

**Graduates' Outcomes
For
Medical Colleges in
Iraq
2019-2020**

Graduate Outcomes for Medical Colleges in Iraq

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شكر و تقدير

تتوجه لجنة مخرجات كليات الطب العراقية برئيسها و أعضائها بجزيل الشكر و التقدير الى الزملاء الأساتذة الأطباء من العاملين في وزارة الصحة و العاملين في وزارة التعليم العالي و البحث العلمي الذين تفاعلوا مع عمل اللجنة و أغنوا اللجنة بأرائهم و ملاحظاتهم القيمة و نخص بالذكر مجموعة منهم شاركت اللجنة قولاً و عملاً وحضروا جانباً من اجتماعات اللجنة للنقاش و التباحث حول تفاصيل المخرجات و هم:

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Graduates' Outcomes for Medical Colleges in Iraq, First Edition

This is a practical guide to planning and implementing medical curricula. It includes detailed yet much focused information about attributes or characteristics that must be exhibited by graduates of medical colleges in Iraq. Outcomes are description for what a medical graduate must know, be able to do, and feel or believe or value, as a health provider to people in general and patients in particular.

This guide is a mile stone in medical education and accreditation of medical colleges in Iraq that will strengthen the scientific efforts of medical colleges toward excellence in medical education. All medicals in ministry of health (MoH) whether physicians, surgeons or otherwise will benefit from this guide because all medical specialists have resident doctors and medical students to teach and to help them to learn better. The first step in planning a curriculum, after identifying the needs of course, is defining learning outcomes or learning objectives in the form of actions amenable to observation and evaluation.

The outcomes are divided into three categories that cover all aspects of teaching and learning process, i.e.

Knowledge under the title: the doctor as a scholar and scientist.

Skills under the title: the doctor as a practitioner.

Attitudes under the title: the doctor as a professional.

In each category the reader will see a number of outcomes that are clear and compatible with Iraq health care system but this does not mean that review and future renewal is not needed.

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- A. The graduate will be able to apply to medical practice biomedical scientific principles, method and knowledge relating to: anatomy, biochemistry, cell biology, genetics, immunology, microbiology, molecular biology, nutrition, pathology, pharmacology and physiology.
- B. Apply psychological principles, method and knowledge to medical practice.
- C. Apply social science principles, method and knowledge to medical practice.
- D. Apply to medical practice the principles, method and knowledge of population health and the improvement of health and healthcare.
- E. Apply scientific method and approaches to medical research.

II. Outcomes two-the doctor as a practitioner (Skills)	
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- A. The graduate will be able to carry out a consultation with a patient:
- B. Diagnose and manage clinical presentations.
- C. Communicate effectively with patients, their families and colleagues in a medical context.
- D. Provide immediate care in all medical emergencies
- E. Prescribe drugs safely, effectively and economically.
- F. Carry out practical procedures safely and effectively.
- G. Use information effectively in a medical context.

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Introduction

Outcomes-based curriculum (OBC) or Outcomes-based education (OBE) is a learner-centered approach that focuses on what a student should be able to do in the real world upon completion of their course or program. In OBC the curriculum is carefully constructed by first determining the outcomes, and then designed backwards. It contrasts with traditional education, which primarily focuses on the resources (inputs) that are available to the student; it focuses on output or outcome. It uses methods which are learner-centered and that focus on authentically measuring student performance (the “outcome”). An analysis of the medical education literature and the principles of OBC show the contrasts between traditional and outcomes-based educational frameworks and are described in more detail below:

Descriptive Statistics and Reliability of Factors

<u>Traditional education</u>	<u>Outcomes-based education</u>
1. Define teaching objectives	Define learning outcomes
2. Time is fixed, outcomes variable	Time is variable, outcomes fixed
3. Assessment is secondary	Assessment is central
4. Focus on teaching	Focus on learning
5. Standardized curriculum	Individualized curriculum
6. Teacher as guardian of curriculum	Teacher as guide and advisor

The potential benefits of OBC have made it one of the more influential frameworks for medical education in the world today. It has generated a great deal of scholarly discussion and many schools are evaluating if and how OBC might fit within their own educational mission. As medicine evolves, so must medical education and the assessment of physician competence. Outcome-based education offers many advantages as a way of achieving this. In outcome-based education the educational outcomes are clearly and unambiguously specified. These determine the curriculum content and its organization, the teaching methods and strategies, the courses offered, the assessment process, the educational environment and the curriculum timetable. They also provide a framework for curriculum evaluation.

It emphasizes relevance in the curriculum and accountability, and can provide a clear and unambiguous framework for curriculum planning which has an intuitive appeal. It encourages the teacher and the student to share responsibility for learning and it can guide student assessment and course evaluation. What sort of outcomes should be covered in a curriculum, how should they be assessed and how should outcome-based education be implemented are issues that need to be addressed.

How should such change be conducted?

Six steps are often used as a guide for curricular design. These are:

- 1) Problem identification and general needs assessment
- 2) Needs assessment for targeted learners
- 3) Goals and objectives
- 4) Educational strategies
- 5) Implementation
- 6) Evaluation and feedback

Appointing a dedicated committee, submitting a proposal and receiving an approval from the governing parties is very important to have ongoing evaluation of the process and having all departments onboard to avoid resistance and power struggle. Curricular reform, be it of an entire medical school curriculum or a significant longitudinal component should follow as much as possible the current wisdom of educational innovation and change strategy. It should follow a clear vision and mission, a selected educational paradigm, and pay attention to stakeholders, context, culture and politics.

Head of Graduates' Outcomes Committee

Abdul-Ameer Mohsin

President of Iraq Medical Association

Outcomes one – the doctor as a scholar and a scientist (Knowledge)

Outcomes one – the doctor as a scholar and a scientist (Knowledge)

Here in “the doctor as a scholar and a scientist” there are five areas labeled (A-E) as follows:

- A. The graduate will be able to apply to medical practice biomedical scientific principles, method and knowledge relating to: anatomy, biochemistry, cell biology, genetics, immunology, microbiology, molecular biology, nutrition, pathology, pharmacology and physiology.
- B. Apply psychological principles, method and knowledge to medical practice.
- C. Apply social science principles, method and knowledge to medical practice.
- D. Apply to medical practice the principles, method and knowledge of population health and the improvement of health and healthcare.
- E. Apply scientific method and approaches to medical research.

Each of the above five areas has a number of detailed points that cover each of them comprehensively. They are:

- A. Seven points (1-7).
- B. Seven points (1-7).
- C. Five points (1-5).
- D. Ten points (1-10).
- E. Four points (1-4).

To make it clear for readers each area with its detailed points will be presented separately, as you will see below.

A. The graduate will be able to apply to medical practice biomedical scientific principles, method and knowledge relating to: anatomy, biochemistry, cell biology, genetics, immunology, microbiology, molecular biology, nutrition, pathology, pharmacology and physiology. The graduate will be able to:

1. Explain normal human structure and functions.
2. Explain the scientific bases for common disease presentations.
3. Justify the selection of appropriate investigations for common clinical cases.
4. Explain the fundamental principles underlying such investigative techniques.
5. 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.
6. Demonstrate knowledge of drug actions: therapeutics and pharmacokinetics; drug side effects and interactions, including for multiple treatments, long term conditions and non-prescribed medication; and also including effects on the population, such as the spread of antibiotic resistance.
7. Make accurate observations of clinical phenomena and appropriate critical analysis of clinical data.

B. Apply psychological principles, method and knowledge to medical practice.

1. Explain normal human behaviour at an individual level.
2. Discuss psychological concepts of health, illness and disease.
3. Apply theoretical frameworks of psychology to explain the varied responses of individuals, groups and societies to disease.
4. Explain psychological factors that contribute to illness, the course of the disease and the success of treatment.
5. Discuss psychological aspects of behavioural change and treatment compliance.
6. Discuss adaptation to major life changes, such as bereavement; comparing and contrasting the abnormal adjustments that might occur in these situations.
7. Identify appropriate strategies for managing patients with dependence issues and other demonstrations of self-harm.

C. Apply social science principles, method and knowledge to medical practice.

1. Explain normal human behaviour at a societal level.
2. Discuss sociological concepts of health, illness and disease.
3. Apply theoretical frameworks of sociology to explain the varied responses of individuals, groups and societies to disease.
4. Explain sociological factors that contribute to illness, the course of the disease and the success of treatment – including issues relating to health inequalities, the links between occupation and health and the effects of poverty and affluence.
5. Discuss sociological aspects of behavioural change and treatment compliance.

D. Apply to medical practice the principles, method and knowledge of population health and the improvement of health and healthcare.

1. Discuss basic principles of health improvement, including the wider determinants of health, health inequalities, health risks and disease surveillance.
2. Assess how health behaviours and outcomes are affected by the diversity of the patient population.
3. Describe measurement methods relevant to the improvement of clinical effectiveness and care.
4. Discuss the principles underlying the development of health and health service policy, including issues relating to health economics and equity, and clinical guidelines.
5. Explain and apply the basic principles of communicable disease control in hospital and community settings.
6. Evaluate and apply epidemiological data in managing healthcare for the individual and the community.
7. Recognise the role of environmental and occupational hazards in ill-health and discuss ways to mitigate their effects.
8. Discuss the role of nutrition in health.
9. Discuss the principles and application of primary, secondary and tertiary prevention of disease.
10. Discuss from a global perspective the determinants of health and disease and variations in healthcare delivery and medical practice.

E. Apply scientific method and approaches to medical research.

1. Critically appraise the results of relevant diagnostic, prognostic and treatment trials and other qualitative and quantitative studies as reported in the medical and scientific literature.
2. Formulate simple relevant research questions in biomedical science, psychosocial science or population science, and design appropriate studies or experiments to address the questions.
3. Apply findings from the literature to answer questions raised by specific clinical problems.
4. Understand the ethical and governance issues involved in medical research.

Outcomes two-the doctor as a practitioner (Skills)

Outcomes two- The doctor as a practitioner (Skills)

For the doctor as a practitioner there are seven areas to cover the skills that must be exhibited by the graduates. The areas are labeled (A-G) as follows:

- A. The graduate will be able to carry out a consultation with a patient.
- B. Diagnose and manage clinical presentations.
- C. Communicate effectively with patients, their families and colleagues in a medical context.
- D. Provide immediate care in all medical emergencies.
- E. Prescribe drugs safely, effectively and economically.
- F. Carry out practical procedures safely and effectively.
- G. Use information effectively in a medical context.

Each of the above seven areas there are a certain number of detailed points that cover the area comprehensively as follows:

- A. Seven points (1-7).
- B. Ten points (1-10).
- C. Eight points (1-8).
- D. Five points (1-5).
- E. Eight points (1-8).
- F. Three points (1-3).
- G. Five points (1-5).

To make it clear for readers each area with its detailed points will be presented separately, as you will see below.

A. The graduate will be able to carry out a consultation with a patient:

1. Take and record a patient's medical history, including family and social history, talking to relatives or other carers where appropriate.
2. Elicit patients' questions, their understanding of their condition and treatment options, and take their opinions into consideration.
3. Perform a full physical examination.
4. Perform a mental-state examination.
5. Assess a patient's capacity to make a particular decision that does not contradict legal requirements.
6. Determine the extent to which patients want to participate in deciding management options with their health care providers.
7. Provide explanation, advice, reassurance and support.

B. Diagnose and manage clinical presentations.

1. Interpret findings from the history, physical examination and mental-state examination, appreciating the importance of clinical, psychological, social and cultural factors.
2. Make an initial assessment of a patient's problems and a differential diagnosis. Understand the processes by which doctors make and test a differential diagnosis.
3. Formulate a plan of investigation in partnership with the patient, obtaining informed consent as an essential part of this process.
4. Interpret the results of investigations, and the results of the diagnostic procedures in Appendix 1. E
5. Synthesize a full assessment of the patient's problems and define the likely diagnosis or diagnoses.
6. Make clinical judgments and decisions, based on the available evidence, in conjunction with colleagues and as appropriate. This may include situations of uncertainty.
7. Formulate a plan for treatment, management and discharge according to best evidence in partnership with the patients, their families and other health professionals with consideration to patients' concerns and preferences.
8. Support patients in caring for themselves.
9. Identify the signs that suggest children or other vulnerable people may be suffering from abuse or neglect and know what action to take to safeguard their welfare.
10. Contribute to the care of terminal patients and their families, including management of symptoms, practical issues of law and certification, and effective communication and team working.

C. Communicate effectively with patients, their families and colleagues in a medical context.

1. Communicate clearly, sensitively and effectively with patients, their relatives or other carers, and colleagues from the medical and other professions, by listening, sharing and responding.
2. Communicate clearly, sensitively and effectively with individuals and groups regardless of their age, social, cultural or ethnic backgrounds or their disabilities, in appropriate language.
3. Communicate by spoken, written and electronic methods including medical records and be aware of other non-verbal methods of communication used by patients like body language and facial expression.
4. Communicate appropriately in difficult circumstances, such as when breaking bad news, and when discussing sensitive issues, such as alcohol consumption, smoking or obesity.
5. Communicate appropriately with difficult, angry, or violent patients.
6. Communicate appropriately with people with mental illness.
7. Communicate appropriately with vulnerable patients.
8. Communicate effectively in various roles, for example, as patient advocate, teacher, manager or improvement leader.

D. Provide immediate care in all medical emergencies

1. Assess and recognise the severity of a clinical presentation and a need for immediate emergency care.
2. Diagnose and manage acute medical emergencies.
3. Provide basic first aid.
4. Provide immediate life support.
5. Provide cardio-pulmonary resuscitation or direct other team members to carry out resuscitation.

E. Prescribe drugs safely, effectively and economically.

1. Establish an accurate drug history, covering both prescribed and other medication.
2. Plan appropriate drug therapy for common indications, including pain and distress.
3. Provide a safe and legal prescription, with emphasis on pregnancy, lactation, children, organ transplant, allergy, and elderly.
4. Calculate appropriate drug doses and record the outcome accurately.
5. Provide patients with appropriate information about their medicines.
6. Access reliable information about medicines according to need.
7. Detect and report adverse drug reactions.
8. Demonstrate awareness about the existence of a range of alternative therapies used by patients and awareness about possible effects on or interaction with other treatments taken by patients.

F. Carry out practical procedures safely and effectively.

1. Be able to perform a range of diagnostic procedures, as listed in Appendix 1 and measure and record the findings.
2. Be able to perform a range of therapeutic procedures, as listed in Appendix 1.
3. Be able to demonstrate correct practice in general aspects of practical procedures, as listed in Appendix 1.

G. Use information effectively in a medical context.

1. Keep accurate, legible and complete clinical records.
2. Make effective use of computers and other information systems, including storing and retrieving information.

Diagnostic procedure

3. Keep to the requirements of confidentiality and data protection legislation and codes of practice in all dealings with information.
4. Access information sources and use the information in relation to patient care, health promotion, giving advice and information to patients, and research and education.
5. Apply the principles, method and knowledge of health informatics to medical practice.

	Diagnostic Procedure
1	Measuring body temperature using an appropriate recording device.
2	Measuring pulse rate and blood pressure using manual techniques and automatic electronic devices.
3	Transcutaneous monitoring of oxygen saturation, applying, and taking readings from, an electronic device which measures the amount of oxygen in the patient's blood.
4	Venepuncture, inserting a needle into a patient's vein to take a sample of blood for testing, or to give an injection into the vein.
5	Managing blood samples correctly Making sure that blood samples are placed in the correct containers, and that these are labelled correctly and sent to the laboratory promptly and in the correct way. Taking measures to prevent spilling and contamination.
6	Taking blood cultures: Taking samples of venous blood to test for the growth of infectious organisms in the blood. Requires special blood containers and laboratory procedures.
7	Measuring blood glucose: Measuring the concentration of glucose in the patient's blood at the bedside, using appropriate equipment and interpreting the results.
8	Managing an electrocardiograph (ECG) monitor Setting up a continuous recording of the electrical activity of the heart. Ensuring the recorder is functioning correctly, and interpreting the tracing.

Diagnostic procedures

9	Performing and interpreting a 12-lead electrocardiograph (ECG) Recording a full, detailed tracing of the electrical activity of the heart, using a machine recorder (electrocardiograph). Interpreting the recording for signs of heart disease.
10	Basic respiratory function tests Carrying out basic tests to see how well the patient's lungs are working (for example, how much air they can breathe out in one second).
11	Urine multi dipstick test Testing a sample of urine for abnormal contents, such as blood or protein. The urine is applied to a plastic strip with chemicals which change colour in response to specific abnormalities.
12	Advising patients on how to collect a mid-stream urine specimen Obtaining a sample of urine from a patient, usually to check for the presence of infection, using a method which reduces the risk of contamination by skin bacteria.
13	Taking nose, throat and skin swabs Using the correct technique to apply sterile swabs to the nose, throat and skin.
14	Nutritional assessment Making an assessment of the patient's state of nutrition. This includes an evaluation of their diet; their general physical condition; and measurement of height, weight and body mass index.
15	Pregnancy testing Performing a test of the urine to detect hormones which indicate that the patient is pregnant.

Therapeutic procedures

	Procedure
1	Administering oxygen Allowing the patient to breathe a higher concentration of oxygen than normal, via a face mask or other equipment.
2	Establishing peripheral intravenous access and setting up an infusion; use of infusion devices Puncturing a patient's vein in order to insert an indwelling plastic tube (known as a 'cannula'), to allow fluids to be infused into the vein (a 'drip'). Connecting the tube to a source of fluid. Appropriate choice of fluids and their doses. Correct use of electronic devices which drive and regulate the rate of fluid administration.
3	Making up drugs for parenteral administration Preparing medicines in a form suitable for injection into the patient's vein. May involve adding the drug to a volume of fluid to make up the correct concentration for injection.
4	Dosage and administration of insulin and use of sliding scales Calculating how many units of insulin a patient requires, what strength of insulin solution to use, and how it should be given (for example, into the skin, or into a vein). Use of a 'sliding scale' which links the number of units to the patient's blood glucose measurement at the time.
5	Subcutaneous and intramuscular injections, Giving injections beneath the skin and into muscle.
6	Blood transfusion Following the correct procedures to give a transfusion of blood into the vein of a patient (including correct identification of the patient and checking blood groups). Observation for possible reactions to the transfusion, and actions if they occur.

	Procedure
7	Male and female urinary catheterisation Passing a tube into the urinary bladder to permit drainage of urine, in male and female patients.
8	Instructing patients in the use of devices for inhaled medication Providing instructions for patients about how to use inhalers correctly, for example, to treat asthma.
9	Use of local anaesthetics Using drugs which produce numbness and prevent pain, either applied directly to the skin or injected into skin or body tissues.
10	Skin suturing Repairing defects in the skin by inserting stitches (normally includes use of local anaesthetic).
11	Wound care and basic wound dressing Providing basic care of surgical or traumatic wounds and applying dressings appropriately.
12	Correct techniques for 'moving and handling', including patients Using, or directing other team members to use, approved methods for moving, lifting and handling people or objects, in the context of clinical care, using methods that avoid injury to patients, colleagues, or oneself.

General aspects of practical procedures

	Aspect
1	Giving information about the procedure, obtaining and recording consent, and ensuring appropriate aftercare Making sure that the patient is fully informed, agrees to the procedure being performed, and is cared for and watched appropriately after the procedure
2	Hand washing (including surgical 'scrubbing up') Following approved processes for cleaning hands before procedures or surgical operations.
3	Use of personal protective equipment (gloves, gowns, masks) Making correct use of equipment designed to prevent the spread of body fluids or cross-infection between the operator and the patient.
4	Infection control in relation to procedures Taking all steps necessary to prevent the spread of infection before, during or after a procedure.
5	Safe disposal of clinical waste, needles and other 'sharps' Ensuring that these materials are handled carefully and placed in a suitable container for disposal.

Outcomes three- the doctor as a professional (Attitudes)

For the doctor as a professional there are six main areas to cover the behaviors that must be exhibited by the graduates. These are labeled (A-F) as follows:

A. Professional and ethical responsibilities.

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

2. 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.⁷

B. Legal responsibilities.

1. Newly qualified doctors must demonstrate knowledge of the principles of the legal framework in which medicine is practiced in the jurisdiction in which they are practicing, and have awareness of where further information on relevant legislation can be found.⁸ (8 supplementary guidance on legislation)

C. Patient safety and quality improvement.

1. 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.

D. Dealing with complexity and uncertainty.

1. 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.

E. Safeguarding vulnerable patients.

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

F. Leadership and team working.

1. Newly qualified doctors must recognise the role of doctors in contributing to the management and leadership of the health service.
2. 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.

Each main area has one or two sub-areas, and each sub-area has a number of professional behaviors as will be seen in the coming paragraphs.

A. Professional and ethical responsibilities

1. 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 behavior 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 prioritize effectively
 - h. Recognize 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. Recognize 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 the consent 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. Respect patients' wishes about whether they wish to participate in the education of learners

o. Access and analyse reliable sources of current clinical evidence and guidance and have established methods for making sure their practice is consistent with these

p. Explain and demonstrate the importance of engagement with revalidation,⁶ including maintaining a professional development portfolio which includes evidence of reflection, achievements, learning needs and feedback from patients and colleagues

q. Engage in their induction and orientation activities, learn from experience and feedback, and respond constructively to the outcomes of appraisals, performance reviews and assessments.

2. 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.⁷

They must demonstrate awareness of the need to: (1.2)

- 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.

B. Legal responsibilities

1. Newly qualified doctors must demonstrate knowledge of the principles of the legal framework in which medicine is practiced in the jurisdiction in which they are practicing, and have awareness of where further information on relevant legislation can be found.

C. Patient safety and quality improvement

1. 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. Recognize 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, organizational and system levels and recognize 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 prioritization of resources.
- h. Describe the value of national surveys and audits for measuring the quality of care.

D. Dealing with complexity and uncertainty

1. 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. Recognize 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. Recognize 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

1. 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 mutilation⁹ and cosmetic interventions. ¹⁰
- g. Explain the application of health legislation that may result in the deprivation of liberty to protect the safety of individuals and society.
- h. Recognize 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.

F. Leadership and team working

1. 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.

Describe theoretical models of leadership and management that may be applied to practice.

G.2 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.** Recognize 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.

References

Outcomes for graduates (Tomorrow's Doctors), 2015, General Medical Council.

Outcomes for graduates (Tomorrow's Doctors), 2018, General Medical Council.

Outcomes and Standards for Undergraduate Medical Education in Singapore
Recommendations of the National Medical Undergraduate Curriculum Committee,
2014.

Tomorrow's Doctors, 2003, General Medical Council.

