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# Negating the gap:
# Preventing ill health and promoting healthy behaviours

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Deloitte Centre *for*
Health Solutions

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Health Solutions

**About the Centre for Health Solutions**
Established in 2011, the Centre is the research arm of Deloitte's Life Sciences and Health Care practices operating in the UK and across our European member firms. Our aim is to be a trusted source of relevant, timely and reliable insights on emerging trends, challenges and solutions. We use our research to encourage collaboration across all stakeholders, from pharmaceuticals and medical technology companies to health and care providers and commissioners, to the patient and health and care consumer.



# Foreword

Welcome to our report: *Negating the gap: Preventing ill health and promoting healthy behaviours*. This is the fourth report in our future of public health series and explores how a concerted focus on prevention and health promotion can help increase healthy life years and reduce health inequalities. However, despite a wealth of evidence that investing in prevention is fundamental to a resilient and sustainable health system, the UK, spends less than five per cent of healthcare funding on preventative services. As scientific knowledge increases and the ability to track and monitor the health status of individuals improves, the impact of failure to invest in prevention will become increasingly evident and difficult to justify to the public.

The biggest preventable killers, such as tobacco, obesity, alcohol and recreational drugs, cost the taxpayer billions of pounds each year for treatment and long-term care, and put unsustainable pressure on the health service. To address these issues, central and local government, the NHS, the wider public health system and industry need to collaborate more effectively to improve detection and prevention of ill health, and to apply cutting edge science, technology, evidence and data to target support where it is most needed.

Prevention is inextricably linked to the wider social determinants of health, prevention measures need to be based on a social compact between health and care providers, other stakeholders, and the public. This requires new models of co-creation and a focus on patient activation and self-management.

Effective prevention requires an approach to population health management that is underpinned by the collection and collation of not only health and social care data but also public health data on housing, income levels, and education status, as well as public health's knowledge of place. Specifically, by ensuring that data is collected on the most at-risk groups, or those with the most complex needs, the public health system should be better able to respond and reduce unjust variations in ill-health and mortality outcomes across the UK.

Many people with long-term health conditions have complex needs which means that they encounter multiple local services; and many people in the most socially deprived parts of the country experience vulnerabilities that require a multi-agency approach to tackling them. A collaborative partnership between public health, the NHS and social care is therefore crucial.

This report examines the complexities of public health prevention and the challenge of improving prevention and reducing health inequalities. It highlights the need to increase the percentage of funding spent on prevention; focus more on primary prevention, including new models of co-creation; adopt patient activation and self-management tools; and tackle digital exclusion and improve public health literacy. Failure to improve preventative services disproportionately affects people living in more economically disadvantaged areas: this makes prevention a priority goal of social policy.

As always, we welcome your feedback.

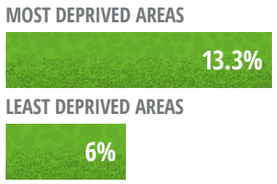

**Karen Taylor**
**Director**
UK Centre for Health Solutions

**Sara Siegel**
**Partner**
UK Health and Care Sector Leader

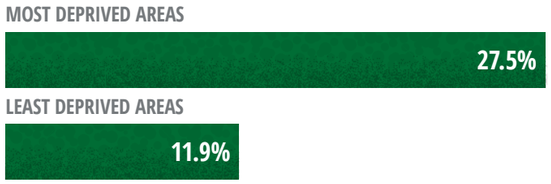
# The UK's health: Key facts and trends

**Obesity** affects around **1 in every 4 adults** and around **1 in every 5 children aged 10 to 11**.[1]

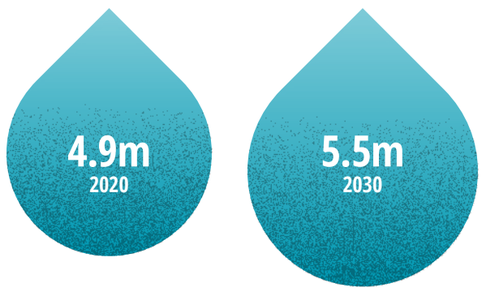
In 2019-20, the prevalence of **obesity in children aged 4-5** was **13.3% in the most deprived areas** and **6% in the least deprived areas**.[2]




In 2019-20, the prevalence of **obesity in children aged 10-11 was 27.5 % in the most deprived areas** and **11.9 % in the least deprived areas**.[3]




**Diabetes:** in 2020 there were over **4.9 million people** living with diabetes, and if nothing changes by **2030 there will be 5.5 million**.[4] In 2021, **24.2% of people with Type 2 diabetes were from the most deprived quintile**, compared to **14.8% from the least deprived quintile**.[5]




**327,174 cases** of cancer were diagnosed in 2019, some **896 every day**, and 3,724 more than in 2018.[8] The number of people diagnosed is predicted to increase to **over 500,000 by 2035**.[9]


There are **20,000 more cases** of cancer a year in the most deprived areas compared to the least deprived areas of the UK.[10]

In early 2021 around **1 in 5 (21%)** individuals aged 16 years and over were experiencing some form of depression, **double the rates pre-COVID-19** (when 10% of adults experienced some form of depression).[6]

Children from the **poorest 20% of households are four times more likely to have serious mental health difficulties** by the age of 11 than those from the wealthiest 20%.[7]

**Nearly**

**45,000**

**(12%) fewer patients started cancer treatment** in the UK in April 2020-March 2021 compared with the same period in 2019-20.[11] The number of patients starting cancer treatment having been **diagnosed through screening** in England was **42% lower** in April 2020-March 2021 compared with the previous 12 months.[12]





As of July 2021, there were around **7.6 million people** living with heart and circulatory diseases.[13] More than **40,000 people** under the age of 75 died from heart and circulatory diseases in 2020.[14] More than **100,000 hospital admissions each year** are due to heart attacks: that's **280 admissions each day** or one every five minutes.[15]


People living in England's most deprived areas are almost **4 X** more likely to die prematurely from CVD than those in the least deprived areas. CVD is also more common among individuals with a **severe mental illness, or whose ethnicity is South Asian or African Caribbean**.[17]

Alcohol misuse is estimated to cost the NHS

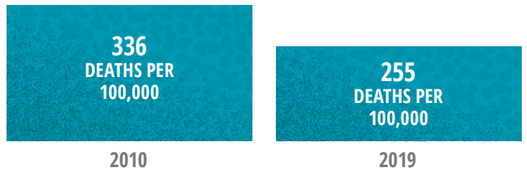
**£3.5bn**

and society as a whole

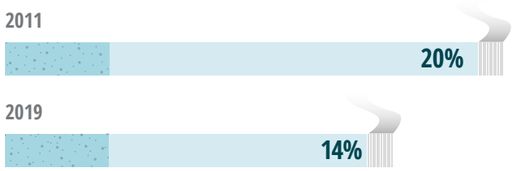
**£21bn**

annually.[21] In 2019 the age-standardised alcohol-specific death rate was **11.8 deaths per 100,000** people, an increase of 11.3% since 2001.[22]

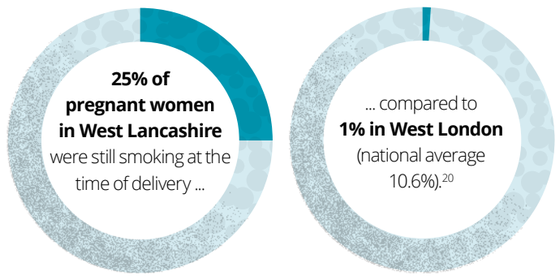
**Mortality rates from cardiovascular diseases (CVD)** in the United Kingdom fell from **336 deaths per 100,000** in 2010 to **255 deaths per 100,000** population in 2019.[16]




The proportion of smokers in the population **fell from 20% in 2011 to 14% in 2019**.[18]




More than **a million people in the UK** stopped smoking during the COVID-19 lockdown.[19]




Physical inactivity is responsible for **one in six UK deaths** (the same as for smoking) and is estimated to cost the UK

**£7.4bn**

£7.4 billion annually (including £0.9 billion to the NHS).[23]

# Prioritising ill health prevention and health promotion

**Health is a precious asset, and prevention of ill health is essential in tackling health inequalities. Effective prevention enables more people to live longer and with more years spent in good health reducing the pressures on the health and care system. Health promotion is crucial in improving prevention. While there are increasing numbers of digital health tools to support prevention there is also a need to improve the digital and health literacy of the general public. COVID-19 has shone a spotlight on the unequal impact of the pandemic on specific groups of the population. It has disrupted several important public health prevention programmes such as routine cancer screening and routine vaccinations and has shown how failure to improve prevention results in disproportionate levels of mortality along the social gradient. To be successful, prevention needs to be based on a population health management approach and be appropriately funded: it should also be a partnership between the NHS, public health, and stakeholders across the health ecosystem.**

## About this report

This is the fourth report in our series on the future of public health.[24] It is based on:

- an extensive literature review conducted between March and December 2021, including a review of the policies and practices driving public health transformation and an analysis of datasets across the UK to improve our understanding of key public health issues

- responses from semi-structured interviews with 85 senior stakeholders across the health and care ecosystem, including directors of public health (DsPH), policy makers, individuals working at arm's length bodies, commissioners and funders, academics, voluntary sector organisations and employers. These interviews were conducted between April and the end of July 2021.

Our research was conducted against the backdrop of the ongoing COVID-19 pandemic and wide- reaching statutory reforms of the NHS, social care and public health. Our findings are intended to provide insights into the challenges facing public health before the pandemic, the impact of the pandemic, and what is needed for an effective and sustainable future. Further details of the methodology including the list of interviewees can be accessed in our overview report *Narrowing the gap: Establishing a fairer and more sustainable future for public health.*[25]





## Defining health promotion and ill-health prevention

Health promotion is the 'process of enabling people to increase control over, and improve, their health'. It moves beyond a focus on individual behaviour towards a wide range of social and environmental interventions.[26] Health promotion activities engage and empower individuals and communities to choose healthy behaviours and make changes that reduce the risk of developing non-communicable or chronic diseases and other illnesses. Health promotion is dynamic, enabling individuals and communities to increase control over the determinants of health, thereby improving their health. It is based on education, prevention, advocacy, empowerment, and building a social support system. There are five commonly used approaches for enhancing health promotion: medical, behavioural, educational, empowerment and social change.

Ill-health prevention is about avoiding disease before it starts and planning for and taking action to prevent the onset of a disease or other health problem before the occurrence of the undesirable health event. There are three distinct levels of health prevention (see Figure 1). Primary prevention involves 'upstream interventions' which generally tend to be cheaper and more efficient than secondary and tertiary prevention and entails lower morbidity and mortality rates.[27]

Typical health promotion, disease prevention, and wellness programmes include evidence-based communication and education strategies and may require legislation and regulations, financial incentives and penalties to have an impact.

In the UK, responsibility for health promotion and ill-health prevention programmes is vested in NHS and local authority public health teams. To be effective, however, requires collaboration and partnership working between health and care and local authority organisations at national and local level. Crucially, engaging and empowering individuals and relevant groups of the population (for example, smokers) is also important. The NHS and public health also need to work in partnership with social care, social enterprises, voluntary organisations and other stakeholders across the health ecosystem. Prevention and health promotion interventions also need to be targeted at those most in need to reduce health inequalities. The integration proposals in the Health and Care Bill that is currently working its way through Parliament should help collaborations to become more effective. We consider the Bill's implications later in this report.[28]

**Figure 1. The three main levels of prevention**

| Primary prevention | Secondary prevention | Tertiary prevention |
|---|---|---|
| **Preventing disease before it happens**<br><br>***Modifying existing risk factors:***<br>Bike helmets<br>Tobacco cessation<br><br>***Preventing development of risk factors:***<br>Bike trails located away from vehicles<br>Policies limiting youth from purchasing tobacco | **Identifying disease before problems become serious**<br><br>Newborn screening<br>Mammography<br>Regular check ups for people who smoke<br>BMI screening<br>Blood pressure measurement | **Preventing complications of disease**<br><br>**Post-stroke rehabilitation**<br>**Blood sugar-lowering medications for diabetes**<br>**Physical therapy for back injury**<br>**Chemotherapy** |
| ***Primary prevention is aimed at reducing the incidence of disease and health problems within the population or targeting high risk groups and includes specific protection measures such as vaccinations.*** | ***Secondary prevention involves screening to detect diseases in their earliest stages before the onset of signs and symptoms and providing early interventions including anti-hypertensives, statins, diet and exercise programmes to stop or slow disease progression.*** | ***Tertiary prevention involves the management of disease post-diagnosis to slow or stop progression to help people manage long-term, often complex health problems and injures to improve peoples' ability to function, their quality of life and their life expectancy.*** |

Source: Deloitte analysis

### Interdependencies between the social determinants of health (SDOH) and prevention

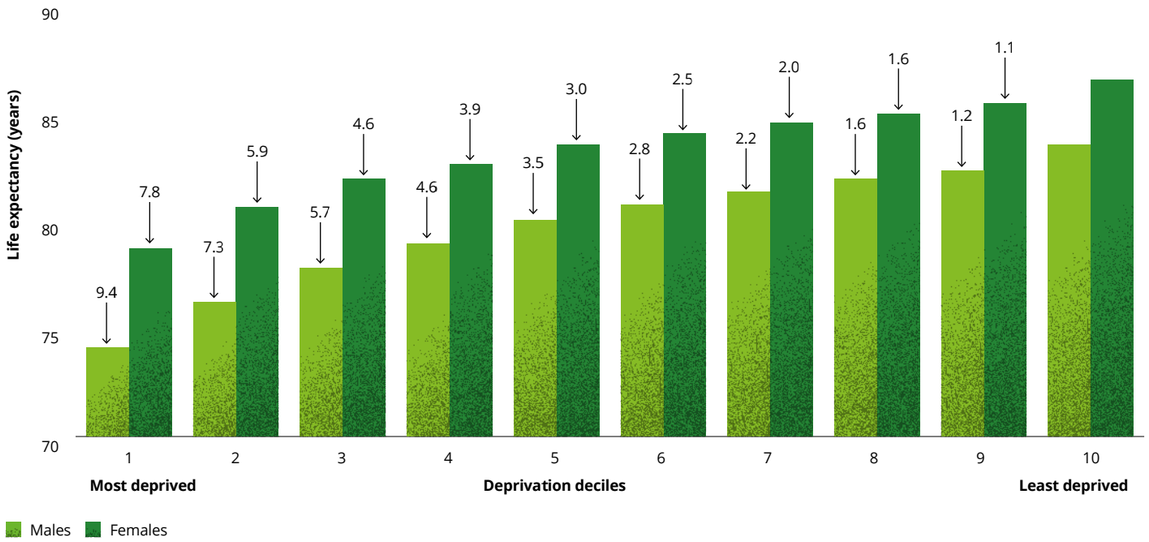
As highlighted in our second report in our future of public health series, *Identifying the gap: Understanding the drivers of inequality in public health*, the social determinants of health (SDOH); the conditions in which people are born, grow up, live, work and age, influence the health of the population, and cause health inequalities. Indeed, there is a social gradient across the SDOH, which means that people in lower socio-economic groups have worse health outcomes than people who are better off. They also experience greater barriers in accessing and obtaining health and care.[29]

Our *'Identifying the gap'* report summarises the research findings from Sir Michael Marmot and his team at the University College London Institute of Health Equity (IHE), which show the extent of health inequalities in 2010 and 2020 and which identify prevention as critically important in reducing health inequalities, for example:

- The 2010 report *'Fair Society, Healthy Lives'* emphasised the need to strengthen ill-health prevention, emphasising that it is a shared responsibility involving the empowerment of individuals and local communities. The report also stressed the need for longer-term, sustainable funding in prevention, targeted across the social gradient in a way that is proportionate to the level of disadvantage ('proportionate universalism').[30]

- A follow-up report in 2020, '*Health Equity in England: The Marmot Review Ten Years On'*, was highly critical of the failure over the previous ten years to tackle the growing inequalities in healthy life expectancy, especially for those living in poorer communities, women, and black and ethnic populations. And again, emphasised the importance of investing more in prevention and health promotion.[31]

**Figure 2. Life expectancy at birth by area deprivation deciles and sex, England, 2017-19**




Note: Arrow indicates years gap from least deprived decile

Source: Office for National Statistics (ONS), 2021.



**Negating the gap:** Preventing ill health and promoting healthy behaviours

Analysis from the Office of National Statistics (ONS) shows how life expectancy at birth declines along the deprivation deciles (Figure 2), suggesting that the current approach to prevention and health promotion is not working. Indeed, our *'Identifying the gap'* report highlighted the even greater impact on healthy life years with a 19.8-year gap for females and 18.4-year gap for males in healthy life expectancy across the deprivation deciles. COVID-19 has made these inequalities even worse, particularly for black and ethnic groups, those with learning difficulties or physical disabilities, and other vulnerable groups; demonstrating unequivocally that the UK is a very unequal society.

In July 2021, The Health Foundation's COVID-19 impact inquiry, Unequal pandemic fairer recovery, found that inequalities in COVID-19 mortality rates followed a similar social gradient to that for all causes of death; and while 'health behaviours contribute to the causes of non-communicable diseases (NCDs), the SDOH are themselves causing inequalities in health behaviours'.[32] The Health Foundation concluded that COVID-19 had amplified pre-pandemic inequalities and that while containment measures had caused economic harm and damaged the population's health in general, people from disadvantaged backgrounds were affected far more.[33] The report calls for 'urgent attention, investment and reform' of the UK's public health systems.[34]

### The economic argument for investing more in public health interventions

According to research by the University of York Centre for Health Economics (2019) the estimated cost of each additional year of good health in the population achieved by public health interventions, measured using Quality Adjusted Life Years (QALYs), is £3,800. This is three to four times lower than the £13,500 average cost of NHS interventions per additional year of good health. This suggests that a reallocation of resources from the NHS to public health is likely to improve health outcomes overall, and that the squeeze on the public health grant in recent years, while protecting NHS expenditure, is likely to have reduced health outcomes.[35]

### Funding for prevention activities has reduced over the past six years

Since the transfer of responsibility for public health services to local authorities in 2013, approaches to prevention have varied across local authorities, linked largely to the availability of funding and the differing needs of local populations. Although a new public health funding formula introduced in 2013-14 sought to account for differences in need between local authorities there was limited progress in shifting resources to those areas below target. Consequently, despite the political rhetoric about improving prevention, and the rigorous research by The King's Fund, Health Foundation and others, the reality is that overall funding for preventative services has reduced.

The absence of agreement on what constitutes spending on prevention and health promotion, together with the varied and fragmented approaches taken by different local authorities, makes it difficult to assess how expenditure on prevention is allocated. This limits people's understanding the effectiveness of public health investment. Analysis by the Office of Economic Cooperation and Development (OECD) estimates that most countries spend less than five per cent of their health budget on prevention and even then, most prevention spending is on secondary and tertiary interventions rather than on primary prevention.[36]

"You need funding for prevention but all there is funding for is treatment"

**Director of Public Health**

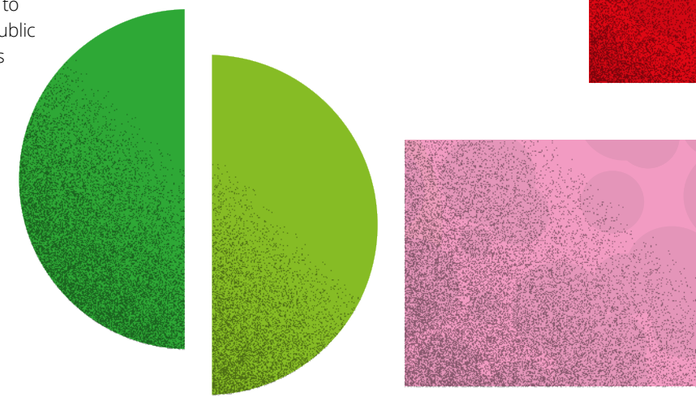
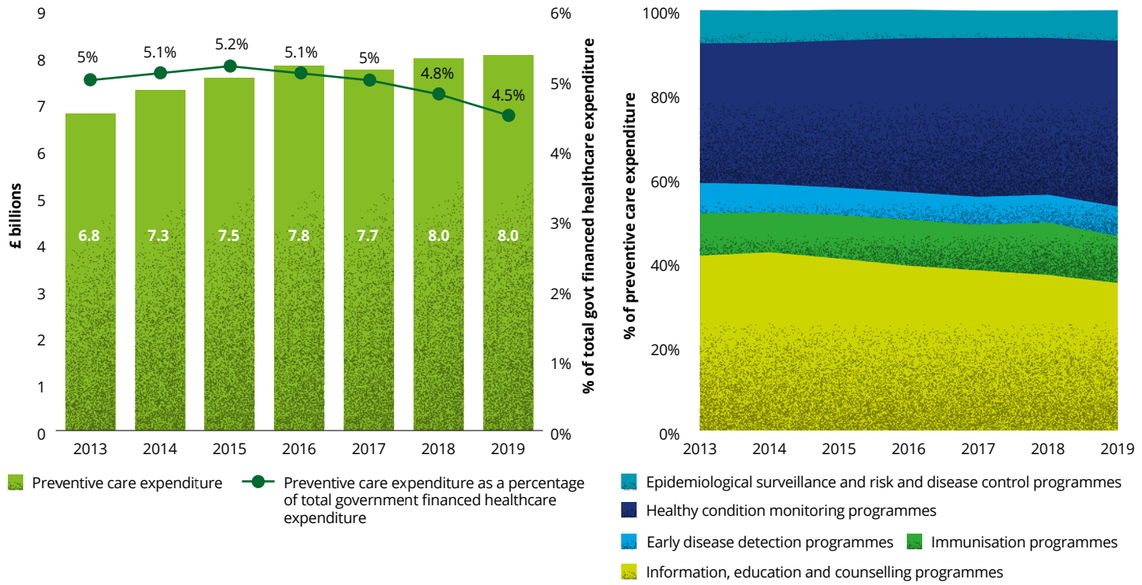


**Figure 3. Funding of preventive care in the UK**







Note: Most of the operation activities of PHE (and devolved equivalents), as well as local authorities (LA)-funded public health activities come under preventive healthcare within the health accounts, except drug and alcohol treatments, which are considered curative/rehabilitative care

Source: Office for National Statistics (ONS), 2021.

In England, analysis by the ONS, shows that funding for preventative activities decreased from five per cent of total health spending in 2013 to 4.5 per cent in 2019 (see Figure 3).[37] The focus for spending has been largely on delivering mandated services, with limited funding available for primary prevention. Given this reduction in resources, has been at a time of increasing demand from an ageing and growing population, it is difficult to justify this level of reduced funding on ill-health prevention and health promotion.

Public health grant spending per person fell by almost a quarter between 2015-16 and 2021-22: this was equivalent to a £1 billion reduction in real terms in the public health grant. Reductions in the public health grant have continued in 2020-21 and 2021-22, at a time when COVID-19 has increased health risks, partly because people have been unable to access preventive services.

### The Health and Care Bill: Integration and reform of care and public health

Overall responsibility for public health functions is vested in the Secretary of State for Health. The first major change in policy responsibility for health promotion and ill-health protection in England was the 2012 Health and Care Act which delegated public health responsibilities to a newly established executive agency, Public Health England. At the same time, Directors of Public Health (DsPH) and their teams were transferred to local authorities with local authorities given new legal responsibilities for health improvement, protection and promotion.[38] Meanwhile, in Scotland, Wales and Northern Ireland, public health remained part of the NHS. These changes are covered in more detail in our *'Identifying the gap'* report.[39]





These public health reforms meant that as far as prevention and promotion were concerned, the NHS was left to focus largely on secondary and tertiary prevention and treatment pathways, while PHE and DsPH led on primary prevention but also had a role in supporting the NHS on downstream prevention and promotion activities. Most commentators saw this transfer of responsibility for public health services to local authorities as 'a good move', since it placed DsPH and their teams closer to the communities they serve. It also meant that they were better placed to influence the SDOH.

### NHS policies recognising the need for more focus on prevention (April 2013 - March 2020)

Over the past eight years the NHS has published several crucial policy documents which have recognised the importance of moving to a more integrated health and care system. These also included a recognition of the importance of upstream investment in prevention:

- The *NHS Five Year Forward View (FYFV)* (June 2014) identified as a priority a radical upgrade in prevention and public health, focusing on obesity, smoking and other major health risks, and also on new models of care.[40]

- *Prevention is better than cure: Our vision to help you live well for longer* (November 2018) recognised the need for a much stronger focus on upstream primary prevention and a commitment that: 'by 2035, there is an overall gain of a least five extra years of healthy, independent life, and the gap between the richest and poorest has been reduced through making prevention a priority'.[41]

- *The NHS Long Term Plan (LTP)* (February 2019) envisaged a bigger role for the NHS in prevention and reducing health inequalities. It proposed setting measurable goals and that commissioning allocations should give a bigger share of funding to areas with high inequalities.[42]

- *All Our Health* (updated July 2019) is a framework and series of resources for upskilling health and care professionals (HCPs), to help prevent illness, protect health and promote wellbeing.[43]

- *Advancing our health: prevention in the 2020s* (July 2019), a green paper consultation document, acknowledged the need for a new approach to prevention and identified the 2020s as a decade in which proactive, predictive and personalised prevention with new technologies such as genomics and AI would be used to help create a new prevention model.[44]

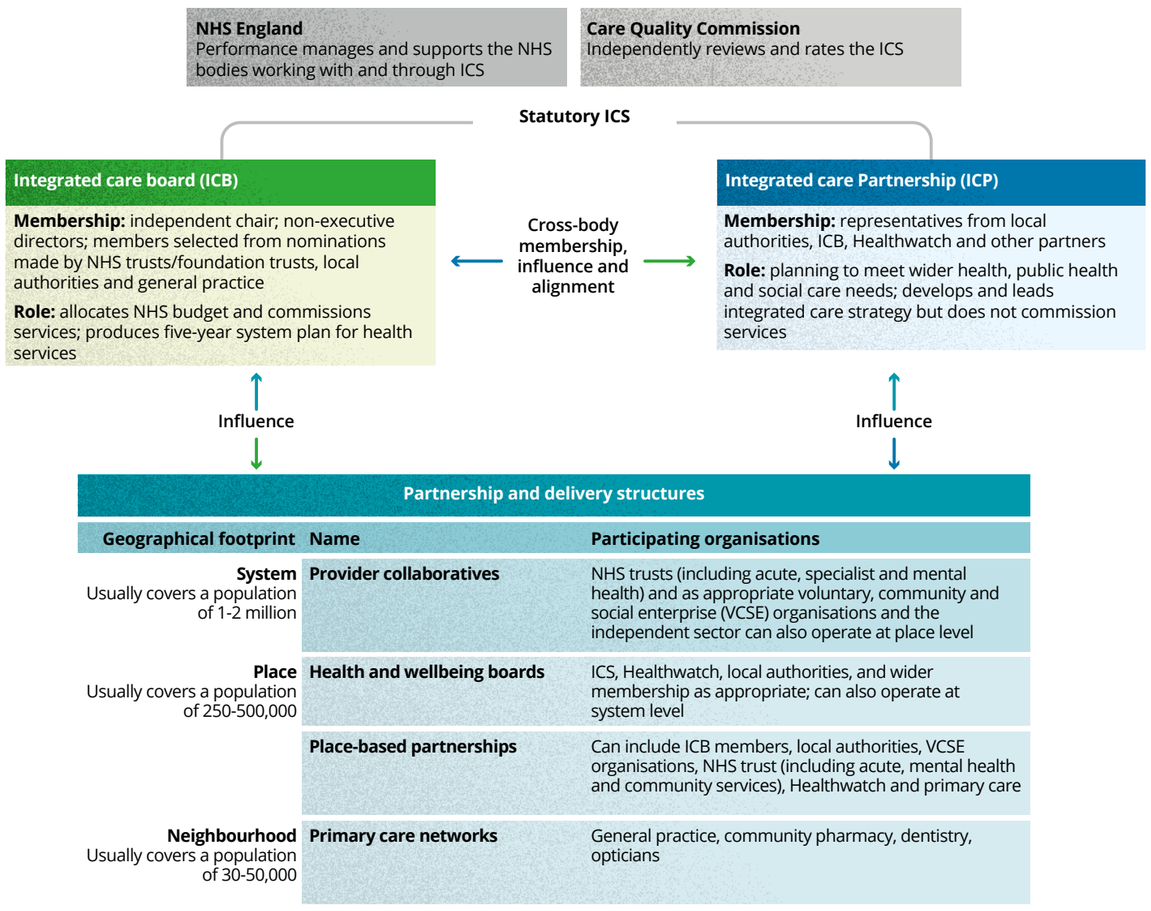
While these policy ambitions and associated funding have helped the NHS move progressively towards integrating health and care they have predominantly had an NHS lens and are largely focused on the treatment aspects of prevention. *Advancing our health: prevention in the 2020s*, however, does include a number of commitments to put prevention at the centre of decision-making at both local and national government levels.[45] However the COVID-19 pandemic has demonstrated quite clearly that none of these policy initiatives have had much, if any, effect on improving the health of socially and economically disadvantaged groups in the population.

### The Health and Care Bill 2021: Integration and reform of care and public health

In November 2020 NHS England and NHS Improvement (NHSE&I) published a policy document *Integrating care: next steps to building strong and effective integrated care systems across England*, requiring every health and care provider to become part of one of 42 geographically based Integrated Care Systems (ICSs) by April 2021 in order to enhance integration through effective positioning of social care within the ICS structure. The focus again is on introducing a fundamental shift in the organisation of the NHS and social care, and leaves responsibility for public health with local authorities. However, like public health, the expectation is that service delivery will require collaboration and a focus on place and local populations. ICSs will also have a statutory responsibility for adopting a population health management (PHM) approach to improving prevention and reducing health inequalities, an approach public health has been using for several years.[46]

During 2021 the government has focused on getting the necessary legislation in place to establish ICSs as legal entities by April 2022. The Health and Care Bill which had its first reading in July 2021, is currently making its way through the parliamentary legislative process. It includes targeted changes to public health, social care, regulation, and joining up services through place-based partnerships between commissioners and providers of services (including local government and the voluntary sector), and through provider collaboratives. Figure 4, is The King's Fund illustration based on the provisions in the Health and Care Bill in October 2021 (and may change as the Bill passes through Parliament). [47, 48]

**Figure 4. Integrated care systems (ICSs) – Key planning and partnership bodies from April 2022**




| Geographical footprint | Name | Participating organisations |
|---|---|---|
| **System** Usually covers a population of 1-2 million | **Provider collaboratives** | NHS trusts (including acute, specialist and mental health) and as appropriate voluntary, community and social enterprise (VCSE) organisations and the independent sector can also operate at place level |
| **Place** Usually covers a population of 250-500,000 | **Health and wellbeing boards** | ICS, Healthwatch, local authorities, and wider membership as appropriate; can also operate at system level |
| | **Place-based partnerships** | Can include ICB members, local authorities, VCSE organisations, NHS trust (including acute, mental health and community services), Healthwatch and primary care |
| **Neighbourhood** Usually covers a population of 30-50,000 | **Primary care networks** | General practice, community pharmacy, dentistry, opticians |

Source: The King's Fund

Although recognising the fundamental role of public health in population health management (PHM), the draft legislation does not mandate how the ICSs should engage with public health in their decision-making processes.

While the Bill currently establishes a new Triple Aim as the core purpose for the NHS (promoting health and wellbeing of the population; improving the quality of care delivered to patients; and ensuring the sustainable use of resource), it does not include the need to reduce health inequalities, which may be a missed opportunity.



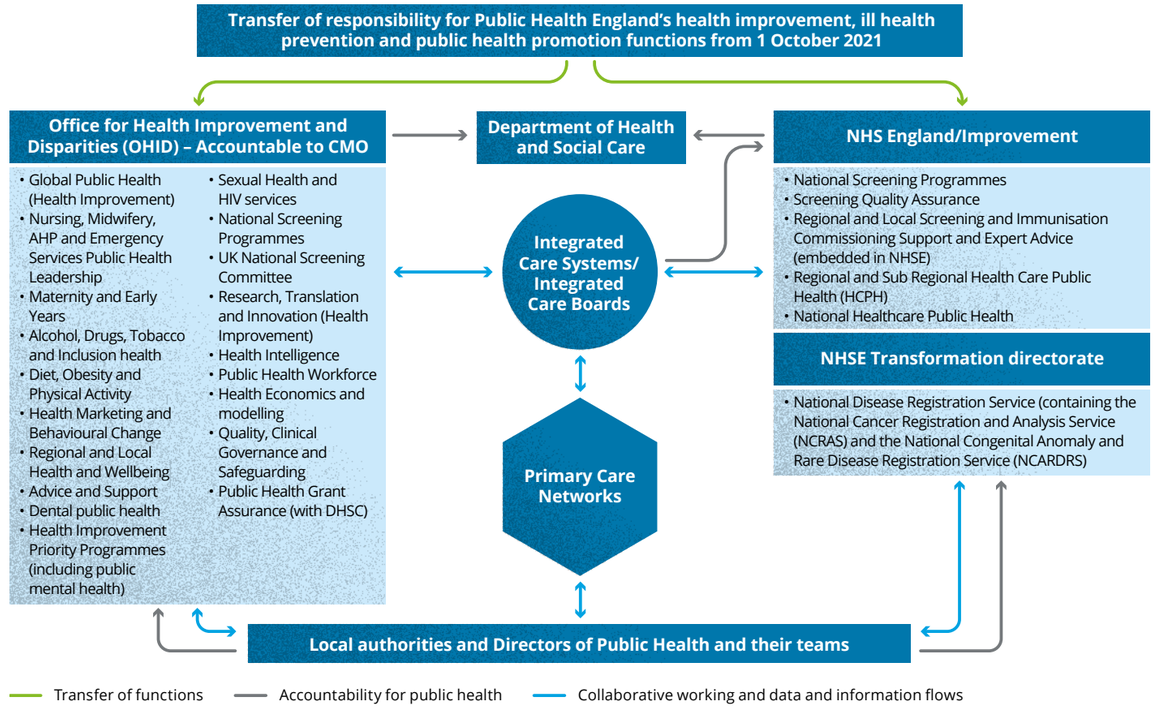
**Negating the gap:** Preventing ill health and promoting healthy behaviours

**COVID-19: Creating new organisations and responsibilities for prevention and promotion**

COVID-19 has exposed the fragmentation in the public health system, including difficulties in responding to external threats, and the serious impact of failure to improve prevention and tackle the SDOH. In response, the government has introduced further reforms involving the replacement of Public Health England by two new bodies. This decision was first discussed in a report on the future of public health in September 2020, with the details of what this would mean for public health in a DHSC policy document in March 2021, *Transforming the public health system: reforming the public health system for the challenges of our times*.[49, 50]

The changes came into effect on 1 October 2021 (*Public health system reforms: location of Public Health England functions* from 1 October).[51] The main changes are that the health protection responsibilities of PHE have moved to a new organisation, the UK Health Security Agency (which we examine in our report *Bridging the gap: Protecting the health of the nation).* Responsibility for health prevention and promotion, and the wider determinants of health, were transferred to the Office for Health Improvement and Disparities (OHID), part of the Department of Health and Social Care. Responsibilities for prevention services delivered by health services (including vaccination, immunisation and screening) have been moved to NHS England and NHS Improvement. DsPH and their teams remain part of local government (see Figure 5).

**Figure 5. The new organisational responsibilities for public health prevention and promotion**




Note 1: Public Health England (PHE) transferred all of its health protection functions into the UK Health Security Agency (UKHSA) – see our report – Bridging the gap: Protecting the nation from public health threats.
Note 2: Clarification of accountability is subject to any changes that may be required as the Health and Care Bill passes through the Parliamentary process.
Source: Deloitte analysis

The mission of the OHID, led by the Deputy Chief Medical Officer for England, is to tackle health inequalities across the UK. It is expected to work collaboratively across national, regional and local levels as well as with the NHS, academia, the third sector, scientists, researchers and industry. It is also expected to introduce a new approach to public health, focused on preventing debilitating health conditions before they develop and addressing 'unacceptable health disparities that exist across the country'. NHS England's focus on prevention and population health are also being strengthened by transferring to it crucial national capabilities to help drive and support improved health as a priority for the whole NHS. OHID is also expected to strengthen the local response, given so many of the conditions for good health and living well are determined at a local level.[52]

**Prevention and promotion: Learning the lessons from COVID-19**

The pandemic has not only exposed increasing health inequalities and their impact on health outcomes, but has also highlighted notable inequalities in access to health prevention interventions and support. Specifically, those living in more deprived areas have experienced the biggest falls in hospital care, with evidence of larger falls in urgent cancer referrals and new cancer first treatments in poorer areas.[53]

When launching the OHID, the Secretary of State for Health identified these disparities in access as a key rationale for reforming public health and increasing the focus on health inequalities. He confirmed that:

- the pandemic had left the NHS facing two backlogs: more than 5.5 million people waiting for elective treatments; and a social backlog in mental health and public health which was "much harder to quantify" and "less evenly spread"
- admission rates to hospital for COVID-19 were 2.9 times higher in the most deprived areas of England compared with the least deprived, and the mortality rate was 2.4 times higher. Minority ethnic groups were more likely to be admitted to critical care for, and die from, COVID-19 than white British people
- while for some people COVID-19 was "a wake-up call to get fit and get healthy", for others it went the other way – a trend that needed to be reversed quickly
- cancers and cardiovascular disease account for over 60 per cent of years of life lost to premature death, and the risk of premature death from these causes varies greatly depending on where people live. Vaccination rates, screening, early diagnosis of cancer – all critical to improving health outcomes – are all lower in more deprived communities in England than in affluent ones. It therefore needs to be easier for people to access screening services and diagnostics and to get support from primary care.[54]

The NHS and public health have introduced new technology-enabled access and service models to help tackle some of the inequality issues. However, it is essential that these innovations are tracked and monitored to understand how they impact disease prevention, reduce health inequalities, protect people from health threats and support individuals and communities to improve their physical and mental health and resilience. Case study 1 illustrates how one region went about evaluating services during the pandemic, identifying gaps in provision and improving understanding of the impact of its policies on inequalities.

"These health inequalities have always been here. COVID has just exposed them"

**Public Health Consultant**



**Negating the gap:** Preventing ill health and promoting healthy behaviours

## Case study 1

### Tackling socio-economic inequalities in access to planned hospital care in the Midlands in 2020

**Situation**

Pre-pandemic, there were large increases in rates of elective spells per head of population (between 2005 and 2018 elective spells increased by 33.1% a rate of 2.2% per annum). At the same time outpatient attendances per head increased by 78.1% (4.5% per annum). Rates of access were higher among those living in the least deprived areas. This was not always the case, but the pattern holds for most major causes of morbidity.

In the summer and autumn of 2020 concerns grew about reduced access to routine hospital care such as diagnostics, outpatient care and planned surgery. Waiting lists and waiting times were increasing and the Midlands Decision Support Units (MDSU) network recognised the potential for this problem to exacerbate existing inequalities.[55]

**Action**

The 11 ICSs that make up the MDSN jointly commissioned analysis from the Strategy Unit (which acts as Development Centre for the Network) to explore the extent, causes and consequences of socio-economic inequalities in access to planned hospital care. The analysis had four objectives, which were to:

- describe socio-economic inequalities in access to planned hospital care
- identify where in the patient pathways these inequalities in planned care emerge
- explore potential drivers of these inequalities
- explore whether poor access to planned care in some communities leads to increased demand for unplanned care.[56]

**Results**

The analysis explored four pathways: chronic obstructive pulmonary disease, heart failure, arthritis of the hip, and cataracts. It found that, after adjusting for levels of need, activity in the early parts of each of these four pathways was skewed towards the most deprived, but the pattern was skewed away from the most deprived in the late pathway where secondary care treatment occurs.

The analysis concluded that the late pathway skew towards the least deprived populations that had occurred in recent years may be a function of various policy initiatives introduced to improve or control access to secondary care treatments. Growth in the rates of access to new imaging technologies tends to be lower in the most deprived areas. When the NHS seeks to limit access to certain forms of surgery, rates tend to fall more rapidly in the most deprived areas. When the NHS introduces new screening programmes, interventions resulting from those programmes tend to increase more slowly in the most deprived areas.

**What next?**

The research suggests there is value in reviewing the policies and procedures that seek to improve or control access to elective care and the process by which decisions about treatment are taken, ensuring that these processes do not inadvertently disadvantage people living in the most deprived areas. Deciding whether and how to act on this evidence will require careful consensus-building within local health systems.[57]

**Prevention and promotion: Tackling the main risks and drivers of health inequalities**

There is a large body of evidence and case examples on preventative approaches and a general consensus on what works and what doesn't, but our interviewees considered that the majority of funding was still on secondary and tertiary treatments when an upstream, primary prevention approach targeted at higher risk groups was needed. They highlighted the limited funding available for non-mandated prevention services as a critical factor but could also point to many examples in local areas, often with third sector providers in community intervention, and largely focused on health promotion and empowering individuals to take more control of their health.

While most interviewees acknowledged that individuals have some responsibility for their own health and lifestyle choices, they also recognised the importance of providing support to encourage individuals and groups to do so. We asked them how well prevention, promotion and other services aimed at prolonging healthy life years were being tackled before the pandemic. Their responses were mostly neutral or negative, with prevention the lowest-ranked area (Figure 5).

### The main risk factors driving the disease burden in England

The 2019 Global Burden of Disease (GBD) Study identified the main risks to health and their contribution to the total number of deaths in England. These risks have been known about for decades but were still the main contributors to premature death, namely: tobacco (20%), high blood pressure (14%), poor diet (12%), obesity (9%) and alcohol use (4%). Air pollution (3%) and lack of exercise (2%) are also significant contributors to deaths in England.[58] Conversely, vaccination programmes are positive drivers of health improvement.

**Figure 4. How well do you think the following areas were being tackled prior to the COVID-19 pandemic**

| | Not at all well | Not very well | Neutral | Reasonably well | Very well |
|---|---|---|---|---|---|
| Promotion | 0% | 40% | 40% | 20% | 0% |
| Prolonging healthy life years | 13% | 50% | 25% | 13% | 0% |
| Prevention | 20% | 30% | 50% | 0% | 0% |

59% of interviewees answered this question for at least one of these areas.

Source: Deloitte analysis of interviews of public health stakeholders conducted between 5 April-19 July 2021.



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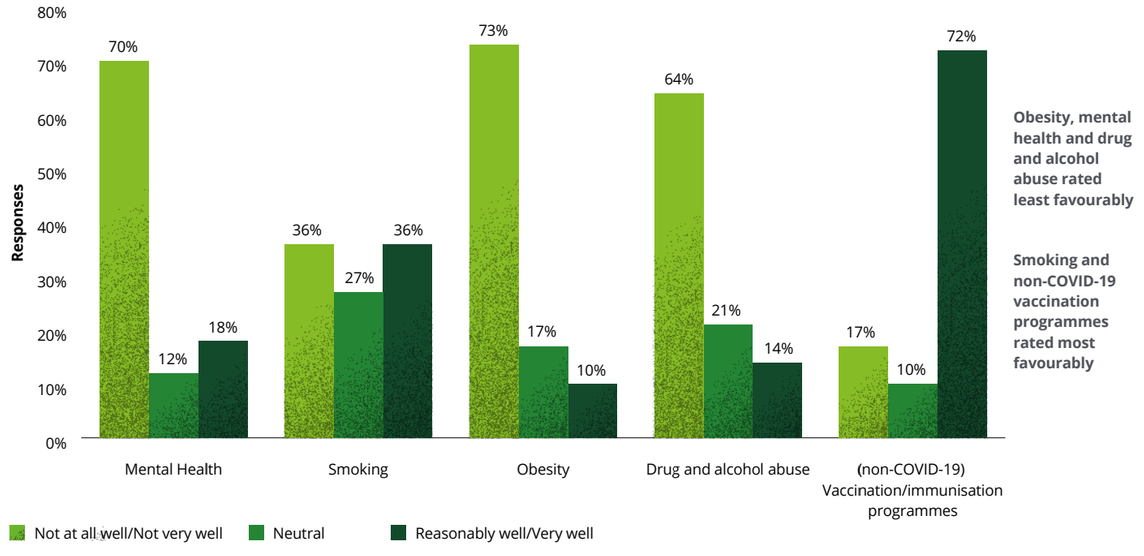
Reductions in public health budgets have coincided with a slowdown in improvements in life expectancy and in some groups of the population, a decline. The *Health Survey of England 2019* found that that 18% of men and 15% of women were smokers and that smoking is still common among some groups. Levels of obesity were a major cause of concern: 68% of men and 60% of women were overweight or obese; among children 18% of boys and 13% of girls were obese; and 16% of adults screened positive for possible eating disorders.[59]

The NHS Long Term Plan (January 2019) includes a commitment to improve prevention highlights the importance of working with partners to prevent disease or injury before it occurs and making it easier for individuals to make healthier choices and so reduce the risk of ill health, disease and premature death. The LTP also commits to support behaviour changes and address lifestyle factors in order to improve healthy life expectancy. Actions include tailored help for tobacco addiction, alcohol and obesity, and treatment to reduce the risk of early ill health and diseases such as cancer, cardiovascular disease, stroke, respiratory disease and mental ill-health.[60]

We asked our interviewees how well mental health, smoking, obesity, drug and alcohol abuse and regular vaccination programmes were being tackled before the pandemic. Responses were largely positive about routine vaccination programmes and relatively balanced about the success or otherwise of 'stop smoking' initiatives; however, their views about mental health, obesity, and drug and alcohol programmes were much more negative (see Figure 7).

The reasons given for the negative ratings (see Figure 8) provide insights to help design more effective services in the future. Other points raised by our interviewees included the large number of different and often confusing strategies to tackle obesity and mental health problems, which have not always translated into consistent action on the ground. Many interviewees mentioned that introducing minimum alcohol pricing and sugar tax has had a notable impact on obesity-related behaviours, but they were concerned that progress in these areas as well as some of the improvements that they had started to see in drug and alcohol services, is likely to have been reversed by the hiatus in services during the COVID-19 pandemic.

**Figure 7. How well were the following prevention areas were being tackled prior to the COVID-19 pandemic**




Interview question: How well were the following prevention area were being tackled prior to the COVID-19 pandemic?
55% of interviewees answered this question for at least one of these areas.

Source: Office for National Statistics (ONS), 2021.

**Figure 8. Key reasons for the ratings of public health's pre-pandemic performance on the different prevention areas**

| | Reasons for positive or neutral ratings | Reasons for negative ratings |
|---|---|---|
| Mental Health (MH) | • There has been an increase in mental health support for children and young people in recent years.<br>• Mental health services are receiving greater recognition. | • The current system focuses on treatment rather than prevention.<br>• Mental health is often perceived as a non-public health issue.<br>• There is a disparity in the level of funding for mental health services, particularly relative to other health services.<br>• There is a need for greater skills and knowledge across public health professionals managing mental health services. |
| Smoking | • Responses were relatively balanced about the success or otherwise of 'stop smoking' initiatives.<br>• Smoke-free prison services have been implemented across many sites. | • There have been many funding cuts for smoking services in recent years.<br>• Reducing smoking in pregnancy was seen as a major challenge by many public health professionals. |
| Obesity | • National policy initiatives for example the UK soft drinks industry levy (SDIL), were seen as having a positive impact in slowing the increase in rates of obesity. | • There are a lack of obesity metrics.<br>• Local impact from national strategies is often not seen. |
| Drug and alcohol abuse | • There are some initiatives, for example, minimum alcohol pricing that could be more widely implemented. | • There has been an increase in drug use seen during the COVID-19 pandemic. |
| Routine,non-COVID-19 Vaccination/ immunisation programmes | • The last few years have seen a slow but steady increase in routine vaccination rates. | • Vaccine hesitancy is still widespread, particularly amongst ethnic minority groups. |

Interview question: How well were the following prevention areas were being tackled prior to the COVID-19 pandemic? 55% of interviewees answered this question for at least one of these areas.

Source: Deloitte analysis of interviews of public health stakeholders conducted between 6th April – 19th July 2021.

While the NHS and public health have introduced many new technology-enabled access and service models to help tackle some of the inequality issues, it is essential that these innovations are tracked and monitored to ensure they don't add to health inequalities (see below). It is also important that the technology is simple and easy to use and has been developed with input of end users. The technology also needs to be able to show evidence on how it contributes to disease prevention and supports individuals and communities to improve their physical and mental health and resilience.

### Health literacy and digital literacy

Improving health and digital literacy is crucial if prevention and health promotion are to help reduce health inequalities. Health literacy (HL) refers to the extent to which individuals can find, understand and use information and services to inform health-related decisions and actions for themselves and others. It is an asset in reducing health inequalities and negative patient outcomes. Low HL is associated with poor patient activation, greater morbidity and use of emergency services, less preventive care, greater difficulty managing long-term conditions, and higher premature mortality.[61] Individuals differ greatly in the extent of their knowledge about health and their susceptibility to misinformation. Poor HL has strong correlation with the social determinants of health (SDOH).



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"One of the major problems in terms of health promotion is that for a long time negative data has been collected, whereas we need to collect positive data to encourage more people to change their behaviour –such as the number of households with smoke alarms, the percentage of people who are eating five a day, the number of schools within your local area that are promoting health– what I'm suggesting is you shift it away from the individual to the place"

**Director of Public Health**

The government needs to provide public access to reliable health information, so that people are better able to recognise health-related misinformation. This also requires improvements in the HL of the general public.

Much of the content on health promotion is now delivered digitally which means that alongside improving health literacy there is also a need to improve digital literacy. Although the numbers of people in the UK lacking basic digital skills are falling, approximately four per cent of UK households in 2020 lacked internet access and 4.8 million people had never gone online.[62,63]

The combination of low digital and health literacy risks exacerbating health inequalities. For example, an estimated 175,000 to 500,000 of those instructed by letter to 'shield' had no internet access so could not use the websites they were signposted to.[64] NHS Digital has identified that the groups most likely to be excluded are older people, people without jobs or in low-income groups, people in social housing, and people with disabilities.[65]

The Good Things Foundation's Widening Digital Participation (GTF WDP) programme, one of biggest national programmes for improving health literacy, has been independently evaluated. Phase 1, from 2013 to 2016, focused on improving literacy in communities across England through a 'blended learning' model of community-based and online learning, targeting those with the greatest needs first. An independent evaluation showed that participants gained skills and confidence in accessing health information online, resulting in fewer visits to the GP, 111 and hospitals.

This achieved an estimated annual saving based on behaviour change of £3.7m in saved GP visits and £2.3m in saved A&E visits - a return on investment of £6.40 for every £1 invested in Year 3 of the programme.[66] Phase 1 is discussed in greater detail in our 2019 report *Shaping the future of UK healthcare: Closing the digital gap.*[67]

Case study 2 shows the findings from Phase 2 of the programme (that ran from 2017 to 2020) and illustrates how improving digital skills is effective in improving health literacy.

## Case study 2

Good Things Foundation 'Widening Digital Participation' – an NHS Digital-funded programme to improve digital literacy and reduce health inequalities (2017-2020)

### Situation

Good Things Foundation's Widening Digital Participation programme, funded by NHS Digital, aimed to ensure that more people have the digital skills, motivation and means to access health information and services online. The first part of Phase 2 of the project, which ran for approximately 12 months, supported 23 'pathfinders', health and care providers including clinical commissioning groups (CCGs), GPs, local authorities, care home providers, voluntary sector organisations and community groups to identify points in health and care systems, products, processes and patient journeys that could be improved through digital technology and community-based interventions. While each pathfinder was unique, all were supported to go through a series of five steps and draw on co-design principles to build a 'digital health hub' model.[68] A digital health hub (DHH) is defined as a trusted place, with trusted people accessing trusted information.[69] After this, 22 'mini pathfinders' helped to test the emerging DHH model through the Good Things Foundation network of community partners. [70]

### Action

The approach taken by the Good Things Foundation to form DHHs was based on the principle of going to where people are – whether a GP surgery, a homeless shelter, a dementia support group or a cancer support network – to win trust and obtain valuable insights into what people really need. Local digital hubs were established in partnership with the community – local charities, NHS organisations, care homes, libraries, Health Watch and Citizens Advice. This was seen as essential to building digital confidence and motivating behaviour change.

### Outcome

Throughout the duration of Phase 2 of the programme the pathfinders project supported 21,178 people, a further 166,162 people were made aware of digital health resources, and 53,173 people improved their digital literacy through free on-line learning ('Learn My Way'). 83% of people using Learn My Way said they felt more confident with online tools to manage their health, 33% said they made fewer visits to their GP (an average of 4.8 visits saved) and 14% said they made fewer visits to A&E (an average of 3.1 visits saved).[71]

**Prevention: Better than treatment**

"Prevention is the easiest thing to ignore"

**Strategic Adviser**

### Improving prevention of mental health problems

One of the biggest areas of concern during the COVID-19 pandemic has been the increase in mental health problems. Despite multiple policies and programmes to improve mental health services, the focus has been largely on treatment, usually once the condition becomes more severe. Historically there has been limited emphasis on early interventions to improve prevention. Consequently, mental health inequalities persist: 70 per cent of our interviewees said that they had not been well tackled.



**Negating the gap:** Preventing ill health and promoting healthy behaviours

The mental health of vulnerable children and adolescents is another critical challenge. During the pandemic the disruption in school attendances and inequalities in access to educational support has had a deleterious impact on children's mental health. Pre-pandemic, an estimated 10 per cent of children and young people in the UK aged between 5 and 16 years had a clinically diagnosed mental disorder, and this percentage increased substantially during the pandemic. Indeed, public health agencies around the world have warned that a wave of depression, suicide and other mental ill-health issues is on the horizon.

Even before the pandemic the case for investment was gaining momentum and a growing number of virtual mental-health service providers have emerged to serve this market: the pandemic has accelerated uptake and digital innovation has accelerated at an unprecedented pace, transforming services.

Today, there are a range of NHS-approved, digitally enabled models of care for mental health, providing insights to help improve healthcare providers understanding of the causes and symptoms of different mental health conditions, how well treatments work, and how each treatment works for individual patients. Care delivered via digital platforms can also: help people avoid the social stigma often associated with poor mental health, reduce waiting times and remove the need to travel and take time off work for treatment. It can also facilitate access to treatment for those who have previously avoided face-to-face therapy appointments.[72] Examples of digital platforms include:

- Ieso Digital Health (Ieso) provides cognitive behavior therapy (CBT) through one-to-one online chat sessions and therapy sessions. Since April 2021 it has also provided online video CBT. Ieso is commissioned by 49 NHS CCGs and 27 NHS providers across England and Scotland as part of the IAPT (Increasing Access to Psychological Therapies) service. It has treated over 70,000 patients and has recorded over 400,000 hours of anonymised therapy transcripts to help evaluate the effectiveness of services. Recovery of patients is equivalent to face to face, and often fewer sessions are required.[73]
- SilverCloud is the leading global provider of evidence-based wellbeing and behavioural health solutions, delivered digitally and at scale - enabling four to six times as many people access support than through traditional treatment routes. Working with more than 500 organisations, including over 75 per cent of IAPT services, the platform offers over 30 programmes that are evidence-based and clinically validated. These programmes have shown results equivalent to face-to-face care for the 1 in 5 people with a diagnosable mental health condition and have helped over 65 per cent of patient, member, and employee users to experience significant decreases in depression and anxiety symptoms and 85 per cent showing a reduction in symptoms. SilverCloud is also available to individuals through certain healthcare plans, hospitals, GPs, universities and employers.[74]
- Healios has created a digital clinic offering specialised clinical assessments, therapy sessions and support programmes, delivered via digital tools, self-management apps and a telemedicine platform to children and young people with mental health and neurodiverse conditions. Healios is used by two-thirds of NHS mental health trusts.[75] It has delivered over 80,000 clinical sessions, 35 per cent of which took place when lockdowns and social distancing were disrupting face-to-face mental health care.[76]

Digital technology has tremendous potential to make mental health and behavioural health systems fit-for-purpose, affordable, and scalable, particularly for countries and people currently without access to services. But despite their potential, the new tools and services come with concerns about safety and efficacy, as well as ethical questions related to the use of personal data. Our existing regulatory structures do not have answers to all these concerns, and there is consequently some exposure to risks.

The World Economic Forum and Deloitte have explored the ethical concerns presented by digital technology in mental health and have developed a toolkit that offers a framework of governance principles, standards and processes that can be adopted as a code of ethics, regulatory standards, or simply as a kitemark of compliance, with a means for adapting these to the cultural, legal, medical, and clinical situations in different jurisdictions. The toolkit enables stakeholders to embrace validated digital mental health services safely, strategically, and ethically, by focusing on trust through assurance and transparency.[77]

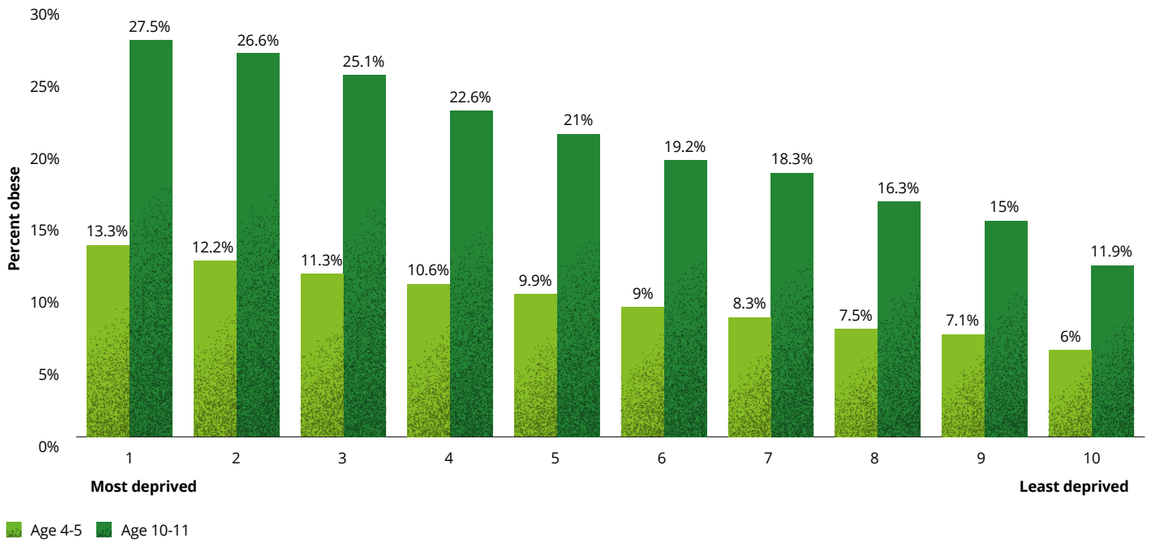
## Stopping smoking

Evidence of the negative impact of smoking on health has been recognised for decades. Moreover, during the pandemic smokers and ex-smokers have been more likely to end up in hospital if they contract COVID-19. According to the ONS, in 2019, 14.1% of UK adults smoked cigarettes – a significant reduction from 20.2% in 2011. The biggest reduction was among 18 to 24-year-olds, down from 25.7% who smoked in 2011 to 16.0 per cent in 2019.[78]

In 2021 research by the International Longevity Centre (ILC) UK found that stopping smoking is only one part of the solution, as many former smokers are already living with the long-term effects of smoking, such as cardiovascular conditions and cancer. Smoking is responsible for 77,600 deaths a year in England alone and a typical life-long smoker aged 30 can expect to lose about ten years of life expectancy compared to someone who has never smoked. The report also noted that although the government has stated its ambition to become 'smoke-free' in England by 2030, funding for national behaviour change communication campaigns and smoking cessation services has been cut since 2009. UK annual tobacco duties are worth only £9 billion a year, less than half the economic cost of smoking. The costs of smoking are therefore not just those to individuals and their health, but also the cost to the broader healthcare system and the public purse.[80]

When discussing prevention and cessation of smoking, our interviewees commented that one of the more intractable areas is smoking during pregnancy. In 2017 the DHSC set a target to reduce this to 6% or less by the end of 2022. By 2020 around 10% of pregnant women in the UK were smoking at the time of delivery, but wide variations in rates of smoking during pregnancy existed across the social gradient.[81] The National Institute for Care and Excellence (NICE) recommends the use of a carbon monoxide test as a simple evidence-based method for identifying smokers, which has been used as a routine part of antenatal care since 2010. However, antenatal care is delivered by the NHS, but since 2013, 'stop smoking' services have been the responsibility of local authorities, and often delivered by a range of different community-based providers. This creates a disconnect between diagnosis and access to treatment.[82]

**Figure 9. Obesity prevalence in children aged 4-5 and 10-11, by Index of Multiple Deprivation (IMD), England, 2019/20**




Source: NHS Digital, National Child Measurement Programme 2019/20





## Tackling obesity

Obesity is a risk factor for several chronic diseases with the greatest prevalence in lower socio-economic groups. Rates of obesity are high and rising, with rates of adult obesity almost doubling since 1993, and morbid obesity quadrupling. The UK government spends an estimated £18 billion (8%) of all government healthcare expenditure – on conditions related to high BMI every year.[83] In the UK about two-thirds of adults (68% of men and 60% of women) and a third of children are now overweight or obese.[84] Worryingly some 18% of boys and 13% of girls are obese, with the prevalence increasing along the social gradient (Figure 9).[85]

Obesity is a complex chronic condition, and losing weight is not just a question of eating less and being more active. It can be influenced by genetics, physiology, environment, job and education, and what is going on in the brain. Obesity is much more than just excess weight, it is associated with over 200 complications affecting an individual's health, such as heart disease, high cholesterol, Type 2 diabetes, fatty liver disease, and some cancers. People living with obesity also face social stigma; and they may feel ashamed about their weight, and resist seeking information and support. However, behavioural research indicates that incentives or penalties can encourage people take a proactive approach to prevention and treatment.

Many of our interviewees identified obesity as an example of failure in prevention. One senior public health leader noted that "Campaigns work on those who are already halfway there" and another that "Major things like obesity have not been successfully addressed". Moreover, a body of research conducted during the first wave of the pandemic found that obesity increased the risk of dying from COVID-19 by around 40 per cent, with obesity rates twice as high in deprived areas compared to affluent areas.[86]

Lifestyle factors causing obesity include an unhealthy diet and physical inactivity. However, people living in deprived areas often face significant barriers to accessing affordable healthy food. For example, calorie-rich takeaway shops are more prevalent in deprived areas. There are also barriers to taking regular exercise, with people in the UK 20 per cent less active now than in the 1960s; albeit people in the 21st century are among the first generations to make a conscious effort to build physical activity into their daily lives.[87] Reductions in manual labour and lack of understanding about the benefits of exercise are key challenges.

It is often said that people make their own choices; however, the evidence suggests that 'poverty leads to poor choices, not poor choices to poverty'. For example, the Food Foundation found that households in England in the bottom ten per cent of household income would need to spend 74% of their income on food were they to follow official healthy eating advice. During the pandemic the problem has become even more challenging.[88]

The Food Foundation has been monitoring food insecurity levels through regular nationally-representative polling since March 2000. It found that food insecurity levels in the UK while high before Covid-19 (7.6% of households), have been exacerbated further by the pandemic. Its March 2021 report, found that between August 2020 and January 2021, 2.3 million children lived in households that experienced food insecurity (12% of households with children) and 4.7 million adults (9%) experienced food insecurity, with rates continuing to remain substantially elevated compared to pre-Covid. Moreover, inequality in food insecurity has widened between those from BAME backgrounds and white ethnic groups and adults with disabilities have also consistently been more acutely affected by food insecurity during the pandemic compared with those without disabilities.[89]

Our interviewees suggested that despite numerous national obesity strategies over the past 20 years, public health has not had a sustainable impact on obesity, and there is much more that the NHS and local government could do – for example, using local insights to target services at communities with the greatest need, training the workforce to offer advice about diet and nutrition, and incentivising referrals to specialist diet programmes. Collaborations with local sports and drama and dance clubs are often an effective way of encouraging people to do more exercise, but first there is a need to address affordability.

Interviewees also commented on the positive impact of the soft drinks industry levy in 2015 as well as the broader strategies to reduce sugar by 20 per cent in food categories that primarily contribute to children's sugar intake. A DHSC consultation paper on *Advancing our health prevention in the 2020s* sets out a plan for action on marketing and labelling of infant feeding, clear food labelling, improving the nutritional content of foods, further reductions in the sugar and salt content in commercial food and drink, and implementing policies on sale of energy drinks to children.[90]

In July 2021 Henry Dimbleby published his independent 'The Plan' a National Food Strategy for England - the result of two years of intensive research, engagement, and policy development. He laid out four strategic objectives for the food system:

1. escaping the junk food cycle
2. reducing diet-related health disparities
3. making the best of our land
4. creating a long-term shift in our food culture.[91]

The strategy makes robust recommendations on sugar and salt reformulation taxes, mandatory business reporting, preventing children's food insecurity, increasing access to fruit and vegetables (particularly among low-income groups), and strengthening national and local food system governance. It also called for a new Food Bill.[92] The Government is set to respond with its own Food Strategy White Paper in early 2022.

### Reducing alcohol and drug misuse

Excessive alcohol consumption is linked to a host of adverse physical and mental effects, including cancer, violence and suicide.[93] Alcohol misuse is estimated to cost the NHS £3.5 billion and society as a whole £21 billion annually.[94] The rate of hospital admissions relating to alcohol consumption has increased over time from 1,639 per 100,000 population in 2008-09 to 2,367 per 100,000 in 2018-19.[95] Alcohol-specific death rates in 2019 were highest among those aged 55 to 64 years among both men and women.[96]

Public support for greater controls over alcohol consumption is a key consideration for government in decisions about introducing new alcohol-related regulations and programmes. Research indicates that the public would be receptive to some more stringent policies on alcohol control, especially in relation to product labelling and the dissemination of public education campaigns. But more advocacy will be needed to obtain higher levels of support for restricting the marketing activities of alcoholic drinks companies.[97]

Analysis shows that in the past decade deaths from drug poisoning have been higher in the most deprived areas of England and Wales compared with the least deprived, particularly among those aged in their forties where the rate of deaths have reached peaks that are at least 5.5 times higher in deprived areas.[98] While our interviewees were critical of the public health response to drug and alcohol misuse, they recognised that tackling drug abuse and the dependency problem requires a cross-government, multi-agency response. Moreover, substance misuse needs to be seen as a chronic health condition: it has been estimated that each £1 spent on treatment will save £4 by reducing demands on health, prison, law enforcement and emergency services.[99] While there is extensive evidence about the outcomes of interventions to tackle drug abuse, a challenge is to implement solutions consistently and over a long enough time frame, but this is often impeded by the short termism of local initiatives.[100]

On a more positive note, several interviewees mentioned the success of the governments 'Everyone In' rough sleepers initiative, implemented during the COVID-19 pandemic (on March 26, the minister for local government and homelessness, wrote to local authorities across the UK and asked them to house every rough sleeper by the end of the weekend). Several reviews acknowledge this as a national example of a positive public health initiative that has made a difference for people, many with a complex mix of drug, alcohol and mental health problems.[101] This demonstrates the on-going debate about the interrelationship between substance abuse and mental health and the strengthening argument that they should be considered together.

Our interviewees considered that the flexible collaboration between housing and health services adopted during the pandemic could provide important lessons for ICSs as they take on the responsibility for establishing partnerships with the NHS and public health to jointly plan for the provision of both mental health and substance misuse services, aligned to the needs of the local population.[102]

### Vaccination: A crucial public health prevention tool

Vaccination has an important role in health protection (*see our report Bridging the gap: Protecting the nation from public health threats*).[103] Public health professionals consider vaccines as one of the most effective ways to prevent disease and premature deaths. In the UK, the NHS has a robust schedule of routine primary care vaccinations commencing soon after birth at the ages of eight, 12 and 16 weeks, vaccination against the human papillomavirus (HPV) at age 13/14, and vaccination against influenza and pneumonia for those aged 65 and over.[104] Individuals can also obtain vaccination against diseases they likely to encounter when travelling to other countries. GPs' electronic health records hold details of every registered patient's vaccine history.

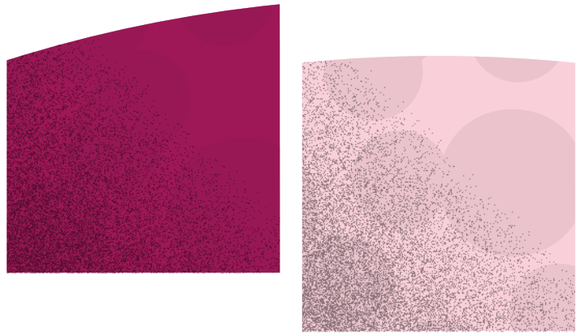


**Negating the gap:** Preventing ill health and promoting healthy behaviours

The WHO has listed vaccine hesitancy as one of the biggest threats to global health. The reasons for hesitancy are complex and context-specific, and vary across time, place and vaccines.[106] Improving vaccination uptake requires a collaborative effort between family doctors, parents, public health officials, governments, the technology sector, and civil society to dispel myths and misinformation around vaccination.[107]

On vaccination programmes, our interviewees acknowledged that they had historically tolerated a degree of vaccine hesitancy as this was often down to difficulties with physical access to services, such as difficulties with transport or getting childcare or time out from work. Others identified the need to target information and promotional messages at specific ethnic groups, and the need for promotion activities to reflect the culture and language requirements of specific groups.

As we have seen, vaccination is highly effective at reducing severe illness and death from COVID-19. Vaccines for COVID-19 are also safe, with extremely low risks of severe adverse reactions. Causes and drivers of poor confidence in COVID-19 vaccines are linked to social disadvantage in education and poor access to accurate information, and misinformation, rumours and conspiracy theories. During the pandemic many DsPH and their teams have worked with healthcare providers and have involved social enterprises, faith leaders, community champions, youth ambassadors, patient support groups, media celebrities etcetera to help reduce vaccine hesitancy, with positive results.[108] In September 2021 PHE's vaccine surveillance report estimated that vaccines had directly averted over 230,800 hospitalisations and prevented some 24 million cases of COVID-19 and between 119,500 and 126,800 deaths.[109]



### Focusing on early diagnosis and screening

Research evidence is unequivocal in showing that prevention can be improved through early diagnosis (detecting symptomatic patients as early as possible) and health screening (testing individuals to identify those with a specific disease before any symptoms appear). However, health screening programmes such as those for cervical and breast cancer and even blood pressure testing were largely put on hold during the first wave of the pandemic and have been restricted since then. A crucial measure for improving prevention is to restore screening activity to previous levels.

England's national screening programmes, which result in over 10 million screening appointments and save approximately 10,000 lives each year, is set to change in many ways over the next decade. The advent of more targeted screening techniques means that those at higher risk of a condition can be targeted better. The genomic revolution means that testing for multiple genes to create polygenic risk scores is becoming both feasible and more affordable. New technologies including artificial intelligence (AI) will also be able to support HCPs in the delivery of screening by freeing up capacity.[110] We will be exploring the future of screening and diagnostics in a new research study in 2022.

"Just think about how digital solutions can be used to solve a prevention problem and make it a priority to use digital health to solve it. So much of digital tech is around acute care and safety such as medication and electronic prescribing. There's also a focus on efficiency and capturing data but it would be good to think about issues from a public health perspective - how can we use digital tech more to drive improvement in public health?"

**Director of Public Health**

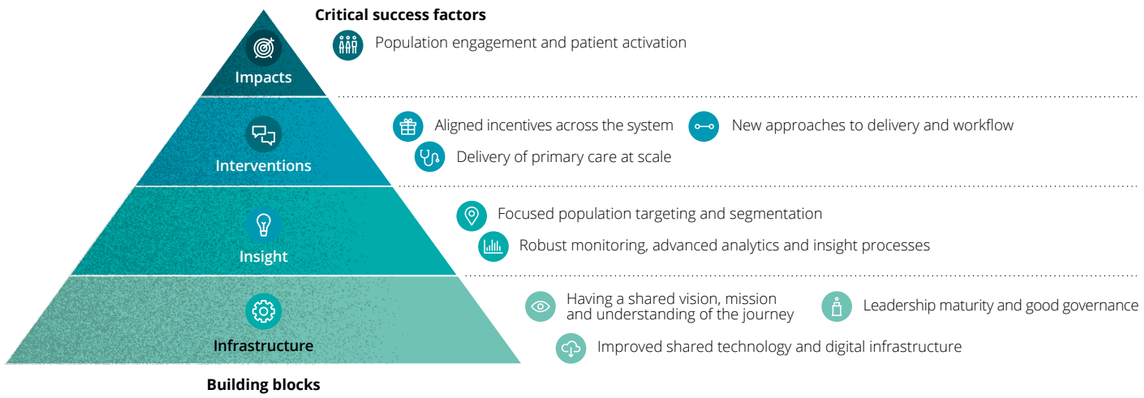
**Population health management: Improving ill-health prevention and promotion**

PHM involves gathering data about population health and wellbeing across multiple care and service settings and analysing it with a view to identifying the most prevalent healthcare needs of a community and adapting services accordingly. The health care reforms in the UK acknowledge the importance of PHM and gives ICSs statutory responsibility to adopt a PHM approach to improve prevention and reduce health inequalities. While the concept of PHM is not new, attempts to tackle it have been varied and fragmented. Today, data analytics and machine learning contribute to PHM by helping to identify risks and stratify patient populations, improve the speed and accuracy of diagnostics, design personalised approaches to improve prevention, and target healthcare interventions at those who need it most and at a time when it will add the most value to the patient's life.[111]

Our 2019 report *The transition to integrated care: Population health management in England* identifies nine critical success factors which form part of four key building blocks which we identify as key to achieving PHM. It also provides two maturity assessment frameworks to assist health systems in understanding the journey to adopting a PHM approach (see Figure 10).

Our interviewees identified a refreshed approach to PHM as key to improving health prevention. We asked them what PHM key performance indicators (KPIs) were currently being measured, and the general view was that the use of KPIs was underdeveloped and that there was a lack of consistency or standards for capturing PHM data across public health. They expected ICSs to address this as a priority. There was general agreement that public health needs to have agreed PHM quality standards aligned around reducing health inequalities, improving prevention and health promotion.

**Figure 10. The four key building blocks – Infrastructure, Insights, Impact and Intervention – and nine critical success factors enabling population health management**








"The key performance indicators needed for public health are health inequalities, mental health and obesity. There will also be a need for some COVID-related KPIs including something on long COVID, something on employment status and on educational attainment relating to health, and one on environment health and climate issues"

**Director of Public Health**

**PHM will be an essential lever for improving prevention and targeting promotion activities**

More personalised, preventative approaches to PHM require access to different sources of data including patient data such as diagnostic tests to make treatment more targeted and more personalised. Many patients with long-term health conditions have complex needs, and they encounter multiple local services. By collating data on these patients from different sources, and sharing it between the NHS, social care and public health, it should be possible to break the stubborn link between longer-term conditions and hospital admissions. The fact that this issue disproportionately affects people living in more economically disadvantaged areas should make it a priority social policy goal.

To refine PHM as an approach to addressing inequalities, and identify the causes of inequalities, it is first necessary to know that these exist, in which demographics, and how large the differences are. The UK already has world-leading national datasets covering health, employment, income, transport and housing. But these are not always easily brought together. There are also around 80 or so public sector data collection sets that need to be reviewed comprehensively to ensure that they are capturing statistics on inequalities. Technology can play a crucial role in routinely linking and communicating data across these datasets. This will require system leaders to:

"At the moment, some KPIs are clear and well defined measures. For example there are a number of well-validated ways to look at health inequalities, such as, place-based health inequalities. But there will be a greater need to look at things from an ethnicity viewpoint. Others will need more thought as to what the appropriate metric might be, for example on environment and health it is not yet clear what will be the most pertinent metrics to use" "

**Director of Public Health**

use data analytics to understand how different aspects of disadvantage combine to affect health inequalities and to identify which ones are most influential: this would help inform where resources and policy should be targeted

- evaluate new policies to understand how (and whether) they impact health inequalities and the findings to continually improve policy and its implementation.

In future, all public health research should be able to demonstrate how it includes relevant communities in its work. In using AI, researchers will also need to consider what biases might emerge in resulting algorithms due to imbalances in input data or data reflecting existing inequalities, such as over- or under-representation of ethnic groups in crucial areas. Any data collected should include enough demographic information to allow measurement of inequalities across participants and outcomes and ensure that disadvantaged groups are fully represented in the data.

**Reimagining public health: Negating the gap in ill-health prevention and health promotion**

Public health has a long history of tackling health inequalities, but despite many actions at a local level and some notable pockets of success, tackling inequalities in ill-health prevention has been, and continues to be, drowned out by other 'must-dos' such as waiting times or a long series of other treatment priorities.

There is now a huge body of research evidence that shows clearly how investment in prevention and promotion is more cost-effective and equitable than dealing with the consequences of health inequalities. Partnership working between primary care, local authorities and the third sector to deliver and adopt well-evidenced interventions implemented at scale, with agreed metrics to measure progress, can help people to avoid poor health, reduce the growth in demand on public services, and in doing so support economic growth. However, there is a need for transparency and accountability and for the needs of people from socio-economically deprived backgrounds and more marginalised groups to be reflected in the formula for allocating funding for preventative services to local areas.

There is also a huge opportunity to use digital technology to optimise outcomes for people – by moving upstream to support primary prevention and supporting people at home through monitoring to identify and provide earlier intervention, deterioration in a long-term condition can be avoided thereby reducing readmissions and exacerbation. Focusing on health promotion and lifestyle optimisation can reduce demand on primary and community care, and the healthcare system generally.

Ultimately success in improving public health prevention and health promotion will require consistency of purpose, with guaranteed funding and adequate staffing resources over several years. The NHS and local authorities know what needs to be done and what works and what doesn't. Importantly, ICSs will now have the authority and statutory responsibility to deliver better public health prevention and negate the gaps in services and interventions that this report has highlighted. Local populations should be the ultimate judge and jury and hold ICSs to account for the outcomes they deliver.



**Negating the gap:** Preventing ill health and promoting healthy behaviours

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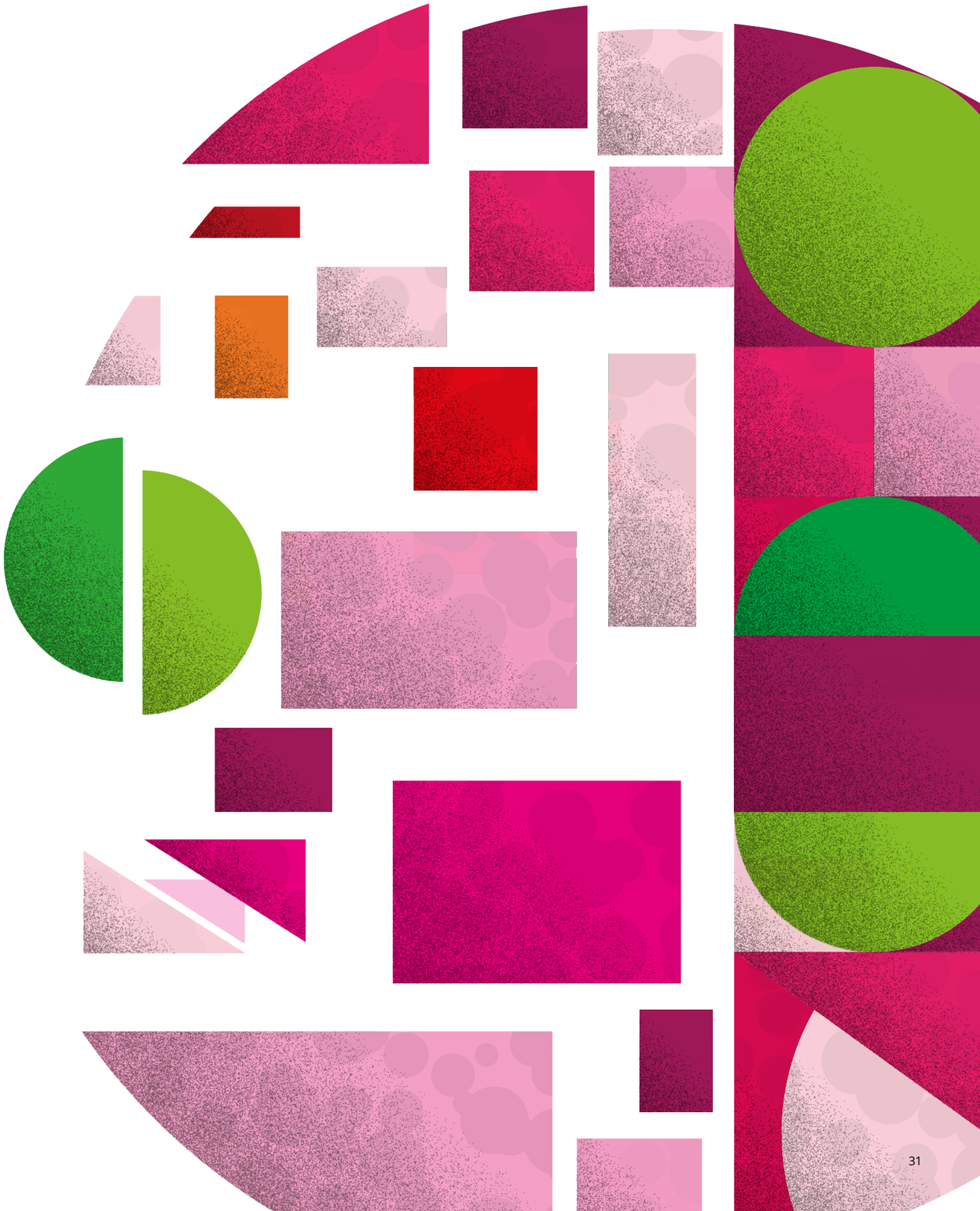
**Negating the gap:** Preventing ill health and promoting healthy behaviours



# Notes



# Contacts

## Authors

**Karen Taylor**
**Director**
UK Centre for Health Solutions
+44 7825 793729
kartaylor@deloitte.co.uk

**Samrina Bhatti**
**Manager**
UK Centre for Health Solutions
+44 7789 158334
sbhatti@deloitte.co.uk

**Krissie Ferris**
**Research Analyst**
UK Centre for Health Solutions
+44 7990 673809
krissieferris@deloitte.co.uk

**Pratik Avhad**
**Research Analyst**
UK Centre for Health Solutions
+91 95797 74649
pavhad@deloitte.com

## Industry Leadership

**Sara Siegel**
**Partner**
UK Health and Social Care
Sector Leader
+44 20 7007 7098
sarasiegel@deloitte.co.uk

**Catherine Skilton**
**Partner**
Consulting
UK Lead for Integrated Care Systems
+44 20 7007 5490
cskilton@deloitte.co.uk

**John Haughey**
**Partner**
Global Consulting LSHC Industry Leader
+44 20 7303 7472
jhaughey@deloitte.co.uk

**Caroline Hope**
**Partner**
Consulting
UK Lead for Social Services
+44 121 696 8973
chope@deloitte.co.uk

**Frances Cousins**
**Partner**
Risk Advisory
UK Health and Social Care and Lifesciences Catalyst
+44 20 7303 8316
fcousins@deloitte.co.uk

**Hanno Ronte**
**Partner**
Life Sciences and Healthcare Strategy and Consulting Lead
+44 20 7007 2540
hronte@deloitte.co.uk

**Bill Hall**
**Partner**
Technology Lead
UK Health and Social Care
+44 121 695 5147
bhall@deloitte.co.uk

**Cosima Pettinicchio**
**Director**
Consulting
UK Health and Social Care
+44 20 7303 2427
cpettinicchio@deloitte.co.uk

**Karen Kirkham**
**Partner and Chief Medical Officer**
Clinical Lead Partner for Integrated Care
UK Health and Social Care
+44 20 8071 0464
kkirkham@deloitte.co.uk

**Gus Miah**
**Partner**
Risk Advisory
UK Health and Social Care
+44 121 695 5349
gmiah@deloitte.co.uk

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**Contact information**
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Deloitte UK Centre for Health Solutions, 1 New Street Square, London, EC4A 3HQ

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