Public Health England

Protecting and improving the nation's health

Fit for the Future – Public Health People

A review of the public health workforce

May 2016

About Public Health England

Public Health England exists to protect and improve the nation's health and wellbeing, and reduce health inequalities. It does this through world-class science, knowledge and intelligence, advocacy, partnerships and the delivery of specialist public health services. PHE is an operationally autonomous executive agency of the Department of Health.

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People in UK Public Health group comprises representation from: Association of Directors of Public Health, Chartered Institute for Environmental Health, Department of Health, Department of Health Social Services and Public Safety (Northern Ireland), Director of CPPH Durham University, Faculty of Public Health, Greater Manchester Fire Service, Health Education England, Institute of Health Equity, Local Government Association, Public Health England, Public Health Wales, Royal College of Nurses, Royal Society of Public Health, Scottish Department of Health, UK Public Health Register.

We would also like to thank those who participated in our engagement events and key informant interviews, and those who gave their input via the online survey.

Foreword

The challenges to the public's health have changed markedly over the last few decades and the significant growth in a range of health problems related to lifestyle issues such as obesity makes it absolutely critical that we review how we support the public's health and wellbeing.

Our more sedentary but increasingly stressful lives and the entrenched nature of health inequalities warrant comprehensive strategies which include both the places in which we live and work and the choices we make. Never has it been more critical to have in place a workforce with the appropriate skills, knowledge, values and competencies at every level to help build a healthier nation.

'Fit for the Future' outlines five key themes that underpin the response to developing a workforce for 2021 and provides a clear pathway and plan to achieve the 'new' workforce. Most importantly these themes were identified and agreed upon by a broad range of individuals and organisations already actively involved in supporting the public's health including the current workforce. This consensus, from a wide group of stakeholders, indicates that the recommendations outlined in the report are likely to be achieved.

I am delighted that the 'People in UK Public Health Advisory Group, which I chair and provides independent advice to health departments across the UK about the future of the public health workforce, has wholeheartedly endorsed this report and its plan of action.

It is widely acknowledged that public health really is everyone's business and that our aim must be to influence and improve many aspects of an individual's life including transport, housing, education and the environment if we are to begin to shift the pendulum towards a healthier, happier country.

We must build on the role of the 'wider workforce', those in fire, housing, leisure, pharmacy, allied health professions and many others to embed prevention and support throughout the system. By giving them permission to be involved in prevention and supporting the public's health, providing training, and then mainstreaming activity across many professions and volunteer groups, and ultimately celebrating success, we can create the climate for a social movement for health.

There are new threats to the public's health each year, so building on research, intelligence, technical and managerial skills to remain at the forefront of both national and international public health is essential. The UK has one of the most highly regarded public health response systems in the world and it should remain so.

Alongside this, strategic and system leadership for the public's health will be a priority in the next few years as more opportunities are provided for leadership training which crosses numerous domains and professional areas.

A workforce fit for the future will need to be both resilient and flexible, so creating meaningful opportunities through different, but clearly defined pathways will ensure that a career in public health will be both exciting, challenging and attractive to young people from diverse backgrounds.

A sea change is required to improve the public's health and increase the pool of candidates, and providing first class training and development within a broader system will go a long way to meeting the challenges we face.

Shirley Cramer
Chair, People in UK Public Health

1. Executive summary

There have been many successes in improving and protecting the public's health since the Public Health Act of 1848, which established local health boards to combat the major public health issues of cholera and other infectious diseases.

But as we move into the 21st century, we face new public health challenges in the form of non-communicable disease such as cancer, diabetes and heart disease, and health inequalities still persist.

In common with our Victorian predecessors we live in times of rapid social, economic and technological change that influence not only the health of the population, but the nature of the workforce and the way in which it needs to develop and be nurtured if it is to continue to improve and protect the health of the public.

The Health and Social Care Act 2012 moved responsibility for public health in England back into local government, and created a new national public health body for England – Public Health England.

Local authorities and PHE are now, and in future, the main employers of public health specialists and teams, providing leadership and expertise at both local and national level. This transition was supported by a national public health workforce strategy, due to be refreshed in 2016.

PHE was commissioned by the Department of Health in 2015 to carry out a thematic review of public health workforce future capabilities and skills. The review was completed between July 2015 and March 2016 and focuses on a medium term view (about five years), complementing a similar piece of work carried out by the Centre for Workforce Intelligence (CfWI) which took a longer term (20 year) view.

The review set out to answer a number of key questions, through a literature review, key informant interviews and a series of workshops across England:

- what would good public health work look like in five years' time and beyond?
- what are the drivers that will influence the way the workforce will need to develop?
- what does this mean in terms of the future composition of the workforce, and the skills and capabilities needed?
- how should the public health system respond nationally and locally to prepare a workforce that is fit for the future?

The key messages and emerging themes from the review are summarised below, along with recommendations for action.

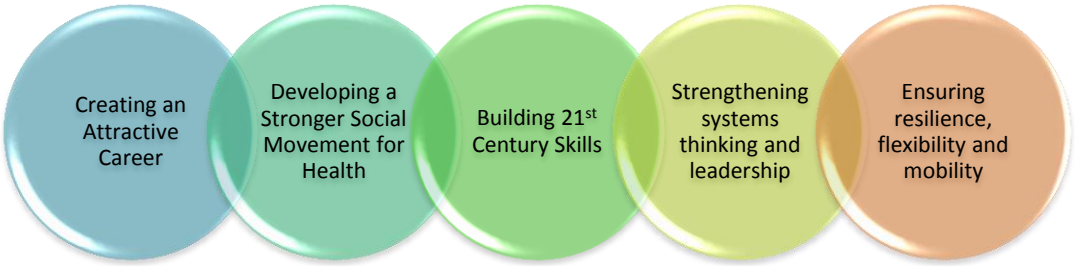
Good public health work of the future will mean that:

1) People are more engaged with their own health; there is a stronger social movement to value and promote health and wellbeing
2) Public health is championed and delivered through a wider range of engaged partners including business and communities – a place-based, community-centred approach, with decision-making at local level, is key to this
3) The need and demand for healthcare and social care is better managed so that effective, efficient and equitable services are commissioned and provided, that maximise health gain and can deliver improved outcomes at individual and population level within the resources available
4) Health inequalities and trends in current burdens of disease and their risk factors are reducing, with greater understanding of the causes of the causes of ill-health
5) The response to environmental challenges such as climate change and air pollution is a more holistic one; for example town planning, housing and transport planning address both mitigation and adaptation to climate change
6) We remain able to respond rapidly to global health challenges including new and emerging patterns of infectious disease and migration and movement of people, driven by a range of factors
7) Technological advances, for example in genomics, allow more individualised approaches to disease prevention, including lifestyles advice
8) Research and development is commissioned to respond to the needs of the system, and findings are disseminated rapidly and systematically. This will include research into social innovation, community capacity building and behavioural insights as well as scientific and medical technologies
9) Public health leadership at local and national level remains strong, with directors of public health drawn from a variety of backgrounds, and a number moving into chief executive roles in local authorities.
10) The public health workforce continues to be inclusive, recognising a broad range of skills-sets, with people recruited from different backgrounds and through different points of entry, reflecting the diverse profile of the populations they serve and work with

There is strong agreement across the system on the drivers for change, and the likely implications for the public health workforce. There is a sense of rapid social, technological, structural and financial change that means we will need an increasingly agile, flexible, multidisciplinary workforce that retains many current public health skills and develops new ones.

The importance of the wider workforce in delivering the radical upgrade in prevention, alongside the value of a core workforce with strong technical skills was consistently recognised.

There are a number of key themes that provide the focus for a system response to developing the public health workforce. These are all equally important, and are shown below:



The report goes on to discuss each of these, and to make some recommendations for action, which are summarised in the following tables.

Recommendations

1. Creating an attractive career	
	Lead
1. Increase the visibility of public health as a career to a wider range of people – for example by targeting 16 to 18-year-olds via youth health champion schemes, making use of opportunities to embed in careers advice and providing new or increased points of entry, such as apprenticeships.	**PHE** and other partners
2. Continue to shape and build an appropriate, structured and consistent approach to develop those working at practitioner level, informed by the reviews carried out by CfWI and HEE.	**HEE**, UKPHR
3. Clarify entry points and career milestones for those working in public health, and the roles of undergraduate and postgraduate public health qualifications as well as registration systems.**	**PHE**, HEE, FPH, UKPHR, DH and other partners
4. Enable the development of portfolio careers in public health, supported by a skills and knowledge framework with a 'digital passport'. This needs to be embedded and used as a point of reference by employers and key organisations**.	**DH, PHE**
5. Revise guidance on multidisciplinary teams in local government to reflect the current and future context.	**LGA, working with** PHE, ADPH/FPH
6. Continue to build public health workforce planning tools and capabilities to allow proper succession planning, and early warning of emerging skills gaps.	**HEE**, with support from DH, PHE, and others
7. Develop a set of employer standards for public health in local government.	**LGA**
8. Demonstrate how employers are improving the health and wellbeing of their own workforce.	ALL

2. Developing a stronger social movement for health	
	Lead
1. Ensure public health is embedded in the undergraduate curriculum for all clinical training.	**HEE** working with universities and regulators
2. Evaluate how best to develop and roll out wider workforce training 'at scale', learning from 'early adopter' groups such as Fire and Rescue**	**PHE**/DH, RSPH
3. Make systematic use of training and other toolkits such as *All Our Health* for healthcare professionals and other NHS staff.	**HEE,** NHS England, PHE
4. Use a range of levers to embed prevention at all levels – individual to organisational, for example by including in job descriptions and provider contracts.	**LGA, NHS England**, **PHE**
5. Explore with professional and regulatory bodies the levers for making prevention everybody's business through registration and revalidation processes	**DH, PHE** working with regulatory and professional bodies
6. Review and, if needed, develop/refresh local area networks for public health to strengthen communication and support between wider workforce groups, core public health teams and local academic organisations.	**PHE** working with HEE and other partners

3. Building 21st century skills	
	Lead
1. Ensure healthcare public health skills, and the infrastructure to support application of those skills, remain embedded in the public health core workforce. These include: health economics, prioritisation, resource management, people management, leadership in clinical settings, critical appraisal, evaluation, commissioning and commercial skills, and data interpretation. Training in NHS settings should be part of this.	**HEE,** FPH, universities, NHS, local authorities
2. Local NHS organisations, working with local government, to consider how they can best secure public health input to all of its activities	**NHSE, CCGs, NHS /foundation trusts,** LGA, local authorities
3. Commission relevant training programmes: eg for healthcare scientists, or information analysts, that include new technical skills.	**HEE**
4. Implement *Doing, Supporting and Using Public Health Research, the PHE strategy for research, translation and innovation* to develop public health academic careers and strengthen the academic/service interface.	**PHE** supported by universities /other academic bodies
5. Explore opportunities to develop online /e-learning courses and qualifications that can be more readily accessed by the wider workforce eg town and transport planners, and support global public health training and development**.	**PHE/HEE/DH**

4. Strengthening systems thinking and leadership	
	Lead
1. Consider how systems leadership training can be accessed by a wider group of people working in public health, such as those working in specialist roles**.	**PHE**/DH
2. Strategic leadership for public mental health should be embedded in leadership development programmes.	**PHE**/DH
3. Multidisciplinary training and other integrated approaches to training should become the 'norm'.	**HEE** working with other partners
4. Further deploy the Skills for System Leadership programme with its emphasis on working in a political environment, aimed at public health teams in local authorities**.	**PHE, ADPH, LGA**
5. Organisations should review the training and development offer to their employees to ensure that staff can (and do) access personal effectiveness skills eg negotiating, influencing, co-production approaches as appropriate, alongside more technical skills.	ALL

5. Ensuring resilience, flexibility and mobility	
	Lead
1. Explore the viability of a more responsive approach to public health training and accreditation, (eg a 'fast track' 2-year training scheme) to enable those with experience (eg existing local authority directors with some public health skills and experience) to become fully trained in public health, via a conversion course or 'top ups'. This would sit alongside the existing training scheme and be integrated into current routes to specialist registration.	**FPH**, **UKPHR**
2. Review the potential of credentialing schemes as means of nurturing sub-specialisation as appropriate, building on core competences.	**FPH**
3. Explore ways of ensuring that the workforce, and in particular,those working as specialists, training to be specialists, or a at pracititioner level, are able to gain experience of working in a wide range of settings in the system, including global health opportunities, through eg secondments or work placement linked to personal development and talent management planning.	**PHE** working with others eg LGA, NHS England, ADPH
4. Placements for training schemes should include training in all settings in the system including the NHS, PHE, local government, third sector, and other parts of public sector, and include opportunities for international experience/global exchange opportunities.	**HEE**, FPH
5. Key employers of public health specialists to consider the balance between more generalist and sub-specialist job roles, to ensure future workforce mobility and flexibility, while retaining a skilled workforce.	**PHE**, ALL
6. Continue to review what action can be taken at national and local level to remove barriers to mobility linked to terms and conditions of public health staff.	**DH, PHE**, **LGA**
7. In particular work with NHS Employers, the NHS Staff Council, the LGA, DH and relevant Unions to develop a plan for addressing continuity of service.	**PHE** with other partners

*All refers to the key organisations that need to contribute to development of the public health workforce, including the member organisations of People in UK Public Health and the NHS.
** Funding implications in order to implement. All other recommendations may be delivered through reprofiling existing budgets to prioritise necessary spend.

2. Introduction

There have been many successes in improving and protecting the public's health since the era of Edwin Chadwick, John Snow and the Public Health Act of 1848, which established local health boards to combat the major public health issues of cholera and other infectious diseases.

But as we move into the 21st century, we face new public health challenges in the form of non-communicable disease such as cancer, diabetes and heart disease, and health inequalities still persist. In common with our Victorian predecessors we live in times of rapid social, economic and technological change that influence not only the health of the population, but the nature of the workforce and the way in which it needs to develop and be nurtured to rise to the challenges we face in the future.

The Health and Social Care Act 2012 returned local leadership for public health to Councils in England, recognising both the influence they have over the factors that affect people's health and their role as local system leaders. Together with the establishment of PHE this changed the organisation of public health in England as some roles and responsibilities for public health largely shifted from the NHS towards local government and the civil service.

The act also gave the Secretary of State a duty to protect the health of the population in England, and some of those functions, including the commissioning of screening and immunisation programmes, have been delegated to NHS England. The transition of local leadership for public health was supported by a national public health workforce strategy for 2013 to 2015, recognising the need for a workforce with the right skills in the right place at the right time.

The strategy will be refreshed in 2016, and in preparation for this the Department of Health commissioned PHE to 'to review and make recommendations on the current operation of the public health system in relation to the future capability, skills and experience of the public health workforce to operate across all the public health functions, including the duty of local authorities to provide public health advice to clinical commissioning groups, and to understand the barriers to effective working and freedom of movement between the NHS, local government and national government and its agencies and make recommendations to feed into the planned review of the public health workforce strategy.

The Centre for Workforce Intelligence (CfWI) was commissioned to provide a long-term (20 year) view, while PHE has focused on the medium term (5 year) view. Between July 2015 and March 2016, PHE and CfWI carried out fieldwork that included:

- a literature review – including peer reviewed publications, 'grey literature', international sources and key national documents such as the NHS Five Year Forward View, Health Education England's Framework 15, CfWI's Horizon Scanning 2035 project, the Global Burden of Disease-based study, and other documents such as a recent report commissioned by PHE on capabilities needed by those working in healthcare public health and supporting CCGs
- more than 50 interviews with key informants across the system in England, including those involved in workforce issues in Wales and Northern Ireland. This review has included information from the recent Review of Public Health in Scotland and has had direct input from public health representatives in Scotland via the People in UK Public Health Group
- nine workshops across England, one in each local government region (PHE centre) footprint. These were aimed at senior stakeholders including chief executives of local authorities, CCG accountable officers, directors, academics, third sector and public sector provider audiences. Attendance ranged from approximately 30 to 60 for each workshop
- other workshops with staff working in distinct public health functions such as healthcare science, knowledge and intelligence
- an online survey was available publically from PHE's website and was accessed by 1,223 people, and fully completed by 198 respondents, with 327 people completing more than one question

We set out to answer the following questions:

- what would good public health work look like in five years' time and beyond?
- what are the drivers that will influence the way the workforce will need to develop?
- what does this mean in terms of the future composition of the workforce, and the skills and capabilities needed?
- how should the public health system respond nationally and locally to prepare a workforce that is fit for the future?

This report summarises the key findings from the fieldwork and makes recommendations on emerging themes, with two particular caveats in mind:

- the fieldwork represents a snapshot in time, and during this period, the outcome of the Comprehensive Spending Review was announced, the devolution agenda gained momentum and guidance on the sustainability and transformation plans was published as part of the Five Year Forward View. All of these topics were raised and discussed at workshops and by those interviewed, but the full implications of these and other issues have not yet had time to be worked through.
- the review focuses on capabilities, skills and experience, rather than capacity, as the CfWI has produced an extensive array of reports on the public health workforce that explore capacity, including a recent public health specialist stocktake. A

recurring theme of many of the CfWI reports is the need to strengthen our systems for measuring public health capacity. Given the interplay between this and workforce capability, we have made reference to workforce capacity where relevant, and included a recommendation on workforce data collection in this report.

A more detailed reference document is available from PHE.

3. Current context

Who is in the public health workforce, where do they work and what do they do?

Public health has been defined as 'the science and art of promoting and protecting health and wellbeing, preventing ill-health and prolonging life through the organised efforts of society'. While this means that a broad range of people and organisations contribute to protecting and improving people's health, the World health Organization has defined the three core functions of a public health system as:

- the assessment and monitoring of the health of communities and populations at risk to identify health problems and priorities
- the formulation of public policies designed to solve identified local and national health problems and priorities
- to assure that all populations have access to appropriate and cost-effective care, including health promotion and disease prevention services

These functions are mainly delivered through a 'core' workforce, including public health professionals such as directors of public health, specialists, academics and practitioners who are trained in all or some of the nine key areas of public health practice in the UK, working in a range of commissioning or delivery roles in a variety of organisations. The role of a broader group of people – the wider workforce – in the public health system, is increasingly being recognised.

Table 1: Nine areas of public health practice in the UK

Surveillance and assessment of the population's health and wellbeing
Assessing the evidence of effectiveness of health and healthcare interventions, programmes and services
Policy and strategy development and implementation
Strategic leadership and collaborative working for health
Health improvement
Health protection
Health and social service quality
Public health Intelligence
Academic public health

The capabilities needed for public health practice have been described in the UK-wide skills and knowledge framework, which is currently being updated to reflect today's practice in both the core and the wider workforce. Four key functional areas have been identified:

- **behaviours** – principles, values and ethical practice
- **technical competence** – traditional public health skill-sets in which the core workforce will be more specialised
- **context** – strategic/policy; organisational/collaborative; contractual/commercial; political and democratic
- **delivery** - leadership, communication, programme management, prioritisation and management of resources

A more detailed diagram is shown at Appendix A.

In addition to technical skills in public health, specialists, and particularly directors of public health in local authorities, need skills that enable them work as system leaders at strategic or senior management level, or a senior level within a particular area of expertise.

The director of public health and senior consultant/specialist staff in local government are senior leaders who mobilise key agencies in their local places to take action on agreed priorities. They play a unique role in their health improvement system, having the expertise to draw on the best science and health intelligence to help set direction and by their ability to reach agreement with partners to take action that will have a transformational impact on health outcomes and health inequalities for their residents.

They are trained to critically appraise and advise their local political leadership on what is right for their local areas and are able to bring out the best work of a range of staff specialising in particular aspects of the health outcomes they are seeking to achieve.

The combination of leadership and technical skills, and the ability to deal with complexity, interpret and make judgements using the evidence and intelligence available, is critical to their role. While they are able to understand and operate across the full range of public health functions, many specialists develop particular expertise, for example in epidemiology, health protection or health improvement. They require postgraduate training and on-the-job development to develop the knowledge, skills and competences to deliver change at scale.

Other public health staff in their teams will be delivering discrete contributions to this collective endeavour through their own sub-specialisms (eg health intelligence, health economics, social marketing), or knowledge and expertise in particular priority areas (eg addressing childhood obesity). Practitioners tend to work in a range of roles and are a key source of support, additional skill-sets, professional experience and capacity in public health teams and across all public health functions.

Since the Health and Social Care Act 2012, the specialist workforce is employed mainly in local authorities or PHE, with the remainder in universities, the NHS or working independently. Local authorities provide public health advice to the local NHS (CCGs), and PHE provides public health advice to NHS England.

Modern public health is a multidisciplinary function, and demands a range of skills and expertise, from cutting edge scientific research to delivery of frontline services such as drugs and alcohol treatment, sexual health services and social marketing campaigns.

A mapping exercise carried out by CfWI in 2014 estimates the ‘core’ public health workforce to be about 40,000[1] people across the public health system in a variety of roles. The core workforce was defined as ‘all staff engaged in public health activities who identify public health as being the primary part of their role’.

The work highlighted the ‘complexity of the public health workforce, and in particular the lack of clearly defined boundaries between different public health workforces.’ The workforce is diverse and dispersed across a range of organisations and settings, including local authorities, PHE, the NHS, universities, third sector and private sector organisations.

[1] Later work has suggested including other groups omitted from the initial analysis, such as midwives and health trainers, in consideration of the core workforce.

It is worth noting that there is still a significant public health workforce in the NHS who deliver preventative healthcare and public health programmes such as screening and immunisation programmes, and maternal and antenatal care.

There are also increasing numbers of staff employed in the third sector, for example health trainers, those working in drugs and alcohol treatment and prevention, community development workers and others engaged in key health promoting initiatives.

Table 2: The core public health workforce

• Specialists – including directors of public health – working as system leaders at strategic or senior management level, with high levels of technical skills and knowledge – employed mainly in local authorities and PHE
• Public health nurses, such as school nurses and health visitors, and those working in health protection, screening and immunisation, research, TB, sexual health, infection prevention and control, drugs and alcohol; they may be employed by NHS trusts, PHE, the voluntary or private sectors
• Public health midwives – improving and promoting the health and wellbeing of women, children, families and communities throughout pregnancy, birth and the post-natal period as well as specialising in quality assurance of antenatal screening programmes in PHE
• Environmental health officers and practitioners – working to improve, monitor and enforce public health and environmental health standards in local authorities and in PHE health protection teams
• Knowledge and intelligence staff – employed in data analytics, knowledge management, informatics and interpretation and presentation of information
• Academics – developing the research and evidence base and training new entrants to public health
• Scientists – leading the development and delivery of highly technical and specialised scientific functions in support of public health objectives, primarily within PHE, also working in NHS laboratories
• Practitioners with a wide range of relevant skills delivering public health services and programmes in a range of settings including local authority public health teams and PHE
• Health trainers, stop smoking advisors, weight management advisors, etc – providing advice, motivation and practical support to individuals in their local communities, often employed in third sector organisations

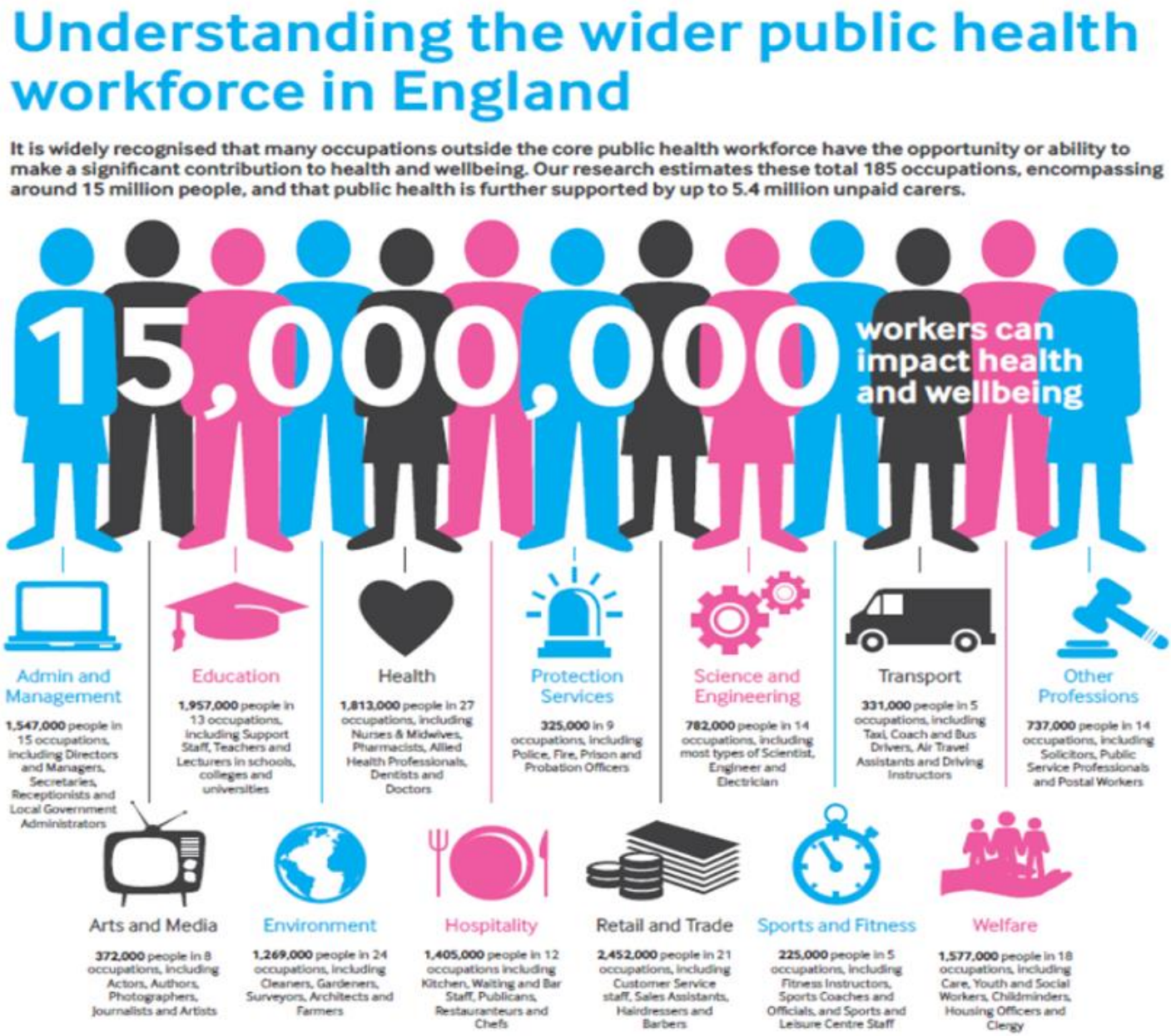
More recently, there has been recognition of the potential for many more people to influence and directly affect public health outcomes by understanding how they can use their own expertise in their day-to-day work to contribute towards improving and

protecting the public's health, with support, guidance and recognition of their value from those in the core workforce.

This group includes other public sector workers such as occupational health professionals, town planners, housing officers, teachers and Fire and Rescue personnel, as well as healthcare professionals such as allied health professionals, pharmacists and primary care teams.

Potentially it encompasses an even wider range of people who work in the private or third sectors. In a recent report, the CfWI and the Royal Society for Public Health identified a potential for up to 15 to 20 million people to be considered as being in the wider public health workforce. A strong relationship between the core and wider workforce is key in realising the potential of the latter to have an impact on public health outcomes.

Figure 1: The wider public health workforce (adapted from CfWI, 2015)



4. Findings

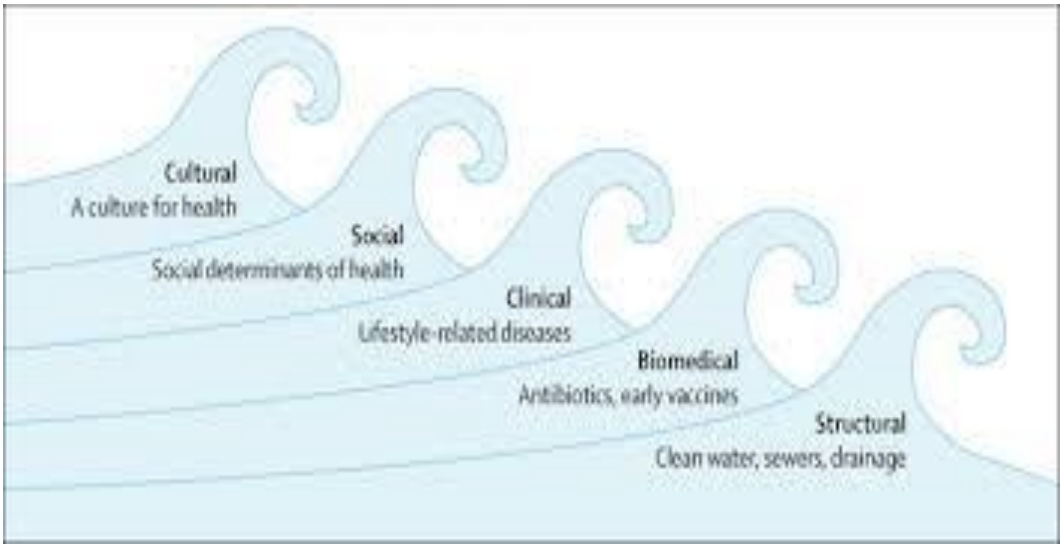
What will good public health look like in future?

While people are living longer, we know that many are living with a disability or long-term illness. The main causes of ill-health are non-communicable diseases, although infectious diseases and environmental hazards still present a threat to human health. We also know that inequalities in health persist, and may be widening, illustrated by the difference in life expectancy at birth of about seven years, and a difference of 17 years of disability free life expectancy, between the poorest and wealthiest areas of the country.

We know that technology is advancing at a rapid rate, influencing both the way we lead our lives and the ways in which public health services and interventions will be delivered; and that consumerism and globalisation are defining features of life in the 21st century.

It has been argued that a new approach to public health is needed in response to these challenges. Some have described this as 'the fifth wave of public health', where healthy behaviours and expectations of health become the norm, underpinned by supporting institutional and societal and environmental factors. We need to apply the latest evidence in behavioural insights linked to the use of new technologies and work in a different way with the public if we are to achieve the vision of a public engaged in protecting and improving its own health[2].

Figure 2: The fifth wave of public health



[2] Davies et al, "For debate: a new wave in public health improvement", www.thelancet.com Vol 384 November 22, 2014

There was a high degree of consensus emerging from the workshops and the key informant interviews, regarding the 'vision' for good public health work and the key drivers for change. Much of this is also reflected in the literature, and in recent key strategies such as the Five Year Forward View and HEE's Framework 15.

One of the key starting points for discussion in the workshops was 'a public health workforce for what?' This was explored further through addressing the question of what good public health work might look like in the future, given the key ambition is to improve and protect people's health within the resources available to do so.

Much of the below also reflects wider policy and economic contexts such as reformed public services, with individuals and communities playing a more active and proactive role.

In the next five years we need to be on a trajectory where:

1. People are more engaged with their own health, there is a stronger social movement to value and promote health and wellbeing.

2. Public health is championed and delivered through a wider range of engaged partners including business and communities – a place-based, community-centred approach, with decision-making at local level, is key to this.

PH 2020: Kayla has just cycled to the local high street thanks to the new 'mini-Holland' scheme and, as she locks up her bicycle, a smart billboard with face-recognition flashes up an advert for a 'Park-run' on Saturday – she has signed up for this as part of her weight loss programme commissioned by the council's director of public health. Sometimes it is hard to watch what she eats, but she can always phone her 'health–mate' for a chat, a volunteer who has been through a similar experience and who is trained in listening to her when she is feeling low and helps to strengthen her resolve. In the coffee shop, she scans that tempting-looking cupcake with her smartphone but it flashes up '490 calories, 100% of your daily recommended sugar intake' so she opts just to have a flat white coffee instead.

On her way home she pops in to see her 85-year-old mother, who is trying out a new blood pressure monitoring machine she has bought at a reduced rate on her garden centre loyalty scheme – it transmits her results electronically to her local GP. The local CCG is delighted that so many local businesses have signed up to this scheme; their local public health specialist was able to use his links with the Chamber of Commerce to help engage local business – many hadn't appreciated the loss of productivity associated with overweight and obesity in their workforce.

3. The need and demand for healthcare and social care is better managed so that equitable, effective and efficient services are commissioned and provided, that maximise health gain and can deliver improved outcomes at individual and population level within the resources available. Public health specialists are able to use their expertise to translate public health science into convincing supporting evidence for local authorities and councillors to use, as well as for local NHS leaders when arguing for initiatives that benefit the health of their citizens. This includes being able to provide clear evidence of financial benefits and sustainability drawing on a range of national tools that can be tailored for local areas.

4. Health inequalities and trends in current burdens of disease and their risk factors are reducing, with greater understanding of the 'causes of the causes' of ill-health.

PH2020: The local council and the NHS leaders are about to embark on a round of developing priorities for investment (and dis-investment) through an extensive consultation and engagement exercise using the new community activist network established in the area. They use a range of technologies to reach local residents – including an app developed by the public health team, and an internet survey that is run in local schools as part of the new integrated curriculum on health.

The consultation is informed by tools developed by PHE's knowledge and intelligence team on return on investment, that the local public health team have applied to their population to help local decision-making. The medical director of the CCG will be fronting up the events with the lead member for health and wellbeing; they already know each other well, having both attended a new short course run by the local university called 'Public health – everything you wanted to know but were afraid to ask'. They could have done the course online but both preferred to learn in a classroom environment.

5. The response to environmental challenges such as climate change and air pollution is a more holistic one; for example town planning, housing and transport planning address both mitigation and adaptation to climate change.

6. We remain able to respond rapidly to global health challenges including new and emerging patterns of infectious disease, migration and movemwhent of people, driven by a range of factors.

PH 2020: Data from all NHS hospital microbiology laboratories is now shared in real time with the PHE Science Hub where advanced technologies are able to generate real time 'heat maps' of antibiotic resistant infections. This data can be combined with antibiotic prescription rates to create a dashboard that pinpoints areas at greater risk from resistant bacteria and alerts health and care providers with appropriately tailored information. The software to do this has been exported worldwide.

7. Technological advances in eg genomics allow more individualised approaches to disease prevention, including lifestyles advice.

8. Research and development is commissioned to respond to the needs of the system and findings are disseminated rapidly and systematically. This will include research into social innovation, community capacity building and behavioural insights as well as scientific and medical technologies.

PH 2020: Amelia joined the council as an apprentice after leaving school at 16. After an induction to the whole council, she initially was assigned to community safety and helped to manage the Community Safety Board. It was here she met the director of public health who arranged for her second year to be with the council's public health team.

The public health team arranged some health trainer training so she could work with health trainers across the district. She also got involved in helping obtain information for the joint strategic needs assessment (her work in other parts of the council gave her useful contacts).

She had to move again for her third year, but got agreement that she could stay linked to the public health department as she wanted to develop a career in this area. So when she was assigned to the housing department she was able to manage projects on housing and health. She also made links to community safety, developing a project for housing recovering drug addicts, which gained a national award.

Subsequently, the public health department advertised a trainee post, which she successfully competed for. She became involved in the full range of department activities and was given day release to undertake an undergraduate certificate in public health at the local university.

9. Public health leadership at local and national level remains strong, with directors of public health drawn from a variety of backgrounds, and a number moving into Chief Executive roles in local authorities.

10. The public health workforce continues to be inclusive, recognising a broad range of skills-sets, with people recruited from different backgrounds and through different points of entry, reflecting the diverse profile of the populations they serve and work with.

What factors are driving the need for change in the workforce?

If the ‘vision’ for good public health work is to be realised the workforce will need to develop to respond to the context within which it is working, both capitalising on new opportunities to improve and protect health, and to respond to emerging challenges.

These ‘drivers for change’ were explored in more detail to identify what the implications might be for the workforce in terms of changing skills, capabilities and composition. These are summarised in the following table.

Table 3: Key drivers affecting the public health workforce in the future

Issue	Workforce impact
Demography – the population is set to grow overall, with an ageing population, and although living longer, often with an illness of disability. In addition migration will contribute to population growth, and may bring new public health challenges. Health inequalities continue to exist and may increase if further action is not taken.	The main causes of ill health are non-communicable diseases, influenced by lifestyle and other social and economic factors. As population size increases there may be **more need and demand for preventative services** and interventions, particularly for those experiencing the **worst health**. The **profile** of the workforce itself is changing, with a wide age range in work – in other sectors the workforce is increasingly composed of up to four generations working alongside each other – traditionalists, baby boomers, millenials, generation X-ers, whose **career expectations** and aspirations, and the way they communicate and socialise, will be very different.
Increasing demand for health and social care – influenced by demography and patterns of disease and disability, but also technological advances in medicine, and people's expectations. The Five Year Forward View highlights the challenges faced by the NHS, focusing on three critical gaps: health and wellbeing, care and quality, finance and efficiency. Local areas are expected to demonstrate how they will achieve Five Year Forward View goals through sustainability and transformation plans, and the system will need to be assured that these are deliverable.	Public health skills to assess need, to evaluate effectiveness, efficiency and cost-effectiveness of interventions and to **support prioritisation and resource management** will continue to be in demand, alongside an evidence base and skills to implement effective ill-health prevention. **Health economics** including return on investment skills in increasing demand. Core public health skills have a key role in supporting delivery of all elements of the Five Year Forward View, although individuals need to be prepared to work with a range of new organisations and stakeholders and within a range of geographical footprints, including the sustainability and transformation plan footprints.

Issue	Workforce impact
Ill-health prevention, modern lifestyles and behaviours. To achieve the 'radical upgrade' in prevention described in the Five Year Forward View strategies need to take account of individual behaviours and lifestyles, while recognising that choices are influenced by social, cultural, economic and environmental factors.	Research and evidence base on **behavioural insights**, the use of **social marketing techniques to promote health, need to sit alongside other approaches** (eg use of **legal powers** to protect and improve the public's health), that 'nudge' people towards healthy behaviours by creating more **health-promoting environments**. The full engagement of the population in preventing ill-health will require the realisation of the potential of the 'wider workforce' and frontline staff, and higher levels of **'health literacy'** in the population. The core public health workforce will need to develop skills in working with – **empowering , enabling, educating** and developing – a much wider range of people
Complexity, competition and change – technological and social change in an increasingly global environment, coupled with a rapidly evolving health and social care system over the next five years, presents new challenges in terms of the pace of change and complexity of the systems.	**New roles** are likely to be created, some current roles may disappear – the workforce needs to be **adaptable, resilient and flexible**, able to work in different and new settings or organisations, and respond quickly to new challenges. **Commissioning** and possibly **commercial** skills will need to be developed further, as the provider market becomes more diverse. **Entrepreneurial** skills may also be increasingly valued. **System mobility** (the ability to be able to move around a given system, either to gain experience or to work at the point in the system where skills are most appropriate) will become increasingly important.

Issue	Workforce impact
Technology – social media and the information revolution has allowed people and communities to connect and share information at scale and at pace. While there are many advantages to this, there is a risk of increased social isolation for some, and the possibility of inequalities in access to new technologies and information. The rise of 'big data' provides new opportunities to develop models of likely disease trends, and application of marketing techniques and segmentation to target public health interventions. Advances in biological science – particularly genomics – will allow new approaches to tackling and preventing both infectious and non-infectious disease.	The workforce needs to be able to use or tap into **social media** and social marketing techniques effectively to be able to deliver effective health promotion, taking **equity** of access to information into account. Those working in knowledge and intelligence will require **modelling skills** and ability to use **big data** sets. They also need the ability to integrate data with evidence from the scientific literature, supported by information science specialists. Health care scientists will require skills in **bioinformatics and genomics** as well as the more traditional laboratory skill sets, alongside communication and influencing skills.
Public sector finance – local authorities face a challenging reduction in their budgets over the next five years; the ring fence on the public health grant will be removed in 2018, and the grant itself will reduce by 3.9% per year. In future local authorities will need to fund public health activity through business rate retention. There is some concern that this could worsen health inequalities.	The impact of a **reducing budget** could lead to a reduction in the number of public health posts in local government. Those operating at senior specialist or director of public health level may need to be able to cover **broader portfolios** as local authorities 'downsize', cover larger geographies and/or collaborate with neighbouring public health teams to ensure access to the full range of public health skills in an area. It will be important to develop and recognise the value of the **practitioner (middle) tier** of the public health workforce who will continue to play a key role in delivering a range of public health functions. The ability to **influence** across the whole local authority budget and spending decisions will be key, as will be the ability to work effectively with **local businesses and the private sector**, as well as being an **advocate** for health inequality reduction.

Issue	Workforce impact
Devolution and developing place-based systems – this is a major and rapid change to the relationship between national and local public services. By November 2015, 38 bids for regional devolution had been received by Whitehall. In Greater Manchester, improving public health is one of the core priorities. The concept of a 'place-based approach' is seen as key to the new ways of working that devolution will bring, strengthening opportunities to pool resources to resolve deeply entrenched local issues.	In some areas, particularly those that have prioritised improving the public's health, and/or **integration of health and social care**, there may well be increased demand for **strong public health leadership** and skills, although there may be more pooling of resource within a devolved footprint. **Place-based** working will require a workforce with strong **system thinking and leadership** skills, able to influence and work across boundaries, and take opportunities in a system that is evolving and developing rapidly. The ability to work in a **political environment** will remain a critical skill.
Integration of services – the Better Care Fund Pioneers and New Models of Care have brought added impetus to the integration of health and social care, recognising that this could bring more cost-effective, higher-quality services to the public. Many of these need to be evaluated. Public health involvement has occurred in a number of the vanguards and pioneers, but not all of them (this has been perceived as a gap).	The emergence of new models of care and service integration should provide a further opportunity to **embed prevention** into health and social care work. As new types of organisational model emerge – such as accountable care organisations, the workforce will need to be able to demonstrate **adaptability and entrepreneurism** to seek opportunities and new ways of embedding public health in the new ways of working. The workforce may be **dispersed** across a wider range of organisations, in a given area.

Issue	Workforce impact
Resilient communities and better public mental health – there is a growing recognition of the importance of public mental health and wellbeing as a key factor influencing healthy lifestyles, and overall health outcomes due to persisting inequalities. Linked to this is the concept of resilient communities where people feel supported, empowered and enabled to work together to take more control of their own lives and provide their own solutions to the issues they face. This is particularly salient in the context of a reducing public sector.	The workforce needs knowledge and skills in addressing the psychosocial mechanisms underpinning health. This includes skills in **capacity building and and co-production** – while these historically have been part of the public health toolkit, they are likely to need greater prominence over the next few years. Leadership and advocacy for mental health will also be key if **public mental health** is to be improved and health inequalities reduced. A workforce that reflects the diversity of the population it serves will be key to its effectiveness in working with communities, particularly those experiencing the worst inequalities.
Environmental and global health issues such as air pollution and climate change will continue to require a strong response to protect the public's health. The global nature of incidents such as Ebola and Zika virus outbreaks remind us of the critical importance of health protection services.	Retaining a workforce with strong **health protection expertise** in both communicable disease and non-communicable environmental hazards will be essential. Many public health challenges are global, and countries are increasingly able to share technologies, solutions and issues – and their workforces, providing new career and development opportunities.

Our work on the drivers for change suggested that there was general consensus on the following:

The workforce will need to be increasingly ‘agile’ and entrepreneurial, able to promote and protect health across a range of rapidly changing contexts. The workforce will need to support systems, organisations, communities and individuals to maximise health, and to mobilise and leverage resources across the public, private and third sectors. It will continue to be diverse with a wide range of skills covering science, intelligence, and other core public health functions, but some skills need to be updated to reflect technological changes in particular.

The need for and value of strong strategic leadership for public health is consistently recognised, particularly the combination of technical and leadership skills that encompass those working at specialist level. People in these roles may need to cover greater breadth as well as depth in future, given the changing nature of local government and public services, devolution and public sector finances.

Strategic leadership for public health needs to come from a range of people, not just the director of public health – for example political leaders, local authority chief executives and other directors, clinical and executive leaders in the NHS, and leaders of a range of organisations in the third and private sectors. It is about a perspective of population health and a value set based on this.

However, the director of public health role acts as a critical focal point for developing and harnessing system leadership for public health in a local area, because they also have in-depth understanding of, and are skilled in, technical aspects of public health policy and practice. The Association of Directors of Public Health is reviewing the current and future role of the director of public health, and describes the core role as being an ‘independent advocate for the health of the population and system leadership for its improvement and protection’.

Public health professionals work most effectively as part of a team. Future public health teams will continue to be multidisciplinary and need to contain or be able to access an even wider range of skills in areas such as social marketing and community development.

The balance between ‘in-house’ and ‘bought in’ will vary according to local context. The ‘middle tier’ or practitioner tier may become even more important in ensuring sufficient capacity and capability remains in the system if numbers of specialist posts decrease in local government or specialists have broader roles, but would need to be nurtured and developed to fulfil this.

Many of those in local government recognised the value that a skilled cadre of public health specialists, including the director of public health, could bring to their organisation. Paradoxically, while a number of the public health skillsets, such as understanding community needs and assets, prioritisation, evaluation, interpretation of data and evidence, were needed as local authorities underwent significant transformation, the impact of the Comprehensive Spending Review and the removal of the ringfence on the public health grant may mean that there is likely to be some loss in capacity, along with the rest of local government workforce.

However, while there may be a reduction in posts in local government, there is still an overall system need for public health skills and specialists, particularly in the NHS, to support CCGs and implementation of the Five year Forward View.

Some CCGs have already begun to directly employ public health expertise, and new models of care also potentially provide a range of settings in which public health skill sets could be deployed in future.

Finally, the picture across the country is mixed, with some areas, particularly more rural ones, facing recruitment shortages and retention challenges, which means they would need to find ways of attracting skilled workers into the area, and/ or ‘growing – and keeping – their own’.

The value and importance of the wider workforce is increasingly recognised. For example, those working in planning, leisure and licensing departments all impact on the health of their residents through their day-to day-work. While many of them know this, they may need some support and advice on maximising health through their existing role.

Those working directly with individuals or with communities will continue to be key to the success of the public health system. For the large part will be made up those considered to be in the ‘wider workforce’ including many healthcare professionals. Some of these already consider the prevention of ill health as a core part of their role.

Again there is huge potential for a step-change in upgrading the level of public health engagement and skills within the wider workforce, but this requires the core workforce to ‘let go’, and to use their skills in a different way – to empower, nurture, support and develop others. In addition to contributing to the challenge of achieving ‘prevention at scale’, the wider workforce could form fertile ground for the next generation of the core public workforce.

In summary, the drivers for change are collectively moving the public health workforce of the future to a different model characterised by:

- senior public health specialists with high levels of technical expertise coupled with strong systems thinking, leadership and interpersonal skills, working in a range of organisations and potentially covering more breadth
- a change in skill mix with a stronger group of middle tier practitioners/public health managers supporting the specialist workforce, and including a more diverse range of skills such as social marketing or digital skills
- stronger links and networks between those traditionally considered to be core and wider workforce, to unleash the potential of the wider workforce and support their development, with the boundaries between core and wider becoming less distinct in some cases

How should the system respond?

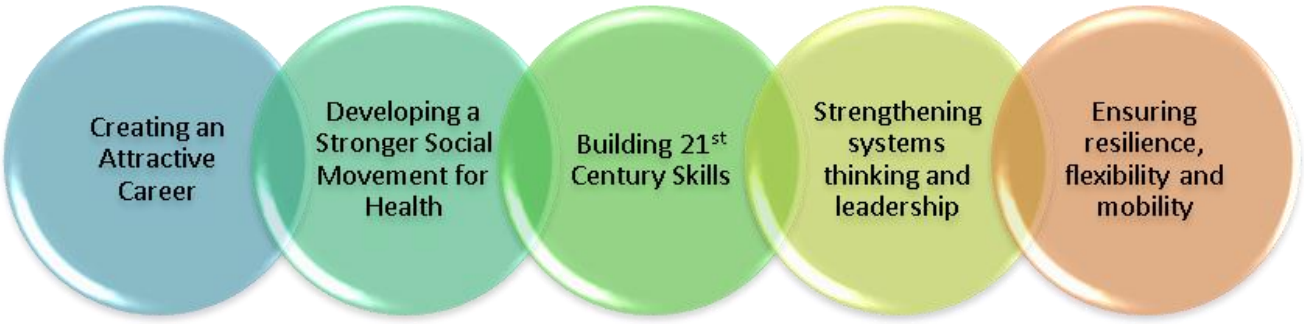
The public health system is made up of a number of organisations that have an interest or role in workforce development. These include local authorities, PHE and others as employers; those with system leadership responsibility and oversight such as the Department of Health, the NHS, devolved administrations and PHE; professional and registering and regulatory bodies; education and training providers including universities; and Health Education England as a commissioner of public health workforce education, training and development.

The workshops in particular highlighted that the public health workforce was at a pivotal moment. There was considerable enthusiasm for, and innovative examples of how, people in the public health system were beginning to work differently – from directors of public health to the wider workforce.

There was an acknowledgement of the sheer degree of change in the system, and a need for strategic action at both local and national level to respond to this. Above all, if a key expectation of the workforce is one that is skilled, flexible, resilient and agile, then the systems, structures and processes that contribute to the development of an effective workforce – from recruitment through to retention, succession planning and talent management – also need to be flexible and responsive.

While there were many factors identified that were likely to have an impact on the workforce, the system response needed could be grouped into five broad themes of equal importance:

- creating an attractive career
- developing a stronger social movement for health
- building skills for the 21st Century
- strengthening systems thinking and leadership
- ensuring resilience, flexibility and mobility in the system



Creating an attractive career

If the vision for good public health work is to be realised, and the public health system remain resilient with a workforce that is fit for purpose, we will need to position public health as a career of choice. We must build on the diversity and multidisciplinary nature of the workforce, to properly harness the talent available, and bring in new skillsets.

The Health Careers website hosted by HEE provides a new and useful site to market careers in public health, but throughout the review we heard that lack of clarity for career progression for many of those working in public health was a key issue, in particular for the practitioner workforce.

Points of entry into public health were felt to be very constrained – there was limited value attached to an undergraduate or post graduate degree in public health, and as yet few opportunities to enter the public health system, for example apprenticeship schemes.

Given that the pace of change of the world around us – and the increasingly global nature of the context in which people work – means that stable career pathways and 'jobs for life' are increasingly a thing of the past, we need to prepare and support people for more portfolio careers – something which will be a matter of course for younger generations, but can challenge the resilience of those who have developed careers during a period of greater stability; a framework is needed across the whole system that helps to anchor portfolio careers and provide both a road map for personal and professional development, as well as assurance to employers regarding competence.

The redevelopment of the public health skills and knowledge framework provides this, but to achieve the potential it offers it will need to be recognised across the system, and be a digital and interactive tool, so individuals can use it to map out competences they might need for their next career move.

Another key factor in making public health an attractive career was the degree to which the workforce felt valued by their employer. Employees that feel their own health and wellbeing is valued are more likely to be ambassadors and advocates for improving the health and wellbeing of others.

The LGA has developed a set of employer standards for social workers, to aid recruitment and retention in social care, and to ensure that social workers are able to work effectively.

Recommendations

1. Increase the visibility of public health as a career to a wider range of people – for example by targeting 16 to 18-year-olds via youth health champion schemes, making use of opportunities to embed in careers advice and providing new and increased points of entry, such as apprenticeships.
2. Continue to shape and build an appropriate, structured and consistent approach to develop those working at practitioner level, informed by the reviews carried out by CfWI and HEE.
3. Clarify entry points and career milestones for those working in public health, and the roles of undergraduate and postgraduate public health qualifications as well as registration systems.
4. Enable the development of portfolio careers in public health, supported by a skills and knowledge framework with a digital passport. This needs to be embedded by key organisations and used as point of reference by employers.
5. Revise guidance on multidisciplinary teams in local government to reflect the current and future context.
6. Continue to build public health workforce planning tools and capabilities to allow proper succession planning, and early warning of emerging skills gaps.
7. Develop a set of employer standards for public health in local government.
8. Demonstrate how employers are improving the health and wellbeing of their own workforce.

Developing a stronger social movement for health

The Five Year Forward View has given renewed impetus to the prevention agenda. If progress is to be made in delivering the radical upgrade in prevention, and improving the public's health seen as everybody's business – engaging and developing the wider workforce will be essential.

The key areas for focus to realising this potential will be:

- giving the wider workforce ‘permission’ and encouragement to recognise this is a legitimate part of their role
- ensuring they have confidence in their ability to do what is asked of them through appropriate training and support
- celebrating their contribution and creating opportunities for career development and advancement

The role of NHS staff and other healthcare professionals was a focus of discussion in several workshops, recognising both the potential they have to intervene to promote health , but also that many were busy caught up ‘in the day to day work’. While Making Every Contact Count (MECC) continues to be rolled out, there was a view that it still needed to be more systemised and the pace of change increased. At the same time there was a need to evaluate and disseminate evidence on best practice.

There is a leadership challenge to make sure that prevention is embedded in the day-to-day work of key public sector organisations, including in their commissioning processes. For example, indicators relevant to delivering prevention and health outcomes, and health inequalities could be included in contracts and in job descriptions.

Many of those in healthcare roles will have undergone professional training and be registered with a professional body and/or a regulator, and there may be further opportunities to embed and value prevention as part of their everyday work through undergraduate training and use of CPD, revalidation and registration processes.

For the wider workforce beyond healthcare, there are already good examples. Fire and Rescue services personnel are taking on new roles in delivering health promotion advice and messages to members of the public. If this approach is to be scaled up and extended to other occupational groups within the wider workforce, training, learning and development will need to be accessible, and in many cases delivered through online modules.

The interface between the core and wider workforce will be critical. The role of those in the core workforce will be to act as system leaders and change agents, sources of technical expertise, supporters and developers of training and mentoring.
A place-based pilot that develops and evaluates the synergies achievable in a given area, and the most effective relationship between the core and wider workforce (through joint working on prevention that includes the third and private sector as well as the public sector) may be worth exploring.

Recommendations

1. Ensure public health is embedded in the undergraduate curriculum for all clinical training.
2. Evaluate how best to develop and roll out wider workforce training ‘at scale’, learning from ‘early adopter’ groups such as Fire and Rescue.
3. Make systematic use of MECC training and other toolkits such as All Our Health for healthcare professionals and other NHS staff.
4. Use a range of levers to embed prevention at all levels – individual to organisational, for example by including in job descriptions and provider contracts.
5. Explore with professional and regulatory bodies the levers for making prevention everybody’s business through registration and revalidation processes.
6. Review and, if needed, develop/refresh local area networks for public health to strengthen communication and support between wider workforce groups, core public health teams and local academic organisations

Building skills for the 21st century

It is clear that there is a need for strong technical public health skills coupled with strong system leadership and interpersonal skills discussed earlier. Many of the existing skill sets such as critical appraisal, evaluation, research, health economics, data analysis and interpretation, epidemiology and scientific methods (eg microbiology, molecular biology) are still valid and valued. But there was a concern that with the transfer of a significant part of the public health workforce out of the NHS to local government, some of these may be lost.

A survey by NHS Clinical Commissioners published in 2015 confirmed views collected through our key informant interviews that the relationships between local authority public health and CCGs were developing well but there were concerns about the availability of healthcare public health skills for a range of reasons.

Our findings elsewhere have noted lack of capacity in health economics, evaluation and critical appraisal and leadership in clinical settings. There are some very specialist skills (such as advising on individual funding requests) where capacity was limited and was often provided across several CCGs.

Work was sometimes hampered by lack of data and access to libraries, and a complex environment where the roles of other bodies such as commissioning support units and strategic clinical networks could be confusing.

PHE has recently commissioned Solutions for Public Health to assess the public health support provided to CCGs, and to identify how gaps in the three key skills areas are

being met. The findings and recommendations in that report are consistent with those made through this review process and include widening access to leadership development, strengthening practitioner registration, and ensuring opportunities to work or train in NHS settings.

There is a clear need to ‘modernise’ some of the technical skills linked to specific public health functions for the 21st century. These include social marketing, digital, bioinformatics and others related to genomics, horizon scanning, information science and ‘big data’.

There is some evidence that the system is already beginning to respond to the need to develop new skills in the workforce: through, for example, following the creation of the National Infections Service (NIS) and Science Hub in PHE, the development of a workforce strategy for those working in NIS is part of the work programme for 2016/17.

PHE is developing a knowledge and intelligence strategy that begins to address the need for new skills development alongside other issues such as succession planning and capacity-building.

The issue where most people felt that ‘tomorrow as already here’ was the use of digital technologies, social media and social marketing. It may be appropriate to ‘buy in’ some of these skillsets and expertise from other sectors where they are already well developed.

There was a view that skills for commissioning better outcomes were still very relevant, perhaps more so as a more diverse provider market emerged. Also that public health personnel needed to become more skilled at working with (and possibly in) the private sector.

Finally the need to ensure a robust research base and academic foundations was identified, with a view that public health research also needed to be able to be responsive to resolving real time complex problems, focusing as much on social as well as technological innovation. The What Works in Wellbeing Centre is one such example. But the potential for using the Academic Health Science Networks (AHSNs), Collaborations for Leadership in Applied Health Research (CLAHRCs) and systematically supporting and developing public health academic networks that are linked into local systems has not been fully realised. PHE has recently published a strategy for research, translation and innovation, ‘Doing, Supporting and Using Public Health Research.’

Recommendations

1. Ensure healthcare public health skills, and the infrastructure to support application of those skills, remain embedded in the public health core workforce. These include: health economics, prioritisation, resource management, leadership in clinical settings, critical appraisal, evaluation, commissioning and commercial skills and data interpretation. Training in NHS settings should be part of this.
2. Local NHS organisations, working with local government, should consider how they can best secure public health input to all of its activities.
3. Commission relevant training programmes: eg for healthcare scientists, or information analysts, that include new technical skills.
4. Support the implementation of Doing, Supporting and Using Public Health Research, the PHE strategy for research, translation and innovation, in developing public health academic careers and strengthening the interface between academic and service public health.
5. Explore opportunities to develop online /e-learning courses and qualifications that can be more readily accessed by the wider workforce eg town and transport planners, and support global public health training and development.

Strengthening systems thinking and leadership

The complexity of the system within which public health operates, and the move towards place-based working, supports the continuing and growing need for a skillset that means that public health professionals can work across organisations.

They need to respond to an evolving system, and provide a powerful, credible local voice that advocates for reducing health inequalities, and drives improvements in health and wellbeing. That credibility will come from combining expert knowledge with a range of interpersonal skills such as influencing and negotiating skills, networking and conflict resolution.

The role of the local director of public health is pivotal, and the Future Directors Programme is aimed at ensuring that future directors of public health have the appropriate skills. The programme is also open to potential directors of children's services, recognising that the opportunity for joint and shared learning within public services is increasingly important if people are to work together more effectively.

However, it was recognised that system leadership skills were needed by others in the public health workforce, not just those at director level.

In the current system local political leadership is particularly important and there still appears to be some need for the public health workforce to further develop skills for

working in a political environment. There was support for increasing access to training in these skills.

A further feature emerging is a new, more equal relationship between public services and citizens and communities. A set of skills relating to public mental health, community development and co-production that support a culture of enablement and empowerment (doing with rather than doing to) is also identified as something needed for the new public health.

Recommendations

1. Consider how systems leadership training can be accessed by a wider group of people working in public health, such as those working in specialist roles.
2. Strategic leadership for public mental health should be embedded in leadership development programmes.
3. Multidisciplinary training and other integrated approaches to training should become the ‘norm’.
4. Further deploy of the Skills for System Leadership programme with its particular emphasis on working in a political environment, aimed at public health teams in local government.
5. Organisations should review the training and development offer to their employees to ensure that staff can (and do) access personal effectiveness skills eg negotiating, influencing, co-production approaches as appropriate, alongside more technical skills.

Ensuring resilience, flexibility and mobility

One of the challenges in public health workforce planning is that the pace of change is rapid; we cannot predict what new threats will arise and what structures, technologies and social context will be in place when the threats arise.

The workforce therefore has to be flexible in outlook and either skilled appropriately or willing and able to update their existing skills to meet these needs as well as being capable of meeting current ones. So training of the workforce needs to be more flexible and responsive.

If the workforce is to be deployed effectively across all organisations, system mobility factors will also be key in enabling this. These two factors – flexible training and skills, and system mobility are explored in greater detail below.

Entry at different points with training building on current abilities

Public health careers are often complex. One reason is that many people find themselves moving into public health roles later in their career. It is essential that there are opportunities to enter at different career stages.

Training in public health, at whatever level, needs to recognise the skills and knowledge that an individual brings and build on these to give the new skills needed to practice safely. Certain endpoints have fixed standards (such as registration and qualifications) but the routes need to be more flexible so that those with extensive experience can do training in the shortest time needed.

Discussions around generalisation versus sub-specialisation have noted that it is often the generalist element, and breadth of the public health skillset that will keep it flexible – and indeed brings added value such as in the role of the director of public health. But we need to recognise that there is a continuing need for some highly technical expertise and in-depth knowledge which will always pull the discipline towards a degree of sub-specialisation.

Consideration of the shape of the future public health workforce needs to develop options that give a balance between the two (a ‘credentialling’ approach). Sub-specialisation within a relatively small workforce can also bring challenges such as difficulty in recruiting to posts that are so specialised that they are perceived as not offering career progression opportunities; it also reduces the likelihood of those who have sub-specialised feeling sufficiently skilled to move to a different area of public health practice should the need arise.

Recommendations

1. Explore the viability of a more responsive approach to public health training and accreditation, (eg a ‘fast track’ 2-year training scheme) to enable those with experience (eg existing local authority directors with some public health skills and experience) to become fully trained in public health, via a conversion course or ‘top-ups’. This would sit alongside the existing training scheme and be integrated into current routes to specialist registration.
2. Review the potential of ‘credentialing’ schemes as means of nurturing sub-specialisation as appropriate, building on core competences.

Mobility across the system

Responsibilities of different organisations will change over the years so it is vital that capacity and capability can be enabled to move quickly to where it is needed. For staff to have this flexibility it is necessary for them to have worked in different sectors to understand the breadth of contexts and skills needed to work within them.

This will give the public health system resilience, and supports the development of system leadership skills discussed earlier, giving individuals the opportunity to understand how all parts of the system work. It also gives individuals more career options making it a more attractive career, attracting in the best people.

A recurrent theme throughout this review was the need to minimise or remove barriers to movement. Key barriers that were identified included:

- difference in pay between organisations that might also create incentives for people to stay in certain organisations over others.
- inability to recognise continuity of service, particularly from the NHS to, for example, the civil service or local government
- Inability to transfer, for example, pensions between the NHS, the civil service and local government

A short report by the Standing Group on Public Health Teams in Local Government identified a number of local authorities where issues relating to continuity of service had an impact on recruiting to senior public health posts. Likewise, PHE's own microbiology service has faced difficulty in attracting experienced NHS staff to key roles due to their loss of continuity of service on appointment.

These issues are likely to impact not only on the resilience of the public health system but also on the success of the integration agenda, and may increasingly become an issue as local devolution deals develop. One area had reviewed the possibility of establishing a local public sector pay scheme but felt that his was unachievable because of constraints on some of the organisations that would need to sign up to this.

The LGA already encourages local authorities to use any discretionary enhancements available to them, for example regarding redundancy, but there is no nationally consistent approach to this. An amendment to the 1999 'Modification Order' would be required.

Finally, to facilitate mobility in the system, there needs to be posts at a range of levels in most organisations, and posts at all levels across the system in a given area, and more opportunities for people to experience working in the organisations that make up a local system or health economy.

Recommendations

1. Explore ways of ensuring that the workforce, and in particular, those working as specialists, training to be specialists, or a at practitioner level, are able to gain experience of working in a wide range of settings in the system, including global health opportunities, through eg secondments or work placement linked to personal development and talent management planning.
2. Placements for training schemes should include training in all settings in the system including the NHS, PHE, local government, third sector, and other parts of public sector, and include opportunities for international experience/global exchange opportunities
3. Key employers of public health specialists to consider the balance between more generalist and sub-specialist job roles, to ensure future workforce mobility and flexibility, while retaining a skilled workforce.
4. Continue to review what action can be taken at national and local level to remove barriers to mobility linked to terms and conditions of public health staff.
5. In particular work with NHS Employers, the NHS Staff Council, the LGA, Department of Health and relevant unions to develop a plan for addressing continuity of service.

5. Conclusion

Since the Public Health Workforce Strategy was launched in 2013, the world of public health in England has changed considerably and the pace of change is set to continue for the foreseeable future.

The publication of the Five Year Forward View has given renewed impetus to the prevention agenda, supported by the sustainability and transformation plans. There is clearly an increasing demand for public health skills, but uncertainty as to who will pay for them. The public health workforce will need to work differently if it is to meet that demand.

To achieve a radical upgrade in prevention, and a public that is more engaged and 'health literate' will require investment in developing the wider workforce.

New models of care and devolution have also now appeared, requiring strong system leadership skills and an adaptable flexible workforce across the health & social care system, including in public health.

Financial challenges will continue to drive innovation, which needs to be properly evaluated, and mean that more than ever public sector resources need to be spent wisely and for best outcomes. These are core public health skills which need to be retained in the system, while new technical skills are required to respond to rapid technological advances.

Likewise the Ebola global public health emergency, the more recent emergence of Zika virus across South America, and the latest data on the impact of air pollution on heath, remind us that core health protection skills remain a vital part of the public health response.

The scope of this review was to focus mainly on the capabilities and skills needed in the workforce of the future, rather than capacity. This complements much of the work carried out by CfWI over the past three years, which has attempted to analyse current capacity and likely future demand for a range of public health functions and groups.

A common theme of many of the CfWI reports was the need to be able to count and measure capacity in the public health workforce more effectively – much of this will be addressed through the development of a new public health minimum data set. It will be important that the system capitalises on the new system to build proper intelligence on the public health workforce to support succession planning and appropriate development.

Prediction of demand for public health skills proves more challenging, as described in the recent CFWI specialist stocktake, where four scenarios are presented that include both increased and decreased demand.

While the Comprehensive Spending Review may result in a reduction of specialist posts, or public health specialists in local government taking on broader roles, public health capacity and expertise may need to be deployed in other organisations and settings, so overall the system will need this capacity to remain resilient, but it may need to be used more flexibly.

Five key themes have been identified to shape the system response:

- creating an attractive career
- developing a stronger social movement for health
- building skills for the 21st Century
- strengthening strategic and system leadership
- ensuring resilience, flexibility and mobility.

A number of recommendations that could be implemented in the next one to five years have been made in this report and are included in the executive summary. Most of these recommendations need a system-wide approach, some may require additional investment, others can be delivered by focusing existing resources differently.

A new strategy for workforce development needs to take account of the state of flux and uncertainty inherent in a system in evolution. While this is challenging, it also creates opportunities to improve and protect people's health, with a workforce that is skilled, confident, respected and resilient.

Appendix A: The new Public Health Skills and Knowledge Framework