need to accelerate this work, we are not starting from a zero baseline. In medicine, supply and demand issues in the education and training pathway are particularly complex and planning for future service need is challenging given the duration of medical training (a minimum of 10 years for GPs and 15 years for hospital specialists). We are developing an increasingly sophisticated understanding of supply and demand issues and other factors influencing the choices made by medical undergraduates and junior doctors, which is enabling us to target increases for particular specialties.

We recently announced an increase of 100 in GP specialty training places and an enhancement of the GP returners scheme to encourage GPs who are not currently working in NHSScotland back into the service. In addition we are working with our universities on a number of actions that will increase the number of medical undergraduates and broaden the range of people entering medical education to ensure that all of our young people have the opportunity to develop their skills through a career in NHSScotland.

Transforming roles

As demand for health services increases, we need to ensure future models of service delivery and workforce configuration are optimal. Ensuring a sustainable workforce means maximising the contribution of all healthcare professions, so that our staff work at the top of their professional capability, but without adding to a loss of continuity of care or increasing the complexity of care. It means further investment in a mixed economy workforce, and crucially, it means transforming roles so they are of more direct benefit to Scotland's NHS patients in different healthcare settings. For example, further training allows experienced nurses to deliver advanced practice; pharmacists with extended roles can provide care, especially for patients with long-term conditions; allied health professionals can develop increased skills to deliver professional care autonomously; and physician associates are a recent and welcome addition to multidisciplinary clinical teams. The primary care workforce is the one

which we most need to develop and grow in order to achieve the capacity and workforce transformation that is required, and specific reference is made to that later in this chapter.

Our ultimate aim remains to have sufficient numbers of the right staff in the right location with appropriate skills, delivering patient care of the highest possible quality. Much excellent healthcare is already delivered by multidisciplinary teams. This has been shown to be highly productive and delivers safe and effective care with improved outcomes for patients. We will continue to build on this model going forward.

General practice

The number of GP vacancies within independent contractor practices is difficult to define precisely, though ISD collects data on numbers of GPs, and the biennial Primary Care Workforce Survey is underway. There is however considerable evidence of a significant recruitment challenge in general practice across Scotland, with some areas finding it more difficult to recruit than others. This has had multiple impacts, including a number of practices relinquishing their contracts, requiring Health Boards to deliver a directly managed GP service for a period of time until new arrangements are put in place.

The sustainability of the GP workforce continues to be affected by the existing short-fall in GP numbers, the trend towards flexible working, the high proportion of GPs over the age of 55 who are likely to retire in the next five years and the fact that GP specialty training places are difficult to fill. These issues are common across the whole UK.

The Scottish Government is taking measures to increase the supply of newly trained GPs, with the recent announcement of an extra 100 GP training posts across Scotland from August 2016. This potential increase in capacity is accompanied by renegotiation of the GMS (GP) contract (due to be implemented from April 2017) which will provide a role and career structure that is more attractive.

Concerted action is also needed to make GP careers more attractive, and there are a number of actions which are being considered or are already in train to address this. These include giving medical students the opportunity to spend more of their training in primary and community care settings, presenting a more positive view of general practice, and extending the range of career opportunities for GPs. Such opportunities include the new one year GP fellowship to provide them with the enhanced skills to work in the new community-based models.

The renegotiation of the GP contract is a key enabler to increase the attractiveness of the profession, removing bureaucracy and enabling GPs to spend more time on the type of patient care that provides the greatest benefits to patients, whilst providing higher levels of job satisfaction to the doctors.

For the future, general practice will require a different approach. The role of the GP will evolve to be the expert medical generalist, working with larger teams, and supported by a wider multi-professional team able to deliver much greater clinical care, working in a way that utilises their particular skills. The impact of the clinical team will be enhanced by collaborative working with social care staff, and increasingly by signposting patients to third sector organisations that provide significant community-based support for patients.

The development of the wider primary care team will be trialled in a number of areas through new ways of working. Important issues to be determined by the trialling of newer models will include how continuity of care for patients can be optimised in wider teams, and how the increased range of professionals can be integrated to work with the existing practice-based structure of primary care.

The development of a highly skilled and effective mix of professionals in primary care will require development of targeted training for nurses, pharmacists and allied health care professionals, so that they are able to develop the extended roles that will be required to practice more autonomously in the primary/community care services of the future.

It will be important for primary care professionals to be prepared to offer some basic training to relevant social care staff, with particular emphasis on what developments with a client should prompt contact with a healthcare professional.

The provision of an appropriate level of support for patients in the community (aiming to help rehabilitation and re-enablement) requires a continuing expansion of the primary care workforce. This will be a central role of the newly formed Integration Joint Boards. However, given the resource constraints, it is likely that a shift from investing in hospital care will be required, with a more significant move to investment in primary and community care.

Conclusions

Healthcare will increasingly be delivered by teams of professionals united by common professional values, with effective clinical leadership.

Recognising the current and future challenges in recruitment of highly skilled staff, we need to continue planning of training and recruitment for all types of clinicians to ensure that we can have the capacity to deliver the services that will be required in the future. Enhanced capacity has to be planned early to deliver the health and social care workforce that will be required in the future, particularly given that training for some professionals takes years. A new GP contract must provide a professionally satisfying career path to attract a greater proportion of doctors into primary care.

However, increasing the numbers of staff alone will be insufficient. We have the potential to deliver care in different, and potentially better ways, by fully utilising the many skills found across the wide range of disciplines (supported in some settings by innovative use of digital technology). NHSScotland has already invested significantly in a mixed economy workforce and recognises the benefit of new roles in the healthcare setting but also recognises the need to do more.

The workforce challenges we describe are not exclusive to NHSScotland and dealing with them requires action by individuals, Health Boards and other bodies and Government. This should reflect our particular circumstances and build on our well established models of collaboration and partnership working.

F. FINANCIAL CONSIDERATIONS

This is a clinical strategy which provides the rationale for change in the delivery of high quality and sustainable clinical services. To be successful it must also be underpinned by a sustainable financial strategy, with a primary focus on the value of healthcare services.

Value-based healthcare is an established approach to improving healthcare systems across the world – the central argument is that higher value healthcare is not necessarily provided by higher inputs. What matters more is that care is provided

early in disease to prevent progression (avoiding the added patient burden of more intensive interventions), it is provided safely to avoid harm, it is proportionate to the patient's needs (avoiding the waste of providing outcomes that are not relevant to the patient), it is provided consistently and reliably (avoiding unwarranted variation).

Looking ahead, there are various issues that will specifically impact on the health resources available:

- The estimated annual percentage change in the volume of demand for healthcare (and cost) as a result of anticipated demographic changes over the period to 2030, and increased life expectancy, is projected to be at least one per cent per annum. In the absence of change, this equates to an increase of up to £120 million per year.

- The projections for increased costs of medicines suggest a further 5-10% increase on current spending per year.

- Staff costs are approximately 65% of total costs, and are projected to continue to rise as a result of pay structures, National Insurance and Pension changes.

This all requires to be delivered within the context of the toughest public expenditure conditions we have faced. The Scottish Government's discretionary budget will be around 12% lower in real terms in 2019-20 than it was in 2010-11. Despite this pressure, health spending continues to be protected, with health resource spending in Scotland set to rise to a record level of £12.4 billion in 2016-17.

Scottish Government Health Resource Spending

Cash Terms (£billion)

Real Terms (£billion)
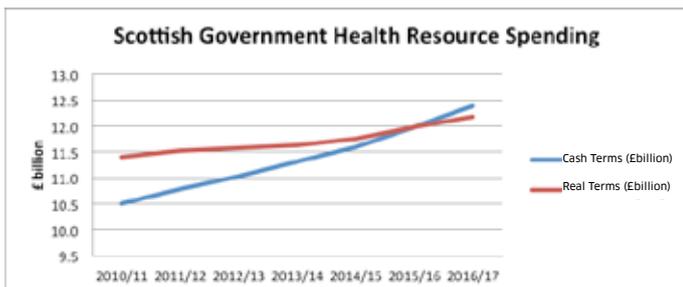
Source: Scotland's Spending Plans and Draft Budget
2016-17, Scottish Government, December 2015

Investments in 2016-17 include: £250 million investment to be directed to health and social care partnerships, to ensure improved outcomes in social care; £45 million improvements to primary and community care, to support the development of new models of care; and £200 million over the next five years for the development of a new network of diagnostic and treatment centres, enabling faster treatment and addressing demographic pressures.

This strategy is primarily about improving the value delivered by, and from, health services. Improving value by providing reliable care that is proportionate to need, is safe, effective, person centred and sustainable will increase value for patients, and is likely to stabilise costs.

Evidence shows that the relationship between healthcare expenditure and health outcomes is non-linear. If it were, any additional euro spent on healthcare would result in a corresponding improvement in the population's health status (measured, for instance, in terms of healthy life expectancy). In reality, the greater the expenditure, the lower the marginal improvement in health status as a result of its increase.

Countries also vary significantly in their ability to translate a similar level of resources into health outcomes. International comparisons show that the same amount of per capita healthcare expenditure can be associated with very different health outcomes even after taking into account the differences in lifestyle and socio-economic realities among countries. It is not only how much money is spent, but also how it is spent, that determines a country's health status. Present budget constraints should therefore be used as an opportunity to improve the value and effectiveness of healthcare spending.

"Investing in health" European Commission Staff Working Document: Feb 2013

G. CHANGES IN THE RANGE OF POSSIBLE MEDICAL TREATMENTS

The pace of change as a result of medical advances is considerable. It is not just the change in the actual treatment that will alter the services that we can offer, it is change in the way that services are delivered, and challenges to accepted practice. For example, 10 years ago it was considered normal and acceptable for patients to remain in hospital for up to 10 days after hip replacement. Since then, work has been done to reduce the physiological impact of anaesthesia and operation, and speed recovery. Progressive work has shown that better outcomes can be obtained with a concerted effort to reduce length of stay, and it is now not unusual for patients to be discharged within 48 hours of hip replacement. Likewise there has been a continuing increase in the amount of day-case surgery, and, especially in gynaecology, a significant move to provide traditional day-case care in outpatient clinics – improving the service to patients, maintaining or improving outcomes and providing a higher value service at less cost.

Scientific advances will continue to provide the means to improve outcomes, but many of these advances will come with considerable cost and complexity, and may require more total resource than the treatments they displace. We will need to ensure that we have a health service that assesses improvements in outcomes against increases in resource input, and is as efficient as possible, otherwise our ability to invest in future treatments may be constrained. There is evidence that some advances are only very slowly taken up across the Health Service. This natural conservatism with respect to new treatments can have benefits as there are examples of treatments that have been withdrawn after early experience has revealed previously unsuspected safety issues or unpredicted harms. However we need to ensure that new advances are taken up promptly across the whole of Scotland, especially if they result in significant increases in the value of treatment to patients, and improved outcomes, or reduced costs. The role that Healthcare Improvement Scotland has taken in this respect has ensured that cost-effective and proportionate use is made of new technology (for example, the consortium formed to advise on the use of the novel anti-coagulant agents) but there are further opportunities to improve decision making and treatments.

In summary, we need to ensure that any new developments in Scotland deliver proportionate improvement in value in relation to their costs. That value should always be related to patient experience and outcomes.

We should focus as much on different and better ways of delivering current services as we should on new technology and medicines. Medical and technical advances can be marginal in their impact; service improvement can be transformational.

We require a continuing national approach to support service improvements – as has been seen with the increased understanding of improvement science with the Scottish Patient Safety Programme. We require to support widespread clinical leadership – from multiple professions – to ensure that we have a Health Service that is rapidly able to adapt to changing technology, and better ways of delivering current services.

H. REMOTE AND RURAL CHALLENGES TO HIGH QUALITY HEALTHCARE

Scotland has a population of just over five million, and covers a vast area, much of which is sparsely populated. Rural Scotland accounts for 98% of the land mass and approximately 20% of our population live there[6]. A significant proportion of areas are remote from centres of significant population and thus physical access to services. Rural populations continue to grow at a faster rate than the rest of Scotland and have higher levels of older people, which increases demand for core services. Furthermore many rural households suffer from deprivation with "extreme fuel poor" rates around double of those elsewhere in Scotland.

The co-ordination and delivery of health and social care in remote and rural areas presents very significant challenges. There are insufficient populations to sustain specialist hospital services and distances and limited public transport links to acute hospital care can result in long travel times. This can

lead to difficulties in providing high quality emergency care – issues which have been significantly addressed by the establishment of the flight based medical retrieval services.

There are other key ingredients to the provision of effective emergency care – the ability of well-trained local clinicians suitably equipped to respond rapidly to emergencies, and the ability to transport selected patients rapidly to definitive care. Due to the low rate of emergencies in sparsely populated remote locations, clinicians there may infrequently be called upon to provide emergency care, leading to reduction of any skills that have been acquired. For this reason, it is necessary to consider further development of remote clinician support from specialists so advice can be obtained rapidly via phone or internet, given the much broader range of skills required of clinicians in rural areas. This may augment the broad range of service initiatives that are found across rural Scotland – often based on local solutions using local resources and skilled healthcare professionals.

A number of innovative ways of delivering healthcare in rural areas are being developed and tested with Scottish Government support. Working with NHS Boards we are developing networks between rural and urban hospitals. These networks will support doctors working in rural areas to maintain and develop their skills – ensuring that patients receive safe care. In some areas this will involve rotating staff between rural and urban hospitals to ensure that we continue to provide services close to communities. This work has already

---

6   National Statistics, Rural Scotland Key Facts 2015

delivered early success in supporting the delivery of general surgical services in Fort William's Belford Hospital. Working with NHS Highland, a network between Caithness General Hospital and Raigmore Hospital in Inverness is being put in place which will involve rotating staff between the two hospitals. This will support the delivery of the majority of surgical care and all out-patient care close to the community in Wick. The Scottish Government is also supporting an enhanced training programme for GPs who will be able to support the general medical services delivered in Caithness General.

Another initiative implemented by NHS Highland with SG support is 'Being Here', (2013–2016). This programme has explored new healthcare approaches to tackle challenges of primary care delivery in rural and remote areas. New multi-practice models for GP provision are being tested in West Lochaber, Isle of Islay, Mid Argyll and in Campbeltown for 24/7 care by the community hospital, local GPs and the Scottish Ambulance Service working together.

Remote rural practices face particular difficulties with mobile phone coverage and broadband connectivity – important given that there are more branch surgeries in rural areas. However, new technologies can create real opportunities in both treatments and access to services. Installing telehealth facilities in the 'Small Isles' Medical Practice on Eigg – with links with other islands being developed too – is enabling patients to access improved virtual face-to-face consultations remotely with their GPs. Support to encourage

improved connectivity in rural areas has been identified as a priority by the Rural Parliament and is important, not just because of the potential improvements in the provision of healthcare, but because of the wider issues for more remote communities relating to education, business and social integration.

Delivering routine health, dental and social care, can be difficult due to the challenges of recruiting and retaining clinicians and care professionals to rural communities. Potential barriers include: social and professional isolation, limited spouse employment opportunities, reduced educational opportunities for children, the demands of providing very broad emergency and non-acute services, increased on-call duties, lack of suitable housing, and difficulties in obtaining continuous professional development.

The ability to attract young professionals of all disciplines to more remote and rural environments is a more general issue – suggesting that to be successful, recruitment campaigns should be multi-faceted and relate to more general community development as well as considering opportunities for multi-professional working across communities.

To tackle the barriers to recruitment and retention of staff, including GPs, the 'Being Here' programme has helped deliver an ambitious and creative recruitment exercise aimed at attracting health professionals to live and work in remote and rural areas. With a new micro-site and targeted advertising campaign, a number of successful appointments have been made.

The benefits of adopting community resilience models are also being realised, with the appointment of local residents to posts of rural health and care support worker and first responders. The importance of using all community assets, and developing care that anticipates and reduces the risk of acute illness, is particularly acute in rural areas, where arguably there is the greatest need. In the Small Isles the benefits of adopting community resilience models are being realised, with the appointment of local residents to posts of rural health and care support workers and first responders.

I. OPPORTUNITIES FROM INCREASING INFORMATION TECHNOLOGY (E-HEALTH)

Modern clinical IT systems can help to make care more efficient, safer, more person-centred, and more cost-effective. They offer considerable potential to redesign and standardise healthcare processes to meet healthcare practitioner and patient needs. When applied in the right settings IT systems can deliver efficiencies and free up much needed resources for frontline services.

The last 10 years have seen an acceleration in innovation in IT with increased connectivity and mobile communication, and massively more powerful data capture, storage and processing capacity. As a result, clinicians are increasingly reliant on IT systems and technology in their daily work and ensuring that IT infrastructure is resilient, secure and meets their needs is essential.

There have been some notable successes within the NHS in Scotland as a result of investment in IT systems, with direct positive impacts on the working conditions for staff and the quality of care for patients. For example Scotland was amongst the first countries in Europe to establish a national PACS (Picture Archiving System) which means that digital x-ray and scan images can readily be viewed at a distance on any computer that is connected to the network. There has been significant effort in digitising and back scanning records to ensure that these are available electronically. Clinical portal development has facilitated electronic information sharing across hospitals within NHS Boards providing staff with easy access to essential patient information and history, and is increasingly being made accessible to GPs and staff in the community. The electronic patient management system (PMS) optimises patient flow through hospitals by automating processes helping to make our hospitals more efficient and reduce unnecessary discharge delays. Transitions and referrals are managed electronically. Electronic discharge information is sent automatically to GPs allowing them to plan transitions back home or to a community setting with patients and their families using the most up to date information. Electronic referrals help to reduce the time patients wait to meet with a specialist. Application of the latest IT innovations mean that our newest hospitals are paper-light; pharmacy and laboratory services, which have previously been bottlenecks in the system, are fully automated and the latest technologies

are being used in diagnosis and treatment where appropriate. Within community and GP services, the national procurement and implementation of two IT systems for general practice across the whole country has led to a dramatic improvement not only in the support for GPs but also in the sharing of summary patient data from primary care with the wider health service in particular providing essential medications and allergy information to the emergency and unscheduled care services. Scotland has a country-wide network to connect all points of care which has recently been expanded to support more integrated health and social care working across public and third sector partners. The secure email system – nhs.net – has allowed extremely effective email communication within the service. The introduction of real-time management information systems have made performance management and financial management much more effective and have helped NHS Boards to manage capacity and resource across the service.

Yet the adoption of some clinical IT systems across the NHS has been variable and has not kept pace with clinicians' expectations. We are not planning to develop a single comprehensive electronic patient record in the short to medium term, however more work is required to digitise paper records and case notes, share summary information between services and partners, and manage workflow across boundaries. The current limited use of electronic hospital prescribing and administration systems needs to be extended to replace existing paper based

systems to ensure patient safety; and work is in hand to do so. Electronic reconciliation of medication records is required between hospitals, GP systems, and community pharmacists to ensure that a common up to date electronic medication view is available. Improved electronic information sharing is required between health and social care providers and their third sector partners to ensure that the patient receives the right level of care based on all the information available. Electronic systems will increasingly need to support cross boundary working as we concentrate and integrate resources to deliver the best available care, and support mobile access to meet patient and clinicians' needs. All developments will require greater interoperability between systems, common standards for recording and sharing information and local data sharing agreements based on the nationally agreed SASPI (Scottish Accord on the Sharing of Personal Information).

There are great opportunities for NHSScotland to put its valuable data resource to better use. Given that NHS IT systems are so comprehensive, there is the possibility of analysis of vast amounts of data to identify and study health and treatment trends in almost the entire population. Examples such as the Farr Institute are beginning to build

capacity in health informatics research tapping into electronic health data and combining this with other forms of research and routinely collected data. If done in a way that respects data privacy and confidentiality, it should be possible to use NHS-held data much better to guide decision making in complex clinical and population health contexts. Growing evidence suggests that health informatics data can be particularly powerful when combined with a patient's own recorded information and clinical record to target treatment and achieve the best health outcomes. Further, presenting the combined data visually can support clinical co-management practice and sharing the anonymised information amongst interested professional and patient peer groups can support continuous improvement across services. The Scottish Government and NHSScotland are in the process of developing a Health & Social Care Information Strategy to ensure we take full advantage of existing and future opportunities in this respect.

Patient online access to their medical data is still only possible in Scotland in very limited circumstances, although patients have a legal entitlement to view their records if they wish. Most people are currently unable to access their notes online, book appointments electronically, view test results or order repeat prescriptions. This functionality exists with the current GP IT systems but requires local support and some change management within GP Practices to deliver. Good quality information can help patients and carers to achieve higher levels of self-management, and make realistic and informed choices about

their healthcare that match their preferences. The provision of online information from accredited sources is in place with the development of digital resources such as NHSinform. However, the current range of public online health information resources needs to be consolidated and personalised. Telecare use is already well proven and is key to supporting patients in their own home but its use is variable and support is being provided to roll out best practice across Scotland. Telehealth is increasingly understood to be beneficial to patient self-management and assisted living when applied in the right circumstances and current work is focused on integrating solutions within a home based model of care. More advanced digital services including eConsultation, and home monitoring and video conferencing telehealth solutions could support GPs and enhance capacity within community hubs over time but will require greater commitment to change management and process redesign. Growth in this area will require a commitment to innovation and support for our local SME market. Scotland is ideally placed to lead in this fertile ground, given its already strong connections between industry, academia and service providers, and its track record in telecare and telehealth innovation. The Digital Health Institute was established to encourage and support market growth and ensure that we make the best use of locally grown innovation.

Plans are in place to significantly improve the situation with patient access in Scotland within the next few years through the creation of a patient portal. This will give access to a summary electronic patient record, personalised health information and digital services for every citizen in Scotland. As well as making the health service more accessible to those who are digitally literate, this IT development will be an important tool for health improvement, self-management and co-production of care plans by citizens. It is therefore a crucial element of realising our overall vision for increasing person-centred, integrated care in the community. Continued investment in IT improvement will be required to support transformed, more person-centred services, to enable better informed decision making, to ensure that clinical records are made readily accessible wherever people are treated and ensure that infrastructure remains resilient and secure.

There is a great opportunity to ensure IT systems are in place that will make the NHS safer, more efficient in delivery of services, more easily accessible and provide the ability to collect and analyse data to guide service planning and treatment decisions. These needs have been identified and a series of plans are in place to address them in the context of the Scottish eHealth Strategy.

J. A NEED TO REDUCE WASTE, HARM AND VARIATION IN TREATMENT

There is evidence of unmet need from undersupply or underuse of some services. However at the same time there is evidence of oversupply of some services or interventions, including some that are of limited value. The Academy of Medical Royal Colleges published a document[7] in November 2014 that suggested that '20% of mainstream clinical practice brings no benefit to the patient: Most waste in the NHS lies within clinical practice and models of care.'

There is some concern voiced by clinicians regarding the increased use of investigation and treatment. Their concerns centre on rapidly increasing levels of diagnostic tests, polypharmacy (the use of multiple drugs–this may be of benefit, but, especially in the older person, multiple drugs may give rise to excessive side-effects and drug-drug interactions), interventions at lower thresholds, and clinical variation that is not reasonably explained by patient need.

---

7   Academy of Medical Royal Colleges: Protecting Resources, promoting value: A Doctor's guide to cutting waste in clinical care. November 2014

There are examples of poor understanding of risk by patients and clinicians alike that results in more treatment being used than a person would choose if fully informed and involved. This suggests that people are not always full partners in decision making, and so unable to choose treatment strategies based on complete information and their own preferences. If we are to support people having an increased voice in their treatment choices, and support them in self-management, we need to improve communications with patients, to increase health literacy (the understanding of health, healthcare interventions, and their likely impacts). Initial work has been developed by the Scottish Government on improving heath literacy, which needs to continued.

This must be addressed because of the harm that may result, along with stemming the waste of providing a service that is not desired. There is a need to develop targets that focus on outcomes rather than process, and use data on patient outcomes instead of biochemical or physiological measurement. The current clinical paradigm needs to adapt so that there is an increased focus on realistic and proportionate interventions (to maximise benefit and to minimise patient harm) and an even stronger participation of well-informed people in decisions about their care.

SUMMARY OF CURRENT CHALLENGES

Like many other health services, the NHS in Scotland is facing a series of challenges which can be summarised as:

- increasing need for support from an ageing population with increasing levels of multi-morbidity

- multi-morbidity arising approximately a decade earlier in areas of deprivation

- a need to improve care and outcomes via an expanded, multidisciplinary and integrated primary and community care sector, despite current workforce constraints

- a need to increase co-production with patients and carers, create high-quality anticipatory care plans and to support people in health improvement and self-management

- a need to embrace the changes required for effective integration of health and social care, and ensure that it makes a transformational change in the management of patients despite the current demand and supply challenges also faced by social services

- a need to reduce the avoidable admission of patients to hospital whenever alternatives could provide better outcomes and experiences

- a need to dramatically reduce the problem of discharge delay and thereby the risk of avoidable harm and adverse impact on the maintenance, or re-establishment of independent living

- a need to make better use of information and make better informed decisions about both individual and collective care

- a need to ensure that services become sustainable in the face of considerable workforce and financial constraints by giving careful consideration to planning of more highly specialist provisio

- a need to provide healthcare that is proportionate to people's needs and where possible preferences, avoiding over-treatment and over-medicalisation, and at the same time prevent undertreatment and improving access to services in others

- a need to provide services of greater individual value to patients

- a need to move to sustainable expenditure so that we maintain high quality services and can also avail ourselves of medical advances as they arise, and

- a need to integrate the use of technology into service redesign and to consider how IT could transform service delivery and help meet future challenges.

The NHS in Scotland is a highly valued public service that has significantly improved in recent years – as evidenced by falling death rates from heart disease, stroke and cancer. More people are being treated than ever before, and waiting times have dramatically decreased. The quality of healthcare in Scotland is high, and the work on patient safety, person-centred care and digital health has made us world leading in these areas. Despite the progress in improving quality, life expectancy in Scotland has not improved in line with other European countries, and significant health inequalities remain between the most affluent and the most disadvantaged communities.

3. PRIMARY AND COMMUNITY CARE

3. PRIMARY AND COMMUNITY CARE

The majority of healthcare is delivered within the primary care setting, with the provision of around 25 million face-to-face consultations in GP practices each year. Across the world it has been shown that effective primary care, with universal coverage, can significantly improve outcomes for patients, and deliver the most cost-effective healthcare system. The integration of health and social care from April 2016, and the development of a new GP contract by 2017, offer an opportunity to modernise primary care. Primary care includes four professional groups of independent sub-contractors – medicine, pharmacy, dentistry and optometry and all need to work in close association with community care for the benefit of the whole population.

The current arrangement of universal registration of the population with a particular general medical practice, and the maintenance of the practice as the local point of access for most care will remain a key element of an effective primary care system. The similar approach in terms of NHS dentistry will also continue. This approach enables the provision of local healthcare, with a personalised and incremental approach to investigation and referral, based on assessment of need, and helps to stream people into the most appropriate services.

It is essential to recognise the importance of long-term relationships between patients and small teams within primary general medical and dental practices. These long-term relationships allow for the delivery of

more person centred care that is holistic and less focussed on task delivery. The long-term relationships allow for supported self-management in a context that is most appropriate to the person's preferences and needs, across the full range of health problems – primary care is the last home of true generalists, and is able to address health needs in a model that combines a bio-medical approach within a psycho-social context.

General practitioner recruitment is challenging at the present, and will be for the next 5-10 years, with GPs known to be due to retire within that timescale. In addition to seeking to attract doctors into general practice, expansion of capacity in primary care is required. Other professionals have shown that, with appropriate training, they can more appropriately deliver many of the roles within traditional general practice, and provide service of equal or improved quality. The rise in the number of practice nurses in the last ten years has shown that they are able to take on a great deal of care and treatment, with particular benefit to people requiring ongoing management of long-term conditions. Advanced nurse practitioners have also been recruited to practices (and other primary care settings, such as Out of Hours Services), and have shown that they are very able to deal with a wide range of presentations in general practice, and are able to treat most presentations with clinical autonomy. More recently, pharmacists have been shown to have a useful role in providing excellent

pharmaceutical care, especially in patients on complex combinations of medications.

Substantial contributions are made to the primary healthcare of people by a wide range of healthcare professionals – district nurses, health visitors, midwives, community mental health teams, counsellors, social workers, link workers and benefits advisors. This is not a comprehensive list of professionals that are found in practices, or associated with practices, across the country – what it does demonstrate however is the emergence of teams, with a wide range of professionals, each contributing their unique skills to managing care and improving outcomes.

Within general practice there will be a significant shift in roles in the future. Firstly, there must be increasing emphasis on prevention, self-management and individual responsibility. The aim of primary care must be to support people to maintain the maximum level of health they can achieve, but in a way that encourages independence and self-management and reduces dependency on the healthcare system. This will require the provision of information and training to people so that they can manage their own health problems – often with motivational interview techniques. The general practice of the future will have stronger links with social care support – via local government and the third sector – directing people to services and community assets that can improve health, increase resilience, and add purpose to lives. For many, self-management is a difficult challenge if their lives are ruled by more

immediate concerns relating to day to day life – benefits issues, housing problems, family stresses, unemployment etc. The aim must be to support people to access the services and organisations that can most appropriately help them to address these problems, so that proportionate self-management of illness can become a reality for all patients.

General dental practices will continue to be the main providers of NHS dental care, with the increasing development of new roles to meet population needs – increased input from dental nurses, hygienists and dental therapists. These developments will mirror the broadened range of clinicians in general medical practice. Primary care dentistry is provided, in the main, by independent practices or the public dental service, and accounts for over 4 million courses of treatment per annum and provides most of the dental care for the population. The capacity of the service has increased substantially over the last decade and now there is an average of 90% of children and over 80% of adults registered with a dentist. There is a reduction in registration as the patient ages and this highlights a significant issue in years to come with an increasingly ageing, frail, dentate population. There have never been so many older people who have retained their own teeth and the demand on the service is expected to rise steadily. The skills required to treat this often vulnerable group vary from those required to provide routine preventive care to complex restorative or surgical procedures. There is an opportunity for dental care professionals (therapists, hygienists, dental nurses and

clinical dental technicians) to contribute to the oral health of this population and at the other end of the clinical spectrum enhanced skills will be required of the dentists. The service which was developed in the early days of the NHS had a history of supporting restorative care (fillings etc.) and now there is a need to focus more on the preventive element in conjunction with the older person's carers. Similarly younger adults are expected to need a preventive approach to maintaining oral health and for both groups the system will have to adapt. A revision of the system for the remuneration of general dental practitioners will take place, with a view to developing a contract that rewards a more preventive approach to treatment

While the basis of primary care will continue to be universal registration with general medical practices, there is a need for very significant change in order to ensure that there is effective integrated working across health, social care, third sector organisations and communities to improve health, healthcare and wellbeing. The challenge for primary care will be to integrate the wider health and social workforce into small, relatively autonomous, multidisciplinary teams that are able to flexibly deliver a broad range of personalised services – ensuring that health and social care needs are addressed in a personalised way to support the ambitions laid out clearly in the 2020 vision:

'Everyone is able to live longer healthier lives at home or in a homely setting. We will have a healthcare system where we have integrated health and social care, a focus on prevention, anticipation and supported self-management.'

All members of the wider primary and community care team must have a focus on a philosophy that, as well as providing conventional evidence-based healthcare, aims to[8]:

- **Change the balance of power:** Co-produce health and wellbeing in partnership with individuals, families, and communities.

- **Customise to the individual:** Contextualize care to an individual's needs, values, and preferences, guided by an understanding of what matters to the person in addition to "What's the matter?"

- **Promote wellbeing:** Focus on outcomes that matter the most to people, appreciating that their health and happiness may not require healthcare or medication.

---

8 Based on IHI's Rules for Radical Redesign of Healthservices: Institute for Healthcare Improvement 2105.

- **Make it easy:** Continually reduce waste and all non-value-added requirements and activities for individuals, families, and clinicians. This requires an appreciation of the "treatment burden" that some people may experience for example in terms of complex medication regimes, and frequent and multidisciplinary review appointments, as well as a need to reduce bureaucracy for clinicians as much as possible. It also requires improved access for patients to a much wider range of appropriate health and social care professionals, across the statutory and third sectors – possibly by further developing doctor telephone triage systems or even electronic access to information, advice and, where appropriate, online consultations.

- **Assume abundance:** Use all the assets that can help to optimize the social, economic, and physical environment, especially those brought by individuals, families, and communities. This helps move away from a strictly medical model of health and wellbeing, and recognises the importance of optimising life circumstances. This is not the sole responsibility of health services – and requires primary care services to work in an imaginative way to use community supports to optimise wellbeing. This links to the point above, and enables and supports self-management.

- **Collaborate and cooperate:** Recognize that the health and social care system is embedded in a network that extends beyond traditional boundaries. Eliminate siloes and dismantle self-protective institutional or professional boundaries that impede flow and responsiveness.

- **Support Self-Management:** Using the benefits of longer-term relationships with people, encourage patients to move from being dependent recipients of healthcare, to informed individuals, better able to understand and manage their conditions. This will include a greater use of social support approaches and greater use of evidence-based psychological therapies. The drive to support self-management will understand the patient's personal needs, wishes, values and capacity for change – aiming to promote systematic standardised treatment, but avoiding undue burdens or unrealistic expectations for patients and their carers.

- **Anticipate:** Work to develop more comprehensive anticipatory care plans with higher risk patients, to understand their preferences and to plan for challenges that might otherwise result in undesired and avoidable hospital admissions.

- **Use technology to the full:** While there is currently insufficient evidence to support the widespread use of telemonitoring people's health, there is evidence that simple telecare can support patients to manage and remain at home, and appropriate use of technology can help overcome social isolation in house bound patients.

The Health Foundation, among many others, argues the case for self-management. This approach is supported by their review of 550 pieces of high-quality research, which evidence the effectiveness of self-management.

The authors of this review state:

'Hundreds of systematic reviews, randomised controlled trials and large observational studies have examined the impact of supporting self-management for people with long-term conditions. Whilst the findings of individual studies are mixed, the totality of evidence suggests that supporting self-management can have benefits for people's attitudes and behaviours, quality of life, clinical symptoms and use of healthcare resources.'

Some studies included in the review argue that supporting self-management reduces the use and costs of health services. It has been suggested that self-management support programmes may reduce visits to health services by up to 80%.

Other findings suggest it is more likely that patterns of service use change, rather than reduce overall. For example, people may engage more frequently with a practice nurse, telephone coach or with peers, but less with hospital services. The aim is not to reduce contact overall, but rather to support a different pattern of contact which may lead to fewer crises and inpatient admissions.

de Silva, D. Helping people help themselves: A review of the evidence considering whether it is worthwhile to support self-management; 2011

The proposal that GPs become more involved in complex care and system-wide quality improvement activities will require a refocusing of GP activity. It is expected that GPs will be less involved in the more routine tasks and provide an opportunity for other health professions in the practice and the wider community team to work to the "top of their licence" i.e. taking on roles that their professional training has prepared them for. To achieve this, the training needs of GPs, members of the wider practice healthcare team, and the other professionals working across primary care, will need to be considered, and where necessary developed and met.

There will be challenges in managing the successful transition of care from provision by an individual GP or a small team, to care that is delivered by a much broader team. The aim will be to provide people with appropriate clinicians to support their needs, but to ensure that complexity is minimised, duplication avoided, and professional boundaries blurred. This will require considerable leadership – which may not always come from the GP – but must aim to provide continuity and holistic care to all patients without providing an episodic, impersonalised task-focused service. It has been shown that experienced nurses, often with years of clinical experience in hospital settings, can be trained readily to take on substantial roles within practices. There will likely be a need to look at the capacity for nurse training. There is a current opportunity to reshape roles with the negotiation of a new contract

for GPs. A re-defining of the role must develop for GPs so that they can use their skills to the maximum. It is proposed that there will be a revised role for the GP from 2017, with the GP as the senior clinical decision maker in the community, who will focus on:

- complex care in the community

- undifferentiated presentations (i.e. first presentations of illness), and

- whole system quality improvement and clinical leadership.

The new GP contract will not include the current Quality & Outcomes Framework (QoF) which the Cabinet Secretary has confirmed will be phased out from April 2016. This will move practice funding from a significant Payment for Performance scheme which relied on incentivising increased activity in practices. It is anticipated that the negotiation of the new GMS contract for Scotland will see the development of recognition of, and payment for, "values based quality". This approach recognises that the contribution of general practice to individuals and communities is more than the sum of bio-medical management of illness, and relates also to issues such as access, continuity, relationship forming over many years, and a holistic approach to all issues impacting on physical, mental and social health. A similar revision of the remuneration of general dental practitioners will take place, with a review of the payment scheme and the possible replacement with a contract that rewards a more conservative approach to treatment.

Although co-location per se will not necessarily lead to the required increase in joint working, it is nonetheless recognised that it can significantly support it. For that reason it should be an objective to increasingly arrange for co-location of primary and community care services, in a way that enables them to work as manageably sized, close-knit teams with excellent inter-professional communication, and "one-stop" access for people. This will probably only be achievable over time due to the obvious constraints of premises development – but the benefit of co-location and team building in taking joint responsibility for patient care must not be overlooked. Some practice premises are currently used in the evenings and at weekends by community groups – this should be encouraged so that these valuable assets can maximally contribute to communities.

The contribution of pharmacists can be considerably enhanced, with their expertise ensuring that people with complex medication regimes have their care optimised, and the potential for side effects or harmful interactions reduced. It is likely that they would have particular benefit in care home settings where polypharmacy is a significant problem, as well as reconciling people's medications on discharge from hospital.

Use of technology and IT will underpin these changes. Electronic information sharing will facilitate collaborative working across integrated health and social care teams to best support people's needs. People and their GPs will have access to electronic patient records and patient held information from medical devices and other consumer products to help them manage the individual's health and social care needs and agree outcomes which are then recorded in electronic anticipatory care plans. NHS approved web-based tailored information and telehealth/telecare will help people and their carers to self-manage at home. Clinical decision support and evidence-based knowledge hubs are being developed to support clinicians to have access to have the most up to date information when they need it about clinical risks and best practice. Visual tools are being considered to combine this with people's own data and information to allow informed decisions to be taken. Enhanced GP digital services will make it more efficient for people to book appointments and order repeat prescriptions and over time will provide greater choice for people who might prefer digital interaction and consultation with their primary care team, where that is appropriate. Virtual electronic medication records will ensure reconciliation of medicines between a hospital and primary care setting and will be accessible to community pharmacists to ensure safe medicine use.

The distribution of general practices across Scotland is determined largely by historical patterns of care and populations, and there is evidence that the allocation of resources does not always match need, particularly deprivation. In general there is evidence of fewer doctors working in smaller practices in the most deprived areas of Scotland. A recent survey by the Deep End GPs (a group of GPs who work in the 100 most deprived practices in Scotland) has shown that deprived areas generally have fewer doctors, and that the doctors there are more likely to be older and in single-handed or smaller practices. There was an ambition to address this inequitable distribution in the 2004 GMS contract and there is potential through the new 2017 GMS contract, and resource allocation by Integration Joint Boards to further address this issue either by redistributing existing resources, or ensuring that any additional resources improve the match with need.

Primary Care Out of Hours Services

A review of GP out of hours services, led by Sir Lewis Ritchie, has recently been completed and a report published. The report describes a need to have a broadened multi-professional team, working from a number of emergency hubs. There are suggestions to increase the input of GPs to the service, and development of a more integrated and responsive service capable of supporting alternative professionals. It will be essential to ensure that the service retains high effectiveness and has skills to effectively assess risk, and avoid admission to hospital as a "default" action where there is diagnostic or prognostic uncertainty. An over-reliance on admission to hospital has the potential to seriously strain hospital capacity in a way that may not always bring benefit to the patient or carer. Reducing avoidable admissions is an important system wide objective that can improve overall care for the population. A national implementation plan, including an outline of investment to support delivery, will follow in spring 2016.

Community services

Community services will significantly change over the next few years as a result of integration between health and social care. This offers significant opportunities to support people better at home, using integrated and co-ordinated services.

The experience of Torbay is relevant here.

Torbay was an early example of integration of health and social care services (in 2004) and the progress made was written up in a report in 2011[9]. Integration there led to significant system wide change, leading to the development of a wider range of intermediate care services, working closely with general practice to provide care to older people in need, supporting them to live independently in the community. Importantly the support included the development of care planning for the most vulnerable, and the provision of rapidly responsive services for crisis management of problems which was overseen by health and social care co-ordinators. The culture developed across the integrated organisation was based on a common understanding of the need to develop responsive services for a fictitious elderly "Mrs Smith", and strong leadership. The results were a reduction in the use of hospital beds, low rates of admission for people over 65, minimal delayed discharges, reduced use of residential and nursing homes (balanced by an increase in home care services).

One of the assets of high functioning teams (such as GP practices or clusters) is the ability to work to a degree of autonomy, and develop a flexible range of solutions to meet people's needs. They are driven by professional standards and often work best with small teams able to manage their own workload, and to have minimal bureaucracy. This has been the philosophy behind the Buurtzorg nursing teams in the Netherlands.

9   Integrating health and social care in Torbay: Improving care for Mrs Smith; The King's Fund

In 2006, community nurses started a new concept in the Netherlands: Buurtzorg, which in English means "neighbourhood care". It is a not-for-profit provider of care through care homes and in community settings. The experience of Buurtzorg shows how understanding demand in human terms and supporting self-help are fundamental prudent improvement principles.

Most traditional home care in the Netherlands has been based on an approach similar to that in the UK. This model views home care as a product that can be delivered most efficiently when divided up into separate component processes. These processes can then be delivered by different individual specialists, for example, those who administer pills and injections, those who dress wounds and others with more specialist skills who, for example can connect morphine drips.

The Dutch organisation found any savings made in cost per hour from specialisation were lost when the cost of managing a complex and fragmented process was also factored in. A better system, one that put people's needs at the centre of care, was needed. Buurtzorg decided to revitalise the district nurse role. The care provided by its generalist district nurses is to build a relationship with the client, solving problems and rebuilding their self-confidence as part of recovery. The organisation has shown that a single, unhurried visit by a highly-trained district nurse is more effective than several visits by specialised care workers, each performing their allotted tasks.

This way of working has increased the unit cost of interventions but this is compensated for by a 50% reduction in total demand. Nurses serve neighbourhoods of 10,000 people in self-managing teams of ten. Working with GPs, they see themselves as community builders, developing neighbourhood-level support for their clients from friends, families and volunteers and they even have a weekly slot on local radio they can use to advertise events and services, provide advice and put people in touch with one another.

Preliminary findings show that Buurtzorg's patients use 40% of the care they are entitled to. Half of people receiving care do so for less than three months and patient satisfaction scores are now 30% higher than the national average. With no managers, communication lines are short and employees report greater work satisfaction. In 2011, Buurtzorg was chosen as the Dutch employer of the year.

The learning from this powerful example is that post-integration structures must not be afraid to experiment with quite devolved structures for professional teams, with a minimum of bureaucracy, but based upon clinically relevant shared objectives. Above all their success relates to taking ownership of people's problems and feeling empowered to address the problems using locally available resources with flexibility. Technology also played a key role in supporting the devolved structure by providing electronic access to client information at the point of care. There is potential here for reductions in management spend, as well as better overall outcomes. There is already considerable interest in the Buurtzog model and how it could be tested in Scotland.

From April 2016, the Integration Joint Boards will be responsible for planning local services including those that are at the interface between primary and secondary care. There should be a continued emphasis on identifying those people most at risk of avoidable admission, providing adequate support for them. The aim should be for joint development of anticipatory care plans for crisis points, provision of rapidly responsive services that can provide an alternative to hospital admission, and support for rapid discharge, with continuation of rehabilitation in the community if required. All of this must be supported by robust IT services to ensure that data can be captured and analysed in real time to support service planning, home monitoring technology to support people who are at risk, digitised case notes and electronic information sharing to support secure rapid exchange of up to date information between services, and mobile access to information to support community working.

Reduction of Avoidable Admission

It will be an essential objective for Integration Joint Boards to support people to manage at home, through a range of local initiatives. The ability of innovations to reduce avoidable unscheduled admissions to acute care is variable. The King's Fund review of factors which reduce avoidable admissions to hospital concluded that there was evidence to believe that the following reduce avoidable unscheduled care admissions. However, further evaluation is required.

Approaches that reduce avoidable admissions:

- Continuity of care from being able to see the same family GP

- Integration of primary and secondary care

- Self-management in patients with COPD and asthma

- Tele-monitoring in heart-failure

- Assertive case management in mental health

- Senior clinician review in A&E

- Multidisciplinary interventions

- Comprehensive geriatric review.

Approaches that reduce avoidable re-admissions:

• Structured discharge planning

• Personalised healthcare programmes.

There is also modest evidence that a proactive approach to anticipatory care and case management can reduce avoidable admissions. Primary care and community teams should combine to identify those at greatest risk of avoidable admission to hospital, and ensure that a proactive approach is adopted to reduce the risks of exacerbations of illness, and to prepare effective support should deterioration develop.

Anticipatory Care Planning

A study was undertaken in 2010 to evaluate the impact of introducing Anticipatory Care Plans (ACP) for a cohort of people from a general practice in Nairn, Scotland, that were considered to be at high risk of experiencing a hospital admission (identified using the Scottish Patients at Risk of Readmission and Admission tool). A group of individuals with a similar SPARRA score were also identified but ACPs not introduced to compare the two sets of results. When comparing the 12 months preceding the introduction of ACPs to the 12 months following (for those that were still alive in the second 12 months), the group of individuals for which ACPs were introduced saw a 52% reduction in the number of days spent in hospital. The study also found that for those who died during the second 12 month period, individuals with an ACP were more likely to be able to die at home.

(Anticipatory Care Planning and Integration: a primary care pilot study aimed at reducing unplanned hospitalisation: British Journal of General Practice, February 2012)

A similar study of Anticipatory Care Plans was undertaken in a care home in NHS Lanarkshire in 2009. Evaluation of the study found that when comparing the six month periods prior to and following implementation of the ACPs, there was a 34% reduction in the number of inpatient admissions and over 50% reduction in the number of hospital bed days (NHS Lanarkshire, Long-term Conditions Team, Anticipatory Care Plans in Lanarkshire Evaluation, April 2010).

Future development of electronic patient information summaries (building on the current Key Information Summary) should be based on Anticipatory Care Plans to enable a coordinated, person-centred approach across the health service.

Mental health

Mental illness is one of the top public health challenges in Europe. It has a significant impact on the overall health of the population, and on health inequalities. Overall, mental illness is the most prevalent of the longer term conditions as measured by burden of disease and disability. Estimates vary, but there is evidence that mental illness affects up to one third of the population every year[10]. Psychotic illnesses affect around 1-2% of the adult population, with substance abuse including alcohol excess impacting on 5% of men and over 1% of women. Mental illness has a significant correlation with deprivation, and around 40% of those adults in receipt of welfare benefits and disability payments suffer from mental ill health. Patients with persisting mental health problems have increased rates of long-term conditions, particularly cardiovascular disease, cancer and diabetes, and have a life expectancy that is typically 10 years less than the least deprived and healthiest in our communities. Long-term conditions also bring challenges to mental wellbeing, and as a result, high rates of depression are found in association with long-term conditions, and

10 Mental Health Strategy for Scotland 2012-15

contribute to the burden of these diseases. For this reason Scotland has improved access to clinical health psychologists, as recommended in SIGN guidelines on cardiovascular disease, diabetes and stroke.

Rates of dementia and cognitive impairment increase with age. Scotland has a good record in initiatives to identify and support patients and families to manage this illness. However in the elderly, depression is considerably more common, and is particularly associated with social isolation and loss of independence. Depression may be harder to recognise in the elderly and medication tends to cause more side effects, including falls and confusion.

It is important to recognise the significant changes that have occurred in mental health services over the last 15 years – changes which have considerable relevance to the changing shape of services in other specialties. Specialist mental health services have moved from being primarily a hospital based service to being a more community-based service, centred on multidisciplinary community mental health teams that work closely with practices and with local social work services. They have developed increased interaction with voluntary and third sectors to support their patients, and have increasingly recognised the importance of non-medication approaches to treatment, with particular emphasis on "the talking therapies" and the potential benefit of exercise. All general practices across Scotland now have access to counselling services for their patients, and waiting times for psychology services

continue to fall, allowing more rapid access to alternatives to medication, and support that can impact on patients motivation and management of other long-term conditions.

Mental health services have moved to encompass a paradigm that has a strong focus on reablement and recovery, with anticipation and prevention of crises a strong feature. Supported self-management is the aim, with increased input from voluntary and third sector organisations to support patients to have a better experience of illness than would be achieved by a purely health-focussed approach, and to help reintegrate patients into employment, where possible, and into communities. Principles of risk assessment and management, in a way that is least restrictive to the patient, and proportionate to their needs, are well developed.

An enhanced approach to the management of behavioural issues in childhood and adolescence, and increased input from multidisciplinary Child and Adolescent Mental Health Services, results in a reduction in longer-term behavioural and personality issues, helping prevent life-long problems from developing.

There is scope to further develop use of IT to deliver mental health. Health Boards and NHS 24 have developed computer based Cognitive Behavioural Therapy packages for patients as well as telephone supported guidance. Patients are able to access a range of online and written support for mild to moderate mental health issues, and can be signposted to local community resources.

Mental health services have worked on developing outcome measures which are holistic and take account of patients' social and physical wellbeing, as well as more readily measured clinical parameters. The description of the transformation of mental health services that has occurred in the last 15 years is important. In many ways, the development of services mirrors some of the developments that are proposed in other areas, namely:

• Supported self-management from multidisciplinary teams, accessed where possible in communities

• Reduced reliance on hospital admission, helped by community mental health and social work teams working locally, and supported by consultant specialists who have a more focussed role managing the most complex patients

• An approach that is anticipatory, plans for crises, and uses voluntary and third sector input to develop the support and social integration that helps improve the experience of illness, and improve outcomes

• Greater understanding and measurement of outcomes that are more holistic in their approach, to drive improvements that matter most to patients, associated with reduced use of medications where appropriate

• Exploration of the role of IT in helping patients manage their own conditions

- Greater liaison between acute hospital services and mental health services, with stronger appreciation of the interplay between physical, mental and social wellbeing.

Summary

In summary, the integration of health and socialcare for adults in April 2016, and the development of a new GP contract by 2017 offer an opportunity to modernise primary care. Primary care will continue to be based on general practices with universal registration of the population. The traditional primary care team will expand with greater roles being played by many other professionals working in autonomous teams. Continuity, and the building of therapeutic relationships will continue to be preserved in primary care. Expanded teams will need to ensure that the services they deliver are person, and not task, orientated.

Supported self-management and motivational encouragement will continue to develop significantly, especially for those with long-term conditions. This will match an increased emphasis on recovery and reablement, supported both by community rehabilitation teams, and the use of third sector and voluntary organisations. Increasingly services will be co-located, supporting better joint working and enabling people to access a wider range of services across health and social care settings. Health centres may become health and care centres, and premises may be used for wider community benefit outside normal working hours.

Increased investment in primary care will ensure the sustainability of secondary care services by allowing an increasingly elderly population with multi-morbidity to be treated more appropriately in primary care. GPs will have a leadership role, and will focus their skills on more complex cases making best use of their experience. Focused attention on the most complex cases, including those at highest risk of avoidable admission should enable patients to safely and appropriately be cared for more at home, or in a homely setting. Proactive planning for crisis will clarify responses required in advance, based on people's expressed preferences. More input to care and nursing homes will support them to respond to people's acute healthcare needs without the need to default to hospital admission. GPs will have protected time for roles that require leadership, teaching, training and redesign of services to support improved outcomes. Balancing medical and social care will be important: patients with multiple long-term conditions and resultant loss of independence may benefit from increased social care, rather than more than medical intervention. The balance of care that is required is often best ascertained by comprehensive geriatric assessment carried out by community facing geriatricians.

Local development of intermediate care services to support care at home will be developed. They must be properly evaluated so that evidence of what works most effectively can be determined and shared. The role of community hospitals in the local delivery of intermediate care needs to be considered, ensuring that they can be supported to provide cost-effective and high quality care. It may be more appropriate to temporarily use care home and nursing home resources for some patients.

Expanding the range of online services and information for patients will encourage self-management and co-production as well as more efficiently direct people to the right primary care professional, relieving pressure on GPs. The way in which primary care will be delivered for certain types of patients will be transformed through increasing use of online consultations, remote monitoring and non-medicine prescribing. IT will be a crucial enabler for new models of coordinated, person-centred care delivered by community care teams and will increasingly support decision making and service delivery across primary and community care.

Rural practices will need particular support. This may be from expanded multidisciplinary roles, but will also require better phone coverage, and internet connectivity, along with decision support from remote clinicians with greater expertise. Recruitment to rural practices will in the future be improved if more support is given to training doctors in rural settings, and encouraging schools to prepare children for entry to medical schools. Strategic development of mental health services will be set out in the new Mental Health Strategy to be published in 2016, but much of the transformational change in mental health services, moving from an institution based service, to a multidisciplinary, integrated community-based service, with strong emphasis on supported self-management using voluntary and third sector resources, provides an example of successful, patient-focused, service evolution that outlines principles that could be considered more widely.

4. SECONDARY AND TERTIARY CARE

4. SECONDARY AND TERTIARY CARE

Secondary and tertiary care services have seen a very marked change over the last 10 years. There have been increases in both elective and un-scheduled admissions to secondary care, a significant increase in the care provided as a day-case, steady rises in out-patient referrals, increased accident and emergency attendances and the development of an enhanced range of services, both secondary and tertiary. At the same time, considerable work has been done through the Scottish Patient Safety and Healthcare Acquired Infection Programmes to ensure that our hospitals are amongst the world leaders in improving safety for patients and protecting them from harm.

Scotland has had success in managing increased demand, improving quality and safety, reducing wasteful variation and producing good clinical outcomes. However in order to respond to, and effectively manage, increasing demand for secondary and tertiary care and ensure sustainability of provision, NHSScotland will need to make radical changes. There is evidence to suggest that a radical approach is required to plan services differently[11] in order to be able to continue to improve the quality and outcomes from hospital services.

There are always pressures to cling to the status quo believing, against the evidence, that current service configuration offers the best possible service provision. However, history has clearly

shown that in order to achieve improvements in the quality and sustainability of care, changes in the provision of medical care are required. If change had not been progressed previously we would still have a health service that provided general practitioner emergency surgery in small community hospitals – a service that no-one would advocate now.

This section outlines significant proposals for change, and describes the evidence that we must make rapid progress on these changes if we are to maintain high quality services for the population of Scotland.

It is important to remember the challenges that are prompting change in acute hospital services:

- the potential to significantly improve outcomes
- new technology dictating the need to have centres of excellence for more complex interventions (eg. robotic assisted surgery)
- Increasing volumes of elective procedures such as cataracts and joint replacements
- pressures in recruiting highly skilled staff
- increasing demand, and
- financial considerations, and the need to invest substantially more in a locally delivered primary and community health service in response to the ageing population and the prevalence of long-term conditions. The evidence shows that a strong primary/community service achieves improved outcomes and helps to address health inequalities

---

11 Imison, C., Sonola, L, Honeyman, M., Ross, S. The reconfiguration of clinical services, what is the evidence? The King's Fund, November 2014

In this context there are two very significant change programmes that need to occur within secondary care in order to maintain the quality of service that the people of Scotland expect. These programmes relate firstly to changes in process within acute hospital care, and secondly to the structure of acute care.

Changes in process

We have to ensure that hospitals deliver the best possible value to patients. This is not value in narrow financial terms, but is the benefit that is delivered in terms of outcomes, and how these are delivered efficiently for patients: producing outcomes that matter to them, in a way that is as safe as is possible, and minimises the disruption to their lives.

Delivery of care through reliable, safe services has been shown to promote both quality, and cost-effectiveness. It can be a way of driving out waste and variation in services, producing better services at lower cost.

There is a need for continued work on process within acute care, aiming to improve quality for patients, reduce bed usage where possible by finding alternatives to admission, and by aiding early discharge – to make sure care is more effective for patients and is delivered efficiently.

This has been shown for example in the recent work on "ERAS" – enhanced recovery after surgery. By adopting a comprehensive approach to hip replacement for example, it has been possible to produce better outcomes by pre-operative management, modern anaesthetics ensuring effective post-op pain control and early mobilisation. The impact has been that the average length of stay has reduced from ten days to less than three days: patients mobilise more quickly, with less side-effects and with better longer-term outcomes. This work is now being extended to a number of other operations, and it is likely that effective management of such standardised procedures will continue to provide benefits for both patients and costs. In order to improve efficiency and effectiveness, we will need to have a concerted programme of change across all hospitals.

A considerable amount of this is already happening, supported by improvement teams from Healthcare Improvement Scotland, and Scottish Government. We must continue to examine processes in hospitals, and work effectively to implement change where evidence of benefit exists. There are already some excellent examples of hospitals taking forward initiatives including:

Outpatients: many reviews of outpatients can be dealt with by letter, email or telephone instead of clinic appointments. Where there is a need for patient-clinician interaction we should consider, especially for rural patients, the use of tele-consultations using effective video-linking. Patient surveys show that changes of this kind are acceptable to the majority, and may significantly reduce both the burden on the patient and the work needed in hospital.

Delayed Discharge: It is recognised that tackling delayed discharge is a priority for NHSScotland. Although the situation is improving, there were over 48,000 occupied bed days used in September 2015 by patients who were clinically ready for discharge (a reduction of 4,482 on September 2014). Achieving significant reductions will take a determined whole-systems approach and will significantly improve the ability of hospitals to cope with winter surges of activity and year round optimum patient flow and care. This is a priority for the NHS, local authorities and Integration Joint Boards to ensure the best outcomes for people – remembering that 75% of the patients delayed in their discharge are over 75, and in older patients, prolonged stays in hospital increase the potential for loss of mobility and independence. The Scottish Government is providing a range of practical support, guidance and toolkits to help local partnerships reduce the level of patients delayed in their hospitals.

Many areas are making great progress. NHS Greater Glasgow & Clyde, for example, are implementing a policy of discharge to assess, and have invested heavily in step-down intermediate care beds. This has seen a reduction in the number of over 75 patients delayed over three days, and associated bed days, of over 70% since November last year.

Developing IT further: There are huge advantages that can be obtained by having electronic clinical notes, electronic clinical decision support, and electronic prescribing and administration systems. Such systems can improve safety, reduce wasted patient and clinician time, reduce the costs of medical records departments, and, with appropriate safeguards in place, allow for treatment across hospitals, professions and regions. For patients, online access to electronic data and services such as appointment booking would allow joint decision making and improve their satisfaction.

Reducing bed usage, where clinically appropriate: Multiple studies have shown that a proportion of patients remain as inpatients on days when no treatment or investigation is being provided, representing considerable waste. Processes that cause delay, such as waits for scans or OT assessment must be investigated, and demand and capacity balanced so that delay is significantly reduced. This should of course be preceded by assessment of need so that excessive variation in requests is reduced.

Key messages on reducing bed use in the frail elderly

Interventions which improve frail elderly patient outcomes and reduce bed use:

- Reorganisation within hospitals to provide care in special units (eg. geriatric assessment units, acute care of elderly units, orthogeriatric units)
- Multidisciplinary early discharge planning
- Clinical pathways for the most common presentations
- Comprehensive geriatric assessment
- Senior review early on in admission
- Ambulatory care (Investigating, treating and following-up patients, but avoiding their admission).

Interventions that improve frail elderly patient outcomes and might have an impact on bed use:

- Interventions to prevent delirium
- Medication review
- Treatment for malnutrition
- Exercise interventions.

Changes which introduce interventions need to consider local context and needs. Staff should be involved in planning and implementing the changes. Data needs to be collected at baseline and measured going forward to see that changes introduced are having the desired effect.

(Based on a Literature Review commissioned by Scottish Association of Medical Directors 2015)

Acute and tertiary care services need to continue the extensive work that has been undertaken in improving processes in healthcare. We should standardise process where it is appropriate to standardise[12], and redesign flexible processes where required. While there is a financial benefit from improving process, it should be recognised that in all of the examples given above, there is direct patient benefit, and indirect patient benefit (in that more patients can potentially benefit from the fixed resource available).

Successful change in processes often requires understanding and use of improvement methodology. The work on training staff and building improvement capacity must continue. The other requirement for progressing effective change is identified clinical leadership, and the NHS requires to invest time in building clinical leadership across all disciplines to drive forward significant change in process to make care ultimately more patient centred, as well as making better use of existing resources.

Structural change in hospital services

Evidence shows that specialised procedures, concentrated on a small number of high volume sites, will improve outcomes. This conclusion is prompted by evidence that – especially for complex procedures – there is a relationship between the volume of procedures carried out by a surgeon and the likelihood of improved outcomes.

The same appears to also hold true for hospitals – indicating that the contribution to the best possible outcomes comes partially from the wider team as well as the surgeon.

Over the past 10 years there has been some concentration of services on a small number of hospital sites, allowing specialised services to produce the predicted higher quality outcomes. This has allowed the evidence base for improved clinical outcomes of specialist units to develop. For example in England, there is evidence that the centralisation of vascular services is resulting in better clinical outcomes[13]. The UK wide mortality rates following abdominal aortic aneurysm surgery fell from 7% in 2008 to 2.4% in 2012[14]. A report from the Vascular Society published in November 2015 shows that this has continued to fall, and is around 1.5%. This is significantly, but not wholly, related to concentrating vascular services on fewer sites.

The early evidence on the relationship between increased volume and improved outcome tended to consider only post-operative mortality. More recently however there has been accumulating evidence that outcomes that are less dramatic – but extremely important to patient wellbeing – are positively impacted upon by care provision in specialist units. For example a specialised urology unit in Germany had a five year prostate cancer survival rate which was only slightly higher than less specialised units treating lower volumes of patients.

12   IHI: Rules for Radical Redesign of Healthcare

13   Earnshaw et al: 2012
14   Royal College of Surgeons: 2013

However the specialised centre had a rate of permanent severe incontinence of 8% that was a quarter of the rate of the other units, and a rate of impotence that was around one third of the other units. These are serious quality of life issues that will have an obvious impact on patients. Another review showed that centralisation of care resulted in an improvement in five-year survival from 58.6% to 68.6% for all gynaecological cancers that could be staged and graded. These changes have been most marked with endometrial and ovarian cancers[15]. A further report considered the impact of a reconfigured regional upper gastro-intestinal cancer service: "The curative to palliative treatment ratio increased by 71%, operative morbidity fell 50%, lengths of hospital stay reduced on average by 3 days, median survival improved by 20% and overall 1 year survival improved by nearly 20%"[16].

There are known examples of where we accept a structure that is unlikely to produce the best possible outcomes. For example, evidence from the US suggests that a surgeon doing hip replacement operations should do at least 35 operations per year. At that level of activity the occurrence of complications falls to around the minimum level – although a small further improvement is seen with increased activity beyond

that level. In Scotland we provided about 7,600 hip replacements and 7,170 knee replacements in 2013/14[17]. There were also 950 hip arthroplasty revisions, and 460 knee arthroplasty revisions. Hip and knee arthroplasty revisions are recognised to be more complex and challenging procedures, and there is a greater risk of adverse outcome for the patient. The arthroplasty project report results show that 40% of hip revision operations were carried out by surgeons who do less than ten such operations per year, and just under one third of the knee revision operations were carried out by surgeons who do less than five procedures per year. Some of the revisions will have been non-elective, but a significant proportion were not. Whilst the surgeons may have produced acceptable results in the patients, it seems to be the case that such arrangements increase the risk of adverse outcomes – a point acknowledged by the Arthroplasty Project Report.

This section presents only a fraction of the available evidence that better outcomes are obtained by organising and delivering some procedures in larger, more specialised and better resourced centres. In order to ensure that a surgeon, or a surgical team, deliver enough clinical procedures to obtain the best outcomes, that surgeon or team must provide services to a large enough population to ensure that they will retain their skills and maintain sustainable services through an adequate volume of activity. It is important to understand that a specialty

15 Crawford R, Greenberg D, 2012. Improvements in survival of gynaecological cancer in the Anglia region of England: are these an effect of centralisation of care and use of multidisciplinary management?. BJOG: An International Journal of Obstetrics & Gynaecology 119(2):160-5.
16 Chan DS, Reid TD, Whit C et al, 2013. Influence of a regional centralised upper gastrointestinal cancer service model on patient safety & quality of care

17 Scottish Arthroplasty Project: Biennial Report 2014: ISD published August 2014

delivers a range of services – some of which can be safely delivered locally by skilled staff, while others need to be delivered in a larger unit. The conclusion from this is that we need to plan individual specialties on the basis of populations – ensuring that we are planning for a large enough population to preserve high standards of specialist skills, as well as ensuring that there is an adequate range of local services which can be accessed. This would include out-patient services, diagnostics and day-case surgery.

If we are to ensure that the population are able to benefit from the better outcomes that are provided by larger volume centres, then we need to move from planning at a Health Board level to planning at a population level. This is not new. Work on the Scottish Vascular Services Framework[18] indicated that it was not appropriate to plan to deliver a vascular service for a population of less than 800,000. This population would provide a level of need that would allow a vascular surgery service to deliver enough interventions to maintain skill levels amongst the clinicians involved. It also made effective use of resources – in order to provide 24/7 availability of the service, it needs to be of a sufficient size to have rotas that will allow a realistic prospect of recruitment of highly skilled surgeons.

The changes suggested have also been seen in cancer services. The planning of cancer services on either a national basis, or through the three regional planning groups of

Health Boards has allowed specialisation of services, with improvements in outcomes for patients. Planning across larger populations has made high quality specialist services available to more patients, even though some patients have to travel further.

The management of acute heart attacks changed some years ago. Instead of treatment being provided at all local hospitals, most patients are transferred as an emergency to a small number of centres across Scotland where there are teams of specialist staff who can urgently provide specialist services designed to unblock the occluded artery that has caused the heart attack. This has led to a higher quality clinical intervention being reliably available to patients, and has contributed to improved outcomes.

For some specialties therefore, it is only by planning services across a larger population that it is possible to provide the range of services that might be required, including an effective arrangement to deliver urgent services over 24/7 time periods, effective maintenance of skills by the surgeons and other skilled clinicians, cost-effective provision of the complex technology that may be required (such as hybrid theatres) and a service that is able to deliver world-class outcomes.

18 Quality Framework for Vascular Services in Scotland, Scottish Government,2011

It is not appropriate for all services to be planned on the basis of large populations. The volume of unscheduled medical admissions means that we will continue to require inpatient beds in local hospitals as at present. Therefore, for example, there would not be a need to plan care of the elderly services on a large-population basis. It is likely that most hospitals would require a <u>minimum</u> of an accident and emergency service, an acute medical admission unit and supporting inpatient wards, including care of the elderly, AHP services (such as physiotherapy/speech and language therapists, dieticians etc), outpatients, laboratories and diagnostics, critical care and day-case theatres.

This strategy proposes that for many specialties, services should be planned for a population, and delivered across a network of hospitals. Within that network, one or more hospitals would provide inpatient care, and access to specialised or complex treatment. Other hospitals in that network would not provide inpatient services, but in order to provide local access to services, would provide out-patient clinics, diagnostics and day-case surgery. The network of hospitals would be helped to work effectively by established clinical pathways, by electronic availability of clinical records, (including radiology and other test results) and by promoting strong connections between all clinicians involved in the network. In some cases – and particularly to support smaller and more rural hospitals – clinicians would work across more than one hospital to assist service delivery. Over time this will be replaced by greater adoption of telemedicine so virtual consultations can take place electronically. This allows specialist input to be delivered to remote and rural locations, and has been shown across the world to provide a very satisfactory and clinically safe service.

The outcome from these changes would be that increasingly certain services are planned across large populations, regionally or nationally as appropriate, resulting in:

- optimal clinical outcomes from fewer, specialised hospitals

- effective use of highly skilled staff

- more standardised care, through agreed clinical pathways, and optimal use of high technology equipment

- services that are much less dependent on a small number of individuals, and

- excellent centres for teaching, research and development.

Within Scotland, it is possible to see how networks of specialty services could be arranged within a grouping of say five to six hospitals. Consider the possibilities for urology for example (currently supplied on 21 sites across Scotland). In a regional model, a concentration of all inpatient beds and major surgery in one hospital would meet the requirements of a more specialised unit (with some patients being referred for more complex procedures such as robotic radical prostatectomy to a small number of nationally designated sites). If a network of sites were developed it would be possible to arrange

that out-patient, diagnostic work, and minor procedures like day-case cystoscopy to be provided across all hospitals in the network. This would require the appropriate IT and communication systems to be in place to ensure information is available in a timely and efficient manner across locations. This achieves a more specialist service with improved outcomes, local access to the bulk of other clinical services, and more efficient use of the skilled staff and other specialist resources in the service. All inpatient care would be centred on one site. The reduction in the number of out of hours rotas would considerably reduce workforce pressures.

In higher volume specialties, such as orthopaedics there would be a need for a larger number of beds to deal with the volume of inpatient work. It would be appropriate therefore to have orthopaedic services on several of the sites within the cohort of hospitals. This could be in the form of the traditional orthopaedic departments, or there could be separation of elective and unscheduled care. In any event, the formation of a network could be used to address the need for a degree of specialisation, as well as mitigate the constraints provided by the limited workforce. Services like vascular surgery and interventional radiology have already, to a degree, been concentrated on fewer sites to make best use of limited skilled staff, and specialist equipment. The principle of fewer sites for some surgical specialties would apply to some medical specialties as well. The evidence of improvement in stroke outcomes from having fewer stroke

units in London is hard to ignore, and should prompt consideration of how many hospitals should deliver hyper-acute stroke services, particularly across the central belt. The Royal College of Radiologists has produced a report on the future of radiology proposing that there should be regional planning of services. They are clear that image capture should take place in all hospitals, and all hospitals should employ radiologists, but by using the varied clinical expertise across a network and making use of the PACS system which allows remote access to digital scan and x-ray images, it becomes possible to deliver increased specialisation. This proposal would also help make the services more resilient by ensuring that should there be capacity problems in one hospital with regard to interpretation of results, there would be protocols across the network to provide remote assistance. It would also enable much better peer-to-peer consultation, a key component of clinical decision support. A key component to developing this model is further work on the radiology information systems to ensure excellent connectivity across Health Board boundaries.

Rural general hospitals

It is important in the context of this strategy to recognise the significant contribution of rural general hospitals to the provision of healthcare in our more remote areas. Despite small volumes of activity, they have to be capable of providing primary emergency care for the complete spectrum of emergencies, and appropriate onward referral when required. It is essential that these hospitals are supported to maintain emergency and elective services: this requires Boards to collaborate to ensure that these hospitals are supported – the success of this has been described earlier, describing the networking of clinicians in the north of Scotland to ensure that, as far as possible, specialist services can safely and effectively be provided in the rural hospitals, often by visiting specialists. Further developments will be enhanced by increasing use of IT.

In rural and island settings it is more difficult to maintain high quality clinical services across a wide range of specialties. In many cases there is not the activity to justify the employment of specialists. Specialists may not wish to work in more remote areas where their valuable acquired skills may decrease through lack of use. However there are examples of where a regional approach to the planning of services for more remote hospitals has improved services significantly. For example, stroke services in the Western Isles are shared between local clinicians and a stroke specialist in another health board. The stroke specialist does regular "virtual" ward rounds with the local clinicians in order to provide expert input. The specialist visits the islands regularly to maintain good relationships with clinicians he is working with, and to support teaching and protocol development. This approach can be much more widely used if there is a firm commitment to regional planning of services from all concerned, ensuring that we significantly reduce inequity of access to expert care.

A review of available literature on reconfiguring clinical services was undertaken as part of this strategy development. Whilst the detail may require further expert advice, analysis suggested that, for the services considered, there are advantages as described in adopting a national, regional or local approach to planning of services for relevant populations. It must be emphasised that regional planning of a service does not mean that there would only be a regional delivery of that service.

Specialty	Proposal
Cancer (less common cancers and related oncology)	Low volume and specialist nature makes the case for planning for less common cancers on a national basis, though actual delivery of services might be on more than one site.
Neurosurgery	Low volume, high complexity, need to support major trauma centres – all suggests a national, clinically integrated planning approach.
Burns care	Decreasing numbers of severe burns, and increasing success of specialised units suggests that national planning would be appropriate.
Cancer (higher volume)	Services planned across regions as now, with more specialist services available in cancer centres.
Orthopaedics	Planned regionally to provide for emergency trauma work and expanding volume of elective work for an ageing population.
Radiology	Planned across regions – regional planning approach may support change as described above, assuming technology issues addressed. Could help standardise use of radiology. Links to interventional radiology need to be considered.
Paediatrics	Planned regionally, ensuring good local access to day-case and diagnostics, community support, but regional planning of specialist inpatient services.
Urology	Regional planning with reduction of inpatient sites, but retained local access to out-patient, diagnostic and day-case surgery. Emergency pathways must be established (though low volume).
Stroke	Evidence from London shows regional planning of stroke services and reduction in number of sites resulted in improved survival. Needs further evaluation in Scottish context, and in view of emerging possibilities of thrombectomy for stroke. This will require a regional approach.
Cardiology	Already has strong regional component – requires to be planned across regional network of services.

Ophthalmology	Mostly local Board level planning at present – this requires review. Some high volume services such as cataract surgery may be dealt with by elective centres, though there will be a need to plan remaining services across populations. Some care (eg. stable glaucoma), could be transferred to high street optometrists.
Oral and maxillofacial surgery	Includes high volume of day-case work, and small volumes of highly complex work – so suitable for a regional planning approach. Could have highly specialised out-reach staff delivering services across multiple hospitals.
Neonatal	Being reviewed currently by maternity and neonatal review.
Maternity	Being reviewed currently by maternity and neonatal review.
General surgery	Potential for joint local/regional approach to planning. Should review pathways for emergency out of hours surgery – may benefit from more specialist centres – but workload considerations.
E.N.T	Includes high volume of day-case work, and small volumes of highly complex work – so suitable for a regional planning approach.
Gynaecology	Includes high volume of day-case work, and small volumes of highly complex work (cancers, endometriosis) – so suitable for a regional planning approach.
Intensive care	Should relate to trauma centres[19], and elective surgery requirements.
Mental Health	Services planned across regions, delivered locally: Some tertiary level services planned nationally (eg high secure, specialist in-patients, CAMHs)

19 A review of the potential to develop a network of Major Trauma Centres across Scotland is currently under way, and will provide recommendations, based on national planning, for the pathways and sites of such centres. The requirement to have co-located services (eg critical care, neurosurgery, cardio-thoracic surgery) will be a major determinant of the structure of some services

This is not, of course, an exhaustive list of specialties concerned. Where specialties have not been listed, it is because of a relative lack of evidence on reconfiguration. This must not be confused with evidence of a lack of benefit – it is likely that the same basic principles apply, especially where there are low volumes of cases, or complex interventions involved.

It seems appropriate to conclude that some core services which do not involve highly specialised interventions, and have moderate to high levels of demand, should continue to be planned for at a local level. This would include a number of specialties such as care of the elderly and palliative care.

It is vitally important to the public that services required in an emergency are of high quality and structured so as to deliver the best possible outcomes. Responses to emergencies have been improved with better response times from the Scottish Ambulance Service, and the continuing evolution of the highly trained paramedic role. The current work on the evolution of major trauma pathways for critically injured patients will improve outcomes, and projections suggest this will save an additional 40-50 lives per year. The emergency pathway that has been in place for some years in relation to the management of myocardial infarction (heart attacks) has shown that directing the patient with a myocardial infarction beyond the most local Accident and Emergency Department to a specialised centre with 24 hour a day capability to perform coronary artery interventions immediately has resulted

in a significant reduction in mortality from heart attack. Emergency stroke pathways have been developed to ensure rapid scanning, and administration of appropriate medication to relieve symptoms caused by occlusion of carotid arteries. These examples indicate that, for a proportion of patients, and particularly for those who are most unwell, transfer to the most local A&E department may not be the best possible option. Instead, we need to focus on the development of emergency care pathways that are responsive to different local and clinical contexts to achieve best possible outcomes.

It is appropriate for A&E services to be available at hospitals locally – but it is vital that Scottish Ambulance Service staff have the capability and are supported to respond promptly in making an early diagnosis and streaming the patient to the most appropriate emergency pathway to ensure rapid access to high quality definitive care.

Separation of elective and unscheduled care: Diagnostic and Elective Treatment centres

We know that speedy access is important to patients. Prompt treatment reduces anxiety, leads to better outcomes and avoids further clinical deterioration. Scotland stands among the best in the world in delivering prompt and effective heath care. For example the conversion of the Golden Jubilee hospital to a high volume, specialist centre for a relatively narrow set of surgical conditions has helped reduce the need for buying over flow capacity from the private sector. It also has driven increasingly high quality care, with lower rates of complications for procedures than those that are carried out in lower volume hospitals. Given that there will be an increasing need for a range of age-related surgical interventions as the population changes (e.g. hip replacement, knee replacements, cataract surgery) there is a need for planning for increased diagnostic and treatment capacity. This has been recognised by Scottish Government who have recently pledged a total of £200 million over the next five years to expand capacity across a number of hospitals. The expansion capacity that will be provided should be considered when regional planning processes are developing options for the consolidation of some services into fewer centres of excellence. The geographical spread of the proposed developments offers significant potential across most of Scotland and particularly in Health Boards where the forecasted population changes will be largest.

These new facilities will be designed to adopt best practice in the clinical delivery of services with the latest technology and enhanced recovery techniques. The new centres will significantly reduce the chances of cancellation and the use of the private sector. We will also wish to ensure that this investment in elective care leverages in benefits for the wider community with greater operational efficiency and with the promotion of smooth flow through the entire healthcare system.

Summary

The concluding principles from this section are:

Most care will be provided locally with the expansion of primary care avoiding many having to access secondary care at all.

Most local hospitals will be able, as now, to provide emergency services, including accident and emergency services, out-patient, diagnostic and day-case services across a range of specialties.

Using a network of hospital sites, some specialties will provide inpatient services in a smaller number of hospitals. This will allow hospitals to develop a degree of specialisation in some specialties to ensure high quality outcomes.

The evidence suggests that secondary and acute care services should be planned on a population basis – which could be either regionally or nationally. Further work needs to be undertaken to establish which services might better be planned regionally

or nationally for local delivery across a relevant hospital network. It should be noted that planning a service regionally or nationally also supports and underpins local delivery of services in that specialty.

The proposal is not that large hospitals would harbour all of the specialist inpatient units. This would be a wasteful use of our current hospitals. But it will be possible for services to be planned regionally in a way that sees the advantages of specialisation, and identify hospitals which will become more specialist centres of care. This will improve patient outcomes, will ensure that there is an equitable standardisation of services, will make best possible use of skilled staff, and may result in reduced costs that will help sustain services. The reduction in the number of inpatient units will reduce the requirement for the employment of locum staff, preserving a significant resource for more effective delivery of value to patients. The changes proposed will support the delivery of 24/7 emergency care in more specialist services.

These changes will be complex and must be accompanied by the improvements in process that have been described earlier. It may mean that clinicians have to change their ways of working. It will require improvements in the electronic transfer of patient information. But experience elsewhere has shown it is possible, and it does result in improvements to patient outcomes, and it will make services more sustainable. It is imperative that progress is made on these changes as soon as possible if we are to maintain a high quality service to all patients that will be sustainable in the challenging times ahead.

5. THE NEED FOR "REALISTIC" MEDICINE

5. THE NEED FOR "REALISTIC" MEDICINE

There is a need to improve the basis of clinical decision making to ensure that there is a clearer focus on the provision of healthcare of greatest value to the individual in a way that has the least potential to harm, and is most in line with the patient's wishes.

There is evidence of a growing cultural shift among clinicians, many of whom feel uneasy at times regarding the level of tests, interventions and medications that are provided for patients. While a considerable amount of modern medicine is based on evidence from clinical trials and research, this evidence is often subject to amendment in the light of further research, or the evidence may be relied on beyond the context of the evidence. For example many medications prescribed for elderly patients with multiple illnesses are often prescribed on the basis of trials in much younger patients with single illnesses. The benefits may exist for older patients, but there are increased risks to them from drug-drug interactions and increased likelihood of side-effects.

The potential over-use of medicines is a cause of concern. Figures recently released by Healthcare Improvement Scotland suggest that around 20% of the population is taking five or more prescribed medicines on a regular basis. Many elderly patients may be taking considerably more than that, and it is not uncommon for patients being admitted to hospital to be on over ten different medications. The volume of medications prescribed has been increasing steadily every year by up to 6%. This has been driven by disease-specific guidelines – some of which are based on evidence from clinical trials, and some of which are based on expert opinion. There is also concern that there is an excessive emphasis on a bio-medical model in developing guidelines – in other words concerns when treatment is aimed at, and measured by, physiological or biochemical targets, which may or may not have direct relevance to outcomes that people value.

The increased use of medicines has also been driven by a shift to treating risk, as opposed to treating illness. It can be seen that this has advantages for the manufacturers of medicines as a far greater proportion of the population will potentially be at risk from an illness than actually suffering from it. The treatment of risk is strongly promoted by medicine manufacturers, by expert opinion and evidence-based guidelines. The strength of the rationale for treating a particular risk with a particular treatment can be assessed by measuring the "NNT" – the "number needed to treat". This measure indicates how many patients will need to be treated for one year to prevent a certain outcome. In many cases this may be hundreds of patients: unfortunately this means that hundreds of people may take a medicine and derive no benefit – and indeed may experience side-effects from the medication.

There is sometimes poor information provided on the benefits of medicines. For example a medicine may be described as reducing the risk of a specified event by 25%. This is often understood to be suggesting that one in four patients will avoid the specified event. But if the absolute risk of the specified event is only one in 25 without treatment, then the absolute reduction in risk is only from 5% to 4% – a 1% reduction in absolute risk. Poor communication of risk and benefits may result in doctors and patients using medicines that they might otherwise have chosen not to use.

Many doctors confirm that they are prompted to provide more treatment rather than less by a range of pressures including clinical guidelines, fear of litigation, peer pressure and patient expectation. The Quality and Outcomes Framework of the GP contract (being removed in April 2016) acted as a strong prompt for doctors to provide treatment based on evidence and guidelines arguably without always the same degree of consideration to patient context. For example whilst there may have frequently been evidence of possible benefit, that evidence was often based on the evidence from single disease trials and therefore not as readily applicable to patients with multi-morbidity (most patients with Long-term Conditions have at least one condition).

We must ensure that non-medical interventions are tried first (or concurrently) much more frequently in a wide range of conditions – there is significant evidence that shows benefit to overall wellbeing from this approach. This concern is not about the financial consequences of wide-spread medication use – it is concern about the adverse impacts of medication use. Estimates vary widely, but studies suggest that between 5% and 16% of admissions to hospital are related to medication use.

It is recognised that many of the long-term conditions are related to life style factors such as obesity, lack of exercise, smoking, excessive alcohol intake and poor diet. Recent evidence suggests that clinicians may be too ready to move to medication rather than helping individuals make serious progress in lifestyle change. Promoting lifestyle change is difficult, and all too often unsuccessful, but studies in type 2 diabetes have shown that significant changes in diet and exercise, leading to weight loss can return the underlying biochemistry to near normal – in effect delaying the onset of diabetes and its associated morbidity by some years.

The Royal College of Surgeons have recently urged surgeons to promote increased exercise in patients prior to any elective surgery. Not only does this reduce mortality associated with surgery, it also reduces overall recovery time after surgery, and may, on occasions obviate the need for surgery – such as hip replacement or pelvic floor repair – completely.

We need to develop a medical culture that seeks to use the least invasive or the least interventional approach as a first step. This may reduce the potential for harm to patients, and may also bring significant other

benefits, including mental health benefits. It is difficult, and clinicians will describe their frustration at not seeing more patients succeed in lifestyle changes. However there is a risk that if we discount less interventional approaches (such as physiotherapy, diet and lifestyle modification) as being unlikely to be of benefit, then we recommend them less routinely to patients, and thus potentially deprive them of effective and safe solutions.

More subtly, by advocating for a more interventional approach clinicians may be removing from the individual responsibility for managing their own health. By favouring intervention, the impact of patient resilience is undermined and, at a transactional level, responsibility for improvement is handed over to the clinician from the patient. A longer-term approach which encourages self-management where possible, and the building of resilience and capability within patients, may have less potential to cause harm, and may have wider benefits to their health and wellbeing.

This is not to argue that doctors should not provide interventions and treatment – there are many instances where treatment produces dramatic, life-altering results – but we require to ensure that the balance between active involvement of patients in their own recovery, and the provision of clinician directed care is carefully calibrated.

These concerns, and others, have led to a number of initiatives. The British Medical Journal has for the last two years produced a series of articles on "Too Much Medicine" a campaign aiming to *"Highlight the threat to human health from over-diagnosis and the waste of resources on un-necessary care"*. The Journal of the American Medical Association has run, over a similar period, a series of articles under the heading of "Less is More", arguing that in numerous situations, less intervention or prescribing can result in better outcomes. Last year the Welsh Government launched the concept of "Prudent Healthcare" aiming to make better use of resources and get better outcomes by providing *"Healthcare that fits the needs and circumstances of the patient, and avoids wasteful or harmful care"*. The Prudent Healthcare movement in Wales is driven not by a desire to save on resources, but driven by a desire to engage in co-production (mutually agreeing treatment plans and objectives) with patients, ensuring that they are fully informed on the benefits and dis-benefits of any treatment or intervention, and supporting them to make choices according to their individual preferences. All of the evidence shows that this results in greater satisfaction with outcomes – and that as a consequence of the approach, patients usually prefer less treatment rather than more.

In November 2014 the Academy of Royal Colleges published "Protecting Resources, Promoting Value: a doctor's guide to cutting waste in clinical care". It reminds doctors of their obligation to use resources effectively, and indicates that significant waste is caused by poor quality or unwanted care resulting in high cost and poor outcomes. Subsequently, the Academy has launched this year its "Choosing wisely" campaign, following similar initiatives in the United States. In the briefing regarding the initiative, it is noted:

> "The Academy believes:
> - There is evidence of a considerable volume of inappropriate clinical interventions
> - The reasons for this are complex and various but form part of a culture of over-medicalisation
> - The result is sub-optimal care for patients which, at best, adds little or no value and, at worst, may cause harm
> - This is, therefore an issue for clinicians about the quality and appropriateness of care"

An output from the Choosing Wisely campaign is a list of tests or procedures, from each speciality, that should not be carried out on the grounds of minimal benefit or potential for harm.

In 2012, the King's Fund published a paper called "Patients' Preferences Matter" in which they demonstrated a wealth of evidence that doctors misjudged what a patient would most want if fully informed, and also showed that the rates of prescribing testing and surgical interventions were significantly affected by *"Supply led demand"*. The paper made a number of observations:

- Patients make different decisions when well informed.

- People often lack full understanding of the prognosis of their illness (or the risk of developing a specified harmful event). They may make different decisions if they are fully informed about their condition, and the treatment options available. Often they will choose less treatment rather than more. While this is seen most markedly when discussing treatment options for cancers, or advanced stages of long-term conditions, it is also seen before elective surgery or starting long-term medication.

- It is of concern that generally doctors chose less treatment for themselves than they recommend for their patients.

- There are significant variations in care across geographic regions, which are not explained by patient needs or preferences.

- Evidence across all countries shows that there are significant variations in the use of diagnostic tests, the rate of operations, the rate of initiation of medications etc. The variation is considerably in excess of the natural variation that would be expected in patient's choices, and in excess of variation in measureable patient need. Evidence suggests that the variation is invariably clinician driven, suggesting that there is both wasteful over-use of some interventions but also some possible underuse of potentially beneficial interventions.

- Variation that is unwarranted is potentially harmful (because the patient may not need it and will not benefit from it), and wasteful. We must improve data collection so that variation can be measured accurately, and embrace a new culture where individual clinicians can expect to be asked to justify their clinical behaviour in the event of significant variation. This approach has been helpful in addressing some of the variation seen between practices in referral and admission rates. It should be recognised that there will always be some variation, and change is slow, but can significantly improve overall quality (and may identify un-met need).

Benefits of co-production (equal participation in deciding on treatment options between clinician and patient) can include meeting patient preferences, improvement of patient specific outcomes, personalised treatment, overall quality improvement, more effective patient pathways, reduced pressure on care services and better value for money. The ability for clinicians and patients to make informed decisions together is however greatly influenced by the availability of information, and so decision aids for patients should be further developed – an essential part of the current "Patient Centred Care" approach seen above.

Considerable work has been done to improve end of life care. Doctors may feel difficulty in communicating poor prognoses, and may feel emotionally pressurised into providing treatments that may not significantly prolong life. Often treatment at this stage is intensive, carries significant side-effects, and may, at worse, result in a death that is preceded by a prolonged period of discomfort or distress due to the treatment. While it may be appropriate for a patient to prefer such treatment in the hope of extending life, it is not always the case, and professionals have to spend time in giving honest assessments of prognosis and potential benefit. Many patients will choose to forego the discomfort of treatment now for potential limited benefit in the future. Time taken to communicate effectively and honestly, with outlines of prognosis including descriptions of uncertainty, can ensure that people are able to make informed and supported choices that match their individual values. This must become the default position for engaged person-centred care. While many clinicians appreciate the need to have emotionally challenging conversations regarding patient aspirations and what matters to them, this is not universal. This may be a consequence of consultation slots that are too short, and care must be taken to support clinicians who need to discuss very difficult options.

The NHS collects a huge array of information and this valuable resource can be put to use by creating the concept of a learning care system in which decision making is supported by outcomes of previous decisions as well as research and analysis. We are already developing a national roadmap for Clinical Decision Support and NHS Information Strategy, the implementation of which will be crucial for ensuring clinical care decisions are optimised. As part of the move towards more extensive co-production and patient empowerment, there will be an increasing need to integrate professional care information with data recorded by the patient. The long-term vision is for an electronic patient record which can be viewed and added to by both the health and care services and the patient, allowing a joined up approach to self-management and professional care. The content requirements could usefully include patient reported outcomes and selected self-monitoring data in addition to the professional data requirements.

Over-treatment, wasteful treatment and variation is a broad subject, and an important one. It is important that it is addressed in Scotland so that we can be more confident that the use of resources is targeted to producing outcomes that matter to patients. It is proposed that a significant resource should be put towards a national collaborative movement, similar to the Prudent Healthcare programme in Wales, set up to understand the scope of the issues, and to influence both clinician and patient behaviour so that wasteful and ineffective care is significantly reduced.

Summary

We have had successful initiatives in Scotland that have developed improvement in safety and person centred care. We need to invest more time in promoting clinical effectiveness – understanding that this effectiveness must be measured in relation to individuals and their contexts.

The issues described above highlight the need to have a national movement that seeks to understand these complex issues, to build clinical consensus, to provide tools for leading change (such as information sources and risk communication resources) so that we can ensure that care is an appropriate personalised synthesis between clinical advice and patient choice.

Where a lesser intervention is possible, this should be selected first in most cases. It may be provided more appropriately outside traditional health delivery models – for example in Edinburgh the development of a COPD Choir allows patients to have an enjoyable activity that provides pulmonary rehabilitation and social integration – as well as community benefit.

The importance and potential of self-management needs to be better understood. It is more than simple disease management; it is the motivation of patients to change lifestyles, preserve responsibility for, and control of, their illness, and move from being a dependent recipient of medical care to a more independent and selective consumer of healthcare, utilising, where possible, their own resources. This is particularly true with long-term illnesses. Failure to address these important issues poses a potential risk of avoidable harm to individuals and wasteful use of resources.

6. CONCLUSION

6. CONCLUSION

This strategy sets out the need for significant change in order to adapt to changing circumstances.

In primary care we need to build capacity and provide a more broadly based mix of professionals based around practices – which should increasingly be working collaboratively in clusters. We need to increase the shift of work from acute hospitals services to primary care, and we need to ensure that we benefit from integration of health and social care, with particular emphasis on an anticipatory approach to those at risk of avoidable hospital admission, the development of flexible alternatives to hospital admission to reduce those avoidable admissions, and the prompt discharge of patients from hospital care.

In secondary and tertiary care the case for redesign of services is clear and compelling. Clinical teams who provide complex and high-tech services more often get better outcomes for their patients. This extra benefit is not marginal, and so we must review services, specialty by specialty, considering the potential for developing fewer inpatient sites that will provide more highly specialised services, linked into local hospitals which will provide a comprehensive range of outpatients, diagnostics and day case surgery. In addition, local hospitals will need to provide suitable primary emergency treatment for all conditions, with some patients referred, as now, via clinically agreed pathways, to larger centres for specialist care.

These changes are complex, and require consideration of workforce resources, potential outcomes, inter-relationships between specialties, and finance. It will require careful yet thorough conversations with the public and their representatives. However, failure to change will limit the potential to build on world-class standards of care.

Lastly this strategy calls strongly for a new clinical paradigm. This would be one that:

- adopts least invasive or disruptive processes as a first step. This will often more appropriately include lifestyle interventions before drugs and operations. This helps patients remain in control of, and responsible for, their own illnesses

- avoids unwarranted variation in standards of care or activity

- avoids wasteful investigations and treatments that do not add value for patients

- recognises that patients can only be true partners in care if they are provided with comprehensive information about their illness, the prognosis, and possible treatment options, and

- understands patient preferences and adapts treatment to their preferences.

Adoption of a changed clinical paradigm will reduce the harm and cost that can be associated with modern medical care, and by ensuring that treatment is tailored to patient preferences, will deliver care that is of greater value to patients.