

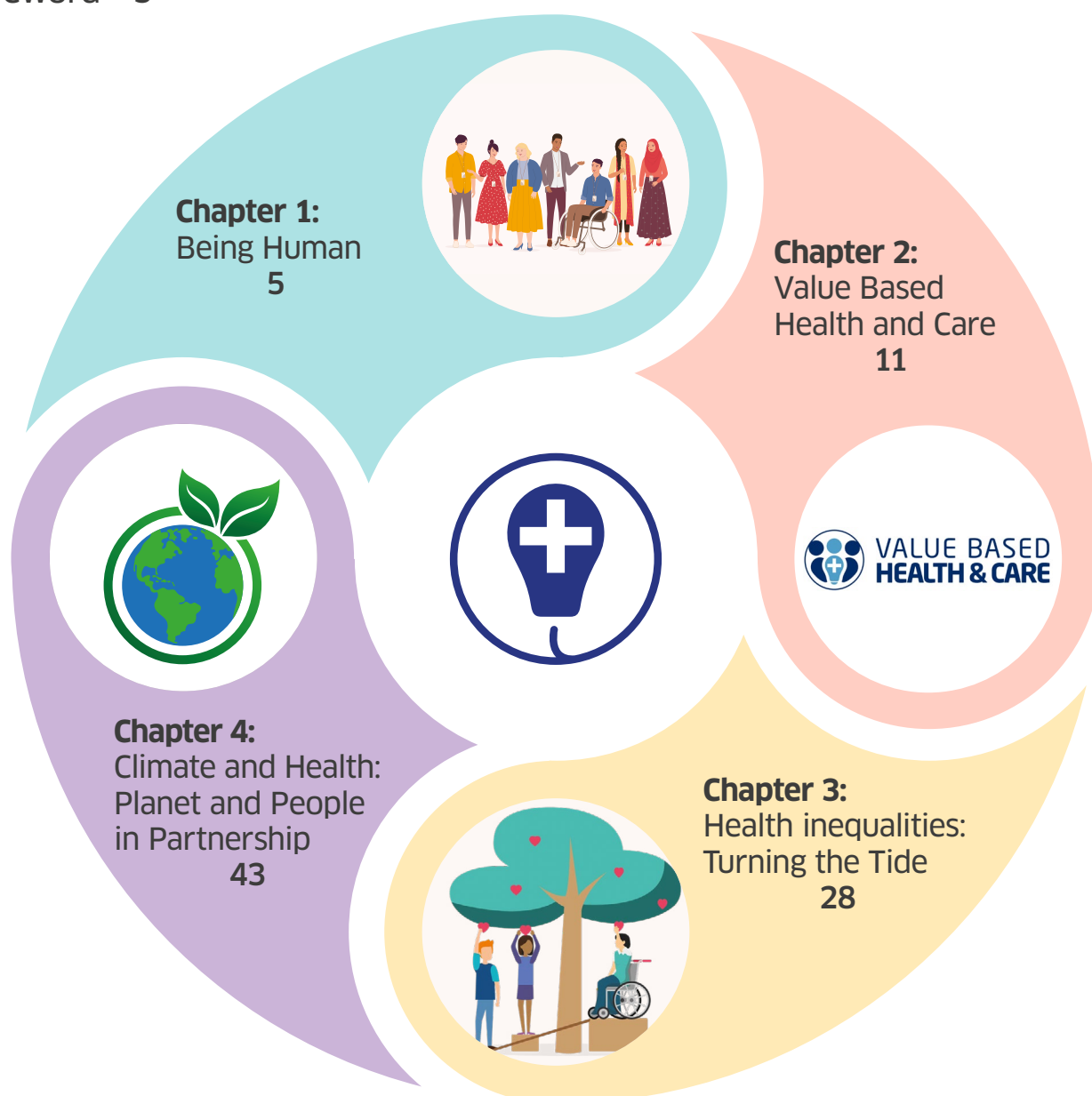
# Realistic Medicine: Doing the Right Thing

Chief Medical Officer for Scotland  
Annual Report 2022-2023



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# Foreword



5 July 2023, marks 75 years of the National Health Service and the National Assistance Act coming into force.

The Act introduced the duty on local authorities to provide accommodation for older and frail people and a power to promote the welfare of disabled people. It made clear a public responsibility to provide services to people who, because of age, illness or disability, need support.

The NHS touches all of our lives. Founded in 1948, the NHS was the first universal health system to be available to all, free at the point of delivery. Today, nine in ten people agree that healthcare should be free of charge, more than four in five agree that care should be available to everyone, and that the NHS makes them most proud to be British.

This is because, since 1948, the NHS and social care services have always evolved and adapted to meet the needs of each successive generation. Scotland has made a significant contribution to improving outcomes for the people we care for.

Ultrasound was first used for clinical purposes in Glasgow in 1956. Obstetrician Ian Donald and engineer Tom Brown based their prototype device on the industrial flaw detector, a tool widely used in the Clyde shipyards. Ultrasound was in wide use in Glasgow hospitals by the end of the 1950s, but it wasn't until the 1970s that the technology spread into the rest of the UK. The Glasgow Coma Scale – used by medics across the world to rate patients' level of consciousness – was developed in 1974. It was first published by Graham Teasdale and Bryan J. Jennett, Professors of Neurosurgery at the University of Glasgow's Institute of Neurological Sciences at the city's Southern General Hospital. Breast cancer screening was introduced across the UK in 1988, following a report produced by Sir Patrick Forrest, a Professor of Surgery at Edinburgh University. This work built on pioneering efforts in Dumfries, Aberdeen and Dundee to screen women for cervical cancer. NHS Screening programmes were a world first.

As we mark 75 years of the NHS and the National Assistance Act, we should celebrate our achievements, as well as look ahead to the opportunities we have to shape our NHS over the next 75 years. In planning for the future, we must overcome some pretty big challenges. Threats from novel diseases remain; health inequalities are widening; demand for our health and social care services continues to increase; and the climate emergency is already affecting Scotland's health and wellbeing.

Every day I see dedicated people working hard to make a difference. Our system is driven by you, its people, and that's why our health and social care services are valued so highly by all in Scotland. However, there is clearly a pressing need to do things differently if we are to address these interconnected challenges and improve the lives of the people we care for.

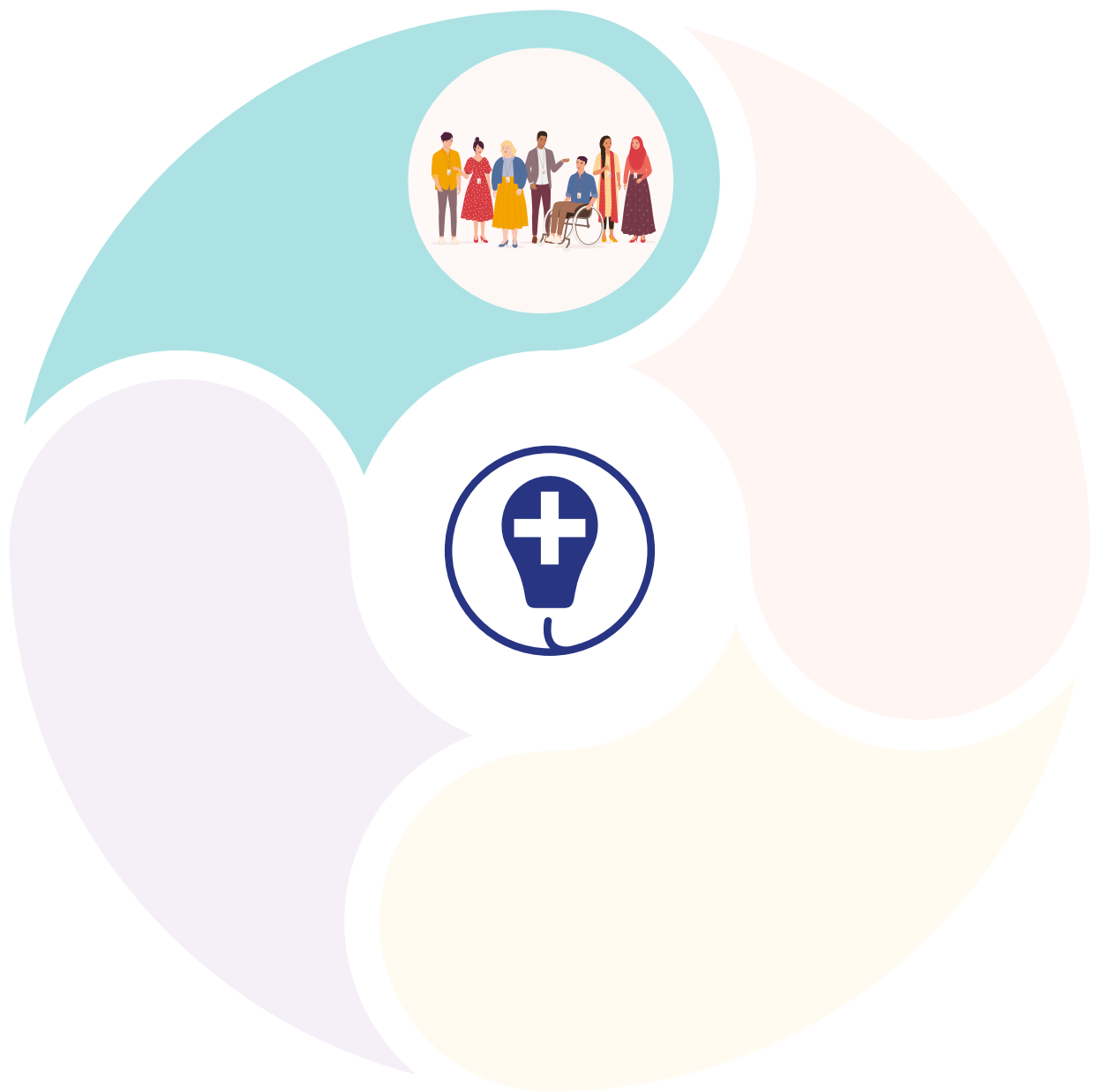
I very much hope that you will recognise the challenges I describe in this report and agree that no matter where you work in our health and care system, we must focus on doing the right thing. By doing the right thing, we can move away from what often feels like industrial care performed by transactional technicians. By nurturing trust and belonging within our health and social care services we can re-connect to our purpose and deliver the **careful and kind care** that will create the fairer more sustainable system that we all wish to see.

**Professor Sir Gregor Smith**

Chief Medical Officer for Scotland

## Chapter 1:

# Being Human



It feels that the NHS and social care systems in Scotland have reached a fragile and pivotal moment. The signals of concern have been intensifying for some time, and whilst they have undoubtedly been accelerated by the impacts of the Covid-19 pandemic, this is not the only influence on the problems currently faced.

There are four concurrent challenges to population health in Scotland.

There will be ongoing threats posed by the spread of infectious disease – not just COVID-19, but more familiar threats such as those we have faced recently due to influenza and group A Streptococcus. The threat of further zoonotic infection emerging, such as a pandemic Influenza from an avian source, is not receding; nor is the impact of anti-microbial resistance.

Second, there is the enduring challenge of improving health, particularly at a time when disparities have been made worse by the pandemic and recent price inflation, particularly for food and energy, which has hit those with least hardest. The improvement in healthy life expectancy observed for decades had begun to slow even before the pandemic struck, and there is now evidence of it stalling, even beginning to reverse. The reasons for this are complex, but it is certain that a response wider than the provision of healthcare alone is necessary to rectify this and address these widening health inequalities with urgency.

Third, there is a sustainability challenge facing health and social care services at a scale and intensity not seen before. There was a substantial decline in the number of people who received most types of healthcare during the pandemic that is now manifesting not only as a backlog in the elective programme, but to later and more complex presentations in both elective and urgent care. And beyond this, there are also continuing workforce pressures that multiply fatigue and exhaustion from the last three years.

Whilst this produces immediate pressures, what lies ahead is even more concerning. Recent work by Public Health Scotland demonstrates the **impact of demographic changes on the burden of disease in Scotland** over the next 20 years. Despite an overall projected reduction in the population over this period, the burden of disease within the population is estimated to increase by 21%. Allaying this projected increase will be equivalent to eradicating the entire disease burden of cancer in 2019.

The fourth major challenge is the increasing urgency with which we must act to address the climate emergency. We must reduce harmful emissions and air pollution and restore biodiversity. NHS Scotland has set ambitious net zero targets by 2040 and it is imperative that we achieve these, playing our role as part of an international response from healthcare in over 60 countries following the COP 26 held in Glasgow in 2021.

These four challenges are not separate and distinct, but are interlinked. Unless we restore balance with nature and our environment, it is likely that future health protection threats will become more common. These may be direct effects from extreme weather events, or indirect effects due to changing patterns of disease. The impacts of infectious diseases will continue to fall disproportionately on those who already experience disadvantage in our society. All of this will place additional pressure on our services, and risk displacing other health needs.

There remains harmful, unwarranted variation and waste within the services that we provide. The Organisation for Economic Co-operation and Development estimates that **20% of healthcare spend does not actually result in improvement in health**. This consumption of resource without benefit is more likely to prevent those who are disadvantaged from receiving the care that they need. It is also a drain on our natural resources and increases harmful emissions – wasteful care is poor care for our patients and our environment and increases the potential for harm to them both.

**Realistic Medicine** has challenged these issues and offered a way of addressing them since its inception in 2016. Collectively, we have developed and championed this approach since that time, all centred around 6 key principles that describe how we can all contribute to the solutions by:

- changing our approach to shared decision making;
- building a personalised approach to care;
- reducing harm and waste;
- reducing unwarranted variation in practice and outcomes;
- managing risk appropriately; and,
- becoming innovators and improvers.

No matter your role within our health and care system, these six domains remain resolutely important to the response that is required to these system and societal challenges. There has been great progress in adopting these principles and across the country, and we can see very tangible evidence of Realistic Medicine influencing the way that care is provided. I would argue that incorporating them into our response to the way that we provide care systematically has now become even more imperative, but they are not enough by themselves. It is time to go further.

Concentrating greater efforts on the prevention of disease, by tackling the social and commercial determinants of health, as well as reducing the impact of established disease, needs to have a greater urgency and priority in our future if we're to meet the challenges shown within the Scottish Burden of Disease study.

We must, therefore, strengthen our approach to primary, secondary and tertiary prevention, especially if we are to counter some of the impacts of the pandemic on the identification and management of chronic diseases. Here, there is a particular and pressing need to restore and extend our approach to secondary prevention. In a recent **editorial**, the UK CMOs, the Chair of the Academy of Medical Royal Colleges and the National Medical Director NHS England, proposed the need for a comprehensive response to address the excess mortality being seen, especially in circulatory diseases.

Whilst considerable efforts are being made to restore this approach already, it is not enough to simply go back to our pre-pandemic ways. It is essential that we extend these approaches to reach those with historically low uptake, using the lessons learned in the pandemic to engage and communicate the benefits of such an approach, as was done with, for example, Covid-19 vaccination. This necessitates a whole system response if we are to recapture the improvements that secondary prevention in particular has enabled us to make over recent decades. This may involve using existing health infrastructure in different ways, such as community pharmacy, or optometry for additional prevention opportunities and interventions, or extending identification of problems, such as hypertension, in workplaces or other 'non-traditional' healthcare settings.

As healthcare systems attempt to recover from the pandemic, there is a risk that our approach to recovery causes us to lose the essence of what it is to provide care. Care is human. It is about personal interaction, uncertainty, co-creation and compassion in managing risk, anxiety and hope. It is about the power of the relationships and being able to jointly identify issues that affect us, our preferences and our goals. Care is as much about alleviating as it is about fixing, and always with honesty, kindness and consideration of others life experience. Care is not just biomedical, it is biographical too.

Care is not an industrialised process and it cannot be provided by chasing numbers of ever increasing activity alone. It is not, and can never be a reductionist approach aimed simply at finding the most efficient way of providing treatments; the unthinking and indeterminate application of guidelines for people *like me*, without the acknowledgement and appreciation of human uniqueness. Identifying and appropriately treating those with the greatest need remains critical and is a priority, but it must not be done at the expense of losing the wisdom of **kind, considerate and careful care**. Losing this demeans those providing care and risks their moral injury. This is not the approach to care we should aspire to.

“Doing the right thing” reflects our purpose and values and requires us to care empathically and wisely. Doing the right thing returns us all to the original premise of **evidence based medicine** described by Sackett *et al*; the need to combine evidence and science, together with professional judgement and the knowledge of what matters to the people we care for to form a careful approach to care and manage the risk associated with it. The misdiagnosis of disease is tragic, but so is the misdiagnosis of a person's wishes for their care.

Doing the right thing weds scientific understanding and progress with the artistry of human understanding and relationships. It is a value based approach to health and care, allowing all these elements to blend so that meaningful care, that's more likely to provide personal and technical value, and less likely to lead to futility or regret, is realised. This approach in turn, leads to better use of resource and greater societal value. This is the culture of stewardship and careful, kind care I want to foster and promote in Scotland. This is the wise and thoughtful approach to care that will help us to tackle the combined problems of inequity and sustainability, and will reawaken the sense of purpose and privilege we experience caring for others.



And yet we cannot ignore that practising this way is not always easy. The incessant rise in the intensity and volume of practice, more complex and acute presentations and workforce pressures combine to make providing compassionate and kind care more difficult. **Heath and Montori** argue however that careful and kind care in itself, the pursuit of caring wisely, is something that sustains people in their careers and helps to reduce burn out. Focusing the system response to ensure the environment nurtures, promotes and values careful and kind care, has to be a major component of recovery.

This must involve better support for those giving care too, whether that be simple basics like providing lockers and hot food, the means to work in supportive and appropriately staffed teams, or the time and space to reflect and process events. It is especially important that progress is made here and that civility, trust and belonging are consistent characteristics of our experience. We have witnessed the greater use of digital technology in care; this is often very helpful and with innovations such as colon capsule endoscopy, there may be very real and tangible benefits for patients and staff alike. But digital technology and artificial intelligence are not replacements for the human element of caring – they must be seen and used as adjuncts that support people in their roles to provide the careful and kind care that matters.

It is 10 years since the General Medical Council last updated “**Good medical practice**”, but later this summer we will see the latest version published. In these 10 years, much has happened across the health and care landscape. I was pleased to see the GMC consulting on changes to *Good medical practice* which emphasise the role of doctors as part of a multi-professional team; the importance of establishing a more equal partnership between doctors and patients within compassionate cultures of practice; and the role of leadership, tackling discrimination and encouraging kindness and sustainability. I view these “duties” as privilege of the professionalism that we seek to preserve. Without these, we risk allowing ourselves to become a fragmented profession governed by transactional approaches to care. I look forward to the publication of the updated version.

In his paper “**Era 3 for Medicine and Health Care**”, Berwick proposes the need to embark on a new epoch for care, where features of Era 1 professional protectionism and Era 2 reductionism are replaced by a fresh approach – a moral era guided by values. This may require an honest evaluation of at least some of the data-gathering, measurement and bureaucracy within our system, especially by clinicians, to accurately assess whether it adds value. Some exponents of these previous eras may view this as naïve, but whilst we have been fortunate not to see some of the excesses associated with these eras observed in other countries, there remains a strong case to recalibrate our approach further towards one that has this careful and kind care as its defining feature above all else before it is too late.

Era 3 care, careful and kind care, has Realistic Medicine as its foundation, and this is the care we must aspire to consistently across Scotland.

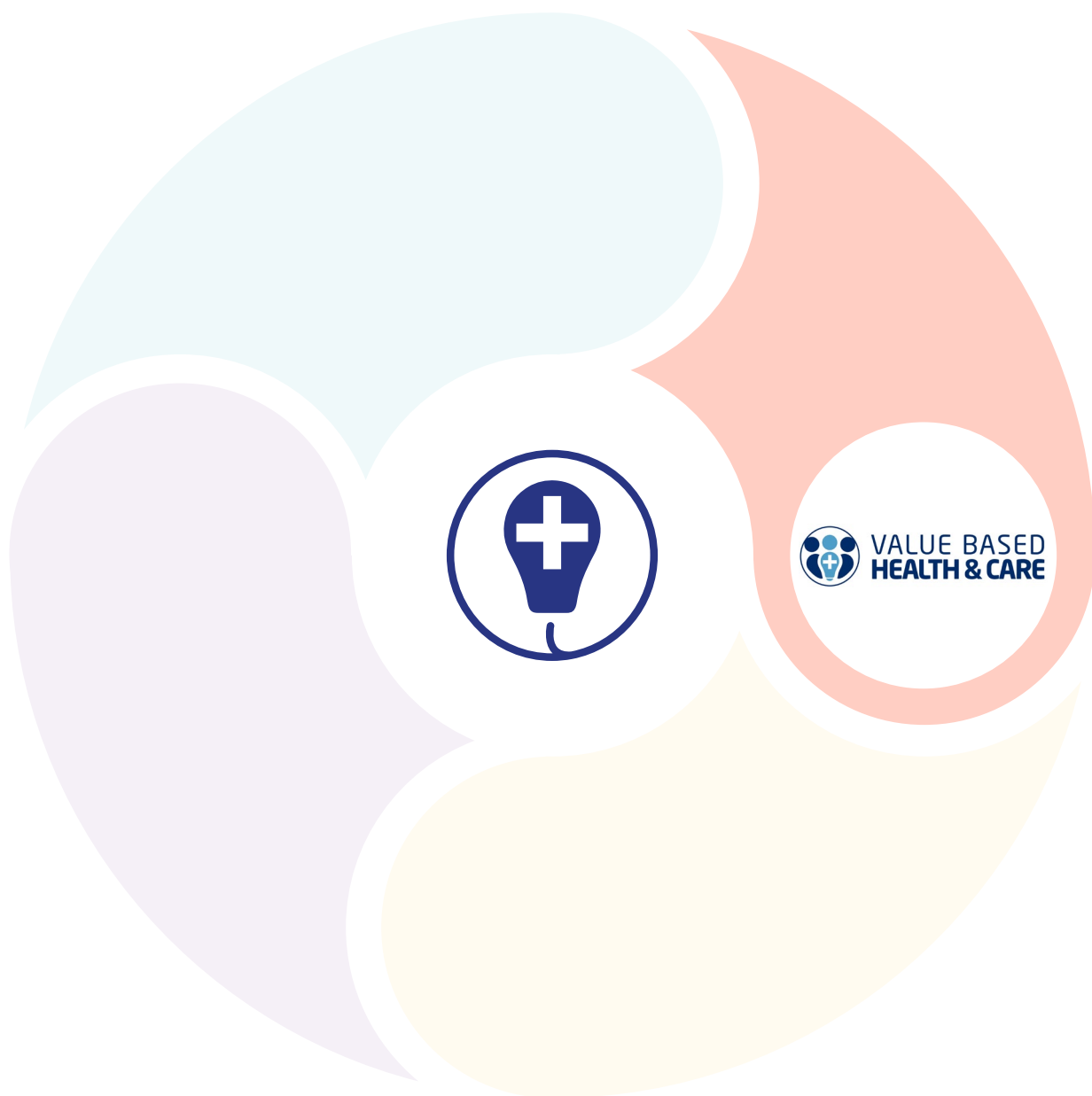
None of this is easy, especially at a time when our complex system is so pressured. But by pursuing the values and approach that Realistic Medicine encapsulates; by caring with compassion and doing the right thing; by recognising that we are all human and all have our limits; we can create our own culture of stewardship and achieve the sustainability we need. Value Based Health and Care, and caring, is our best hope to help us achieve this, providing optimal care for those who need it, in line with their preferences and what matters, and allowing us to be the care givers we aspire to be.

I propose six principles for action that our health and care system must adopt to help us achieve this:

- 1.** As care providers we often enter people's lives at a moment of vulnerability; we must respect this, and hear and seek to understand the voice of those we serve in order to deliver the outcomes that matter to people we care for. Shared decision making sits at the heart of doing the right thing.
- 2.** We must ensure the right balance between the science and the art of care; the best care has biometric and biographical care in equilibrium, balancing evidence, professional judgement, people's preferences and compassion.
- 3.** We should give way on professional and personal prerogatives in order to be part of something greater; define what we do as individuals as part of a wider multidisciplinary team and nurture and protect civility, trust and belonging within it. Our teams are greater than the sum of their individual parts, and they will help to support and sustain us.
- 4.** However well-intentioned, some care can be wasteful, risking harm to people and the environment; using a value based approach allows us to balance personal and population-based care better so maintaining, and making best use of, all our resources.
- 5.** Measurement works best when it is meaningful, proportionate, transparent and used for the purpose of improving quality; when measurement drives transactional care it risks moral injury and harm to staff and patients and must be avoided.
- 6.** We are all human and vulnerability is exhausting; we all have physical and emotional limits and a tolerance to risk that is dynamic as a consequence. We should reasonably expect the people and system in which we work to acknowledge and respect this, ensuring that we are supported to practise compassionately and manage clinical risk appropriately.

## Chapter 2:

# Value Based Health and Care



## Introduction

In my opening chapter, I spoke about the four concurrent and interlinked challenges to population health in Scotland. The persistent threat of infection and antimicrobial resistance; the ongoing challenge of improving health with widening disparities at a time of pandemic recovery and rising prices of energy and food; the sustainability of health and social care services to meet not only current demand but that projected by demographic changes to the burden of disease in Scotland over the next 20 years; and the reality of the climate emergency impacting now and falling disproportionately on those who already experience disadvantage in our society.

Our health and social care services are rightly valued by all in Scotland. In recent years, colleagues across health and social care have adapted to the ongoing challenges of the COVID-19 pandemic and every day I see dedicated people continuing to work extraordinarily hard to make a difference and relieve suffering felt by others. However, there is an urgent need to do things differently if we are to be successful in addressing these interlinked challenges and we really wish to improve the lives of the people we care for. It's time to fully adopt practising Realistic Medicine as the way we can contribute to a healthier, more sustainable, fairer Scotland.

The OECD estimates **up to 20% of healthcare spending adds no value to those receiving it**. To put it another way, up to one fifth of our healthcare resource is potentially wasted and prevented from being used to address unmet clinical need elsewhere. This is a sobering statistic that I have mentioned before, but it is central to reinforcing why we must do things differently. We all recognise waste in our day to day work, for example in prescribed medicines which were not taken, in appointments which were not needed, and in travel to hospital which could have been by video or telephone call. This waste can impact directly on the people we serve, on their time spent accessing healthcare and in the potential harm and suffering from some interventions. This waste also significantly impacts on our environment through the depletion of natural resources, the manufacture and use of unnecessary drugs or emissions from unnecessary travel.

## Practising Realistic Medicine to deliver Value Based Health and Care

Health and care systems across the world are thinking about how they can deliver Value Based Health and Care (VBH&C) which focusses on achieving the outcomes that matter to people while using resources wisely.

**“Value Based Health and Care delivers better outcomes and experiences for the people we care for through the equitable, sustainable, appropriate and transparent use of resources.”**

By practising **Realistic Medicine** we can deliver VBH&C. Through **shared decision making** we can deliver **person centred care**. We can support people, and their families, to feel empowered to discuss their treatment options and the associated risks and benefits. We can help manage expectations and enable people to make informed choices, based on what matters to them. Sometimes they might choose different treatments which offer greater personal value. In other cases, they may choose less or no treatment, which helps reduce wasted resources. By identifying and **tackling unwarranted variation** in health, treatment and outcomes, we can also ensure equity of access for those who need our help the most.

Scotland's **Vision for Value Based Health and Care** recognises the vital role health and care colleagues play in fostering the culture of stewardship. It's crucial that we focus on achieving the outcomes that matter to the people we care for, reduce waste and improve equity of access to services for our most disadvantaged communities.

I have been greatly encouraged by the support shown by colleagues across the health and care professions for the **Vision for Value Based Health and Care** that I set out. Its positive reception shows that there is both a recognition of the need and an appetite to act – to do things differently. Through **careful and kind care**, the pursuit of doing the right thing, it becomes possible to liberate this vision of care and the more sustainable system we all wish to see. I also expect that it will sustain us as professionals too, by reconnecting us to our purpose, helping us provide the kind of care we would like to see and reducing the risk of moral injury.

## Inspirational leadership and support

Doing the right thing involves ensuring every health and care professional has the tools to practise Realistic Medicine every day. Delivering our vision will require collaboration and consensus from senior leaders across our health and care system and the ability to provide the data, analytical skills, education, training, measurement and improvement support required to foster the **culture of stewardship** we need to deliver better value care.

There are already encouraging signs of this collaboration becoming evident. NHS Education for Scotland (NES) have been an important partner in the Realistic Medicine journey and are keen to support development, delivery and access to educational resources, training and tools that are fundamental to practising Realistic Medicine and delivering Value Based Health and Care. I have seen, up close, the commitment of the senior leaders within NES, including the non-executive team, and was extremely encouraged by their enthusiasm and support. We have discussed:

- the possibility of developing and delivering system-wide senior leadership training on Value Based Health and Care and why it matters. This might include training for non-exec directors in NHS Boards to help them fulfil their responsibilities; and,
- NES working with undergraduate and post-graduate education providers to explore whether they can do more to promote Realistic Medicine and Value Based Health and Care in their curricula.

I look forward to seeing NES make further progress in these areas. Meantime, NES has also developed a **shared decision making in practice** module to support staff across Scotland to apply the principles of Realistic Medicine and shared decision making in their daily working lives. All NHS Boards have been asked to ensure that health and care colleagues complete this training and if you haven't already, I would strongly encourage you to do so.

NES and our delivery partners are also working with the Right Decision Service to develop two new apps that will house the information, training and education resources required to support both professionals and the public to practise Realistic Medicine and both should be ready to use later in 2023.

## Shared decision making

Our ambition is to deliver the outcomes that matter to people while optimising the use of available resources. To do this, we must meaningfully involve people in decisions about their care. This excellent example from NHS Lanarkshire shows how shared decision making helps people make better choices about their care:

### Understanding complexity and sharing decisions.

The Shared decision making clinic at Hairmyres Hospital has been running for almost 2 years and is helping people make informed choices about their preferred treatment. This case study demonstrates the benefits of the **BRAN** questions approach, used at the clinic, and focuses on Lorna who has Breast Cancer:

#### What the surgeon said about Lorna and her treatment options in their referral:

**Benefit:** Surgery might offer Lorna curative resection of her cancer.

**Risks:** She will have a 1-5% risk of dying due to this procedure.

**Alternatives:** If Lorna was not considered suitable for an operation due to her underlying health problems, we could manage her cancer with primary endocrine therapy and still consider surgery further down the line if there was an opportunity for pre-habilitation.

**What would happen if Lorna chose not to have surgery?:** Lorna has an oestrogen receptor positive breast cancer, which we can potentially control with endocrine therapy. In the long term, data shows patients do better if we operate, but we would potentially be able to keep her breast cancer under control for a number of years on medication alone.

**What Lorna said about us:** I was worried that my health conditions might make surgery a high risk option for me. They sent me some papers in advance to explain what Shared Decision Making was. I had a breast biopsy which confirmed cancer and I thought I needed an operation. I answered the questions in the letter. This was the way I saw things before I came to the clinic:

**Benefit:** Surgery might mean becoming cancer free.

**Risks:** None. I am aware that my COPD and obesity are risk factors during surgery, but I wasn't sure why.

**Alternatives:** Chemo. Also a new treatment to shrink tumours? - I have seen this on TV.

**What would happen if I chose not to have surgery?:** I would go through a very lengthy treatment with lower success rate. My chances of becoming cancer free would be less.

My healthcare professionals introduced themselves and we sat in a triangle and shared information. I told them what was important to me and they explained things to me in a way I understood using graphs and pictures, including what the complications of surgery might mean for me.

When they said that my other health problems, in particular my COPD, might lead to a loss of function and independence following surgery - should I come through it ok - this was the trigger for me to opt for hormone treatment instead. I am alone and have no-one to help look after me while I recover. This clinic really helped me understand my options and remain calm.

I would push doctors to help patients who are perhaps not outgoing to please ask these questions, because they really do want to talk like this and it can help you decide what treatment is best for you.

I ask that you encourage the people you care for to use the **BRAN questions**, so they can be sure of the benefits, risks, alternatives and what might happen if they choose to do nothing, when weighing up their care options. The BRAN questions help people make better decisions about their care, which helps us to optimise resources and reduce waste.

What are the <b>Benefits?</b>	What are the <b>Risks?</b>
What are the <b>Alternatives?</b>	What if I do <b>Nothing?</b>

Through work supported by the Centre for Sustainable Delivery we are supporting health and care practitioners to practise shared decision making early in care journeys using active clinical referral triage (ACRT) and patient initiated review (PIR). In collaboration with patients, ACRT means information is offered to patients to support their decisions around investigation and treatment, and provision of specialist care is tailored to those who will benefit from it. Patient initiated review offers support for patients to seek further care only when they need it. This reduces waste from routine, often unnecessary, follow up appointments - it respects patients' and clinicians' time, optimises resources and reduces the environmental impact by avoiding unnecessary travel.



## **National adoption of active clinical referral triage (ACRT) and patient initiated review (PIR)**

NHS Boards have been implementing active clinical referral triage (ACRT) and patient initiated review (PIR) for a number of years, but the evidence of impact has previously been captured only at a local level. Using the Centre for Sustainable Delivery's Heatmap approach, it is now becoming possible to understand the benefit of these programmes in six key specialties: Dermatology, ENT, General Surgery, Gynaecology, Orthopaedics, and Urology.

ACRT involves a senior clinical decision maker reviewing referrals at the beginning of a person's wait to establish their most appropriate care pathway. While many people benefit from alternative services, receiving information about their condition or investigations while they wait to improve their health, the Heatmap focusses on people who will not benefit from secondary care.

Between April 2022 to March 2023, these six specialties have managed almost 66,000 referrals by returning to primary care with appropriate advice for people that provides benefit beyond waiting for a clinic appointment, or given the opportunity to 'opt-in' to a secondary care pathway if their condition or circumstances changed. A conservative estimate of providing those 66,000 appointments in NHS services is almost £10 million, based on a £150 per outpatient appointment estimate. This resource can now be used to provide higher value care.

In patient initiated review (PIR), instead of offering people routine return appointments, they are advised how they can quickly come back to secondary care services if and when they need to. While this approach is not appropriate for every person, in the six specialties almost 43,000 patients were added to discharge PIR pathways between April 2022 to March 2023, putting them in control of their own care and increasing access when they need it.

### Case study: NHS Forth Valley Gastroenterology ACRT

The Gastroenterology team in NHS Forth Valley have implemented ACRT over the last few years. They consistently average around 30% of people referred being redirected to more appropriate pathways (Fig 1.) and as a result free up capacity in clinics for those people who need them most. The impact has been a 50% drop in the waiting list and 66% drop in waiting times providing quicker access to assessment and treatment for patients. (Fig 2)

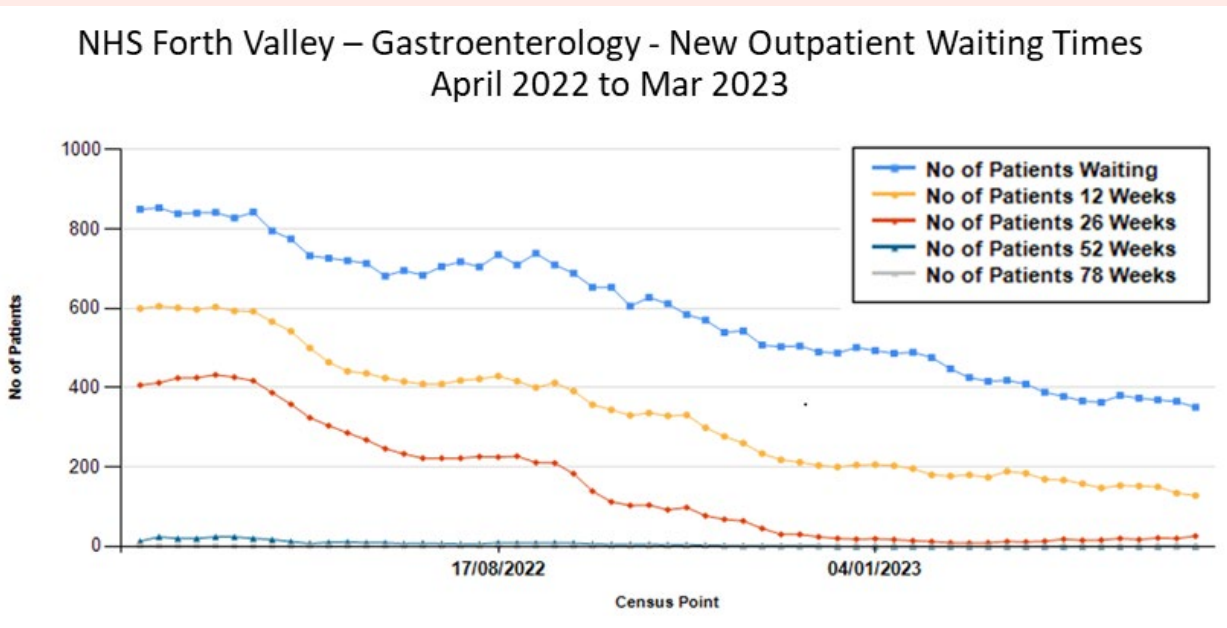
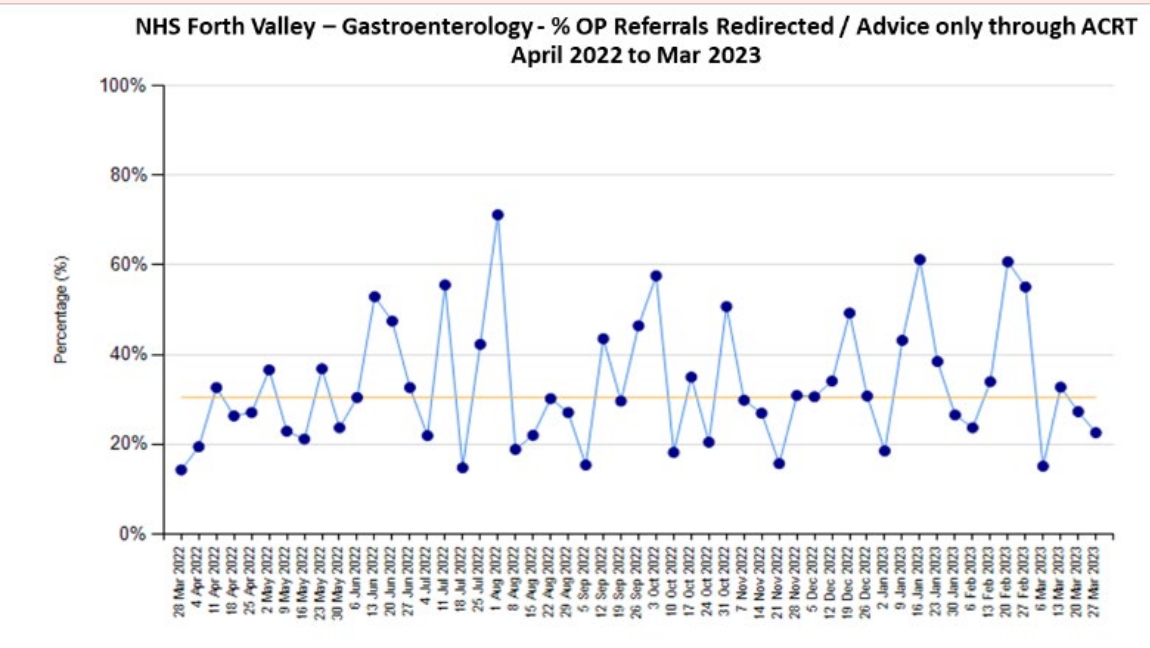


Figure 1: % of OP Referrals being reduced through ACRT

Figure 2: New OP Waiting Times reducing from ACRT

**Case study: Breast pain pathway**

Through 2022/23 the introduction of the breast pain pathway across NHS Fife, Lanarkshire and Forth Valley, showed that 82% of people were able to avoid a face to face appointment and unnecessary imaging, saving them time as well as being able to access more appropriate advice and care. This has enabled waiting times to reduce for urgent suspicion of cancer patients from 7 weeks to under 2 weeks, and from 18 weeks for a routine referral to under 4 weeks. As a result NHS Forth Valley have been able to offer mutual aid capacity to three surrounding NHS Boards.

## Outcomes that matter

To deliver high value care we need to ensure we deliver outcomes people value. Personal value means people and families are involved in decisions about their care by health and care professionals who understand and respect what matters to them.

### The outcomes that people value

1 in 8 of us cares for someone, and there should be no barriers to getting support, recognition, and quality of life. Improving the Cancer Journey service is part of Transforming Cancer Care, a partnership between Scottish Government and Macmillan Cancer Support which aims to make Scotland the first country in the UK where all cancer patients have access to a key support worker who can provide dedicated financial, practical and emotional support.

Anna was 37 years of age. She was terminally ill. Anna's brother and her sister in law agreed to take kinship care of her 7-year-old son once she passed. With a Link Worker's help, Anna's sister in law was able to consider the challenges ahead and how to deal with them.

A holistic needs assessment (HNA) was completed in partnership with Anna's sister in law. This plan tackled the issues this family faced one by one:

- the Beatson's Specialist Health and Work Service (SHAWS) provided employment advice, and liaised with the carer and her employer, to let them know about rights and entitlement;
- the local Macmillan Advice Works team helped secure benefits allowing the carer to reduce her hours to help care for the child;
- Cancer Support Scotland provided six free sessions of counselling for the carer, to help her come to terms with the situation;
- the Kinship Care team provided the carer with additional funding and the family were supported to move house to accommodate Anna's son; and
- the Macmillan Free Will writing service created a free will for the carer along with resources on helping prepare a child for loss.

Our ICJ service has helped identify over 1,000 people affected by cancer in Renfrewshire with financial difficulties and on average helped raise their income through benefit and employment support by £1,500 per head. In all, the annual total income gain is £1.5 million in three years of service.

"Hi Karen, thank you so much for being the person that you are, honestly my world is pretty grim right now and to know I have you is more than you know right now."

*Anna's sister in law*

We also need to get better at measuring the outcomes that matter to the people we care for. Historically we have been good at counting episodes of care such as numbers of people admitted to hospital or procedures undertaken. In addition we have mechanisms to measure quality of care but quality is often based on reports generated by the care providers rather than those who have experienced care. We want to make better use of measures of care and outcomes reported by people receiving care. There are areas where good progress has been made to develop and collect patient reported outcome measures or person reported experience measures (PROMs and PREMs). One of the commitments in our Vision for Value Based Health and Care is to promote the measurement of outcomes that matter to people and explore how we can ensure a coordinated approach to their development and implementation. In the future, it may even become possible to evaluate empathy and compassion in consultations and workplace environments using artificial intelligence and sensors that interpret sound waves and body language – innovation that will begin to revolutionise the way we evaluate quality of interaction when providing care.

## **Unwarranted variation and equity of access**

We know provision of health and care can and should vary according to the needs of the population or individuals we care for. But we also know that at times there is variation in care which can't be explained by the needs of the people we care for. Over-investigation and overtreatment lead to unwarranted variation in health, treatments and outcomes, potentially cause harm (all healthcare has risk), and waste precious healthcare resources, which could be better used elsewhere.

There is also underuse of some high value tests and interventions. Failing to deliver care where it is needed can be just as harmful and wasteful as too much treatment and care. This is often linked to inequality of access to services. Failure to deliver the right care, when and where it's needed, contributes to low value health and care because we miss the opportunity to improve outcomes.

Examples of low value care include prescribing of branded drugs where generic drugs are equally effective, or the use of a surgical approach to musculoskeletal problems when physiotherapy will **deliver better outcomes with less risk**. In many instances a non-medical intervention, for example weight loss or stopping a harmful behaviour, such as smoking, may be the best choice. **Evidence Based Practice** sits at the heart of Value Based Health and Care, marrying the scientific evidence, professional judgement and patient preference together in balance.

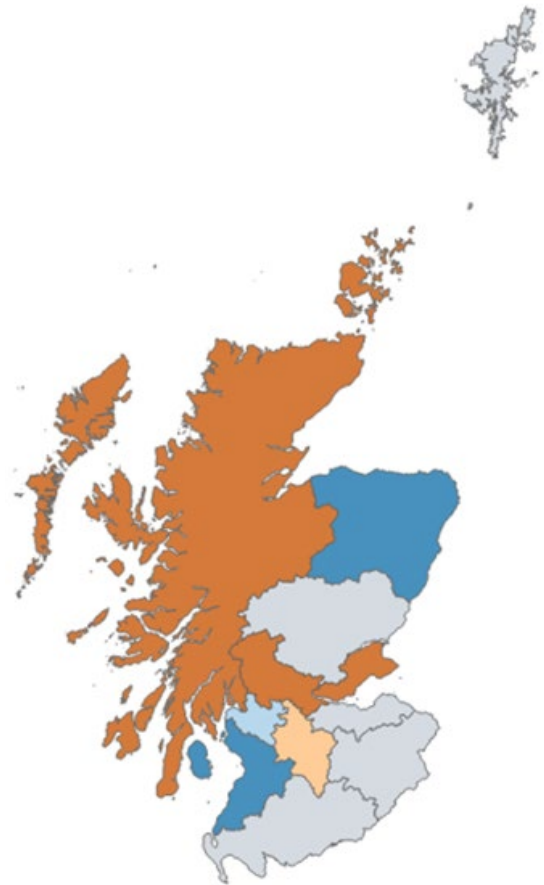
## Scottish Atlas of Variation

The **Scottish Atlas of Healthcare Variation** highlights unwarranted variation in care across Scotland. In 2022, we refreshed maps showing variation in a number of planned care procedures across Scotland and asked health boards to tell us how they used these data to tackle overprovision and underprovision of care.

Some NHS boards have provided very good feedback on how they used these maps to inform improvement. The Atlas has real potential in supporting professionals to tackle unwarranted variation, however the support structures and processes need to be strengthened to ensure consistency of adoption and impact across the country. In the short term, we will work with Public Health Scotland to :

1. Produce maps that support the areas of national clinical priority such as helping to reduce waiting times.
2. Seek to reduce over-investigation in radiology; radiologists have expressed concern about possible over-testing using some investigations. We will work with them to identify lower value investigations and explore whether we can produce maps that help local clinicians to understand better where overtesting might exist. We expect that supporting improvement activity will reduce over-testing and reduce waste and potential harm.
3. Develop and deliver training and education for clinical teams to help them interpret Atlas data.
4. Develop and implement a formal structure of support from the Centre for Sustainable Delivery to help local clinical teams identify and tackle unwarranted variation.

In the longer term, I expect the Atlas will become an essential tool in achieving higher value care by helping health and care colleagues reflect on their practice and identify unwarranted variation in health, treatment and outcomes across our health and care system.



**Scottish Atlas of Healthcare Variation December 2022**

## Sustainability in health and care

The construct of value in health and care includes **personal value**, with outcomes that matter to individuals. However, our health and care systems are also responsible for planning and delivering care for larger communities, and we call this population (or allocative) value. **Population value** includes the promotion of health and wellbeing and prevention of ill-health. When we plan for communities we take into account **technical value** which considers aspects of care provision such as procurement, where we strive to get the best available and effective treatments and devices at the lowest cost. In addition to personal, population and technical value we should also consider the impact of health and care on our wider society, including the environment. We call this **societal value**.

The climate emergency is a population health crisis, the biggest threat to our health of our time. It significantly impacts societal value because changes to our climate and environment significantly impact on the social and environmental determinants of health, for example, directly through air pollution or extreme weather events, and indirectly due to changing patterns of disease such as vector borne infections. The NHS is a significant utiliser of natural resources and emitter of CO<sub>2</sub> and by reducing our carbon footprint we can positively influence societal value not just for now but for future generations.

No matter our role within our health and care system, all of us share the responsibility to limit the impact of the way we practise on our planet and help to address the climate emergency. Efforts must be accelerated to cut greenhouse gas emissions from Scotland's health and care system and become environmentally sustainable. We know too the difference that practising Realistic Medicine can make to reducing waste and optimising use of resources. This year saw the launch of the National Green Theatres Programme which represents the upscaling of the Green Theatres Project from NHS Highland that I presented in my **2020-2021 Annual Report**. I'm delighted to highlight this again as an example of environmental sustainability being prioritised to deliver of high quality sustainable healthcare.

## Sustainable healthcare in action

Up to 80% of the carbon footprint of the NHS is due to clinical pathways, of which surgical theatres are the most carbon intense part of the hospital and responsible for a huge amount of single-use plastics and pharmaceutical waste.

The **National Green Theatres Programme** (NGTP) launched in March 2023, is a nationwide development of a pilot project from NHS Highland which recognised that, for healthcare professionals, our work environment could be the main source of our carbon footprint. Grassroots action by a group of committed clinicians on anaesthetic gases, spread by Green Anaesthesia Scotland (GAS) had already delivered a significant reduction in the greenhouse gas emissions from Scottish hospitals. They then developed an Ideal Green Theatre, and looking at pharmaceuticals, systems, equipment and practice asked “What is the best way to provide safe and effective surgery utilising the least resource?”

**NHS Scotland climate emergency and sustainability strategy 2022-26** has helped formalise the Green Theatre Programme. Hosted by the Centre for Sustainable Delivery (CfSD), it is focusing on around 50 actions that will help to address carbon emissions, single-use plastics waste, air pollution and pharmaceutical contamination. This work involves collaboration with colleagues in Infection, Prevention and Control, Engineering, Pharmacy, Procurement and Finance, with assistance provided by CfSD if required.

The innovation arm of the NGTP has been developed with the Medical Devices Manufacturing Centre at Heriot-Watt University, accessing and supporting many small start-up companies keen to develop new tools and ways of working with healthcare providers. Pilot projects include the provision of sterile water, removal of microplastics and pharmaceuticals as well as recovery of heat energy from laundry waste water, and a more efficient and low energy system for cleaning surgical instruments.

The National Green Theatre Programme clearly has an important role in helping to embed environmental sustainability in clinical and managerial decision making across NHS Scotland.



## Managing risk better

We know that over-investigation and over-treatment can cause harm as well as being wasteful of our healthcare resources. Realistic Medicine encourages us to recommend investigations and treatments that add value, minimise waste and to personalise our approach to what matters to the people we care for, involving them fully in decision making.

One perceived barrier to practising Realistic Medicine, and one that I hear often, is the worry that professionals will be criticised for not offering all available treatments to patients, no matter the judgement of their individual relevance.

To reduce the risk of complaints, some doctors recalibrate their practice by carrying out extra tests and procedures, perceiving that patients are more satisfied when they get **extra tests or treatment**. This is known as **defensive medicine**. Primarily, the aim of practising defensively is to **protect the doctor** rather than to encourage best practice. We have already noted that not all tests, treatment and procedures improve patient outcomes, and what is more likely is that increasing their volume adds to the likelihood of medical errors occurring. For example, a 2019 study found that preventable patient harm affects **at least one in 20 patients in a medical care setting**, and that harm was mostly related to drug incidents, therapeutic management and invasive clinical procedures.

There is clearly anxiety in parts of the NHS about whether practising Realistic Medicine exposes clinicians to medicolegal action and complaints which might otherwise not arise. **In this blog, Michael Stewart, Head of Central Legal Office discusses the relationship between Realistic Medicine and consent.** A summary of Michael's advice follows:

The best prophylactic to an informed consent claim is a robust shared decision making process which:

1. puts the patient at the centre of decisions made about their care;
2. encourages clinicians to find out what is important to the patient;
3. treats the patient as an equal partner; and
4. engages the patient in decisions about treatment options to make sure that they are able to decide what is right for them,

It is a process which should encourage people to take responsibility for their own care. It is also a process which the law requires. The Supreme Court justices described such an approach as one which:

**'instead of treating patients as placing themselves in the hands of their doctors (and then being prone to sue their doctors in the event of a disappointing outcome), treats them so far as possible as adults who are capable of understanding that medical treatment is uncertain of success and may involve risks, accepting responsibility for the taking of risks affecting their own lives, and living with the consequences of their choices.'**

Of course, not all patients will take responsibility in this way. Complaints or actions will continue to be made, many of which may have a legitimate basis. But if appropriate care has been offered or provided using a framework for shared decision making or consent, the validity of that complaint or claim when tested is more likely to fail. In this respect, it is especially important to consider how you can evidence that such a conversation took place.

To the extent that either a consent form or a contemporaneous entry in the records are important means of proving that informed consent took place, it is important to be fully aware of the test for informed consent following Montgomery (a test which is reflected well in the **BRAN (Benefits, Risks, Alternatives, do Nothing) questions** used by practitioners of Realistic Medicine). The test requires the clinician to make the patient aware of ‘any material risks involved in any recommended treatment, and of any reasonable alternative or variant treatments.’ It is not enough just to narrate the nature of the risks and benefits of the treatment provided; you should also say something about any reasonable alternative treatments, including the option of doing nothing.

Reflecting on the nature of claims that are frequently seen by Central Legal Office, clinicians are effective at describing the risks of the proposed course of treatment (both during the consenting process and when describing that process in the consent form), but describing the risks and benefits of other treatments is perhaps less well articulated. And it’s not difficult to understand why this is so. Time is one of the scarcest resources in healthcare and talking about different treatment options or exploring with the patient whether it makes sense for them to have treatment at all (and then recording that discussion) all take time. However, the conversation itself, and the record that it took place, are the best protection against successful actions being raised.

Michael’s legal perspective is important and I welcome his advice. It aligns with doing the right thing, both in the way we should support the people we care for to make an informed choice about the care that is right for them, but also in legal terms. Understanding people’s preferences does not mean that we always give people what they want, because we know that there are times when it may not be appropriate or practical for us to do so. This is where consideration of the evidence and our professional judgement becomes important in the conversation. But we should always consider **what matters to them** and try to compassionately understand how their health and wellbeing fits into the broader context of their lives.

Of further interest when considering the four domains of value in this context, evidence shows that if people are fully informed about the risks and benefits of their treatment options they often **choose less treatment, or more conservative treatment**.

## Conclusion

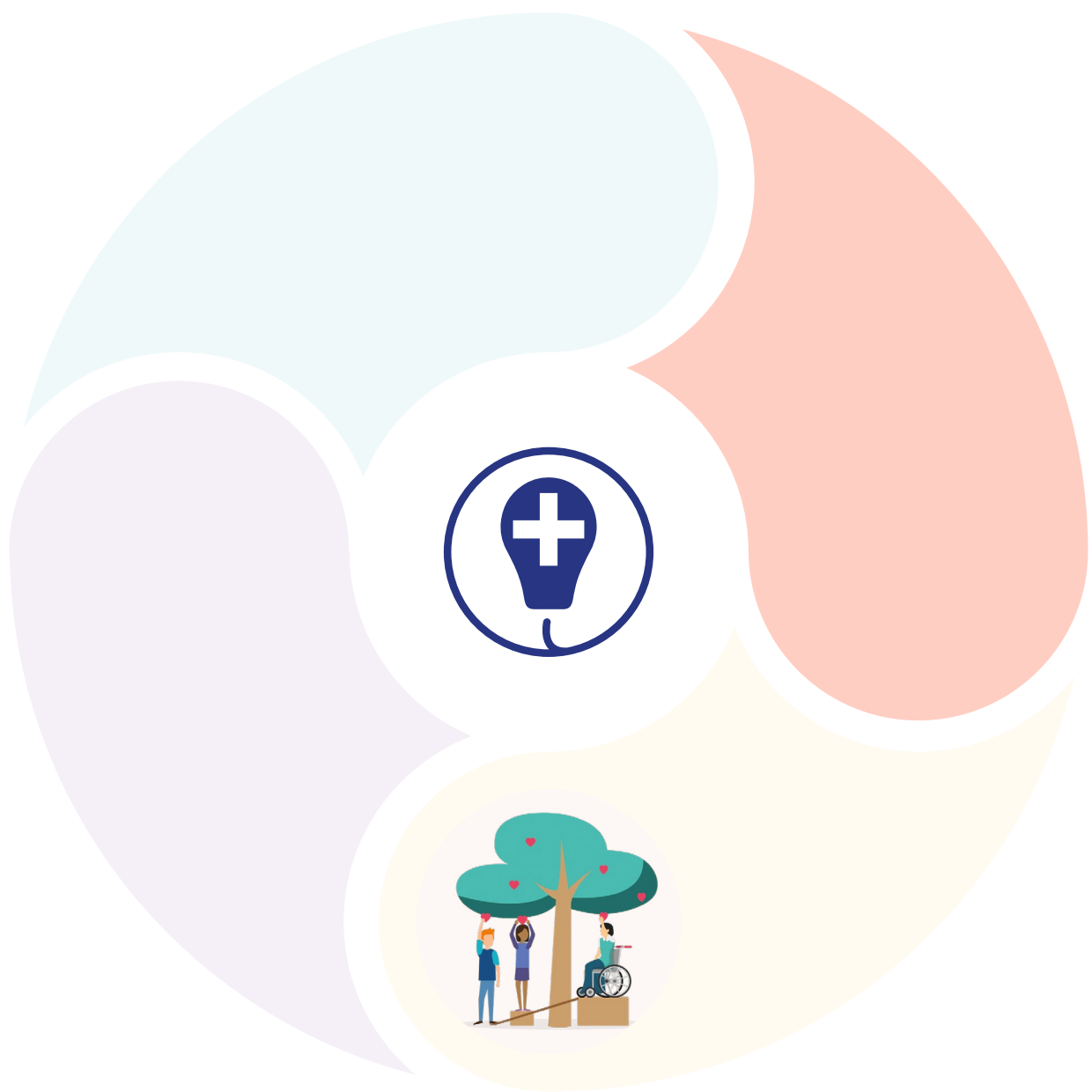
Modern health and care systems are facing considerable challenge to remain sustainable as practice becomes more intense, wider in scope and necessary for longer as people live more years in ill health. By extending healthy life expectancy and focusing on the prevention of disease, we can preserve the fundamental purpose of universal provision, and remain accessible to all in the longer term. Practising Realistic Medicine is part of how we can work together to support people to live more years in good health, reduce inequalities in health, and support recovery and renewal of services across Scotland. That's why Realistic Medicine, with its focus on delivering Value Based Health and Care, continues to be threaded throughout Scotland's Health and Social Care policy. Six commitments will help us deliver our vision for Scotland. We must:

1. Continue to practise Realistic Medicine as the way to provide higher value care and reduce harm and waste.
2. Continue to engage with the public to promote understanding of Realistic Medicine and its benefits for them and for Scotland. We will work to empower people to be equal partners in their care, through shared decision making, enabling self-management, and promoting health literacy and healthy lifestyle choices.
3. Promote outcomes that matter to the people we care for and explore how we can ensure their proportionate measurement for further improvement.
4. Continue to develop and use effectively tools that enable us all to seek out and eliminate unwarranted variation in access to healthcare, treatment and outcomes.
5. Support the provision of sustainable care in line with the **NHS Scotland climate emergency and sustainability strategy** by addressing inequalities, promoting greener care pathways and reducing waste and harm; and,
6. Continue to build a supportive and enabling community of practice with a culture of stewardship across Scotland.

To do this, we will continue to collaborate widely, developing an action plan that describes how NHS Scotland will deliver these commitments. Work on the action plan is underway and I expect to publish this in Summer 2023. Meantime, it is important to emphasise that we are not starting from scratch. Value Based Health and Care is already being provided in areas across Scotland and the **Vision** provides excellent examples of good practice. Many of these I've already had the opportunity to see up close during visits to services, hearing directly from colleagues and the people they care for about the difference it is making. This enthusiasm, to show and celebrate the success of local achievements, has been, for me, a highlight of the last twelve months. We need to build on them, support each other to practise Realistic Medicine and accelerate the provision of this type of care consistently across the country. By doing so, we'll develop the compassionate, sustainable and equitable health and care system that we want and need.

## Chapter 3:

# Health inequalities: Turning the Tide



## Health inequalities in Scotland

In Scotland, as in other countries, the levels of health experienced by different groups of people are not equal. People with lower incomes, or who are socially disadvantaged in other ways, consistently have poorer health. Those experiencing poverty, deprivation, racism and discrimination come into contact with every aspect of our health and care system. The theme of health inequalities has featured in my two

These are health inequalities – defined as, “**systematic, avoidable and unfair differences in health outcomes that can be observed between populations, between social groups within the same population, or as a gradient across a population ranked by social position**”.

previous reports. In this report, I am keen to focus attention not only on the role of healthcare but on aspects of wider socioeconomic policy in targeting the underlying core determinants of health. In the previous chapter I spoke of a **value based approach to delivering health and care**. This includes equitable care that is delivered in the right way, by the right person at the right time. Getting this right means that we are including and engaging effectively with those most at risk of poor health in our society. Getting this right means we all need to play a role.

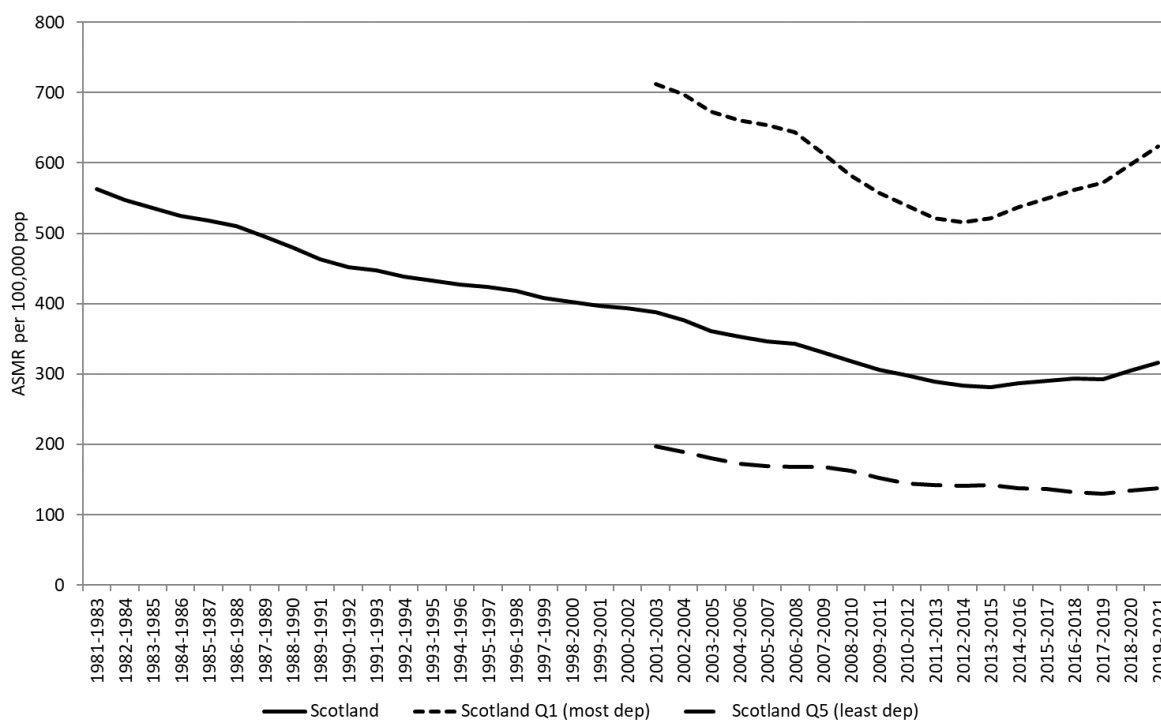
## Health inequalities trends

The extent of health inequalities in Scotland has varied over time and tracks changes in wider social and economic inequality. For instance between the 1920s and 1970s, mortality differences across the United Kingdom declined. During this period the welfare state was built, state pensions were introduced and the NHS was created. Income and wealth inequalities fell, and the **power between social groups was more equal**. Subsequently these trends reversed as economic policy changed, inequalities in income and wealth widened, and the balance of power became more unequal.

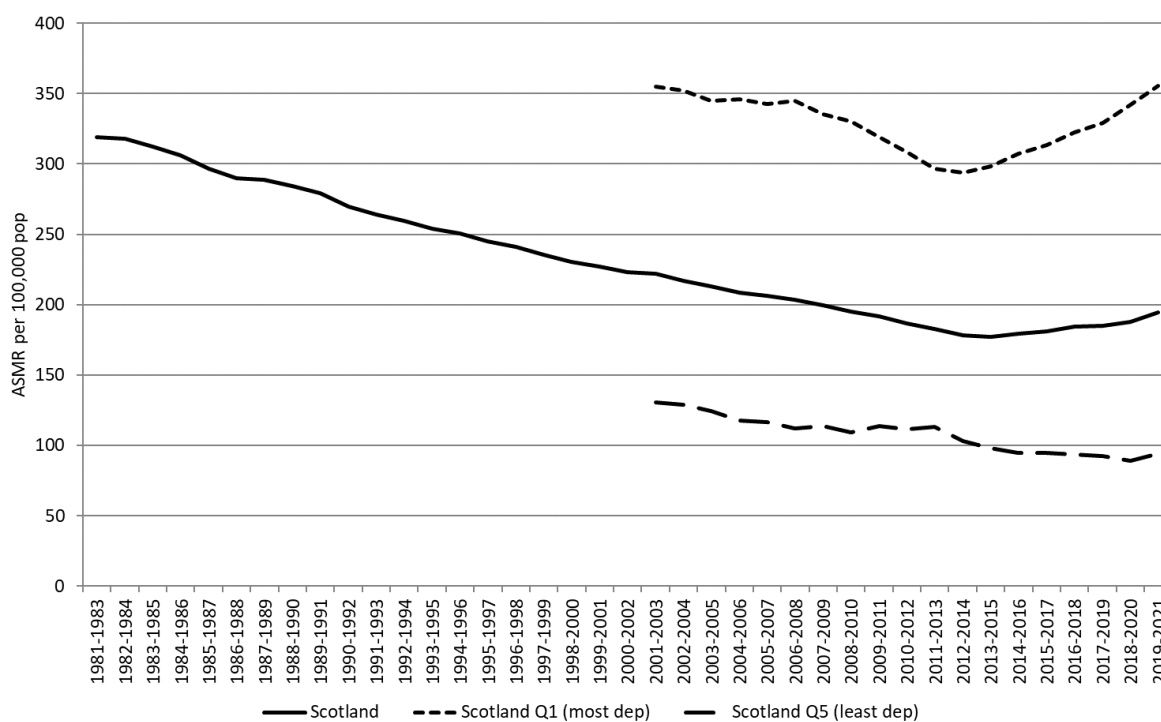
The initial stages of the COVID-19 pandemic **exposed the underlying socioeconomic inequalities in society**, and brought greater focus to the long standing racialised health inequalities that exist in Scotland. This led to a further **widening of mortality inequalities in 2020-21**. These dramatic changes are captured in the figures below. Here we can see the rise in all-cause mortality rates for both men and women in Scotland, but also that those in the most disadvantaged populations are accelerating at a faster rate.

In the Health Foundation report, **Leave no one behind**, amongst the important data it displays, the most alarming signals suggest that the fortunes of those living in our most deprived communities are becoming detached from the rest of society. The effects of the pandemic, the current crisis in living standards and the growing impact of the climate emergency are further compounding this gap. This strongly suggests that those with agency who can act must do so for the collective good.

Scotland: all-cause mortality, males, 0-64 years



Scotland: all-cause mortality, females, 0-64 years



Source: [Changing mortality rates in Scotland and the UK 1981-2021](#)

## What causes health inequalities?

Everyone's health is affected by many different influences over the course of their lives including early years experiences, schooling, employment, physical and social environments and the quality and accessibility of public services. These influences are affected by the economic and other resources that individuals can draw on.

Racism and discrimination or disadvantage, perceived relative status and the extent to which people feel in control of their life all affect health. These psychosocial influences affect mental health and lead to adverse health behaviours, but evidence also shows that they can **affect physical health through changes in cortisol and other mediators**. This wear and tear on the body is known as allostatic load, which accumulates as an individual is exposed to repeated or chronic stress.

There is also a cumulative life course effect. Children in families with more resources are likely to have more positive experiences growing up. This will both directly benefit their health and equip them to gain further social and economic resources, continuing to benefit them throughout their life.

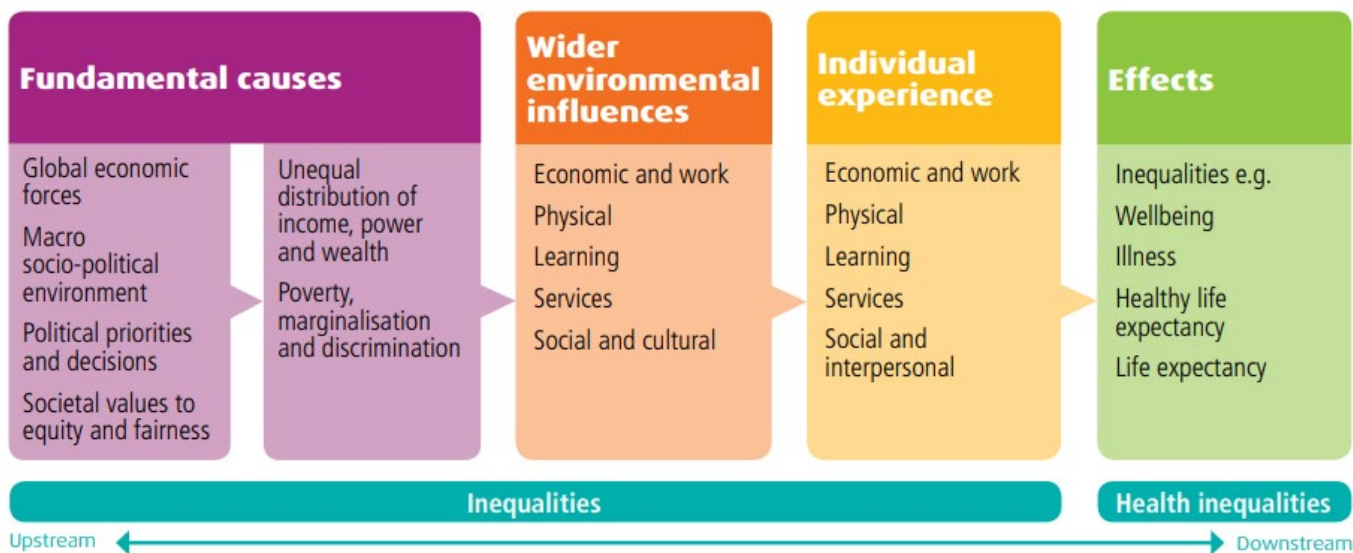
Taken together, the breadth of these influences means that reducing health inequalities cannot just focus on addressing individual diseases or risk factors but must tackle the 'fundamental causes' driving inequalities. The fundamental causes are the underlying **inequalities in income, wealth and power between social groups**. They lie beyond the healthcare sector or decisions made by individuals and are the most important factors in explaining why and how inequalities in health change over time.

Between 1981 and 2011 the average mortality rate for the whole population continued to improve. From 2012, average mortality rates and life expectancy in Scotland (and many high-income countries) **stopped improving. Mortality actually increased and life expectancy declined** for people in our most deprived areas. Over the last ten years there has been growing unease about the long-term health implications of the global economic recession following the financial crisis in 2008, and the subsequent austerity measures implemented in many countries. National responses to this major economic downturn varied substantially but, in many cases led to extensive reductions in public expenditure, including cuts to central and local government budgets, welfare services and benefits.

The figure below illustrates how the fundamental causes of inequalities influence health, leading ultimately to the health outcomes that we see.

Health inequalities theory of causation

Source: **Public Health Scotland**



The importance of income as a key fundamental cause affecting multiple health outcomes and determinants is shown in a recent report from Public Health Scotland on **health impacts of the rising cost of living in Scotland**. Rising costs due to inflation effectively reduce household incomes. These impacts will not be felt equally across the population. They will disproportionately affect low-income populations, disabled people, older people, minority ethnic people and rural populations with long term effects on children. **The supporting system model shows how these factors interlink to impact population health.**



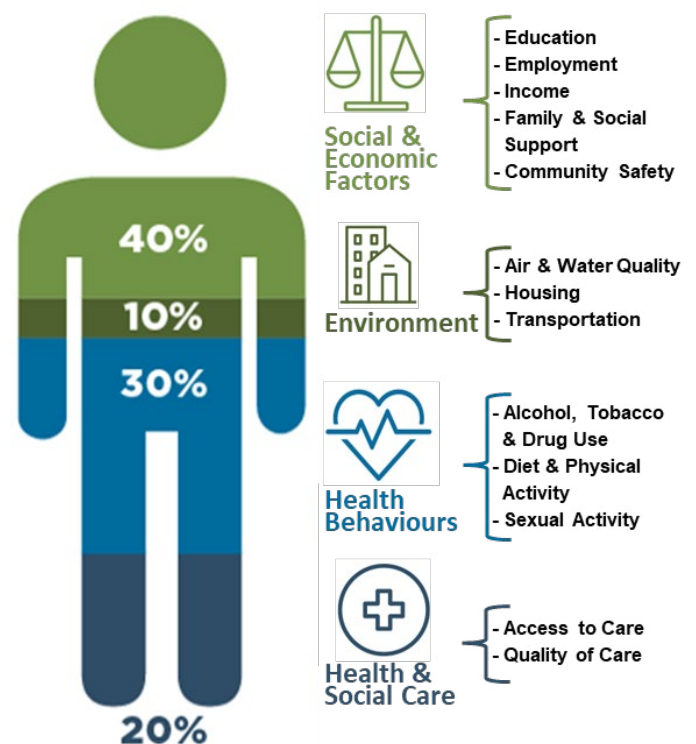
## Turning the tide

Socioeconomic drivers provide much of the benefit in supporting us to live healthy lifestyles, and often in healthcare we are dealing with the consequences of health inequalities, rather than targeting underlying causes. However, our ability to enable people to continue in, or return to, employment for example has both individual and societal benefit that assists in reducing inequality and is a critical dimension of healthcare. Worryingly, the latest **Labour market overview for the UK**, published by ONS in May 2023, noted an increasing trend of people who were economically inactive due to ill health. This is a record figure for the UK. Targeted support to enable people to return to employment, during and following periods of ill health, including the development and maintenance of robust occupational health services should be considered important to improve this worrying trend.

The evidence-based Marmot framework describes a set of principles, first set out by Professor Michael Marmot in **Fair Society, Health Lives** in 2010 and updated in a 10 years on **report**. These aim to improve health and wellbeing and reducing health inequalities through coordinated efforts to affect the conditions of everyday life and reduce socioeconomic inequalities. These ‘building blocks’, or determinants, of health include good early years; good education; good work; good income; healthy places; tackling discrimination and racism; environmental sustainability, and good ill health prevention.

In **the Marmot Review 10 Years On**, Professor Marmot expanded on the conceptual model of explaining health inequalities and the strategies to target the structural drivers of inequities in power, money and resources. I want to emphasise the additions of addressing structural racism and tackling climate change as priority areas in our approach to reducing health inequalities. These domains are heavily interlinked and require dedicated, proactive resource to ensure a just and fair transition in the way we work, live and thrive together.

This figure gives a visual representation of how health and social care services contribute only 20% of the modifiable determinants of health, with the social, economic and environmental factors (50% collectively) being the primary drivers of our health and wellbeing. Although simplified for illustration purposes, the main message is that health and care services alone are not the solution to reducing health inequalities.



\*Diagram adapted from **Bookse et al., 2010** and **King’s Fund – A Vision for Population Health** – Used for illustrative purposes.

Health services do, however, make an important contribution to reducing health inequalities by supporting action focused work on prevention, early detection, and early intervention and treatment. They ensure equity across the whole pathway of care, recognising that disadvantaged groups experience disproportionately poorer access and outcomes. In thinking of the role that NHS Scotland and its professionals play in contributing to the reduction of health inequalities, a systematic approach becomes essential.

### **Inclusive data collection**

Inequity in vaccine uptake would risk perpetuating or even worsening existing inequalities if people who needed the most protection were unable to access vaccines easily. The introduction of the COVID-19 vaccination programme offered an opportunity to help address inequalities experienced by ethnic minority groups and people from more deprived areas.

From November 2021, people attending for COVID-19 vaccination were asked their ethnicity. Data was also collected through the online booking portal and national helpline. Analysis of the Winter 2022 influenza and COVID-19 vaccination uptake at 29 January 2023, showed ethnicity has been assigned to over 93% of the eligible COVID-19 records and to 90% of eligible influenza records. This has greatly improved Scotland's ethnicity data.

Having better data on vaccine uptake by ethnicity and areas of deprivation has helped NHS Boards tailor their vaccination delivery models. This has included producing an NHS Explainer video, offered in a variety of community languages, to provide answers to questions such as whether the vaccine is halal.

To ensure all communities had access to clinics, NHS Boards used a variety of trusted community venues to administer vaccines, such as African Churches, and worked with local religious and community leaders to disseminate relevant and accurate information.

Having improved ethnicity data has led to targeted actions based on where there is the greatest need, including the commissioning of qualitative research to understand what barriers exist to vaccination within specific groups with low uptake. The insights from this research have informed local approaches to reducing barriers to vaccination.

Data on deprivation has also been used to inform the vaccination programme, including through the strategic locating of clinics within areas of high deprivation to reduce barriers to access, such as cost of travel.

Ethnicity data collection is being extended to other vaccines. With more robust and complete data, we can improve our understanding of health inequalities and subsequently inform approaches to address them, with the aim of increasing vaccine uptake and reducing the risk of harm amongst low uptake communities. Ensuring inclusion is embedded throughout vaccination programmes is a critical principle of our approach.

We must continue to coordinate efforts within health and social care and also work across other sectors to address the wider determinants described above. It will take continued cross-Government working to address climate change; improve outcomes for children and young people, including child poverty and **The Promise**; and support a transition to a wellbeing economy through community wealth building efforts.

### **1. An advocate for change for the most disadvantaged groups**

Health care professionals are having to adapt their role to an ever more complex environment. The impact of the economic realm on health outcomes, the links between planetary health and human health, and the recovery process following a global pandemic have shifted perception on the role healthcare professionals are playing in advocating for global health and wellbeing. I think it is extremely important we give time and consideration to this. Our voice can amplify the priorities and concerns of communities who have become marginalised or alienated in society, and we can work with these communities to increase their agency.

The Health of the Nation appendix to this report highlights the unmet healthcare needs of our population following the COVID-19 pandemic. These impacts will disproportionately affect people and communities most at risk, and will increase future health inequalities if not addressed. It is important that efforts to address pressure on services and help us catch up with backlogs also recognise the needs of the communities we care for and address barriers to care. We can do this by practising Realistic Medicine. In doing so we can direct resources away from **services that are wasteful, less cost-effective, cause harms, are not valued by the people we care for and do not reduce inequalities**.

Addressing the existing inequalities means delivering **healthcare in accordance with need**. Currently, healthcare services are either **accessed equally across social groups despite differences in need, or disproportionately by those whose needs are lower**. There are many reasons for this, including:

- **people not feeling worthy of NHS resource;**
- barriers to obtaining appointments and accessing services;
- a fading trust in services and providers;
- cost, time, caring or employment barriers; and,
- **services being more stretched in areas with greater needs.**

This may suggest a need for targeting of services to **geographical areas of deprivation**, but this can be **stigmatising, and many people affected by inequalities do not live in these areas**. A better alternative is to apply **'proportionate universalism'** whereby everyone has access, but with more service provision for populations with greater needs. NHS services can also link patients to other services such as welfare advice to support them with other needs.

## Meeting communities' needs

Gypsy/Travellers face some of the starkest inequalities in healthcare access and outcomes in Scotland. Key barriers to improvement in health outcomes include a lack of trust between Gypsy/Travellers and healthcare professionals; difficulties registering with GPs and dentists; low (health) literacy levels, lack of awareness of their rights and discrimination.

To help improve health outcomes for the Gypsy/Traveller community, Scottish Government funded MECOPP (Minority Ethnic Carers for People Project) to recruit and train Gypsy/Traveller community health workers (CHWs) to provide support, information and advocacy for their community on a wide range of health and social care issues. As gypsy/travellers themselves, the CHWs are trusted by their community and have personal knowledge and awareness of the issues and challenges they face. This has resulted in individuals and families feeling safe and confident to approach CHWs for help and support, and to discuss their health concerns.

Low uptake of cancer screening, as well as general communication with health professionals around women's health were identified by the CHWs as issues of concern. The CHWs worked closely with the NHS Screening and early detection teams to ensure they were aware of current advice and early detection pilots. CHWs were able to provide information to healthcare professionals around gypsy/traveller culture, and on barriers the community can face when accessing information and support. CHWs have successfully reached over 150 Gypsy Traveller women to provide early detection information and inform healthier lifestyle choices in a culturally appropriate way. This included running a women's only group at a gypsy traveller site on cancer screening and awareness. Cultural sensitivities and barriers were accommodated, such as inviting female-only health professionals to speak with community members. This informal opportunity encouraged the women to discuss health issues they hadn't felt comfortable speaking about before.

The sessions helped educate women on available healthcare and dispel long held cultural concerns around procedures like smear tests. More specifically, the session facilitated a CHW to support two women to register for smear tests (also accompanying them to the appointments). It also highlighted a lack of awareness relating to availability of vitamin supplements for babies and young children. This led to the CHWs working directly with the local NHS Board to establish a way to distribute vitamins for under 3's on two local authority gypsy traveller sites. All attendees were also given culturally appropriate information to share with their peers.

Scottish Government continues to work with the MECOPP and NHS Boards to learn from the gypsy/traveller community health worker project to support sustained improvements to access, experience and outcomes in health for the gypsy/traveller community.

## 2. Facilitating inter-agency dialogue

Building on the advocacy role of the health and care profession, comes the opportunity to gather wider professional groups or agencies to engage around the needs of patients and communities. Whether a local health centre or a hospital, the physical buildings representing health have a strong connecting power. They can become meeting places for important discussions. Effective multiagency working requires a multidimensional approach to an individual's needs that is person centred, outcomes focused and supports complex needs. Done well, the language of care focuses on the person in need of help, and deals with alleviating suffering rather than just sickness or disease. This furthers the case of ensuring that biometric and biographical care are considered in balance in order to provide a holistic response.

### Money matters

Welfare advice and health partnerships (WAHPs) integrate local authority or third sector welfare rights and money advice services into healthcare services. Embedded in 150 GP practices across Scotland – including practices which cover our most deprived communities – welfare rights officers provide advice on income maximisation, social security, debt resolution, housing, and employability issues, as well as representation at tribunals. As a member of the multi-disciplinary primary care team, the Welfare Rights Adviser can access patient records with informed consent, to prepare medical reports for GPs to authorise. These reports are used to support applications for benefits and to help address debt, housing and employability issues.

Many people trust their GP, and placing WAHPs within Practices can help reach people with money worries and people who traditionally don't access **mainstream advice services**. WAHPs have the potential to reach people before they come to a crisis point which might otherwise have brought them into contact with traditional advice services.

In the first year, more than 8,000 people accessed the WAHP service, with twice as many appointments taking place in person compared to telephone discussions. The financial gain for people using the service has totalled almost £6.2 million. Encouragingly 85% of those accessing the service to date have been new users. WAHP are reaching people who have not yet engaged with traditional advice services. The Partnerships are helping to ease pressure on GPs and primary care services, allowing them to focus on the care and treatment of the people they care for while dedicated advisers support their social and economic needs.

### 3. Community wealth building as anchor institutions



The NHS can contribute to addressing these fundamental causes through its role as an **Anchor institution**, where the impact of the NHS on local economies can be harnessed to contribute to reducing economic and social inequalities.

The value of our institutions is not only in their physical presence but also in the people who work there, the links to other community institutions, and the use of land and assets for collective good. The NHS plays a key role in contributing to the employment of local people and the procurement of local services.

The NHS has the largest single budget controlled by the Scottish Government. Using this money to best effect to deliver high quality and effective healthcare, and to reduce economic and social inequalities, is critical.

Decisions about the location of services can ease access for patients and staff, facilitate active travel and use of public transport, and contribute to reducing inequalities. The actions in the NHS Scotland **climate emergency and sustainability strategy** support this through the use of Community Wealth Building tools towards a wellbeing economy. Finally, NHS organisations can work in partnership with local authorities and others to advocate for actions addressing the wider determinants of health inequalities.

**Anchor institutions are large organisations which have significant presence in a local community, and significant power to distribute wealth and assets within that community through deliberate decisions to recruit and procure locally, and to ensure land and assets are used to the benefit of the local community.**

**They are called ‘anchors’ as they are deeply rooted in their community, having been in situ for a long period of time, and being unlikely to move in the near future.**

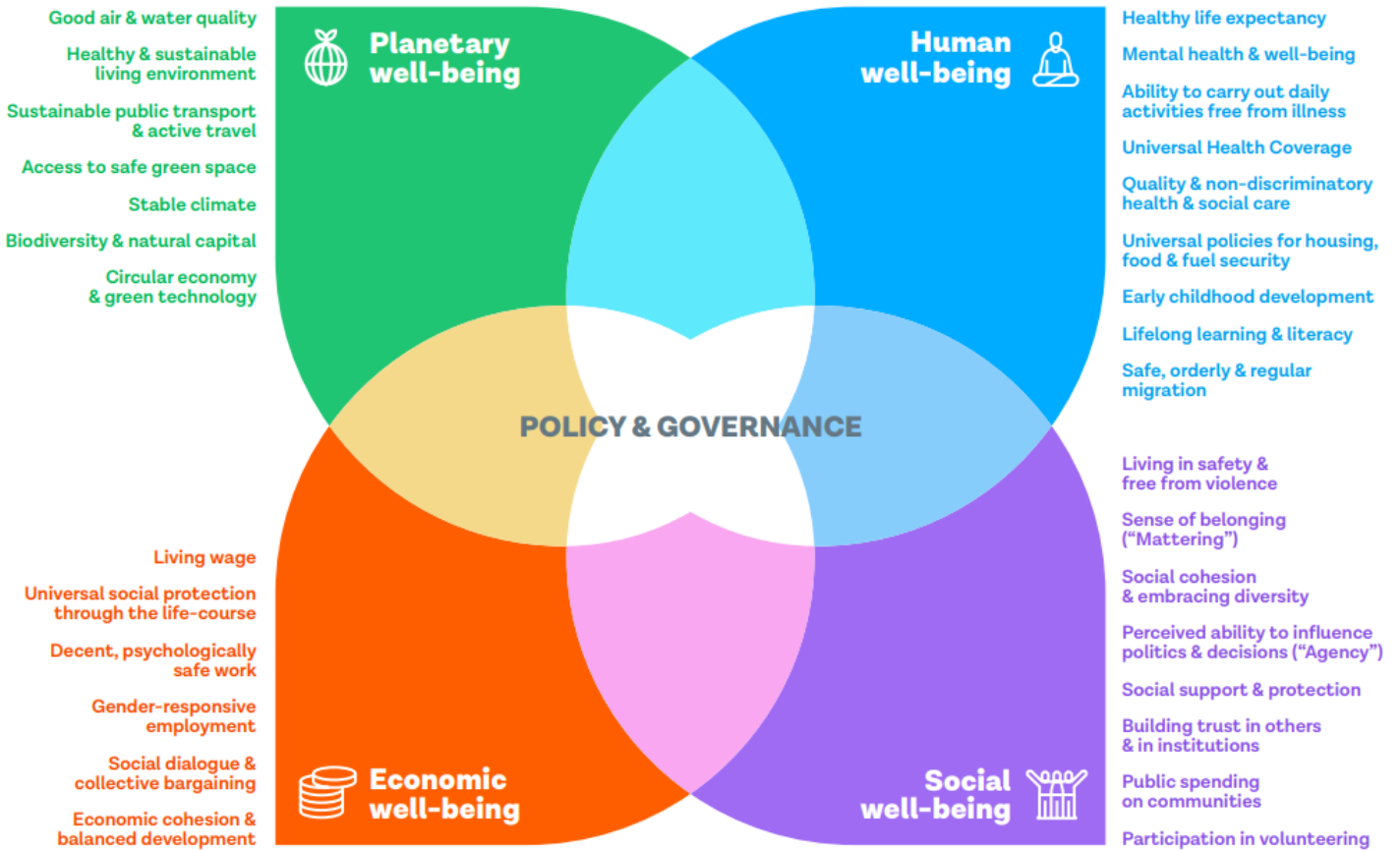
#### 4. Shaping policies that impact on wellbeing

Scotland set out its aspirations to become a wellbeing economy in 2018, to create a thriving economy that works for everyone and promotes innovation and fairness. In this sense, wellbeing is defined as “living well” and is about “how we’re doing as individuals, communities, and as a nation – and how sustainable that is for the future”. This approach is being pioneered in Scotland in partnership with other **Wellbeing Economy Governments** around the world, including Iceland, Finland, Wales and New Zealand.

Wellbeing economies are economies that prioritise human, social, planetary, and economic wellbeing, which constitute the wellbeing “capitals”. These include important assets such as trust, social cohesion, participation, environmental sustainability, and quality employment, which are crucial for developing healthy, fairer, and prosperous societies where people can thrive. Promoting population wellbeing is key to reducing the burden on health systems, to enable sustainable and resilient health care. This cannot be achieved in silos, and requires many sectors of our society working together to support each other. The move to create a wellbeing economy should help ensure economic policies contribute to achieving health and social outcomes in an equitable way. The NHS can play an important part in this by delivering appropriate, high-quality health services to populations with the poorest health, making full use of its potential as an anchor institution, and working with partners to help address the underlying fundamental causes.

This move to a wellbeing economy is reflected in the **National Strategy for Economic Transformation** and there are many different policies being developed and implemented to support this approach. These include: increasing the **Scottish Child Payment** to reduce child poverty; taking a **Community Wealth Building** approach in local authorities; implementing the **Fair Work Framework** to improve employment conditions; and increasing the range of **assets in public and democratic ownership**. Importantly, from a healthcare perspective, the health and wellbeing of individuals and communities become national indicators of the wealth of Scotland’s people. As a country, we are investing in a transition to environmental sustainability and have committed to **doing so in a way that tackles inequality**.

**FIG. 1.2**  
Well-being capitals with examples in each domain



Source: adapted from the OECD well-being framework (26).



## A whole family approach

Glasgow has the highest levels of children living in poverty of any Local Authority in Scotland. Feedback from service providers and families suggests that the current support system is difficult to navigate for families and professionals.

Good quality early intervention and preventative holistic family support are essential to reduce preventable ill health, tackle the adverse effects of child poverty, and close the gap in life expectancy. General practice holds a unique position within communities as a provider and enabler of care and support, without stigma or referral criteria, and as an advocate for individuals and communities.

The Scottish Government is providing Glasgow City HSCP with funding, from 2023-2026, for a new programme of multi-agency **Whole Family Support through General Practice**.

Initially, the programme will be developed in a small number of deprived practices. As well as joining up existing services, the programme will introduce new family nurture and empowerment roles and other evidenced-based support for well-being services. It will include components for families with children from pre-school to secondary school age who are in/at risk of poverty and poor health outcomes, including:

- making every contact count, so that consultations with families do not just address the clinical issues presented, but are the starting point for social, psychological and economic support; and,
- outreach with families on practice lists who are not using or under-using primary care to ensure the right type of support for them. Outreach is critical as many who need care and support do not know how to, or cannot effectively, access services.

By working with families, the programme will address the health and wellbeing of children, parents and other caregivers, supporting people to remain socially connected (e.g. building links with community supports, helping them to maintain relationships) and economically active (e.g. helping people to stay well can help them participate in work). New multidisciplinary teams will be in place by autumn 2023 and the programme will be evaluated over 2023-26.

## 5. Building a Health in All Policies approach

This chapter has highlighted that the main drivers of health and health inequalities lie outside of healthcare – in fact, health is affected by policies and decisions in all sectors. This means that to improve health and reduce inequalities we need to work across policy areas to ensure all policies are designed to maximise benefits to health and prevent any risks to health. This is an approach called **‘Health in All Policies’**.

Policies to reduce inequalities in income, wealth and power are crucial, since health inequalities are unlikely to reduce without effective actions at this level. I am keen to see the development of **Health in All Policies** framing as we move through this period of NHS Reform and Recovery to a stronger preventative model investing in healthier populations at both local and national levels.

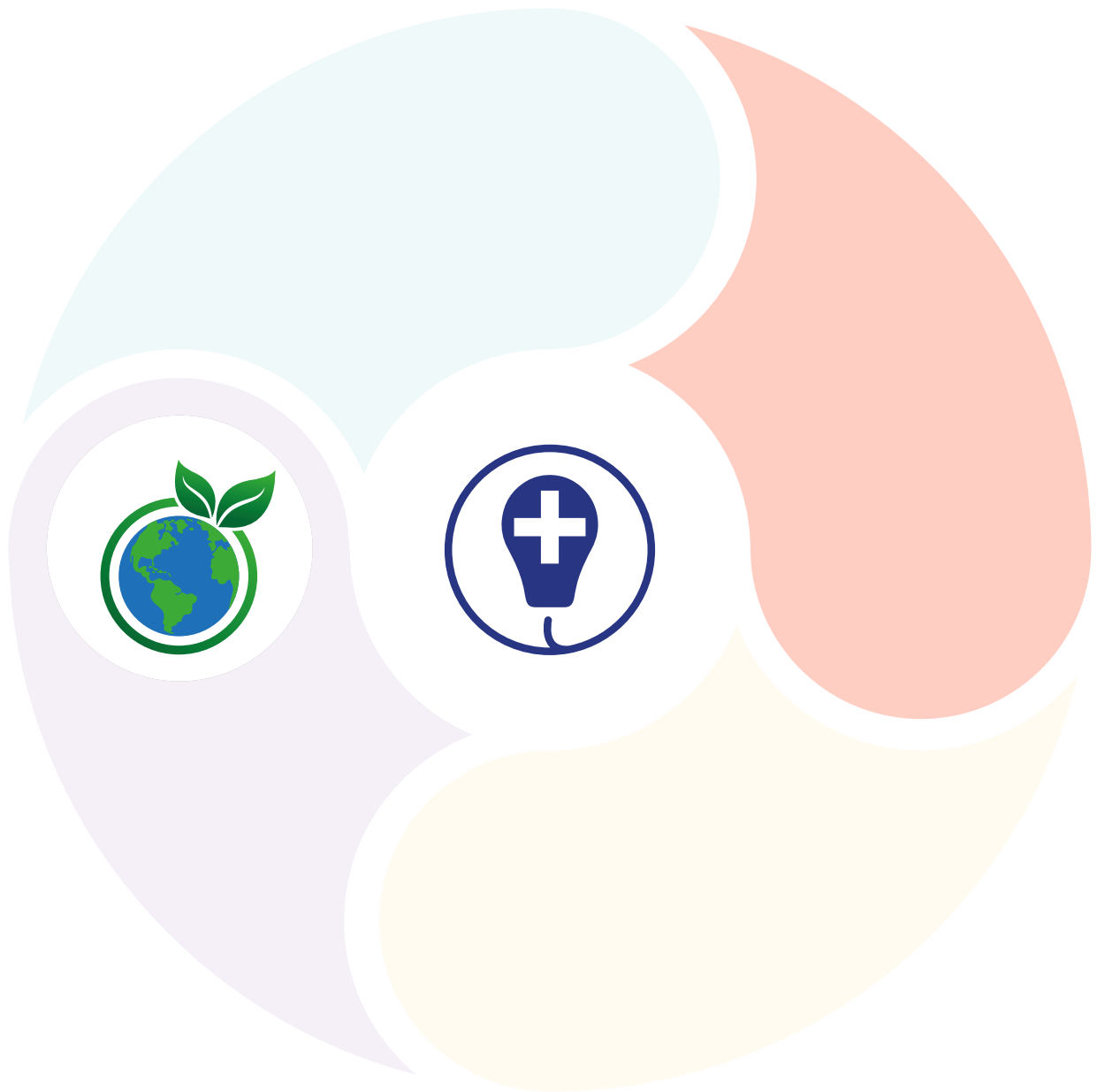
Health in All Policies is promoted by the **World Health Organisation** as a preventive approach that tackles the underlying determinants of health. A common way to achieve Health in All Policies is by applying **Health Impact Assessment** (HIA). HIA is a structured, partnership approach that uses public health skills and evidence to assess the potential impacts of policy proposals and identify changes that would improve these impacts. In Scotland, HIA has been used in policy areas including **housing, transport** and many **others**. Public Health Scotland has recently established a HIA Support Unit to build capacity to use this approach. I am keen to encourage my public health colleagues and wider partners to draw on this resource and to work together using the Health in All Policies approach more consistently. This will help us to create the positive **building blocks** needed to improve health and reduce health inequalities across Scotland.

## Conclusion

Recognising the role that healthcare plays in tackling health inequalities is essential, but it is only the first step in realising the potential and opportunity for improvement offered by collective and collaborative action across the whole system. It would be easy to become pessimistic in the face of these challenges, but there are significant opportunities for the Scottish Government and other public and private organisations in Scotland to achieve important shifts in the trends of health inequalities. In moving from our current position, it is imperative that each of these sectors and organisations realise the contribution that they can make individually and collectively to reducing structural inequalities that persist across the country. Only by doing this, and by reducing the alienation of those communities and people who have not yet been fully reached, will health inequalities begin to reduce across Scotland.

## Chapter 4:

# Climate and Health: Planet and People in Partnership



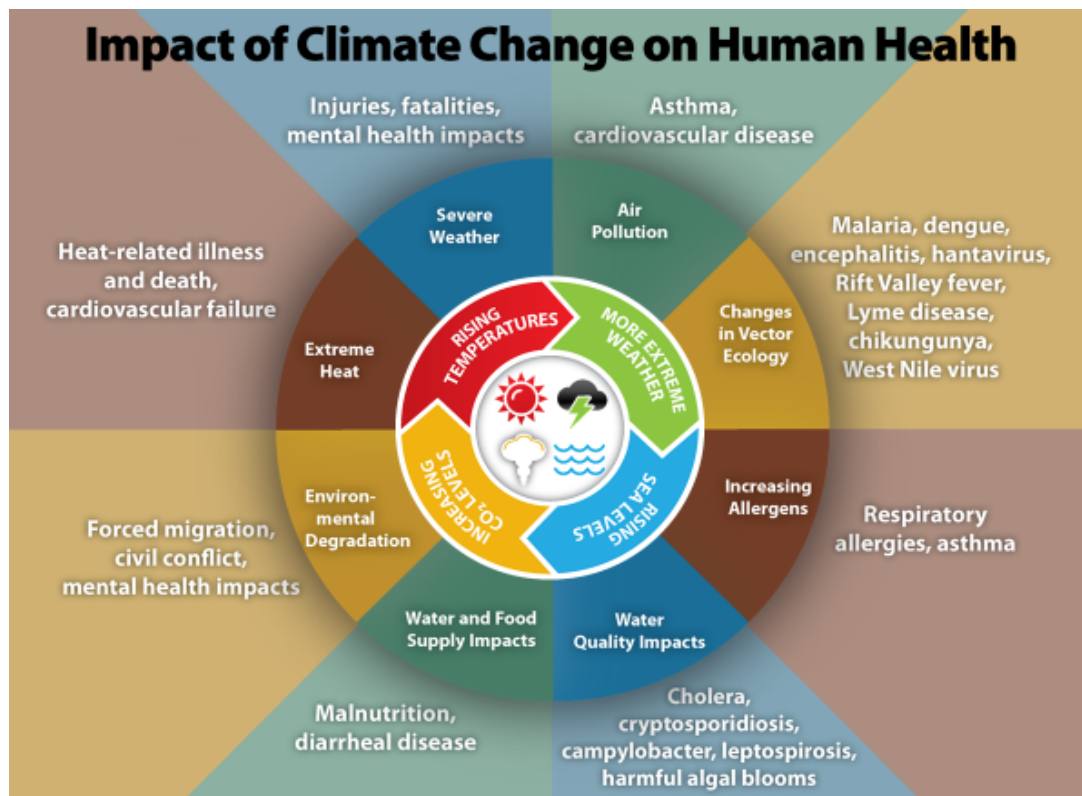
## The climate emergency – the single biggest health threat facing humanity

The climate emergency is no longer a potential and distant threat. Instead it is an immediate population health crisis, unfolding in multiple ways and affecting everyone globally. It requires action now to prevent its worst impacts. The earth has warmed by about 1.1°C since the beginning of the industrial revolution, with most of this warming happening in the last 50 years. The last decade was the warmest ever recorded. A child born today is entering a world with a different climate to the one I was born into. In March 2023, the **Intergovernmental Panel on Climate Change** highlighted the burning of fossil fuels, and unequal and unsustainable energy and land use as the main drivers of global warming to date, and that the pace and scale of action needs to accelerate to keep global temperatures below 1.5°C. Every increment of warming results in rapidly escalating hazards, with more intense heatwaves, heavier rainfall, food and water insecurity, and other extremes that put human health and ecosystems at risk. Climate change has a multiplier effect, and covers not just extremes of weather, but also the impact of pollution and biodiversity loss on the natural environment. The consequences of these changes demonstrate how closely linked human health is to that of our planet and its natural systems.

Globally, the impacts of adverse climate events reduce access to the resources on which we all depend, including food, water, health, education, and transport. During this last year newsfeeds reported on wildfires in Europe that destroyed nearly 660,000 hectares of land; floods in Pakistan that put one third of the country under water; heatwaves that saw new temperature highs of 49° C in Delhi, 50.7° C on the northwest coast of Australia and 47° C in Portugal; storms that killed hundreds and cut off thousands of people from essential food and care in Madagascar, Malawi and Mozambique; and droughts that have put up to 20 million people living in the Horn of Africa at risk of starvation.

Closer to home, temperatures in the UK exceeded 40° C for the first time during heatwaves in 2022. England recorded 2803 excess deaths in those over 65 years of age **during these heat-periods between June and August 2022**. In Scotland the shifts in rain patterns and the late winters, early springs and hot summers may have seemed positive to some, but they are the warning signs of nature being out of balance. In the past year, the lack of rain during growing season destroyed significant agriculture and heightened risks of fires. Storms and their resultant floods broke transport links, destroyed family homes and property, and increased the risk of damp in housing. The climate emergency is very much here and affecting us now.

**We are at a unique moment in history, a turning point where the future is in our hands. We have a vital role to play, as we continue to work tirelessly to support the people we care for, and as the people who make our health and care services anchor institutions within our communities, embodying and protecting the core values of our society.**



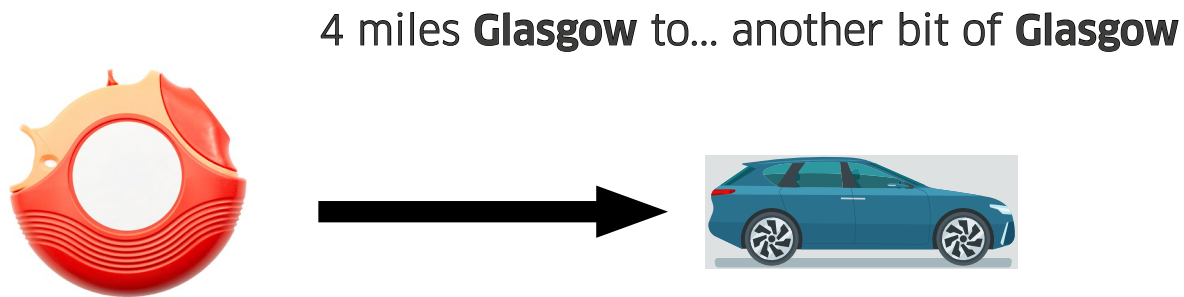
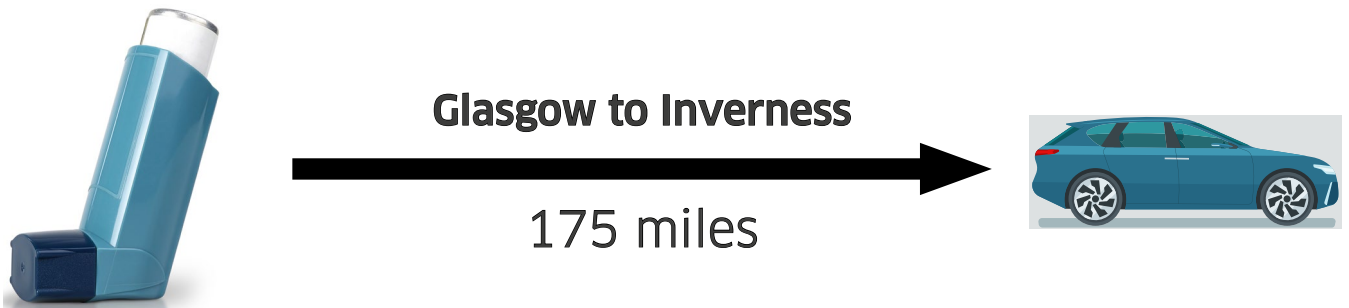
## The climate emergency affects human health and wellbeing both directly and indirectly.

**Direct** effects of the climate emergency on human health are seen through changing weather patterns. Heat stress, floods, cyclones, wildfires, and storms can all impact directly on our health. Prominent most recently has been the effect of heatwaves across the globe. Heat-related deaths in Scotland could rise from 85 in the year 2000, to 285 a year by 2050, with particularly those **at the extremes of age being most vulnerable**. Heatwaves affect maternal health with **increasing risks of lower birth weights and preterm births**. Flooding and economic disruption are also associated with mental health impacts due to unforeseen costs, **business disruption, and temporary housing** in Scotland.

**Indirectly**, the climate emergency is changing the nature and patterns of diseases we experience. Vector-borne diseases are increasing globally, mosquitoes have longer breeding seasons and are occupying more widespread geographies. In the UK the prevalence of Lyme disease and West Nile virus is increasing. The incidence of Lyme disease in Scotland increased by 50% **from 200 in 2015, to 308 in 2019**. Bacteria, parasites, harmful algae, and viruses are becoming more prevalent, harder to control, and more resistant, affecting food security and causing food-borne illnesses.

Air pollution is created from fine particulate matter emitted from various sources including fossil fuels, vehicle exhausts, tyres, brakes, burning of wood and coal, industrial processes, chemical reactions, and agricultural processes. These particles

are small enough to penetrate the lungs and make their way into the bloodstream and then to other organs of the body. The **World Health Organisation (WHO) Global Air Quality Guidelines** indicate that 90% of people live in areas where ambient air pollution is at harmful levels. Coastal flooding, riverbank overflow, and landslides are increasingly common, and difficult to manage. Flash floods and increased run off from the floods has led to water contamination, and interruption of water supplies, with cholera risks increasing year on year.



Equivalent tailpipe greenhouse gas emissions from a Ventolin Evohaler (containing 100 2-puff doses) and a Ventolin Accuhaler (60 1-puff doses). Assumes car achieves 100gCO<sub>2</sub>/km.

## Inhaling cleaner air

The climate emergency has been described as the greatest threat to global health. The National Health Service accounts for 5.4% of UK carbon emissions. In general practice the majority of emissions are from prescribing, **25% of which are from metered dose inhalers (MDIs)**.

MDIs contain hydrofluorocarbons. **The environmental impact of one MDI is equivalent to driving 175 miles by car**, for example driving from Glasgow to Inverness. A dry powder inhaler (DPI) is closer to a 4-mile drive. Disposal of inhalers in landfill is harmful to the environment in both material waste and greenhouse gas emissions.

Garscadden Burn Medical Practice initiated the change in peoples' treatment, where appropriate, from MDI to a DPI. All six practices within Cluster A of North West Glasgow Health and Social Care Partnership agreed to deliver a Quality Improvement Programme – Greener Respiratory Health;

### The aim was to:

- reduce use of MDI where appropriate, raise awareness of environmental impact, and encourage greener disposal of inhalers;
- develop an audit tool to monitor and quantify the Quality Improvement approach;
- gather data on overall patient management, quantify appropriate inhaler changes and the resultant reduction in greenhouse gas emissions; and,
- avoid increasing the Practice Nurse workload by making the audit tool easy to use, and completed as part of asthma/COPD reviews.

### What have the outcomes been/What difference has this made?

- from January – mid-April 2023, 128 patient reviews were completed. In this group 643 MDI's had been prescribed in the previous 12 months;
- most people were not aware of the environmental impact of MDI inhalers;
- 104 people were suitable for and wanted to switch to a DPI;
- by swapping 104 people to a DPI the need for MDI prescriptions were reduced;
- this saved 12,217kg of CO<sub>2</sub>, the equivalent of driving 112,525 miles or travelling 4.5 times around our planet; and,
- this approach continues to deliver the co-benefits of reducing the carbon footprint of care and reduce air pollution, while supporting shared decision making.

## The climate emergency is also a socioeconomic emergency

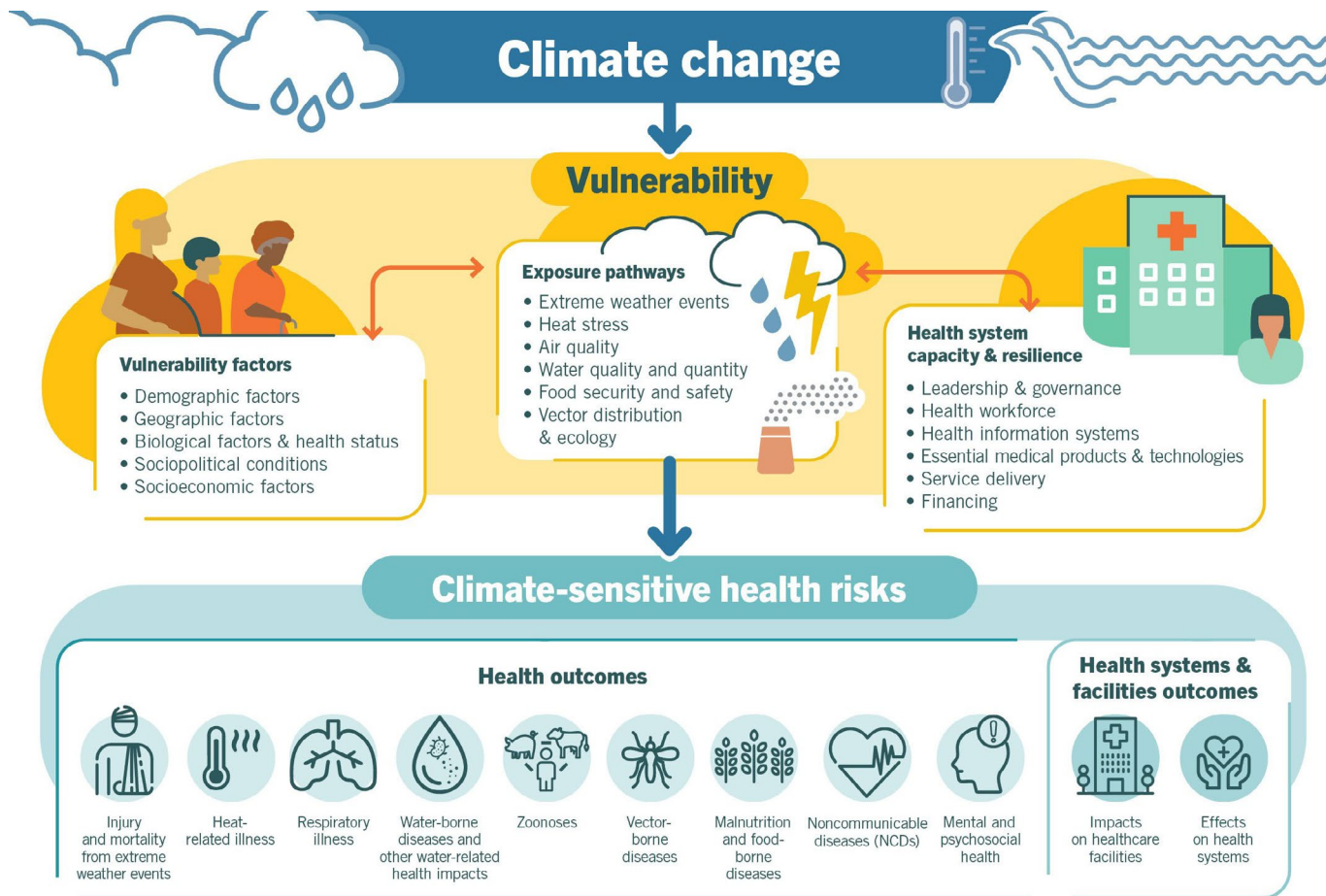
Health and equity are inextricably linked. Those who are already most vulnerable in society are least able to protect themselves against the impacts of adverse events. The drivers of the climate emergency also reflect a global and local inequality. The majority of the greenhouse gas emissions are, and have been historically, linked to high income countries and the energy systems used to power economic systems. As we have explored in the previous chapter, increasing social inequalities contribute to widening health inequalities. Those living in areas of deprivation and in rural areas are most vulnerable to extreme weather events such as storms and extreme cold, especially where housing lacks insulation and heating is expensive. Air pollution levels are **higher in almost all deprived areas in Scotland**. The Third UK Climate Change Risk Assessment found that **flood disadvantage is greater in coastal areas, declining urban cities and dispersed rural communities**.

The climate emergency adversely impacts GDP and local economic development in several ways including:

1. destruction of livelihoods;
2. damage to infrastructure by extreme weather events; and,
3. increasing costs linked to core resources such as food and water.

The IMF in 2020 predicted that direct damages linked to climate disasters such as wildfires and flooding between 2010-2020 cost **US\$ 1.3 trillion (on average 0.2% of global GDP annually)**. Increases in energy and food prices affect the lowest-income households most across the globe. Fuel poverty, whereby households spend greater than 10% of their income on energy, is **highest in rural and remote regions of Scotland**. Food security and food safety have been threatened. The increase in cost for poorer families is a much larger proportion of the household budget than for wealthier households who can often absorb more of the shock. The figure below from the World Health Organisation shows some of the **mechanisms through which climate change can influence health outcomes**.





## Reducing our impact on the environment and adapting to change

I've mentioned this in previous reports, however it remains a sobering fact. If healthcare were a country it would be the fifth largest emitter on the planet. The global health care climate footprint is equivalent to the greenhouse gas emissions from 514 coal-fired power plants.

Recognising this, Scotland was the first national health service in the UK to commit to becoming a 'net zero' organisation. Our **NHS Scotland Climate Emergency and Sustainability Strategy 2022-26** was published in August 2022. It sets out five main areas where change can happen:

- sustainable buildings and lands;
- sustainable travel;
- sustainable goods and services;
- sustainable care; and
- sustainable communities.

Clinicians and staff must be at the heart of work to achieve a culture of stewardship within NHS Scotland, where resources are safeguarded and responsibly used to provide environmentally sustainable healthcare. Improving patient care is fundamental and all steps taken are with the dual focus of improving outcomes for patients and reducing environmental impact. The aim of this strategy is to complement action taking place at an individual level, but also to help provide the support to staff to take action to reduce their impact.

We have already seen the impact clinicians can have in this space. Desflurane was responsible for most of the emissions from NHS Scotland's use of volatile medical gases. Green Anaesthesia Scotland, a grassroots group of anaesthetists, started to decrease the use of this drug in 2017, substituting it with another agent, Sevoflurane, which is just as safe and effective, reduces carbon emissions by more than 80%, and costs four times less. This work continued with the establishment of the National Green Theatre Programme and, after consultation with the wider anaesthetic community, it was agreed that Desflurane will no longer be available on the National Procurement contract. This has saved emissions equivalent to powering 1,700 homes every year.

To fully tackle the climate emergency, effective collaborative working across the healthcare system will be vital. There is great power in combining the aims of Estates Management teams and Procurement teams to unify the action of proactive and positive change. For example, it is estimated across Scotland that approximately only 30% of waste found in orange clinical waste bags is clinical waste; the remaining 70% is either similar to residual (domestic) waste, or is valuable recycling material. The mis-segregation of waste has a significant cost burden in terms of both financial and environmental cost. To promote greater understanding of the risk posed and working to support and encourage clinicians to make informed decisions, NHS Scotland has launched **a waste management training package** to help staff segregate and manage the valuable resources in waste better. This work came through a Short Life Working Group of Waste Management Officers and led by NHS Assure. It is the first national training package for waste management in place for NHS Scotland, and is a great example of one of the many ways that clinicians are being supported to take more sustainable action.

Of course whilst we should and will take action to combat the emissions of the NHS, it is also vital that we ensure that we are able to adapt to changes. Fortunately, many of our actions to reduce emissions, promote biodiversity and reduce pollution also make the NHS more resilient. For example, developing and managing greenspace and other green infrastructure such as green roofs and rain gardens to mitigate flood and overheating risks, will also promote biodiversity and make the NHS estate more appealing for staff and the people we care for.

### **Making use of green and blue spaces**

Nearly 2.8 million people in the UK live more than 10 minutes' walk from a garden, public park or playing field. A Health Impact Assessment by the Lancet Planetary Health in more than 1,000 European cities in 31 countries, concluded that **43,000 premature deaths in Europe could be prevented every year if urban green spaces were increased.**

Green and blue prescriptions (blue prescriptions refer to nature activities related to water) are 'doses' of nature tailored to people's wellbeing needs.

In Edinburgh, five GP practices worked with the **Royal Society for the Protection of Birds to deliver Nature Prescriptions.** This included a leaflet and a monthly calendar of nature activities and ideas. Nature was prescribed for 32 different health conditions across all age groups. Prescribers were predominantly GPs, but included Practice Nurses, Health Care Assistants, a Community Psychiatric Nurse and a Link Worker. 74% of people reported that the Nature Prescription had benefitted them, with 70% stating they continued to connect with nature daily, or multiple times a week. People and prescribers also reported increased awareness of nature.

In terms of action to adapt, in June 2019, NHS Chief Executives committed to each Health Board undertaking a Climate Change Risk Assessment covering all operational areas and producing a Climate Change Adaptation Plan to ensure climate-resilient health systems under changing climate conditions. To date, 17 Health Boards have completed a Climate Change Risk Assessment. Building on this, these Boards are developing Adaptation Plans. Due to the important role the NHS plays in local communities, this work will contribute to public sector-wide local and regional adaptation planning activity.

## **The triple win – co-benefits of action**

When I think about the role of health and social care leaders in tackling the climate emergency, I think of three things:

- 1.** the impact of the climate emergency on health itself. This relates to the direct impact of weather extremes and the indirect impact of changing patterns of disease. These factors give us cause to rethink how we deliver sustainable healthcare;
- 2.** the resilience of our health and social care systems. The global examples illustrated above demonstrate the incredible challenges these events present to the provision of healthcare. We must work together to ensure our health and care services are equipped to cope with ever increasing environmental challenges; and
- 3.** the impact that the delivery of health and social care has on the climate emergency. For me this relates to leaders and health and care professionals recognising the need for more sustainable care and collaborating to develop greener pathways of care that will deliver better value, more sustainable care which help to eliminate waste – both wasted resources and the time wasted in providing low value, or futile care.

Practising Realistic Medicine can help us tackle the climate emergency on all three fronts. By practising Realistic Medicine we can deliver better value for the individuals we care for, improve the resilience of our health and care system by reducing waste and potential harm, and redirect resource that is currently wasted to higher value, greener, more sustainable care. A challenge to us all is to identify those areas of work that we all contribute to, but which don't add any meaningful difference to the people we care for. After all, inappropriate care is wasteful care. We can reduce the carbon footprint of our healthcare through promoting good health, detecting treatable and preventable illness early, utilising convenient access to virtual patient services when this is appropriate, reducing prescriptions that are redundant and working together to prescribe the right drugs for the right diagnosis.

### Re-using and recycling walking aids in NHS Forth Valley

Over 8,000 walking aids were being issued to people by NHS Forth Valley annually with no clear pathway of returning the items when they were no longer required. Many items were being discarded in clinical areas causing infection control problems, or ending up in landfill. The purchasing of new walking aids meant that the budget was grossly overspent.

In 2021, a returns pathway was created to encourage Forth Valley residents to return walking aids to their local recycling centre. Walking aids are collected, inspected and if fit for re-use, cleaned and returned to NHS Forth Valley. Walking aids not fit for re-use are recycled.

5,153 walking aids have been returned to NHS Forth Valley fit for re-use, with an additional 3,337 items recycled since the pathway was introduced, contributing to carbon savings of approximately 29,375 KgCO<sub>2</sub>e. Approximately 50% of walking aid orders are now fulfilled using re-used aids, generating a significant cost saving too.

There is an extraordinary triple win for us all through a positive response to the climate emergency the co-benefits of action will improve our own health and the health of our communities and the population in Scotland, it will improve our experience of working in and with the NHS, and NHS Scotland's ability to deliver sustainably now and in the future.

#### Triple wins:

##### Taking climate action

**improves** health outcomes for patients, our population and the planet

**creates** a safer, sustainable place to work

**reduces** cost of care immediately and in the future

## Climate action is not only action to keep our planet safe, it is action for health and wellbeing

Investing in climate friendly and climate resilient energy, food and infrastructure has multiple benefits for health now and in the future. Increasing availability of public transport and infrastructure that enables active travel will both reduce carbon emissions and improve air quality, bringing multiple health benefits. For example, cleaner air reduces the risk of respiratory and other illnesses, walking and cycling promote physical and mental health, and access to green spaces reduces social isolation and enhances community cohesion. Indeed the **annual health and economic benefits of active commuting to work in Scotland** has been estimated to be EUR 700.2 million, and EUR 79.8 million for cycling to work.

## Sustaining momentum

Work with the Sustrans' **NHS Workplace Engagement Programme** is underway in NHS Dumfries & Galloway, NHS Grampian, NHS Highlands and NHS Shetland. A Workplace Engagement Programme Officer has also been employed in NHS Ayrshire & Arran via Sustrans since November 2022. The overall aim of the programme of increasing active travel should contribute to cleaner air in our local communities, increase physical activity levels of staff, and reduce travel costs for staff-and it's already having a positive impact for many individuals:

### Helen Hendry, Obstetrics, Raigmore Hospital

Helen always drove the 2.5 miles to work but in 2019, worried by her family history of Type 2 diabetes and her high BMI, she bought an ebike through the staff cycle to work scheme. She now gets daily exercise from her commute, with the ebike helping with the hills and making the trip really comfortable.

After just a month she sold her car. Running just one household car made immediate savings of £300 per month.

Helen says: "I really love my commute and my ebike. I have a good route and park right outside my office - no stress! The exercise and fresh air really helps me clear my head after a day at work before I go home to my family. On the odd occasion when I need to use the car instead, I really miss my cycle!"

The staff cycle to work scheme saved me money on the bike and accessories like a helmet and a good lock, and let me spread payments which was really helpful. An Active Travel Project Bike Doctor session gave me free help and advice with my brakes.

Since I've switched from driving to my ebike, I've lost 3 stone.

I really enjoy it and feel great. The financial savings are also really welcome!"



The **human food system is responsible for more than one third of global greenhouse gas emissions**, and the **primary cause of biodiversity loss**. Yet, **globally 25-30% of food produced is lost or wasted on an annual basis**. Transitioning to less carbon intensive diets with less meat and more plant-based foods, and only producing what we need would bring co-benefits of reducing carbon emissions, protecting biodiversity, and consuming healthier diets.

Reducing waste not only reduces procurement costs but also the energy used to produce stuff that ultimately does not get used. **An estimated 10% of prescribed medication** is thrown into toilets or drains. The presence of pharmaceuticals in the environment, particularly antimicrobials, has also been associated with the **exacerbation of antimicrobial resistance** in bacteria, fungi and other microorganisms. Whilst there is limited understanding on the contribution of environmental antimicrobial resistance on population health, this is nevertheless an area of serious concern, since **antimicrobial resistance** is a major global health problem which accounted for **4.95 million deaths in 2019**.

Wastewater systems were never designed to remove small, complex chemical molecules. Inevitably many medicines pass through the treatment plants and end up in surface waters and rivers in the effluent or in the sludge which is then spread on crops and can enter the food chain. NHS Highland is leading a Medical Research Council project to develop an eco-directed framework for prescribing decisions, essentially aiming to include environmental data about risk and hazard into a model which could help formulary choices or health technology assessments in the future. When we choose to consider environmental sustainability in selecting, prescribing, using, and disposing of medicines the application of Realistic Medicine again comes to the fore:

- promoting a person-centred approach to preventing population ill health;
- using shared decision making to discuss the risks and benefits of medicines;
- optimising pharmaceutical use and prescription;
- reduction of pharmaceutical wastes and inappropriate polypharmacy;
- enhancing the use of social prescribing; and,
- reducing variations in clinical practice.

## Words into Action

Our physical and mental health is dependent on flourishing natural and social systems and the wise stewardship of these, but the continuous warming of the planet is placing health, wellbeing and health systems in danger. As health and care professionals we must not lose sight of our role in delivering a sustainable health and care system, and we must recognise and fully understand the links between practising sustainably, planetary health and human health.

Taking proactive action to mitigate against the climate emergency, and to adapting to its effects will improve our environment, and reduce biodiversity loss. What we, as a community of health and social care providers, now know is that **taking action to become more climate resilient will simultaneously change the health of Scotland for the better.**

All the adaptation and mitigation measures needed to reduce the suffering that the climate emergency will bring, are actions, which will also reduce disease, improve wellbeing, create better living conditions, and foster relationships with nature. This is the integrated nature of the four threats to population health that we face. Many of us will have strong personal reasons for wanting to take proactive steps for our loved ones, as well as future generations. I have found that aligning personal values to areas within my professional role and influence to be deeply fulfilling.

We can **act individually** by making wise choices. This year the **United Nations campaign for Individual Action** was launched setting out 10 steps each person can take to tackle the climate emergency. From a healthcare perspective, this can be made more specific by thinking of the areas of clinical practice that link to environmentally sustainable healthcare. The **10 things healthcare workers can do to combat climate change** from Dr Sarah Barlett and Dr Marion Slater from the Royal College of Physicians of Edinburgh gives an outline of this.

### 10 things health workers can do to reduce our professional impact on the environment

1. Practise good preventative medicine	6. Switch things off and close doors
2. De-prescribe unnecessary medication and consider what you do prescribe	7. Walk or cycle to work (or use public transport)
3. Reduce the number of investigations you request	8. Bring your own (local plant based) food and drink in reusable containers
4. Use telephone consultations and low carbon meetings when possible	9. Learn about the problem, audit your practice, and share the stories
5. Reduce unnecessary use of disposable PPE	10. Join discussions in your trust about the big things (procurement, energy, recycling etc)



## We can act collectively

In our role as healthcare professionals we can help make the connections between the changing climate and our health and wellbeing, and importantly relate these to the people we care for. Frequent surveys continue to place health and care workers as the most trusted professional community. Our voices and our values matter and have influence. We work within anchor institutions that provide stability and connection across the whole of Scotland. Our NHS as an institution is dependable and a trusted source of “societal value”. The NHS workforce has the power to model actions – assessing risk, demonstrating climate resilience, and planning for all our futures. As global citizens our NHS in Scotland has something exceptional to offer to global conversations on how to reimagine healthcare differently.

Taking action for the climate emergency is not about doing more work, filling in more forms or ticking more boxes. Taking action is intrinsically about enacting our values: valuing people, our planet and our health. We can nurture the conditions that allow people to live healthy lives and flourish. Our commitment is to a health and care system that is open to everyone, a place that cares about how each person is now and how they will be in the future.

## We are acting as a country

Low-carbon policies across industry, agriculture and transport in the nine largest greenhouse-gas-emitting counties would avoid **an estimated 10 million premature deaths every year**.

Scotland’s aim of leading the world in this area is ambitious and necessary. We have a national co-ordinated response, with every sector taking action to reduce the negative impacts of the climate emergency. The actions we take as a country within a global community to stop the earth’s temperature rising are actions which will reduce disease, improve fitness, support mental health and wellbeing, create spaces and places that are more conducive to nature and good to be in, reduce living costs and increase our solidarity.

## Conclusion

It is no longer acceptable to simply talk of the action required to mitigate the harmful impacts of the climate emergency. The impacts are already being felt around the world and more urgent action is necessary. The earlier and more collectively we act, the bigger and quicker the gains will be. By addressing the wide range of health impacts of the climate emergency, by strengthening our services and systems so that they are sustainable and climate resilient, and by promoting the health co-benefits of all the work that is done nationally and locally to mitigate climate change, we bring about our triple wins. And we must recognise also that these gains extend far beyond the beneficial impact that we can have on the climate. By taking action, we also bring benefit and mitigate risks associated with our other population health challenges too. This is the right thing to do and we must now ensure that these known actions are fully achieved across the country.

# Appendix 1: The Health of our Nation



## Introduction

Good health can allow people to more easily play an active role in their communities and the economy, promoting prosperity and enabling individuals, communities, and society to flourish. As set out in the introductory chapter, several challenges currently pose a threat to our population’s health and healthy life expectancy. A recurring but important theme has been that of health inequalities, which are widening and require urgent action to be taken.

This appendix describes the health of our nation using select data and intelligence on the burden of disease. It briefly summarises some of the key negative and positive drivers of our population’s health, concluding with some headline “calls to action”. It is not exhaustive in its representation of available data, but serves to illustrate some key points that are worthy of noting.

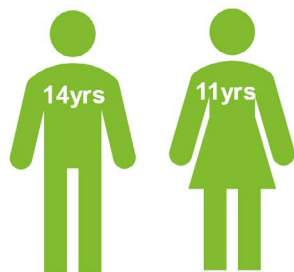
### Is our health improving or getting worse?

As described in an earlier chapter on health inequalities, life expectancy has begun to decline for those living in our most deprived areas. Similar trends are observed in **healthy life expectancy**, which captures the number of years lived in good health, helpfully distinguishing quality from quantity of life.

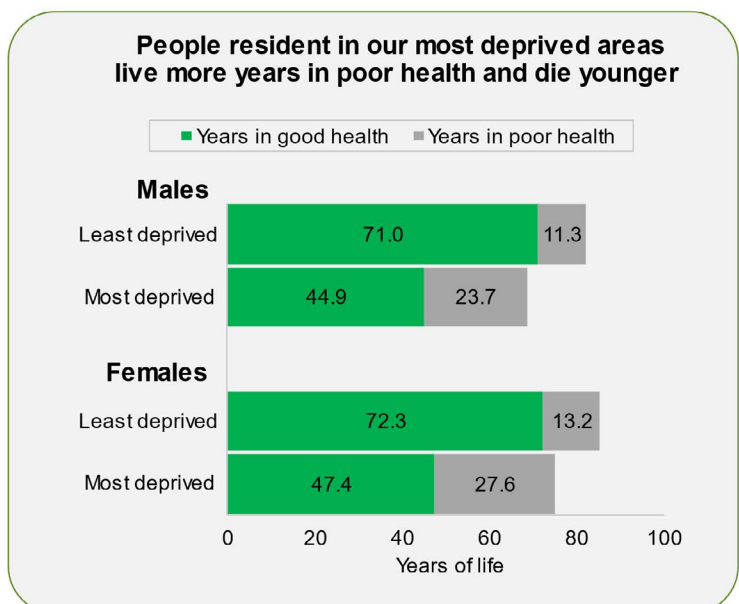
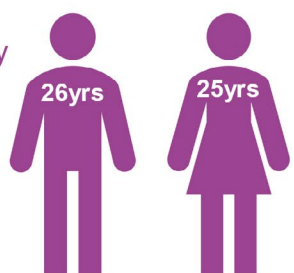
Overall healthy life expectancy increased markedly between 1995 and early 2010s, but then **declined by approximately 2 years between 2011 and 2019**. A greater decline (of around 3.5 years) was observed among people living in the 20% most deprived areas. Women in the most deprived fifth of areas are now estimated to live fewer than 50 years in good health, compared with over 70 years in the least deprived areas (Figure 1).

**Figure 1:** Gaps in life expectancy and healthy life expectancy between most and least deprived areas 2019–2021

Inequality gap :  
Life expectancy



Inequality gap :  
Healthy life expectancy

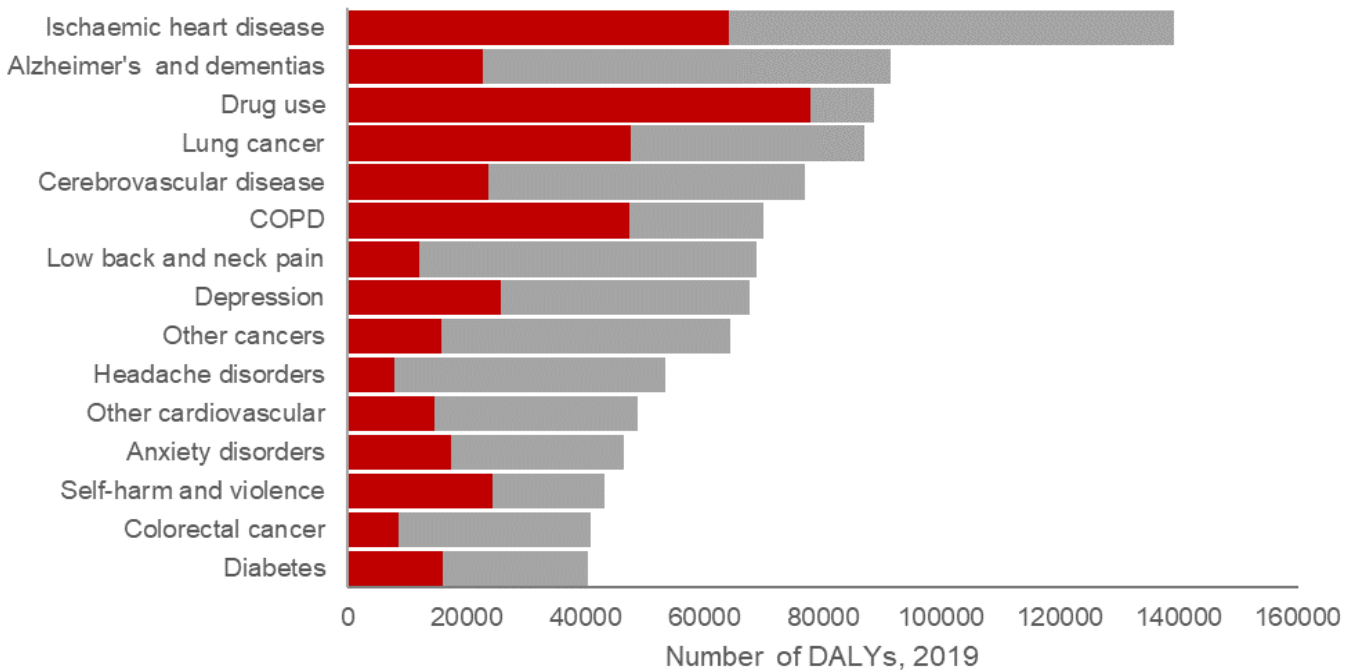


## What health conditions affect our population?

To understand what is preventing people in Scotland from living longer lives in better health, we can look at those conditions causing the most “healthy years of life lost” to ill health and early deaths. This can be measured using **Disability-Adjusted Life Years** (DALYs). Figure 2 shows the fifteen conditions causing the highest number of DALYs in Scotland in 2019. It shows in red the size of the burden that is attributable to deprivation – this is the reduction we would see if everyone experienced the same mortality and morbidity as those in the least deprived fifth of the population. It can also be seen that many of the leading conditions in 2019 – heart disease, drug use disorders, lung cancer and chronic obstructive pulmonary disease – were also the leading drivers of absolute and relative inequalities in the disease burden.

**Figure 2:** Leading 15 causes of population health loss and extent of health loss inequalities

Areas coloured red show the size of the burden that is attributable to deprivation



Source: **Pre-pandemic inequalities in the burden of disease: a Scottish Burden of Disease study, Wyper et al.**

Ischaemic heart disease contributes the most to disease burden with around **7% of men and 4% of women in the 2021 Scottish Health Survey reporting they had ever had IHD**. Cancer is also an important cause of morbidity and mortality; currently for the lifetime risk of developing cancer, it is estimated that **2 in 5 (40%)** people in Scotland will be diagnosed with some form of cancer. These diseases are linked to Scotland's high prevalence of associated risk factors, including smoking, poor diet, and physical inactivity. In addition, mental health conditions such as anxiety and depression substantially contribute to Scotland's poor health with recent **analysis** indicating that levels of psychological distress have been worsening since around 2015 in the working population.

Of significant increasing concern is the **steep rise in drug misuse deaths** from 6.2 per 100,000 in 2001 to 25 per 100,000 in 2021. This has been driven by the increase in deaths in the most deprived areas to 64.3 deaths per 100,000 people in **2021**, which is over 15 times higher than in the least deprived areas.

## What is negatively affecting our health?

### Austerity and cost-of-living

The economy matters for population health. From 2012, average mortality rates and life expectancy in Scotland (and many high-income countries) **stopped improving. Mortality actually increased and life expectancy declined** for people in our most deprived areas. Over the last ten years there has been growing unease about the long-term health implications of the global economic recession following the financial crisis in 2008, and the subsequent austerity measures implemented in many countries. National responses to this major economic downturn varied substantially but, in many cases led to extensive reductions in public expenditure, including cuts to central and local government budgets, welfare services and benefits.

This is of course compounded by recent price inflation that has substantially increased the cost of living. Rising energy and food bills are seeing people having to make difficult choices about how they spend money, with healthier choices, such as affording to do recreational activities or buying fresh produce, often made more challenging or impossible. Adverse mental health consequences from the increased cost of living have also been reported, with a **recent poll** of Scottish adults showing one-third feeling stressed when thinking about their financial situation in the past month and three quarters being concerned about not being able to maintain their standard of living. Significantly, more than half (52%) of adults in Scotland were at least a little worried about being able to afford food over the next few months, rising to 69% of those aged 18 to 34.

## COVID-19

The pandemic has accentuated the circumstances negatively impacting our health. The unintended but unavoidable consequences of the measures introduced to manage the COVID-19 pandemic has negatively impacted the population's social and economic circumstances. This has included loss of income or employment, disruption to education, and reduced social contact and support across our communities. Changes in the ability to play freely and be active, and in access to healthy foods may have contributed to the increase in the risk of obesity seen among Primary 1 children in 2020/21, which although improved had not returned to pre-pandemic levels in **2021/22**. People were also not affected equally. During the UK-wide lockdown in early 2021, a **survey** showed that young adults (18-29), compared to other age groups, reported the highest levels of distress, the highest levels of loneliness and the lowest life satisfaction scores. A **study of the mental health and wellbeing of students** within Scottish colleges suggests the effects on mental health wellbeing are continuing.

During the early phases of the COVID-19 pandemic there was a substantial decline in the number of people who received most types of healthcare (including cancer diagnoses, primary care monitoring of chronic diseases, planned operations, screening programmes, dental check-ups etc). Much of this decline was to create capacity within healthcare settings to deal with people who were seriously ill from COVID-19, and this likely saved many lives as a result. However, it is also likely that many people who would otherwise have benefited from healthcare did not, either because they felt that they shouldn't be a burden on services, or because services became less accessible. This meant that a substantial amount of unmet healthcare need built up in the population. Some of this is now seen in waiting lists for treatment, but some also will be appearing as people with more advanced disease and conditions than would otherwise have been the case. For example, reductions in the take up of blood pressure medication may have contributed to a **higher than expected number of deaths from cardiovascular disease**.

## What is positively affecting our health?

### Minimum unit pricing

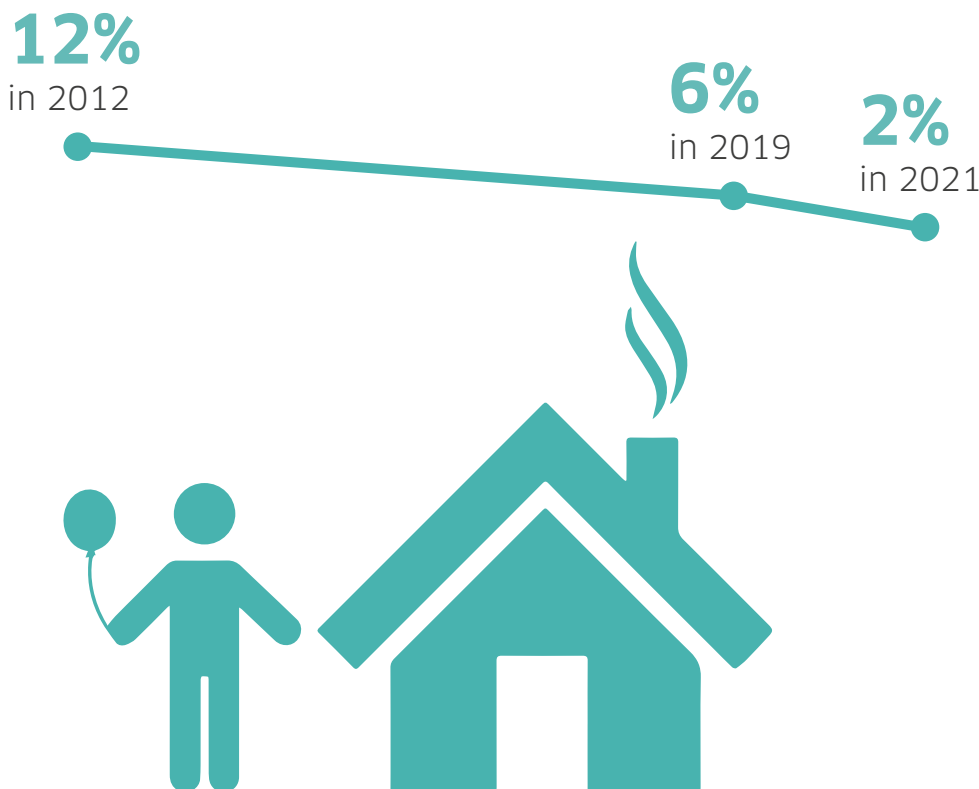
Scotland was one of the first countries in the world to legislate a minimum unit price for alcohol. Following its introduction in 2018, alcohol use in Scotland has fallen.

**Implementing alcohol minimum unit pricing legislation** has also made a positive contribution to tackling deaths, and inequalities in, alcohol-related health harms, although the scale of harm remains high and entirely preventable.

### Reduction in smoking prevalence

**Smoking prevalence in Scotland** has fallen to its lowest ever level (11% of the adult population). Yet inequalities persist. Just 5% of adults living in the least deprived areas of the country smoke, compared to 24% of those living in our most deprived communities. Scotland has implemented world leading tobacco control legislation for over a decade, including banning smoking in public places, putting tobacco out of sight at point of sale and banning smoking in prisons. As a result, we have seen massive improvements in smoking in pregnancy and large falls in the exposure of children to second hand smoke with consequent positive impacts on infant and child health.

In 2021, the proportion of children exposed to second-hand smoke in their own home was significantly lower than in previous years



Source: Scottish Health Survey 2021.

## Prevention and early intervention

There are many examples of preventative actions that have already helped achieve major improvements in health. For example, the Human Papilloma Vaccine (HPV) has **reduced the development of high-grade cervical abnormalities** (a pre-cursor of cervical cancer) by 89% and Scotland's Childsmile programme has **halved the rates of tooth decay** in children since 2003.

## What can we do to improve our health?

The causes of ill health are indeed complex and inter-related so there will be no simple solutions or quick fixes. We also know that on account of our ageing population, the overall **burden of disease is projected to increase**. Therefore, accepting the status quo is untenable for our health and care services which are already pressurised. To do nothing is a choice, and one that we cannot allow to become the default. Throughout this report I have indicated what we can do to change our current course and the key actions are summarised below.

### Invest in prevention

A strategic and systematic approach to embedding prevention across the health and care system is needed. This will not only enable people to live healthy fulfilling lives but is essential to ensure the future sustainability of the health and care system. For this reason, the Preventative and Proactive Care Programme is a key component of **our National Care and Wellbeing Portfolio**.

### Health in all policies

As illustrated throughout this report, healthcare is not the main contributor to population health with other policy areas playing a greater role. To improve future health and reduce future demand it is important that we ensure decisions in all other policy areas, be it housing, fiscal or employment, are designed to support good health, including mental health. This approach is key to enabling us to improve the wider determinants of health.

### Leave no-one behind

Although deprivation is inextricably tied to poorer health outcomes, the needs of populations with other protected characteristics should also be considered or they too risk being left behind. These include persons with disability, ethnic minorities, older people, children and the homeless. **Scotland's Equality Evidence Strategy** will help deliver better equality evidence that is essential to informing our understanding of what is happening in the lives of all of Scotland's people, helping the people who need it most. **Evidence** has also emerged that young to middle-aged men in Scotland may be particularly vulnerable due to their declining engagement with health services and greater risk of poor future health through reduced earnings potential.



### Take a life-course approach

Early childhood development and the school years play a crucial role in determining future health, and are affected by a range of influences including biological factors and social, environmental, and economic conditions. Improvements and reductions in inequality in **child development** are possible through action across these influences, including health in pregnancy, family income and access to parental leave, early years education and surveillance and **targeted intervention** for developmental concerns.

### Reduce health harms

As seen with minimum unit pricing, positive health changes are possible over a short space of time when working with the private sector to reduce the price of and availability of unhealthy products. Addressing the **commercial determinants of health** has potential to impact a wide range of risk factors affecting health, from policies to prevent gambling harms to reducing marketing and access to high fat, salt and sugar foods and drinks.

### Improve healthcare delivery

Now, more than ever, there needs to be a focus on ensuring services are used equitably and sustainably to meet the needs of the people of Scotland as well as those of our future generations. As our system recovers from the pandemic our primary focus must continue to be on achieving outcomes that matter to the people we care for. Our vision for delivering Value Based Health and Care sets out how we can achieve this.

Also, **Scotland's first data strategy for health and social care** sets out how we will work together in transforming the way that people access their own data to improve health and wellbeing; and how care is delivered through improvements to our systems.

### Implement co-benefits from tackling the climate emergency

As described in Chapter 4 and the **NHS Scotland climate emergency and sustainability strategy**, taking action on the climate emergency will also result in wins for health outcomes. We must maximise these co-benefits in a proactive response to climate change.

### Take a public mental health approach

Improving the mental health and wellbeing of the population of Scotland is a priority and requires a proactive and preventative approach across all levels of the system. This includes addressing both the root causes of poor mental health and strengthening the factors that boost positive mental wellbeing, in active partnership with relevant communities. The Scottish Government **policy prospectus** published in April 2023 commits to improve mental health and wellbeing support by 2026. Also, initial responses from the consultation on the new Mental Health and Wellbeing Strategy for Scotland **were published in February 2023**. These results have been used to inform the new Mental Health and Wellbeing Strategy and Delivery Plan published in the summer of 2023.

# Acknowledgements

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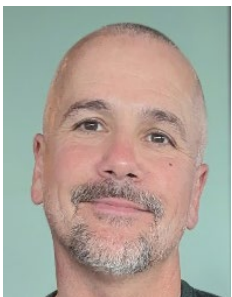
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