

Guidance statement:

Clinical practice core competencies for graduating medical students

The COVID-19 pandemic has caused considerable disruption to medical programs and how students are supported in their learning to progress through to graduation. Of particular focus has been the need to continue students' access to clinical placements and address the reduced availability of clinical teachers in some areas. As a result, medical schools have worked rapidly and innovatively to implement changes to their programs to deal with these difficulties in delivering teaching and training, and to adapt the associated student assessments.

In order to achieve and retain accreditation, medical programs in Australia and New Zealand are assessed by the Australian Medical Council (AMC) to ensure they are designed and implemented to support the published 2012 Graduate Outcomes Statements and ensure that students are thoroughly prepared for internship. Whilst there is considerable variety in the approach the medical schools take and the curricula they design to reach these outcomes, all schools tightly assess their students to ensure they achieve these common outcomes in order to graduate.

To support all schools during this time of rapid and responsive adaptation, the Medical Deans' Medical Education Collaborative Committee (MECC) established a Taskforce to lead a collaborative approach to identifying a comprehensive set of core competencies for final year students to support the mapping of the AMC's Graduate Outcomes Statements to schools' curricula. These will be shared with all medical schools as a resource they can use to complement and support their work in adapting their medical program, learning resources, and associated assessments.

Moving from graduation to internship is one of the most important transitions for medical practitioners. The core competencies in this document describe the foundational skills and knowledge required for medical graduates to be ready to step into internship and accept the responsibilities associated with being in the medical workforce, and take their next step in their journey of lifelong learning.

The development of these competencies included a review of contemporary work listing the expected capabilities of graduating medical students (details below).

As a follow-on from this work, the Taskforce intends to share examples, tools or resources that practically identify the tasks or activities which would enable students to demonstrate how they meet these competencies.

Terminology used in this document

This document uses the following terminology:

- **Competency**, defined as 'an observable ability of a health professional, integrating multiple components such as knowledge, skills, values, and attitudes. Since competencies are observable, they can be measured and assessed to ensure acquisition by a professional. Competencies can be assembled like building blocks to facilitate progressive development'. [1]
- **Competence**, defined as 'the array of abilities across multiple domains or aspects of physician performance in a certain context. Statements about competence require descriptive qualifiers to define the relevant abilities, context, and stage of training.

Competence is multidimensional, dynamic and changes with time, experience, and setting'. [1]

- **Entrustable Professional Activity (EPA)**, defined as a core unit of professional practice that can be fully entrusted to a trainee. In this context it means a clinical activity that medical graduates should be able to complete with limited supervision when starting internship [2, 3].

Professor Olle Ten Cate from University Medical Centre Utrecht wrote: "Competencies are person descriptors, as they signify what individuals are able to do, whereas EPAs are work descriptors and only reflect the work, tasks and activities that are to be carried out in health care irrespective of who does that work." [4] As such, this document focuses on the people performing the tasks, rather than the tasks themselves.

Set of core competencies – development

The set of core competencies below specifically relate to clinical practice for graduating medical students. In their development the Taskforce referenced a range of materials from medical schools and also the list of competencies for the Day 1 intern developed from the National Intern Readiness Forum in 2016 [7], NSW Health's draft Intern entry skills and competencies, and the Association of American Medical Colleges EPAs mapped to AMC outcomes [3,6].

From this mapping exercise, the competencies listed in the table below were identified and grouped into relevant categories. It was agreed that using an established EPA structure would be useful to identify what level of competency was appropriate upon graduation and the environment in which each competency could be demonstrated and assessed. Thus, each competency has a corresponding:

- Competency test environment; and
- Graduating competency level (i.e. level of supervision required).

How this document may be used

This document is an internal MDANZ document and intended to be used for guidance by medical schools at their own discretion. Its recommendations would be applied differently, depending on the curriculum of each individual medical school.

This guidance is not intended to be prescriptive about how specific competencies may be demonstrated or the duration of time required to develop and demonstrate mastery of a task or skill. Rather, it provides a framework for a competency-based approach to medical education which can be applied in a range of appropriate settings.

The Taskforce anticipates that medical schools may need a variety of tools to assess a student's competence. The competencies are intended to support the ethos of entrustability as a quality relating to a specific clinical activity, which is informed by multiple and various observations and not solely student performance in a singular assessment.

It is acknowledged that students work towards achieving these competencies throughout their program, not just in the final year. In considering how these competencies apply, it is recommended that recency of practice also be a consideration.

a. Use by medical schools

This document may be used by medical schools to:

- identify the minimum competencies required to graduate medical students in 2020 and use this as a basis to ensure appropriate learning required in different clinical and non-clinical settings, and how the outcomes of this learning are assessed;
- enable a competency-based approach to guide medical student participation in the workforce response during COVID-19 if required, such as within pre-Intern roles; and
- be applicable beyond 2020, as an enduring set of clinical practice core competencies for graduating medical students.

In doing this, medical schools may choose to map these competencies to their curriculum and identify which competencies require clinical exposure for a student to demonstrate their achievement, and where others may be achieved through a simulated setting.

This document may also assist medical schools to modify their current suite of clinical assessment – acknowledging that clinical competence of graduating medical students can be demonstrated through a range of assessment tasks, undertaken in various settings.

b. Support for students

Medical schools may wish to share this document with their medical students, to help them understand and assess their own progress in developing the clinical competencies required to meet the expected standard of a final year graduating medical student, and transition to commencing work as an intern.

Students should proactively seek out opportunities to learn, practise and receive feedback on their development of these competencies, as appropriate in the simulated or clinical environments, and with the suggested level of supervision outlined in this document. Students should maintain recency of practice in these competencies, both prior to and following graduation from medical school.

c. Use by health services and clinical supervisors

Medical schools may also wish to share this document with their partner health services and the clinical and/or supervisory staff who will be responsible for supervising and teaching final year medical students. It will provide them with a clear guide to the clinical tasks that final year medical students are required to demonstrate competence in, and the level of competency required for graduation.

Understanding the competency table

Competency test environment

The competency test environment identifies the setting in which the competency will be assessed. Two types of test environments were identified and indicated as either A or B:

- Simulated experience or environment* – perform competency as a simulated experience in a clinical environment (a structured clinical experience designed for learning) or as a simulated experience in a simulated environment e.g. simulation lab, workshop with simulated patients, or an Objective Structured Clinical Examination (OSCE).
- Clinical setting* – perform competency in a workplace-based clinical environment (or student workforce position).

Graduating competency level

The graduating competency level identifies the performance expected of a medical student at the time of graduation, i.e. in the very final stages of medical school. Using an adapted version of the EPAs used in the Utrecht undergraduate model [2], competency levels were identified and rated from 1 to 4:

1. *Understands theoretical principles* – understands intellectual principles and how to complete the task but does not have authority to perform the competency prior to provisional registration. For example, with respect to prescribing, understands how to write a prescription in a simulated environment prior to graduation but is only able to legally write prescriptions once provisionally registered.
2. *Able to practise under direct, proactive supervision* – supervisor is present in the room and the task is conducted as a co-activity with supervisor, or under direct observation where the supervisor is able to provide immediate feedback and hands-on support
3. *Able to practise under indirect, reactive/on-demand supervision* – supervisor is not in the room but in the immediate vicinity and quickly available for reactive/on-demand supervision. The supervisor may repeat the activity, double check key findings and decisions, and/or double check findings within 24 hours or earlier, as appropriate.
4. *Able to practise with limited or remote supervision* – supervisor is not required to be present in the healthcare facility but is available on call to come and assist if needed or may provide subsequent feedback.

In the table of competencies below, where a specific skill within a competency requires a different competency level, it is specified in parentheses next to the skill.

Indigenous health education

Whilst the concept of "competencies" recognises that learning is a continuum, it is no longer a construct used in Indigenous health education. Medical education and training is based on the principle of lifelong learning. The idea that one can become and remain fully competent is not valid. Medical practice itself has no end-point to learning, recognising that better understanding, knowledge and care is delivered through reflective practice. Cultural safety, and cultural security will always require vigilance and continued work, at a personal, professional and political level.

In this document, the word Indigenous refers to Māori of Aotearoa (New Zealand), and Aboriginal and Torres Strait Islander Australians. Cultural differences, and the shared aspects of their colonial history, are acknowledged.

Clinical practice core competencies

Competency (skill-specific competency in brackets)	Test environment (A or B)	Graduating competency level (rated 1-4)
Indigenous health		
Recognise and address racism where it occurs, whilst seeing the impact of colonisation and acknowledging the historical, geographical and socio-cultural context of healthcare in Australia and New Zealand.	B	4
Work in a culturally safe way to appropriately assess, manage and discharge an Indigenous patient, with due recognition of their clinical, social, financial and cultural context, and always committed to personal lifelong learning to improve practice	B	4
Appropriately recognise the role of Indigenous health clinicians, including Aboriginal or Torres Strait Islander or Māori health workers, and in order to work collaboratively with them, Indigenous patients and their families and communities.	B	4
Core skills		
Demonstrate and practise infection control	B	4
Recognise (4), assess (2), escalate (4), and perform initial management (2) of deteriorating, injured and critically unwell patients, understand medical emergency team roles, and escalate appropriately.	A	2 - 4
Perform common emergency and life support procedures: <ul style="list-style-type: none"> - Basic life support (4) - Defibrillation (3) - Insertion of Guedel airway (3) - insertion of laryngeal mask airway (2) 	A	2 - 4
Diagnostic procedures		
Select common investigations, providing justification and relevant information with regard to the pathological basis of disease, utility, safety, sustainability and cost effectiveness: <ul style="list-style-type: none"> - venepuncture and taking blood for laboratory analysis - venous and arterial blood gases - blood cultures - ECG - urinalysis - wound swab - imaging 	A	1
Perform common clinical procedures: <ul style="list-style-type: none"> - venepuncture and taking blood for laboratory analysis (4) - venous blood gases (2) - arterial blood gases (2) - blood cultures (3) - ECG (4) 	B	2 - 4

- urinalysis (4) - wound swab (4) - intramuscular and subcutaneous injections (3)		
Therapeutic procedures		
Demonstrate competence in intravenous cannulation	B	3
Demonstrate competence in insertion of indwelling urinary catheterisation in males and females	A	2
Assess and manage traumatic and operative wounds: - wound assessment (3) - investigations (3) - anaesthesia/analgesia (3) - wound closure including suturing (2) - aftercare (3)	B	2-3
Prescribing		
Prescribe medications (including fluids, electrolytes, blood products, oxygen, and inhalational agents) safely, effectively, and economically.	A	1
Demonstrate ability to: - write a safe prescription - identify adverse drug reactions and interactions - calculate drug doses - complete medication reconciliation - communicate with patients about medication - monitor the consequences of medication therapy - adjust prescribing regimens based on clinical assessments and laboratory results	A	1
Demonstrate knowledge of safe prescribing of high risk medicines: - anti-infective agents - anti-psychotics - fluid and electrolyte therapy - insulin - analgesics (opioid and non-opioid) - sedative agents - chemotherapeutic agents - heparin and other anticoagulants - blood products - oxygen	A	3
Clinical knowledge and skills		
Assess the probability of initial differential diagnoses using a focused history, examination and where appropriate, investigation results, to formulate a working diagnosis/diagnoses	B	3
Based on information obtained, formulate an appropriate initial list of differential diagnoses, ordered as to which are most and least likely	B	4
Demonstrate formulation and negotiation of a prioritised management plan in collaboration with patients, carers and health professionals	B	2

Demonstrate implementation of a prioritised management plan in collaboration with patients, carers and health professionals	B	1
Discuss and plan health maintenance, promotion, and prevention interventions with patients, carers and health professionals	B	2
Clinical communication		
Demonstrate competence in patient handover using IS(O)BAR or equivalent	B	3
Apply principles of informed consent relating to clinical activities directly undertaken by student, including: Information giving, patient's rights and documentation.	B	4
Synthesise relevant clinical and investigational data to write a discharge summary	A	2
Comply with organisational policies regarding timely and accurate documentation, including good medical record keeping	B	2
Be able to certify life extinct, understand the information required for completion of death and cremation certificates; demonstrate knowledge of when and how to refer a death to the Coroner	A	1
Demonstrate respect when dealing with patients and colleagues, including graded assertiveness and speaking up	A	3
Person-centred care		
Demonstrate collaboration with patients and families to develop a shared understanding of their preferences and priorities that enables mutually acceptable treatment goals while fostering the patient's agency for self-care and management	B	4
Demonstrate compassion, empathy and respect for all patients, colleagues, families and communities, together with the qualities of honesty and integrity	B	4
Demonstrate a knowledge of cultural, social and economic factors that influence the patient experience and the delivery of health care	B	4
Apply knowledge of risk stratification to initiate goals of care and advanced care planning conversations with patients and/or carers	A	1
Cultural capability		
Demonstrate acceptance and respect for all people regardless of background, including race, culture, gender, ethnicity, and sexuality	B	4
Professional behaviour and Inter-professional skills		
Assess and manage clinical situations based on awareness of own limitations and scope of practice	B	4
Demonstrate an ability to work as an effective team member, understanding and respecting the variety of roles within the clinical setting	B	4
Demonstrate time management and prioritisation in a clinical environment with competing priorities and multiple sources of requests	B	3
Outline when and how to make a patient referral	B	2

Apply ethical principles and medicolegal responsibilities of health professionals especially those relating to duty of care to patients and colleagues, privacy, confidentiality, mandatory reporting and notification	B	4
Demonstrate scholarship and self-appraisal skills; actively seek and engage with feedback to facilitate continuous professional development	B	4
Formulate a self-care plan that facilitates safe health behaviours while at work and in personal life, necessary for supporting the physical and mental wellbeing of self, patients and colleagues	B	4
Establish effective mutually beneficial mentoring and support relationships	B	4
Public health		
Demonstrate an understanding of global health issues and determinants of health and disease including their relevance to health care delivery in Australia and New Zealand and the broader Western Pacific region	A	1
Explain and evaluate common population health screening, prevention and infectious disease control approaches, including the use of technology for surveillance and monitoring of the health status of populations	A	1
Health systems		
Identify system strengths and failures and contribute to a culture of safety and improvement incorporating participating in open disclosure	B	1
Describe the relationships between health services, explain the principles of efficient and equitable allocation of finite resources, and assist patients and carers to navigate the health system	B	2
Use clinical communication and information systems in an appropriate, effective and professional manner	B	4

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