

# The Future Doctor Programme

A co-created vision for the future clinical team





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Over the last four years, Health Education England has led a collaborative effort, on behalf of patients, the profession and the NHS, to co-create reforms across medical education and training.

Our work to this point has made significant strides in liberalising training; creating greater flexibility in how doctors work and train to enable more varied and fulfilling careers; ensuring consistent and supportive assessment and progression; providing greater support to doctors in the transition into and through the early stages of their careers; and more recently, working with the health and care system and national Educational Bodies to better align the choices doctors make in training to the health needs of the populations they service.

We have seen how quickly and effectively the medical profession can change in response to the coronavirus pandemic where re-deployment, generalist clinical skills and new clinical teams were central to the service meeting the challenge.

Improving the quality of medical education and training has always been our central thread, illustrated through the publication of our annual *Enhancing Junior Doctors Working Lives* report, to ensure that we train and retain more doctors equipped with the skills that the future NHS needs.

I have been impressed by how our stakeholders and partners, with us, have been prepared to think differently, challenge the current construct of medical education and training, and consider a new future, from medical school through postgraduate training and beyond, which will greatly benefit patients and the health and care system.

The Future Doctor sets us a collective challenge to make a fundamental shift in medical education from a system that places disproportionate value on specialism to one that recognises crucial value in a generalist training; that better equips doctors in the management of complex care, co-morbidities, and provides a deep connection and understanding of the communities doctors serve; and instils strong professionalism from the start of medical education and training.

For some, it will not go far enough or fast enough, and for others, it will feel like too much too soon. However, with the learning from the changes made during the pandemic, this gives the profession, the public and the NHS a starting point.

The Future Doctor co-created vision is the culmination of significant work and system-wide engagement. It sets a clear direction for the next phase of our reforms. For this vision to be realised, we must now work together to bring fundamental change in how doctors train now and in the future, and establish a supportive culture within the system that values its workforce.

I want to thank all those involved and, in particular, Professor Sheona McLeod, Sam Illingworth and Tahreema Matin, who have listened, reflected and got us all to this point in the reform journey.

A handwritten signature in black ink, appearing to read 'Wendy Reid'.

**Professor Wendy Reid**  
Acting CEO Health Education England



HEE launched the Future Doctor Programme last year, linked to work on the NHS People Plan, to inform and galvanise change in medical education and training to achieve the vision for future healthcare as set out in the NHS Long Term Plan.

The recent urgent actions that we have collectively needed to take across the NHS to respond to the COVID-19 pandemic have reinforced many of the themes and findings we heard during our Future Doctor engagement. It has also highlighted that the pace and scale of change can alter when patient care is at stake. Ensuring our Future Doctors are valued, fully supported and equipped to deliver high-quality 21st century care in response to the demands of a complex, ever-changing healthcare system has never been more relevant than now.

As we publish this Future Doctor report, I would like to thank all those who have contributed to this collaborative piece of work. It has been rewarding to be part of the innovative thinking that the programme has stimulated and to see how all involved have challenged current assumptions about doctors, their education and training. Stakeholders and partners provided perspectives from medicine and other healthcare professions, service providers, regulators, charities, patients and carers.

The future of healthcare is unknown, and change is inevitable. This report makes it clear that Future Doctors and other multi-professional team members need to be able to adapt to a constantly changing future healthcare environment.

The report provides a definition of the unique characteristics of Future Doctors within future clinical teams, alongside eight key themes to help us to prioritise the reform of medical education and training.

Right from the beginning of the Future Doctor Programme, we heard the patient must remain firmly front and centre and will always be the most important member of the future clinical team. The changing patient-doctor relationship will require Future Doctors to embrace supported shared decision making but ensure the core aspects of care-giving – humanity, compassion, face-to-face contact and human touch – are never allowed to be diminished.

Our stakeholders and partners were clear about an expectation for Future Doctors to have both ‘extensivist’ and ‘generalist’ skills. An extensivist/generalist must have a greater breadth of practice across disciplines/specialties as well as a strong bedrock of generalist clinical skills to deliver complex, comprehensive care across different healthcare environments. The recent learning from how health and care has responded to the COVID-19 pandemic has illustrated a requirement for the Future Doctor to be able to adapt to different patient groups and clinical environments to meet the needs of those in their care.

We heard that Future Doctors would need to adopt a value-based and population health approach to the delivery of future care. This will necessitate a place-based approach to education and training, with Future Doctors needing to develop a sense of community responsibility early on in their career. By working across organisational boundaries, Doctors trained in this way will use resources optimally to improve the physical, mental and social wellbeing of the populations they serve.

We heard that flexibility in training and working was essential for retaining a motivated workforce and that the flexibility reforms from *Enhancing Junior Doctors’ Working Lives* must proceed at pace. We also heard that doctors’ aspirations for stimulating and rewarding lifelong careers aligned with the service’s vision: flexible medical careers that enable adaption to changing population needs.

The co-created vision for the role of Future Doctors in the future clinical team, as presented in this report, has been made possible by the enthusiasm of stakeholders across the system. I would like to thank everyone, including patients, NHS bodies across the UK, education providers and employers, professional and regulatory bodies, current doctors and students, plus the many other healthcare professionals whose feedback has directly shaped this work. This spirit of collaboration will enable us to drive reform to ensure the workforce is fit for, and enthusiastic about, the future. I would also like to thank Tahreema Matin for helping me to lead this work and co-author this report.

**Professor Sheona MacLeod**

Acting Director of Education and Quality & Executive Medical Director

The Future Doctor Programme provides a clear view of what the NHS, patients and the public require from future doctors within a transformed multi-professional team. This co-created vision for the future has also identified much of what is required to respond to the projected demands and needs of the workforce in the future.

There are many future challenges that will impact on the role of the doctor. For example, different patient expectations of the patient-doctor relationship and technological developments, such as artificial intelligence and genomics, will radically change healthcare delivery models. It is clear from our programme that an evolved undergraduate and postgraduate medical training system will be required to deliver this future.

The Future Doctor programme employed robust and novel methodology to achieve widespread engagement across the system and harness the expertise of our stakeholders and partners. This included regional feedback, a formal call for evidence, future scenario development, national stakeholder events and focus groups. This final Future Doctor report details the co-created vision; the unique behaviours and skills of future doctors and the key overarching themes relating to their role within the future clinical team. This vision is informing reform priorities for medical education and training, building on successful changes already implemented through HEE's Medical Education Reform Programme.

The **Future** came sooner than we thought:

One of the comments from those responding to our engagement believed that, despite the need for change, our aspirations for reform within a few years would fail without some significant event:

*"A geopolitical crisis, major global recession or cataclysmic pandemic will be the most likely driver of change. With all the will in the world, without a step-change in the money and power available, current planned changes in how health and social care in the UK will be delivered will be at best partial."*

The following key emergent themes of the Future Doctor Programme will help us to prioritise the next stage of medical education reform: -

1

### Patient-Doctor Partnership

Doctors in the future clinical team have the patient firmly front and centre to promote supported shared-decision making and enable patients to make the best use of available care and support.

2

### The Extensivist and Generalist

Future Doctors will have confidence in a greater breadth of practice across disciplines and specialties due to a strong base of generalist skills, which will enable them to deliver complex, comprehensive care managing co-morbidities in changing healthcare environments.

3

### Leadership, Followership and Team Working

Future Doctors will demonstrate compassionate and collaborative leadership and effective teamworking.

4

### The Transformed Multi-professional Team

Future Doctors will espouse and promote a culture where each member of the multi-professional team is acknowledged, respected, valued and empowered to accept shared responsibility. Doctors will promote other healthcare roles to patients and the public.

### 5 Population Health and Sustainable Healthcare

Future Doctors will learn, while embedded in their local community, to better understand population needs and use resources optimally to improve the physical, mental and social wellbeing of the whole population. They will embrace a culture of stewardship and a sense of community responsibility.

### 6 Adoption of Technology

Technology will be employed by Future Doctors as an enabler for change in clinical care and in education (e.g. remote supervision and care delivery and AI augmenting clinical decision making).

### 7 Work-life Balance and Flexibility Throughout a Career

Future Doctors will have flexibility in training and working, with access to portfolio careers and lifelong learning opportunities for changing careers.

### 8 Driving Research and Innovation

Every Future Doctor will be a scholar and will support patients to make informed choices around engaging in research. Future clinical academics will be local leaders in co-ordinating local, regional and national research and innovation.

These themes have never been more pertinent than in the context of the current COVID-19 pandemic. The need for a flexible, engaged, empowered and motivated medical workforce has been illustrated through the healthcare system response to COVID-19. We have an opportunity to realise the potential of the system wide collaborations and rapid health and care responsiveness in the context of COVID-19 to take decisive action to deliver positive reform that will enable us to meet the needs of a rapidly changing health and care system.

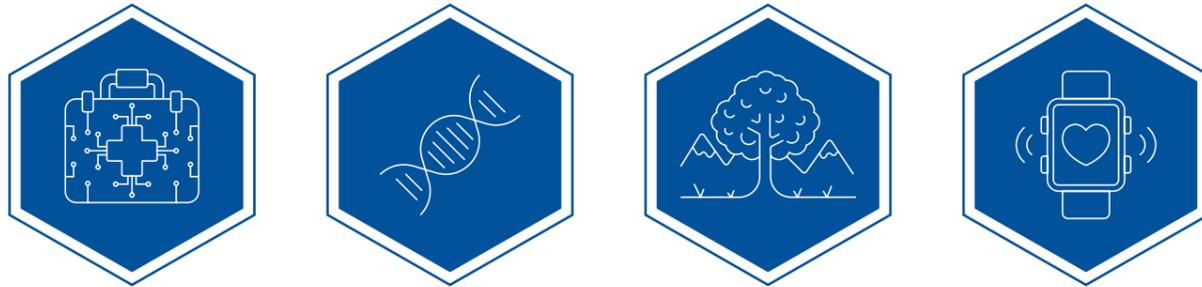
### How the Future Doctor was Co-created

HEE engaged all sectors across health and care as well as interested external experts and patients. To compile, collate and create this co-created vision, data was derived from four key areas, supplemented by novel methodology using future scenario development.

- **Regional Feedback** – Acknowledging regional differences and demands, feedback from service leadership across England was sought.
- **Literature Review** – A formal literature review establishing the evidence base to inform the emergent themes relating to the future clinical team was carried out. This included a broad range of scientific papers, medical reports and consultations. The *NHS Long Term Plan*, *The Interim People Plan* and technology projections (courtesy of the *TOPOL Review*) also guided subsequent discussions.
- **Call for Evidence** – In August 2019, the [Call for Evidence](#) captured expert views of patient and service representatives from across the healthcare sector, including the perspectives of regulatory bodies, clinical professionals and professional membership bodies.
- **National Conversations** – The iteratively developed co-created vision was tested and refined with a broad range of stakeholders through a series of national events, scenario planning workshops, and subsequent focus groups to seek expert opinions on the implications of the emerging vision for the future and resultant reform of medical education and training.

## Methodology

The use of Scenarios provided a framework for discussions about the future, based on credible, plausible and challenging intelligence to illustrate what life might be like for patients and doctors working and living in a range of possible future environments.



For further information, please refer to our supporting document, which outlines each scenario used to support and inform the Future Doctor Programme.

General themes emerged with each scenario and the relative importance of the impact these might have on healthcare education and training policy and strategy were refined during the course of the engagement through a process of 'wind tunnelling'.

Defining the unique characteristics of future doctors enables further exploration of their profession identity and working relationships with patients, carers, colleagues and multi-professional team members, looking to 2030 and beyond.

The outcomes of this programme are defined as:

- The unique characteristics of Future Doctors within future clinical teams.
- Eight key themes of priorities for the next phase of evolution and reform in medical education and training.

## 4 What are the Unique Characteristics of Future Doctors?

Metaphors for Future Doctors can help describe the collective view we heard of the unique characteristics of Future Doctors.



### Applied Wisdom



Applied wisdom is the ability of doctors (current and future) to use their **intellect, training and experience to make complex clinical judgements**. The Future Doctor will be expected to retain both the science and art of practising medicine, supported by technology, a broad knowledge base, significant clinical experience, technical skills proficiency and **wisdom**.

Advanced technology, for example clinical decision-aid tools and algorithms, may streamline, facilitate and supplement Future Doctors' skills. However, the consensus view was that this could not substitute for Future Doctors, and that the unique skill of doctors being **independent thinkers** and able to step outside of guidelines and protocols safely and confidently is critical for future healthcare delivery.

## What are the Unique Characteristics of Future Doctors?



### The Patient Advocate



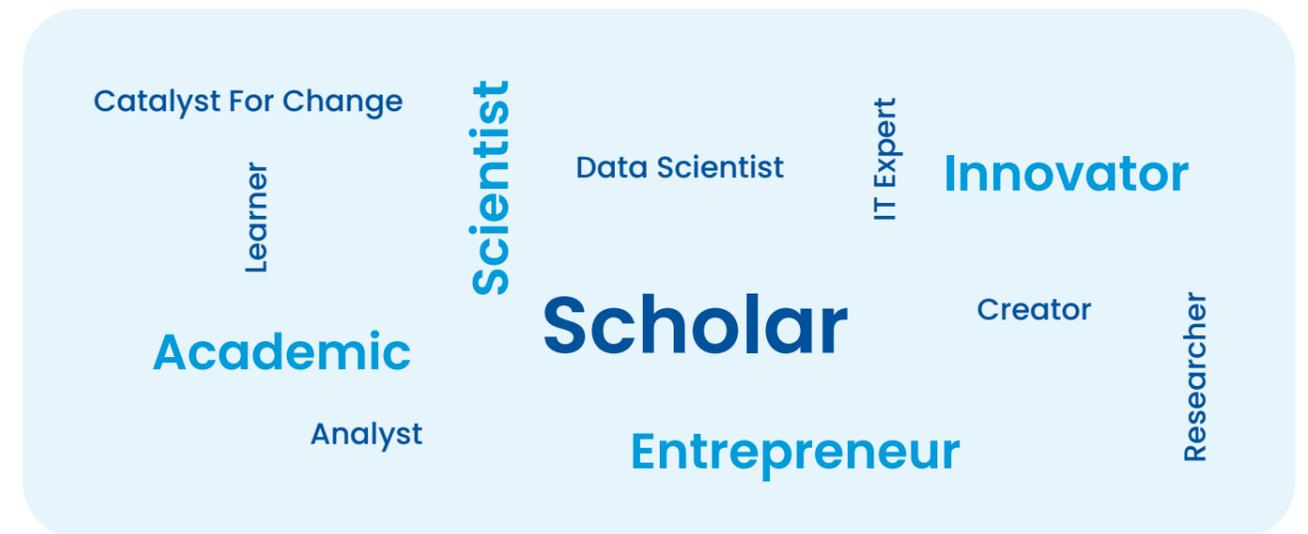
Patients and the public value interpersonal relations and technical skill in their doctor, as well as humaneness, competence, being listened to, being provided honest information about their illness and treatment options with sufficient consultation time and involvement in the decisions about their care.<sup>(1-3)</sup>

The Future Doctor will ensure they foster a rapport and partnership with their patients based on individual preference, supporting shared-decision making, promoting health and preventing illness with a **person-centred, personalised approach**.

## What are the Unique Characteristics of Future Doctors?



### The Academic Through Clinical Training



Doctors are highly educated, training for longer than other healthcare professional. Future Doctors will be trained to access and critically appraise the vastly changing and growing amount of knowledge required to perform their role and promote evidence-based medicine. By harnessing the skills of effective lifelong learning; being agile, adaptable and open to change; focusing on promoting research and innovation; and using their influence to promote improvement, the Future Doctor will be a **catalyst for change**.

Future Doctors will be trained to access and critically appraise the vast changing and growing amount of knowledge required to perform their role and promote evidence-based medicine.

## What are the Unique Characteristics of Future Doctors?



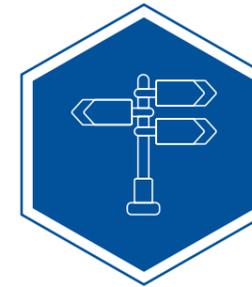
### The Extensivist and Generalist



Future Doctors will also have a **deep and nuanced understanding of the healthcare needs and priorities of the populations they serve**. This, coupled with a **robust knowledge about the wider healthcare system**, will enable Future Doctors to work collaboratively with other healthcare professionals and disciplines to implement innovative ways to improve the quality of healthcare service delivered.

Future Doctors will enable their patients and the communities they serve to foster a culture of innovation and develop bespoke health improvements. They will be able to understand the needs of individuals and populations and have a broad range of generalist clinical skills that are applicable across different specialties and healthcare environments.

## What are the Unique Characteristics of Future Doctors?



### The Ability to Hold Uncertainty and Evaluate Risk



Doctors are able to make valued judgements and hold on to uncertainty. They evaluate risk and often act as the final decision-maker. Being accountable and taking responsibility for themselves, the patient, junior colleagues and wider multi-professional team members is a fundamental skill of all doctors.

With an increasingly complex healthcare system in a changing environment, Future Doctors will be experts in **managing uncertainty and ambiguity and evaluating risks and benefits to patients and populations**. Future Doctors will need to support others in developing and using these skills as the expertise in the multi-professional team develops.

## What are the Unique Characteristics of Future Doctors?



### The Leader



The Future Doctor will demonstrate respect and understanding for other multi-professional team members and **be fluent in leading, and following, as effective team players.**

They will be strong advocates for the multi-professional team and support others to lead, depending on the clinical context and environment, to ensure optimal patient outcomes.

## What are the Unique Characteristics of Future Doctors?



### The Translator of Knowledge



The Future Doctor will be an **expert communicator**, able to transfer knowledge and increase the understanding of patients and their carers, other healthcare professionals, communities and external groups involved in health and care.

By listening to patients, understanding their preferences and involving them in decisions about their care, a more patient-centred approach to clinical consultations will promote improved patient satisfaction<sup>(4)</sup>. The need to help guide patients through complex healthcare systems will become increasingly important as a shift from reactive to preventative medicine occurs in the future.

The Future Doctor will also support learning and inspire the next generation of clinicians as educators **for all healthcare professionals** in a multi-disciplinary educational team with sufficient resource to fulfil these supervisory, mentorship and support roles. They will maintain their own health and wellbeing and ensure this is a priority for the healthcare workforce.

There are eight key overarching themes relating to the role of the Future Doctor that have emerged from our engagement and co-creation.



## Patient-Doctor Partnership

The vision for the future clinical team has the **patient firmly front and centre**. We heard that to think and work in a way that ensures the patient's perspective is central, doctors will need to be experts in the following:

### Relationships and Communication

The core skills and behaviours that we heard emphasised that patients and the public will expect echo those most highly rated within the literature<sup>(5)</sup>:

- **Humaneness, compassion**
- **Competence, accuracy, safety**
- **Patient involvement in decisions**
- **Time for care<sup>(6)</sup>**
- **Ability to signpost appropriately** through understanding of how their local health and care system works.

**Interpersonal skills** are based on trust and require a combination of honesty, openness, responsiveness and having the patients' best interests at heart.<sup>(7)</sup>

## Overarching Themes

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**Expert communication skills** with patients, their families and colleagues will remain fundamental for Future Doctors. Effective communication has been demonstrated to positively influence patient behaviour and reduce the risk of medical negligence claims.<sup>(8)</sup> However, skills such as motivational interviewing will become increasingly relevant as healthcare moves towards promoting healthy living and disease prevention.

Patient satisfaction is strongly associated with the provision of information and opportunities for **participation in healthcare decision-making**,<sup>(1)</sup> and **patients increasingly expect to participate in decisions about their care**.<sup>(9,10)</sup> The Future Doctor will therefore require communication skills with a greater focus on supporting prevention, shared decision making and shared responsibility. As digital consultations and online healthcare environments become more prevalent, learning for excellent digital communication skills will also be imperative.

The future patient–doctor relationship will require doctors to understand local systems and available support; for example, services provided by third sector organisations. This will enable Future Doctors to signpost patients, carers, colleagues and healthcare partners appropriately.<sup>(11)</sup>

While **timely access to healthcare** close to home was a patient priority, this view was balanced by maintaining patient safety as paramount and doctors paying attention to their own wellbeing to be able to provide the best care.

### Patient Empowerment

Increased access to information online and health/lifestyle data collected from smart devices and apps mean patients are able to research their conditions and engage in treatment plans more than ever before. Future Doctors will have an important role in helping patients filter this information, **eliminate potential “fake news”** and know which information sources may be trusted as recommended in [The Topol Review; Preparing the healthcare workforce to deliver the digital future](#).

Future Doctors will promote increased patient and public awareness about the role of other multi-professional team members. They will be **advocates for the future clinical team**, helping patients access the most appropriate professional by increasing understanding about the care other multi-professional team members are competent and better placed to deliver.

## Overarching Themes

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We heard that patients want Future Doctors to **empower patients to manage their own health and wellbeing according to individual preferences and capabilities**. However, this must not place undue burden on the patient. Future Doctors will need to be sensitive to the needs of diverse populations within different communities and cultural contexts and embrace their responsibility to **reduce health inequalities** by working flexibly with different patient populations. The Future Doctor will therefore require training in cultural awareness and to develop an understanding of local health population and cultures.

### Patient Advocacy

Patients want doctors to act as **patient advocates** and help them navigate the increasingly complex healthcare system, promoting **supported or shared responsibility**, as described by the [King's Fund](#). Doctors need to be able to share **knowledge about health and disease** and complex health and social care pathways with patients, their families and carers.

### Patient-centred and Personalised Care

Future Doctors need understanding of the therapeutic power of the patient–doctor partnership and to be fluent in providing empathy, support and reassurance with honest information about patients' conditions, options for treatment, the risks and potential harms of medical interventions, while listening carefully to concerns and personal preferences.<sup>(12)</sup> **Shared decision making** and a **consistent patient-centred approach** will improve patient satisfaction,<sup>(4)</sup> as the application of genomics, digital medicine and artificial intelligence enables more personalised care.

We heard that, as medicine and science advances humaneness, **compassion, face-to-face contact and the human touch will remain vital to the future patient–doctor partnership**. A new culture of Doctor wellbeing must be fostered to enable the delivery of compassionate, high-quality patient care.

Future Doctors must recognise the complexity and vulnerability of their patients and strive to use advances to treat disease, relieve suffering and promote health with human honesty and compassion.

## Overarching Themes

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### Lessons Learnt from COVID-19:

- The rapid adoption of online and telephone consultations during COVID-19 is likely to result in an acceleration in the virtual delivery of many services in primary care and out-patient secondary care. The Future Doctor will be proficient in assessing and communicating with patients and families using new technologies, while ensuring there is time for patients when care in person is required.
- COVID-19 created an environment that broke down healthcare system barriers and encouraged cross-sector team-based thinking, framed around the needs of individual patients. The ability to navigate the local healthcare landscape and work in collaboration, highlighted in the Future Doctor work, was crucial for our clinicians.
- COVID-19 has shone a light on inequalities in the ability to access healthcare for some patient groups. Expertise in new and emerging remote care delivery models supported 'hard to reach' patient groups, such as rural and shielding patients. This demonstrated the potential for addressing some inequalities by improving the ways patients can access care. The Future Doctor will be cognisant of the needs of different patients in care delivery.
- COVID-19 reinvigorated concerted efforts to focus on staff wellbeing in order to enable compassionate, high-quality care. This encouraged all staff to take greater ownership of their own and their colleagues' wellbeing. Trusts provided significant, locally available support. This included local peer support, such as *WARD*, which was widely accessed, showing the value of peer support and the importance of team approaches to wellbeing.

## Overarching Themes

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### How Must Education and Training Adapt?

- Greater focus on supporting meaningful prevention, shared decision making and shared responsibility as a core part of communication skills teaching
- Accelerating and embedding learning for excellence in digital communication skills
- Learning grounded in understanding the needs of communities within local systems, which should start at medical school, enabling the appreciation of support available, including community and third sector assets
- Training doctors to have an understanding of local health population and cultures
- Embracing a culture of doctor and team wellbeing as central components of compassionate, high-quality patient care



### The Extensivist and the Generalist

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In a context of increasing multimorbidity across communities, we heard clearly that Future Doctors must have a strong bedrock of generalist skills, which can be transferred and extended over the course of a career.

Access to generalists in primary and secondary care will prevent patients from seeing multiple specialists, which costs patient time and risks fragmented care, duplication and waste.<sup>(13)</sup> All Future Doctors will therefore need broader training, focused on the management of multimorbidity.

Changing medical and social perspectives will value holistic rather than disease-centred medicine, prompting a shift towards health promotion and social accountability, underpinned by a broad generalist knowledge base.<sup>(14)</sup> Medical education and training will require a greater focus on holistic care, with the promotion of health and social accountability.

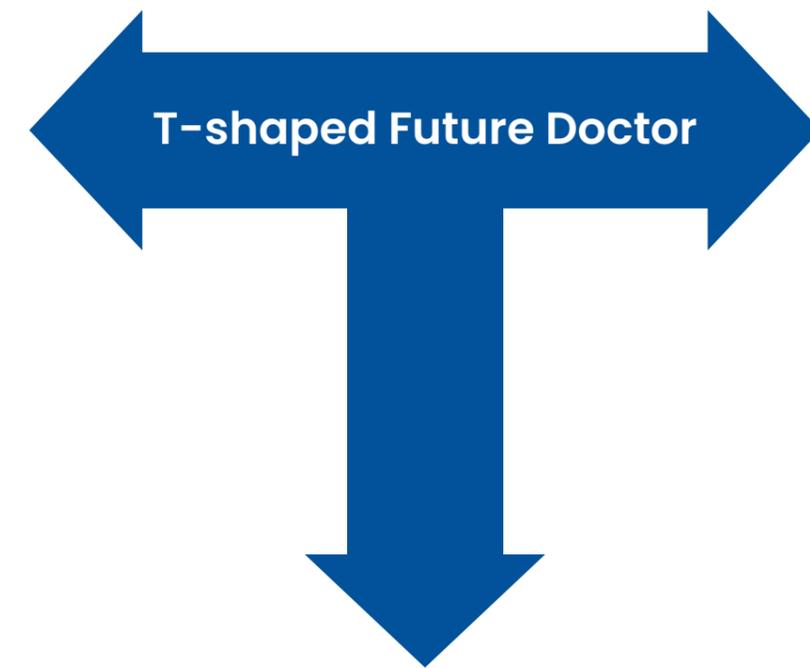
Generalists working in any area of medicine have professional knowledge, skills and experience, enabling them to manage patients with complex co-morbidity.

Augmenting specialist learning by developing these skills will provide Future Doctors with the confidence to manage complex care throughout their postgraduate training and medical careers.

While Future Doctors will still be required to develop specialist skills and expertise, this may be considered within the T-shaped employee model well established in industry.

Future Doctors will have a broad range of generalist skills across many disciplines (the horizontal part of the T) with the capacity to adapt and develop deep expertise in different areas across their career (the vertical part of the T).

### Broad Range of Generalist Skills and Cross Discipline Competence



Deep Expertise

### Lessons Learnt from COVID-19:

- The pandemic highlighted the importance of managing multimorbidity. Doctors needed to see the “person” not the “diseases” to take tough interventional decisions, considering how comorbidity influences personal, social and health risks. This occurred both in hospitals and the community.
- There is a greater appreciation amongst doctors and the public of the impact that social factors, such as isolation as a result of lockdown, can have on mental and physical wellbeing and of the wider health risks associated with multimorbidity, disability and frailty.
- Redeployment of doctors provided development opportunities, with trainees being rapidly upskilled in acute and emergency procedures. Many trainees were able to demonstrate their transferable skills; however, many experienced anxieties about their capabilities in being redeployed. A deeper generalist training, with more regular opportunities to maintain these skills, could help prevent this in the future.
- A rapid increase in respiratory and critical care skills was required to meet patient needs. This supported the Future Doctor findings that postgraduate training should provide more opportunities to gain additional competencies in different specialties, particularly those grounded in generalist expertise.
- COVID-19 has given many doctors a greater understanding of working in emergency settings, of rapid upskilling for new environments, and of infection control and personal protection. This learning needs to be maintained to enable the NHS to resume core services across reconfigured community and secondary care settings while managing the ongoing persistent challenge of COVID-19.

### How Must Education and Training Adapt?

- A fundamental shift in training to enable a broad focus on managing multimorbidity for all Future Doctors
- Enhance the generalist skills and competencies of all doctors that are crucial in developing confident and adaptable doctors, with the significant value of these skills needing to be acknowledged, recognised and valued
- A significantly greater focus on providing holistic care, including the promotion of health and social accountability



### Leadership

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#### Leadership and Followership

We heard that **leadership values and behaviours will be core attributes of Future Doctors** as medical leadership improves the quality of care, patient safety, provision of cost-efficient care and organisational performance.<sup>(15-18)</sup> A key theme emphasised by many was the need to clearly define what both good leadership and followership means for each member of the multi-professional team in the NHS.

All Future Doctors will need to learn about **team working and followership**, a concept that acknowledges the importance of participation and allowing others to lead as complementary skills to leadership.<sup>(18,19)</sup> Lord Darzi's reviews<sup>(20,21)</sup> and the *NHS Long Term Plan* highlight that great quality care needs great leadership, as well as a culture of compassion, inclusion and collaboration across the NHS.

Patient-centred care requires an in-depth understanding of team working, including flexible leadership across professional boundaries, dependent on the individual patient and clinical situation. Future Doctors need to learn about leadership, followership and effective team working, embracing **collaborative and compassionate** leadership to enable health and care colleagues to do more for patients. They must have a comprehensive understanding of other health and social care professions and be trained as role models for team working and advocates for other professions, enabling the full contribution of all members of the future clinical team.

#### What Will Make Future Doctors Good Leaders?

Good leadership requires skills including self-awareness; strong communication and interpersonal skills; professionalism and fairness; and the confidence to challenge, question and understand the future clinical team and roles of each multi-professional team member.

This aligns with the core leadership attributes within the literature and medical leadership standards<sup>(22)</sup> and frameworks<sup>(23, 24)</sup>:

#### ● Self-awareness and self-development

- Creating and communicating their vision, setting clear direction
- Awareness of self and others
- Balancing competing interests and priorities and manage themselves effectively; to enhance peer credibility

#### ● Personal resilience, drive and energy

- Possess, voice and enact resilient personal values and beliefs that positively impact the future clinical team and place the patient at the centre of decision-making.

#### ● Team player/Team leader

- Working collaboratively and networking
- Cross-team collaborations

#### ● Corporate responsibility

- Knowledge about funding, organisation, governance and management within the NHS and well-developed systems and organisational culture to encourage performance improvement
- Service re-design and healthcare improvement

#### ● System leadership

- Effective negotiation
- Understand the political, economic, social and technological drivers that influence the healthcare landscape, enabling a macroscopic view on healthcare provision and resource allocation throughout their careers

## Overarching Themes

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### Leadership Training

We heard that Future Doctors should develop an appreciation of leadership, including followership, at an early stage, starting at medical school. Many medical schools have begun this,<sup>(25)</sup> and leadership competencies are included in postgraduate medical training programmes.<sup>(26)</sup> However, ensuring leadership development is given parity with achieving clinical and academic competencies is critical.

#### Lessons Learnt from COVID-19:

- COVID-19 has demonstrated the power of effective leadership and followership. Within a few weeks, our healthcare workforce adapted to new ways of working. Rapid decision-making was enabled by different groups working collaboratively, both within locations and across the globe, to solve shared issues. Fast turnaround teams were able to lead change and were freed from traditional 'command and control' models often seen in times of crises.
- Our workforce demonstrated great flexibility in leading and engaging with these changes. Leadership was not a positional aspect of the doctor, but rather a quality deployed by the most appropriate person in the situation in the interest of patients. Distributed leadership across professional silos, cross-specialty working, shared decision making, and greater shift working across all grades to meet patient needs gave new expanded teams a shared purpose and boosted morale.
- Trainees could see leadership in action, being role modelled across senior clinicians within teams, and should be encouraged to reflect on this. For example, who in the organisation/team did staff identify as leaders? Who did they identify as decision makers? Why? What behaviours were displayed by those who 'led'?

## Overarching Themes

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### How Must Education and Training Adapt?

- Doctors need to learn that followership is a key skill and attribute in leadership and is crucial for effective team working. They should be able to role model this in team working and advocate for other professions in teams, so all can fully contribute.
- An understanding of the skills, attributes and unique expertise of other professions is essential in their development. This should be emphasised throughout their learning, starting in medical school.



### The Future Doctor in a Transformed Multi-professional Team

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#### The Future Clinical Team – Defining the Vision

The future clinical team will be multi-professional and multi-agency, including social care, voluntary and third sectors.

**Acknowledging, respecting and valuing each member of the multi-professional team** will be critical to establishing a future clinical team where each individual retains a **strong sense of professional identity** and each has a **clearly defined role**.

Understanding the unique characteristics of doctors and all healthcare professionals and their shared skills and competencies will enable patient care to be provided by the right person based on knowledge, skills and competencies rather than professional title or role.

There must be more opportunities for Future Doctors to collaborate together with other professions to develop shared competencies and obtain a nuanced understanding of the unique attributes of different professions.

We heard that the future clinical team vision will require **a cultural shift away from professional protectionism**, an understanding and acceptance of others' skills and capabilities, close communication and collaboration across the healthcare professions and collapsing of traditional vertical hierarchies. This aligns with recent work by the [\*Academy of Medical Royal Colleges\*](#).

The **clinician leading and delivering care during different parts of the patient pathway** should be driven by region-specific factors, such as **available workforce capabilities and supply**. Education and training should provide new learning opportunities to develop skills across professions.

### Breaking Down Silos – How can the Future Clinical Team be Realised?

We heard from all stakeholders that doctors need to **develop alongside other healthcare professions**, with professional bodies working more closely together to define the multi-disciplinary skills and values of the future clinical team.

The **'hidden' curriculum**,<sup>(27)</sup> which impacts learner behaviours and attitudes and reinforces professional silos, must be changed by supervisors and mentors championing a collaborative inclusive culture where **healthcare professions are able to speak up and shared responsibility is accepted**. This is currently enabled by multi-professional workplace supervision and the teaching of junior doctors.

We heard that there should be development and recognition of generic competencies across and within healthcare professions. Education reform should also proactively address the hidden curriculum that maintains silo mentality.

#### Empowering New and Extended Roles

Achieving the future clinical team vision in a changing societal and clinical environment will also require the **anticipation of new and emerging roles**, as well as **sufficient time and resource for the supervision and development of these roles**.

Future-proofing new roles and the service transformation associated with them through adequate investment and support across the healthcare system is essential, as is clarifying the scope of practice and the regulation of new healthcare professions. The need for adequate support for Advanced Clinical Practice roles was repeatedly highlighted.

## Overarching Themes

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### Lessons Learnt from COVID-19:

- Clinicians trained and worked together in the expanded COVID-19 team. Multi-professional skills-based training was an immediate response to service need, organised by themes and unbiased by individuals' professional background.
- This occurred in parallel with increased multi-professional leadership, e.g. Advanced Critical Care Practitioners in critical care. During COVID-19, an Advanced Clinical Practitioner was seen as the expert, leading as well as supporting the work of the whole team.
- Hierarchies were flattened, with doctors providing support to senior medical staff from other disciplines and working effectively in teams led by other professionals.
- Morale was improved in these teams, as they valued the vital contribution of all professions.
- The rapid reskilling of clinicians also highlighted that the workforce must be willing to engage with both short-term and long-term skills development.
- The pandemic provoked flexibility in the regulatory system, highlighting how change could enable greater opportunities for team-based and interprofessional learning.

## Overarching Themes

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### How Must Education and Training Adapt?

- There must be more opportunities for professions in teams to develop together to recognise shared competencies and to understand the unique attributes and skills of professional colleagues.
- New learning/training opportunities should be developed to meet the need for skills acquisition across professions, and inter-professional learning should be core from medical school and throughout training and development.
- There should be development and recognition of generic and generalist competencies across and within healthcare professions and proactive action to dissolve the hidden curriculum that maintains silo cultures.



### Population Health and Sustainable Healthcare

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#### Adopting a Population Health Approach

We heard that in the future, doctors will require a much more detailed knowledge of population health. This will enable them to work with health and care teams and communities to deliver healthcare that **optimally uses resources to improve the physical, mental and social wellbeing of the whole population** they serve. Adopting a population health approach will enable the future healthcare team to minimise inequity and reduce health inequalities within and across a defined population. Education and training for Future Doctors must promote population health and stewardship competencies.

We heard that Future Doctors should focus more on reducing the occurrence of ill-health, addressing the wider determinants of health and working collaboratively with communities and partner agencies. The future multi-professional team will consider the whole range of health determinants and wellbeing, including lifestyle behaviours, social circumstances and environmental exposures.

HEE's National Population Health Fellowship for all healthcare professionals was launched in 2020 and aims to develop a workforce who can lead the integration of population health into their working environments. The integration of Big Data and population health management expertise will allow healthcare teams to use data to analyse and inform the interaction with a specific population (e.g. frequent falls).

Understanding population health will enable doctors to participate in regional decisions with regard to the value of care and how best to allocate resources for optimum value and reduced inequality. Future Doctors will need training in a broad diagnostic approach which evaluates population and environmental factors on patient's health and disease. Training must empower doctors to not only treat the individual patient but also to help mitigate these broader determinants.

### Climate Change and Sustainable Healthcare

We heard that there is a need to recognise the health industry's contribution to climate change. Younger doctors and medical students voiced this most strongly, highlighting the different values placed on different elements of a doctor's role by different generations. Sustainable healthcare should provide good quality care while balancing the economic, environmental, and social constraints and demands within health care settings.

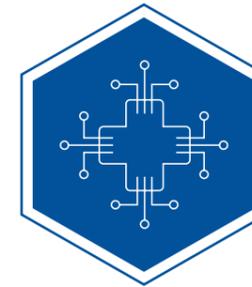
The Future Doctor will need the skills to be confident in **resource stewardship and leadership in managing resources effectively** in partnership with communities and patients. Their education must enable them to apply principles of sustainable healthcare and population health to their medical practice.

#### Lessons Learnt from COVID-19:

- The lockdown has highlighted the benefits that a cleaner atmosphere may have on individual health outcomes and demonstrated how more home working and remote consultation can be adopted rapidly and could benefit climate change.
- COVID-19 has highlighted long-standing health inequalities and their consequences, providing a driver for prioritising population and public health in all healthcare training. The medical workforce must take responsibility for their communities, their local populations as well as individuals, while demonstrating the leadership and flexibility to work within, across, and above organisations.
- The response to the surge in the COVID-19 pandemic highlighted that doctors required confident decision-making skills, as well as the ability to prioritise interventions and manage complex multimorbidity in the context of finite resources.
- The pattern of the pandemic and care required across settings has illustrated opportunities to consider the provision of healthcare education in social care settings and across care pathways with placements for students, foundation doctors and doctors in specialty training (for example, in public health, frailty and geriatric care delivery).

### How Must Education and Training Adapt?

- Education and training must promote population health and stewardship competencies to equip doctors to maximise care outcomes within finite resources.
- Doctors should be trained to have a broad diagnostic approach that evaluates population and environmental factors that can support a patient's health and care management choices, empowering doctors to not only treat the individual patient but also to help mitigate these broader determinants of health.
- Doctors should be equipped with the understanding to apply the principles of sustainable healthcare and population health to their medical practice.



### Adoption of Technology

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#### Building on The Topol Review

Although the integration of technology is not always positively perceived, we heard that most see digital literacy as a basic future educational competence. Digital literacy is a key stand of the *National Information Board's Building a Digital Ready Workforce*. [HEE's digital capability framework](#) has been developed to support the improvement of the digital capabilities of all staff in health and care.

A major role for the future clinical team will be to harness technology ethically and guide patients in its use to optimise patient and population healthcare outcomes and reduce inequalities. There is potential for technology to facilitate collaboration and flatten the hierarchy amongst different professions through sharing of information, expertise and responsibility whilst supporting each profession to use their unique skills.

There was widespread support for adopting the recommendations in *'The Topol Review' Preparing the healthcare workforce to deliver the digital future* to ensure Future Doctors are equipped with an understanding of genomics, artificial intelligence and digital medicine.

The review's three principles support the deployment of digital healthcare technologies throughout the NHS:

- Patients included as partners and informed about health technologies, with a particular focus on vulnerable/marginalised groups to **ensure equitable access**.
- **Development of healthcare workforce expertise and guidance to evaluate new technologies** mirroring the use of evidence to evaluate clinical advances.
- The adoption of new technologies should enable staff to gain more time to care.

## Overarching Themes

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We heard that Future Doctors must take an active role in the development of AI technologies, working with a broader healthcare team to ensure the benefits are maximised and risks minimised.<sup>(28)</sup> It is believed that AI will help standardise many aspects of clinical care, optimise processes, and allow clinical data to better inform practice and outcomes.<sup>(29)</sup> However, there is concern that it will be challenging to ensure this will also reduce the administrative burden and increase clinical time.

There is significant potential to enhance education and training by incorporating technological solutions, such as online learning, assessment and simulation-based training and remote induction, workplace orientation and supervision. Enhanced digital and simulation-led learning for Future Doctors should develop complex problem solving and improve multi-professional team working.

### Lessons Learnt from COVID-19:

- The COVID-19 pandemic accelerated the adoption of digital and technological solutions to delivering healthcare, education and training.
- Training staff working at Nightingale Hospitals have provided the NHS with suites of new educational learning environments and resources, and with insight into the effective and rapid upskilling of individuals across professional boundaries through 'demand relevant' targeted interventions.
- High quality e-learning (HEE's eLH) provided clear benefits and accelerated acceptance of blended learning as a default model for medical education and training.
- Virtual recruitment, assessment and review processes enabled trainees to progress and educators to attend meetings. This presents a solution to recent difficulties in releasing clinical educator time and reducing the travel burden on both trainees and educators. Technology-enhanced training, with central guidance and resources, could become a core vehicle to deliver planned teaching. Although core, this will not replace face-to-face contact, which enables development of key relationships, effective working and learning.

## Overarching Themes

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### How Must Education and Training Adapt?

- Education and training must rapidly incorporate digital and technological solutions effectively; for example, increased online learning, assessment and simulation-based education and training, remote induction, workplace orientation and supervision.
- Enhanced digital and simulation-led learning should be used to support the integration of complex problem solving and improve multi-professional team-working and learning



### Flexibility in Working and Balanced Professional Lives

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The flexible training agenda remains central to HEE's work in [Enhancing Junior Doctor's Working Lives](#). The Future Doctor Programme highlighted the need to extend the pace and scale of these initiatives so that flexibilities can be accelerated and spread.

Greater **flexibility in working patterns** and training pathways were consistently emphasised throughout the Future Doctor Programme as an important expectation for doctors and medical students about their future careers.

Respondents consistently supported a model that enabled doctors to step off the training pathway, pause training, gain other competencies or pursue other interests or responsibilities, and then to restart training and have competencies taken into account.

We heard that the ability to pursue a portfolio career in which healthcare service delivery is integrated with, for example, medical education, academia, entrepreneurship, or digital development would support a life-long medical career and the retention of a diverse, motivated, innovative workforce within the NHS.

Working patterns that promote time to hone craft skills and develop wider clinical practice will both maintain interest and allow career pathways that can adapt to change and respond to patient and population needs. Education and training for Future Doctors should meet the expectations of a flexible medical career, as this is vital to enabling adaptive change and retaining the medical workforce.

### Lifelong Career Framework

Flexibility is needed, not just for doctors in training, but also for consultants and GPs wanting to maintain interest and enthusiasm throughout long and challenging careers. The principles of flexible working, portfolio careers and opportunities to train and adapt working practices need to be embedded across healthcare to sustain a future medical workforce.

We explored the entire career span of doctors from undergraduate to healthy retirement. Many doctors emphasised concern about the recognition of **the needs of mature or ageing doctors** who are towards the end of their career and the need to adapt working patterns and support them to **enable retention of these highly experienced individuals**.

### Supportive Culture

We heard repeatedly that establishing a **supportive culture and safe system for the future clinical team** to work in is critical to sustaining a healthy and happy healthcare workforce,<sup>(30,31)</sup> as highlighted by HEE's [NHS Staff and Learners' Mental Wellbeing Commission](#).<sup>(30,31)</sup> The patient voice reinforced this by saying that patients expect doctors to attend to their own wellbeing, so that they maintain the resilience to manage a challenging career and be fully able to provide individualised, compassionate and high-quality care. Much greater attention to trainee wellbeing is required in the management of education and training for Future Doctors.

### Lessons Learnt from COVID-19:

- Workforce wellbeing was recognised as a risk early on in the pandemic, and the NHS responded by maintaining a focus on support, providing resources for developing resilience in high-pressure settings, and providing more basic welfare support such as rest spaces. This was also built into trusts' surge planning for intensive care services. Consideration of junior doctors' wellbeing needs must continue and be incorporated into the planning for the restart, recovery and any reconfiguration of services.
- COVID-19 has highlighted the benefits of allowing doctors to build portfolio careers, enabling transferable skills and capabilities, delivering a broader clinical pool of expertise for emergency or pandemic situations. To enable portfolio careers, individual development and service response should not be constrained by defined curriculum requirements.
- The NHS assessed the COVID-19 risk to staff and adapted job plans to reduce patient contact, demonstrating the ability to deploy staff flexibly to support the needs of individuals, while maintaining high-quality care.
- Retired doctors were ready to return to practice in remote clinical or non-clinical education roles during COVID-19, while some senior staff in high-risk groups were required to shield. This highlighted the potential for doctors to contribute to education in the later stage of their careers, when front line care may no longer be feasible or desirable.

### How Must Education and Training Adapt?

- The flexibilities being introduced through the enhancing junior doctors working lives need to be accelerated and adopted fully across the NHS.
- Meeting the expectations of a flexible medical career is vital to enabling adaptive change and to retaining the medical workforce, including valuing the expertise of senior doctors in educational activities.
- There must be greater attention to trainee wellbeing in the management of education and training.



### Future Doctors Driving Research and Innovation

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#### Every Doctor a Scientist and Scholar

We heard that doctors' involvement in and promotion of research and innovation is essential to enable excellent standards of patient care. Research and innovation have enormous benefits for patients and the public, from better prevention of ill-health and earlier diagnosis to more effective treatments. More research orientated settings are more likely to demonstrate high-quality care and better patient outcomes.<sup>(32)</sup>

We heard that scholarship and scientific skills are seen as essential throughout doctors' careers. The ability of Future Doctors to be able to **weigh up the scientific evidence relevant to their patients' condition and recommend the best treatment** will remain critical.

However, we heard that the principles of natural and social sciences should be applied to clinical practice more consistently, and that doctors should promote research and **advise patients on new research** that may be of benefit to them or will **re-evaluate existing treatment strategies**.

Future Doctors should be trained to apply natural and social sciences to clinical practice and to effectively engage patients in research, advising them on the relevance and possible benefit to them.

### Key Skills of Scholarship<sup>(33)</sup>:

#### ● Critical Appraisal of Evidence

- Demonstrate a **commitment to excellence, evidence-based practice and the generation of new scientific knowledge**.
- Be able to critically appraise a range of research information, including study design, the results of relevant diagnostic, prognostic and treatment trials, and other qualitative and quantitative studies as reported in the medical and scientific literature<sup>(34)</sup>

#### ● Clinical Application

- **Demonstrate knowledge of national and regional healthcare policy** and an understanding of **healthcare delivery, effectiveness, responsiveness, quality and patient safety**
- Adopt a **critical approach to guidelines and protocols**, disseminate new knowledge and **participate in translation of research** into clinical practice
- **Apply outcomes from audits, best practices and available benchmarks** to patient care

#### ● Research

- Acquire knowledge about the general principles and methods of scientific medical research
- Demonstrate an **understanding of the research process**, from formulation of relevant research questions, selection of appropriate methods to address the question, interpretation of statistical analyses and appropriate dissemination of study findings
- Demonstrate an **ability to participate in collaborative research projects** with other team members/colleagues
- **Understand research ethics**, act with honesty and integrity when participating in research and follow national research governance

## Overarching Themes

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### ● Lifelong Learning

- Identify and address personal learning objectives
- Maintain and enhance professional activities through ongoing learning

### ● Teaching and Education

- Acquire knowledge about the **principles of learning** relevant to medical education
- **Acquire teaching skills**, including facilitating the learning of patients, families, students, other healthcare professions and the public, seeking regular feedback and evaluation

## Opportunities for Research and Innovation

In order to ensure opportunities for research, education and self-development are optimised, time to participate in these activities is required. There has been widespread acknowledgement that providing opportunities to engage in research can play an important role in attracting and retaining clinical staff, particularly in hard-to-recruit geographies during discussions around the NHS People Plan.

## Academic Leadership

Many respondents cited clinical and academic leadership as part of a Future Doctor's role. Although doctors will lead research, quality improvement, innovation and change, they must also support others to do so and ensure future clinical teams and the healthcare system have a culture of research and innovation. Education and training reform should provide more time and support for research and innovation for all clinical roles.

## Overarching Themes

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### Lessons Learnt from COVID-19:

- The pandemic has highlighted the benefits of robust postgraduate research programmes that define future health and disease management and span national and international reach. It has also raised the profile of rapid clinical workplace and translational research. Much formal research was suspended to prioritise clinical service delivery, while doctors on the front line were encouraged to note and share their learning. This was rapidly translated into changing care protocols across the globe.
- With most clinicians focussing on how to rapidly organise, learn and improve care, improvement change occurred at an impressive rate. This spanned educational improvements as well as in clinical care. This supports the Future Doctor findings that medical education should promote a scholarly approach to clinical care, providing greater opportunities for research and academia.
- The pandemic prompted cross-specialty, cross-organisational and international learning and collaboration. This removal of professional silos at all levels significantly enhanced the reach of education and training.

### How Must Education and Training Adapt?

- Greater understanding of natural and social sciences in clinical practice needs to be built into training delivery and outcomes.
- We need to prepare doctors to better engage patients in clinical research and equip them to collaborate with patients on research that may be of relevance and possible benefit to their care outcomes.
- More time is needed for research and innovation in clinical roles, and greater support for research by all members of a clinical team should be encouraged.

## 6 Conclusion

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Workforce is our greatest collective challenge and opportunity in the NHS now and beyond 2030. The Future Doctor Programme enabled cross-system development of a shared definition of the unique characteristics of the Future Doctor within a transformed multi-professional team.

The key themes from the Programme help to codify the attributes, skills and behaviours needed by the Future Doctor to inform the outcomes of change in the undergraduate and postgraduate medical education and training system.

Key emergent themes for education reform include a stronger bedrock in generalist skills, especially in complex comprehensive care; embracing a culture of stewardship, with a greater understanding of population health and sustainable healthcare; the provision of flexible ways of training and working and evolving medical careers; and breaking down professional silos to enable the transformed multi-professional team and empowering other healthcare professions and roles to benefit patient care.

Although the future of healthcare is unknown, change is inevitable. The current unprecedented experience of the COVID-19 pandemic has highlighted the imperative for change to enable health and social care to adapt to uncertain future healthcare environments.

Maintaining the status quo could not have enabled us to meet the challenges of COVID-19 and will not meet the healthcare demands in the changed future we are now planning for.

## Conclusion

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Innovative thinking and the changing expectations of the NHS, patients, the public and doctors themselves, which has enabled us to meet the COVID-19 challenge, needs to continue.

However, for this to be realised, HEE must work alongside stakeholders and partners to bring about informed and meaningful change.

The UK has suffered the negative impact of the COVID-19 pandemic. The learning from how health and care services were planned and the workforce deployed, both during the initial pandemic surge and now as the NHS plans recovery, has illustrated the urgency of embedding much of findings from the Future Doctor Programme.

The skills, attributes and philosophies that enabled the NHS response to COVID-19 should be built into training for all doctors. We will continue to use the learning as a positive driver for the change this programme told us was both needed and wanted, by health and social care services and teams, patients and the public, and doctors themselves.

HEE is committed to supporting a medical workforce that thrives on opportunities for innovation and improvement in order to meet future healthcare demands. This will enable the NHS and partners to deliver high quality 21st century healthcare to benefit patients, while allowing individual clinicians to flourish through rewarding and satisfying lifelong careers in the NHS.

## 7 Next Steps

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This report outlines a final co-created vision for the future. This has been established through collaborative thinking with patients, our partners and stakeholders, underpinned by extensive evidence-based review and robust, strategic methodology.

HEE will reference all feedback and data collected, alongside learning derived from the healthcare system response to the COVID-19 pandemic, to inform how we will take forward reform in healthcare education and training, and to set out a clear plan and priorities to be delivered at scale and pace.

### Key Priority Actions

#### Generalist Skills

To embed the attributes and skills that the Future Doctor Programme and COVID-19 pandemic highlighted as being critical for future doctors, we must build these into core curricula outcomes from medical school, foundation and early core training, through to higher specialty training.

We will work with Medical Schools, Medical Royal Colleges, trainees and the General Medical Council to expedite this, and work with other healthcare professional bodies, regulators and learners to ensure we develop our plans in partnership with those working in wider health and social care teams.

To bridge the gap between the present and the future, and to build and recognise the value of the crucial generalist skills that the NHS and patients need now, we will start to develop the delivery of this offer in partnership with emerging Integrated Care Systems and Regional People Boards.

We will work to enable a place-based 'generalist school' offer to be rolled out from August 2021 onwards. This will enable local systems to engage in supporting the development of the medical workforce to better meet the needs of local populations and priorities.

## Next Steps

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We will work with NHS Employers, Royal Colleges, Medical Schools, the British Medical Association and trainees to develop a system-wide commitment that the generalist skills we have set out in this report are appropriately valued and rewarded in a way that adequately reflects the critical importance they play in the role of the doctor, now and in the future.

During 2020/21, we will work with Medical Schools to review the learning from the Foundation Interim Year 1 posts that nearly 4000 medical school graduates volunteered for to support the NHS during the COVID-19 outbreak.

We will look to embed the learning on benefits that early experience in the NHS can bring into how we prepare doctors for registration and practice in the health and care system.

During 2020/21, we will also work with our partners to accelerate the adoption of the flexibilities that are needed to promote doctors' wellbeing so they can have lifelong, rewarding careers. This includes exploring with academics and learners how best to nurture and support enthusiasm for research and innovation.

We will now seek to engage with stakeholders and partners to agree how to implement the changes needed.

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