



Department
of Health &
Social Care

The Department of Health and Social Care mandate to Health Education England

April 2017 to March 2018

[This publication was withdrawn on 26 February
2019]

<p>Title:</p> <p>Delivering high quality, effective, compassionate care: Developing the right people with the right skills and the right values</p> <p>A mandate from the Government to Health Education England: April 2017 to March 2018</p>
<p>Author: ACW-WS-WDS 13500</p>
<p>Document Purpose:</p> <p>Policy</p>
<p>Publication date:</p> <p>17 January 2018</p>
<p>Target audience:</p> <p>NHS Trust & Foundation Trust CEs, Medical Directors, Directors of Education and Training, Directors of Health and Social Care Workforce Planning, Directors of Public Health, Directors of Nursing, Local Authority CEs, NHS Trust Board Chairs, Directors of HR, Higher Education Institutions, Other Government Departments, HEE and LETBs, PHE, NHS England and CCGs, NHS Improvement, CQC, NICE, NIHR, NHS Digital, Directors of Adult Social Services, Academy of Medical Royal Colleges, Academic Health Science Networks, HEFCE, Devolved Administrations, GPs, Allied Health Professionals, Healthcare Professional Bodies and Professional Regulators, Universities UK, Council of Deans, Sector Skills Councils, PSA, MSC, DSC, NHS Employers, Social Care employers, Health and Wellbeing Boards, Voluntary and community sector, Patient groups and Healthwatch, Comms leads.</p>
<p>Contact details:</p> <p>HEE Sponsorship, Funding & Tariffs Team, Workforce Directorate, Department of Health, Quarry House, Quarry Hill, Leeds, LS2 7UE</p> <p>Email: educationandtraining@dh.gsi.gov.uk</p>

You may re-use the text of this document (not including logos) free of charge in any format or medium, under the terms of the Open Government Licence. To view this licence, visit www.nationalarchives.gov.uk/doc/open-government-licence/

© Crown copyright 2016

Published to gov.uk, in PDF format only.

www.gov.uk/dh

Contents

Ministerial Foreword.....	4
1. Introduction.....	6
2. Health Education England's Objectives	8
Annex A - Health Education England Deliverables	11
Annex B - Educational Outcomes	25
Endnotes.....	27

Ministerial Foreword

The NHS spends over 65% of its income on staff, which makes our people by far the most important part of the NHS, a resource to be treasured. Providing meaningful opportunities for our existing staff to develop their careers or, in some cases, to change them completely, should be our priority if we want to retain their knowledge and expertise in the health system.



A major success of the last 12 months has been the development of the Nursing Associate role and the Nurse Degree Apprenticeship. We listened to existing NHS staff and employers who have said the routes into nursing are too inflexible and do not support staff who want to progress into nursing, or employers who want to develop their own staff. The development of these roles will allow employers to grow their own workforce, reducing reliance on expensive agency staff.

HEE's pilots of 2,000 Nursing Associates started training in early 2017 in partnership test sites across England in a range of health and social care settings. Early feedback from the pilot sites is very positive, with employers reporting enthusiasm for the role and its potential for adding value to the work of their multidisciplinary teams. Building on that feedback, in October 2017, the Secretary of State for Health announced plans for an expansion on Health Education England's Nursing Associate pilot project. Proposals will see up to a further 5,000 nursing associates trained through the apprentice route in 2018, and an additional 7,500 being trained in 2019.

In line with this Government's manifesto commitments to meet the growing need to increase the future supply of registered nurses, additional clinical placement funding was announced by the Department of Health in August and October 2017. This enables around 5,000 more nursing students to enter training each year to 2020/21, representing an historic 25% increase. This is part of a range of measures to ensure the NHS meets current and future nursing workforce needs, to improve working conditions, and to provide new routes into the profession. The additional clinical placement funding announced in August will also be used to increase numbers of midwifery and allied health professional students.

Building on these achievements, there is still more the system can do to support our current staff better, addressing staff churn, sickness and absence rates, flexibility, and lifelong learning. Changes to how we deliver care cannot be achieved without developing those that deliver the care. This is why education and training is the first step to innovation and improvement, giving people the skills, confidence and permission to change.

Continuing Professional Development (CPD) could play a key role in supporting a flexible workforce that can quickly adapt to meet the changing needs of the NHS. Clinicians currently choose their own life-long learning priorities, things they are interested in and enjoy. But if the taxpayer is paying and the employer is releasing time shouldn't the priorities of the NHS be taken into account too?

CPD funding is the responsibility of the employer but through this mandate I will ask HEE to consider how its programmes can provide opportunities to support employers and clinicians in driving improvements and innovation for the benefit of patients.

I am also keen to help foster the leadership talent for the future within the NHS. Instilling a culture of leadership within the training pipeline, in particular finding ways to encourage more clinicians to become leaders within the NHS is an important priority.

HEE is already working with the professional regulators, in particular the General Medical Council, to consider how clinical leadership can be an integral part of formal education and training, and I look forward to seeing demonstrable progress over the course of this mandate.

In line with this Government's manifesto commitments, alongside a commitment to our existing workforce, from September 2018, the Government will fund up to 1,500 additional student places through medical school each year to ensure the NHS can continue to deliver safe, compassionate and effective care for all our citizens well into the future. The first 500 places have been allocated to existing medical schools and will be available in September 2018. A further 1,000 places will be allocated to existing, new and aspiring medical schools, with a focus on a number of priorities including specialties such as GP and psychiatry, as well as rural and coastal areas, to ensure the needs of the NHS are met. Allocations will be confirmed in March 2018, and places will be available to students from September 2019. HEE will play a prominent role in the successful implementation of this, in particular in ensuring a sufficient supply of high quality clinical placements for these additional students.

For the first time ever the number of new GP trainees has exceeded 3,000, an increase of 9% from 2015, and continues the trend of year on year growth since 2013. Within this mandate we continue to ask HEE to deliver a minimum of 3,250 GP trainees a year. This is by no means an easy task but, alongside other commitments for example to improve retention, is vital if we are to meet the aim of 5,000 additional doctors working in general practice by 2020.

Integration of health and social care continues to be a high priority for the Government, and HEE will continue to work with social care partners to develop opportunities for planning, recruiting and training the future workforce as a single workforce.

This is a stretching mandate; the priorities within it will support the system to meet the aspirations set out in the Five Year Forward View, the Shared Departmental Plan and the outputs required by the Sustainability and Transformation Partnerships.



Steve Barclay MP
Minister of State for Health

1. Introduction

HEE's role and responsibilities

- 1.1. Health Education England (HEE) is responsible for ensuring that our future workforce is available in the right numbers and has the necessary skills, values and behaviours to meet patients' needs and deliver high quality care. The Care Act 2014ⁱ sets out HEE's remit and range of roles and responsibilities in detail, including its duty to ensure an effective system is in place for education and training in the NHS and public health system.
- 1.2. To do this HEE will need to ensure that the investment and distribution of clinical placements enables the right levels of supply required by the NHS; that it delivers the geographical spread and range of healthcare graduates required; supports the NHS to only recruit those that will deliver high quality patient care; and there is a smooth transition to the new system from August 2017, that will enable universities to offer additional nursing, midwifery and allied health professional training places over this parliament.
- 1.3. Many of the deliverables in the mandate cannot be delivered by HEE alone, but rather depend on strong partnerships with NHS delivery partners, the higher education sector and professional and regulatory bodies who set the standards and curricula for education and training.
- 1.4. By working with these bodies in partnership rather than in isolation, cultivating positive relationships and being responsive to feedback, HEE will ensure that the NHS and public health workforce truly meets the requirements for delivering high quality patient care now and in the future.
- 1.5. HEE was established as a non-department public body on 1 April 2013. Significant changes in education commissioning provide an opportunity to reflect on the accomplishments of HEE over its last four years and consider, along with the Department and other system leaders, whether its role should evolve along with the NHS and public health system it serves.

HEE's mandate

- 1.6. This mandate reflects the priority objectives of the Government in the areas of workforce planning, education, training and development for which HEE and the Local Education and Training Boards have responsibility. It is consistent with the objectives in the refreshed Single Departmental Plan, and is aligned with work being taken forward through the Five Year Forward Viewⁱⁱ.
- 1.7. Through the publication of this mandate, the Government is reaffirming its commitment to developing a workforce that has the skills and capability to deliver high quality patient care
- 1.8. The table in Annex A shows HEE's overall measurable goals for this parliament and clear priority deliverables for 2017-18.
- 1.9. This mandate does not repeat all of the ongoing deliverables from the 2016-17 mandate. HEE is committed to concluding any previous commitments that require multi-year investment. HEE is also committed to completing any outstanding deliverables from the

Introduction

2016-17 mandate. As the system leader for education and training, HEE will play a part in delivering Government commitments that fall within its remit.

- 1.10. This mandate will be reviewed for 2018-19 and will reflect the priorities set out in Facing the Facts, Shaping the Future: a draft health and care workforce strategy for England to 2027ⁱⁱⁱ.

Accountability

- 1.11. The Framework Agreement between the Department of Health and HEE^{iv} defines how the Department of Health and HEE work in partnership to serve patients, the public and the taxpayer; and how both HEE and the Department of Health discharge their accountability responsibilities effectively.
- 1.12. Progress against these objectives will be reviewed over the course of the mandate. HEE will publish a business plan setting out how it will meet its legal duties and deliver the objectives set out in the mandate.
- 1.13. Although HEE is not formally accountable to other system partners it should strive to work with other organisations within the spirit of the Framework Agreement, building effective relationships to achieve shared goals.

Educational Outcomes

- 1.14. The educational outcomes at Annex B underpin this mandate and have been developed with partners across the health and education landscape. HEE will use these in support of driving improvements in education and training, and will reflect on progress in its annual report.

2. Health Education England's Objectives

- 2.1. This mandate sets priority objectives for HEE for 2017-18 and goals to 2020 and beyond.
- 2.2. HEE's business plan for 2017-18 will set out additional details on how it intends to take these forward.

Objective 1: Develop the workforce to improve out of hospital care

- 2.3. The Government wants to see more services provided out of hospitals, a larger primary care workforce and greater integration with social care, so that care is more joined up to meet people's physical health, mental health and social care needs.
- 2.4. We expect HEE to continue to support growth in the primary care workforce to enable there to be 5,000 more doctors working in general practice by 2020, and an increase of 5,000 other multi-professional primary and community staff with 1,000 of those being Physician Associates. Physician Associates have significant potential to address workload issues in primary care as part of a multi-disciplinary team.
- 2.5. HEE will continue to identify ways to support the development of a more flexible workforce with greater skills in general healthcare that are transferable across all care settings. Working with the social care sector, HEE will also go further and faster in supporting the development of a more integrated health and social care workforce. The pilot sites for the new Nursing Associate role will see trainees being offered experience across a range of health and social care settings. This will help provide the preconditions for integrating health and social care by 2020, as set out in the 2015 Spending Review.

Objective 2: Create the safest, highest quality health and care services

- 2.6. The NHS should provide the highest quality care for all. Everyone deserves care that is safe, compassionate and effective, at all times and regardless of their condition. The NHS should meet the needs of each individual with a service where a patient's experience of their care is as important as their clinical needs and outcomes.
- 2.7. HEE is expected to ensure that recruitment to and delivery of education and training for the future workforce, and development of the current healthcare workforce, supports equality and results in patients, carers and the public reporting a positive experience of healthcare consistent with the values and behaviours identified in the NHS Constitution^v. HEE will ensure training supports a culture of continuous learning and improvement in safe services with a focus on reducing the rates of stillbirths, neonatal and maternity deaths and other adverse outcomes such as sepsis and intrapartum brain injuries.
- 2.8. HEE will continue to use its expertise and influence to assure and continuously improve the learning environment by working with providers to deliver high quality clinical and public health placements based on high quality outputs and educational outcomes. HEE, in delivering its functions, should also be mindful of the need to support the Secretary of State in meeting his duty to reduce health inequalities in England.
- 2.9. HEE will also continue to support development of the workforce, in the priority areas of maternity, cancer, emergency care and mental health to increase significantly the generalist and specialist skills and availability and supply of staff to work in these care settings.

Health Education England's Objectives

- 2.10. We expect HEE to work with partners to ensure that the NHS has available the right number of staff to deliver on the Government's commitment to provide the same quality of care in hospitals for urgent and emergency services seven days a week.

Objective 3: Deliver value for money

- 2.11. The Government currently invests over £4.7 billion each year in central funding for the training and development of the future NHS and public health workforce. Local service leaders in England have produced Sustainability and Transformation Partnerships (STPs) to transform health and care in the communities they serve. HEE will continue to work with partners to ensure that funding is used effectively and distributed fairly across the country to meet service needs.
- 2.12. Alongside the Department, and all Arm's Length Bodies across the health system, HEE has a valuable part to play in supporting the system to live within its means, in particular, to deliver overall financial balance in the NHS as well as achieving year on year improvements in NHS efficiency and productivity (2-3% each year) including improving the quality of care. At a time of great pressure on public finances, it is therefore vital that HEE delivers this mandate within available resources and continues actively to review its existing expenditure.
- 2.13. HEE will also continue to work closely with universities to improve attrition rates from healthcare courses, and work with the Chief Nursing Officer to improve retention of nurses across the health and care sector, thereby making better use of taxpayer investment.

Objective 4: Prevent ill health and support people to live healthier lives

- 2.14. The Five Year Forward View has a strong focus on preventing avoidable ill health and premature mortality. HEE plays a critical role in commissioning education and training for public health specialists and other public health staff in the NHS, Public Health England and local government, as well as in embedding public health capacity across the wider NHS, public health and social care system. HEE will continue to support the delivery of the 2020 Dementia Challenge.^{vi}
- 2.15. HEE will contribute to realising the potential of research and innovation in healthcare and demonstrate commitment to the UK Life Sciences growth agenda, for example by continued education and training developments for the scientific workforce and more broadly in genomics, bioinformatics and the use of data across all levels of the workforce.

Objective 5: Build the workforce for the future

- 2.16. The Government is committed to supporting a world class education and training system to support the delivery of integrated health and related care services which is built on robust workforce planning reflecting the needs of all providers of NHS commissioned services. HEE has been given a clear remit to lead workforce planning across the health system to secure the future supply of the workforce, and will play its part by planning a workforce which can adapt to change. In doing so it will support the social mobility agenda in breaking down barriers and creating ladders of opportunity for people everywhere and from every background. HEE will continue to support the aim to reduce dependence on temporary staffing, supported through the Talent for Care, Widening

Participation and Volunteering strategies that support employers to better recruit from their local communities.

- 2.17. Following the establishment and development of Local Workforce Action Boards (LWABs), aligned with STP areas, HEE will continue to support STPs to build and develop the workforce necessary to deliver the outputs required by STPs and the Five Year Forward View. The focus will be on five points of transformation: supply, new roles, up-skilling, new ways of working and leadership.

Objective 6: Improve services through the use of digital technology, information and transparency

- 2.18. Better use of data and technology has the power to improve health, transform quality and increase efficiency in the delivery of health and care services. It can also reduce the administrative burden for care professionals. Furthermore, technology is key to enhancing training and learning across the health and social care workforce. HEE will continue to work with partners to support care professionals to make the best use of data and technology.

Annex A - Health Education England Deliverables

The table below shows HEE's objectives with an overall measurable goal for this parliament and clear priority deliverables for 2017-18. Delivery dates are not always expressed in the Annex and where this is the case, the expectation is that good and evidenced progress will continue to be made in year.

Objective 1: Develop the workforce to improve out of hospital care	
Primary and Community Care	<p>Overall 2020 goals:</p> <ul style="list-style-type: none"> • Successful implementation of the relevant recommendations from the General Practice Forward View^{vii} and Primary Care Workforce Commission report 'The Future of Primary Care: Creating Teams for Tomorrow',^{viii} to enable the delivery of a multi-disciplinary workforce for primary care and the promotion of innovative workforce models; • With NHS England, support the delivery of 5,000 more doctors working in general practice by 2020 and an increase to other multi-professional primary and community staff of 5,000, including 1,000 Physician Associates; • With NHS England, support the General Practice Forward View to deploy a further 1,500 clinical pharmacists into GP practices by 2020; • The right workforce is in place to support people of all ages with learning disabilities to live well in the community, rather than in hospitals. <p>2017-18 deliverables</p> <ul style="list-style-type: none"> • Ensure a minimum of 3,250 trainees continue to be recruited to GP training programmes in England in 2018; • Work with NHS England to assess the skills and competences required to integrate pharmacy in the primary care workforce; • Continue to work with partners to support 'return to practice' in nursing initiatives with specific emphasis on general practice; • Through 2017-18, support Transforming Care Partnerships (TCPs) through specialist advice, guidance and provision of tools and data to enable them to create a workforce that will meet the aims of 'Building the Right Support'^{ix} by March 2019. • By December 2017 develop TCP capability to access and utilise adult workforce intelligence data through signposting and advising on existing and potential data sources to support commissioners to be equipped with the skills, competencies and knowledge to sustain new models of care; • Explore, via an adult learning disability workforce expert reference group, the key

	<p>areas and challenges within specialist and generic learning disability workforce for all ages to produce by March 2018 a plan for developing the learning disability workforce;</p> <ul style="list-style-type: none"> • By March 2018, explore and ensure the generic workforce and education curriculum including CYP IAPT training meets the needs of children and young people with a learning disability and/or special educational needs; • By March 2018, map the skills and competencies required across specialist mental health and learning disability workforce to support children, young people and adults with autism and associated health conditions, and how well these are supported by existing training resources.
<p><i>Mental Health</i></p>	<p>Overall 2020 goals:</p> <p>Successful implementation of Stepping Forward to 2020: The mental health workforce plan for England to support delivery of the Five Year Forward View for Mental Health. The NHS will establish 21,000 posts and employ 19,000 additional members of staff in mental health services.</p> <p>2017-18 deliverables</p> <ul style="list-style-type: none"> • Publish the workforce delivery plan for achieving better access to mental health services by 2020. • Deliver workforce development requirements for 2017-18 as specified in the 5YFVMH Implementation Plan and the Mental Health Workforce Plan; making measurable progress towards 2021 targets; • Identify and agree common metrics to measure progress and to build evidence of good practice; • Begin development of a series of competence frameworks aligned with the evidence-based treatment pathway development programme. These will include associated workforce planning and development tools and guidance, to be completed by 2020-21; • Support the development of local mental health workforce plans that are divisible by care and service areas as part of the STP process, and offer bespoke support, addressing ongoing recruitment and training issues locally that sit beyond the confines of employer provided continuing professional development; • By winter 2017, publish a narrative, agreed with system partners, around careers in mental health (from support staff to consultants), including independent and voluntary sector and social care to ensure consistent training opportunities, support and appropriate entry routes; • Work with training providers and service providers to ensure quality training placements for mental health nursing and allied health professionals are available across the range of specialist community settings with appropriate mentorship and supervision.

<p><i>Children's Mental Health</i></p>	<p>Overall 2020 goals:</p> <ul style="list-style-type: none"> • Support workforce training in awareness and skills required for working with all children and young people, particularly vulnerable groups, to promote early intervention and prevention to support improvements in children and young people's mental health; • At least 3,400 existing and 1,700 new workforce trained to deliver evidence based interventions and implement the whole system approach described in Future in Mind, helping at least 70,000 more children and young people to access high quality effective care each year by 2020. <p>2017-18 deliverables</p> <p>Work proactively with commissioners and providers of mental health services to children and young people, to ensure:</p> <ul style="list-style-type: none"> • access to training to support the extension and expansion of the children and young people's Improving Access to Psychological Therapies transformation programme to reach 100% geographical coverage in England by 2018; • training for dedicated community eating disorder teams for children and young people is available to train teams' competence and capability to meet patient need and the referral to treatment time standards throughout 2017-18; • ensure training for teams delivering care in inpatient CYPMH services is in place so staff have the competence and capability to meet patient need and the referral to treatment time standards throughout 2017-18.
<p><i>Perinatal Mental Health</i></p>	<p>Overall 2020 goals:</p> <ul style="list-style-type: none"> • Workforce across the care pathways has access to the right knowledge and skills in perinatal mental healthcare enabling them to deliver the appropriate care, support and treatment for patients; • Work with partners to increase workforce capacity and capability in specialist perinatal mental health services by 2021, to support 30,000 more women a year to receive evidence-based care, as described in the HEE mental health workforce strategy. <p>2017-18 deliverables</p> <ul style="list-style-type: none"> • By summer 2017, publish a competency framework to underpin and inform training and development for all roles and professions working with women in the perinatal period in relation to mental health; • Continue to work with the medical royal colleges to support specific perinatal mental health training being incorporated into the curricula for doctors in their next curricula revisions; • Develop and deliver a plan to identify existing quality assured training in perinatal mental health and to commission further training for specialist perinatal mental health teams where needed, supported by funding from NHS England.

<p><i>Integration</i></p>	<p>Overall 2020 goals:</p> <ul style="list-style-type: none"> • Workforce development is able to support better integration of health and social care in the lead up to 2020, considering the effective use of wider health and care groups and professionals in service delivery and planning; • Through strong partnerships with HEE, local devolution deals able to develop coherent, system wide workforce strategies to meet the needs of their population. <p>2017-18 deliverables</p> <ul style="list-style-type: none"> • Appoint a named lead to liaise with Departmental leads (and other organisations) to ensure coordination with wider activities associated with integration; • Estimate the size and shape of the health and care workforce (including apprenticeships) required to deliver integration, and work with health, social care, local government and other partners to implement a joint plan on how the challenges can be addressed leading up to 2020; • Continue to work with the Department of Health, other national partners and local areas to agree and support implementation of all local devolution deals which include health, in order to support local workforce development and transformation.
<p>Objective 2: Create the safest, highest quality health and care services</p>	
<p><i>7 day services</i></p>	<p>Overall 2020 goals:</p> <ul style="list-style-type: none"> • HEE will continue to work with key partners to ensure the NHS has available the right number of staff to deliver the commitment to roll out of seven-day services in hospital to 100% of the population (four priority clinical standards in all relevant specialities, with progress also made on the other six standards), so that patients receive the same standards of care, seven days a week. <p>2017-18 deliverables:</p> <ul style="list-style-type: none"> • HEE has established LWABs to coordinate and support the workforce requirements for each STP footprint. These LWABs are made up from representatives across health and social care organisations within the STP and are responsible for leading the workforce strand of the programme. If shortages are identified they will be added to the LWAB priority list; • By Spring 2018, publish workforce planning guidance for all services required in an emergency. HEE to provide advice on delivering seven day services workforce once guidance is released.
<p><i>Urgent and emergency care</i></p>	<p>Overall 2020 goals:</p> <ul style="list-style-type: none"> • The NHS has available the right number of staff to deliver on the commitments to provide the same quality of care in hospitals for urgent and emergency services seven days a week and particularly delivering on the joint workforce project with NHS England on Integrated Urgent Care.

	<p>2017-18 deliverables:</p> <ul style="list-style-type: none"> • Develop workforce Blueprint for Integrated Urgent Care, including Clinical Assessment Services by May 2018; • Increase the number of training posts recruited to within Emergency Medicine; • Liaising closely with the Department of Health, continue work on the development of reforms to paramedic education and training.
<p><i>Diagnostics</i></p>	<p>Overall 2020 goals:</p> <ul style="list-style-type: none"> • The NHS has available the right number of trained staff to deliver current and future demand for diagnostic tests. <p>2017-18 deliverables:</p> <ul style="list-style-type: none"> • Continue to work with its Diagnostic Steering Oversight Group and other key partners on education and training to meet current and future demand for diagnostic tests: <ul style="list-style-type: none"> • build on the non-medical endoscopy trainees who commenced training in 2015-16, to train 200 non-medical endoscopists by 2018; • develop competency frameworks for sonography and diagnostic radiography by May 2017.
<p><i>Cancer</i></p>	<p>Overall 2020 goal</p> <ul style="list-style-type: none"> • Sufficient staff are in place and appropriately trained to deliver world-class cancer outcomes as set out by the independent Cancer Taskforce. <p>2017-18 deliverables:</p> <ul style="list-style-type: none"> • Continue to take forward relevant recommendations set out in the independent Cancer Taskforce report, 'Achieving World Class Cancer Outcomes: a strategy for England 2015 - 2020'^x, including taking forward actions set out in the cancer workforce strategy, to be published in March 2017; • Continue to work with NHS England and wider partners to assure the provision of skills and competences that will provide a suitably qualified and trained workforce for the Proton Beam Therapy service commencing in April 2018.
<p><i>Quality and Patient Safety</i></p>	<p>Overall 2020 goals:</p> <ul style="list-style-type: none"> • Patient safety knowledge and skills are embedded at all stages and levels of education, training and professional development; • Multi-disciplinary training is available and used by maternity services to support the Government's ambition to halve the rates of stillbirth, neonatal and maternal deaths and intrapartum brain injuries occurring during or soon after birth in babies in England by 2030. <p>2017-18 deliverables:</p> <ul style="list-style-type: none"> • Deliver the high level patient safety strategy in response to the recommendations of the Commission for training and education for patient safety:

	<ul style="list-style-type: none"> • harness national, regional and local leadership to deliver recommendations from the Commission on Education and Training for Patient Safety by March 2018; • identify and share evidence-based good practice of education and training interventions for patient safety <ul style="list-style-type: none"> • Health Education England should work with the Healthcare Safety Investigation Branch (HSIB) and providers to develop approaches to ensuring that staff have the capability and capacity to carry out good investigations of deaths and write good reports, with a focus on these leading to improvements in care. • Continue to support the work of the Freedom to Speak Up Whistleblowing Guardian through supporting the development of training resources and advice; • By September 2017 commission an independent evaluation of the £8.1million investment in maternity safety training to evidence the impact and sustainability of the training and share good practice; • Lead the workforce transformation workstream 5 of the Maternity Transformation Programme; • Model the potential future supply of workforce as part of a stocktake in April 2017, assessing our supply forecasts against demand forecasts from service which should incorporate the new workforce requirements of the new service design; • Commission work to train 200 health professionals in ultra-sound scanning in the third trimester of pregnancy by mid-2018.
<p><i>End of life care</i></p>	<p>Overall 2020 goals:</p> <ul style="list-style-type: none"> • All staff delivering end of life care are appropriately trained, especially in the five priorities for care of the dying person and the Ambitions Framework^{xi} . <p>2017-18 deliverables:</p> <ul style="list-style-type: none"> • Successful implementation of relevant recommendations set out in the Government Response to the Review of Choice in End of Life Care 'Our commitment to you for end of life care'^{xii}; • Continue to work with key partners to ensure that all staff delivering person-centred end of life care are appropriately trained, particularly in the Ambitions Framework and explore the feasibility of developing a freely available communication skills toolkit by March 2018.
<p><i>Sepsis</i></p>	<p>Overall 2020 goals:</p> <ul style="list-style-type: none"> • Healthcare staff are competent in the recognition of, and response to, sepsis <p>2017-18 deliverables:</p> <ul style="list-style-type: none"> • Take forward the relevant recommendations from HEE's scoping study 'Getting it right: The current state of sepsis education and training for healthcare staff across England'^{xiii} by March 2018.

Objective 3: Deliver value for money and reform education and training funding	
<i>Funding reform</i>	<p>Overall 2020 goals:</p> <ul style="list-style-type: none"> • Significant changes in the distribution of the funding for education and training to NHS providers are discussed in advance with the Department of Health and with the relevant group(s) established to consider cross cutting financial issues; • Tariffs for primary care education and training that better reflect the costs and benefits to employers of trainees successfully introduced; • Budget policies are adopted which ensure that resources are distributed transparently, in line with the local distribution of education and training places. <p>2017-18 deliverables:</p> <ul style="list-style-type: none"> • Consult stakeholders on the proposed introduction of new tariff currencies in secondary care, with a view to introducing these currencies in time for the 2018-19 financial year; • Improve the cost and activity data being reported by the hospital sector in the cost collection exercise, enabling this to be used in the annual tariff setting process.
<i>Efficiency</i>	<p>Overall 2020 goals:</p> <ul style="list-style-type: none"> • Support national partners across the health and social care system to improve service efficiencies, taking account of Lord Carter's report^{xiv} on operational productivity in English NHS acute hospitals; • As part of ensuring that trainees are placed in high quality training environments, HEE take account of "Getting it Right First Time" (GIRFT) evidence alongside the evidence developed through its HEE Quality Framework^{xv} and in the context of trainee availability, geographical variation, cost and placement capacity; • NHS staff understand their role in ensuring that overseas visitors are identified and charged appropriately for the NHS healthcare they receive at all stages and levels of education, training and professional development. <p>2017-18 deliverables:</p> <ul style="list-style-type: none"> • By March 2018, where relevant, HEE will take account of the GIRFT evidence alongside its HEE Quality Framework and Dashboard when monitoring and improving the quality of the clinical training environment; • By October 2017, training materials will be revised and developed for NHS staff that support the Overseas Visitor and Migrant Cost Recovery Programme to roll out successfully the extension of charging beyond secondary care in a hospital setting, including non-NHS and community providers of NHS-funded healthcare; • Work supported across the system to develop the knowledge, skills, attitudes and behaviours to enable the cultural change needed to embed cost recovery in NHS trusts.

Objective 4: Prevent ill health and support people to live healthier lives	
<i>Obesity</i>	<p>Overall 2020 goals:</p> <ul style="list-style-type: none"> Reduction in child obesity as part of the Government’s childhood obesity plan. <p>2017-18 deliverables:</p> <ul style="list-style-type: none"> Work with all other signatories of the Making Every Contact Count (MECC) consensus statement,^{xvi} to facilitate the development and implementation of local delivery plans for improving delivery of MECC for obesity.
<i>Antimicrobial Resistance</i>	<p>Overall 2020 goals:</p> <ul style="list-style-type: none"> Improvements in the education and training of healthcare workers to ensure that antimicrobial stewardship and good infection prevention and control practices are embedded across the health and care systems. <p>2017-18 deliverables:</p> <ul style="list-style-type: none"> Work with other stakeholders to identify gaps in educational resources and review prescriber education by March 2018.
<i>Dementia</i>	<p>Overall 2020 goals:</p> <ul style="list-style-type: none"> Support the delivery of the 2020 Dementia Challenge. <p>2017-18 deliverables:</p> <ul style="list-style-type: none"> Ensure that Tier 1 tools and training opportunities on dementia are available to all new and existing NHS staff by the end of 2018; Ensure that more in-depth (Tiers 2 and 3) dementia training is available to NHS expert leaders and staff working with people with dementia across England.
<i>Health, Disability and Employment</i>	<p>Overall 2020 goals:</p> <ul style="list-style-type: none"> Contributing to halving the disability employment gap by 2020. <p>2017-18 deliverables:</p> <ul style="list-style-type: none"> Continue to work with the Department of Health, the Department for Work and Pensions and other key partners to develop and implement appropriate support and training packages to ensure that health professionals in the NHS and public health system have the understanding and skills they need to play their part in supporting people to stay in or return to work so that the disability employment gap is reduced.
<i>Genomics</i>	<p>Overall 2020 goals:</p> <ul style="list-style-type: none"> Embed genomics education at all levels of the current and future workforce. <p>2017-18 deliverables:</p> <ul style="list-style-type: none"> As a key partner of the 100,000 Genomes Project, deliver the final year of the £20m Genomics Education Programme and plan for the transition to business as

	<p>usual;</p> <ul style="list-style-type: none"> • Lead workforce transformation resulting from genomic medicine ensuring alignment to Genetic Laboratory re-procurement, STPs and LWABs and the new Life Sciences Strategy; • Secure sustainable funding for the HEE Masters in Genomic Medicine beyond April 2018.
<p><i>Research and Innovation</i></p>	<p>Overall 2020 goals:</p> <ul style="list-style-type: none"> • Healthcare staff embrace research and innovation. <p>2017-18 deliverables:</p> <ul style="list-style-type: none"> • Play a key partnership role in the design and delivery of place-based systems of care, by promoting a locally influenced and strategically coordinated workforce transformation offer; • Continue to support clinical academic careers for all health professionals, including launching a further cohort of the HEE/National Institute for Health Research integrated clinical academic programme in June 2017.
<p>Objective 5: Build the workforce for the future</p>	
<p><i>Workforce supply</i></p>	<p>Overall 2020 goals:</p> <ul style="list-style-type: none"> • Secure supply chain of students and trainees, with quality clinical placements underpinning excellent education and training; • Successful implementation of the reformed education and training funding system, as set out in the 2015 Spending Review, working with DH and education partners; • Successful expansion of undergraduate medical training by up to 1,500 additional places by 2020; • HEE, working closely with system partners including DH and other ALBs, uses the latest research and evidence to inform long-term workforce strategies. <p>2017-18 deliverables:</p> <ul style="list-style-type: none"> • Lead the commissioning of education and training, where appropriate, for the future workforce based on robust workforce planning, including the publication of the annual Workforce Plan for England, which takes account of the demands of other sectors and equalities duties, and uses clear quality indicators; • Lead the development of future delivery models and funding options that can be aligned with the future clinical placement system for students starting training in August 2017, to ensure the supply of qualified health care professionals continues to meet the needs of the health service This includes working with providers to increase placement capacity to allow 1,500 additional clinical placements in 2017/18 and making plans to continue the expansion into 2018/19 and beyond.

	<ul style="list-style-type: none"> • Work with the Department of Health to review more generally the various funding approaches used for other non-medical education and training, and consider how these can be better aligned with the move of non-medical pre-registration courses to the higher education student support system; • Lead communications, in collaboration with education partners and healthcare providers, to promote a career in the NHS and support recruitment onto healthcare programmes for 2018-19 academic year; • Lead work with health and education sector partners to make available 500 additional undergraduate medical training places for take up in the 2018-19 academic year and work jointly with the Higher Education Funding Council for England (HEFCE) to ensure successful design and appropriate oversight of bidding process for allocation of 1,000 places from 2019-20; • Undertake an assessment of how tax payer investment in medical education can be maximised in the context of recommendations in the Shape of Training review and report back to the Department by March 2018; • Design an innovative and quality focused training pipeline, which embraces delivery priorities at a local level and empowers individual employers to take greater ownership; • HEE, working with HEFCE and DH, will develop a plan to ensure small and specialist healthcare courses continue to attract a sufficient number of applicants for the 2018 academic year to deliver the required number of graduates; • As part of the Department for Education’s Public Sector Returners Programme, HEE will lead a two-year Return to Practice programme for up to 300 former Allied Health Professionals (AHP) and Healthcare Clinical Scientists (HCS). • By March 2018 refresh HEE’s Strategic Framework^{xvii}, agreed with DH and ALBs, to ensure it remains relevant, up-to-date, and consistent with long-term workforce strategy for the system as a whole.
<p><i>Raising the Bar</i></p>	<p>Overall 2020 goals:</p> <ul style="list-style-type: none"> • Establishment of the Nursing Associate role in health and care after widespread piloting and evaluation; • Successful delivery of the recommendations arising from the Shape of Caring report ‘Raising the Bar’^{xviii} and the Shape of Training Review^{xix}. <p>2017-18 deliverables:</p> <ul style="list-style-type: none"> • 1000 Nursing Associates to be recruited into training by April 2017; • Work with the Department for Education, DH and the Nursing and Midwifery Council to deliver the Nursing Associate apprentice standard by September 2017; • Building on the work of the Nursing Associate pilots, HEE will support the establishment of two new cohorts of pilot partnerships to train up to 5000 new Nursing Associates through the apprentice route in 2018 – enabling NHS

	<p>employers to use the apprentice levy for their education and training;</p> <ul style="list-style-type: none"> • Publication of evidence-based guidance on the administration of medicines, including controlled drugs, by Nursing Associates, informed by an expert task and finish group by December 2017; • Scope out the requirements for nurses to reach advanced level practice and beyond within a clear progression pathway so that they can develop their scope of practice in new and creative ways to meet increasingly complex patient needs; • HEE will support the establishment of the Nurse Degree Apprenticeship, including leading design work with stakeholders on enabling career progression from the Nursing Associate role to a Registered Nurse.
<p><i>Developing the workforce</i></p>	<p>Overall 2020 goals:</p> <ul style="list-style-type: none"> • Education and training supports the development of a highly skilled and flexible workforce that meets the needs of service providers; • Lead the health system to transform the workforce and ensure it is available in sufficient numbers and possesses the right skills, values and behaviours to deliver outcomes and support for people with learning disabilities, autism, mental health problems and multiple, and complex needs; • Improved working life/experience of being a doctor in training. <p>2017-18 deliverables:</p> <ul style="list-style-type: none"> • Select appropriate sites and recruit doctors for pilots of improved specialty training programmes that foster supportive apprenticeship-style relationships between junior doctors and consultants within multi-disciplinary teams constituting a 'modern firm'; • Continue to provide the lead in England on the Shape of Training review, including reporting progress and making recommendations to the Department; • Develop new plans with the Royal Colleges and other stakeholders to improve the support for doctors returning to training after maternity leave and approved time out by March 2018; • Develop and, where appropriate, pilot new approaches that identify and remove barriers to flexible training by March 2018; • By March 2018, review the mechanisms by which doctors receive feedback to progress through training, including the Annual Review of Competence Progression (ARCP) to improve the training processes; • Review postgraduate medical training placements and agree principles to underpin programme design that will reduce unnecessary movement of doctors where possible and a timeline for implementing changes by March 2018; • By March 2018, introduce a revised mechanism for recruiting and selecting all pharmacists trainees for pre-registration training places through integration into

	<p>the wider systems applied in medical, dental and healthcare science.</p>
<p><i>Workforce transformation</i></p>	<p>Overall 2020 goals:</p> <ul style="list-style-type: none"> • <i>Ensure the service is supported through practical solutions to build and develop the workforce necessary to deliver Sustainability and Transformation Plans and the Five Year Forward View.</i> • The future workforce better reflects the population it serves <p>2017-18 deliverables:</p> <ul style="list-style-type: none"> • Continue to work with STPs, through LWABs, to identify workforce challenges to meet existing priorities and emerging service models, including further developing HEE's five point transformation to provide practical solutions to workforce challenges; • HEE continue to implement recommendations set out in It Matters.
<p><i>Leadership</i></p>	<p>Overall 2020 goals:</p> <ul style="list-style-type: none"> • The NHS has the right number of leaders with the knowledge, skills, attitudes and behaviours that are required to deliver high quality services, improve health outcomes and continually improve patient care. <p>2017-18 deliverables</p> <ul style="list-style-type: none"> • Continue to deliver a range of inclusive, high quality leadership development programmes for staff working at all levels in the health and care system. These programmes will support staff to gain the skills, knowledge and behaviours required to lead people; • By March 2018, initiate a programme of work to increase the level of aspiration on inclusive leadership, increase the pace of change towards a culture of inclusion and ensure that leaders across health and care are equipped to achieve and leave an ever increasing and sustainable legacy of inclusion; • By March 2018, establish a national talent management programme for the NHS, supported by local and regional talent boards; • Double the size of the annual intake on to the NHS Graduate Management Training Scheme to 200 places for the 2018 intake, and produce a plan to further increase numbers to a truly sustainable level; • Work with leading UK higher education institutions to ensure an appropriate MBA offer, endorsed by the NHS, is available to staff working in the health service from September 2017; • By March 2018, design and implement an accreditation programme to 'kite mark' a diverse range of development opportunities and promote these opportunities to the NHS as part of an expanded, talent management offer from the NHS Leadership Academy ; • By November 2017, open applications for a cohort to the Clinical Leadership Fast

	Track Scheme, delivered in partnership with a world leading university.
Apprenticeships	<p>Overall 2020 goals:</p> <ul style="list-style-type: none"> • A broad menu of NHS apprentice standards are available for NHS employers to use to employ apprentices; • Apprentice standards available to provide a career pathway into the regulated healthcare professions. <p>2017-18 deliverables:</p> <ul style="list-style-type: none"> • Take a strategic approach in embedding the apprenticeship training route into workforce planning in the health and care workforce, including working with NHS England and NHS Improvement to ensure the appropriate links with STPs and inclusion in HEE's own Workforce Plan; • Working with key delivery partners, including NHS England, NHS Improvement and NHS Employers to provide quarterly update reports on progress on the NHS apprenticeship programme to the Workforce Steering Group; • Facilitate support for Trailblazer groups to develop a minimum of 8 new NHS apprenticeship standards for support staff; • Facilitate support for Trailblazer groups to develop 8 new degree and/or higher NHS apprenticeship standards; • Work with the Leadership Academy to encourage up-take of the Leadership and Management apprentice standards in the NHS and report to the Workforce Steering Group by January 2018 on the most effective delivery model for these apprenticeships across the NHS; • Publication and roll out of protocol on quality apprenticeships by December 2017; • Lead on stakeholder management, including HEE Apprenticeship Strategic Oversight Group and Talent for Care Trade Union Sub-Group; • Support NHS organisations in scope of the public sector target to have regard to the target by actively considering apprenticeships, either for new recruits or as part of career development for existing staff; • By March 2018 develop existing database used by NHS trusts to allow analysis of apprenticeship take up of equality target groups and within STP footprints; • Incorporate plans to target particular groups for apprenticeships and monitor take up by these groups (e.g. BAME, older workers, unemployed, those who have completed a traineeship).
Objective 6: Improve services through the use of digital technology, information and transparency	
Digital	<p>Overall 2020 goals:</p> <ul style="list-style-type: none"> • As a key partner of the National Information Board, support successful delivery of

	<p>the vision set out in 'Personalised Health and Care 2020: A framework for action'^{xxx}, in particular to support care professionals to make the best use of data and technology through delivery of the Building a Digital Ready Workforce programme;</p> <ul style="list-style-type: none">• Options explored for the promotion, adoption and spread of technologies and techniques for training and education, in line with the Digital by Default Service Standards^{xxi} and spend controls set out by the Government's Digital Service. <p>2017-18 deliverables:</p> <ul style="list-style-type: none">• Continue to contribute to and lead on particular aspects of delivery of the Building a Digital Ready Workforce (BDRW) programme within the PHC2020 portfolio, notably on the Digital Literacy and Leadership elements of the programme, including influencing and engagement across the healthcare professions and an analysis of the current digital skills gap;• HEE to provide DH Digital Strategy and Technology teams with quarterly progress updates on the development of digital projects across core areas: corporate, careers, learning, training and recruitment;• HEE to support the engagement and leadership programme to implement the National Data Guardian's Data Security Standards when they are published later this year, as a core part of the Personalised Health and Care 2020^{xxxii} programme to improve trust in the use of health and care information.
--	--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------

Annex B - Educational Outcomes

The educational outcomes below support improvements in education and training that have a real impact on the quality of care delivered to patients and service users.

HEE has developed its own indicators to track progress and report on progress annually through the publication of its annual report.

Excellent education

I. Education and training is commissioned and provided to the highest standards, ensuring learners have an excellent experience and that all elements of education and training are delivered in a safe environment for patients, staff and learners.

Competent and capable staff

II. There are sufficient health staff educated and trained, aligned to service and changing care needs, to ensure that people are cared for by staff who are reflective of the changing demography of the population they serve, properly inducted, trained and qualified, who have the required knowledge and skills to do the jobs service needs, whilst working effectively in a team.

Flexible workforce, receptive to research and innovation

III. The workforce is educated to be responsive to changing service models and responsive to innovation and new technologies with knowledge about best practice, research and innovation, that promotes adoption and dissemination of better quality service delivery to reduce variability and poor practice.

Widening participation

IV. Sourcing talent and providing leadership that flourishes free from discrimination with fair opportunities to access careers, progress and fulfil potential, recognising individual as well as group differences, treating people as individuals and placing positive value on diversity in the workforce and where role models are promoted and encouraged. This will include opportunities to progress across the five leadership framework domains.

Volunteering

V. Consult fully on the HEE Volunteering Strategy for the NHS and the options for further progress contained therein. Following the consultation, deliver proposed products to support the recruitment and enhanced experience of volunteers across the NHS. Additionally encourage and support NHS staff themselves, to take advantage of volunteering opportunities within health and social care, and ensure senior clinical and managerial leadership value the vital contribution volunteers make to the service.

NHS values and behaviours

VI. Healthcare staff have the necessary compassion, values and behaviours to provide person centred care and enhance the quality of the patient experience through education, training and regular continuing personal and professional development, that instils respect for patients.

Endnotes

-
- ⁱ Department of Health. The Care Act 2014. <http://www.legislation.gov.uk/ukpga/2014/23> (accessed 7 October 2016)
- ⁱⁱ NHS England. NHS Five Year Forward View <https://www.england.nhs.uk/wp-content/uploads/2014/10/5yfv-web.pdf> (accessed 22 March 2017)
- ⁱⁱⁱ <https://www.hee.nhs.uk/our-work/planning-commissioning/workforce-strategy>
- ^{iv} Department of Health. HEE. Framework Agreement. <http://www.hee.nhs.uk/about-us/how-we-work> (accessed 7 October 2016)
- ^v Department of Health. The NHS Constitution for England <https://www.gov.uk/government/publications/the-nhs-constitution-for-england/the-nhs-constitution-for-england> (accessed 22 March 2017)
- ^{vi} Department of Health. Prime Minister's Office. Prime Minister's Challenge on Dementia 2020. <https://www.gov.uk/government/publications/prime-ministers-challenge-on-dementia-2020> (accessed 7 October 2016)
- ^{vii} General Practice Forward View (accessed 7 October 2016) <https://www.england.nhs.uk/wp-content/uploads/2016/04/gpfv.pdf>
- ^{viii} HEE. The Future of Primary Care: Creating Teams for Tomorrow. <http://www.hee.nhs.uk/our-work/hospitals-primary-community-care/primary-community-care/primary-care-workforce-commission> (accessed 7 October 2016)
- ^{ix} NHS England, Local Government Association, Association of Directors of Adult Social Services. Building the Right Support. <https://www.england.nhs.uk/wp-content/uploads/2015/10/ld-nat-imp-plan-oct15.pdf> (Accessed 22 March 2017)
- ^x Independent Cancer Taskforce. Achieving World Class Cancer Outcomes: a strategy for England 2015 - 2020. http://www.cancerresearchuk.org/sites/default/files/achieving_world-class_cancer_outcomes_-_a_strategy_for_england_2015-2020.pdf (accessed 7 October 2016)
- ^{xi} National Palliative and End of Life Care Partnership. Ambitions for Palliative and End of Life Care: A national framework for local action 2015-2020. <http://endoflifecareambitions.org.uk/wp-content/uploads/2015/09/Ambitions-for-Palliative-and-End-of-Life-Care.pdf> (accessed 6 February 2017)
- ^{xii} Department of Health. Our Commitment to you for end of life care: The Government Response to the Review of Choice in End of Life Care. https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/536326/choice-response.pdf (accessed 6 February 2017)
- ^{xiii} HEE. Getting it Right: The current state of sepsis education and training for healthcare staff across England. https://www.hee.nhs.uk/sites/default/files/documents/Getting%20it%20right%20The%20current%20state%20of%20sepsis%20education%20and%20training%20for%20healthcare%20staff%20across%20England%20-%20full%20report_0.pdf (accessed 22 March 2017)
- ^{xiv} Department of Health. Operational productivity and performance in English NHS acute hospitals: Unwarranted variations. <https://www.gov.uk/government/publications/productivity-in-nhs-hospitals> (accessed 7 October 2016)
- ^{xv} HEE. HEE Quality Framework 2016/17. https://hee.nhs.uk/sites/default/files/documents/HEE_J000584_QualityFramework_FINAL_WEB.pdf (accessed 22 March 2017)
- ^{xvi} PHE, NHS England and HEE. Making Every Contact Count (MECC): Consensus statement. https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/515949/Making_Every_Contact_Count_Consensus_Statement.pdf (accessed 22 March 2017)
- ^{xvii} HEE. Framework 15: Health Education England Strategic Framework 2014-2029. <https://hee.nhs.uk/sites/default/files/documents/HEE%20Strategic%20Framework%20%202015%20Refresh%20Final%20document.pdf> (accessed 22 March 2017)
- ^{xviii} HEE. Raising the Bar, Shape of Caring: A review of the future education and training of Registered Nurses and care assistants. https://www.hee.nhs.uk/sites/default/files/documents/2348-Shape-of-caring-review-FINAL_0.pdf (accessed 22 March 2017)
- ^{xix} Independent Review led by Professor David Greenaway. Shape of Training: Securing the future of excellent patient care. http://www.shapeoftraining.co.uk/static/documents/content/Shape_of_training_FINAL_Report.pdf 53977887.pdf (accessed 22 March 2017)
- ^{xx} National Information Board. Personalised Health and Care 2020: a framework for action. https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/384650/NIB_Report.pdf (accessed 22 March 2017)

^{xxi} HMG. Digital by Default Service Standard.

<http://webarchive.nationalarchives.gov.uk/20160609173223/https://gov.uk/service-manual/digital-by-default>
(accessed 22 March 2017)

^{xxii} National Information Board. Personalised Health and Care 2020: Using data and technology to transform outcomes for patients and citizens, a framework for action.

https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/384650/NIB_Report.pdf (accessed 22 March 2017)