The Annual Report of the **Director of Public Health**

NHS Highland

2017

Realistic Medicine

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Contents

Introduction

Significant financial constraints, accelerating health and social care demand and the impact of wider political factors on the NHS have kept health care firmly in the public and media spotlight[1]. This year's annual report reflects on these challenges both practically and ethically, using the framework of Realistic Medicine.

Last year's annual report focused on loneliness, recognising that 67% of people aged 65 years and over in Highland feel lonely. The 'Reach Out' campaign linked to that report has made significant progress in mobilising a wider societal response to this issue. A grasp of the importance of Realistic Medicine will also lead to a recognition that we have to respond to health and social care needs as a society. The public sector cannot meet all of society's needs and part of a realistic approach will need to include empowering communities to increasingly develop approaches to meeting their own needs.

Since July the 2nd 1948, when the NHS was born, it has operated on the principle of being free at point of delivery to the whole population[2]. The NHS originated not from a legal duty to provide healthcare but from a combination of moral conviction and economic prudency[3]. However, prior to the commencement of the NHS, Aneurin Bevan predicted that, "Expectations will always exceed capacity"[4]. Almost 70 years later this analysis remains accurate. As a result, we must ensure that we maximise our available capacity to provide valued, high quality care and to minimise harm, waste and unwarranted variation through personalised and innovative patient centred care. This is the core message of Realistic Medicine[5].

The generosity of spirit underpinning the NHS has to be balanced against the need to allocate scarce resources as efficiently as possible. Public health is often viewed as a utilitarian discipline, seeking to maximise the greatest good for the greatest number. However, this is overly simplistic: public health also champions equity, recognising that unequal need requires unequal provision based on a moral duty to care for those in need.

Earlier this year the Scottish Public Health Network (ScotPHN) considered what contribution public health could make to realising Realistic Medicine and highlighted the roles of ensuring the wise use of available evidence, empowering communities and leading and supporting innovation and implementation. All of these elements have been considered in this report.

I want to end by thanking the team who have put together this year's report for their professionalism and commitment to the population we serve.

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Chapter One - Understanding the challenge

Why has the nomenclature of Realistic Medicine or Prudent Healthcare caught the imagination of many so effectively? This chapter explores some of the drivers that have been building up over many decades and that have led to the issue coming into focus.

The financial context

Total healthcare expenditure in the United Kingdom (UK) has increased inexorably as a percentage of GDP over the last 100 years. Healthcare spend is now over 8% of gross domestic product (GDP) as shown in Figure 1.1[1]. This could rise to as much as 19% of GDP by 2061[1]. One of the drivers for Realistic Medicine is a recognition that this trend has to be addressed if healthcare free at the point of delivery is to be societally affordable over the long term.

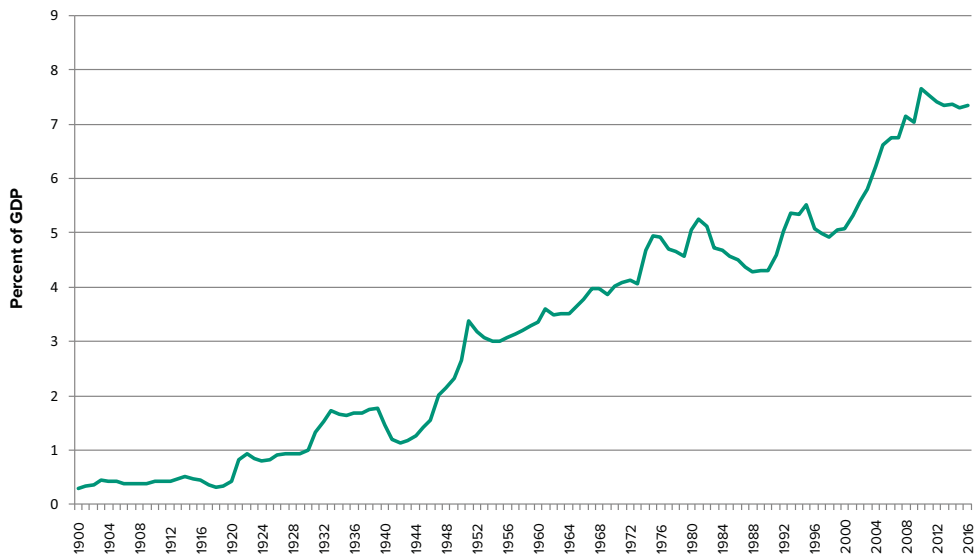


Figure 1.1 - Percent of General Domestic Product for the UK spent on Health
Source: ukpublicspending.co.uk[2]

There is no optimum amount of expenditure on health. However, there is some evidence that each extra increment of expenditure beyond a certain point leads to diminishing returns. Many high income economies are on the part of the curve where there are diminishing returns (Figure 1.2).

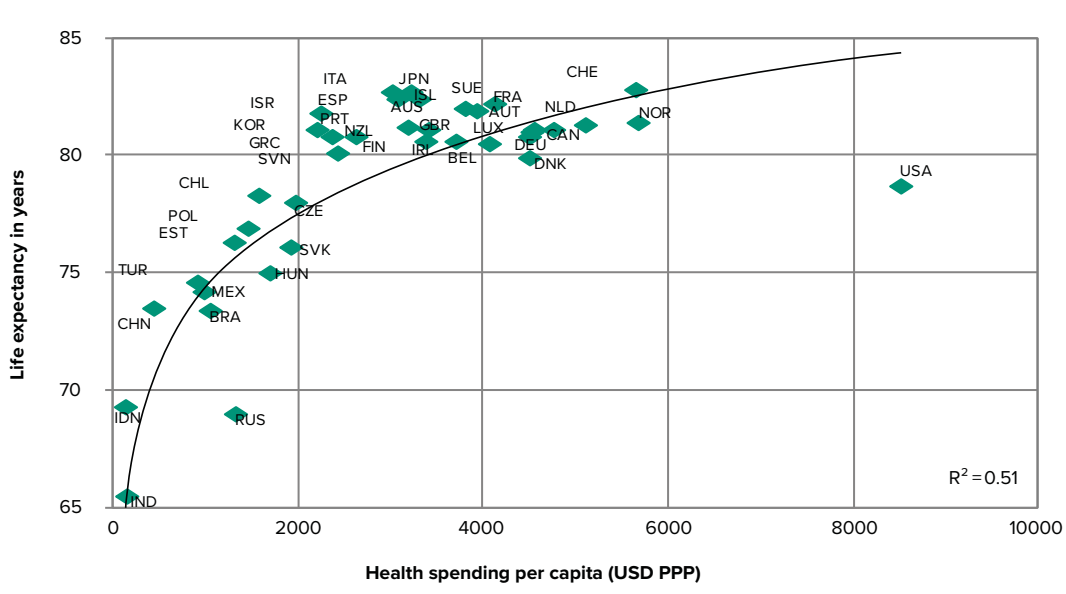


Figure 1.2 - Life expectancy at birth and health spending per capita, 2011
Source: OECD Health Statistics 2013[3]

Figure 1.2 indicates that there is a relationship between spending and health. A significant proportion of the relationship is simply a reflection of the relationship between Gross Domestic Product, or the wealth of a country and life expectancy, as income is one of the most important determinants of health. However, the graph clearly demonstrates that beyond a certain point, additional expenditure on health provides relatively little return, and that many wealthy countries are on the part of curve. This suggests that from a realistic or prudent healthcare perspective, major additional investment in healthcare may result in relatively modest benefit.

Scotland spends more per person on healthcare than the other nations of the United Kingdom (UK), although this gap is reducing over time, as healthcare spend per person in other UK jurisdictions is catching up[4]. In 2015/16, £11.2 billion was spent on Scottish health services. The bulk of healthcare spend occurs in secondary care with more than 50% of the budget spent on hospital care and less than 10% on General Practice as shown in Figure 1.3[5]. Part of the Scottish Government's commitment is to reverse this trend and to increase the proportion of spending in primary and community care; an initiative that is very much in line with Realistic Medicine. However, this is extremely challenging in practice as the 'drivers' in the system have been in the opposite direction for many decades. The ethos of Realistic Medicine is that providing more personalised and appropriate care will lead to better value care and as a result more efficient spending.

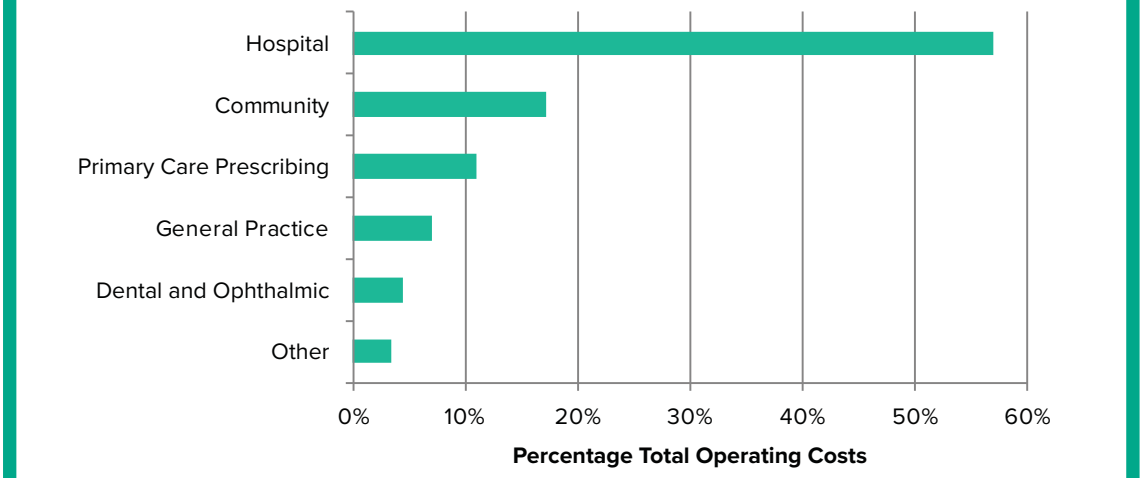


Figure 1.3 - Percentage of Operating Costs by Healthcare Sector 2015-2016
Source: Information Services Division (ISD), Scottish Health Service Costs[5]

The cost of social care

In Scotland between 2004 and 2014, social care spending has seen a 15% increase in real terms for older people aged 65 and over, with 44% of the £4 billion spent in 2013/14 being on this group[6]. Across England social care spending has also risen consistently as a percentage of national income from 1977 to 2016[4]. However, despite the growth in expenditure, due to the rapid growth in the population aged 65 and over, there has been a 1% decrease in real terms per capita spending on social care over the decade between 2004 and 2014. Although there are also changes in where this money is spent the majority is still spent on care homes, which may not be the approach that gives the best value for money. Across Scotland, 38% of the spend on adult social care was on care homes and 25% on home care (2013/14 figures)[6]. There is a case for spending a greater proportion on home care.

Drivers for health and social care costs

The ageing population has been described as a 'population time bomb' responsible for continuously escalating health and social care costs. The truth is more nuanced. There are many drivers for increased costs including:

- Increasing prevalence of patients with multiple co-morbidity (perhaps undiagnosed in past generations and over diagnosed in our own)
- increases in the national minimum wage and greater competition with alternative occupations
- spiralling medication costs, largely driven by industry
- developments in high cost medical technology
- increasing life expectancy, extending the duration of treatment for long term conditions[1,7]
- earlier onset of chronic conditions associated with obesity such as osteoarthritis and diabetes[7]
- rising identification of cognitive decline, impaired mental function, and dementia against a background of a world in which cognitive skills such as using the internet is increasingly essential
- changes in social cohesion and a common perspective around the social contract.

Some of these issues are explored further within this report. We must remain mindful of this complex array of factors which are driving changes in healthcare cost and demand. The growth of our older population is a success story of modern medicine and modern public health interventions which have resulted in people living longer, healthier lives and should be celebrated. Our older population are also a valued and vital part of our community and contribute a wealth of experience and skills. Many of the older population are active members of the community, contribute to third sector organisations and work as informal carers supporting the role of the NHS.

Ageing and co-morbidity

A number of interacting factors related to ageing, co-morbidity, identification of sub-clinical levels of disease and increased therapeutic options, which have driven costs upward, have perhaps resulted in a desire to see the pendulum swing in the opposite direction and driven realistic or prudent healthcare initiatives. Figure 1.4 presents some aspects of this complex relationship between different long term conditions in our ageing Scottish population.

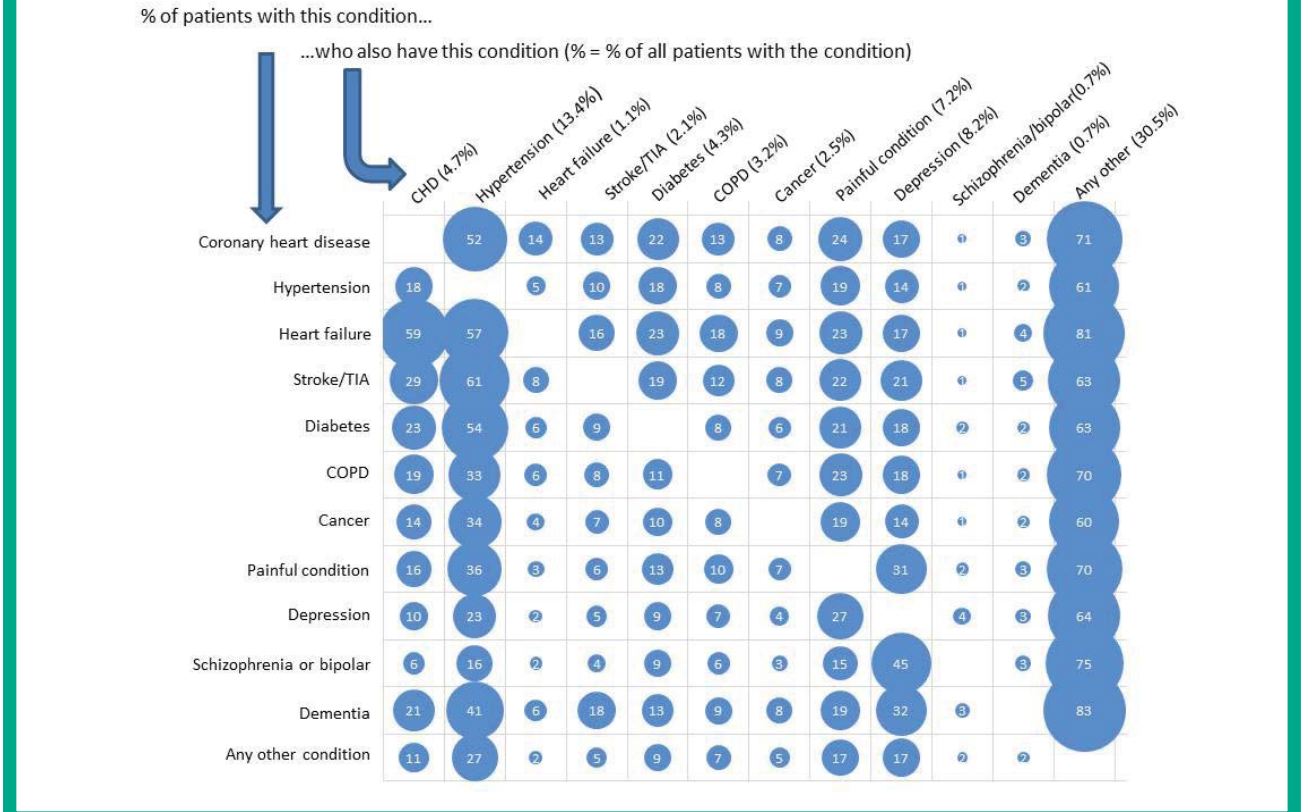


Figure 1.4 - Combinations of long term conditions that define multi-morbidity among GP patients in Scotland
Source: The Scottish School of Primary Care Research Multi-morbidity in Scotland, slide five[8]

Old age is increasingly 'medicalised', as it is in the interests of pharmaceutical companies to support the identification of multiple healthcare problems that would previously have been treated as simply an inevitable part of ageing[9]. Each 'diagnosis' can then be subjected to a panoply of therapeutic interventions that only make a minor improvement to survival or quality of life, but which are sufficiently common to sell in large volumes, generating significant profits[10]. This is a global issue related to the way in which we develop new medicines and the extent to which such development should be leveraged via a profit motive. Current mechanisms encourage the develop of a 'me too' drugs, as opposed to genuine innovation, for example in relation to diseases of the developing world, which will not yield big profits.

Caring for the elderly and vulnerable

Free healthcare has probably been provided for the 'destitute and dying' in the Highlands since the establishment of monasteries such as that in Iona in 563 AD, Applecross in 673 AD, and Rosemarkie around 716 AD. A subsequent post-reformation growth in homes and care to the elderly in almshouses occurred in the 16th century[11]. Table 1.5 charts the timeline of nursing homes and residential homes from then to the present day[12].

Table 1.5 - Historical Timeline of Care Provision in the UK from 16th Century To present Day[12,13,14]

16th Century	Almshouses provide charitable care to 'elderly, poor and insane'.
19th Century	Workhouses and then poorhouses became main residences for these patients.
1880s	• Nursing Homes emerge for paying customers including surgery and maternity, numbers double every 10 years. • The first district nurses are trained for the 18 districts of Liverpool.
1930s	• Public Assistance institutions replace workhouses. • District Nursing provided on provident basis through District Nursing Associations, poor and elderly usual for free.
1948	• Home nursing provided through newly formed NHS. • New duty on local authorities to provide residential accommodation. Formal separation of nursing and residential homes.
1950s	1950s growth of NHS and emergence of geriatrics as a medical speciality, new recognition of needs of older people.
1960s-1970s	• Residential homes move from small 30 bedded homes to around 60 beds. • National Assistance act requires local authorities to enable people to remain in own home as long as possible.
1968	Social Work (Scotland) Act 1968. Local councils have a duty to assess a person's community care needs and take account of their preferences to inform assistance.
1980s	New regulation allows public funding of private bed spaces for residential care. Private sector expands but growth declines.
1980s-1990s	• As inpatient geriatric beds close, nursing home beds continue to increase. • Number of people receiving nursing and care at home declines as level of assistance increases.
2000s	Intermediate Care Teams and rehab services open as short stay residences. Both residential and nursing homes are renamed as care homes.
2010s	Level of need and cost for those in care homes increasing.
2014	The Public Bodies (Joint Working) Act 2014. Requires NHS boards and local authorities to jointly submit an integration scheme for integrating health and social care.

In 1948, the government placed a duty on local authorities to provide residential care for their population. From then until the 1980s the numbers of residents in care homes continued to increase, followed by a similar growth in nursing home residents from the 1990s[12].

A considerable expansion of the private sector accompanied the increasing numbers, so that by 2014, 74% of residential care home capacity and 86% of nursing home capacity was provided by the private sector. However, a large proportion of private provision remains funded in part or in full by local authorities (LAs), or in the case of the Highland Council area, via a commissioning arrangement between Highland Council and NHS Highland[15].

A realistic approach to care has to take account of the changes in the demography of those using care homes. In Scotland, over the last decade, the number of long stay care home residents aged 85 years and over has increased by 12%, the number of residents with dementia has increased by 30% and the average level of assistance required by those in such facilities to support activities of daily living (ADLs) has also increased[15,16].

The population in care homes is changing. Those residing in care homes are older, frailer and require more assistance than was the case in the past. In England, the population aged 65 years and over increased by 11% over the last 10 years, but in contrast, the nursing home population increased by only 0.3%. This suggests that only those with the highest levels of need are being admitted to nursing homes. This shift has been paralleled by the emergence of 600,000 unpaid carers (English data), who may receive Carer's Allowance, but who are not formally employed in the care industry. This emerging workforce has been integral to enabling more people to remain in their own homes[17].

In Scotland, estimates of the number of carers are derived from a combination of census data and the Scottish Health Survey, with the most recent estimates from 2011 and 2012/13 publications respectively[18]. The surveys found that 759,000 (17%) of the adult population (aged 16+) were carers and 29,000 (4%) of these carers were aged less than 16 years[17]. Although the percentage of the population in Scotland who are carers has been constant between 2001 and 2011, a higher proportion of those caring are providing 20 or more hours of care and 13% fewer carers providing 19 or less hours of care[17]. In carers aged 65 and over 47% are providing care for 50 hours or more[17].

Across Scotland 40% of carers had been caring for more than a year and a further 40% for between 5 and 20 years. Although the proportion of the population who are carers is the same regardless of deprivation status, those in the most deprived areas were 23% more likely to be providing 35 or more hours of unpaid care, which is the threshold for receiving the maximum level of Carer's Allowance.

Caring has an impact on the carer's wellbeing. While those providing up to 19 hours of unpaid care have comparable self reported health to the rest of the general population, those providing care for 20 or more hours per week report increasing levels of poor health. This effect is compounded by age.

Only 56% of carers are employed and this reduces to 35% in those who are providing 35+ hours of care per week. Those receiving the maximum level of Carer's Allowance are only allowed to work 10 hours per week. Estimates suggest that fifty percent of carers are entitled to, but do not receive, carers allowance, a figure which rises to over 95% of carers aged 65 and over. Across NHS Highland females aged 50-64 years are most likely to be carers.

NHS Highland context

Across both Scotland and NHS Highland the population is ageing and over the next 20 years there is likely to be a significant rise in the number of those aged over 70 years who have multi-morbidity and high levels of frailty (see Figure 1.6).

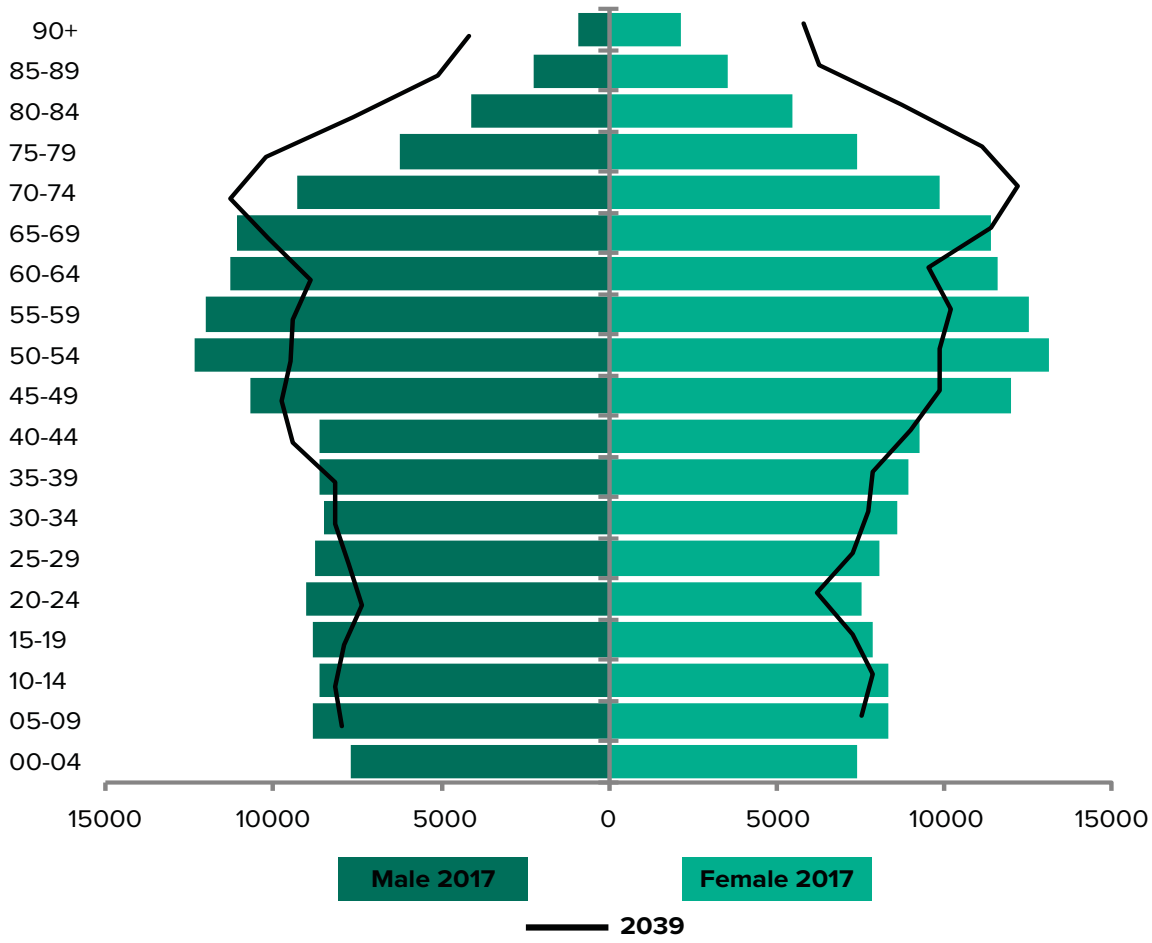


Figure 1.6 - Current and projected population, NHS Highland
Source: National Records of Scotland (NRS) Population Projections for Scottish Areas (2014-based)

As the population bulge shown in Figure 1.6 becomes older, new and imaginative solutions will need to be developed to respond to the needs of this population.

High resource individuals

Health and social care resources are not utilised evenly by all individuals in the population. The distribution of expenditure is very skewed. In north Highland, 2.2% of the population (3,903 individuals; 2015/16 data) utilised 50% of health and social care resources. Across NHS Highland there were 16.7 High Resource Individuals (HRIs) per 1,000 population[19]. Expenditure on the average person in HRI group across all age bands was £30,353 per person, whilst the average expenditure on the rest of the population was £644.61 per year.

Analysis of the pattern of expenditure is useful in effective planning and exploring realistic approaches to the management of service delivery. There is a strong correlation between having a long term condition (LTC) and an increased risk of admission to hospital, or of being classed as a High Resource Individual.

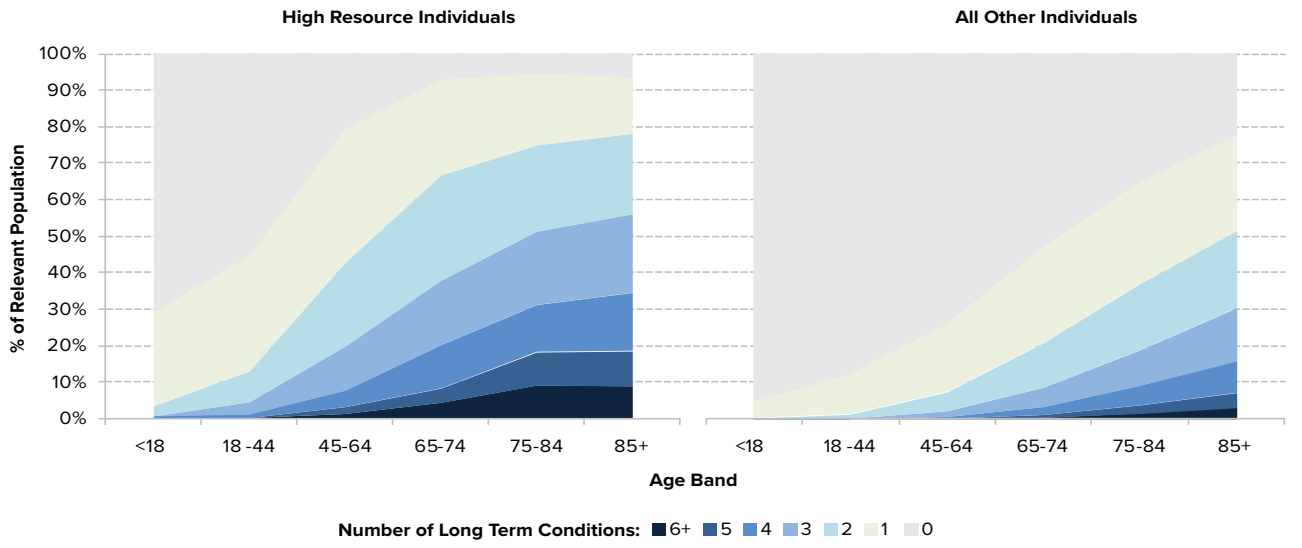


Figure 1.7 - Relationship between multiple long term conditions and age for High Resource Individuals

Figure 1.7 demonstrates that, apart from some expensive paediatric cases, High Resource Individuals generally have multiple long-term conditions. Table 1.1 provides a breakdown on the main diagnoses for HRIs.

Table 1.1 - High Resource Individuals by Long Term Condition

Diagnosis Group	Number of HRIs*	Percentage of HRI Cohort*	Percentage of Other Service Users*
Cardiovascular	2738	70%	13%
Cancer	1298	33%	6%
Arthritis	1091	28%	8%
Respiratory	1042	27%	8%
Liver Disease / Renal Failure	638	16%	2%
Diabetes	623	16%	4%
Neurodegenerative	472	12%	1%
Epilepsy	185	5%	1%

*Note that patients within multiple LTCs will be counted in several groups.

Table 1.1 indicates that diagnoses of cardiovascular disease, cancer, arthritis, respiratory disease, diabetes, neurodegenerative disease, liver disease and renal failure are particularly associated with high levels of expenditure.

Care at home

From 1962, the National Assistance Act required local authorities to make plans that would enable people to remain in their own homes for as long as possible[14].

The lack of housing that is suitable for the frail elderly is a major challenge across the UK including NHS Highland. Bungalows and extra care housing do not deliver as high profit margins as two story homes and this has led to a significant mismatch between what is needed by the population in the future and what is currently being built by the construction industry. This mismatch might be rebalanced if it was addressed by local government planning initiatives, working in conjunction with social housing providers, as there are funding sources for initiatives that would provide housing for those with high levels of dependence.

It would be possible to model the required number of extra-care houses required for each community across NHS Highland and take steps that facilitated the building of such accommodation. The main advantage for the NHS would be that it could increase flow though hospitals, allowing patients who are currently inappropriately stuck in hospital beds to move on to accommodation that is more suitable. Hospitals can be dangerous places to be for those who are frail, but not acutely ill, as such individuals are at particular risk of contracting 'hospital acquired infections' that can be fatal. Housing provision is one element of the wider challenge of providing appropriate care to individuals with high levels of dependence. The other challenge is providing staff to care for such individuals, which is addressed elsewhere in this report.

Integration of health and social care

National policy on integration of health and social care staff is aimed at improving seamless care that wraps around the individual and responds to their needs. Different parts of NHS Highland have approached integration in different ways. A lead agency model has been adopted in north Highland, with Highland Council as the lead agency for children's community health and social care services and NHS Highland as the lead agency for adult health and care services. A body corporate approach led by an Integrated Joint Board (IJB), has been taken in Argyll and Bute. The IJB and Health and Social Care Partnership in Argyll and Bute has delegated responsibility, from both NHS Highland and from Argyll and Bute Council, in relation to health and social care[20]. In the years since integration, many benefits have been realised across both models, including the forming of joint assessment teams and direct access for patients to a wide range of multidisciplinary teams.

Sustainable services

One of the aims of service integration is to reduce unnecessary admission to hospital and to reduce the number of delayed discharges, delivering a more efficient and effective use of available resources[20]. Progress has been made in this area, but more work remains to be done. Reducing the number of bed days occupied by people who are 'medically fit for discharge' has the potential to save money and deliver a more sustainable service. The costs associated with bed days occupied due to delayed discharges in NHS Highland is significant. Between £1.8 to 2.2 million could be saved if we were able to reach average practice in Scotland (based on 2015/16 figures).

Although this money might not be realised as 'cash releasing savings', it represents a significant opportunity to create greater system capacity. Sustaining flow though hospitals is a challenge across the world, but is particularly acute in a remote and rural area such as NHS Highland, as patients who need ongoing care at home cannot be discharged to remote areas until suitable care can be identified in that area. A realistic health and social care approach will require an ongoing focus on maximising flow through acute care beds and the development of new care at home models.

Residential or nursing home facilities are generally not financially viable unless they have at least 40 residents, but small rural communities do not justify facilities of this size. In addition, it is difficult to find staff in remote and rural areas who are willing to work in care homes or to provide care at home. These factors have resulted in some patients remaining inappropriately accommodated in hospital for long periods of time whilst staff and families try to find a suitable solution. Some areas have developed sustainable solutions, for example, the Howard Doris Centre in Lochcarron, which delivers support for individuals with a range of different levels of need. Interestingly, this initiative grew out of local initiative and vision rather than being driven by the public sector. It demonstrates the value of communities considering their own needs, finding out what options have been tried elsewhere in the world, and applying this to developing local solutions..

There are new sustainable models which provide care in remote and rural areas. One approach being piloted by NHS Highland in conjunction with Albyn Housing, local universities and a local housing manufacturer, is Fit Homes. These homes are an example of modular housing incorporating

high levels of technology which can be rapidly constructed and even transported to new locations to meet changing need. Modular housing is designed to monitor the activities of residents who have high levels of care needs intensively and trigger appropriate action when the technology identifies a problem. Although this is currently being undertaken as a research project, there is an urgent need to consider ways in which this strategy can be replicated across Highland.

The challenges of frailty

A major challenge in the context of Realistic Medicine or Prudent Healthcare is managing frailty. No single definition of frailty exists but it is generally accepted as 'a state of increased vulnerability in which individuals have diminished ability to respond to stressors and are at an increased risk of adverse outcomes'[21].

In theory, early detection of frailty should facilitate interventions that reduce the risk of admission to acute care, although there is a lack of robust research to that effect. There are a number of tools that attempt to facilitate such a process. The Scottish Patients at Risk of Re-admission or Admission (SPARRA) score calculates the probability that a patient will have an emergency admission within the next 12 months. A 40% chance of admission or readmission is considered a high risk state[22]. Figure 1.8 shows the SPARRA scores for NHS Highland showing how the risk of admission varies with age and is highest among women aged 80-89 years old.

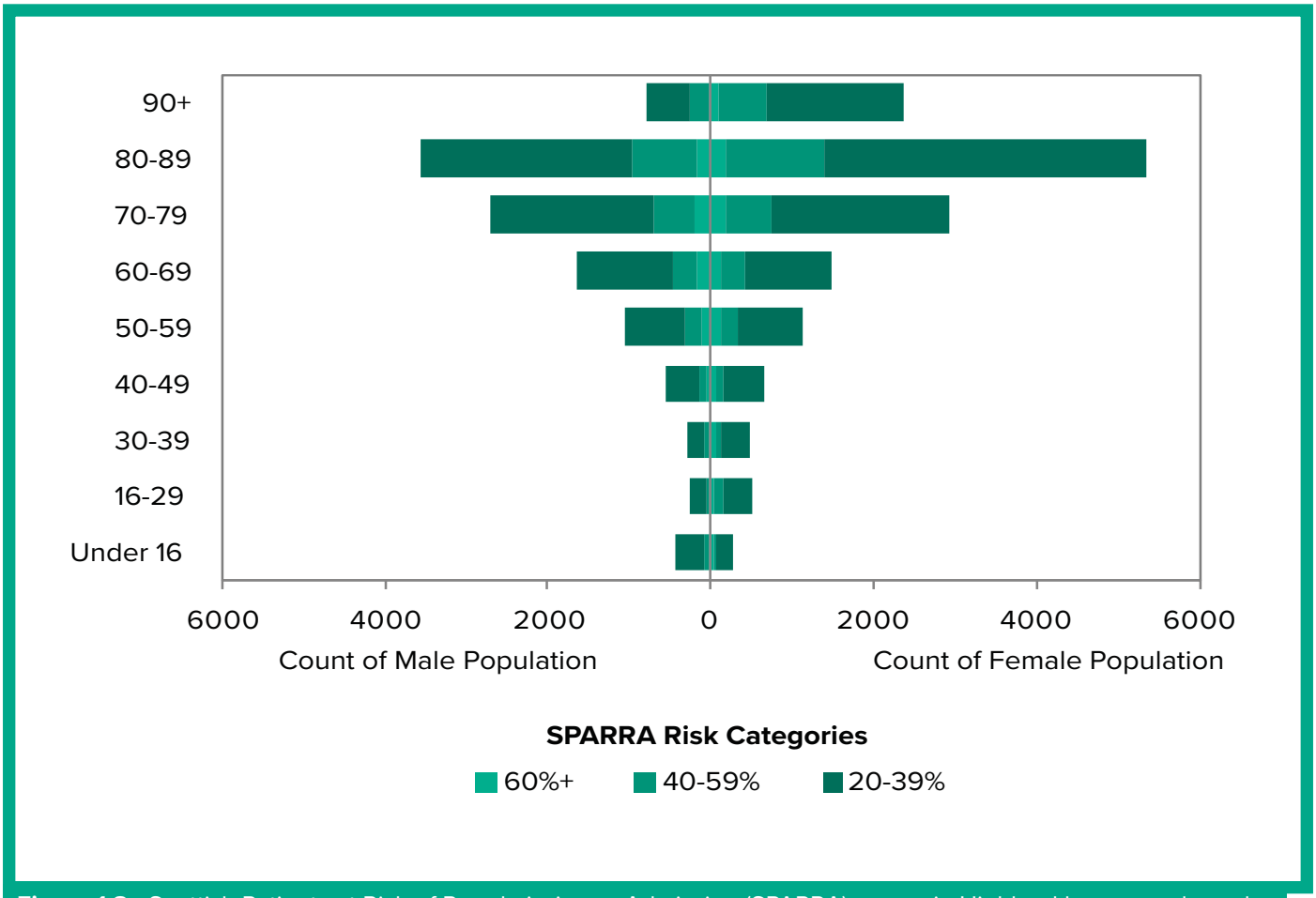


Figure 1.8 - Scottish Patients at Risk of Re-admission or Admission (SPARRA) scores in Highland by age and gender
Source: NHS National Services Scotland (NSS) Discovery Portal

However in comparison to other health board areas NHS Highland has the lowest rate of emergency admissions for those aged 75 and over, and has achieved a sustained reduction over the last five years. This important quality outcome indicator reflects the success of focussing on preventative and community based care for older adults.

Social care provision

Care homes and nursing homes are being utilised less than in the past and those in such facilities have, on average, greater levels of dependency. In some ways this trend is to be welcomed as these type of facilities do not meet the needs of a large proportion of the population. The availability of care home places, per 1,000 population, has reduced slightly across Scotland and Highland over the last ten years as shown in Figure 1.9[15]. The average weekly costs for Scotland have also increased, with those self funding with nursing care placements seeing the greatest increase in cost from £552 per week in 2007 to £814 per week in 2016[15].

Amongst longer stay adults in care homes in North NHS Highland the number requiring nursing care has reduced by 15% over the last 10 years whilst the number with dementia or another physical disability or chronic illness has increased as has the proportion aged 85 and older[15]. So whilst rates of care home use have reduced, the residents are older and have more long term conditions than was previously the case. It is not possible to determine whether this reflects changes in supply or demand. It may be that need for nursing care has reduced with a healthier older population or that the number of care home places and available nursing care has not kept pace with the increased number of older people, so that only those with the greatest need are accessing this type of care.

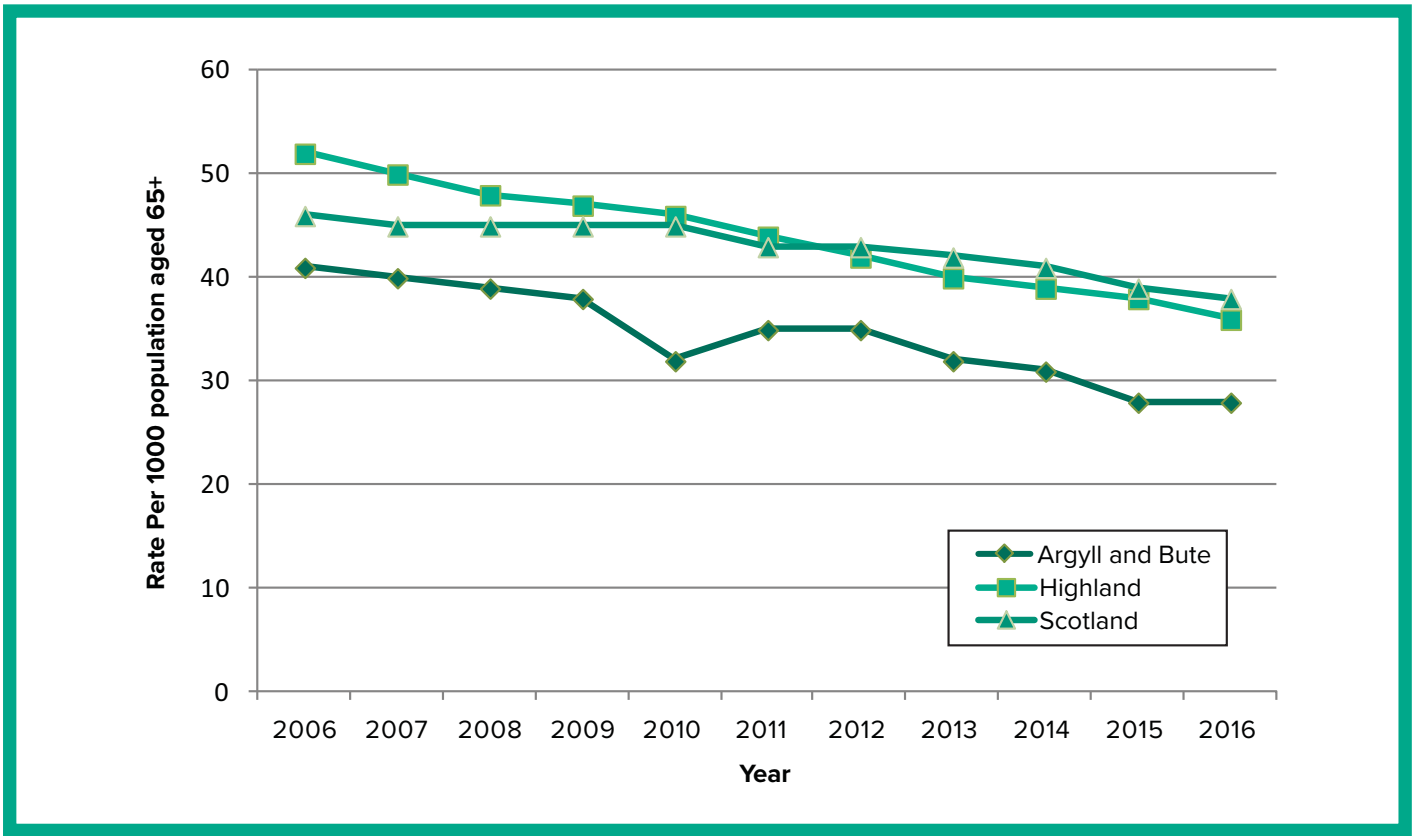


Figure 1.9 - Number of Registered Places in Care Homes for Older People per 1,000 Population Aged 65+, 2006-2016
Source: Information Services Division (ISD) Scottish Care Home Census 2006-2016[15]

The NHS Highland Public Health department has investigated what the situation could be in the next 20 years in terms of the requirement for Care Home places, if current use per population aged over 65 years remains the same in Highland. Unless we develop new ways of working, then twice the number of care home places will be required by the year 2035[23].

This prediction assumes that the current proportions by dependency state remain the same, and that two thirds of the population with high dependency are cared for in care homes (see Figure 1.10). A better way of thinking about this issue is to focus on levels of frailty or dependence that can be expected in the population and to plan to design support mechanism, in conjunction with communities, for the expected populations at each levels of frailty.

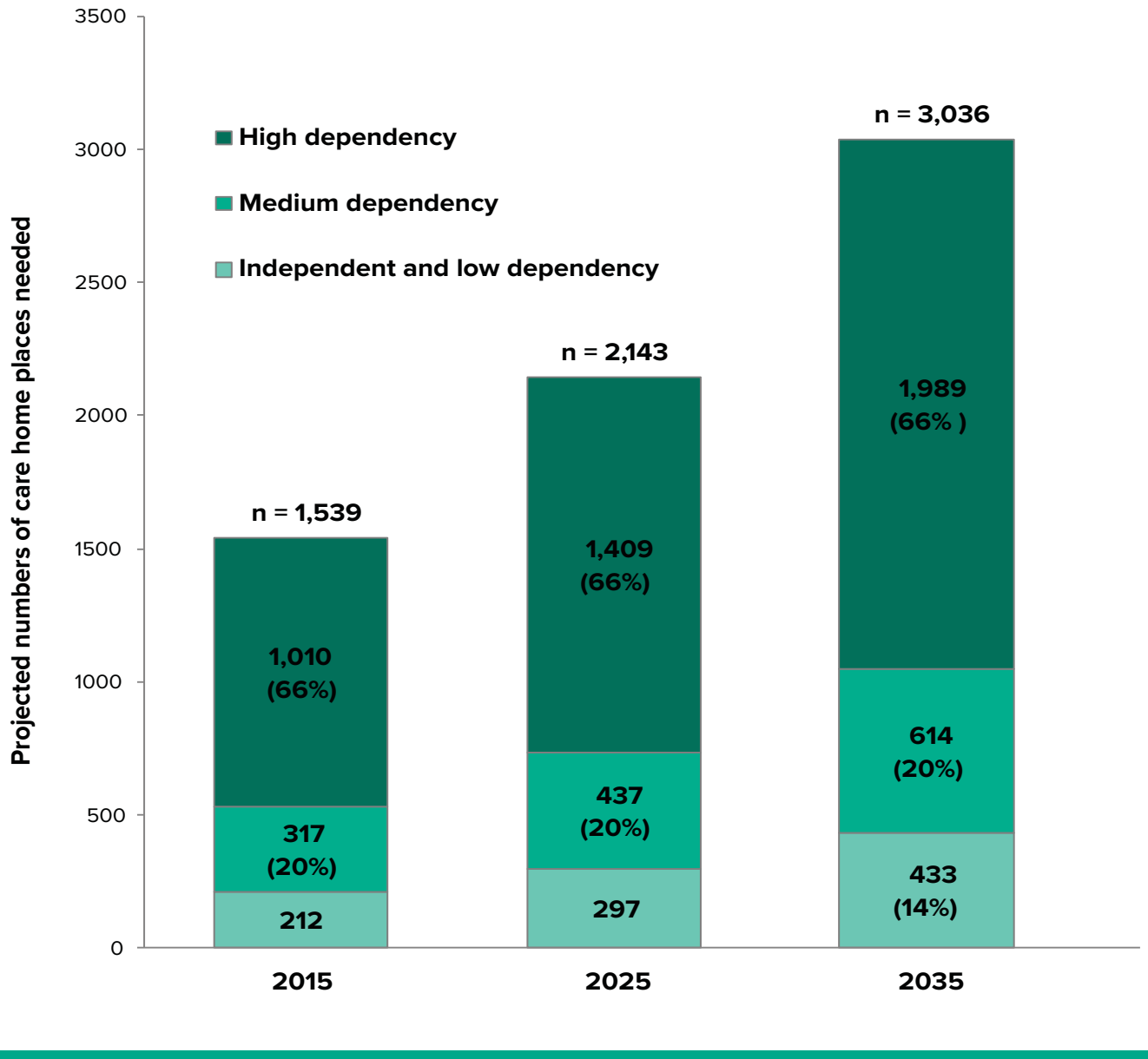


Figure 1.10 - Highland council area: projected numbers of care home places needed for older people (Scenario 1)
Source: MacPherson, F and Vaughan S 2017[23]

A separate piece of work using different methodology also reported an almost doubling (94% increase) in the number of care home places that would be needed by the year 2037 unless we move to new and more effective models of care delivery[24].

Community nursing

A key group in the provision of community care are community nurses who provide a diverse range of services from promoting health, enabling self management of long terms and end of life support. As of September 2016, there were 286.6 whole time equivalent (WTE) community nurses in NHS Highland, comprising 9.4% of all NHS Highland nursing and midwifery staff[25]. It can be argued that there should be an aspiration, over the next 15 years, for the proportion of nurses in the community to rise to around 40% of the total nursing workforce, although further modelling should be undertaken to substantiate that estimate and to consider an appropriate skill mix.

The majority of patients seen by community nurses within NHS Highland are aged 65 years and over and the section of the population is expected to increase substantially over the next 10 years[26]. The community nursing workforce is ageing with more than half of district nurses in NHS Highland

aged 50 years or older. The per capita cost of community nursing provision in those aged 75 and older is 12 times greater than that of those aged under 75 years.

NHS Highland is experimenting with new models of neighbourhood nursing, based on a Buurtzorg model in the Netherlands, that will be key to meeting the needs of an ageing population. A recent local review of district nursing services has reflected on the importance of skill mix within district nursing and the need to increase the proportion of staff time that is utilised for face to face to interventions, as opposed to other activities. There is a case for work to improve equity of access to nursing care across NHS Highland, particularly out of hours, which could have a significant impact on hospital admissions.

The cost of social care in Highland

In 2013-2014, Highland Council and Argyll and Bute Council spent £72.5 million and £34.4 million respectively on older people's social care[6]. There is some evidence that the figure for Highland Council is lower than in other parts of Scotland. The figure for north Highland is supplemented by additional funding by NHS Highland to the tune of £34m since integration.

There is significant variation across Scotland in spend per capita on services for older people, as shown in Figure 1.11. Some of the variation may be related to the fact that in Argyll and Bute and in north Highland the cost per hour of providing care at home is high[27]. This reflects some of the challenges in providing care in remote and rural settings. However Figure 1.11 shows that both Highland and Argyll and Bute actually have lower expenditure per capita on older people's social care than the Scottish average when the full range of social care services provided is considered.

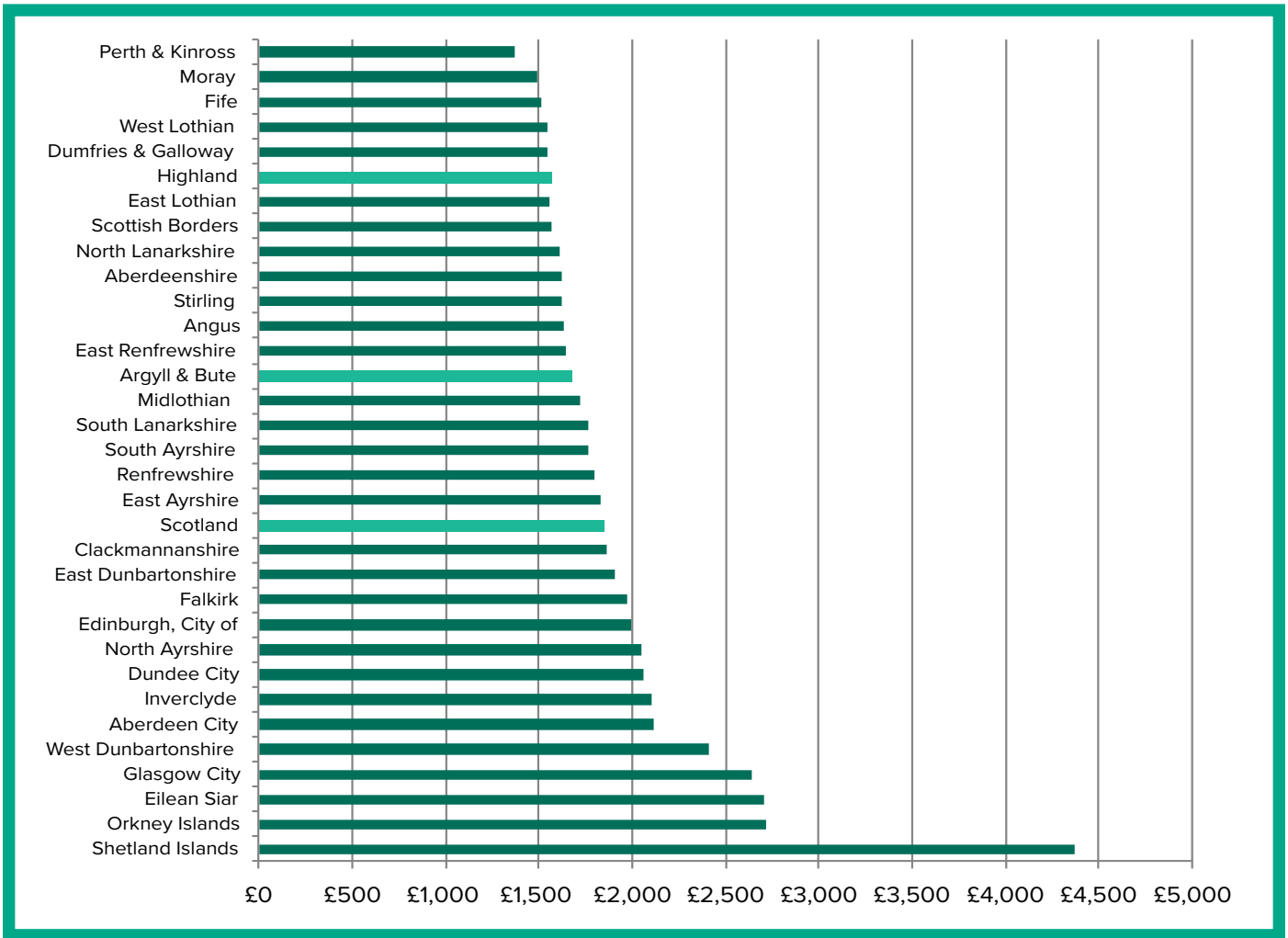


Figure 1.11 - Expenditure Per Capita on Social Services for Older People (aged 65+) 2013-14
Source: Information Services Division. Gross Expenditure in Older People in NHS Highland, Tab 7A[6]

What does it mean for our older population?

A 1962 report was the first on the conditions of residential homes. It stated that they "did not create a substitute community or a network of social relationships which could sustain a sense of individual purpose or pride"[12]. More than fifty years on this remains true and loneliness remains a significant problem for people living in nursing homes with one study finding more than half of nursing home residents reported feeling lonely, the effects of which were discussed in last year's report[28]. A Scandinavian study found loneliness to be 10% higher amongst older people living in an institution compared to those living in their own homes[29]. There is clearly a need to find alternative solutions.

NHS Highland is taking part in work on intergenerational communities and experiments to combine nursery education with care homes. Early evidence suggests that this is beneficial to both groups and this is an intervention that merits wider implementation.

There can also be physical effects from living in a care home or other low activity environment. Amongst healthy adults as little as one week of bed rest can cause muscle atrophy and this is accelerated amongst older people[30]. Muscle atrophy and weakness (sarcopenia) has been found to be present in 80% of nursing home residents. Muscle atrophy is associated with slower walking speed and greater risk of falls[31]. Imaginative programmes to increase physical activity are being pursued across NHS Highland to address this issue, but is remains a major challenge that needs to be addressed, and which is very much in line with the aims of Realistic Medicine or Prudent Healthcare.

In addition to the physical and mental effects, admission to a nursing home is in itself associated with increased mortality. A study in Nottingham found that survival at one year was 76% in residential homes compared to 66% in nursing homes. Other factors associated with decreased life expectancy were: male gender, admission to a dual registered home, placement from hospital and increased age[32]. Some of this effect may be due to selection bias, but it does suggest that there are problems with current models of residential and nursing home care.

What does it mean for our society?

Current models of care risk creating levels of dependency that are unsustainable in future generations as both costs and demand continue to rise. Family support and informal caring is still the single biggest contributor to caring for the older population but has decreased over the last few generations. In many non-western cultures there is a higher level of respect for the elderly, and a higher status for those who care for older family members.

Historic patterns of care in Scotland relied heavily on unpaid female members of the family to provide care[33]. Wider changes in society have reduced intergenerational living, altered rates of separation and divorce, increased the proportion of women in paid employment and led to family members living further apart. All of these have contributed to challenges in delivering care. There is a need for imaginative thinking to generate new ideas that can encourage support by families for older members of their extended family.

Realistic Medicine Case Study

Innovative use of Chaplain Services to prevent staff burnout

The Chaplaincy service is working with the Occupational Health service to prevent burnout in staff using an innovative group discussion tool called "values based reflective practice". There are 12 staff in NHS Highland who are trained or undergoing accredited training in the use of this approach. The model uses four key questions shown below:

Question	Quality Strategy	Values-based Practice
1. What does this encounter say about my practice?	Safe? Effective?	How was power used?
2. What does this encounter tell me about me as a person?	Person–centred? (enhance self awareness)	Do I inhabit the role with integrity?
3. How does this encounter sit with/raise questions about my beliefs, values, world view?	Person centred? (vocational motivation)	Dignity? Compassion? Whole person care?
4. Whose need was met in this encounter?	Person-centred?	What was valued, over valued, under valued?

Source: Paterson and Kelly (2013), Values-based Reflective Practice: A Method Developed in Scotland for Spiritual Care Practitioners in Practical Theology. Available at: http://bit.ly/2iV8Fak

Realistic Medicine Case Study

Integrated Services in Highland

NHS Highland has been on a journey of transformational change in health and social care for the past 5 years. An Integrated Lead agency model has provided a platform to deliver realistic care.

Redesign work in Highland has been positive, including work across hospitals and communities, delivering continuity of care and improvements in patient flow across health and social care. NHS Highland's Highland Quality Approach is working to apply a philosophy of service improvement, creating standard work to eliminate waste and minimise unnecessary variation in practice provided through integrated multidisciplinary teams delivering joined up services. This supports the philosophy of Realistic Medicine by delivering services which are person centred. Integration has included development of a single point of contact in each local area for initial management of referrals into integrated teams for triage and onward assessment and provision of care delivered by the appropriate professionals.

Work to support long term condition management has improved system flow with a more streamlined approach to care planning, supported self-management and carer support, keeping a person centred approach but with a strong focus on maximising independence. Finally, utilising available technology platforms has helped professionals work together more efficiently, helping to streamline services, improve access and reduce the waste of inefficient systems.

Key points

- Around 2.2% of the population utilise 50% of health and social care resources.
- Provision of both health and social care is expensive and costs are increasing.
- There are multiple drivers for escalating health and social care costs including an ageing population and increasing prevalence of long term conditions and multi-morbidity.
- Both care home residents and home care recipients have increasingly complex needs.
- The largest proportion of social care funds for older people are spent on care homes although most people would prefer to be cared for at home.
- The lack of appropriate housing for those with frailty, such as extra care housing, is adversely affecting discharge from hospital.
- New housing solutions for the frail elderly could reduce admission to hospital and help sustain flow though acute care facilities.

Chapter Two - Realistic care

So how can we respond to the challenges that we face? In 2014, the Scottish Chief Medical Officer (CMO), Dr Catherine Calderwood, published her first CMO report entitled Realistic Medicine, which focused on how we deliver value to patients by providing personalised, person centred healthcare and healthcare systems which reduce harm, waste and variation[1].

Figure 2.1 - CMO Report 2014-15

The Realistic Medicine report asked six questions of the healthcare community (Figure 2.1). The questions remind us of the need to collaborate with patients[2], to make informed and shared healthcare decisions[3], to recognize when additional investigation and treatment has the potential to harm, and to think innovatively about how best to provide health and social care.

The following year's CMO report 'Realising Realistic Medicine' continued this theme. It recognised that many of the elements of Realistic Medicine and care are already in place but have previously lacked a shared language. A consistent nomenclature has allowed for more effective communication and recognition of aligned work across Scotland.

One focus within this second report was on creating the right conditions based on effective communication, collaboration and culture that allow Realistic Medicine to thrive. There was also more explicit recognition of the role of public health, social work, dental services and the third sector in providing realistic healthcare.

Realistic Medicine is being taken forward across Scotland in many ways[4] including the formation of a Realistic Medicine team in Scottish Government, who are developing a range of initiatives at national level. Aligned work is also happening in health boards, research communities and voluntary organisations across Scotland - some examples are shown in Figure 2.2[5,6,7,8,9].

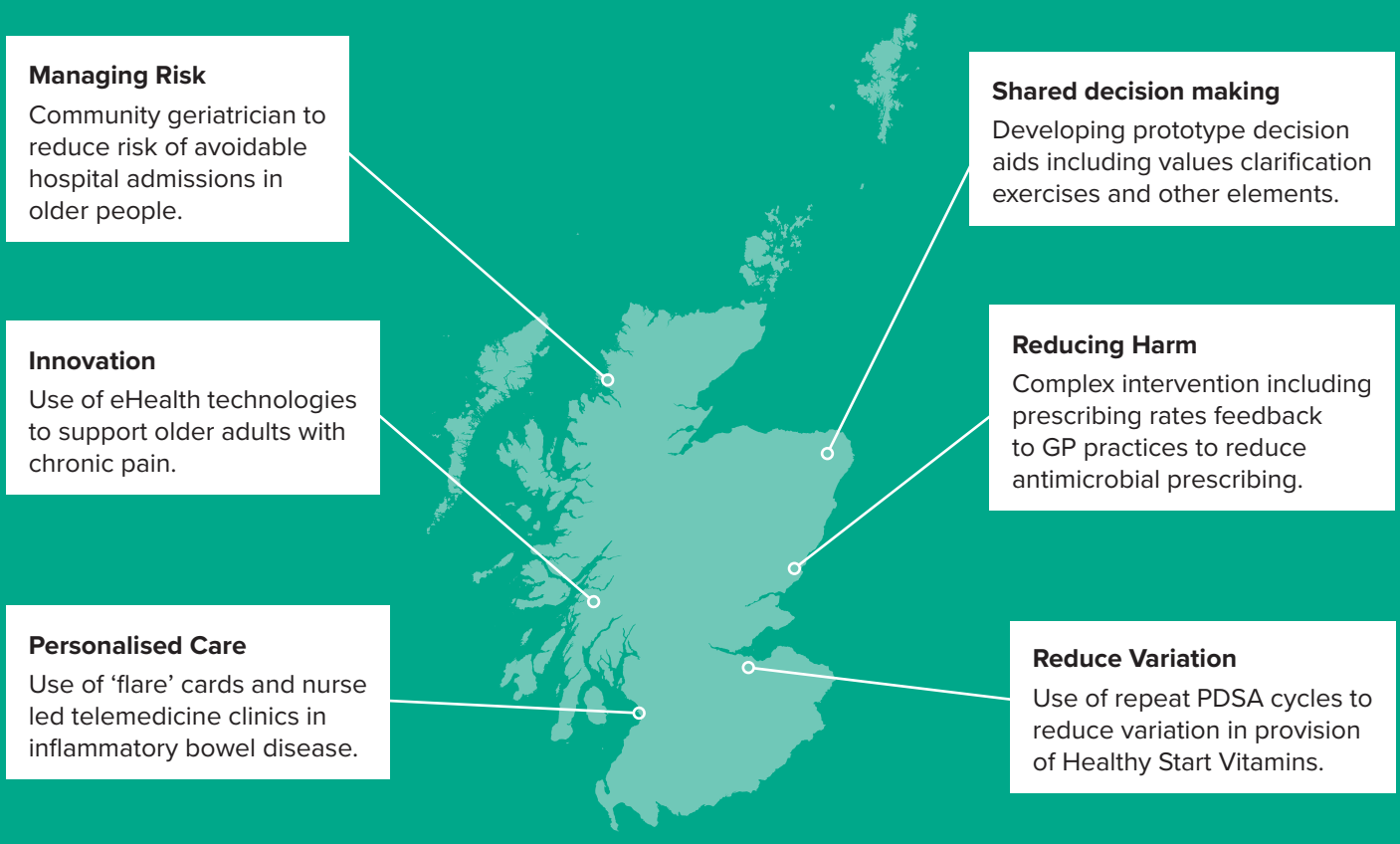


Figure 2.2 - Examples of Realistic Medicine across Scotland

When Realistic Medicine concepts are applied in combination, there is the potential to amplify their effectiveness. For example, the use of patient held 'flare' cards in Clyde Valley Hospital has helped patients with Inflammatory Bowel Disease and their GPs to respond effectively to flare ups of disease. This intervention has offered more personalised care, assisted in shared decision-making, improved risk management, and minimised harm associated with unnecessary hospital visits.

Leadership of Realistic Medicine in NHS Highland

In NHS Highland, Dr Rod Harvey, the Medical Director, has led the development of Realistic Medicine in conjunction with the Area Clinical Forum, chaired by Dr Andrew Evennett. The Area Clinical Forum is a formal sub-committee of the NHS Highland Board, bringing together a number of professional groups. Each of the professions represented at the Clinical Forum have collated examples of Realistic Medicine, which are presented as case studies throughout this report.

There is a very natural link between Realistic Medicine and the Highland Quality Approach. Figure 2.3 shows a driver diagram developed by the North and West Operational Unit, NHS Highland, which demonstrates these links.

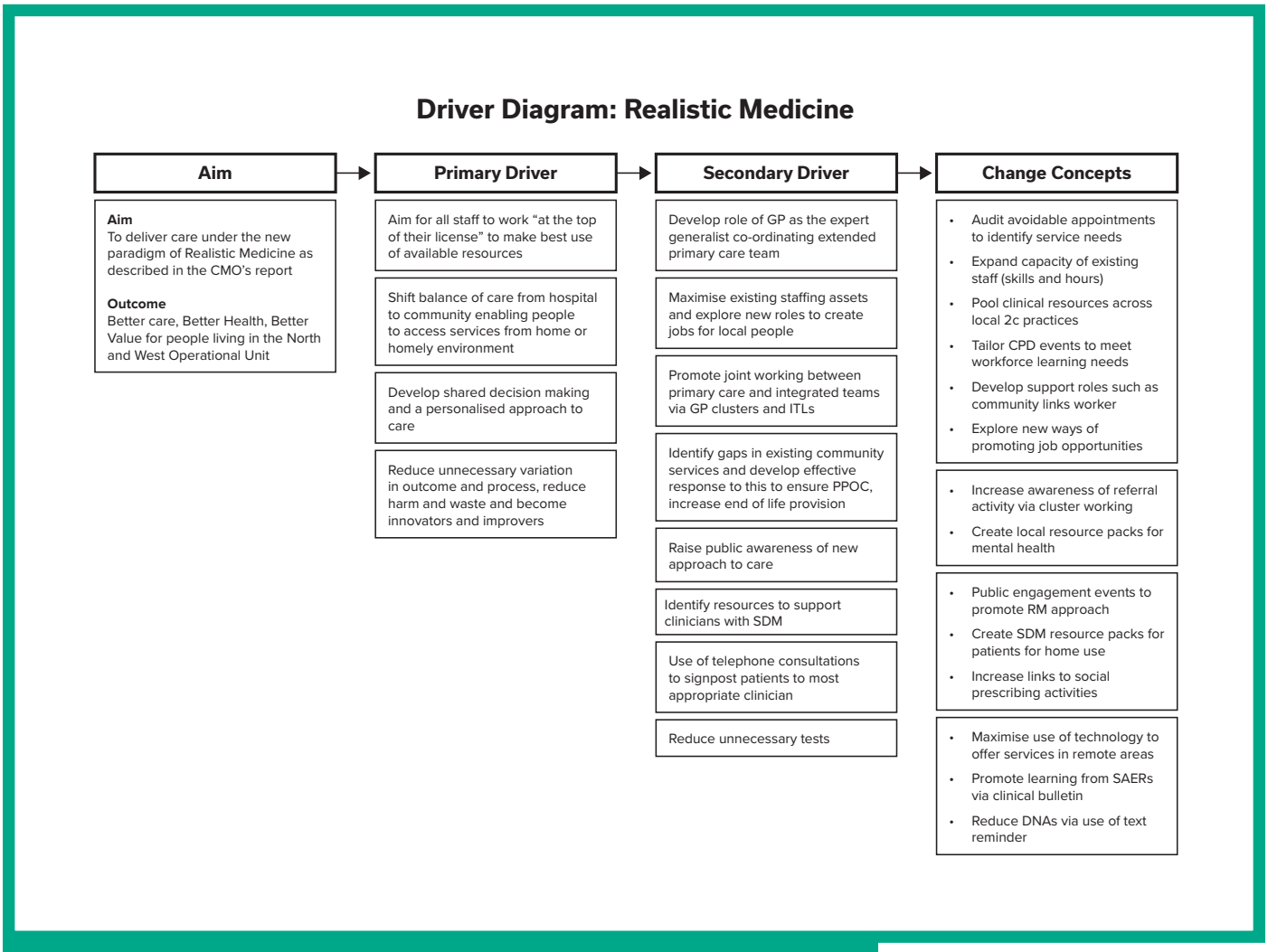


Figure 2.3 - North and West Operational Unit Drive Diagram: Realistic Medicine

The international context

The pursuit of Realistic Medicine in Scotland is part of a wider global movement recognising common problems with the delivery of healthcare in high income economies. **The International Consortium for Health Outcomes Measurement (ICHOM)**[10] is consolidating some of this thinking by developing standard measuring of the quality of care. ICHOM state that their mission is to "unlock the potential of value-based health care by defining global Standard Sets of outcome measures" and thereby reduce health care costs, support informed decision-making, and improve health care quality.

There are opportunities for us in NHS Highland to learn from best practice elsewhere. A number of international examples of national and regional initiatives that are similar to Realistic Medicine are therefore provided below.

Wales has developed a concept that is similar to Realistic Medicine called **Prudent Healthcare**[11]. The initiative was developed to respond to rapidly rising health and social care costs and increasing societal expectations, whilst maintaining high quality healthcare. The three primary objectives of Prudent Healthcare are to:

- Do no harm
- Carry out the minimum appropriate intervention
- Promote equity between professionals and patients

In New Zealand, the **Canterbury District Health Board**[12] has pursued a holistic approach (one system, one budget) to health and social care delivery. As can be seen from the pictogram below, the patient is very much at the centre of the model, with the hospital on the periphery of the health and social care system, and not, as traditionally viewed, at its heart[13].

Figure 2.4 - Pictogram of Canterbury's health care system[14]

NB: Visualisation originally created by the Redbridge Primary Care Trust and developed by the Canterbury Health System, New Zealand

The **Nuka System of Care of the Southcentral Foundation in Alaska, USA** [15,16] is a system-wide, community-led model with "customer-ownership" of care services, where the customer-owner takes ownership of his or her own care. As in the Canterbury model of service delivery in New Zealand, the emphasis is very much on a trust relationship between practitioners and patients, and on engagement with the community in service planning, design and delivery.

The **Buurtzorg, district nurse model in the Netherlands**[17] is another example of a community-focused model where the district nurse provides care in the community for a defined population and where the emphasis is on providing patient-centred care based on a high trust relationship between the practitioner and the service-user.

"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."

Buurtzorg model[13]

The importance of patient-centred care is further illustrated in the **Esther Network**[18] which is part of the healthcare system in Jönköping, Sweden. This network approach evaluates services from the patient's perspective, to understand what matters most to them. The result appears to be increased patient and staff satisfaction, significantly reduced waiting times, more effective treatment, and reduced costs.

In Finland, as part of the **ICARE4EU project**[19] there has also been an emphasis on the development of person-specific care plans, jointly developed between the patient and the nurse, which is then agreed by the physician in charge. The **Danish Clinic Silkeborg programme** focuses on one-day/ one-stop consultations undertaken by a multidisciplinary team within a clinic, which is reported to have resulted in time saved by the patient and improved collaboration between GPs and hospital specialists.

Through a public/private sector finance initiative, the **Alzira model of care in Spain**[20] has created incentives that are reported as having increased patient satisfaction, reduced readmission rates and saved the Valencia Health Agency 14 million Euros.

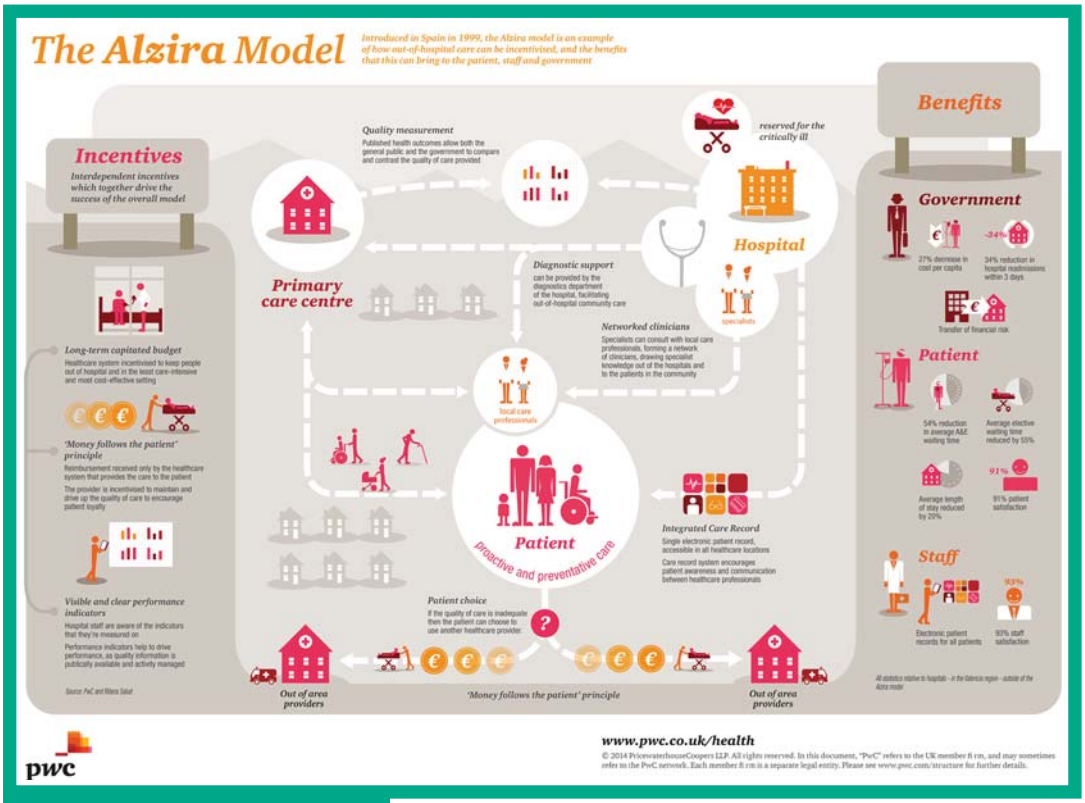


Figure 2.5 - The Alzira Model[21]

Choosing Wisely[22] is an initiative led by the American Bureau of Internal Medicine Foundation, which encourages clinicians and patients to take part in conversations about the overuse of unnecessary tests and procedures.

"It is estimated that as much as 30 per cent of US health care delivered was unnecessary duplication of earlier treatment or unnecessary itself"

Choosing Wisely Campaign[17]

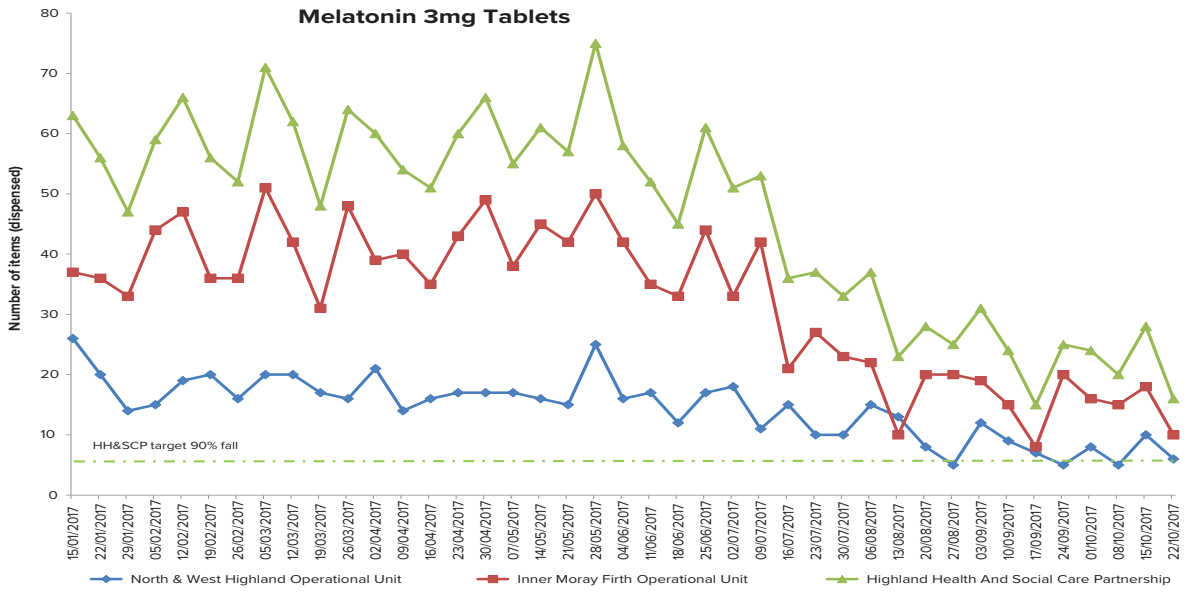
The Choosing Wisely Initiative has been influential in several countries including the United Kingdom. Related initiatives established in different part of Europe include Smarter Medicine in Switzerland and Slow Medicine in Italy[3].

Realistic Medicine Case Study

Reducing variation in melatonin prescription and harm through unnecessary medication provision

A recent review of prescribing in NHS Highland noted that the rate of melatonin prescribing to treat delayed sleep onset in children and adolescents was rising sharply. Further investigation showed that the same pattern was seen in other health boards and across the UK. NHS Highland approached the issue in two ways:

1. Improving efficiency by changing prescribing policy from tablets to capsules which releases resource for other care
2. Asking specialists recommending melatonin to review patients and consider using non-pharmacological methods to manage delayed sleep onset. For example eg minimising TV or computer use in the hours before bedtime.



Source: Ian Rudd, Director of Pharmacy, NHS Highland

Realistic Medicine Case Study

Reducing Polypharmacy and resultant harm and medication variation

Polypharmacy relates to patients who are taking many medications. Addressing polypharmacy is a key role for Specialist Clinical Pharmacists linked to primary care and Care of the Elderly clinics.

A patient had a fall and a pharmacist was asked to visit him at home to provide a medication review. The pharmacist discovered that the patient had been started on heart failure medication pending further investigation. These investigations turned out to be negative but his medication had not been stopped 11 years later, increasing his risk of falls. The unnecessary heart failure medicines were reduced and then stopped. Pharmacists have a role is such contexts in reducing waste and variation in relation to medication.

Key points

- Realistic Medicine is about providing value to patients through personalised healthcare, reducing harm, waste, and variation and improving risk management.
- Significant progress has been made in implementing Realistic Medicine in NHS Highland, but there is more that we can do.
- Internationally, there are many examples of models, which are similar to Realistic Medicine, which could provide ideas that we can adopt or adapt.
- Common elements of international care models that have similarity to Realistic Medicine include:
  - An emphasis on one whole system (adopting a holistic approach)
  - High quality relationships between patient and professional (shared decision-making)
  - Putting patient experience at the centre of the health and social care system (patient-centred care)
  - A recognition of the importance of patient and community engagement in service planning, design and delivery
- However, there remains a lack of rigorous research and a lack of robust programme evaluations for overarching paradigms such as Realistic Medicine.
- A major challenge in undertaking research into paradigms such as Realistic Medicine is that the specific culture, context and the clinical circumstances within which a particular health care model is delivered, often determine its success or failure.
- Given the importance of contextual factors, transferring models of care from one country to another requires accompanying local evaluation using principles such as Plan, Do, Study, Act.

Chapter Three -
End of life care: what it means in NHS Highland

In this chapter we describe the population within NHS Highland that is likely to have palliative or end of life care needs and the epidemiology around place of death.

Healthy and disabled years of life

The majority of us will experience some degree of frailty in old age and will require some hands on care. Unless as a society we take action to live healthier lives, as life expectancy increases we can expect a greater proportion of our lives to be affected by some degree of disability. In a global health study, life expectancy rose by 6.2 years between 1990 and 2013, but only 5.4 of those extra years were in good health[1]. The concept of healthy and disabled life has been used extensively by the World Health Organisation in their epidemiological reports. Although the concept can be criticised as being overly simplistic, it is a useful model for comparative purposes. The components of the model are shown in Figure 3.1.

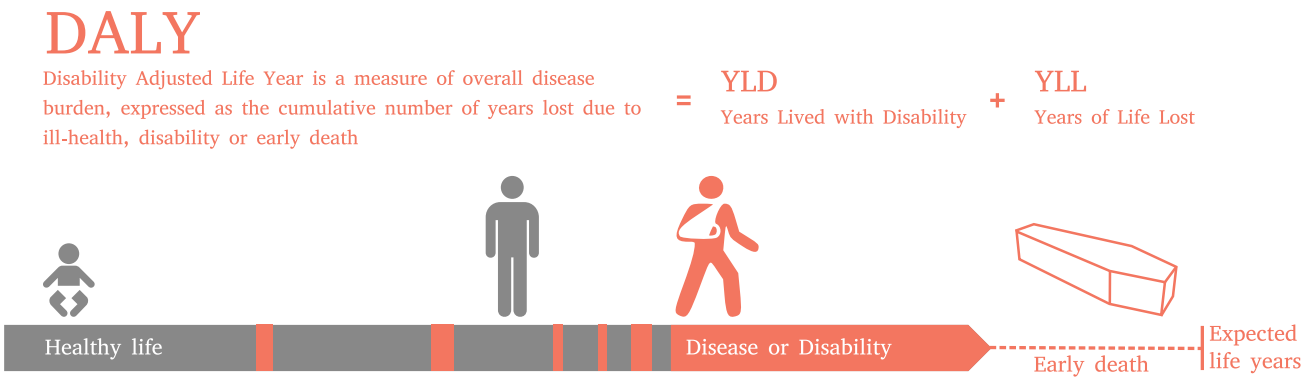


Figure 3.1 - Healthy and disabled life years and potential years of life lost
Source: Wikipedia[2]

Health system planning from a prudent or realistic approach requires an understanding of the changing patterns of both morbidity and mortality and DALYS are one method of capturing this. Figure 3.2 provides a useful graphical summary of the leading causes of death in Scotland, although not all of these deaths would require end of life care.

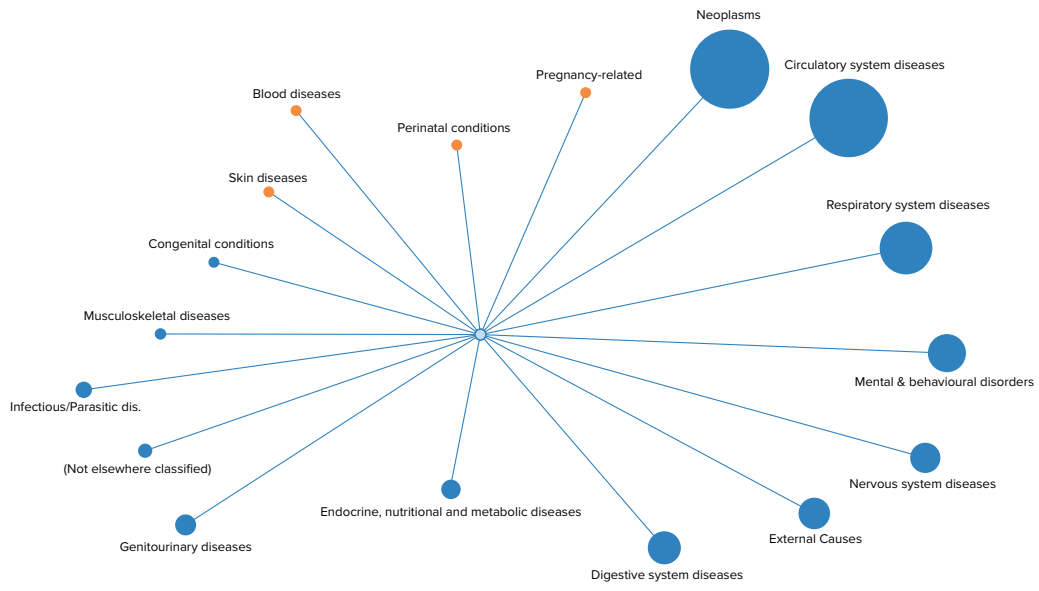
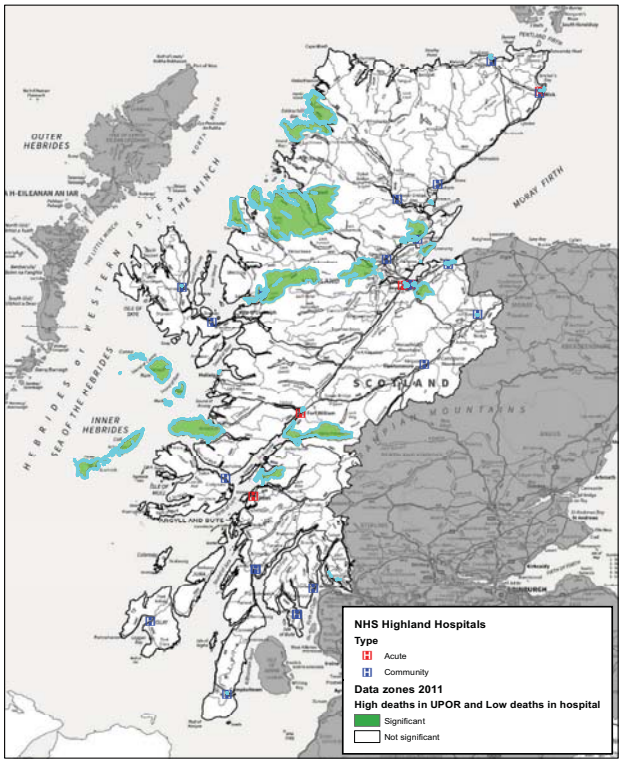


Figure 3.2 - Deaths by Cause in Scotland in 2016
Source: National Records of Scotland[3]

Place of death

Information on different aspects of mortality is provided below. The data that is initially presented relates to 'all causes of death', whereas data provided later in this report relates specifically to those causes of death where it can be anticipated that they will require end of life care.

There is significant variation in the rates of death at home and in hospital across both Scotland and NHS Highland. Areas with high rates of death at home and areas with high rates of death in hospital in NHS Highland are presented in Figure 3.3. Those areas highlighted in green have significantly higher rates of people dying at their usual place of residence (UPOR) and those areas in pink have significantly higher rates of people dying in hospital. The pattern is probably the result of a complex interplay between social and societal factors, GP practice catchments, district nursing services, care services, proximity to care home, nursing home, community hospitals and acute hospitals.



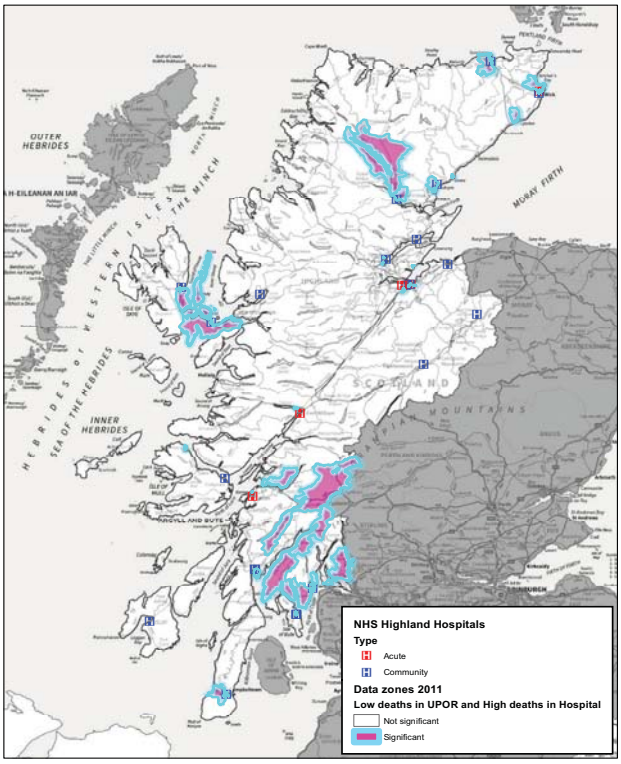


Figure 3.3 - Areas with high rates (>2 or >3 standard deviations from the mean) of all cause of death (i) at home, (ii) in hospital

The percentage of a person's last six months of life spent at home or in a community setting has been adopted in Scotland as a national quality outcome measure. This is to be monitored annually as part of the strategic framework for action on palliative and end of life care in Scotland. An increase in this measure is considered to reflect more people being offered their preferred place of death.

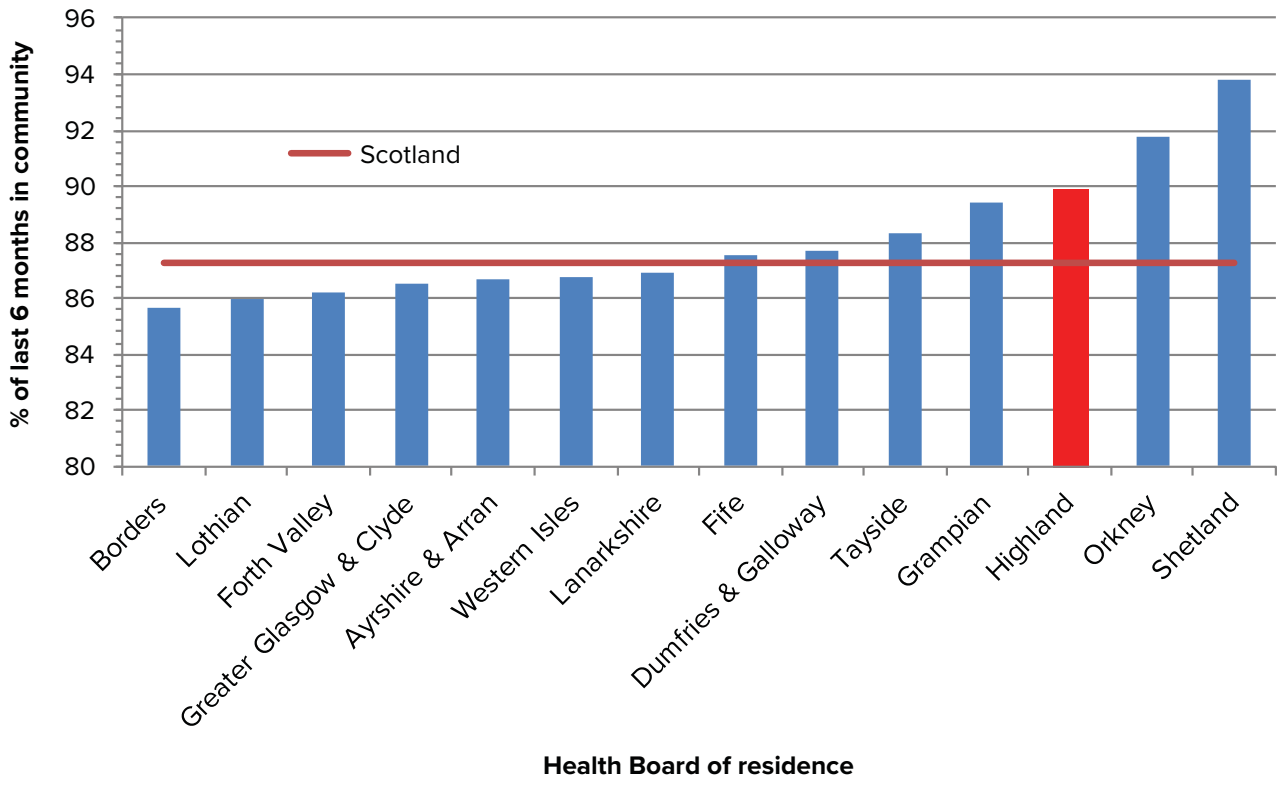


Figure 3.4 - Percentage of the last six months of life spent at home or in the community setting by Health Board of residence during 2016/17[1]
Source: SMR01, SMR04 and NRS Death Records: Health and Social Care Team, ISD: published 10/10/2017. Calculated as 100-% time in hospital in last six months of life

[1]2016/17 deaths are provisional and exclude those from external causes, such as accidents

During 2016/17, the chart represented in Figure 3.4 demonstrates that, for those who died in 2016/17, Highland has the 3rd highest percentage of time spent in the community rather than in a hospital during the last six months of a person's life.

Who needs end of life care?

The National Institute for Clinical Excellence (NICE)[4] has described end of life care as the care of those who are likely to die within the next 12 months. This includes people whose death is imminent (expected within a few hours or days) and those with:

- Advanced, progressive, incurable conditions
- general frailty and coexisting conditions that mean they are expected to die within 12 months
- existing conditions if they are at risk of dying from a sudden acute crisis in their condition
- life threatening acute conditions caused by sudden catastrophic events.

The problem with defining a timeframe is that accurately estimating prognosis is innately difficult. In a review of 42 studies the accuracy of prognosis varied from 23% to 78% (see Figure 3.5)[5]. This means that when a doctor thinks that a person has a specified time to live, they are probably wrong at least half the time. There is evidence that nurses who have dealt with many terminal cases are more accurate in their prognosis when death is only a few hours away. The general inaccuracy of prognosis is a major challenge in the context of Realistic Medicine or Prudent Healthcare.

It is easy for a health professional to mistakenly think that further treatment for an individual is futile, beause the health professional thinks that the patient does not have many months or years to live. Many experienced health professional can recall incidents of patients where the general consensus was that the person only had days or weeks to live, but where the patient went on to live for another 10 or 20 years.

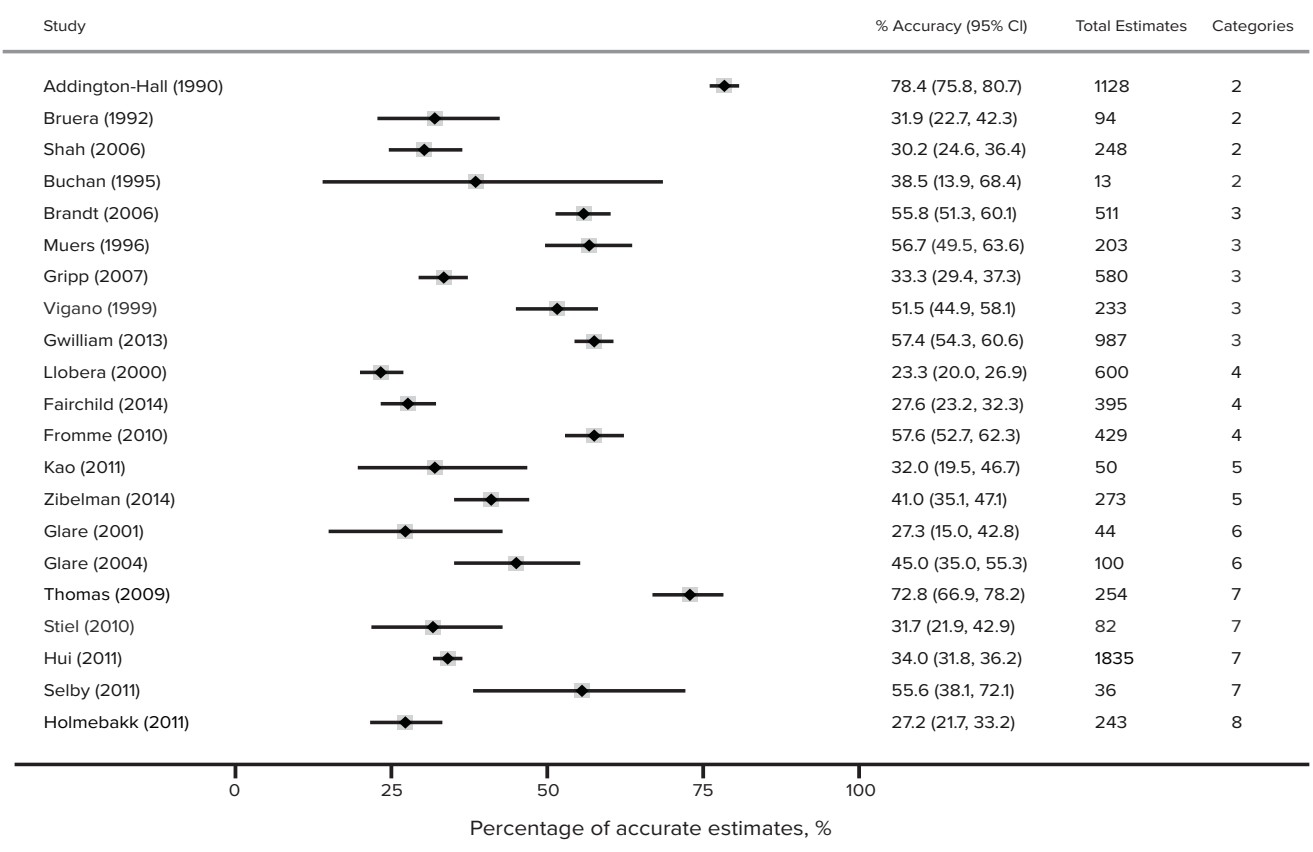


Figure 3.5 - Summary of studies demonstrating large variation in the accuracy of prognosis by clinical staff
Source: White N et al.[5]

Any palliative care provided within the last 12 months of life can be regarded as end of life care, although that is very much a retrospective definition, which is useful for epidemiological proposes but less useful when considering the needs of an individual. In addition to managing physical symptoms such as pain, breathlessness, nausea and increasing fatigue, it includes emotional, social and spiritual care.

It has been reported that the majority of people (56-74%) in their last year of life express home as their preferred place of death[6]. However, during the course of their illness, this preference may change. For example, it has been found that for those with terminal cancer, the percentage preferring home as their place of death decreased from 90% to 50% and the percentage preferring hospice, increased from 10% to 40%[6,7]. Changes in preference may be influenced by many factors including a desire not to be a burden to family members. The quality of the provision of care in the community, therefore, impacts on preference for place of death.

Population in NHS Highland likely to need palliative care

There is published research defining a set of diagnoses which are likely to require palliative care[8]. Analysis is presented in Figure 3.6, which applies these criteria to the population of NHS Highland. A report on this topic has been produced by the Public Health team[9]. Over the last three decades, an increasing number of deaths are observed from cancer and pre-senile/senile conditions and decreasing rates for circulatory conditions.

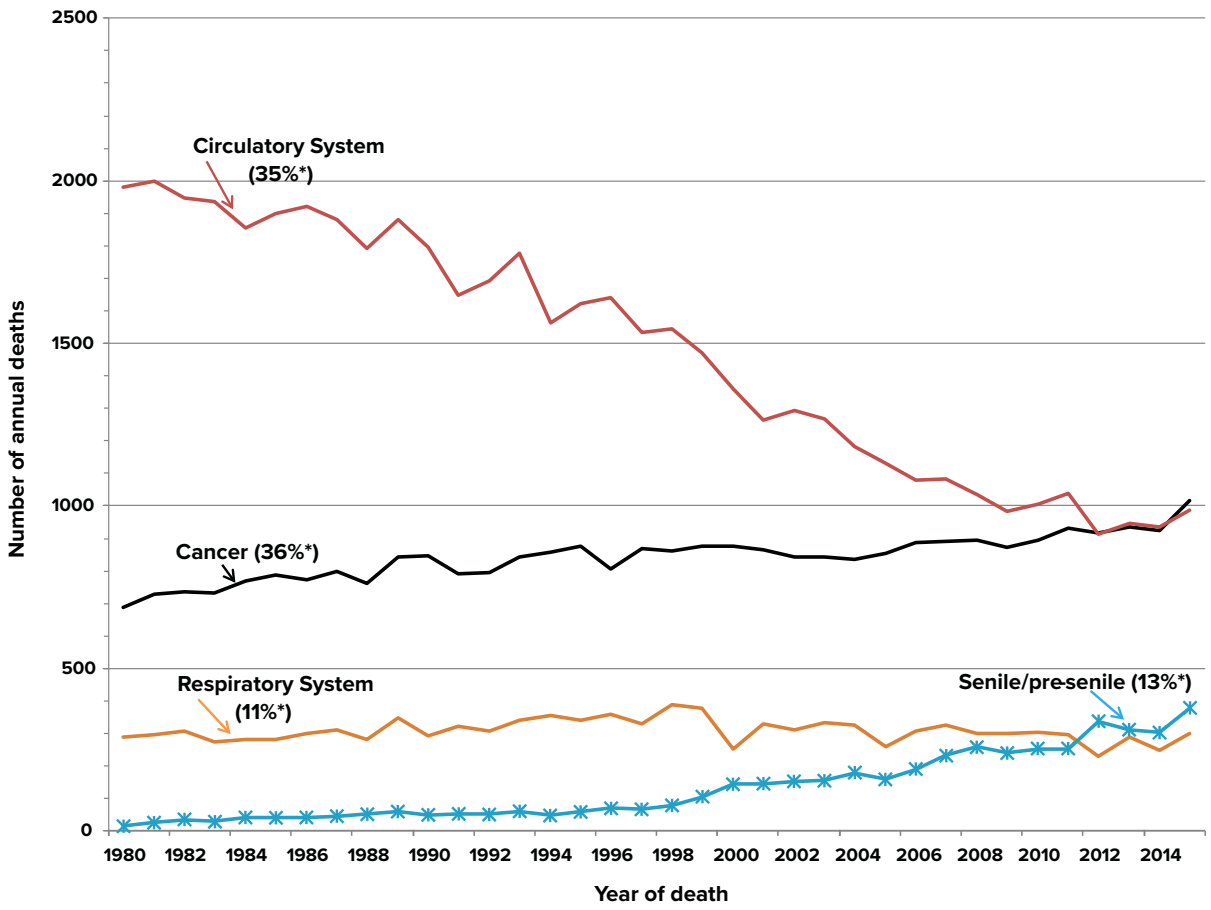


Figure 3.6 - Percent of death in NHS Highland residents from causes where end of life care would be expected, 1980 to 2015
Source: Analysis of Mortality data, (NRS) according to specific causes relevant to Palliative/End of Life care

[1] Proportions for other deaths were: Nervous system, 2%; Liver; 2%; Renal, <1%

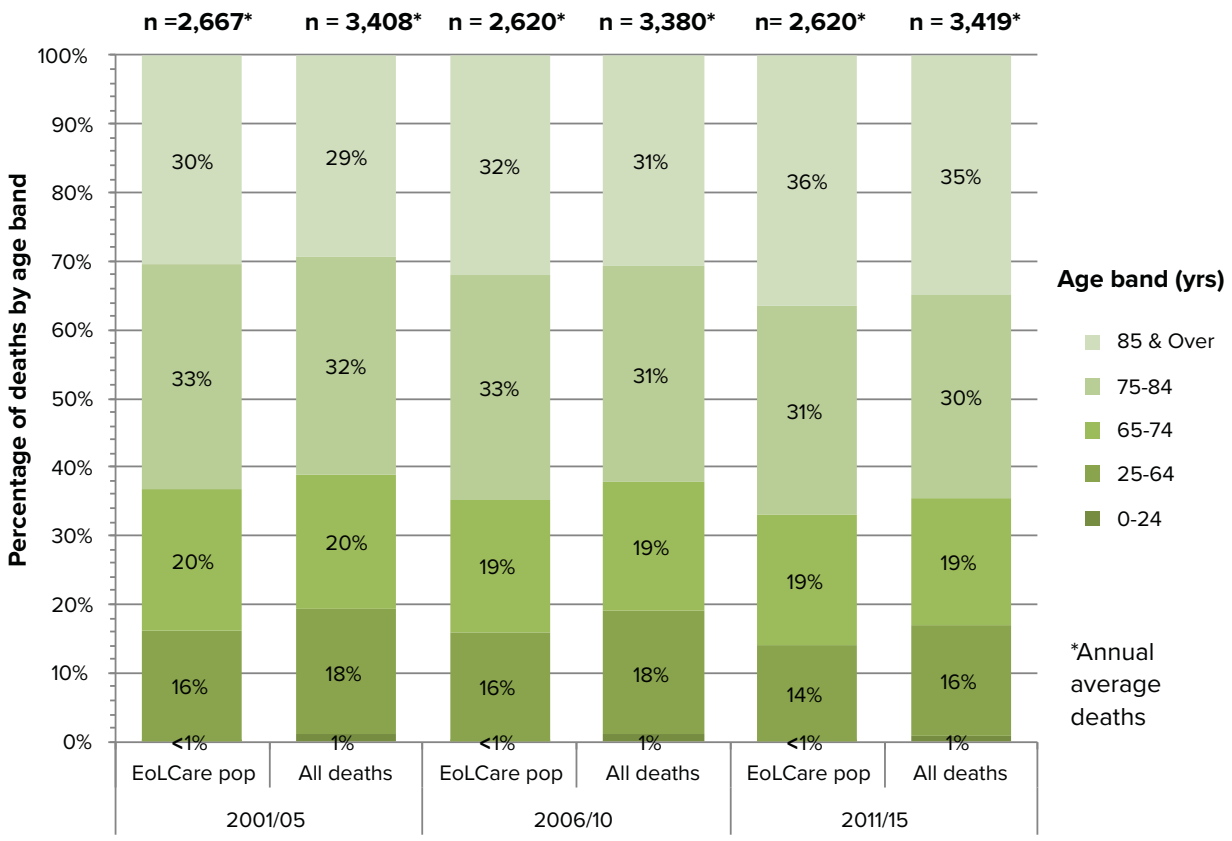


Figure 3.7 - Comparison of deaths by age group in five-year bands, 2001 to 2015, NHS Highland
Source: Analysis of mortality data (NRS)

The end of life care population, who had conditions that were likely to require palliative care, remained fairly constant over the last fifteen years making up around three quarters of all cause deaths in any given year (77%; 2,620/3,420). This percentage is within but at the higher end of the range previously estimated for 'high income' countries of 69% - 82%[8]. The proportion of patients requiring end of life care who are aged 85 years and older has increased over the last 15 years (Figure 3.7). Health and social care services will need to adjust the way that care is provided to take these changes into account over the next decade.

This trend is likely to continue and an ageing population will place increasing demands on palliative care services, suggesting that there needs to be closer collaboration between care of the elderly services and palliative care services.

Place of death for those with end of life care needs

The place of death also varied with time (Figure 3.8) where the percentage dying at home had decreased from 39% in 1980 to 29% in 2015. In contrast, the percentage dying in an acute hospital increased from 20% to 31% over the same period.

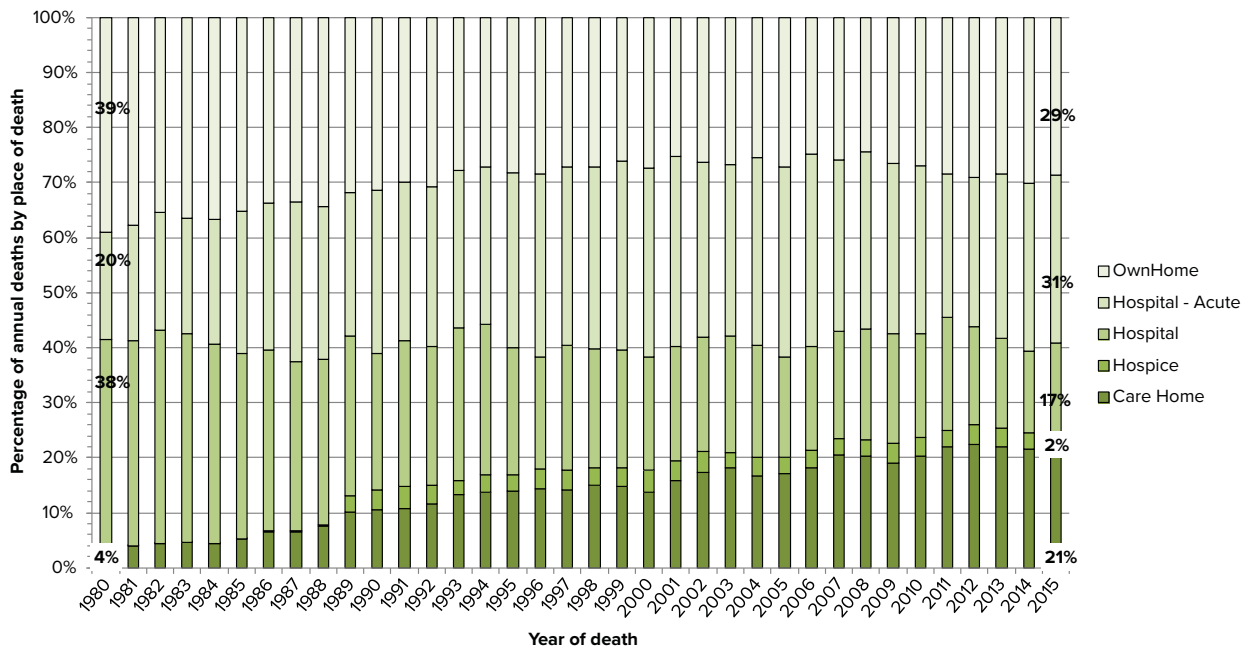


Figure 3.8 - Percent of annual deaths with potential end of life care needs by place of death, 1980 to 2015, NHS Highland
Source: Analysis of mortality data (NRS)

The place of death also varied with age group summed over the most recent five year period (Figure 3.9). The younger age group (0-24 years) was more likely to die in acute hospital, the 25 to 64 year age group was the most likely to die at home (45%).

The oldest age group was more likely to die in a homely setting rather than in a hospital. For the oldest group (85 years and over), 60% died at home or in a care home compared to 43-47% for those aged 65 -74 and 75-84 years. Highland Hospice has supported care homes and home care to provide end of life care and some examples of this work are considered in the following chapter. Approximately one third (31-35%) of the end of life care population aged 25 to 84 years died in an acute hospital. The proportion was lower (one quarter) in those aged 85 years and over.

The place of death also varied between men and women with men overall more likely to die in their own home[9]. This pertained to all conditions other than to renal or 'nervous & sensory' conditions, where women were more likely to die at home. The gender difference may reflect the longer life expectancy of women with the greater likelihood of them caring for husbands and partners. In turn these women are likely to be left living alone with no one to care for them to the same extent.

The place of death also varied according to the underlying causes of death (Figure 3.10). The highest percentage dying at home was with cancer (35%) and the lowest was with senile/pre-senile conditions (11%). Those dying from liver, renal or respiratory conditions were more likely to die in an acute hospital (43-59%). Less than 10% of those with cancer died in a hospice but among those dying from other causes, only those dying from kidney or nervous/sensory related conditions recorded deaths in a hospice.

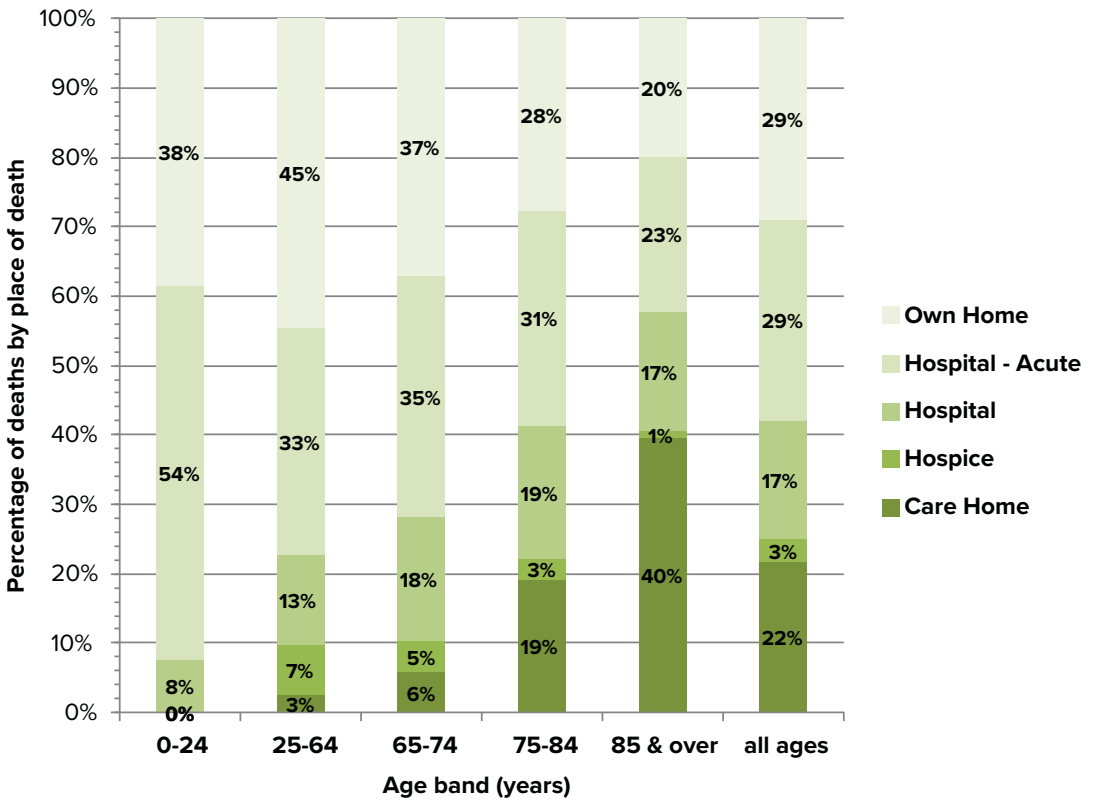


Figure 3.9 - Deaths from causes relevant to End of Life care by age group and place of death: NHS Highland[1]
Source: Analysis of mortality data (NRS)

[1]Summary data over the five years 2011 to 2015

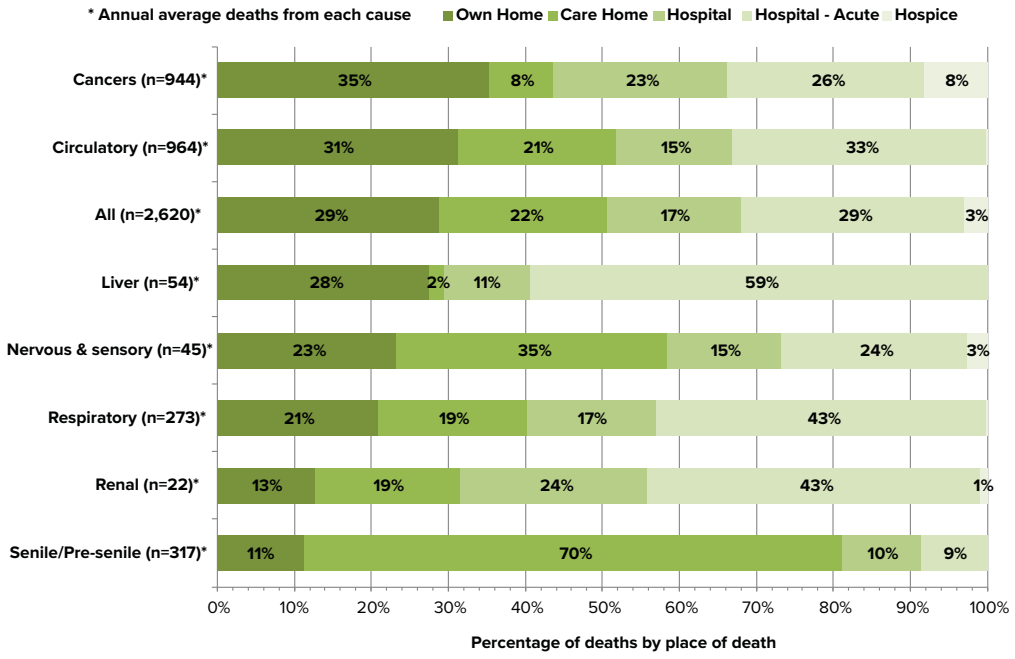


Figure 3.10 - Potential end of life care population by condition and place of death[1]
Source: Analysis of mortality data (NRS)

[1]Summary for five year period 2011 to 2015

Future need for end of life care in NHS Highland

Assuming that current rates of need for end of life care by gender and by age group apply over the next 10 to 20 years, future numbers can be predicted in NHS Highland. An almost two-fold increase in the number of deaths is expected. This is shown for the total end of life population and also by the different categories of conditions for which end of life care is needed, (Figure 3.11).

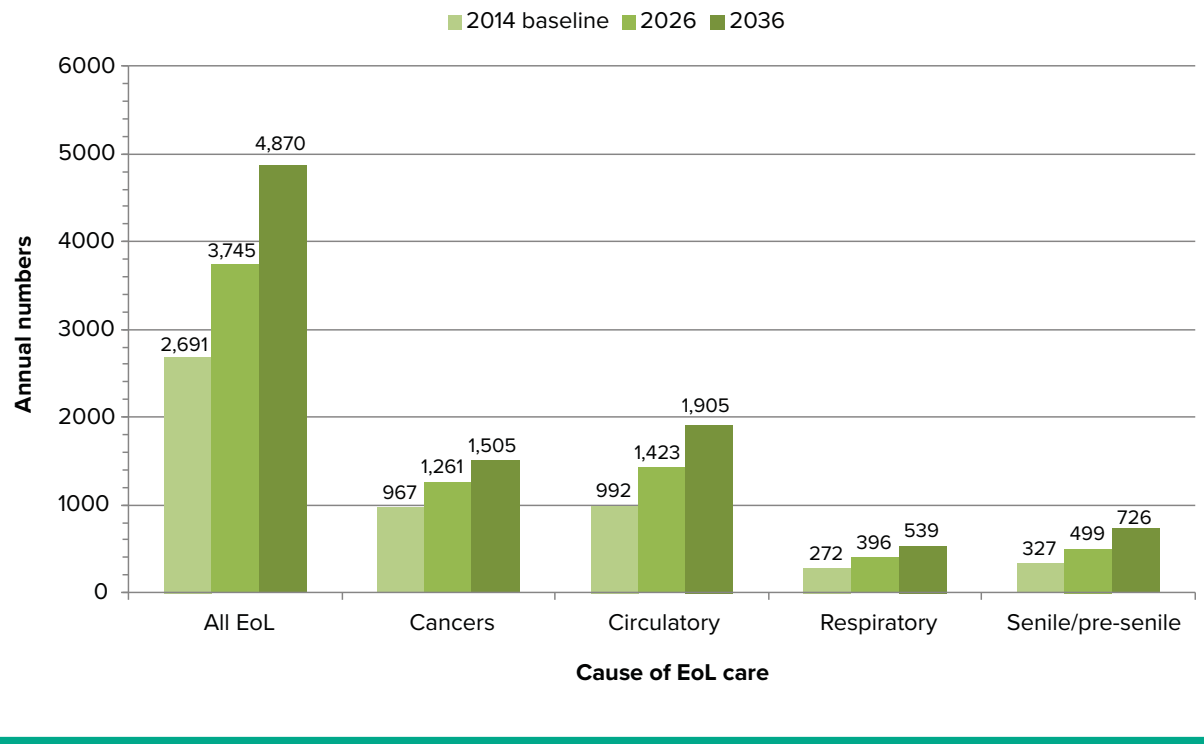


Figure 3.11 - Baseline and projected numbers[1] of the NHS Highland population with End of Life care need

[1]Actual age/sex End of Life annual death rates averaged for 2011-2015 applied to 2014-based mid year population projections for NHS Health Boards (National Records of Scotland)

Key points

- It is possible to estimate the number of people requiring palliative care or end of life care in a given population and the numbers used to plan services accordingly.
- The estimated number in NHS Highland who would potentially benefit from end of life care during a year is equivalent to around three quarters of all deaths.
- Decreasing numbers of patients are needing end of life care for circulatory system disorders, but increasing numbers are needing such care who have cancer, cognitive decline or dementia.
- Over the last 35 years there has been a fall in the proportion of patients dying at home and an increase in the proportion dying in acute hospitals and in care homes.
- On average during the last five years, over one half of those needing end of life care died in their own home or in a care home, and just under a third died in an acute hospitals.
- Those dying from dementia and related conditions or from conditions of the nervous/sensory system were the most likely to die in community settings and those dying from renal or liver or respiratory related conditions, more likely to die in an acute setting.
- Additional data[9] also indicates that men overall were more likely to die in their own home than women and this was the case for all conditions other than for renal or 'nervous & sensory' conditions where women were more likely to die at home. The gender difference may reflect the longer life expectancy of women with the greater likelihood of them caring for husbands and partners. In turn these women are likely to be left living alone with no one to care for them to the same extent.
- Projections based on current estimates predicts almost a doubling of the number requiring end of life care by 2036.

Chapter Four - Supporting high quality end of life care

Realistic Medicine or Prudent Healthcare includes effective palliative and end of life care from a clinical and a community perspective, both of which are considered in this chapter which considers the role of anticipatory care planning, compassionate communities and a range of related interventions.

Transitioning to palliative care

In 2014, the World Health Assembly passed a resolution requiring all governments to recognise and provide for palliative care in their national health policies. Against this backdrop, in 2015, the Scottish Government published its Strategic Framework for Action on Palliative and End of Life Care 2016-2021. Its vision is to ensure everyone in Scotland, irrespective of age or condition, will have access to palliative care if it will benefit them[1].

The Scottish Government define palliative care as more than care in the last days and hours of life, but include ensuring quality of life for both the person and their family at every stage of a life-limiting disease[1]. Similarly, the Scottish Partnership for Palliative Care describe end of life care as 'that which follows when it is clear a patient is entering the dying phase, whether or not they are in receipt of palliative care'[2].

The principles of palliative care and prudent or Realistic Medicine are well aligned. Both focus on a holistic approach and appropriate person centred treatment[3]. These principles are supported by a number of policies, tools and innovations in Scotland aimed at aiding the delivery of palliative and end of life care and improving patient outcomes.

Anticipatory care

A systematic review suggested that between 30% and 38% of patients near the end of life may received non–beneficial treatments[4] or end up dying in hospital rather than at home, which may have been their preference[5]. Anticipatory care plans (ACPs) recommended for those with palliative care needs, offer a means through which patient's can record their treatment preferences and enable health care professionals to plan appropriate clinical responses, as they evolve, over the course of an illness[6]. They encourage exploration of end of life preferences and clarification of a patients understanding of their prognosis, including preferred place of care and views about interventions, treatments and cardiopulmonary resuscitation (CPR)[7]. Key Information Summaries and shared electronic patient records, have also been pursued in Scotland[8], enabling anticipatory care plans to be written by GPs and shared electronically with secondary providers.

There is some evidence that anticipatory care planning may reduce futile invasive treatments and hospital admissions[9], Intensive Care Unit admissions and reduce length of stay[10,11,12]. Identifying an individual who may benefit from palliative care can be challenging[13]. A recent review of Anticipatory Care Planning implementation identified prognostic uncertainty as a key factor influencing the decision to initiate this discussion[6,12,14].

ReSPECT

ReSPECT stands for Recommended Summary Plan for Emergency Care and Treatment. It is an alternative to Advance Care Planning, which is perhaps more flexible.

As shown in Figure 4.1, it creates a summary of personalised recommendations for a person's clinical care in a future emergency in which they do not have capacity to make or express choices.

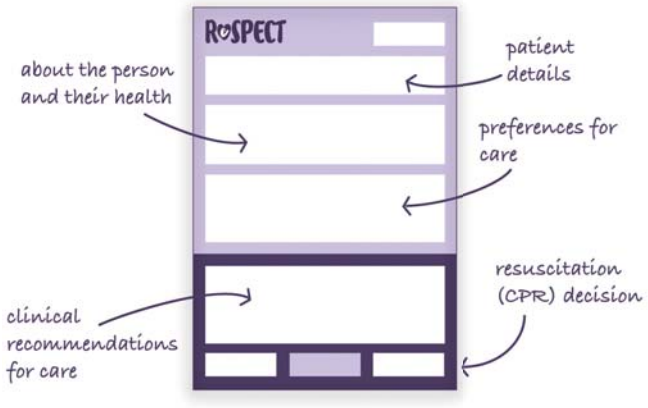


Figure 4.1 - ReSPECT template

Compassionate communities

Compassionate communities are a holistic, population health approach to palliative care beyond health and social care services. They were first described in 1999[15]. A 'compassionate community' is one which formally agrees to offer support, comfort and care to people who may be dying or suffering from a chronic condition such as dementia. A compassionate community recognises that we all experience loss and death. Given that these experiences are universal, there is a need for communities to help all of their members to care for each other.

The basis of compassionate communities is their reciprocal relationships with services. The community is therefore supported by professionals such as palliative care staff, dementia nurses, and other health and social care staff. There is a growing body of literature on their use.

Strong social relationships are one key to a healthier life. A meta-analysis showed that there was a 50% increased likelihood of survival for participants with stronger social relationships for both men and women[16]. Another study of people living with diabetes and heart disease[17] found that social involvement with a wider variety of people and groups supported personal self-management and physical and mental well-being, and significantly reduced the need for people to make use of hospital services. It is clear that increased levels of community engagement and the development of positive social relationships help to sustain the health of all[18].

There is some work underway in Highland to develop local Compassionate Community initiatives and it is included in the Highland Hospice three year strategy. Some supporting work in this direction includes:

Helping Hands – a service which trains and matches volunteers to support clients at home. Volunteers essentially do what a 'good neighbour' might do providing befriending, offer a 'sitting' service to allow carers to get out of the house for short periods of time, help with simple household tasks.

Last Aid – modelled on the format of First Aid training, this half day training session is designed for workplaces and community organisations. It covers practical support as well as supporting people to have a discussion about end of life and supporting people to talk about what they want from end of life care. Helping the public to understand the realities and choices around palliative and end of life care and bereavement will help our communities to build resilience and support each other at this difficult time in their lives.

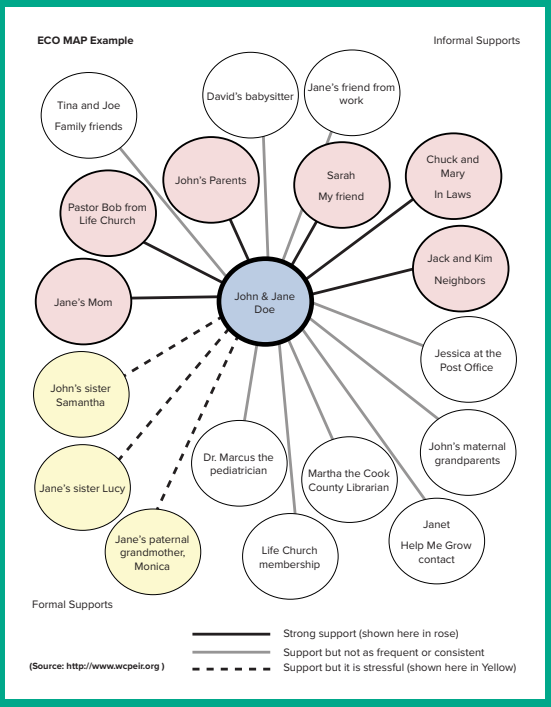
Project Echo – a telementoring system that connects care workers across the Highlands with each other and with the Hospice to provide mutual support as well as training and development in palliative and end of life care. This project is currently working with 35 care homes, community pharmacists, out of hours services and specialist nurses across the Highlands in support of compassionate communities.

The **Dementia Friendly Community project** that has been developed in Helmsdale is supporting development of 'compassionate communities' across Highland. With some additional funding from the Life Changes Trust, there are plans to roll out the model established in Helmsdale and learn from experiences there over the next five years.

Realistic Medicine Case Study

Eco-mapping to support personalised approach to discharge planning

The need for social and practical support in relation to maintaining health, disease management and supporting someone to stay in their own home is well known, but little is known about how to investigate support networks, particularly in a clinical setting[19]. Patients are not isolated beings; rather they will have a network of support which if understood by practitioners, may help to plan and co-ordinate efforts to ensure that patients have the right support to improve their health, manage their condition and maintain independence[20,21].



Eco-mapping is a tool that could help practitioners to plan what support patients might need by giving them the whole picture in relation to an individuals' network of support and therefore enhancing practitioners understanding of the care giving context[22]. Eco-mapping was developed in 1975 by Dr Ann Hartmann and has mainly been used by social workers in relation to understanding family networks in order to provide the most appropriate support to children and families[23].

An ecomap is a visual diagram that shows the social, personal, professional and organisational relationships that an individual or family has in their life. It is often depicted with the person or the family in a circle at the centre and the network of connections and support depicted with circles around the centre, like planets around the sun. It therefore quite literally puts the patient at the centre and builds a picture of their networks of support.

Ecomaps can provide useful information for practitioners and patients/clients and may be helpful in supporting development of care plans and discharge planning by identifying comprehensive networks of support for patients. They:

- provide a useful tool for assessment of relationships and networks and the quality and role of those relationships in supporting individuals in their day to day lives and supporting them to live independently and stay at home
- identify the network of support that an individual has, and can also be useful in identifying areas of need, disconnection or duplication
- identify connections to social support systems such as housing, fuel poverty or income maximisation
- describe connections to communities such as significant friends, neighbours, clubs, church etc.
- help to identify whether and how an individual's needs are being met and their reliance on professional agencies, friends and neighbours
- highlight where there may need to be enhanced communication and co-ordination between services
- help to analyse the level and type of support provided to an individual, and whether it is adequate and appropriate to meet their needs

A pilot of the use of ecomaps to support discharge planning is underway in NHS Highland. Initial feedback has been that the tool is easy to use and engages patients on identifying and thinking about the network of formal and informal support that they have around them. For some patients, it was useful in reaffirming the level of support that they have at home and the discussion with patients also revealed patient's wishes in relation to what kind of support they would like when discharged home, with patients often citing informal support as being the most important. Feedback to nursing staff after developing an ecomap with a patient has resulted in staff starting to identify local community based groups that could have a role in supporting patients when they go home, which they had previously been unaware of.

Realistic Medicine Case Study

Renal team's approach to building a personalised approach to care and managing risk better

Renal services have developed an approach that ensures that patients are at the centre of their care by having realistic conversations about treatment options which includes discussions about the disadvantages as well as the advantages of treatments so that patients and their families are supported with clear information to make decisions.

After discussion with the patient, family and the renal team, a treatment escalation plan is developed to guide future choices and treatment, always keeping the patient in charge of decisions. Whether patients are on a conservative care programme or on dialysis, patients and their families are supported with regular advice and information about what to expect.

Key points

- For healthcare practitioners identifying an individual who may benefit from palliative care can be challenging with prognostic uncertainty and/or communication difficulties identified as key factors influencing the decision to initiate a discussion around end of life care.
- Anticipatory care plans (ACPs) may be helpful in avoiding unnecessary and non beneficial treatment.
- Key Information Summaries (KIS) and shared electronic patient records, which were implemented in 2013 and widely used throughout Scotland[6], enable shared care plans written by GPs to be shared electronically and updated by providers of secondary and unscheduled care.
- A compassionate community is one which offers support, comfort and care to people who may be dying or suffering from a chronic condition such as dementia. The form compassionate communities take should be shaped through a participatory approach with communities.
- Compassionate communities are already forming in NHS Highland. Helmsdale has led the way with their Dementia Friendly Community project and Highland Hospice is developing a range of services to support a compassionate community approach to end of life care across volunteers and services.

Chapter Five - Frailty and its priority in Realistic Medicine

In this chapter, we consider frailty and examine its importance in relation to Realistic Medicine or Prudent Healthcare. One definition of frailty is "a distinctive health state related to the ageing process in which multiple body systems gradually lose their inbuilt reserves"[1]. Adverse outcomes include falls, hospitalisation, disability, or death and frailty is therefore an important condition. Being able to identify and assess frailty allows us to intervene to increase independence, slow progression and reduce risk of these adverse outcomes.

What is frailty?

Although age is the strongest risk factor for frailty, not all old or even very old people are frail. Predisposing factors can lead to a cycle of deterioration arising from relatively small adverse factors such as minor illnesses, the so-called 'domino effect'[2]. There is increasing evidence that impairment in the immune, endocrine, stress and energy response systems is involved in the development of frailty.

There are many tools for assessing frailty or dependence. Frailty can be defined as a cluster of symptoms (Table 5.1), by a frailty index, or as the outcome of a comprehensive geriatric assessment by a multi-disciplinary team. A frailty index is a broader measure than that derived from physical symptoms as it includes assessment of social and psychological aspects.

Table 5.1 - Characteristics of frailty

Characteristic	Measure criteria	
Shrinking	Unintentional weight loss of >10lbs (>4.5Kg) in prior year	
Weakness	Grip strength: lowest 20% distribution by gender & body weight	
Exhaustion	Self-report according to a depression scale (CES-D)	
Slowness	Walking time over 15ft within the slowest 20% of population by gender & height	
Low activity	Energy used per week, lowest 20% of population by gender	
Definitions	**Frail**	three out of the 5 criteria
	Intermediate (pre-frail)	one or two out of the 5 criteria

Source: Based on Fried LP et al.[3]

The current recommendation is that any interaction between an older person and health and social services should include an assessment of frailty. The British Geriatric Society suggests the use of gait speed, for example timing how long it takes to walk six meters, as criteria key assessment, and where this is not possible, the use of a seven item questionnaire with a cut off of three or over positive responses (Table 5.2).

Table 5.2 - PRISMA 7 frailty tool

1.	Are you more than 85 years old?	Yes = 1
2.	Are you male?	Yes = 1
3.	In general, do you have any health problems that require you to limit your activities?	Yes = 1
4.	Do you need someone to help you on a regular basis?	Yes = 1
5.	In general, do you have any health problems that require you to stay at home?	Yes = 1
6.	In case of need, can you count on someone close to you?	Yes = 1
7.	Do you regularly use a stick, walker or wheelchair to get about?	Yes = 1

Source: Based on British Geriatrics Society, 2014[1]

There is a sizable overlap between frailty, co-morbidity and disability. The overlaps between these three states are depicted in the Venn diagram below (Figure 5.1)[3]. Although nearly 70% of those with frailty have two or more long-term conditions (co-morbidity) less than 10% (249/2,576) who are co-morbid are frail.

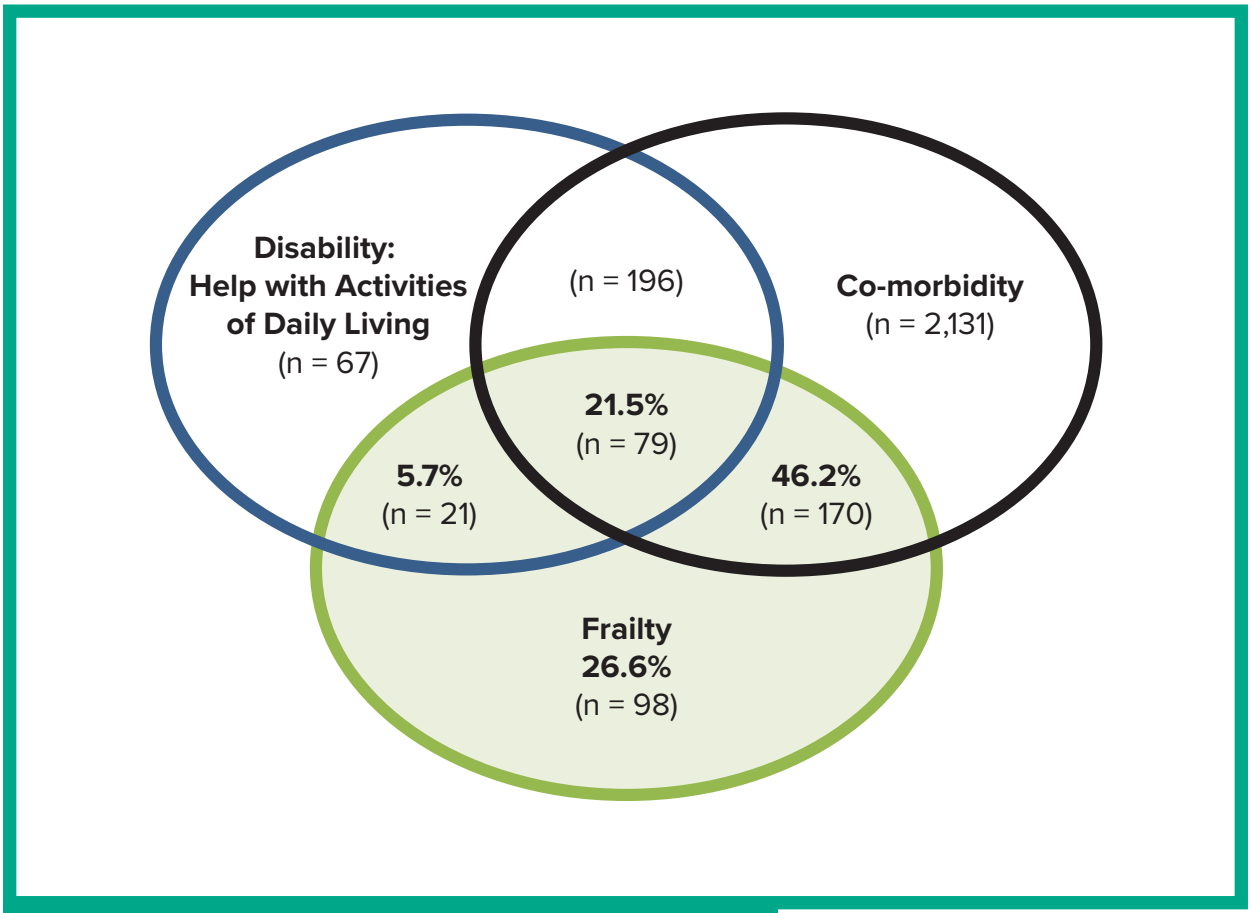


Figure 5.1 - The overlap of frailty with disability and co-morbidity
Source: Fried LP et al.[3]

Another approach to identifying frailty is based on five syndromes that raise the suspicion that a person may have frailty (Table 5.3). This is a relatively quick 'rule of thumb' method for use in a clinical practice.

Table 5.3 - Frailty syndromes

1.	Falls (e.g. collapse, legs give way, found lying on the floor)
2.	Immobility (e.g. sudden change in mobility, "gone off legs", "stuck in the toilet")
3.	Delirium (e.g. acute confusion, "muddleness", sudden worsening of confusion in someone with known dementia or known memory loss)
4.	Incontinence (e.g. change in continence-new onset or worsening of urine or faecal incontinence)
5.	Susceptibility to side effects of medication (e.g. confusion with codeine, hypotension with antidepressants).

Source: Based on British Geriatrics Society, 2014[1]

For primary care, use of a recently available electronic Frailty Index, (eFI) may result in more individuals identified as frail and thus provides the opportunity to optimise care and slow decline[4]. The eFI is based on 36 different deficit variables that can be identified in GP computer systems. It provides a categorisation of mild, moderate or severe frailty. The eFI is available on primary care systems in England and is being tested in Scotland[5].

One review[6] has suggested frailty prevalence of 9.9% (and 44.2% for pre-frailty) amongst those over 65 years, 15.7% in those aged 80-84 years, and 26.1% in those aged 85 years and over, with a slightly higher prevalence in women.

Another systematic review of prevalence studies of frailty in nursing homes[7] indicates higher rates than the equivalent estimates amongst those in the community. Across nine studies, the rate for frailty was 52.3% and across seven studies for pre-frailty, 40.2%. It is interesting to note that approximately 48% of care home residents aged 60 years and over were found not to be frail. It is not known to what degree institutionalisation in itself affects frailty.

A study assessing frailty amongst those aged 75 years and over admitted as an acute medical admission to a district hospital in England, reported that 56% were frail[8]. Out of these, the majority (81%) presented with lack of mobility for over 24 hours, 70% were admitted with falls and nearly 50% were admitted with known dementia or delirium. Overall, 45% were admitted from a nursing home. Although this was a small study (n = 232) and did not include out of hours admissions, it does indicate that a substantial proportion of admissions of older individuals are related to frailty and raises the question as to whether earlier intervention could have been put in place which would have prevented admission in at least some cases.

The three year outcomes of frailty are shown in Table 5.4.

Table 5.4 - Three-year outcomes in those with or without frailty, aged 65 years & over[1]

Outcome	Incidence over 3 years		Hazard Ratio*		Relative Risk#	
	Not frail	Frail	HR	95% CI	RR	95% CI
Worsening ADLs	8%	39%	1.98	1.54-2.55	5.61	4.50-7.00
Worsening mobility	23%	51%	1.50	1.23-1.82	2.68	2.26-3.18
First fall	15%	28%	1.29	1.00-1.68	2.06	1.64-2.59
First hospitalisation	33%	59%	1.29	1.09-1.54	2.25	1.94-2.62
Death	3%	18%	2.24	1.51-3.33	6.47	4.63-9.03

[1] From the results of Fried LP et al[3]
* correcting for factors also know to predict frailty e.g. age & gender
# based on the incidence measure at 3 years

Electronic Frailty Index, (eFI)[4] which is based on Primary Care electronic records (see Table 5.5), predicts adverse outcomes . Identification using the eFI affords the opportunity to put in place evidence-based interventions to improve outcomes in a community setting.

Table 5.5 - Adverse outcomes in older patients identified as frail using the eFI in primary care

Frailty	Hazard Ratio over one year		
	Mortality	Hospital admission	N. Home admission
Mild	1.92 (1.81-2.04)	1.93 (1.86-2.01)	1.89 (1.63-2.15)
Moderate	3.10 (2.91-3.31)	3.04 (2.90-3.19)	3.19 (2.73-3.73)
Severe	4.52 (4.16-4.91)	4.73 (4.43-5.06)	4.76 (3.92-5.77)

Source: Clegg A et al.[4]

Prevalence of frailty across NHS Highland

On the basis of the published work considered in the previous sections, this section presents what can be inferred for the population of NHS Highland in terms of the likely numbers with frailty in different situations and settings.

Table 5.6 - Expected numbers of older frail persons living in the community by area in NHS Highland

	Prevalence of frailty		Expected numbers of persons with or without frailty					
			Argyll & Bute Council		Highland Council		NHS Highland	
Age group	Men	Women	Non-frail	Frail	Non-frail	Frail	Non-frail	Frail
60-69	6.0%	7.0%	12,341	860	30,416	2,117	42,757	2,977
70-79	10.5%	14.5%	8,235	1,189	18,692	2,700	26,927	3,889
80-89	24.0%	37.0%	2,989	1,394	7,163	3,324	10,152	4,718
90 & over	65.0%	57.5%	351	515	789	1,174	1,139	1,690
All	**12.0%**	**16.0%**	**23,916**	**3,958**	**57,059**	**9,316**	**80,975**	**13,274**

Source: Gale CR et al.[9] applied to 2016 mid-year population estimates

Overall, across NHS Highland there are an estimated 13,000 frail older people living in the community and around 1,100 in residential care homes.

Table 5.7 - Expected numbers of older frail, long stay residents of care homes in NHS Highland

Age (years)	Prevalence rate[1] (95% CI)	Estimated prevalent numbers (95% CI)		
		Highland Council	Argyll & Bute Council	NHS Highland
60-69	49.0% (23.1%-75.2%)	116 (55-178)	17 (8-26)	133 (63-204)
70-79	45.5% (32.0%-59.4%)	208 (146-271)	85 (60-112)	293 (206-383)
80 & over	61.8% (48.0%-74.6%)	545 (424-658)	165 (128-199)	710 (552-857)
All ages	52.3% (37.9%-66.5%)	824 (597-1048)	256 (185-325)	1,080 (783-1373)

[1]From Kojima G[7] prevalent rates applied to numbers of long-stay residents (defined as intended to be a permanent resident at time of admission plus any short-term resident who is a still a resident after 6 week) in older peoples (majority aged 65 years & over) Care Homes from the Scottish Care Homes Census, 2016.

During 2015/16, there were over 15,000 discharges of NHS Highland residents aged 65 years and over from Scottish hospitals after an emergency admission. The majority (82%) were in hospitals within NHS Highland. In turn, most of these admissions (82%) were to the four acute and rural general hospitals (Table 5.8).

Application of the prevalence rate of frailty, as per a reported Scottish study[10] to hospital emergency stays in Raigmore District General Hospital and the Rural General Hospitals across NHS Highland during 2015, provides an estimate of the number of emergency admissions involving older people with frailty during a year.

There were over 1,700 admissions to the main four hospitals (Table 5.8). However, there were a further 2,200 emergency admissions to our community hospitals and the prevalence of frailty amongst those are likely to have been much higher in comparison to our four main hospitals (Table 5.8). It should be noted that emergency admissions are approximately fifty percent of the total admissions.

Table 5.8 - Estimated emergency admissions, NHS Highland residents aged 65 years, 2015/16

Hospitals	Hospital admissions[1]	Estimated number with frailty[2]
	Number	
Acute and Rural General Hospitals		
Belford Hospital	700	119
Lorn & Islands Hospital	991	168
Caithness General Hospital	1,420	241
Raigmore Hospital	9,944	1,180
Total	**10,055**	**1,709**

[1] Continuous Inpatient Stays (admissions coded as 30-36 inclusive and 38 & 39)
[2] Average prevalence (17%) from Poots et al[10] applied to SMR01 extract of NHS Highland residents

Frail older people with an 'end of life condition' in their last year of life in NHS Highland have been estimated at around 2,500 (800 in Argyll & Bute and 1,700 in north Highland), 750 dying in an acute hospital, the same number in their own homes, and under 600 in care homes.

The following chapter will consider how we can respond to frailty through considering effective interventions and alternative models of care.

Realistic Medicine Case Study

Attend Anywhere service which reduces waste and variation in practice

"It is much more convenient to be able to have a private 1:1 conversation with a professional from the privacy of my own home."

Pilots are underway using Attend Anywhere, which is a web-based platform that helps healthcare providers offer video call access to their services as part of their 'business as usual', day-to-day operations. It is designed to make the system more efficient for clinicians, patients, carers and families by reducing travel time and the stress associated with attending a medical facility.

The Pharmacy Anywhere project started because of difficulties recruiting pharmacists in remote and rural areas, but initial experience suggests some patients prefer the service because it is more convenient than attending an appointment in person. The pilot involves connecting the pharmacist with the GP practice, where the pharmacist uses Vision Anywhere to remotely access the patient's medical records and connecting the pharmacist and the patient. The patient is given a choice of having an Attend Anywhere video consultation via their own computer/smartphone or a traditional telephone call.

Realistic Medicine Case Study

Allied Health Professionals (AHPs) support innovative interventions to reduce harm, manage risk and reduce variation

Occupational therapists across Highland are working to support people to live with, and manage their own conditions; often by delivering rehabilitation programmes alongside self management information that maximises independence in day to day activity. This includes provision of specific advice and support into workplace and leisure activity to promote health and wellbeing.

- Physiotherapists and public health specialists are working with Hi-Life Highland to further develop a range of targeted exercise programmes and making these available in local communities for people with a range of health conditions, including cardiac rehabilitation. This work builds on the Otago classes that are delivered to people at risk of falls and aim to reduce harm and manage risk more effectively in the community.
- Speech and Language Therapists are continuing to develop the use of video-conferencing technology to support the remote delivery of one to one therapy and reduce variation in access.
- Speech and language therapists and occupational therapists have worked alongside teachers in Highland to develop a programme to better support the development of literacy skills in primary one children, providing a firm foundation for children's education and reducing variation in literacy.
- AHPs in Argyll and Bute are working in partnership with 3rd sector organisations and community groups like Lorn Healthy Options and the Strachur Hub to refer people with long term health conditions or frailty to exercise classes in their community. These programmes have enabled participants to regain physical ability and have improved wellbeing. People taking part in the classes also benefit from peer support in group activities.
- Occupational therapists in Argyll and Bute work in partnership with community team support workers and homecare providers to help people regain independence in activities of daily living. This is called re-ablement and ensures people can regain as much ability as possible therefore minimising the need for ongoing care at home.

Realistic Medicine Case Study

ENT transformed service delivery model to improve their service, reduce waste and manage risk better

The ENT department has made improvements to their outpatients service making more effective use of time and reducing waiting lists. Nurse led clinics have increased capacity and utilised expertise within the service. Implementation of balance clinics lead by Allied Health Professional Service has also resulted in more efficient use of staff skills and expertise.

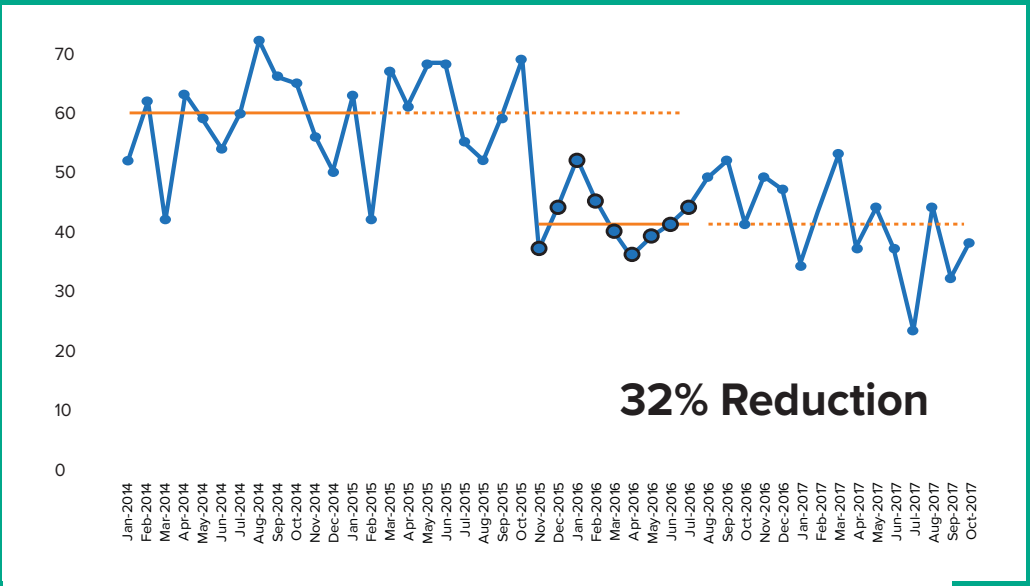
Provision of joint audiology and ENT clinics has reduced appointment times for patients and improved flow. This has reduced waste through unnecessary hospital visits. Referrals are now vetted electronically, which helps to streamline the service improves risk management and frees up capacity to deal directly with patient care. This transformation work was started in October 2016 and by August 2017 the number of patients waiting more than 12 weeks for their first clinic appointment had reduced from 965 to 84.

Realistic Medicine Case Study

Reducing falls and improving orthopaedic pathways

The Scottish Patient Safety Programme, with leadership by the Nurse Director and Senior Quality Improvement Lead (Patient Safety) have used a falls bundle, linked to quality improvement methods to substantially reduce the number of inpatient falls in NHS Highland.

New orthopaedic pathways have been developed for patients with foot and ankle problems, spinal, trauma conditions and post-operative arthroplasty care. This has reoriented the care provided to ensure that it is more patient-centred, uses the skills and abilities of the whole team and reduces variation in practice.



NHS Highland Inpatient Falls With Harm, All Ward Areas, Jan 2014 – July 2017
Source: Maryanne Gillies, Senior Quality Improvement Lead, NHS Highland

Key points

- The strongest risk factor for frailty is age but not all old or very old adults are frail, nor is it always associated with co-morbidity or disability.
- Frail individuals have up to ten times the rate of adverse outcomes such as falls, hospitalisation, care home admission, procedure complications, and are less able to adapt to stressors such as illness and trauma.
- Identification of frailty in older adults is important, as is a more structured approach to interventions in this group, and depends on agreement on assessment tools and methods.
- Estimated frail populations in NHS Highland are:
  - >13,000 living in the community
  - >1,000 living in older peoples care homes
  - ~2,000 admitted to NHS Highland hospitals per year
  - ~2,500 in their last year of life with a defined end of life care condition.

Chapter Six -
Responding to frailty

This section explores how we can respond to and manage frailty through specific interventions and models of care. Such interventions can reduce the likelihood of frailty leading to adverse outcomes such as loss of independence, falls and preventable hospital admissions.

Tackling muscle loss

Perhaps the biggest contributor to frailty is sarcopenia, that is loss of muscle mass and function. Most muscle loss does not seem to be an inevitable part of the ageing process but seems to be associated with a Western lifestyle, where retirement is seen as a time when one would expect to deteriorate physically and to undertake less activity. Hospitals have traditionally exacerbated muscle loss by restricting the extent to which patients (in the recovery phase) move around and are encouraged to act independently.

Perhaps one of the biggest challenges in terms of inpatient care in our current models is reducing muscle loss during admission. The recent Nottingham University Hospital social media #endPJParalysis campaign, endorsed in NHS Highland, has sought to increase the number of hospital inpatients who are encouraged to get out of bed and dress in day clothes, to support their rehabilitation and recovery[1]. Muscle mass and strength does peak in early adult life, but the rate at which it declines thereafter has a significant effect on the risk of frailty in old age (Figure 6.1).

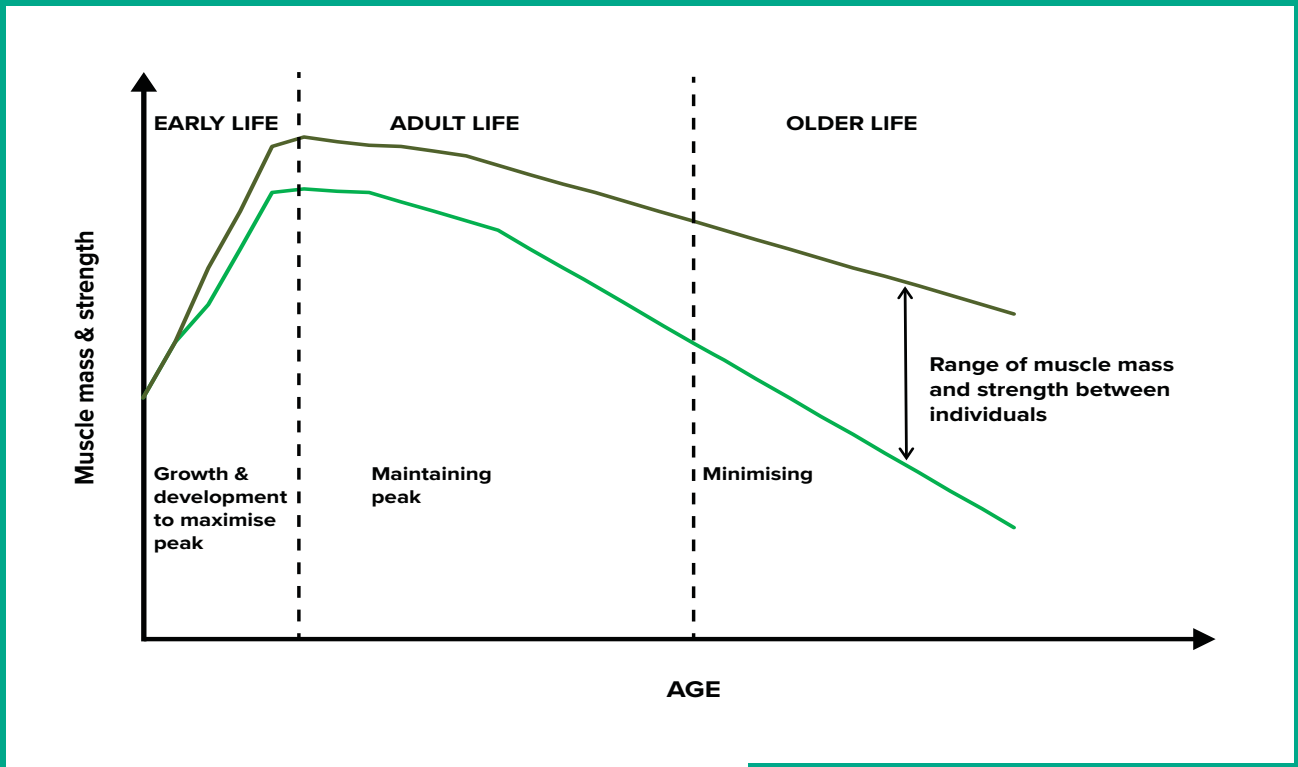


Figure 6.1 - Life course changes in muscle mass and strength
Source: Based on Sayer AA et al.[2]

A Cochrane Systematic Review[3] indicates that progressive resistance strength training (PRT) improves physical functioning in older people. This involves participants exercising against increasing external loads several times per week. Other types of exercise involving gait, balance, co-ordination and functional exercise have also been associated with decreased risk and rate of falls and with improvement of balance in older people[1].

Amongst the exercises associated with better clinical balance outcomes are those with three dimensional range including tai chi, qi gong, and dance[4]. Nutrition is also important, although the evidence for supplements is poor[1,5].

Models of specialist geriatric care

One method of responding to increasing levels of frailty is to consider alternative models of delivering specialist geriatric care, within hospitals, across the hospital-community interface, and in the community. A literature review of published evidence for different models by setting[6] found that in-hospital geriatric-specific rehabilitation is effective in increasing functionality and in reducing discharge to nursing home. This is particularly so for orthopaedic patients.

Hospitalised patients have better outcomes with care delivered by geriatric-specific and multi-disciplinary teams, particularly when these are delivered in designated units or wards. A local example of this approach has been the integration of geriatric and surgical care for patients with hip fractures. In 2017, the Ward 3A team in Raigmore Hospital, who have led on this work, won the Golden Hip award for meeting the most audit targets in fractured hip management.

Across the hospital-community interface, most of the evidence has come from the care in the post-acute phase. Models such as Geri-FITT include follow-up after discharge by telephone and by communication with primary care providers within 48 hours of discharge. Overall, there appears to be some evidence that patient outcomes may be improved across the hospital-community interface by such models, but it is not clear which specific health inputs produce the improvements.

In the community, Medical Day Hospitals, when compared to no treatment, are associated with better patient outcomes such as Activities of Daily Living and decreased use of hospital beds. There is a paucity of research evaluating the effectiveness of direct input of specialist Geriatric services to Care Homes, but assessment of people at risk of admission to nursing homes by a Geriatrician may reduce deterioration of functions, lower stress for carers, and reduce service contacts and costs.

Medication reviews may also have some benefit for patients in nursing homes as demonstrated in Hawaii, when undertaken by a geriatrician. This intervention resulted in reductions in poly-pharmacy, ineffective medications and potential drug-interactions. The evidence for the role of Geriatricians in Primary care is weak, although one study has demonstrated lower hospitalisations and costs for patients assessed by a Geriatrician.

There is evidence for the effectiveness of multi-dimensional preventative home services (out with discharge planning/rehabilitation/case management specific services) in improving functional status when a clinical examination was included. There may also be benefit in screening for frailty in the community. Further review of all of the above has been provided in a separate review by the NHS Highland Public Health team[6].

Examples of models of care in NHS Highland

The acute hospital setting is in many cases, not the most appropriate setting for older people who are frail or who have an end of life condition. Therefore a decrease in the rate of emergency admissions and the associated length of stay is desirable in this population. Assistance with self-management, urgent day care or ambulatory assessment, and a move towards more proactive, anticipatory care and support in the community are expected to facilitate this. Supporting people to be more confident in managing their long-term conditions and providing coordinated care and support at home when it is safe and appropriate are key aspects of the Scottish Government's healthcare 2020 vision and of a Realistic Medicine approach.

The extension of secondary care into the community by using hospital based Geriatricians to work directly with nine General Practices is being piloted in North Highland. The expectation is that in addition to enhanced patient care, this arrangement will result in a reduction in the rates of emergency admission to hospital for older people.

An initial evaluation of Geriatricians working with nine GP Practices in North Highland indicates improvements in some GP practices but not in others (Figure 6.2).

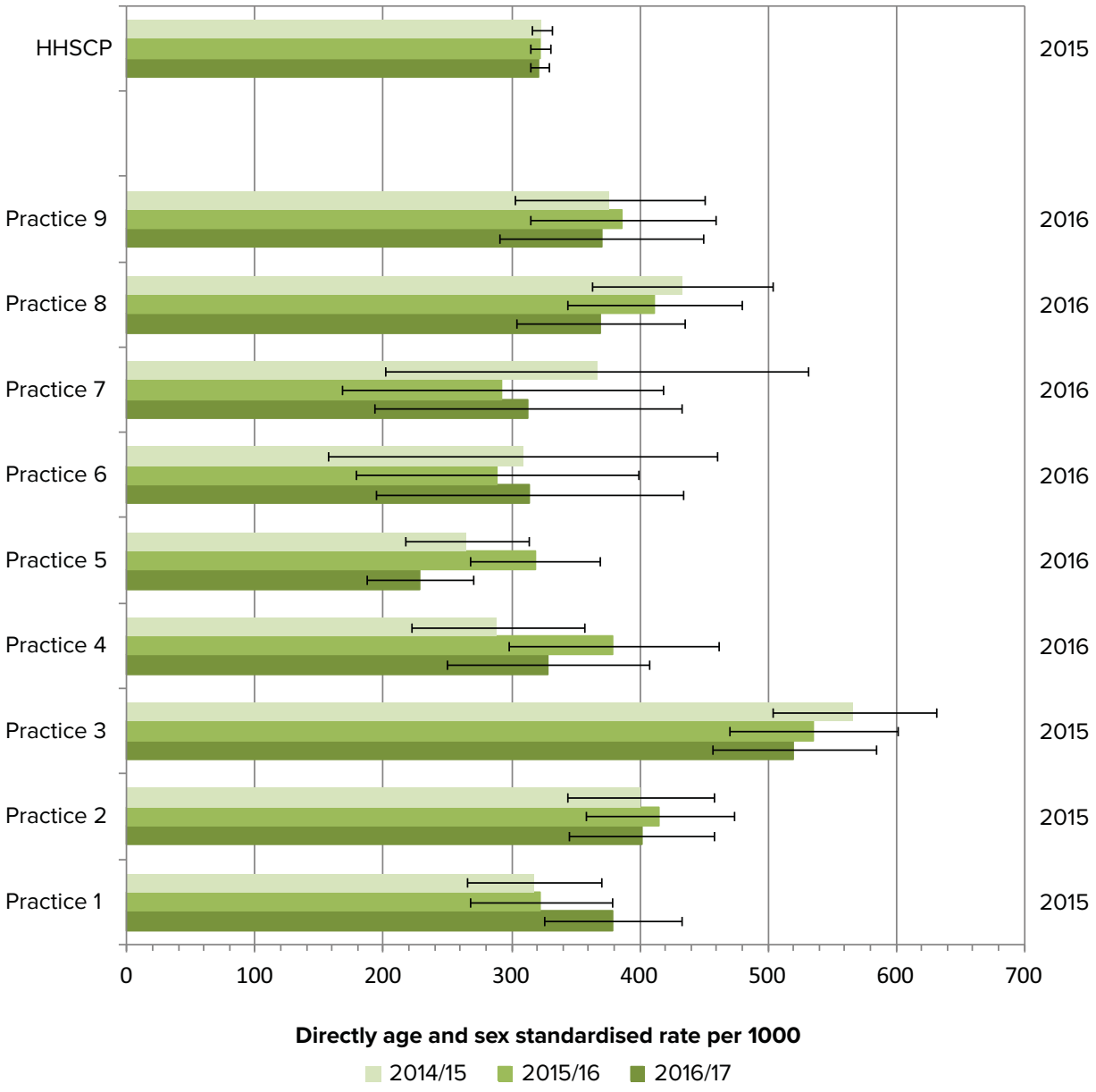


Figure 6.2 - Annual emergency admission rates, standardised for age and sex, in those aged 75 years and over by GP practices with Geriatrician involvement[1], 2014 - 17
Source: Hospital activity from PMS and CHI populations: directly standardised to European standard population 2013, provided by Public Health Intelligence, 2013

[1]The year of first involvement with the Geriatrician service in the GP Practices is shown in the right hand vertical axis

There is a wide variation in the rates of emergency hospitalisations of older people between GP Practices with or without Geriatrician input (Figure 6.3) and an understanding of the reasons for this may reveal what factors are involved in the lower and higher rates and lead to future areas of improvement.

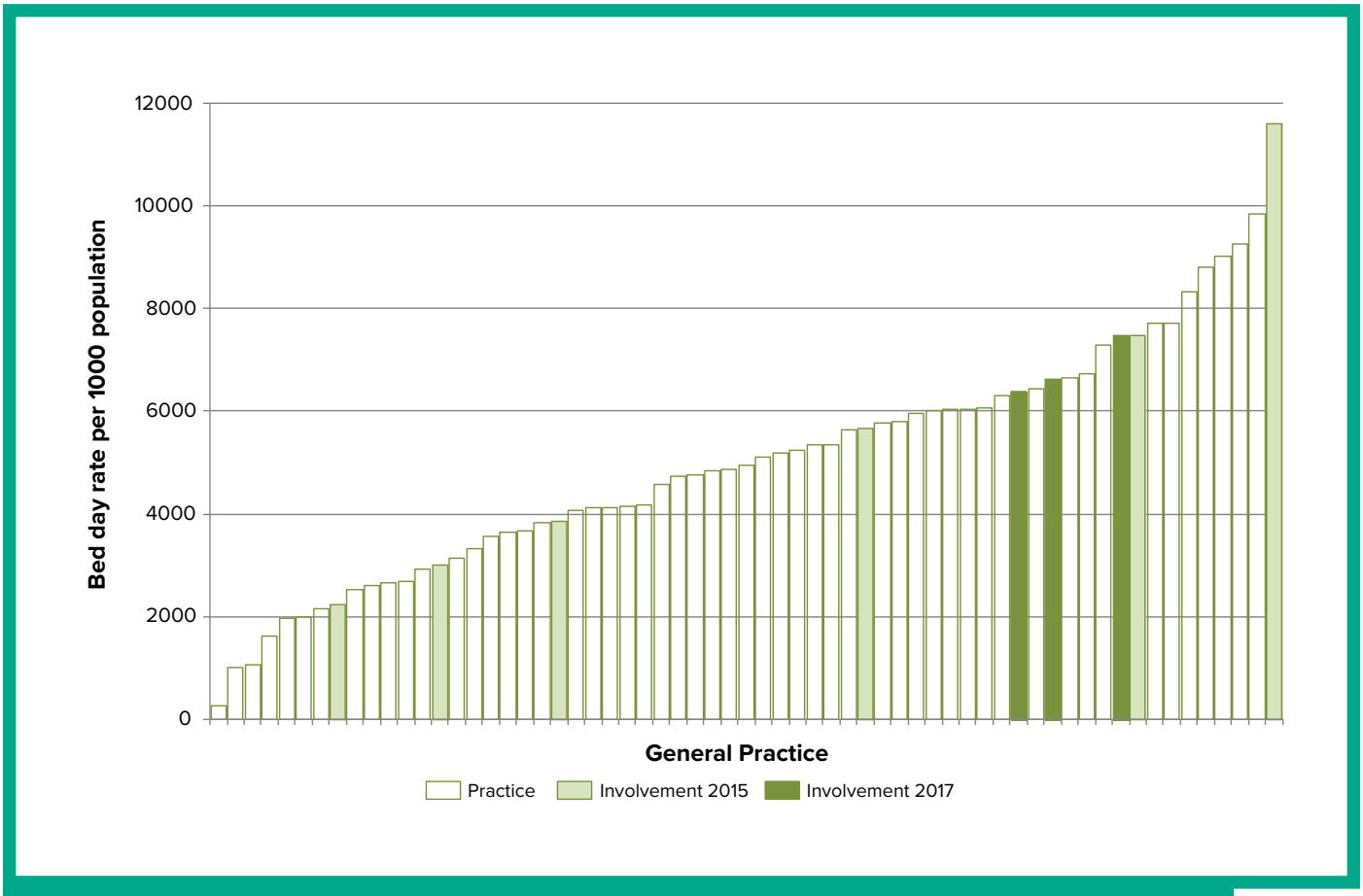


Figure 6.3 - Directly standardised rates of emergency bed days of those aged 75 years & over for General Practices in the Highland Health & Social Care Partnership: 1st April 2016 to 31st March 2017
Source: Hospital activity from PMS and CHI populations: directly standardised to European standard population 2013, provided by Public Health Intelligence, NHS Highland

Realistic Medicine Case Study

Joint working with GPs in Community hospitals

Geriatricians are now aligned to Community Hospitals in North Highland. General Practitioners provide the majority of medical care in community hospitals, particularly for older adults. Consultants now link in on a regular basis to our community hospitals to work alongside GP's, developing a hub and spoke approach to delivery of care, particularly in remote and rural areas.

This brings in specialist expertise when needed, and makes more efficient use of time as decisions about care can be made quicker and more efficiently. It also prevents patients having to travel long distances to attend acute hospital appointments. This approach has been developed in Invergordon Hospital, the Royal Northern Infirmary, Nairn and Ross Memorial hospitals.

Realistic Medicine Case Study

Multidisciplinary team reviews in care homes

The care home sector is vital to the overall health and well being of a large number of frail adults. On any given day, across Scotland, more adults are looked after by Care Homes than Hospitals.

To try and support adults and those caring for them in what is effectively their own home a programme of regular Multidisciplinary Reviews of adults in care homes is rolling out steadily across Highland. The teams involve Consultants, GP's, Care home staff and Allied Health Professionals who discuss and clarify medical and medication management on a planned basis.

Reducing unscheduled care admissions

Unplanned hospital admissions account for nearly 50% of all admissions to acute hospitals in NHS Highland and of these, 47% involve patients aged 65 years and over. A review of interventions to address this unscheduled care admissions has been undertaken by the NHS Highland Public Health team[7]. Some of the findings are summarised in Table 6.1.

Table 6.1 - Interventions involving older adults for which there is evidence of effectiveness in preventing admission to hospital

Intervention	
Community Health & Social Care Integration with generic case management[1]	
Telehealth Care in Long Term Conditions	
Discharge Planning: hospital to home	
Nurse-led units[2]	
Prevention of falls in community dwellers	Tai-Chi group exercise
	Multi-factorial
	Individualised, multi-component exercise at home
	Gradual withdrawal of psychotropic medication
	First eye cataract surgery
Vitamin D supplementation in care facilities	
Prevention of falls in hospital	Multi-factorial
	Supervised exercise
Case management of Heart Failure	
Ambulance call out to fallers/minor injuries (Emergency Care Practitioners/Paramedics)[3]	

[1]Involves assessment, planning and facilitation, usually by a case manager to obtain services to meet an individual's health needs.
[2]Based in community, acute or satellite hospitals, the care is managed by nurses and the lead therapy was nursing.
[3]Interventions included (i) specially trained paramedic attending older people with minor injury or illness for whom a 999 call had been made. (ii) Attendance by an Emergency Care Practitioner to older people who had fallen and received an ambulance call-out. This resulted in 50% fewer being transported to hospital and over 50% avoiding subsequent hospital admission within 72 hours.

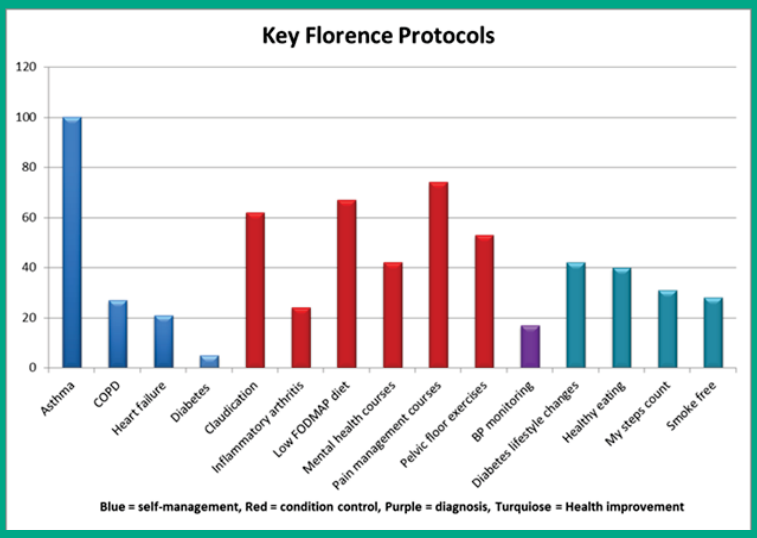
Source: Based on the report of the Review of the evidence for the effectiveness of interventions to reduce hospital admissions of older people (on NHS Highland internet site (http://bit.ly/2uKnL37))

The table indicates that some nurse-led units, tele-health care use in long-term conditions, discharge planning from hospital to home, case management in heart failure and integration with generic case management can reduce hospital admissions in those who are frail and elderly.

Realistic Medicine Case Study

Florence Tele-health Technology to reduce variation in access, reduce resource waste and support a personalised approach to care

Florence is an automated, interactive text messaging service, used to deliver a programmed series of text messages to patients, supporting people with a wide range of health conditions – including asthma, COPD, diabetes and heart failure.



Florence's messages provide tips, advice, reinforcement and reminders to patients, as well as prompting them to take readings such as peak flow, SATS, BP, blood glucose and weight, and smking cessation advice. In this way Florence promotes self-management, enabling patients to understand, monitor and manage their own health condition, while also giving healthcare staff the opportunity to monitor their progress remotely.

Since 2015, 1368 patients across NHS Highland have used Florence to manage chronic conditions or engage with health improvement techniques. The range of protocols Florence supports is shown in the graph.

Trials have also begun using the Florence automated texting service in the Invergordon Community Midwifery Team. Antenatal texts commence from 16 weeks, and include, reminders around appointments, foetal movements, maternity records, smoking and alcohol, and scans. Later prompts include information on baby's development, healthy start vitamins, diet, appointments, foetal movements, and what to do if concerned.

The text service concludes with five evaluation questions being sent to women in order to monitor satisfaction and includes; whether they would recommend Florence, whether it helped them to remember appointments, whether it helped increase their awareness around foetal movements, and whether they have any ideas for improving the service. Finally they are asked whether they are happy to be contacted further.

While no women have yet reached the end of the trial, initial feedback is very positive, with only a tiny minority who are offered the service choosing not to engage. Staff report that women appear to be more proactive in making and keeping appointments and that there are fewer appointments missed. Staff also report increased awareness and understanding of foetal movement, and reporting of issues. Overall feedback is positive with a view that Florence is another valuable tool in the overall aim of improving ante-natal care.

Florence combines the expertise of health care teams with the convenience of using the patient's own mobile phone. Using this service enables healthcare staff to offer a person-centred approach to healthcare while at the same time making best use of innovative healthcare resources.

Realistic Medicine Case Study

Video Conferenced Multidisciplinary Meetings to reduce variation in practice and minimise waste

Innovative approaches to care are being implemented in Ballachulish, Lochinver and Armadale where video-conferencing technology is being used for multidisciplinary patient reviews. This has allowed more efficient use of resources, particularly for some of the most remote practices where regular video conferencing meetings are held between primary care and other teams and professionals to discuss complex cases.

Realistic Medicine Case Study

Myth Busting Back Pain supports shared decision-making through information provision

Back pain is currently the largest reported reason for sickness absence in the UK and has the largest referral rate to physiotherapy service. The campaign explores and challenges beliefs about back pain and has created opportunities for conversations regarding back pain, reassuring people that short term back pain can be common and normal. This campaign also advises on self management of short term back pain.

Realistic Medicine Case Study

Supporting People Living with Chronic Pain

Long term conditions and ageing are often associated with chronic pain and this can be extremely debilitating for people. There is clear evidence that supporting people to self manage their health can reduce chronic pain and this approach is adopted in Argyll and Bute's partnership response to pain management. The Public Health Department has engaged Arthritis Scotland to deliver a contract with two aspects:

- Recruiting and training volunteers to deliver Tai Ch'i for Health in their communities.
- Training and supporting front line health professional in delivering the Pain Toolkit with the people they provide health and social care for. The toolkit has 12 sections including goal setting, prioritisation, getting involved, physical activity and relaxation.

Key points

- To reduce frailty we need to promote interventions that improve physical functioning by increasing muscle mass and strength, particularly progressive resistance strength training, exercise involving gait, balance, co-ordination, and encourage walking on a daily basis.
- The effectiveness of dietary interventions are subject to more uncertainty but a healthy diet is important in preventing and addressing frailty.
- A life-course approach to optimising peak muscle mass and strength in early life, maintaining this in adulthood, and reducing their rate of loss in older adulthood presents a strategy for reducing the rate of frailty in our population.
- For hospitalised patients, better outcomes for patients are associated with care delivered by geriatric-specific and multi-disciplinary teams, particularly when these are delivered in designated units or wards.
- Interventions that reduce hospitalisation include certain types of nurse-led unit, tele-health care for long-term conditions, discharge planning from hospital to home, case management in heart failure and integration with generic case management.
- We need to maximise the network of support around every patient using tools such as eco-mapping, so that they have the right support to improve their health, manage their condition and maintain independence.


Fire exit
ACTIVE

Chapter Seven - Sustainable solutions

We have seen that there are a range of related healthcare movements in the UK including Realistic Medicine, Prudent Healthcare and Choosing Wisely and that these movements can help create a more sustainable approach to health and social care over the next few decades. We have reflected on the six key elements in Realistic Medicine: shared decision-making; a personalised approach to care; managing risk well; reducing harm and waste; reducing unnecessary variation and improving and innovating.

Realistic Medicine primarily uses a lens that focuses on individual care and the public health challenge is to extend the principles of Realistic Medicine to decision making at the population level, particularly in relation to harm and variation. From a public health perspective variation often indicates inequality in access or health due to the wider socio-economic determinants of health.

Figure 7.1 shows a hierarchy of Realistic Medicine components which applies Realistic Medicine at a population level. Shared decision-making, a personalised approach to care and good management of risk can be considered as underlying principles in service design. Managing unnecessary variation, and reducing waste and harm are actions that contribute to good, safe, care delivery. Achieving all these actions also requires a focus on quality, improvement and innovation.

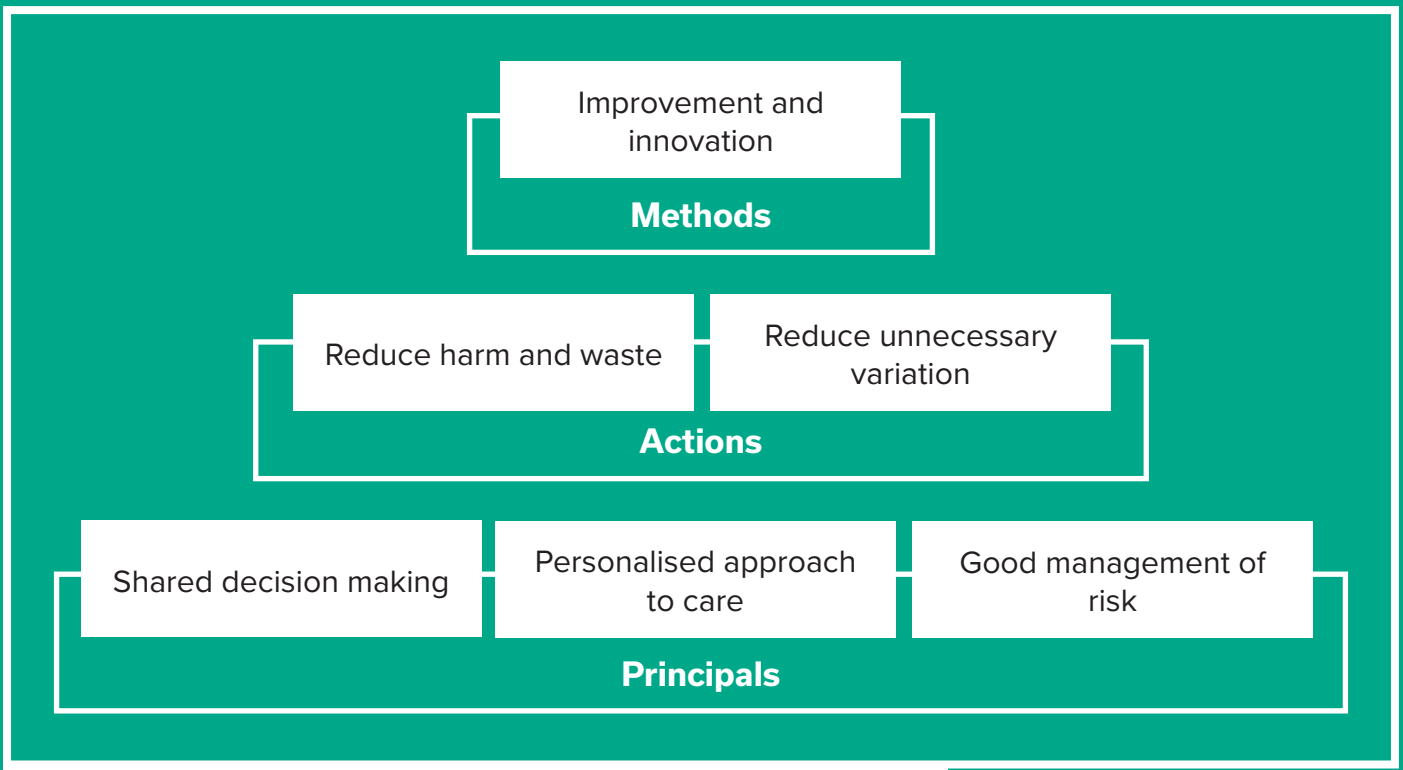


Figure 7.1 - Potential layers of Realistic Medicine from a population perspective
Source: Dr Cameron Stark, NHS Highland

Sustainable quality

NHS Highland has developed a Highland Quality Approach (HQA), see Figure 7.2 on page 66, as its basis for quality improvement. The HQA approach is based on methods used in business over the last 70 years and which have been adopted by healthcare organisations such as Virginia Mason, Bellin Health and ThedaCare.

Figure 7.2 - The Highland Quality Approach

The HQA triangle (Figure 7.2) puts care of the individuals at the top of its aims but also has a vision which is very population focused: "Better Health, Better Care and Better Value". It is important to acknowledge that there can be tensions between the principles of personalised care and shared decision making at an individual level and population level actions taken to plan services which minimise waste and harm and provides a sustainable service for a population as a whole. A holistic model, such as the HQA provides a basis for bringing these together.

NHS Highland has invested in strong quality improvement leadership, with a Director of Transformation and Quality Improvement, specialist improvement support staff, ownership of the approach at executive level and a training programme that has touched thousands of members of staff with key messages around a sustainable approach to quality: removing waste, harm and excess variation to both improve quality and reduce cost.

The organisation uses a large number of quality improvement tools including: Rapid Process Improvement Workshops, process mapping, visual controls, huddles to inform daily management, 5S (Figure 7.3) and a range of related techniques to improve and sustain quality. All of these have a key role in delivering the goals of Realistic Medicine or Prudent Healthcare.

Figure 7.3 - The 5S approach to Quality Improvement
Source: http://bit.ly/2hSNTo7

Innovation is also a key component of sustainable quality. The Research and Development Department within NHS Highland is undertaking a large number of innovative projects that provide sustainable solutions based on the concepts within Realistic Medicine, for example, a capsule incorporating a camera that can be swallowed and which photographs the intestine, removing the need for an endoscopy, which is much more invasive and utilises greater NHS resources.

NHS Highland has strong academic links with a wide range of partner organisations. Joint working with local government colleagues in Highland, Argyll and Bute and increasingly at regional level, provide an opportunity to learn from each other. There is also the opportunity to benchmark performance using tools developed by National Services Scotland such as Source and Discovery databases.

The delivery of a quality service involves considering a number of factors including the 'opportunity cost'. This is, the principle that any use of a resource forgoes alternative uses of that same resource. For example, NHS Highland could prioritise one aspect of quality, the provision of specialist treatment close to home, but at significant cost. However, as the volume of such a treatment would be low, the technical quality would generally be less than that of a larger specialised centre and

the costs would generally be much higher. Funding such a service may not be in the best interests of the patients who receive it and may divert considerable resource from other patients, where it would yield better value. In such circumstances most people prefer to have better care further from home, even although this involves additional travel[1]. The language of 'opportunity cost' can be useful in assessing such tradeoffs.

A commonly used model which similarly expresses the balance of different factors required to deliver sustainable health service planning is the triangle of cost, quality and time (Figure 7.4). Additional emphasis on one corner of the triangle can only be uncertaken at the expense of the other two. Some of the trade-offs that need to be considered in delivering sustainable, prudent and realistic services across NHS are provided below. It should be emphasised that these are illustrative and that others could also have been chosen.

Sustainable Care

Care homes have traditionally been used to provide care for the frail and the elderly. However, there are major challenges in sustaining this model[2]. The reimbursement of places in care homes is based on a National Care Home Costing Model. This model appears to make the financial assumption that care homes have at least 48 beds, as care homes of this size have significantly reduced costs per person.

In rural areas such as NHS Highland, care homes can rarely be as large as this, as local demand is not sufficiently high to fill large care homes, and it is extremely difficult to get enough staff to support them. It is almost impossible for a commercial provider to deliver care in such an area, resulting in the public sector having to step in to provide this care at a far higher cost per person.

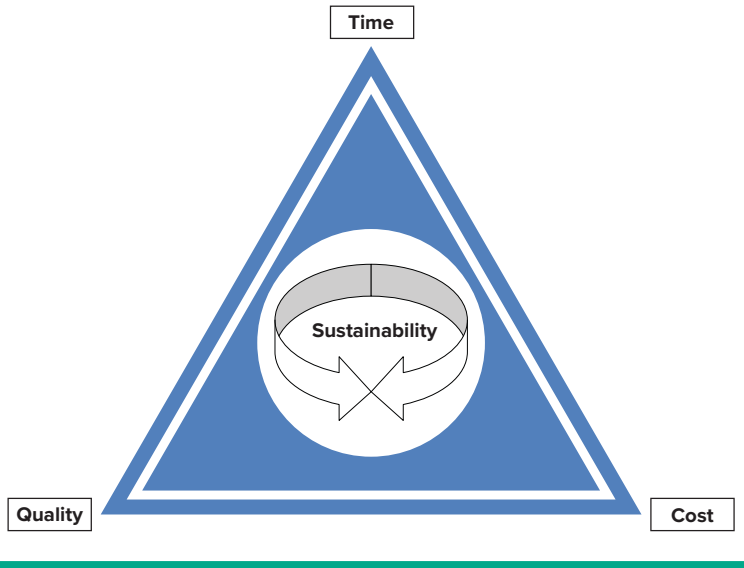


Figure 7.4 - Balancing Time, Quality and Cost to deliver sustainability

The consequence of spending money on high cost care in remote and rural areas is that there is an 'opportunity cost' involved and less money is consequently available to provide other services for other individuals. This trade off is widely recognised and it is generally accepted that rural areas have to be subsidised. However, what is particularly difficult is to differentiate a reasonable additional cost to ensure access in a remote or rural area from an unreasonable additional cost to make services available locally in such a context.

At its most extreme, few of us would build a care home for one person on an island which had only had five people. Doing so might cost 100 times as much as the average cost of a place in a care home. But should we provide a care home in a small community that costs four times as much per person as the average for a care home? What constitutes a reasonable additional subsidy for each incremental step in remoteness?

Sustainable Staffing

The ratio of people of working age to people of retirement age is changing, with fewer working age people relative to those above retirement age. In rural areas with low unemployment, other sectors compete with the care sector for staffing. This is particularly the case during the summer when tourism is at its height and there is a shortage of staff in the hospitality sector. This challenge is likely to worsen as the age structure of the population continues to move towards a reduced younger:older ratio (Figure 7.5).

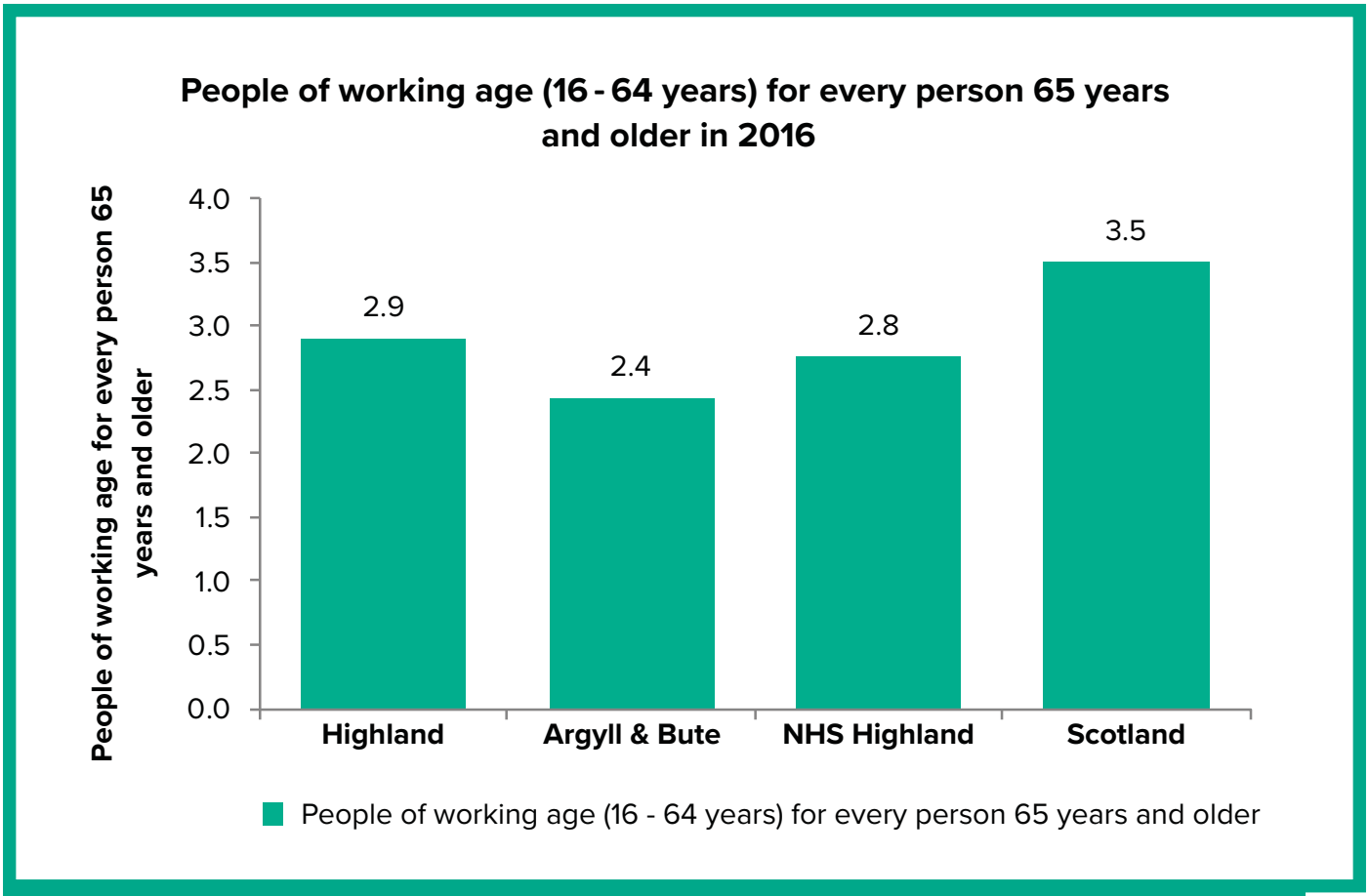


Figure 7.5 - People of working age (16-64 years) for every person 65 years and older in 2016
Source: National Records of Scotland, 2016 mid-year population estimates. Available at: http://bit.ly/2yZWfSd

Across Scotland there are 3.5 people of working age for every person aged 65 and over, this reduces to 2.4 people of working age for Argyll and Bute.

Long term solutions need to be found to the care needs of an ageing western population. New technological developments; examples of which include the use of robot companions in care homes or semi-automated living environments, may revolutionise the way in which we live, in sufficiently affluent societies. These are being piloted, particularly in Japan, but are still a number of years away[3]. We also need to empower communities to find local solutions to caring for those in their own communities and recognise that an approach which relies on the state to solve problems by funding more and more services is unsustainable. The Community Empowerment Act, 2015, has the potential to support such a societal change but will require significant support to ensure that it does not increase social inequity[4].

We need to recruit students locally and provide education locally, so that we train individuals who then stay to live and work in the community they know. There is a need to use workforce planning tools and work with local training providers, particularly the University of the Highlands and Islands (UHI), which uniquely provides both further and higher education, to recruit, train and continually professionally develop staff to undertake a range of health and social care roles. Remarkable

progress has been made in this regard with recent developments around a UHI School of Nursing, training of medical students via ScotGEM, work towards a Care Academy, and the possibility of training a range of Allied Health Professionals within the Highlands and Islands and Argyll and Bute.

Sustainable Financing

There are a range of challenges in delivering sustainable financial models in a health board with the geography of NHS Highland. Some of the challenges in creating a sustainable financial framework that expresses the principles of Realistic Medicine or Prudent Healthcare are addressed below.

Existing health and social care infrastructure across Highland and Argyll and Bute reflect historic rather than current or future need and creates distortions to expenditure contributing to large geographical variations in cost per case. The historic location and configuration of primary and secondary care buildings and facilities needs reviewed, particularly given the demographic changes anticipated in this report.

The increasing availability of expensive technological solutions, which have a small incremental benefit, presents a significant challenge in the context of Realistic Medicine or Prudent Healthcare. Most individuals requiring expensive technological solutions are not treated locally, but are reviewed and agreed by a local 'out of area referrals' process. Requests for treatment are considered by a multidisciplinary panel, chaired by the Director of Public Health, called the Clinical Advisory Group. There can be a mismatch between personal hope in an emerging treatment, and the evidence base. This is particularly the case when significant sums are required for a course of treatment that is highly experimental, with only a slim chance of success. Wherein such cases, the wishes of an individual, however understandable, need to be carefully assessed and balanced with the clinical evidence, endeavouring to provide the best possible care for each and every individual.

Figure 7.6 - Poster for 'Okay to ask' initiative

An excessive focus on cost can be harmful and result in a loss of compassion and a failure to do the best that can be done for each patient. On the other hand, there is an opportunity cost in providing very resource intensive care for one individual, or for a small group of individuals, which is associated with a more hidden but very real loss of an opportunity to treat other patients. Figure 7.6 provides an example of an initiative which encourages patients to question clinical staff from a Realistic Medicine perspective.

Health economic approaches have been developed to address the challenge of assessing new treatments against current options, using the concept of an incremental cost per Quality Adjusted Life Year (QALY). This approach is open to a range of major criticisms around the measurement techniques that are used by health economists, but the Incremental Cost Effectiveness Ratio (ICER) is widely used as one of a number of factors guiding resource allocation decisions[5].

It is not clear what ICER threshold should be used when considering new treatments. The National Institute for Health and Care Excellence has traditionally used a threshold of £20-30,000 per QALY. However, some research has suggested that an affordable threshold is probably around £13,000[6,7].

There are some odd anomalies in the way funding decisions are currently made, which do not sit well with either a Realistic Medicine or Prudent Healthcare approach. Some extremely expensive treatments are handled by the Specialised Services team in National Services Scotland, or at a UK level[8]. The ICERs in some of these contexts are very high. It may be helpful to illustrate the challenges by reference to a specific example:

> An Enzyme Replacement Therapy for a Lysosomal Storage Disorder called Idursulfase which was presented by a drug manufacturer for approval had an incremental cost per QALY of between £564,692 and £1,174,342, as it produced very little benefit to patients[9,10].

Current mechanisms for determining what the drug manufacturer can charge for such medicines are not fit for purpose[11]. There is little relationship between production cost and retail price, and some evidence to suggest exploitation by the pharmaceutical industry[12]. A shorter duration of patent or price caps could be used as part of a Realistic Medicine approach to addressing this issue.

Sustainable planning tools

Sustainable planning requires high quality data. There is a need for greater drivers to improve data quality. Although not without its problems, the National Tariff and Payment by Results scheme that operates in NHS England has driven up data quality and made it possible to benchmark services at the level of individual patients, and has created a driver to measure costs at a granular level. There is a case for considering an alternative approach in Scotland that might have a similar effect.

NHS Highland has had success with a tool called 'the box score', which has reduced costs at ward level in local hospital pilot work, while maintaining quality[13]. The tool provides a method for pulling together and visually managing quality, cost, and workforce capacity on a weekly basis. This example delivers on a number of the aspirations of Realistic Medicine and Prudent Healthcare and is now being shared widely.

Sustainable priorities

Health service planning always involves prioritisation. There are many tools for doing this, none of which are ideal and some approaches have indeed gone badly wrong[14]. Different frameworks take into account different factors when considering system level priorities; one model is shown in Figure 7.7. The model focuses on four helpful high level questions, but still involves judgements that have to be made by service planners.

Another method of prioritisation is to consider thresholds for treatment. This approach has been used more in England than in Scotland. and Figure 7.8 illustrates the effect of changing thresholds over time. The data comes from a study in Australia. The figure demonstrates a rise in the number of patients eligible for surgery from 660 patients in 1950. The rise in numbers in this example is due to changes in

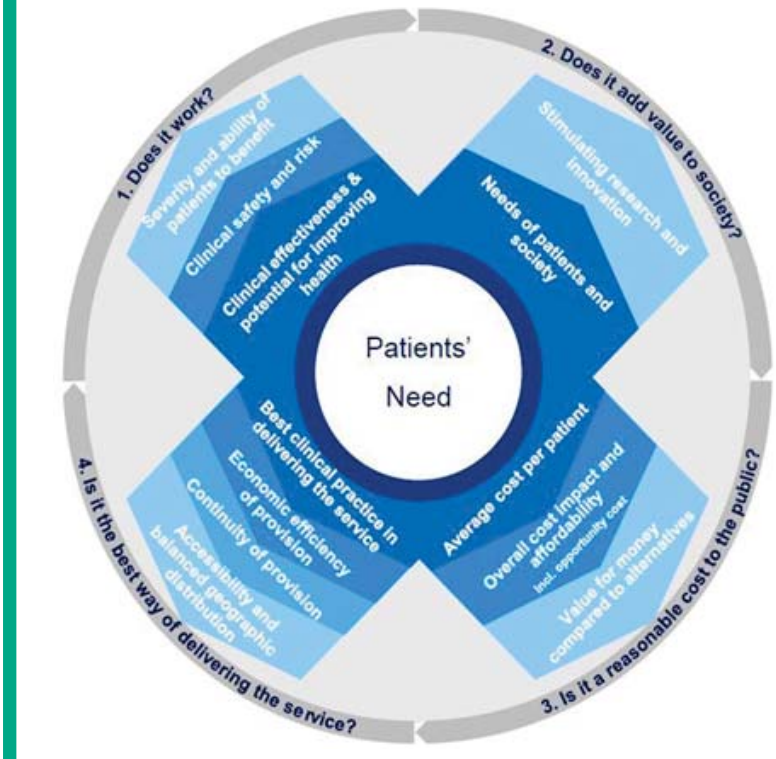


Figure 7.7 - Prioritisation model
Source: Specialised Services Workshop, Wales, 2011

visual acuity threshold and to demographic changes to an estimated 9,070 patients in 2020. The figure also indicates that if the 1950 threshold was maintained until 2020 the number eligible for surgery would only rise to 2,980 patients, as opposed to 9,070 patients. No one would suggest using the visual acuity threshold used in 1950 today, but the example illustrates the way in which technological changes and demographic changes combine to place increasing pressure on healthcare services.

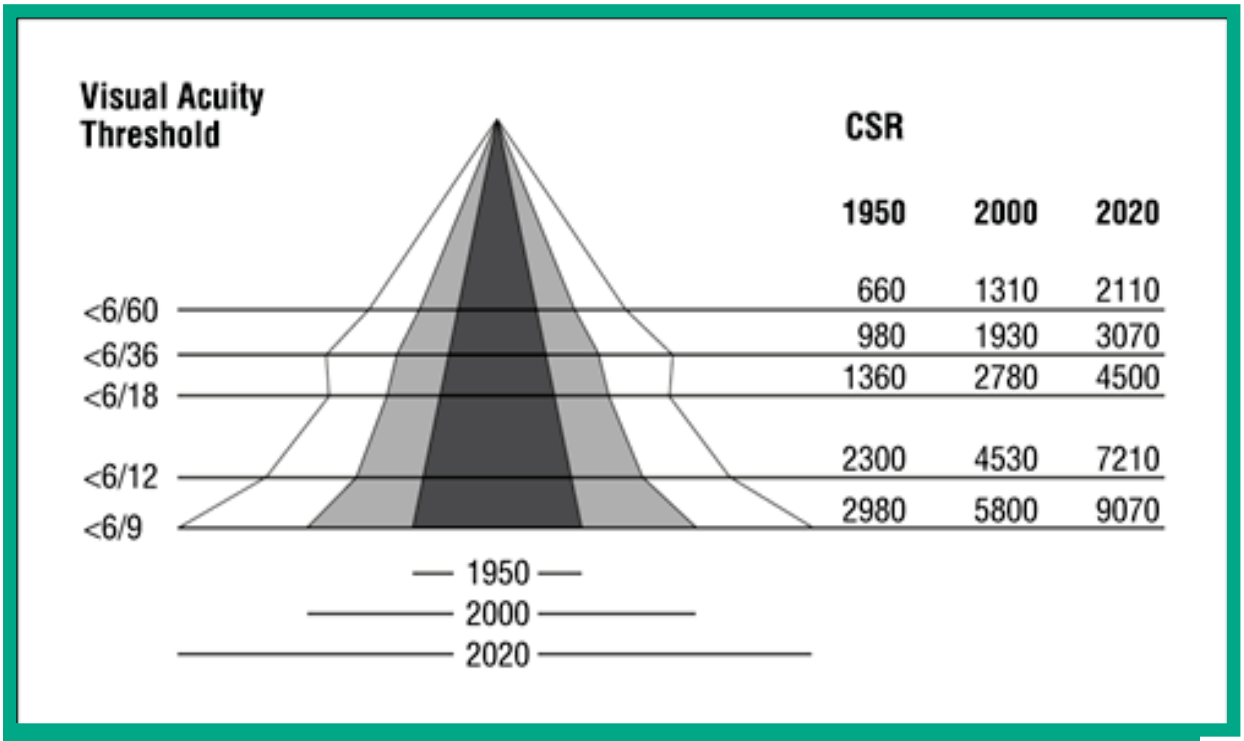


Figure 7.8 - Effect of changing thresholds and an ageing population on eligibility for cataract surgery
Source: Arch Ophthalmol. 2006;124(12):1750-1753. doi:10.1001/archopht.124.12.1750[15]

Decisions on treatment threshold can have significant effects on resource utilisation. It can be argued that in some cases thresholds have fallen too far, for example, as many as one in five patients who have a knee replacement regret having done so[16]. There is a question as to whether such patients represent excessive treatment.

Some of the care we provide can do more harm than good, exposing patients to unnecessary risks. This fact is compounded by the fact that the NHS has historically been poor at monitoring long term outcomes, except as part of formal research. Better long term measurement of patient related outcomes, combined with benchmarking would significantly aid a realistic or prudent approach to healthcare.

Pendulum swings

An emphasis on Realistic Medicine or Prudent Healthcare is welcome but there is a risk that, as the concept takes hold, the pendulum will swing too far in the direction of 'realism', and that some aspects of compassion and generosity may be lost[17]. The social contract underpinning a service free at the point of delivery, where some pay and others benefit to improve equity overall, can easily start to erode.

Totalitarian regimes in the past have argued that the best thing to do is to get rid of the weak and the vulnerable. Thankfully, we are far removed from that position as a society but it would not be too big a step for some in society to start to say that it is not 'realistic' to treat those individuals who do not contribute to economic generation and that we would all be better off if such people were not around.

Some of the harsh restrictions that have been introduced in parts of England, for example, around weight loss requirements before surgery for example, are an area for concern. We must ensure continue to value every member of our population and advocate for access to healthcare for all, regardless of the extent to which an individual may, or may not, have contributed to their condition.

This report has primarily focused on healthcare services however a truly holistic and realistic approach requires recognising the need for complementary upstream as well as downstream actions to reduce variation and inequality across the domains of health, social care, education and income.

Conclusion

Realistic Medicine, Prudent Healthcare and Choosing Wisely have important lessons for clinical service delivery. The underlying principles are also relevant to decision making at population level. Constructs such as social justice and inequality are not explicit in the Realistic Medicine model but have been adopted by the Scottish Government and are central to public health work.

Income equality is particularly a challenge to health at a global level, see Figure 7.9. The richest 85 people on the planet own as much as the poorest half of humanity; a degree of skew in the distribution of wealth that few of us would wish to condone and which must surely form part of any approach to Realistic Medicine.[18]

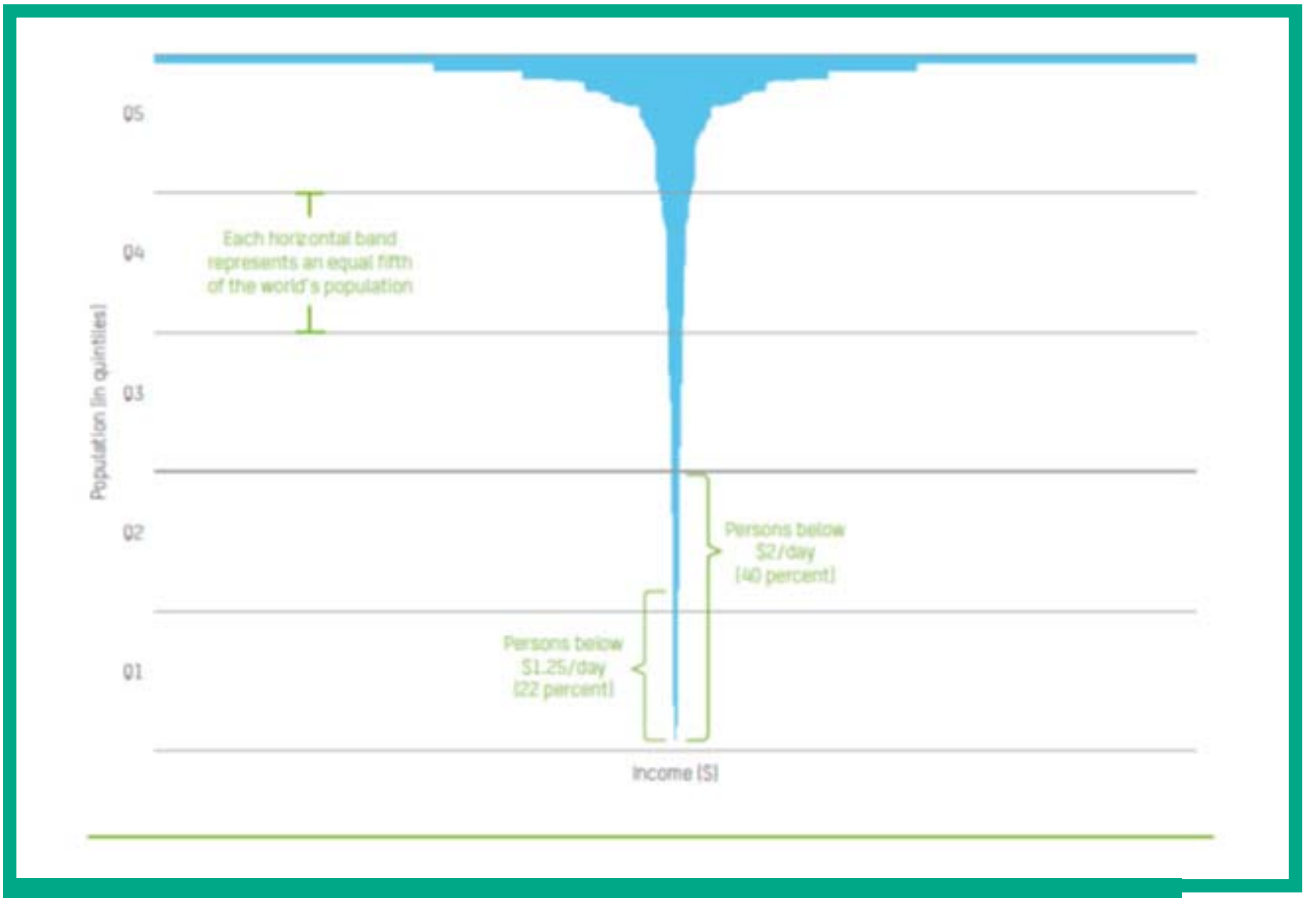


Figure 7.9 - Global income by percentile of population (population in quintiles)**Source:** Seery E, Caistor Arendar A. Even It Up: Time to end extreme inequality. London: Oxfam International; 2014

The value of Realistic Medicine could be enhanced by incorporating these wider dimensions of care and considering its application to population health as well as that to the individual. The approaches outlined in this report are not a panacea, but clearly have the potential to contribute to a more sustainability approach to health and social care in NHS Highland.

The challenges of Realistic Medicine are not new. There has always been a tightrope to walk and judgements to be made in providing healthcare free at the point of access. The concepts

encapsulated in the story of the Good Samaritan are perhaps an ancient example of Realistic Medicine. The story includes the idea of compassionate care, as someone risks their life to rescue a social outcast, provides free first aid, free transport and pays up front for treatment. However, the story also includes the concept of prudence as the payment is only for a fairly tight 'estimated length of stay' supplemented by a post hoc payment adjustment mechanism.

A tight length of stay gave the care provider an incentive to support rapid recovery, whilst recognising that the outcome at the point of admission was associated with a degree of uncertainty. In summary, the story exemplifies generosity and financial prudence. It balances altruism, compassion and courage. In many ways, the challenges we face in the health service today are just the same.

Realistic Medicine Case Study

Rapid Process Improvement Workshops

NHS Highland uses Rapid Process Improvement Workshops (RPIWs) as a quality improvement methodology. RPIWs are a way of bringing staff together to work on a number of related improvements. Wherever possible, service users take part in the event. The workshops use a range of methods including root cause analysis, problem solving, visual controls, focus on service flow, error proofing and Plan, Do, Study, Act cycles.

Examples of recent improvement work using these methods include:

- Delivery of meals at Campbeltown Hospital
- Assessment and allocation of mental health service referrals in Inverness
- Flow through the Emergency Department at Caithness General Hospital, Wick
- Management of people with respiratory problems at Raigmore Hospital, Inverness
- Patient flow at Lorn and the Isles Hospital, Oban
- Management of Long-Term staff absence, with work initially conducted in Invergordon

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Notes

Notes

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