

A photograph of three young people, two women and one man, smiling and looking at a book together. The woman in the center has sunglasses on her head and is wearing a blue top. The woman on the left has braided hair and is wearing a brown top. The man on the right is wearing a light blue shirt. The background is blurred, suggesting an outdoor setting.

# Outcomes for graduates 2018

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General Medical Council

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# Contents

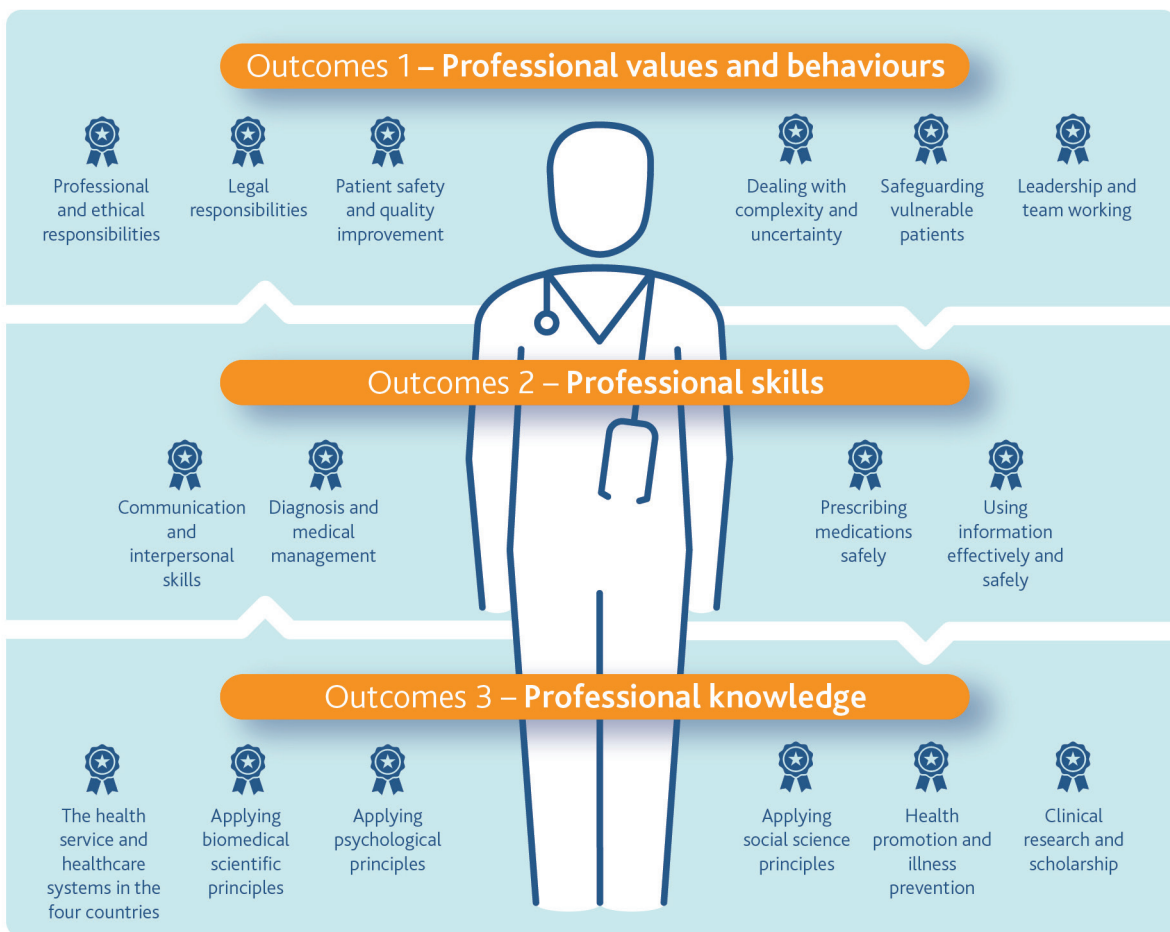
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## Structure of the outcomes

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Each section includes outcomes in a number of areas.

This document is supplemented by the [Practical skills and procedures](#). This outlines the core set of practical skills, procedures and the minimum levels of performance that newly qualified doctors must have when they start work, so they can practise safely.

# Introduction

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## Purpose of the outcomes

We set the standards and requirements for all stages of medical education and training in *Promoting excellence: standards for medical education and training* (pdf). And we hold a list of universities entitled to award a medical degree recognised as a UK primary medical qualification.

This document sets out what newly qualified doctors from all medical schools who award UK primary medical qualifications must know and be able to do and it is:

- a guide for students on what they need to learn during their time at medical school
- a basis for medical schools to develop their curricula and programmes of learning
- a blueprint or plan for assessments at medical schools
- a framework we use to regulate medical schools
- a summary of what newly qualified doctors will know and be able to do for those designing postgraduate training.

We recognise and expect that newly qualified doctors will have achieved the capabilities described in the *Outcomes for graduates*. But we acknowledge that they will need ongoing practical experience to develop and consolidate their skills and capabilities during foundation training.

It's important to remember that newly qualified doctors who enter the Foundation Programme will work under educational and clinical supervision and in a multidisciplinary team. In accordance with the Foundation Programme Curriculum, they will need to demonstrate that they are refining their skills and that they are able to take responsibility appropriately whilst recognising and working within the limits of their competence.<sup>1</sup>

## Why we've updated the outcomes

Developments in the organisation of care and patterns of disease since *Outcomes for graduates* was first published in 2009 mean that there is an increased need for newly qualified doctors to:

- be able to care for patients in a variety of settings, including the patient's home and community settings as well as general practices and hospitals
- be able to care for growing numbers of patients with multiple morbidities and long term physical and mental health conditions

- be able to provide integrated care, including mental health care, with social care
- be able to apply principles of health promotion and disease prevention at population level to the care of individual patients
- commit to lifelong learning to keep up to date with developments in medical practice and trends in disease at population level.

## Provisions for encouraging diversity in medicine

We believe that equality, diversity and inclusion are integral to our work as a regulator. We are committed to supporting diversity in medicine.

We expect organisations to make supportive and pragmatic adjustments for learners to enable achievement of the outcomes, including where learners have long-term health conditions and disabilities, while also abiding by the Equality Act. Further detailed information can be found in our publications [Welcomed and valued](#) (2019, pdf), [Promoting Excellence](#) (2016, pdf) and [Promoting excellence - equality and diversity considerations](#) (2017, pdf).

## How the outcomes relate to our other standards and guidance

*Promoting excellence* sets out the standards and requirements for the management and delivery of undergraduate and postgraduate medical education and training. The *Outcomes for graduates* set out what we expect newly qualified doctors to be able to know and do and should be read alongside *Promoting excellence*.

We expect all newly qualified doctors to practise in accordance with the professional requirements set out in *Good medical practice* and related guidance. The outcomes have been aligned to *Good medical practice*.

## How the outcomes relate to our Generic professional capabilities framework

The *Generic professional capabilities framework*, published in May 2017, describes the interdependent essential capabilities that underpin professional medical practice in the UK and sets these out as educational outcomes. We expect the generic professional capabilities to be integrated into the Foundation Programme Curriculum and all postgraduate specialty training curricula.

We have reflected the capabilities and educational outcomes in this document so there is a recognisable progression through undergraduate and postgraduate medical education and training.

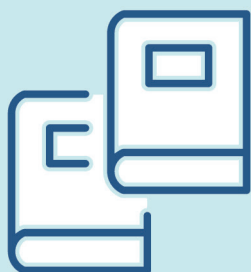
The structure of the outcomes reflects the *Generic professional capabilities framework*. The three sections of the outcomes match the three fundamental domains of the Generic professional capabilities framework. The outcomes also include sections that map to the targeted domains in the *Generic professional capabilities framework*.

Some outcomes in this document are similar to those in the Generic professional capabilities framework. This is because we expect newly qualified doctors and doctors in postgraduate training to demonstrate knowledge and capability in the same areas, but at the level appropriate for the stage of their training.

Newly qualified doctors will build on and develop their knowledge and capabilities as they move through the Foundation Programme and speciality training. These postgraduate curricula will be underpinned by the educational outcomes set out in the *Generic professional capabilities framework*, some of which are common to the outcomes in this document and some of which are necessarily pitched at a higher level.

## Good medical practice

### UNDER GRADUATE



- Educational outcomes for graduates
- Achieving good medical practice



### POST GRADUATE

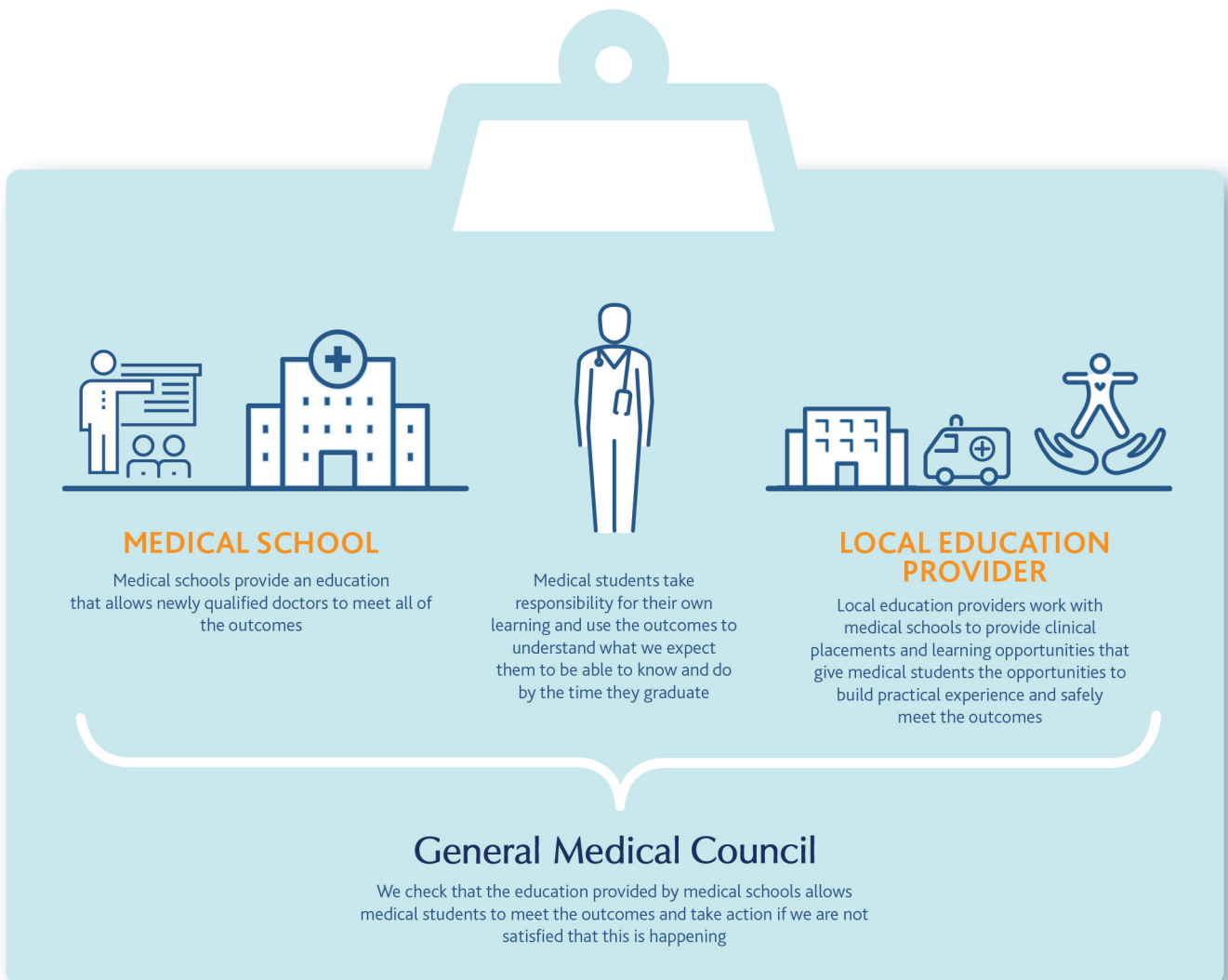


- Excellence by design
- Standards for post graduate curricula
- Generic professional capabilities

## Promoting excellence

## Responsibility for delivering the outcomes

- **Medical schools** must provide an education that allows newly qualified doctors to meet all the outcomes, including the core set of practical skills and procedures, and therefore to be fit to practise safely as a doctor when they graduate.
- **Local education providers** working with medical schools must provide and quality manage clinical placements and learning opportunities that give medical students the opportunities to build knowledge, skills and practical experience to meet the outcomes and to safely and effectively carry out the core set of practical skills and procedures by the time they qualify.
- **Medical students** are responsible for their own learning. They should refer to *Outcomes for graduates* during their undergraduate education to understand what we expect them to be able to know and do by the time they graduate.



## Making sure the *Outcomes for graduates* are met

Medical schools must provide us with evidence to show that medical students' learning is directed towards the outcomes and that students' progress towards meeting the outcomes at graduation is assessed.

This evidence must include medical schools' curricula – which we expect to be mapped to the outcomes – and assessment blueprints – which we expect to show when and how students are assessed on their learning against the outcomes.

Assessment could include formal written and clinical examinations, workplace based assessments, evidence of their development as reflective practitioners, essays, research projects, presentations, self assessment or coursework.

We will take action if we are not satisfied that the curriculum and assessments at a medical school are resulting in graduates being able to meet the outcomes. We'll do this in accordance with our Quality Assurance Framework, by requiring the medical school to make changes so the outcomes are met. We will monitor the medical school until we have satisfactory evidence. We may also make regulatory visits to medical schools.

## Keeping the outcomes up to date

Medical education responds continually to changes in the health of the population and healthcare systems. And it has to keep up with developments in the technologies used to diagnose, treat and manage illness. Medical education must also adapt to the needs of society and be appropriately responsive to patients and the public.

We'll keep these outcomes up to date with timely revisions to make sure they reflect contemporary medical practice and science.



## Outcomes for graduates

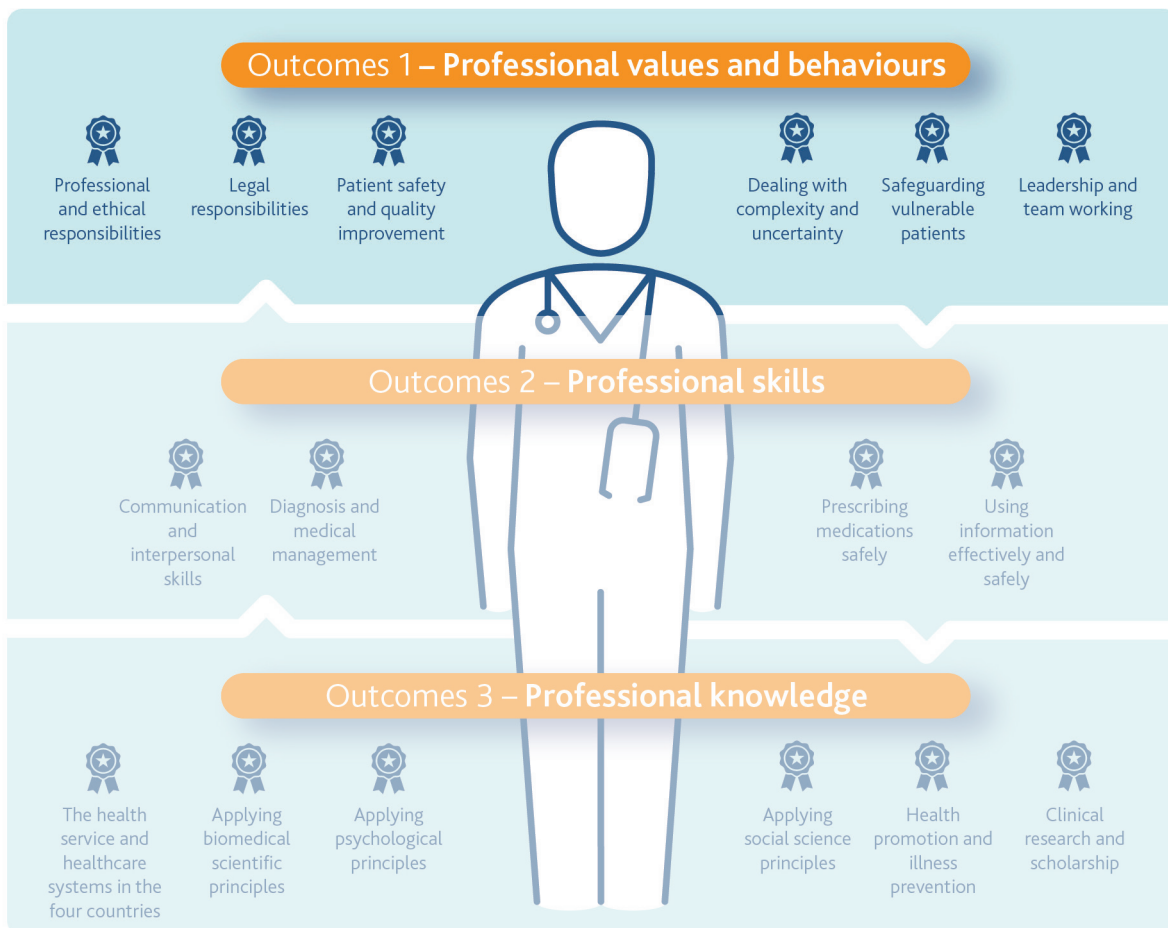
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### Overarching outcome for graduates

- 1 Medical students are tomorrow's doctors. In accordance with Good medical practice, newly qualified doctors must make the care of patients their first concern, applying their knowledge and skills in a competent, ethical and professional manner and taking responsibility for their own actions in complex and uncertain situations.

# Outcomes 1 – Professional values and behaviours

We expect newly qualified doctors to demonstrate appropriate generic personal and professional values and behaviours. They must keep to our ethical guidance and standards, *Good medical practice* and the explanatory guidance, which together describe what is expected of all doctors who are registered with us.<sup>2,3</sup>



## Professional and ethical responsibilities

### 2 Newly qualified doctors must behave according to ethical and professional principles.

#### They must be able to:

- a** demonstrate the clinical responsibilities and role of the doctor
- b** demonstrate compassionate professional behaviour and their professional responsibilities in making sure the fundamental needs of patients are addressed
- c** summarise the current ethical dilemmas in medical science and healthcare practice; the ethical issues that can arise in everyday clinical decision-making; and apply ethical reasoning to situations which may be encountered in the first years after graduation
- d** maintain confidentiality and respect patients' dignity and privacy
- e** act with integrity, be polite, considerate, trustworthy and honest
- f** take personal and professional responsibility for their actions
- g** manage their time and prioritise effectively
- h** recognise and acknowledge their own personal and professional limits and seek help from colleagues and supervisors when necessary, including when they feel that patient safety may be compromised
- i** Protect patients from any risk posed by their own health including:
  - the risks to their health and to patient safety posed by self-prescribing medication and substance misuse
  - the risks to their health and to patient safety posed by fatigue – they must apply strategies to limit the impact of fatigue on their health.
- j** recognise the potential impact of their attitudes, values, beliefs, perceptions and personal biases (which may be unconscious) on individuals and groups and identify personal strategies to address this
- k** demonstrate the principles of person-centred care and include patients and, where appropriate, their relatives, carers or other advocates in decisions about their healthcare needs
- l** explain and demonstrate the importance of:
  - seeking patient consent, or the consent of the person who has parental responsibility in the case of children and young people, or seeking the views of those with lasting power of attorney or independent mental capacity advocates if appropriate
  - providing information about options for investigations, treatment and care in a way that enables patients to make decisions about their own care
  - assessing the mental capacity of a patient to make a particular decision, including when the lack of capacity is temporary, and knowing when and how to take action.
- m** act appropriately, with an inclusive approach, towards patients and colleagues
- n** be open and honest in their interactions with patients, colleagues and employers when things go wrong – known as the professional duty of candour <sup>4</sup>

- o raise and escalate concerns through informal communication with colleagues and through formal clinical governance and monitoring systems<sup>5</sup> about:
  - patient safety and quality of care
  - bullying, harassment and undermining
- p explain and demonstrate the importance of professional development and lifelong learning and demonstrate commitment to this
- q work effectively and appropriately as a mentor and teacher for other learners in the multi-professional team
- r respect patients' wishes about whether they wish to participate in the education of learners
- s access and analyse reliable sources of current clinical evidence and guidance and have established methods for making sure their practice is consistent with these
- t explain and demonstrate the importance of engagement with revalidation,<sup>6</sup> including maintaining a professional development portfolio which includes evidence of reflection, achievements, learning needs and feedback from patients and colleagues
- u engage in their induction and orientation activities, learn from experience and feedback, and respond constructively to the outcomes of appraisals, performance reviews and assessments.

**3 Newly qualified doctors must demonstrate awareness of the importance of their personal physical and mental wellbeing and incorporate compassionate self-care into their personal and professional life.<sup>7</sup>**

They must demonstrate awareness of the need to:

- a self-monitor, self-care and seek appropriate advice and support, including by being registered with a GP and engaging with them to maintain their own physical and mental health
- b manage the personal and emotional challenges of coping with work and workload, uncertainty and change
- c develop a range of coping strategies, such as reflection, debriefing, handing over to another colleague, peer support and asking for help, to recover from challenges and set-backs.

## Legal responsibilities

- 4 Newly qualified doctors must demonstrate knowledge of the principles of the legal framework in which medicine is practised in the jurisdiction in which they are practising, and have awareness of where further information on relevant legislation can be found.<sup>8</sup>**

## Patient safety and quality improvement

- 5 Newly qualified doctors must demonstrate that they can practise safely. They must participate in and promote activity to improve the quality and safety of patient care and clinical outcomes.**

They must be able to:

- a** place patients' needs and safety at the centre of the care process
- b** promote and maintain health and safety in all care settings and escalate concerns to colleagues where appropriate, including when providing treatment and advice remotely
- c** recognise how errors can happen in practice and that errors should be shared openly and be able to learn from their own and others' errors to promote a culture of safety
- d** apply measures to prevent the spread of infection, and apply the principles of infection prevention and control
- e** describe the principles of quality assurance, quality improvement, quality planning and quality control, and in which contexts these approaches should be used to maintain and improve quality and safety
- f** describe basic human factors principles and practice at individual, team, organisational and system levels and recognise and respond to opportunities for improvement to manage or mitigate risks
- g** apply the principles and methods of quality improvement to improve practice (for example, plan, do, study, act or action research), including seeking ways to continually improve the use and prioritisation of resources
- h** describe the value of national surveys and audits for measuring the quality of care.

## Dealing with complexity and uncertainty

- 6 The nature of illness is complex and therefore the health and care of many patients is complicated and uncertain. Newly qualified doctors must be able to recognise complexity and uncertainty. And, through the process of seeking support and help from colleagues, learn to develop confidence in managing these situations and responding to change.**

They must be able to:

- a** recognise the complex medical needs, goals and priorities of patients, the factors that can affect a patient's health and wellbeing and how these interact. These include psychological and sociological considerations that can also affect patients' health
- b** identify the need to adapt management proposals and strategies for dealing with health problems to take into consideration patients' preferences, social needs, multiple morbidities, frailty and long term physical and mental conditions
- c** demonstrate working collaboratively with patients, their relatives, carers or other advocates, in planning their care, negotiating and sharing information appropriately and supporting patient self-care

- d** demonstrate working collaboratively with other health and care professionals and organisations when working with patients, particularly those with multiple morbidities, frailty and long term physical and mental conditions
- e** recognise how treatment and care can place an additional burden on patients and make decisions to reduce this burden where appropriate, particularly where patients have multiple conditions or are approaching the end of life
- f** manage the uncertainty of diagnosis and treatment success or failure and communicate this openly and sensitively with patients, their relatives, carers or other advocates
- g** evaluate the clinical complexities, uncertainties and emotional challenges involved in caring for patients who are approaching the end of their lives and demonstrate the relevant communication techniques and strategies that can be used with the patient, their relatives, carers or other advocates.

## Safeguarding vulnerable patients

### **7 Newly qualified doctors must be able to recognise and identify factors that suggest patient vulnerability and take action in response.**

They must be able to:

- a** identify signs and symptoms of abuse or neglect and be able to safeguard children, young people, adults and older people, using appropriate systems for sharing information, recording and raising concerns, obtaining advice, making referrals and taking action
- b** take a history that includes consideration of the patient's autonomy, views and any associated vulnerability, and reflect this in the care plan and referrals
- c** assess the needs of and support required for children, young people and adults and older people who are the victims of domestic, sexual or other abuse
- d** assess the needs of, and support required, for people with a learning disability
- e** assess the needs of, and support required, for people with mental health conditions
- f** adhere to the professional responsibilities in relation to procedures performed for non-medical reasons, such as female genital mutilation<sup>9</sup> and cosmetic interventions<sup>10</sup>
- g** explain the application of health legislation that may result in the deprivation of liberty to protect the safety of individuals and society
- h** recognise where addiction (to drugs, alcohol, smoking or other substances), poor nutrition, self-neglect, environmental exposure, or financial or social deprivation are contributing to ill health. And take action by seeking advice from colleagues and making appropriate referrals
- i** describe the principles of equality legislation in the context of patient care.

## Leadership and team working

### 8 Newly qualified doctors must recognise the role of doctors in contributing to the management and leadership of the health service.

They must be able to:

- a describe the principles of how to build teams and maintain effective team work and interpersonal relationships with a clear shared purpose
- b undertake various team roles including, where appropriate, demonstrating leadership and the ability to accept and support leadership by others
- c identify the impact of their behaviour on others
- d describe theoretical models of leadership and management that may be applied to practice.

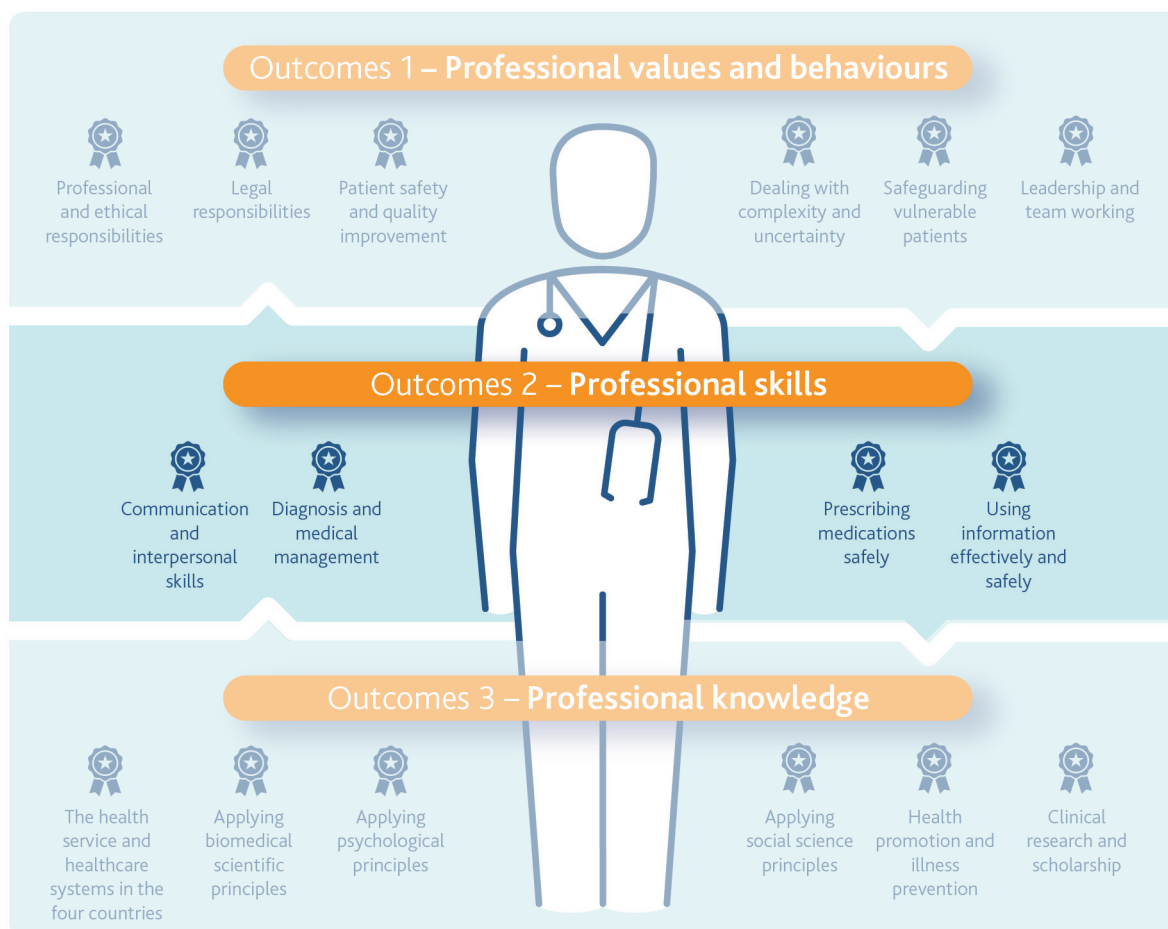
### 9 Newly qualified doctors must learn and work effectively within a multi-professional and multi-disciplinary team and across multiple care settings. This includes working face to face and through written and electronic means, and in a range of settings where patients receive care, including community, primary, secondary, mental health, specialist tertiary and social care settings and in patients' homes.

They must be able to:

- a demonstrate their contribution to effective interdisciplinary team working with doctors from all care settings and specialties, and with other health and social care professionals for the provision of safe and high-quality care
- b work effectively with colleagues in ways that best serve the interests of patients. This includes:
  - safely passing on information using clear and appropriate spoken, written and electronic communication:
  - at handover in a hospital setting and when handing over and maintaining continuity of care in primary, community and social care settings
  - when referring to colleagues for investigations or advice
  - when things go wrong, for example when errors happen
  - questioning colleagues during handover where appropriate
  - working collaboratively and supportively with colleagues to share experiences and challenges that encourage learning
  - responding appropriately to requests from colleagues to attend patients
  - applying flexibility, adaptability and a problem-solving approach to shared decision making with colleagues.
- c recognise and show respect for the roles and expertise of other health and social care professionals and doctors from all specialties and care settings in the context of working and learning as a multi-professional team.

## Outcomes 2 – Professional skills

We expect doctors to demonstrate appropriate skills in clinical practice.



### Communication and interpersonal skills

- 10 Newly qualified doctors must be able to communicate effectively, openly and honestly with patients, their relatives, carers or other advocates, and with colleagues, applying patient confidentiality appropriately.**

They must be able to:

- a** communicate clearly, sensitively and effectively with patients, their relatives, carers or other advocates, and colleagues from medical and other professions, by:
  - listening, sharing and responding



- demonstrating empathy and compassion
  - demonstrating effective verbal and non-verbal interpersonal skills
  - making adjustments to their communication approach if needed, for example for people who communicate differently due to a disability or who speak a different first language
  - seeking support from colleagues for assistance with communication if needed.
- b** communicate by spoken, written and electronic methods (including in medical records) clearly, sensitively and effectively with patients, their relatives, carers or other advocates, and colleagues from medical and other professions. This includes, but is not limited to, the following situations:
- where there is conflict or disagreement
  - when sharing news about a patient's condition that may be emotionally challenging for the patient and those close to them
  - when sharing news about a patient's death with relatives and carers or other advocates
  - when discussing issues that may be sensitive for the patient, such as alcohol consumption, smoking, diet and weight management or sexual behaviour
  - when communicating with people who lack insight into their illness or are ambivalent about treatment
  - when communicating with children and young people
  - when communicating with people who have impaired hearing, language, speech or sight
  - when communicating with people who have cognitive impairment
  - when communicating with people who have learning disabilities
  - when English is not the patient's first language - by using an interpreter, translation service or other online methods of translation<sup>11</sup>
  - when the patient lacks capacity to reach or communicate a decision on their care needs
  - when advocating for patients' needs
  - when making referrals to colleagues from medical and other professions
  - when providing care remotely, such as carrying out consultations using telecommunications.
- c** use methods of communication used by patients and colleagues such as technology-enabled communication platforms, respecting confidentiality and maintaining professional standards of behaviour.
- 11 Newly qualified doctors must be able to carry out an effective consultation with a patient.**  
They must be able to:
- a** elicit and accurately record a patient's medical history, including family and social history, working with parents and carers or other advocates when the patient is a child or young person or an adult who requires the support of a carer or other advocate

- b** encourage patients' questions, discuss their understanding of their condition and treatment options, and take into account their ideas concerns, expectations, values and preferences
- c** acknowledge and discuss information patients have gathered about their conditions and symptoms, taking a collaborative approach
- d** provide explanation, advice and support that matches patients' level of understanding and needs, making reasonable adjustments to facilitate patients' understanding if necessary
- e** assess a patient's capacity to understand and retain information and to make a particular decision, making reasonable adjustments to support their decision making if necessary, in accordance with legal requirements in the relevant jurisdiction and the GMC's ethical guidance as appropriate
- f** work with patients, or their legal advocates, to agree how they want to be involved in decision making about their care and treatment
- g** describe the principles of holding a fitness for work conversation with patients, including assessing social, physical, psychological and biological factors supporting the functional capacity of the patient, and how to make referrals to colleagues and other agencies.

## Diagnosis and medical management

- 12** Newly qualified doctors must work collaboratively with patients and colleagues to diagnose and manage clinical presentations safely in community, primary and secondary care settings and in patients' homes. Newly qualified doctors must, wherever possible, support and facilitate patients to make decisions about their care and management.
- 13** Newly qualified doctors must be able to perform the core set of practical skills and procedures safely and effectively, and identify, according to their level of skill and experience, the procedures for which they need supervision to ensure patient safety.
- 14** Newly qualified doctors must be able to work collaboratively with patients, their relatives, carers or other advocates to make clinical judgements and decisions based on a holistic assessment of the patient and their needs, priorities and concerns, and appreciating the importance of the links between pathophysiological, psychological, spiritual, religious, social and cultural factors for each individual.

They must be able to:

- a** propose an assessment of a patient's clinical presentation, integrating biological, psychological and social factors, agree this with colleagues and use it to direct and prioritise investigations and care
- b** safely and sensitively undertake:
  - an appropriate physical examination (with a chaperone present if appropriate)
  - a mental and cognitive state examination, including establishing if the patient is a risk to themselves or others, seeking support and making referrals if necessary
  - a developmental examination for children and young people.

- c interpret findings from history, physical and mental state examinations
  - d propose a holistic clinical summary, including a prioritised differential diagnosis/diagnoses and problem list
  - e propose options for investigation, taking into account potential risks, benefits, cost effectiveness and possible side effects and agree in collaboration with colleagues if necessary, which investigations to select
  - f interpret the results of investigations and diagnostic procedures, in collaboration with colleagues if necessary
  - g synthesise findings from the history, physical and mental state examinations and investigations, in collaboration with colleagues if necessary, and make proposals about underlying causes or pathology
  - h understand the processes by which doctors make and test a differential diagnosis and be prepared to explain their clinical reasoning to others
  - i make clinical judgements and decisions with a patient, based on the available evidence, in collaboration with colleagues and as appropriate for their level of training and experience, and understand that this may include situations of uncertainty
  - j take account of patients' concerns, beliefs, choices and preferences, and respect the rights of patients to reach decisions with their doctor about their treatment and care and to refuse or limit treatment
  - k seek informed consent for any recommended or preferred options for treatment and care
  - l propose a plan of management including prevention, treatment, management and discharge or continuing community care, according to established principles and best evidence, in collaboration with other health professionals if necessary
  - m support and motivate the patient's self-care by helping them to recognise the benefits of a healthy lifestyle and motivating behaviour change to improve health and include prevention in the patient's management plan
  - n recognise the potential consequences of over-diagnosis and over-treatment.
- 15 Newly qualified doctors must demonstrate that they can make appropriate clinical judgements when considering or providing compassionate interventions or support for patients who are nearing or at the end of life. They must understand the need to involve patients, their relatives, carers or other advocates in management decisions, making referrals and seeking advice from colleagues as appropriate.**
- 16 Newly qualified doctors must be able to give immediate care to adults, children and young people in medical and psychiatric emergencies and seek support from colleagues if necessary.**
- 17 Newly qualified doctors must be able to recognise when a patient is deteriorating and take appropriate action.**

They must be able to:

- a assess and determine the severity of a clinical presentation and the need for immediate emergency care

- b** diagnose and manage acute medical and psychiatric emergencies, escalating appropriately to colleagues for assistance and advice
- c** provide immediate life support
- d** provide cardiopulmonary resuscitation.

## Prescribing medications safely

### **18 Newly qualified doctors must be able to prescribe medications safely, appropriately, effectively and economically and be aware of the common causes and consequences of prescribing errors.**

They must be able to:

- a** establish an accurate medication history, covering both prescribed medication and other drugs or supplements, and establish medication allergies and the types of medication interactions that patients experience
- b** carry out an assessment of benefit and risk for the patient of starting a new medication taking into account the medication history and potential medication interactions in collaboration with the patient and, if appropriate, their relatives, carers or other advocates
- c** provide patients, their relatives, carers or other advocates, with appropriate information about their medications in a way that enables patients to make decisions about the medications they take
- d** agree a medication plan with the patient that they are willing and able to follow
- e** access reliable information about medications and be able to use the different technologies used to support prescribing
- f** calculate safe and appropriate medication doses and record the outcome accurately
- g** write a safe and legal prescription, tailored to the specific needs of individual patients, using either paper or electronic systems and using decision support tools where necessary
- h** describe the role of clinical pharmacologists and pharmacists in making decisions about medications and prescribe in consultation with these and other colleagues as appropriate
- i** communicate appropriate information to patients about what their medication is for, when and for how long to take it, what benefits to expect, any important adverse effects that may occur and what follow-up will be required
- j** detect and report adverse medication reactions and therapeutic interactions and react appropriately by stopping or changing medication
- k** monitor the efficacy and effects of medication and with appropriate advice from colleagues, reacting appropriately by adjusting medication, including stopping medication with due support, care and attention if it proves ineffective, is no longer needed or the patient wishes to stop taking it
- l** recognise the challenges of safe prescribing for patients with long term physical and mental conditions or multiple morbidities and medications, in pregnancy, at extremes of age and at the end of life

- m** respect patient choices about the use of complementary therapies, and have a working knowledge of the existence and range of these therapies, why patients use them, and how this might affect the safety of other types of treatment that patients receive
- n** recognise the challenges of delivering these standards of care when prescribing and providing treatment and advice remotely, for example via online services
- o** recognise the risks of over-prescribing and excessive use of medications and apply these principles to prescribing practice.

## Using information effectively and safely

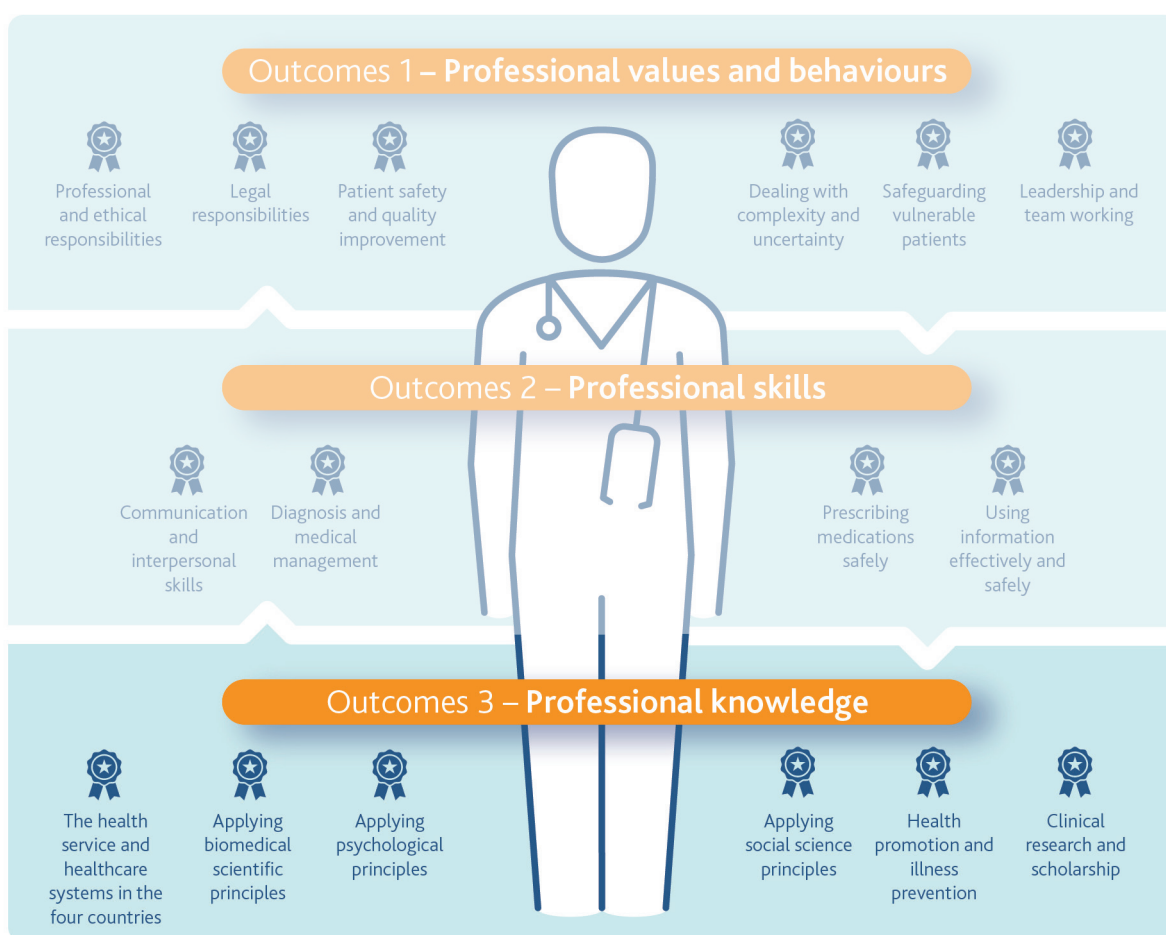
- 19 Newly qualified doctors must be able to use information effectively and safely in a medical context, and maintain accurate, legible, contemporaneous and comprehensive medical records.**

They must be able to:

- a** make effective use of decision making and diagnostic technologies
- b** apply the requirements of confidentiality and data protection legislation and comply with local information governance and storage procedures when recording and coding patient information
- c** explain their professional and legal responsibilities when accessing information sources in relation to patient care, health promotion, giving advice and information to patients, and research and education
- d** discuss the role of doctors in contributing to the collection and analysis of patient data at a population level to identify trends in wellbeing, disease and treatment, and to improve healthcare and healthcare system
- e** apply the principles of health informatics to medical practice.

## Outcomes 3 – Professional knowledge

We expect newly qualified doctors to demonstrate their knowledge through scholarly application to the care of patients in practice. Newly qualified doctors must recognise biomedical, psychological and social science principles of health and disease, and integrate and apply scholarly principles to the care of patients. Newly qualified doctors must understand the patient journey through the full range of health and social care settings.



### The health service and healthcare systems in the four countries

- 20 Newly qualified doctors must demonstrate how patient care is delivered in the health service.** They must be able to:
- a** describe and illustrate from their own professional experience the range of settings in which patients receive care, including in the community, in patients’ homes and in primary and secondary care provider settings

- b** explain and illustrate from their own professional experience the importance of integrating patients' care across different settings to ensure person-centred care
  - c** describe emerging trends in settings where care is provided, for example the shift for more care to be delivered in the community rather than in secondary care settings
  - d** describe the relationship between healthcare and social care and how they interact.
- 21 Newly qualified doctors must recognise that there are differences in healthcare systems across the four nations of the UK and know how to access information about the different systems, including the role of private medical services in the UK.**

## Applying biomedical scientific principles

- 22 Newly qualified doctors must be able to apply biomedical scientific principles, methods and knowledge to medical practice and integrate these into patient care. This must include principles and knowledge relating to anatomy, biochemistry, cell biology, genetics, genomics and personalised medicine, immunology, microbiology, molecular biology, nutrition, pathology, pharmacology and clinical pharmacology, and physiology.**

They must be able to:

- a** explain how normal human structure and function and physiological processes applies, including at the extremes of age, in children and young people and during pregnancy and childbirth
- b** explain the relevant scientific processes underlying common and important disease processes
- c** justify, through an explanation of the underlying fundamental principles and clinical reasoning, the selection of appropriate investigations for common clinical conditions and diseases
- d** select appropriate forms of management for common diseases, and ways of preventing common diseases, and explain their modes of action and their risks from first principles
- e** describe medications and medication actions: therapeutics and pharmacokinetics; medication side effects and interactions, including for multiple treatments, long term physical and mental conditions and non-prescribed drugs; the role of pharmacogenomics and antimicrobial stewardship
- f** analyse clinical phenomena and conduct appropriate critical appraisal and analysis of clinical data, and explain clinical reasoning in action and how they formulate a differential diagnosis and management plan.

## Applying psychological principles

**23 Newly qualified doctors must explain and illustrate by professional experience the principles for the identification, safe management and referral of patients with mental health conditions.**

They must be able to:

- a** describe and illustrate from examples the spectrum of normal human behaviour at an individual level
- b** integrate psychological concepts of health, illness and disease into patient care and apply theoretical frameworks of psychology to explain the varied responses of individuals, groups and societies to disease
- c** explain the relationship between psychological and medical conditions and how psychological factors impact on risk and treatment outcome
- d** describe the impact of patients' behaviours on treatment and care and how these are influenced by psychological factors
- e** describe how patients adapt to major life changes, such as bereavement, and the adjustments that might occur in these situations
- f** identify appropriate strategies for managing patients with substance misuse or risk of self-harm or suicide
- g** explain how psychological aspects of behaviour, such as response to error, can influence behaviour in the workplace in a way that can affect health and safety and apply this understanding to their personal behaviours and those of colleagues.

## Applying social science principles

**24 Newly qualified doctors must be able to apply social science principles, methods and knowledge to medical practice and integrate these into patient care.** They must be able to:

- a** recognise how society influences and determines the behaviour of individuals and groups and apply this to the care of patients
- b** review the sociological concepts of health, illness and disease and apply these to the care of patients
- c** apply theoretical frameworks of sociology to explain the varied responses of individuals, groups and societies to disease
- d** recognise sociological factors that contribute to illness, the course of the disease and the success of treatment and apply these to the care of patients – including issues relating to health inequalities and the social determinants of health, the links between occupation and health, and the effects of poverty and affluence
- e** explain the sociological aspects of behavioural change and treatment concordance and compliance, and apply these models to the care of patients as part of person-centred decision making.



## Health promotion and illness prevention

**25 Newly qualified doctors must be able to apply the principles, methods and knowledge of population health and the improvement of health and sustainable healthcare to medical practice.**

They must be able to:

- a** explain the concept of wellness or wellbeing as well as illness, and be able to help and empower people to achieve the best health possible, including promoting lifestyle changes such as smoking cessation, avoiding substance misuse and maintaining a healthy weight through physical activity and diet
- b** describe the health of a population using basic epidemiological techniques and measurements
- c** evaluate the environmental, social, behavioural and cultural factors which influence health and disease in different populations
- d** assess, by taking a history, the environmental, social, psychological, behavioural and cultural factors influencing a patient's presentation, and identify options to address these, including advocacy for those who are disempowered
- e** apply epidemiological data to manage healthcare for the individual and the community and evaluate the clinical and cost effectiveness of interventions
- f** outline the principles underlying the development of health, health service policy, and clinical guidelines, including principles of health economics, equity, and sustainable healthcare
- g** apply the principles of primary, secondary and tertiary prevention of disease, including immunisation and screening
- h** evaluate the role of ecological, environmental and occupational hazards in ill-health and discuss ways to mitigate their effects
- i** apply the basic principles of communicable disease control in hospital and community settings, including disease surveillance
- j** discuss the role and impact of nutrition to the health of individual patients and societies
- k** evaluate the determinants of health and disease and variations in healthcare delivery and medical practice from a global perspective and explain the impact that global changes may have on local health and wellbeing.

## Clinical research and scholarship

**26 Newly qualified doctors must be able to apply scientific method and approaches to medical research and integrate these with a range of sources of information used to make decisions for care.**

They must be able to:

- a** explain the role and hierarchy of evidence in clinical practice and decision making with patients
- b** interpret and communicate research evidence in a meaningful way for patients to support them in making informed decisions about treatment and management
- c** describe the role and value of qualitative and quantitative methodological approaches to scientific enquiry
- d** interpret common statistical tests used in medical research publications
- e** 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.
- f** formulate simple relevant research questions in biomedical science, psychosocial science or population science, and design appropriate studies or experiments to address the questions
- g** describe basic principles and ethical implications of research governance including recruitment into trials and research programmes
- h** describe stratified risk
- i** describe the concept of personalised medicine to deliver care tailored to the needs of individual patients
- j** use evidence from large scale public health reviews and other sources of public health data to inform decisions about the care of individual patients.

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## References

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- 1 Find out more about the Foundation Programme curriculum on the Foundation Programme website.
- 2 General Medical Council. *Good medical practice* and explanatory guidance available at: [https://www.gmc-uk.org/guidance/ethical\\_guidance.asp](https://www.gmc-uk.org/guidance/ethical_guidance.asp)
- 3 See our [supplementary guidance on Good medical practice and explanatory guidance](#) for specific areas of Good medical practice and explanatory guidance that we expect newly qualified doctors to be familiar with.
- 4 For more information, see our ethical guidance on the professional duty of candour and also, the revalidation pages of our website.
- 5 This could include whistleblowing, see UK government guidance on whistleblowing for employees.
- 6 For more information, see our revalidation home page: <https://www.gmc-uk.org/registration-and-licensing/managing-your-registration/revalidation>
- 7 We require medical schools and postgraduate training organisations and local education providers to give learners resources to support their health and wellbeing. Theme 3: Supporting learners, Requirement R3.2.
- 8 See our [supplementary guidance on legislation](#) for specific areas of legislation that we expect newly qualified doctors to be able to understand the principles of.
- 9 See UK guidance on Mandatory reporting of female genital mutilation.
- 10 See our Guidance for doctors who offer cosmetic interventions.
- 11 Newly qualified doctors working in Wales need to be aware of provisions for Welsh language services in health, social services and social care in Wales. NHS Wales Welsh Language Policy Unit.

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