



The Association of Directors of Public Health

NIHR 'Health Futures' 20 Year Forward View

The Association of Directors of Public Health (ADPH) is the representative body for Directors of Public Health (DPH) in the UK. It seeks to improve and protect the health of the population through collating and presenting the views of DsPH; advising on public health policy and legislation at a local, regional, national and international level; facilitating a support network for DsPH; and providing opportunities for DsPH to develop professional practice.

The Association has a rich heritage, its origins dating back 160 years. It is a collaborative organisation working in partnership with others to maximise the voice for public health.

- 1. What differences do you foresee in the state of health and provision of healthcare in England in 20-30 years' time? Consider if/how these changes might affect some populations (within England) differently to others, i.e. socioeconomic, ethnic groups and/or geographic groups.**

It is difficult to predict this. The best we can do at present is look at projected trends in demographics, societal trends, disease prevalence and developments in health provision and healthcare policy to gain some indication of how things are likely to develop. We do this in our responses to the ensuing questions.

- 2. What will be the major trends in health and healthcare in England over the next 20-30 years?**

2.1 Possible trends in population health

The next twenty years is likely to see the continuation of the need to address key public health issues such as obesity, smoking and alcohol harm. Although smoking rates have declined in recent years, in the UK 17% of adults still smoke and about half of all regular cigarette smokers will eventually die from a smoking related disease.¹ Alcohol was 61% more affordable in 2013 than in 1980, more than nine million people drink more than the recommended daily limits and alcohol is a causal factor in more than 60 medical conditions.² Obesity prevalence increased from 15% in 1993 to 26% in 2014.³

Infectious diseases such as hepatitis C will continue to be a burden. Poor mental health is likely to be a continuing problem as is a rise in non-communicable diseases and long-term conditions. Climate change may cause issues such as migration and temperature increases which may affect the spread and prevalence of disease. We may also see a worsening in health inequalities as the gap between the rich and poor in society is projected to continue to widen.

Given this context, improving the public's health will continue to be a crucially important challenge. We explore these key issues and challenges in more detail in the sections below.

¹ ASH, 'Smoking Statistics', March 2017, available here: <http://ash.org.uk/download/fag-smoking-statistics/>

² Alcohol Concern, 'Alcohol Statistics', available here: <https://www.alcoholconcern.org.uk/alcohol-statistics>

³ Health and Social Care Information Centre, 'Statistics on Obesity, Physical Activity and Diet', April 2016, available here: <http://content.digital.nhs.uk/catalogue/PUB20562/obes-phys-acti-diet-eng-2016-rep.pdf>



2.1.1 Obesity

Addressing the obesity crisis is an urgent and growing problem and continued and rising obesity is very likely to be a health trend in at least the near future.

Between 2005 and 2015 the proportion of adults who were either overweight or obese rose from 60.5% to 62.6%.⁴ Between 2015 and 2035 the prevalence of obesity is predicted to increase from 29% to 39% among adult UK men with an increase from 30% to 40% expected among adult UK women. If current trends continue almost three in four adults will be overweight or obese by 2035.⁵ This would result in about 440,000 obesity-related diseases in the UK per year, including 257,200 cases of type 2 diabetes, 101,000 cases of CHD, 43,600 cases of stroke and 38,500 cases of obesity related cancer. Strikingly, this would mean 4.62 million additional cases of diabetes over the next 20 years.⁶

Childhood obesity is key issue. Sugar currently constitutes 13% of children's daily calorie intake which far exceeds the official recommendation of no more than 5%.⁷ Figures from the World Obesity Federation estimate that by 2025 there will be 3.3 million overweight children living in the UK.⁸

There is a health inequality element to obesity and 60% of the most deprived boys aged 5-11 are predicted to be overweight or obese by 2020. This compares to about one in six boys in the most affluent group.⁹ 45% of all adult men and women in the lowest income quintile in the UK are predicted to be obese in 2035.¹⁰

2.1.2. Mental health

Public mental health should continue to be a priority. One in six people have a common mental health problem and nearly half of adults think they have had a diagnosable mental health condition at some point in their life.¹¹ One in ten children has a diagnosable mental health problem and children from low income families are at the highest risk.¹² A major survey conducted by the Department for Education found that the mental wellbeing of Year 10 students had worsened between 2005 and 2014.¹³

⁴ House of Commons Library, 'Obesity Statistics', January 2017, available here: researchbriefings.files.parliament.uk/documents/SN03336/SN03336.pdf

⁵ Cancer Research UK and UK Health Forum, 'Tipping the Scales: Why Preventing Obesity Makes Economic Sense', January 2016, available here: https://www.cancerresearchuk.org/sites/default/files/tipping_the_scales_-_cruk_full_report11.pdf

⁶ Cancer Research UK and UK Health Forum, 'Tipping the Scales: Why Preventing Obesity Makes Economic Sense', January 2016, available here: https://www.cancerresearchuk.org/sites/default/files/tipping_the_scales_-_cruk_full_report11.pdf

⁷ Food Standards Agency and Public Health England, 'National Diet and Nutrition Survey results from years 5 and 6 combined of the rolling programme for 2012 and 2013 to 2013 and 2014: report', September 2016, available here: https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/551352/NDNS_Y5_6_UK_Main_Text.pdf

⁸ T. Lobstein and R. Jackson-Leach, 'Planning for the worst: estimates of obesity and comorbidities in school-age children in 2025, Paediatric Obesity, Volume 11, Issue 5, October 2016, Pages 321-325, available here: <http://onlinelibrary.wiley.com/doi/10.1111/ijpo.12185/full>

⁹ Obesity Health Alliance, '3 in 5 of England's most deprived boys will be overweight or obese by 2020', October 2016, available here: <http://obesityhealthalliance.org.uk/2016/10/11/3-5-englands-deprived-boys-will-overweight-obese-2020/>

¹⁰ Cancer Research UK and UK Health Forum, 'Tipping the Scales: Why Preventing Obesity Makes Economic Sense', January 2016, available here: https://www.cancerresearchuk.org/sites/default/files/tipping_the_scales_-_cruk_full_report11.pdf

¹¹ Mental Health Foundation, 'Fundamental Facts about Mental Health 2016' November 2016, available here: <https://www.mentalhealth.org.uk/sites/default/files/fundamental-facts-about-mental-health-2016.pdf>

¹² NHS England, 'The Five Year Forward View for Mental Health', February 2016, available here: <https://www.england.nhs.uk/wp-content/uploads/2016/02/Mental-Health-Taskforce-FYFV-final.pdf>

¹³ Department for Education, 'Longitudinal Study of Young People in England cohort 2: health and wellbeing at wave 2 research report', July 2016, available here: https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/599871/LSYPE2_w2-research_report.pdf



Over the last five years' public attitudes towards mental health have improved and as the NHS Five Year Forward View for Mental Health states "this increased awareness has heightened understanding of an urgent need to act on improving the experiences of people with mental health problems". Hopefully as the narrative around mental health continues to change in a positive way we may begin to see parity of esteem with physical health.

As mental health problems become more accepted we may see what looks like an increase in prevalence but what is actually an increase in those with issues feeling able to speak out. Poor mental health as with all health issues has a broad range of social determinants. Societal issues such as the current crisis in affordable housing and potential economic insecurity as a result of Brexit may lead to increased mental health issues in the population.

2.1.3 Non-communicable diseases

Our population is ageing. By 2040 nearly one in seven people is projected to be aged over 75¹⁴ and with this will come a higher prevalence of non-communicable diseases of older age such as cancer, diabetes, and dementia. Investment in preventative initiatives paired with an effective approach to encouraging self-management of long term conditions is key for both improving the health of the public and the sustainability of the NHS and social care system.

The number of strokes in the UK is predicted to rise by 44% in the next twenty years with the number of stroke survivors predicted to rise by a third.¹⁵ Incidence rates for all cancers combined are projected to rise by 2% in the UK between 2014 and 2035, to 742 cases per 100,000 people by 2035.¹⁶ If current trends continue one in ten people will develop type 2 diabetes by 2034.¹⁷ Age is the biggest risk factor for dementia and the number of people with dementia in the UK is expected to grow rapidly over the next 20 years; one in three people born in the UK this year will develop dementia in their lifetime.¹⁸ The number of people with multiple long-term conditions is growing rapidly and a future health system must be equipped to care for people with increasingly complex needs.

Cancer, diabetes, stroke and dementia are all, at least to some degree, preventable diseases – changes in population lifestyle are key to preventing them. Given the current worrying projections for the future prevalence of these diseases we would hope that increased investment in and focus on preventative initiatives and those aimed at adjusting behavioural determinants become a major trend in healthcare in the very near future.

¹⁴ Government Office for Science, 'Future of an Ageing Population', July 2016, available here:

https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/535187/gs-16-10-future-of-an-ageing-population.pdf

¹⁵ Kings College London for Stroke Alliance for Europe, 'The Burden of Stroke in Europe: The Challenge for Policy Makers', May 2017, available here: https://www.stroke.org.uk/sites/default/files/the_burden_of_stroke_in_europe_-_challenges_for_policy_makers.pdf

¹⁶ Cancer Research UK, 'Cancer Incidence Statistics', available here: <http://www.cancerresearchuk.org/health-professional/cancer-statistics/incidence#heading-Zero>

¹⁷ Diabetes UK, 'State of the Nation 2016', July 2016, available here:

<https://www.diabetes.org.uk/Documents/Position%20statements/Diabetes%20UK%20State%20of%20the%20Nation%202016.pdf>

¹⁸ Alzheimer's Research UK, 'Dementia Statistics Hub' available here: <https://www.dementiastatistics.org/statistics/numbers-of-people-in-the-uk/>



2.1.4 Infectious diseases

Although non-communicable diseases are now the main cause of death globally infections still present a significant health and economic burden to the UK and are likely to do so over the next twenty years. In 2010, infectious diseases accounted for 7% of all deaths, 4% of all potential life years lost and 8% of hospital bed days.¹⁹

Viral hepatitis is a leading cause of death globally and the number of confirmed cases of hepatitis C has risen more than five-fold in England since the 1990s. 1,836 new cases were reported per year between 2011-2015.²⁰ There has been a steady increase in the number of diagnosed infections over the past two decades reaching a peak of 11,605 reports in 2015.²¹ There is a trend towards increased rates of syphilis and gonorrhoea, particularly in men. Effort needs to be made to continue the downward trend in HIV transmission.

Of particular concern is the trend towards antimicrobial resistance – a recent review raised concerns that deaths due to antimicrobial resistance could outweigh mortality from all other causes by 2050 if action is not taken.²² Resistance in bacteria which cause hospital-acquired infections such as gonorrhoea is a serious concern.

2.1.5 Health inequalities and the social determinants of health

In the ten years between 1999-2003 and 2009-2013 there was little change in the difference in life expectancy between the most and least deprived areas in England.²³ Health inequalities are likely to worsen if income inequality in society continues to increase.

The Resolution Foundation predicts that until 2020 income growth is set to slow to extremely low levels and income falls are likely to affect poorer households. It states that the parliament from 2015-16 to 2020-21 was on course to be the worst on record for income growth in the bottom half of the working age income distribution and predicts the biggest rise in inequality since the 1980s, with inequality after housing costs reaching record highs by 2020–21.²⁴ Those who experience socio-economic deprivation are more likely to be impacted by harmful drinking and alcohol dependence, more likely to smoke, and more likely to be obese.

It seems likely that those with lower socioeconomic status will continue to be affected by the social

¹⁹ Houses of Parliament Parliamentary Office of Science and Technology, 'UK Trends in Infections Disease, January 2017, available here: <http://researchbriefings.parliament.uk/ResearchBriefing/Summary/POST-PN-0545>

²⁰ Houses of Parliament Parliamentary Office of Science and Technology, 'UK Trends in Infections Disease, January 2017, available here: <http://researchbriefings.parliament.uk/ResearchBriefing/Summary/POST-PN-0545>

²¹ Public Health England, 'Hepatitis C in England: 2017 report', March 2017, available here:

https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/599738/hepatitis_c_in_england_2017_report.pdf

²² Review on Antimicrobial Resistance, 'Antimicrobial Resistance: Tackling a crisis for the health and wealth of nations', December 2014, available here: http://www.ipiamr.eu/wp-content/uploads/2014/12/AMR-Review-Paper-Tackling-a-crisis-for-the-health-and-wealth-of-nations_1-2.pdf

²³ Office for National Statistics, 'Inequality in Health and Life Expectancies within Upper Tier Local Authorities: 2009 to 2013', November 2015, available here:

<http://www.ons.gov.uk/peoplepopulationandcommunity/healthandsocialcare/healthandlifeexpectancies/bulletins/inequalityinealthandlifeexpectancieswithinuppertierlocalauthorities/2009to2013>

²⁴ Resolution Foundation, 'Living Standards 2017', February 2017, available here:

<http://www.resolutionfoundation.org/app/uploads/2017/01/Audit-2017.pdf>



determinants of poor health – most notably poor housing and poor quality work. England is currently experiencing a housing crisis, with house prices now almost seven times people’s incomes and poor quality or inappropriate housing becoming more common, particularly in the private rental sector.²⁵ Five million people – 15% of workers – are now self-employed.²⁶ Changing trends in employment are leading to a rise in the ‘gig economy’ with higher numbers of self-employed workers in roles that offer flexibility but that are less stable and secure. This could have a negative effect on the population’s mental and physical health.

Other health inequalities look likely to worsen - air pollution is increasing and evidence shows that this is more likely to affect those from poorer backgrounds. For example, in London, populations in the most deprived areas are on average more exposed to poor air quality than those in less deprived areas. In 2010, 82% of primary schools in London where average concentrations of NO2 exceeded the EU limit were deprived schools.²⁷

2.2 Possible trends in healthcare

‘Healthcare’ is an ambiguous term and it is unclear whether this question encompasses social care. For reasons of brevity we will focus primarily on possible trends within services delivered by the NHS (and comment briefly on social care in the context of its impact on health) and possible trends or developments in the public health ‘system’. We will address these issues separately in the sections to follow. We will also look at some potential developments related to devolution which spans across both the NHS and public health.

2.2.1 NHS

The OBR projects that the NHS budget will need to increase by £88bn by 2067 to keep pace with demand and the government is expected to have to increase health spending from 6.9% of GDP in 2020-21 to 12.6% by 2066-67.²⁸ However, the health and care system is currently experiencing high levels of financial pressure and a continued drive towards efficiency.

44 footprint areas across England have published Sustainability and Transformation Plans which cover the period October 2016 – March 2021. These documents were required to demonstrate how the NHS will achieve sustainable financial balance and implement key national priorities. 50 vanguards across England are trialling new models of care which are to act as a ‘blueprint for the NHS moving forward’. Since the NHS Five Year Forward View was published in 2015 financial and operational performance in the NHS have decreased and funding is increasingly squeezed, often being used to plug deficits rather than investing in improving care and funding prevention. This is an unsustainable and short-term approach.

²⁵ Shelter, ‘What is the housing crisis?’, published here:

http://england.shelter.org.uk/campaigns/why_we_campaign/the_housing_crisis/what_is_the_housing_crisis

²⁶ House of Commons Work and Pensions Committee, ‘Self-employment and the gig economy’, April 2017, available here:

<https://www.publications.parliament.uk/pa/cm201617/cmselect/cmworpen/847/847.pdf>

²⁷ Aether UK (report for the Greater London Authority), ‘Updated Analysis of Air Pollution Exposure in London’, February 2017, published here:

https://www.london.gov.uk/sites/default/files/aether_updated_london_air_pollution_exposure_final.pdf

²⁸ Office for Budget Responsibility, ‘Fiscal sustainability report’, January 2017, available here:

http://cdn.budgetresponsibility.org.uk/FSR_Jan17.pdf



There is heavy and increasing pressure on general practice. The King's Fund stated in 2016 that general practice was in a crisis. Analysis of 30 million patient contacts from 177 practices found that consultations grew by more than 15% between 2010/11 and 2014/15.²⁹ Over the same period, the GP workforce grew by only 4.75% and funding for primary care fell every year. Practices are finding it difficult to recruit and retain GPs and GPs in the NHS report finding their jobs more stressful than those in other countries.

It seems likely that with the continued pressure on budgets and general practice, the NHS will try to encourage both more self-management of existing conditions and a shift towards health in the community and hopefully a more preventative approach. Initiatives such as social prescribing models and asset based approaches to health have been gaining traction in the past few years.

The NHS seems to be moving towards a more restricted approach to its services. The recent introduction of health optimisation pre-surgery and continued media focus on 'benefit tourism' may lead to future restrictions. This could lead to greater rationing and increased charging for services (e.g. extending to general practice) plus growth in the private health care market – with which could come the risk of 'two tier' service provision.

As explored earlier in the submission, the population is ageing with a greater proportion of the population likely to have multiple, long-term conditions in the future. This will put pressure on the social care system which is already under considerable pressure at present. The lack of social care availability may continue to contribute to pressures on the NHS as it leads to an inability to discharge patients into community care and can lead to increased readmission to hospital. The number of delayed transfers for older people increased by 31% to 1.15 million bed days between 2013 and 2015.³⁰ A lack of investment in social care may also lead to rising levels of unmet need and pressure on informal care (family and friend carers).

The cost of maintaining the current social care system is projected to continue to rise over the course of the decade. Age UK predicts that by 2020/21 public spending for older people's social care would need to increase by a minimum of £1.65 billion to £9.99 billion to manage the impact of demographic and cost pressure.³¹ However, recent figures are not encouraging; the amount spent on social care has decreased every year since 2010/11 excluding transfers from the NHS.³²

2.2.2 Public health system

Public health saw a £200m in-year cut to its budget in 2015-16 and the budget will shrink by a further £331m by 2021. The scheduled move to a system of Business Rates Retention in 2019/20 and removal of the public health grant ring fence could lead to reduced funding for public health (and local authorities in general) in areas where local authorities struggle to raise business rates. It is difficult to predict the impact

²⁹ The Kings Fund, 'Understanding Pressure in General Practice', May 2016, available here:

https://www.kingsfund.org.uk/sites/files/kf/field/field_publication_file/Understanding-GP-pressures-Kings-Fund-May-2016.pdf

³⁰ House of Commons Public Accounts Committee, 'Discharging older people from acute hospitals', July 2016, available here:

<https://www.publications.parliament.uk/pa/cm201617/cmselect/cmpubacc/76/76.pdf>

³¹ Age UK, 'Briefing: Health and Care of Older People in England 2017', February 2017, available here: http://www.ageuk.org.uk/Documents/EN-GB/For-professionals/Research/The_Health_and_Care_of_Older_People_in_England_2016.pdf?dtrk=true

³² The Health Foundation, 'Health and social care funding explained', January 2017, available here: <http://www.health.org.uk/health-and-social-care-funding-explained>



of these system changes but it is extremely important that the system is designed so that it does not worsen health inequalities which, as laid out in the earlier section, are experienced by those who are socio-economically deprived.

The removal of the public health grant will only increase the need for public health teams to continue to use their influence across the whole local authority. Public health teams may become more integrated in different local authority departments to move towards a health in all policies approach. The assurance system for public health will change and this may result in changes to the way teams work and measure outcomes and requirements for data collection. As we move towards a more complex landscape in health and care in an atmosphere of continued funding restriction the importance of the public health specialist workforce will only continue to grow.

There is likely to be more collaborative work with the private sector, particularly employers and local businesses. Stressing the link between good health and economic growth should be a priority for public health teams.

The squeeze on public health budgets may lead to a reduction in services being commissioned and delivered by public health teams. There may be a move towards more integrated lifestyle services taking a holistic approach to people's health. At present we are seeing public health teams rise to the efficiency challenge and deliver services in a more efficient way, making the most of cross-authority working, integrated services and new technology.

2.2.3 Devolution and new models of care

The trend towards the devolution of health and social care to regions looks likely to continue and will have an impact on the way local health care services are structured, including public health. The move towards devolution was formalised in March 2015 with an MOU signed by NHS England, the Association of Greater Manchester Authorities and all Greater Manchester CCGs. The responsibility for the health and social care budget was devolved at the start of April 2016. Devolution processes have also started in London, Cornwall, Liverpool City Region and the North East.

Devolution of health and social care offers an opportunity for more integrated, place-based approaches to health and care that effectively meet the needs of the population. Some areas may choose to integrate the entire public sector offer. We hope to see the trend towards further devolution continue over the next twenty years with public health as key players in devolved arrangements. New models of care are likely to continue to emerge particularly once the vanguard programme reaches its conclusion.

3. What do you think will be the key drivers of the changes you have described?

3.1 Demographics

Population growth is likely to be a key factor with a significant impact on health and health care delivery. Over the next twenty years (2012 – 2032), the population of England is predicted to grow by eight million to over 61 million. 4.5 million will be from natural growth and 3.5 million from net migration. The population is set to become more diverse, with ethnic populations constituting 15% of the population in



England by 2031. More than 40% of households are expected to be single person by 2032 which may have implications for loneliness and social isolation. The number of people living on their own aged over 85 is expected to double.³³

As discussed earlier in the submission, the ageing population is likely to be a significant driver of change in the health and social care system. The proportion of the working age population aged between 50 and state pension age will increase from 26% in 2012 to 35% in 2020. Different types of employment will need to evolve to suit the needs of an older workforce.³⁴ Housing stock will need to be either created or adapted to meet the needs of older people, particularly given the trend towards delivering care in the home. Increased support is also likely to be needed for unpaid carers. The Carer's Trust estimates that by 2030 the number of carers will increase by 3.4 million.³⁵

3.2 Austerity, economy & Brexit

According to current projections, austerity and a squeeze on local authority and NHS budgets is likely to continue into the foreseeable future. Austerity is likely to mean continued restrictions on welfare spending by the government which may continue to negatively impact upon poorer households.

Forecasts for the UK economy show that if earnings grow in line with the Office for Budget Responsibility forecast, median income will only be 10% higher in 2021-22 than it was in 2007-2008. The Institute for Fiscal Studies also projects an increase in income inequality over the coming years - partly due to planned cuts to working-age benefits, higher forecast inflation and the fact that housing benefit will often no longer cover rent increases for private sector rented properties. The official rate of relative after-housing-costs poverty is projected to rise from 21.3% in 2014-15 to 23.6% in 2021-21.³⁶

The UK's exit from the European Union could have an unpredictable impact on both the health of the public and the public health system. The impacts could range from economic and social (increased austerity, recession, potential social fragmentation), legislative (rules relating to medicine and freedom of movement, for example) and broader impacts of reduced collaboration (reduced research collaboration or work to predict and manage pandemics).

There may be a worsening of health inequalities if there is a failure to replace investment in socio-economically deprived areas which was provided by EU funding, such as the European Regional development fund. There are many opportunities associated with Brexit and public health needs to seize the opportunity to maximise these, for example, leaving the EU may make it easier to introduce more progressive taxation on unhealthy products such as alcohol.

3.3. Climate change

³³ The Kings Fund, 'Demography', available here: <https://www.kingsfund.org.uk/time-to-think-differently/trends/demography>

³⁴ Government Office for Science, 'Future of an Ageing Population', July 2016, available here: https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/535187/gs-16-10-future-of-an-ageing-population.pdf

³⁵ Carers UK, 'Key facts about carers and the people they care for', available here: <https://carers.org/key-facts-about-carers-and-people-they-care>

³⁶ Institute for Fiscal Studies, 'Living Standards, Poverty and Inequality in the UK, 2016-17 to 2021 -22, March 2017, available here: <https://www.ifs.org.uk/uploads/publications/comms/R127.pdf>



Climate change is likely to be a key driver of change. The 2015 Lancet Commission on Health and Climate Change argues that future climate change projections represent a catastrophic risk to human health and that tackling climate change should be the most significant global health opportunity of the 21st century.³⁷

Climate change is expected to cause around a quarter of a million additional deaths per year between 2030 and 2050 from malnutrition, malaria, diarrhoea and heat stress.³⁸ In the UK, climate change could produce increased floods, heat stress, drought and increased frequency of intense storms. It could also lead to increased air pollution, change the spread of disease and contribute to food insecurity.

3.4 Emerging infections

As explored earlier in the submission, emerging infectious diseases and antimicrobial resistance are likely to be key issues and drivers of change. An estimated two-thirds of emerging infectious diseases in the last 60 years were zoonotic with 70% coming from wild animals. Recent infections of concern include the viral Middle East Respiratory Syndrome and polio.³⁹ Continuing globalisation will increase the threat of pandemics.

3.5 Technology

Technology and the use of social media will have a huge impact on how health and care will be delivered in the future and there are clear opportunities to harness technology to improve population health. Wearable healthcare devices are becoming increasingly common. The collection of huge amounts of data will create an opportunity for public health to get better insights into disease patterns – although there is the question of availability of metadata and ethics around mass data collection.

Advances in genetics could lead to individual screening, advice and treatment which would potentially represent a public health revolution. Disruptive technologies such as artificial intelligence, immunotherapies, gene editing and 3D printing could have untold impacts on the health of the public.

4. Are there any commonly discussed issues related to the future of health and healthcare in England which you believe to be overstated? If so, why?

The financial challenges facing the NHS, while clearly needing to be tackled, can sometimes overshadow the need to invest in preventative initiatives. Plugging the gap in acute funding at the expense of funding upstream prevention will do nothing to address future health challenges and is likely to lead to increased demand for services in the future.

5. Are there any issues that are under-represented in the debates around the future of health and healthcare in England? If so, please describe them and explain why you think they merit greater attention.

³⁷ Nick Watts et al, 'The Lancet Countdown: tracking progress on health and climate change', The Lancet, Volume 389, Issue 10074, 1151-1164

³⁸ World Health Organisation, 'Climate Change and Health', June 2016, available here: <http://www.who.int/mediacentre/factsheets/fs266/en/>

³⁹ Houses of Parliament Parliamentary Office of Science and Technology, 'UK Trends in Infectious Disease, January 2017, available here: <http://researchbriefings.parliament.uk/ResearchBriefing/Summary/POST-PN-0545>



There is currently a disproportionate lack of focus on health inequalities.

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