Australian Medical Council Limited

Clinical Examination Specifications

Australian Medical Council Limited | January 2019

> ***"The purpose of the Australian Medical Council is to ensure that standards of education, training and assessment of the medical profession promote and protect the health of the Australian Community."***

Important notice to candidates for the Australian Medical Council (AMC) clinical examination

THE AMC NATIONAL TEST CENTRE

In July 2013, the Australian Medical Council officially opened the Vernon C Marshall National Test Centre in Melbourne. The purpose of this facility, which was funded in part by the Australian Government, is both to facilitate the delivery of the AMC clinical examination for International Medical Graduates (IMGs) and to support innovation in assessment for medicine and other health professions. All clinical examinations are now held at this centre.

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1. General introduction

1.1. Purpose of the document

These guidelines and specifications have been prepared to assist candidates for the Australian Medical Council (AMC) clinical examination. Candidates should make themselves fully aware of the information provided.

1.2. Privacy

The AMC observes the provisions of the *Privacy Act* which sets out the requirements for the collection and use of personal information collected.

Each of the Application Forms required by the AMC includes a statement relating to the AMC's privacy procedures. Each must be signed by the applicant to give formal consent for the AMC to collect and hold personal information.

Please note: if this consent is not provided, the AMC will not be able to process the application.

The AMC's full Privacy Policy may be found on the AMC web site at http://www.amc.org.au/about/privacy-policy.

1.3. Aims and objectives of the AMC examination process

The AMC examination process assesses, for registration purposes, the medical knowledge and clinical skills of international medical graduates whose basic medical qualifications are not recognised by the Medical Board of Australia.

The process is designed as a comprehensive test of medical knowledge and clinical competence. There are two stages, the multiple-choice question (MCQ) examination and the clinical examination. Both the MCQ and clinical examination are multidisciplinary and integrated.

The MCQ examination focuses on basic and applied medical knowledge across a wide range of topics and disciplines, involving understanding of disease process, clinical examination, diagnosis, investigation, therapy and management, as well as on the candidate's ability to exercise discrimination, judgment and reasoning in distinguishing between the correct answer and plausible alternatives. The MCQ is a computer-administered examination of three hours and thirty minutes duration and consists of 150 questions. For more information on the MCQ examination, please refer to the MCQ Examination Specifications booklet.

The clinical examination assesses the candidate's capacity in such areas as history taking, physical examination, diagnosis, ordering and interpreting investigations, clinical management and communication with patients, their families and other healthcare workers.

1.4. Standard of the AMC examination

The standard of the AMC examination is formally defined as the level of attainment of medical knowledge, clinical skills and professional behaviours that is required of newly qualified graduates of Australian medical schools who are about to commence intern training. These are described in the AMC graduate outcome statements listed in Appendix A.

The graduate outcomes form the basis of medical education in Australia and are used to accredit medical schools. They are expressed in terms of four overarching domains:

1) Science and Scholarship: the medical graduate as scientist and scholar
2) Clinical Practice: the medical graduate as practitioner
3) Health and Society: the medical graduate as a health advocate
4) Professionalism and Leadership: the medical graduate as a professional and leader

2. The clinical examination

2.1. General objective of the clinical examination

The general objective of the AMC clinical examination is to assess the clinical competence of the candidate for the safe and effective clinical practice of medicine in the Australian health care system.

2.2. Structure of the AMC Clinical Examination

The clinical examination is a multi-station examination of three hours and 20 minutes duration and is administered on a single morning or afternoon.

2.3. Pre-requisites for the clinical examination

Candidates are required to meet the pass standard in the MCQ examination before being eligible to proceed to the clinical examination.

2.4. Standard of performance required

The clinical examination requires the candidate to demonstrate, to the satisfaction of the examiners, clinical ability at the level of a graduating final year medical student about to commence the (pre-registration) intern year, across a broad range of required clinical disciplines.

The candidate is required to:

- be familiar with the common and important health promotion strategies, health disorders, prevention strategies and related issues in the Australian community and to have some awareness of other less common health issues in the Australian community
- take a competent history, perform a competent physical examination, arrive at relevant diagnoses and differentials, order or interpret relevant investigations and describe/explain management plans
- be familiar with the indications for, the mechanisms and actions of, and the adverse effects of, the major therapeutic agents
- explain and justify an approach to a patient's problem(s)

2.5. Process of the clinical examination

A summary of the clinical examination process is set out in Appendix B.

2.6. Arrangements for clinical examination

All examinations are held at the AMC Vernon C Marshall National Test Centre in Melbourne.

Candidates may only apply for one examination at a time. Therefore, candidates who have been scheduled for a clinical examination may not lodge an application for another examination before they have received the results of the scheduled examination.

2.7. Workplace based assessment

Candidates who have been accepted into a position in the workplace based assessment (WBA) pathway and who have not commenced, who are in the process of completing the WBA pathway, or are awaiting their WBA results, may not apply for a position in a clinical examination.

For further information regarding WBA, please see:
http://www.amc.org.au/assessment/pathways/standard/wba

2.8. Scheduling process for the clinical examination

The Clinical examination scheduling process includes -

- Once an examination is open for scheduling, candidates will be able to log into their candidate portal and directly apply for their preferred examination date. Candidates will be able to choose from either the morning or afternoon session

- Payment of the examination fee is ONLY accepted by credit card. There will be a 15 minute time frame to complete payment for the examination, once this has lapsed, the placement will be released to the next candidate. *Please note that Cheque payment is not accepted for scheduling of Clinical examinations*

- Once payment has been successfully processed, a placement letter and receipt confirming candidate examination details will be available immediately to download from the candidate portal

- Once the examination placements have been filled, the AMC will compile a cancellation list. To be put on this list, candidates must email clinical@amc.org.au (please note telephone requests will not be accepted). In the event that a candidate is unable to proceed with their examination, candidates on the cancellation list will be contacted to fill the available position. *Please note the cancellation list does not guarantee an examination placement and is only valid for the month that is open for scheduling*

About 2,500 places are available in each calendar year.

For further information regarding examination closing dates, please see:
http://www.amc.org.au/assessment/clinical-exam/clinical-events

2.9. Venue and scheduling

Candidates must arrive promptly and report to the administrative staff in attendance. Once candidates have reported, they will be required to remain, under the direction of the administrative staff, until the examination session concludes.

Candidates are scheduled for a single morning or afternoon examination. Candidates complete the examination within four to five hours of reporting.

Due to the multi-station structure of the examination, candidates arriving late will be excluded from commencing the examination.

2.10. Examination fees

Payment of the examination fee will confirm the placement in the relevant clinical examination session.

Once you have been scheduled in the Clinical examination and then subsequently withdraw, there will be no refund - except in an exceptional circumstance as determined by the AMC Chief Executive Officer or nominee. To withdraw, a candidate must submit a Withdrawal Form, which can be found here.

The fees for the AMC examination are reviewed from time to time and are subject to variation.

The examination fees for the clinical examination (based on current examination costs) are shown on the AMC website (http://www.amc.org.au/).

2.11. Structure of the clinical examination

The AMC clinical examination is an integrated multidisciplinary structured clinical assessment. It assesses clinical skills in medicine, surgery, obstetrics, gynaecology, paediatrics and psychiatry. It also assesses ability to communicate with patients, their families and other health workers.

The 20 stations will be comprised of 14 scored stations, 2 pilot (non-scored) stations, and 4 rest (non-scored) stations. The 4 non-scored rest stations allow candidates an opportunity to have a break at predetermined intervals.

As with the AMC Multiple-Choice-Question (MCQ) examination and pilot questions, the clinical examination pilot stations will not be identified to candidates during the examination.

See section 3.4 for further information on pilot stations.

All candidates in a clinical examination session will be assessed against the same stations.

All stations are of equal length. Each station will be of 10 minutes duration (comprising two minutes changeover and reading time, and eight minutes assessment time). One trained examiner will be involved in each assessed station. Stations may use actual patients, simulated patients, telephone consultations, models or video patient presentations. Other relevant equipment, e.g. prescription pads, charts, may also be used in the examination.

2.12. Assessment criteria

Stations will assess clinical skills in medicine, surgery, child health, women's health, general practice and mental health. Scoring is structured, with individual aspects of each station specified under the following broad headings known as “predominant assessment areas”:

- history taking
- examination
- diagnostic formulation
- management/counselling/education.

Examples of material that could be included in the stations are:

- taking the history of a patient with symptoms of shortness of breath [history taking station]
- taking a history from a third party such as the parent or carer of a patient (history taking station)
- physical examination of a patient with symptoms of suspected vascular disease [examination station]
- physical examination of a patient with suspected thyroid disorder [examination station]
- interpretation of a clinical chemistry result [diagnostic formulation station]
- diagnosis of a common skin lesion [diagnostic formulation station]

- educating an asthmatic patient on the use of an inhaler [management/counselling/education station]
- counselling a patient with obesity [management/counselling/education station]
- presenting a management plan for a patient presentation (management/counselling/education station).

The structured clinical assessments will utilise examiners from all disciplines.

2.13. Standard of the clinical examination

The clinical examination requires the candidate to demonstrate their ability in a range of clinical tasks in a series of clinical scenarios. The competence of the candidate is measured against the standard expected of the graduating medical student at an Australian university.

2.14. Content of the clinical examination

The scenarios used in the assessed stations comprise:

- a clinical stem of essential information to the candidate about the scenario, which may include investigations, imaging or charts
- a series of tasks, commonly three to four
- a suggested timing for the main task(s)

Each scenario has a single “predominant assessment area” (namely history, examination, diagnostic formulation, or management/counselling/education). Assessment tasks will be focussed on this area, but may include other areas.

During the reading time the candidate evaluates the given information and plans their approach to the assessment phase. They should plan their time, taking into account the number and type of tasks, and take careful note of any given time guidelines.

During the assessment time the candidate conducts the interaction as required and performs the designated clinical tasks.

The clinical tasks include but are not limited to; history taking, physical and mental state examination, investigation planning and interpretation, diagnostic formulation, management planning, counselling and performance of procedures.

A clinical scenario may test a candidate's ability in responding to these tasks in various health care settings, including:

- community or general hospital services
- metropolitan, regional or remote locations
- any phase of health care: preventative, acute/critical care and continuing care
- any patient age group: newborn to aged
- direct patient care, carer and family interactions or multidisciplinary team interactions.

A clinical scenario may be based on normal development, health promotion /prevention or on any common and/or important diseases or syndromes, from any clinical system.

Any time guidelines are also indicated to candidates and examiners during the station by an automated time prompt.

2.15. Formal notification of clinical examination results

A listing of candidate results will be available on the AMC website at 5:00pm on the Friday two weeks following the examination (http://www.amc.org.au/assessment/clinical-

exam/clinical-results) and will remain displayed for a period of four weeks. The candidate results will be shown by AMC candidate reference number, in compliance with Commonwealth privacy legislation.

Formal examination results will be posted to all candidates, after the results have been posted on the website. Candidates should ensure that their current address is registered with the AMC secretariat.

Please note: Under no circumstances will results be given over the telephone.

3. Marking in the structured clinical assessment examination

Each station has a predominant assessment area that defines the main aim of the station.

The marking system for the examination contains three components, (i) key steps, (ii) domains and (iii) the global score. Each station will have several key steps and domains that are relevant to that station.

A sample of a structured clinical assessment station is at Appendix C.

3.1. Key steps

Typically in each station, there will be between two and five key steps that a candidate is expected to demonstrate. These are marked as 'observed' or 'not observed'.

3.2. Domains

Typically, there will be between three and five assessed domains in each station. The candidate performance on each separate domain is rated on a seven-point scale. There is no pass/fail point for these ratings.

Domains may include (but are not limited to) such items as approach to the patient, history taking, choice and technique of physical examination, accuracy of physical examination, differential diagnosis, choice or interpretation of investigations, management, and patient education/counselling.

The expectations of the candidate are described specifically for each domain as relevant to the individual station.

3.3. The global rating

Finally the examiner makes a global rating of the candidate's overall ability on the station, again on a seven-point scale. The global rating takes into account the predominant assessment area of the station as well as all aspects of the candidates' performance as demonstrated in the station.

The global rating alone determines the pass/fail performance on the station. A score of three or below constitutes a fail score, and four or above constitutes a pass score (in the global rating only)

3.4. Pass requirements

The 16 assessed stations will include two pilot stations. A pilot station is a station that is being used in a clinical examination for the first time. Pilot stations:

- Have been developed by a discipline writing group and approved by the Clinical Assessment Panel for pilot status
- Have no statistics from previous examinations.

Pilot stations may also be stations requiring trialling for administrative purposes including stations with special operational and technology requirements.

A candidate's overall examination result (pass or fail) will be determined by 14 scored stations. Usually the scored stations will not include either of the two pilot stations, but if there is an issue with one or two of the non-pilot stations the Clinical Results Panel may determine that one or both of the pilot stations will be substituted. If this occurs the candidate's result will still be determined on the basis of 14 stations. Over the 14 stations candidates will be graded as clear pass or clear fail, as follows:

A **pass** will be awarded where a candidate obtains a pass score in 10 or more of the 14 assessed stations.

A **fail** will be awarded where a candidate obtains a pass score in nine or less of the 14 assessed stations.

There is no limit on the number of attempts a candidate may have at the clinical exam.

(Note, the retest that was permitted for a marginal performance was removed from 1 January 2019.)

4. Feedback

With the implementation of a new format for marking stations in the clinical examination since May 2014, information is obtained in relation to a number of aspects of each individual station that can be used to provide feedback to candidates. This information is drawn upon to provide candidates with feedback on their level of attainment in each station.

It is important to note, however, that the scores for the aspects of the marking that are reported as part of the feedback provided to candidates, do not directly or numerically determine an overall result of a pass or a fail for the station. The pass/fail result is determined by examiners making a separate global rating about a candidate's performance that encompasses performance across **all** aspects of the station, not just those for which feedback has been provided.

Although the aspects of a station that are reported as part of the feedback provided to candidates may contribute to an examiner's global rating, it is not possible to determine whether a global rating that would result in a station being passed or failed was obtained for a station simply by looking at the scores associated with the aspects of the station provided in the candidate feedback.

Each candidate will receive a computer-generated breakdown of their performance against selected aspects of the station marks to assist with revision for future attempts.

5. Process of a clinical examination

5.1. Before the examination

Ensure your contact telephone number and emergency number is up to date.

Candidates must arrive on time. Candidates who do not report to the venue by the time indicated will be excluded from the examination.

The required dress standard for candidates is professional attire.

Candidates who may require special assistance during the examination should inform the AMC as early as possible prior to their examination.

5.2. Starting the examination

On entering the examination venue, candidates will be given a lanyard containing a starting card stating at which station they will be starting the examination. After viewing a short video about examination processes, candidates will be shown into the examination area and asked to stand outside their starting station.

The first audio notification will indicate the start of the two minute reading time outside the candidate's first station. The second audio notification will indicate the start of the examination and candidates will then proceed into the allocated station. In the station there are strictly eight minutes to complete the tasks.

The third and final audio notification will be at eight minutes and will conclude the first station.

Candidates must leave their station immediately on the final audio notification, and then have two minutes to move to and read the information outside their next station. Examination marshals will assist candidates to move quickly to the next station ready to read the information outside.

Some candidates will start at a rest station (this will be shown on the starting card) and will be required to stay in the rest station for the first 10 minutes.

5.3. During the reading time

During the reading time candidates evaluate the given information and plan their approach to the assessment phase. They should plan their time, taking into account the number and type of tasks, including any given time guidelines.

Candidates should pay close attention to the time guidelines provided.

5.4. During the station

During the assessment time the candidates conduct the interaction as required and perform the designated clinical tasks.

In each eight minute station, one examiner will assess each candidate.

The examination will proceed through all stations in this manner.

5.5. Finishing early

If candidates finish a station early, this does not mean that they have done well or failed. It merely means the task has been completed ahead of the allotted eight minutes.

Candidates who complete a station before the allocated time may remain within the station or may wait outside the same station, until directed to their next station by an examination marshal. Candidates who leave the station early may return to the station at any time before the assessment time is completed.

5.6. Station content and equipment

Stations may use actual patients, simulated patients, models, telephone consultations, and video patient presentations. Other relevant equipment (e.g. prescriptions, charts) may also be used in the examination.

Candidates should regard and treat every patient as they would in a real setting, and therefore need to use the hand sanitiser provided in the room as appropriate before and after any physical examination.

Most equipment will be provided. For health and safety reasons, candidates are required to bring their own stethoscope to the examination. Candidates are also permitted to carry a tendon hammer into the examination area, although these will always be provided in the station if they are required. All basic equipment including watches or timers will be provided in the examination room.

5.7. Physical examination stations

In some stations, due to the eight minute examination time period, there is not enough time to do a full physical examination. Therefore, the examiner may interrupt and request the candidate to move on to the next task. This should not be taken as an indication of negative performance.

In some stations the candidate will be asked to perform only part of a physical examination while other information will be provided on request by the examiner.

5.8. Rest stations

Drinking water and access to toilets will be provided at each rest station. Candidates must remain quiet while in the rest stations, which will be supervised by examination marshals.

Candidates may finish at a rest station and will be required to wait until the final notification sounds before being allowed to leave the examination area.

5.9. The final notification

When the final audio notification sounds, the examination has finished and all candidates will be guided out of the examination area by the marshals.

5.10. Prohibited materials

No books, textbooks, biros, pens, paper, notes, items of jewellery, tie pins or other materials are allowed into the examination area, including mobile telephones, smartphones, watches or handbags.

Mobile telephones and smartphones must be switched off and, together will all the above items, must be left securely with the candidate's belongings in the allocated lockers.

Candidates are not permitted to write any prompting material on their skin before or during the examination.

AMC staff may request to inspect any items retained by the candidate including items in pockets or the like prior to, during, or after the examination if necessary.

If candidates may require any medications during the examination, they should bring this to the attention of a marshal before the examination starts. Medication must be approved.

5.11. General conduct of candidates

Candidates are expected to conduct themselves courteously in examinations, correspondence and in personal contact with examiners, patients (actual or simulated), employees or agents of the AMC and other candidates. Candidates whose conduct is disruptive, or is considered by the AMC to have been outside the bounds of reasonable and decent behaviour, may be excluded from the examination and/or refused the opportunity to sit future AMC examinations.

All candidates must comply with the instructions of clinical examination staff during examinations. Failure to do so will constitute a breach of examination procedures and may result in the candidate being excluded from the examination or refused the opportunity to sit future examinations.

Professional boundaries are crossed when any interaction of an unwanted or sexual nature occurs between a doctor and the patient or an immediate family member of the patient. The Medical Board of Australia has codes of practice on this matter.

A doctor who crosses professional boundaries while undertaking the AMC clinical examination may be guilty of professional misconduct and may be investigated and subjected to disciplinary action by regulatory authorities.

Candidates in clinical examinations are expected to observe fully the confidentiality of patients and simulated patients who participate in the examination and should not discuss the personal details of the consultations outside the examination at any time, with any person.

Any candidate found with recording equipment, or recording any aspect of the examination during the examination or attempting to compromise the examination content or procedures (including but not limited to, supplying, offering to supply, selling, or offering for sale materials or details purporting to be AMC examination content) will not be permitted to continue with the examination, may be refused the opportunity to sit future examinations, and/or may be refused the award of the AMC certificate.

Any candidate found in breach of exam regulations will be reported.

The AMC will investigate thoroughly any complaint or adverse report concerning any candidate sitting an AMC examination before, during or after an examination, and disciplinary action may be taken.

Family and friends accompanying candidates to an examination are NOT permitted to enter the examination venue.

6. Preparation for the clinical examination

6.1. Review of clinical skills

AMC clinical examiners recommend that candidates undertake a comprehensive review of their clinical skills in the four main predominant assessment areas. Particular attention in preparing for the clinical examination needs to be paid to reviewing foundation clinical skills, clinical competence and patient safety to the required standard, and to practising all aspects of consultation skills and doctor-patient communication in clear, non-technical English.

Experience suggests that a review of journals that contain articles dealing with common clinical conditions in the Australian community will be more effective in preparing for the clinical examination than spending too much time with reference books. Books concerning physical examination skills are essential as are online materials from reputable sources. Candidates are encouraged to obtain as much practice as possible to assist in preparing for demonstrating their clinical skills in the examination.

The AMC examiners also consider that candidates who are able to maintain continuing contact with the practice of clinical medicine in a teaching hospital or other relevant clinical service can significantly improve their chances of success in the AMC examination. It is in each candidate's best interest to identify their clinical strengths and weaknesses and to focus their efforts on overcoming any basic clinical deficiencies before sitting the examination.

The MCQ examination feedback may provide a useful guide to areas of strength and weakness in clinical knowledge.

6.2. General preparation for the clinical examination

The following points are suggested to assist candidates in planning for and sitting the clinical examination.

6.2.1. Planning for the examination

The clinical examination is not designed to retest knowledge. Candidates should therefore focus on comprehensively reviewing and practising their clinical skills.

Candidates should:

- Get a good night's rest before presenting for the examination
- Avoid the use of stimulants or other drugs that may impair your performance
- Read their placement letter carefully and note the times and exact location of their examination
- Ensure they arrive on time for each clinical examination session and give themselves time to settle down before the examination commences
- If travelling from interstate, ensure that they check any interstate time differences and allow extra time in case of delayed flights or travel time between the airport and the city.

6.2.2. During the examination

During the examination, candidates should:

- carefully read any preliminary data supplied, and take especial note of tasks given
- carefully listen carefully to the examiner's instructions
- ask for clarification – or for the question to be repeated – if uncertain about any instruction or question from the examiners during a clinical examination,
- not overlook the fact that there may be role-playing, standardised, simulated or real patients in the clinical examination. Examiners will take note of the manner in which a candidate addresses and deals with the patient. Medical practitioner have a duty of care to patients, patients in the examination have a right to receive the same care.
- exercise care with both technique and accuracy when physical examination is required and ensure not to cause unnecessary discomfort to the patient.
- correctly identify physical signs present and absent
- avoid discussing patients with other candidates who may attend the clinical examination in the future, because patients are rotated and, in some cases, alternative conditions are examined in patients with multiple clinical signs. Any candidate who attempts to formulate a diagnosis or management on the basis of information provided by other candidates, without having examined the patient and interpreted the signs correctly themselves, is likely to compromise their assessment.

A list of recommended reading is here.

6.3. AMC Certificate

Candidates who pass both sections (i.e. MCQ and clinical) of the AMC examination and whose medical qualifications are then confirmed by the International Credentials Service of the Educational Commission for Foreign Medical Graduates of the United States (ECFMG, will be issued with an AMC Certificate. A candidate's certificate will be sent to the office of the Medical Board of Australia in the state where the candidate resides approximately six–eight weeks after completion of the clinical examination. It should be noted that the AMC Certificate is only issued in Australia and cannot be re-issued once collected.

6.4. Request for duplicate copies of AMC results

For privacy reasons, the AMC will not send copies of a candidate's official examination results to anyone but the candidate. However, upon request for duplicate copies of the results, the AMC will issue candidates with an application form, which should be filled in and returned to the AMC, with the appropriate fee. It may take up to ten working days before duplicate copies of results are received.

6.5. Appeals procedure

The AMC has established procedures for candidates to lodge an appeal a regarding the clinical examination. This process is outlined in the Appeals rules which are found on the AMC website at - www.amc.org.au. An appeal application form is also found on the website.

Important Note: Candidates who lodge an appeal for a clinical examination may not apply for another clinical examination until the outcome of the appeal has been received by the candidate.

7. General information

7.1. Change of address

It is important that candidates advise the AMC secretariat promptly of each change of address, email address and/or telephone number. This will ensure that contact can be made as quickly as possible with candidates to notify them of examination venue changes, rule or eligibility changes, or to confirm information provided by the candidate on his or her application forms.

Change of address can be made via the telephone or by using the *Change of address form* which can be obtained by contacting the AMC Secretariat. The change of address form is also available on the AMC website (https://www.amc.org.au/).

When advising of a change of address in writing, candidates should include the following details:

- candidate number
- full name
- previous address
- new address
- candidate signature
- date of birth.

Under the provisions of the Commonwealth *Privacy Act* the AMC is unable to accept changes of address or other candidate details submitted by email, unless provided on the Change of address form.

7.2. Further information

If a candidate is in doubt about any aspect of the AMC examination, he/she should contact the AMC secretariat:

Australian Medical Council
PO Box 4810
Kingston ACT 2604 Australia

Telephone: (02) 6270 9777
Facsimile: (02) 6270 9799

Email: clinical@amc.org.au
Website: www.amc.org.au

Appendix A: The AMC graduate outcome statements

The goal of medical education is to develop junior doctors who possess attributes that will ensure they are initially competent to practice safely and effectively as interns in Australia or New Zealand, and that they have an appropriate foundation for further training in any branch of medicine and for lifelong learning. Attributes should be developed to an appropriate level for the graduates' stage of training.

Included below is the list of graduate outcome statements. These statements, divided into four domains, reflect the skills, knowledge and attitudes that Australian medical students are required to demonstrate upon graduation. Graduate outcome statements can also be found in the AMC's *Standards for assessment and accreditation of primary medical programs*.

Domain 1

Science and Scholarship: the medical graduate as scientist and scholar

On entry to professional practice, Australian and New Zealand graduates are able to:

- Demonstrate an understanding of established and evolving biological, clinical, epidemiological, social, and behavioural sciences.
- Apply core medical and scientific knowledge to individual patients, populations and health systems.
- Describe the aetiology, pathology, clinical features, natural history and prognosis of common and important presentations at all stages of life.
- Access, critically appraise, interpret and apply evidence from the medical and scientific literature.
- Apply knowledge of common scientific methods to formulate relevant research questions and select applicable study designs.
- Demonstrate a commitment to excellence, evidence based practice and the generation of new scientific knowledge.

Domain 2

Clinical Practice: the medical graduate as practitioner

On entry to professional practice, Australian and New Zealand graduates are able to:

- Demonstrate by listening, sharing and responding, the ability to communicate clearly, sensitively and effectively with patients, their family/carers, doctors and other health professionals.
- Elicit an accurate, organised and problem-focussed medical history, including family and social occupational and lifestyle features, from the patient, and other sources.
- Perform a full and accurate physical examination, including a mental state examination, or a problem-focused examination as indicated.
- Integrate and interpret findings from the history and examination, to arrive at an initial assessment including a relevant differential diagnosis. Discriminate between possible differential diagnoses, justify the decisions taken and describe the processes for evaluating these.
- Select and justify common investigations, with regard to the pathological basis of disease, utility, safety and cost effectiveness, and interpret their results.
- Select and perform safely a range of common procedural skills
- Make clinical judgements and decisions based on the available evidence. Identify and justify relevant management options alone or in conjunction with colleagues, according
- to level of training and experience.
- Elicit patients' questions and their views, concerns and preferences, promote rapport,
- and ensure patients' full understanding of their problem(s). Involve patients in decision making and planning their treatment, including communicating risk and benefits of management options.
- Provide information to patients, and family/carers where relevant, to enable them to make a fully informed choice among various diagnostic, therapeutic and management options.
- Integrate prevention, early detection, health maintenance and chronic condition management where relevant into clinical practice.
- Prescribe medications safely, effectively and economically using objective evidence. Safely administer other therapeutic agents including fluid, electrolytes, blood products and selected inhalational agents.
- Recognise and assess deteriorating and critically unwell patients who require immediate care. Perform common emergency and life support procedures, including caring for the unconscious patient and performing CPR.
- Describe the principles of care for patients at the end of their lives, avoiding unnecessary investigations or treatment, and ensuring physical comfort including pain relief, psychosocial support and other components of palliative care.
- Place the needs and safety of patients at the centre of the care process. Demonstrate safety skills including infection control, graded assertiveness, adverse event reporting and effective clinical handover.
- Retrieve, interpret and record information effectively in clinical data systems (both paper and electronic).

Domain 3

Health and Society: the medical graduate as a health advocate

On entry to professional practice, Australian and New Zealand graduates are able to:

- Accept responsibility to protect and advance the health and wellbeing of individuals, communities and populations.
- Explain factors that contribute to the health, illness, disease and success of treatment of populations, including issues relating to health inequities and inequalities, diversity of cultural, spiritual and community values, and socio-economic and physical environment factors.
- Communicate effectively in wider roles including health advocacy, teaching, assessing and appraising.
- Understand and describe the factors that contribute to the health and wellbeing of Aboriginal and Torres Strait Islander peoples and/or Māori, including history, spirituality and relationship to land, diversity of cultures and communities, epidemiology, social and political determinants of health and health experiences. Demonstrate effective and culturally competent communication and care for Aboriginal and Torres Strait Islander peoples and/or Māori.
- Explain and evaluate common population health screening and prevention approaches, including the use of technology for surveillance and monitoring of the health status of populations. Explain environmental and lifestyle health risks and advocate for healthy lifestyle choices.
- Describe a systems approach to improving the quality and safety of health care.
- Understand and describe the roles and relationships between health agencies and services, and explain the principles of efficient and equitable allocation of finite resources, to meet individual, community and national health needs.
- Describe the attributes of the national systems of health care including those that pertain to the health care of Aboriginal and Torres Strait Islander peoples and/or Maori.
- 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.

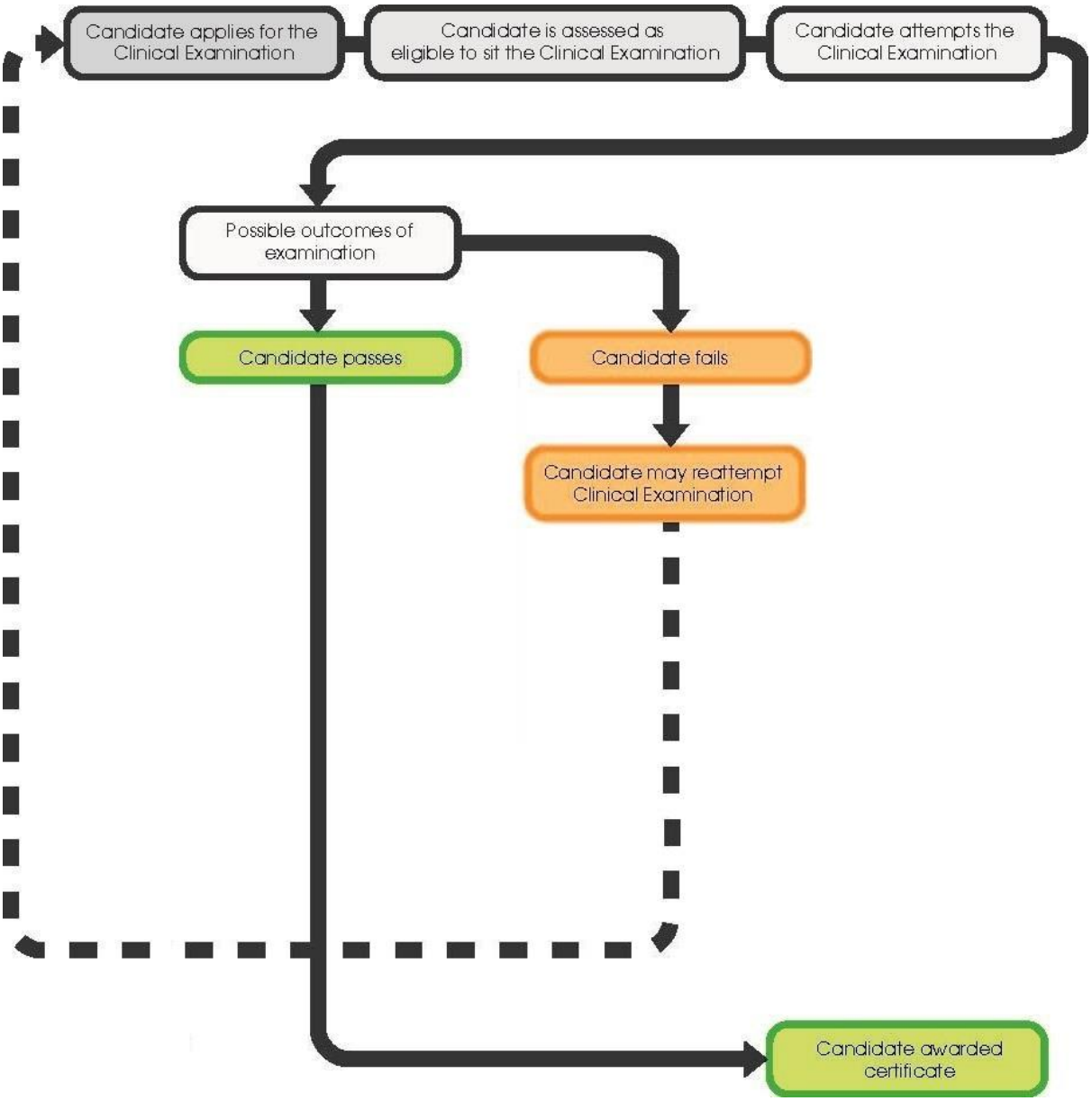
Domain 4

Professionalism and Leadership: the medical graduate as a professional and leader

On entry to professional practice, Australian and New Zealand graduates are able to:

- Provide care to all patients according to “Good Medical Practice: A Code of Conduct for Doctors in Australia” and “Good Medical Practice: A Guide for Doctors” in
- New Zealand.
- Demonstrate professional values including commitment to high quality clinical standards, compassion, empathy and respect for all patients. Demonstrate the qualities of integrity, honesty, leadership and partnership to patients, the profession and society.
- Describe the principles and practice of professionalism and leadership in health care.
- Explain the main principles of ethical practice and apply these to learning scenarios in clinical practice. Communicate effectively about ethical issues with patients, family and other health care professionals.
- Demonstrate awareness of factors that affect doctors’ health and wellbeing, including fatigue, stress management and infection control, to mitigate health risks of
- professional practice. Recognise their own health needs, when to consult and follow advice of a health professional and identify risks posed to patients by their own health.
- Identify the boundaries that define professional and therapeutic relationships and demonstrate respect for these in clinical practice.
- Demonstrate awareness of and explain the options available when personal values or beliefs may influence patient care, including the obligation to refer to another
- practitioner.
- Describe and respect the roles and expertise of other health care professionals, and demonstrate ability to learn and work effectively as a member of an inter-professional team or other professional group.
- Self-evaluate their own professional practice; demonstrate lifelong learning behaviours and fundamental skills in educating colleagues. Recognise the limits of their own expertise and involve other professionals as needed to contribute to patient care.
- Describe and apply the fundamental legal responsibilities of health professionals especially those relating to ability to complete relevant certificates and documents, informed consent, duty of care to patients and colleagues, privacy, confidentiality, mandatory reporting and notification. Demonstrate awareness of financial and other conflicts of interest.

Appendix B: Summary of the process of the AMC clinical examination



Appendix C: A clinical assessment station sample

Information for candidates

You are working in a general practice. Your next patient is a 37-year-old woman who suddenly became short of breath at work yesterday.

YOUR TASKS ARE TO:

- take a relevant focused history to enable you to further evaluate this problem; you should take no more than five minutes for this task
- obtain the relevant examination findings from the examiner; the examiner will only give you the results of the examination findings you specifically request
- explain to the patient the probable diagnosis and the possible differential diagnoses giving your reasons.

Information for simulated patient

You are a 37-year-old woman who has come to see your GP because of shortness of breath. The candidate has been asked to perform the following tasks:

- take a relevant focused history from you to further evaluate this problem
- obtain the relevant examination findings from the examiner
- explain to you the probable diagnosis and the possible differential diagnoses

How to play the role:

If at any stage the candidate provides you with information which you do not understand, for example, because of technical language or because of ambiguities, ask for clarification until you are provided with a clear, consistent explanation in plain language. Say: *'I don't understand what you mean, would you explain?'* or *'I'm not clear about what you just said.'*

Other than clarification questions, do not ask further questions; it is up to the candidate to provide fluent advice.

Towards the conclusion of the station, if the candidate says to you: 'Do you have any questions?' say: *'What else should I know, Doctor?'*

Opening statement:

> *'I'm worried about my breathing. Yesterday at work I suddenly became short of breath and I was not doing anything energetic.'*

In response to further open questions such as 'When did it all start?' say:

'At the time, I was sitting in a meeting, and noticed quite suddenly that I was short of breath even though I was just sitting down. At the same time I noticed I was coughing up phlegm.'

In response to further open questions such as 'Have you noticed anything else?', say:

> *'I don't think I've noticed anything more, although I'm still a little breathless.'*

In response to direct or specific questions from the candidate, provide the following information (do not provide this in response to broad/open-ended questions):

- *I couldn't sleep last night because of breathlessness and had to sleep sitting up.*
- *I'm not as short of breath today as I was yesterday.*
- *I've never had shortness of breath like this before.*
- *I've been able to walk on the flat easily, but have had trouble walking up stairs in the last 24 hours.*
- *I haven't noticed any chest pain.*
- *There have been no palpitations.*
- *I've been coughing up phlegm since developing the shortness of breath.*
- *It was white and clear but it had a few spots of blood in it today (only provide this detail if the candidate asks about the phlegm colour).*
- *I have not fainted or lost consciousness.*
- *I don't have any wheezing.*
- *I've never had asthma.*
- *I have not had any fever.*
- *I have not had any recent colds or the flu.*
- *I haven't had any leg or ankle swelling.*
- *There's been no calf pain or tenderness.*
- *Three weeks ago I was on holidays in the States and arrived home six days ago (Do not give any of this information unless travel has been specifically asked about).*
- *I took sleeping tablets to help me sleep during the flight. I managed to sleep most of the way home.*
- *I'm not on the oral contraceptive pill or any other medications. I get my sexual partner to use a condom.*
- *I have never had DVT or blood clots.*
- *No one in my family had DVTs or blood clots.*
- *I smoked about ten cigarettes a day from my late teens until about two years ago.*
- *I'm only a social drinker and have an occasional glass of white wine at weekends.*

To other questions, respond with either *'no'*, *'I don't know'* or *'I'm not sure'*.

Responses after candidate starts to explain the likely diagnosis

- If a diagnosis that the average patient would not know much about (i.e. pulmonary embolism), say: 'What is that?' and 'Is it serious?'
- If only one diagnosis is mentioned, ask: 'Could it be anything else?'
- If told that you will have to go to hospital, say: 'Is that really necessary?' and: 'What will they do?'

Information for examiners

The aim of this station is to assess the candidate's ability to:

- take an appropriate focused history to evaluate and diagnose the likely cause of the sudden onset of shortness of breath in this woman. The possible diagnosis could be asthma, pulmonary embolism, pneumothorax, or chest infection (including bird flu) each of these possibilities should be addressed in the history
- select the essential components of the physical examination of this patient
- explain to the patient the most likely diagnosis and the appropriate differential diagnoses.

The predominant assessment area is DIAGNOSTIC FORMULATION

EXAMINER TO START BY SAYING:

'Here is another copy of the instructions. Do you understand the task?'

EXPECTATIONS OF THE CANDIDATE:

History:

This clearly needs to cover an assessment of the degree and duration of the shortness of breath, whether there have been any previous similar episodes, whether there were any other symptoms such as chest pain, coughing up phlegm or blood, fever, recent colds and 'flus' or whether there has been any lung problem in the past. The candidate should also enquire about leg swelling, calf pain and recent travel.

Detailed information has been provided to the simulated patient to ensure appropriate answers are given when history questions are asked. The occurrence of these symptoms after recent overseas travel suggests the probability of pulmonary embolism.

PROMPT: If, after **five minutes** the candidate has not moved on from history taking, say: That was your five minute timer, please proceed to your next task.'

Choice and technique of examination, organisation and sequence:

Examination findings:

The candidate must ask for each specific component of the examination, and findings should NOT be provided where they are not specifically requested.

- Vital signs: pulse 104/min and regular, BP 110/65mmHg, temp 36.8°C, respiratory rate 24–26/minute, oxygen saturation 90% on room air.
- Height 155 cm, weight 68kg.
- BMI 28 (overweight range)
- The patient is short of breath, but not otherwise in distress.
- The trachea is not deviated.
- There is no evidence of cyanosis.
- Heart: Apex beat 5LICS, no parasternal heave, two normal heart sounds, pulmonary second sound is not increased, no bruits.
- JVP: not increased.
- Lungs: normal findings on inspection, palpation, percussion and auscultation, no rubs.
- Abdominal examination: normal.
- Extremities: no oedema, no calf tenderness, all peripheral pulses are present. If actual measurements are requested indicate these are the same in both calves and thighs.

Diagnosis/Differential diagnoses:

- pulmonary embolism
- pneumothorax
- infection: bacterial or viral
- asthma
- myocardial infarction
- acute left ventricular failure

The candidate must convey to the patient, without unnecessarily alarming her, that this is a serious illness which could be life threatening, requiring immediate management in hospital for investigation and treatment.

#*#*# SAMPLE MARKSHEET *#*#*#

Topic: Shortness of breath

Candidate Name: Sample Candidate **Candidate ID sighted** ☐

Key Steps: Did the candidate exhibit the following key steps in the station?

	NO	YES
1. Enquired about history of recent travel	☐	☐
2. Requested measurement of oxygen saturation	☐	☐
3. Considered the likely diagnosis of pulmonary embolism	☐	☐

Level of Performance Observed: Rate the candidate in each of the following domains.

1. **Approach to patient/relative**
   Demonstrated respect and empathy towards the patient; used plain language and active listening.

N	1	2	3	4	5	6	7

2. **History**
   Assessed the degree and duration of the shortness of breath, previous similar episodes, any other symptoms such as chest pain, coughing up phlegm or blood, fever, recent colds and flu or any past lung problems. Also enquired about leg swelling, calf pain, recent travel or surgery, smoking, occupational and medication history.

N	1	2	3	4	5	6	7

3. **Choice & Technique of examination, organisation and sequence**
   Requested: vital signs (pulse rate, blood pressure, temperature, respiratory rate); oxygen saturation; heart sounds; examination including auscultation of lungs; leg swelling and calf tenderness.

N	1	2	3	4	5	6	7

4. **Diagnosis/ Differential diagnoses**
   Reasoned from the history and examination findings that the most likely diagnosis is pulmonary embolism. Other possible diagnoses: pneumothorax, infection: bacterial or viral, asthma, myocardial infarction, acute left ventricular failure were reasoned to be unlikely.

N	1	2	3	4	5	6	7

Global Rating of this candidate
(Mark 'X' in one box)

FAIL			PASS			
1	2	3	4	5	6	7

Exam: 98/99-01A **Station No:** 99 **AMC ID:** 1234567 (1) **Date:** 13/06/2018

Appendix D: Recommended reading

Medicine

Devitt P, Barker J, Mitchell J and Hamilton-Craig C. Clinical Problems In Medicine and Surgery, 3rd edn. Churchill Livingstone, 2011, ISN 0443073236

Talley NJ, O'Connor S. Clinical Examination: A Systematic Guide to Physical Diagnosis. 8th edn. Vol. 1. Churchill Livingstone, Sydney, 2017. ISBN 9780729542593

Ralston SH et al (eds). Davidson's Principles and Practice of Medicine, 23rd edn. Livingstone, Edinburgh, 2018, ISBN 9780702070280

Surgery

Quick C, Harper S. Essential Surgery Churchill Livingstone 2013 ISBN 9780702046759

Tjandra JJ, Clunie GJA, Kay AH, Smith J. Textbook of Surgery, 3rd edn Wiley-Blackwell, Oxford 2005. ISBN 9781405126274.

Hunt PS, Marshall VC. Clinical Problems in General Surgery. Butterworths, Sydney, 1991. ISBN 0409492132. *This publication is out of print and only available second hand.*

Child health

South M, Isaacs D. Practical Paediatrics, 7th edn. Churchill Livingstone, 2012. ISBN 9780443102806.

Royal Children's Hospital (Melbourne, Vic.). Paediatric Handbook, 9th edn. Wiley New York 2015. ISBN 9781118777480.

The Australian immunisation handbook 10th ed (2017 update). Canberra: Australian Government Department of Health, 2017. http://www.immunise.health.gov.au/internet/immunise/publishing.nsf/Content/Handbook10-home

Hull D, Johnston D. Essential Paediatrics, 4th edn. Churchill Livingstone, Edinburgh, 20010. ISBN 978-0443059582

Women's health

Llewellyn-Jones D. Fundamentals of Obstetrics & Gynaecology, 9th edn. Mosby, London 2016. ISBN 9780702060656.

Beischer NA, Mackay EV. Obstetrics and the Newborn, 4th edn. Elsevier 2015. ISBN 9780729540742

Mackay EV, Beischer NA, Pepperell R, Wood C. Illustrated Textbook of Gynaecology, 2nd edition, WB Saunders, Sydney 1992. ISBN 978-0729512114

Mental health

Harrison P, Cowen P, Burns T. Fazel M, Shorter Oxford Textbook of Psychiatry, 7th edn, Oxford University Press, 2017. ISBN 9780198747437 (paperback).

American Psychiatric Association. DSM-V: Diagnostic and Statistical Manual of Mental Disorders, 5th edn. American Psychiatric Association, Washington DC, 2013. ISBN 9780890425596 (paperback).

Online mental health resources

Guidelines and resources for practice Royal Australian and New Zealand College of Psychiatrists https://www.ranzcp.org/Publications/Guidelines-and-resources-for-practice.

General Practice

Murtagh J. General Practice, 6th edn. Hardcover. McGraw Hill Australia, 2015. ISBN 9781743760031

Murtagh J. Practice tips,16th edn. Soft cover. McGraw Hill Australia, 2008. ISBN 9781743769300

Population Health

Online resources and guidelines

The following list provides a summary of guidelines on a range of Australian population health topics. These are freely available online.

Guidelines for preventive activities in general practice (The Red Book) 9th Edition https://www.racgp.org.au/your-practice/guidelines/redbook/

Putting Prevention Into Practice - The Green Book 2nd edition https://www.racgp.org.au/your-practice/guidelines/greenbook/

SNAP: a population health guide to behavioural risk factors in general practice https://www.racgp.org.au/your-practice/guidelines/snap/

National guide to a preventive assessment in Aboriginal and Torres Strait Islander peoples 3rd Edn. https://www.racgp.org.au/your-practice/guidelines/national-guide/

Supporting smoking cessation: a guide for health professionals. https://www.racgp.org.au/your-practice/guidelines/smoking-cessation/

The Australian Immunisation Handbook http://immunise.health.gov.au/

General practice management of type 2 diabetes. 2016–18. https://www.racgp.org.au/your-practice/guidelines/diabetes/

Care of Patients with Dementia www.racgp.org.au/guidelines/dementia

Refugee Health. The RACGP has resources on its website to assist GPs in providing healthcare for refugees: http://www.racgp.org.au/support/library/subject-portals/refugee/

Cancer Council's recommendations for screening and surveillance for specific cancers: https://www.cancer.org.au/health-professionals/clinical-guidelines/

Ethical and legal responsibilities

Kerridge I, Lowe M, Stewart C. Ethics and the law for health professionals 4th edition. 2013. The Federation Press. ISBN: 9781862879096

Breen KJ, Cordner S, Thomson CJH. Good medical practice: professionalism, ethics and law. Port Melbourne: Cambridge University Press; 2016. ISBN 9781938182679

Online resources and guidelines

The following list provides a summary of freely available guidelines on a range of Australian ethical and legal topics.

- Good Medical Practice: A Code of Conduct for Australian Doctors (current version March 2014), Medical Board of Australia
- Guidelines for Mandatory Notifications (2017), Medical Board of Australia http://www.medicalboard.gov.au/Search.aspx?q=GUIDELINES+FOR+MANDATORY+NOTIFICATIONS+\
- Advance Care Plans, Royal Australian College of General Practitioners (RACGP) https://www.racgp.org.au/guidelines/advancecareplans
- Assessing fitness to drive for commercial and private vehicle drivers. Australian Roads, https://www.onlinepublications.austroads.com.au/items/AP-G56-17
- Abuse and violence: Working with our patients in general practice (White Book), Royal Australian College of General Practitioners (RACGP) https://www.racgp.org.au/your-practice/guidelines/whitebook/

Journals

In addition to the major texts, journals should be read selectively, using editorials, annotations and review articles. The following publications are suggested as source material:

- Australian Journal of General Practice, www.racgp.org.au/AJGP
- Australian Prescriber, www.australianprescriber.com
- British Medical Journal, www.bmj.com
- British Journal of Hospital Medicine, www.hospitalmedicine.co.uk

Therapeutic Guidelines https://www.tg.org.au

- Lancet, www.thelancet.com
- Medical Journal of Australia, www.mja.com.au
- New England Journal of Medicine, www.nejm.org.