



**Bond University Medical Program**

**General Practice Placement  
Student/Clinician Guide**

## Introduction

The capstone, elective, flexible and selective placements provide students' a choice of interest area, or specialty placement, to gain additional clinical experience on top of specified clinical curriculum placements.

The learning priorities for all clinical specialties are to gain insight and understanding of the most common presentations and conditions encountered. It is anticipated that all students will have opportunities to enhance their skills in history taking and clinical examination. Students should also be encouraged to translate the information from patient interactions into commonly used formats by interns, such as *ISOBAR (Introduction, Observation, Situation, Background, Assessment, Recommendation)*

Additional specific procedural skills development is welcomed.

## Timetable and Contacts

**Students are expected to be present at least 28 sessions (half day= >3hours) during their rotation, and this includes signing off for each episode of attendance, on the day, so that you will receive PIP payments.** If students are unable to attend for any reason, they are required to advise the GP, the GCPHN placement officer, and the Placements Team at Bond University. Generally, attendance requirements include a minimum of 4 sessions a week for the core GP rotation plus extra time to complete the additional mandatory activities.

Student involvement in the day-to-day care and management of patients provides the best opportunity for learning. Students will be able to learn the most through interviewing and examining patients and being involved in clinical decision making. Following patients to nursing or allied health professional care visits, will enhance the student learning about multidisciplinary care and is encouraged.

As well as clinical knowledge, students must display other professional skills such as working well within the multidisciplinary team, considering the psychological and social impact of the illness on the patient and the family, being honest, empathetic, and respectful with regard to the patient's choices and decisions.

It is also important for students to recognise their own limitations, competencies, and scope of practice associated with their stage of training.

## General Practice (GP) Placement

It is expected that the student will contact the GP or their Practice Manager 1-2 weeks before their GP placement is to start, to enquire about the allocated sessions/ times to attend.

### GP Placement University Teaching

The first Monday of each GP Block is a **mandatory Introduction day** for Bond and Griffith Students. Most of the Wednesdays are **mandatory** teaching days either at Bond University or for “on-line” activities.

### What is General Practice?

In Australia, the definition of General Practice states: *“General practice is the provision of patient centered, continuing, comprehensive, coordinated primary care to individuals, families and communities.”*

It is the first (and often the only) point of contact with the health care system, where patients present with a wide range of undifferentiated problems.

During the placement in General Practice students will be able to experience many aspects of primary care. Students can build upon these experiences to expand their communication, clinical, and procedural skills.

### General Practice Learning Outcomes (aligned to GP activities, teaching, and assessment)

To demonstrate, evaluate, and practice:

1. Patient centeredness, advocacy, empowerment, and support
2. Provision of care in the home and the community
3. General practice clinical management (chronic disease, multimorbidity, and polypharmacy)
4. Rational prescribing & Quality use of medicines
5. Health promotion & disease prevention
6. Clear communications: With patients, documents, and other health professionals
7. Evidence based medicine/practice (underpins ALL these activities)

*These learning outcomes relate strongly to the Core competencies or RACGP Curriculum.*

*Ethical, medicolegal, and professional responsibilities are expected during all clinical placements.*

*They are listed in the clinical years' learning outcomes and are an expected competency of all medical graduates.*

### Additional secondary Learning Outcomes

- *Develop an overview of the health issues that affect patients in the community;*
- *Develop a balanced view of management and prevention of health needs in the community;*
- *Develop an insight into the harms and benefits of interventions;*
- *Develop an understanding of the use of “watchful waiting”;*
- *Develop an understanding of the importance of continuous quality improvement and of clinical audit;*
- *Demonstrate understanding of medico-legal implications of certificates in General Practice;*

- Describe the role of the GP in the palliative care setting and within a multidisciplinary framework to provide palliative care to patients from a holistic, psychosocial and spiritual perspective;
- Develop an awareness of the health services available to patients in the community;
- Demonstrate knowledge of the use of electronic health records in primary care and the classification systems used- e.g. (ICPC, SNOMED)
- Demonstrate understanding of the specific health related issues of Aboriginal and Torres Strait Islander communities and the delivery of primary health care for these communities

## Clinical Activities

**ALL Students will need to complete these mandatory activities during the “core” GP placement: These activities are for the Students to do mostly by themselves, trying to avoid creating extra work for the GP teacher.**

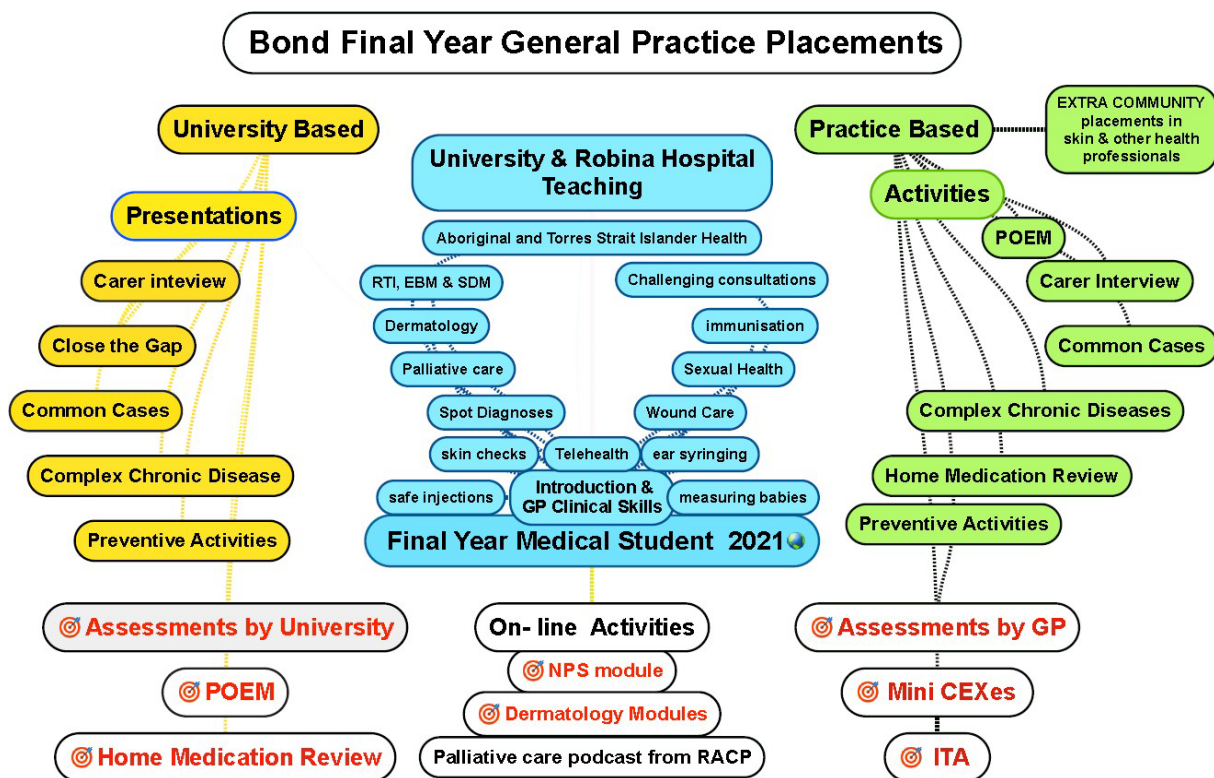
1. One Patient centered case report with POEM (patient orientated evidence that matters)
2. One Carer Interview in the home or GP Clinic (with a carer of someone disabled)
3. One Medication Review in the home or GP Clinic (By the student with assistance from HMR trained pharmacist and/or GP)
4. Two “Brief behavior change interviews” with 2 different patients regarding smoking, nutrition, alcohol/drugs, physical activity or weight. (for discussion at Bond)
5. Complete at least one Health assessment or Health check, or Chronic Disease Management Plan. (To improve understanding of enhanced/ multidisciplinary care)
6. Identify example cases for “common cases and “prevention” group presentations
7. Attend Teaching seminars at Bond (Face to face is the default setting for most depending on pandemic restrictions)

Supervising GPs are expected to be informed by students about the above listed activities as their assistance and advice may be needed, also to help them complete GP “In Training Assessment” (ITA)

The students are to share all information about the patients with the GP.

- Case presentations and or case discussions should happen throughout the clinical rotation to reinforce and enhance student learning. These may vary throughout the placement.
- During the clinical placement, in addition to the main GP supervisor, students may be supervised by other GPs, GP registrars, nurses and allied health professionals active in the GP team.

## Mind Map of GP Rotation Activities for 2024



## Core Topics General Practice Placement

Symptom Based Approach	Description/examples
<b>Common presentations (* Reduced presentations due to pandemic restrictions)</b>	
Cough*	Bronchitis*
Diarrhoea and/or vomiting*	Gastroenteritis*
Sexually transmitted diseases	Tests are rarely positive
Feeling agitated and nervous	Anxiety & Panic
Fever*	URTI *
Indigestion	Oesophageal reflux
Insomnia	Depression, anxiety
Itch	Eczema, insect bites.
Low mood	Depression
Musculoskeletal pain	Rotator cuff injuries
Rash	Eczema
Red eye	Conjunctivitis
Skin sores	Impetigo
Sort throat and/or earache*	Tonsillitis, Otitis media/externa*
Sports injuries	Knee injuries- e.g. meniscal tears
Swollen ankles	Heart failure
Upper abdominal pain	Gastritis
Vertigo/dizziness	Postural hypotension

Weakness/tiredness	Post viral fatigue
Wheezing	Asthma
<b>Chronic Health Problems (Management options including non-drug)</b>	
Asthma and COPD	
Chronic low back pain	
Diabetes	
Heart failure	
Hypertension	
Ischemic heart disease	
Mental Health conditions	
Obesity	
Osteoarthritis	
<b>Preventive Medicine / Health Promotion</b>	
Domestic violence and other abuse	<ul style="list-style-type: none"> <li>• <b>Physical</b></li> <li>• <b>Psychological</b></li> <li>• <b>Sexual</b></li> </ul>
Cancer screening	<ul style="list-style-type: none"> <li>• HPV/cervical screening program</li> </ul>
Chronic disease prevention	<ul style="list-style-type: none"> <li>• Cardiovascular</li> </ul>
Deprescribing	<ul style="list-style-type: none"> <li>• Less medication related admissions</li> </ul>
Developmental assessment	<ul style="list-style-type: none"> <li>• Delayed development</li> </ul>
Contraception and sexual health	<ul style="list-style-type: none"> <li>• Including STI &amp; LGBTIQ issues</li> </ul>
Immunisations	
Pre-pregnancy and antenatal care	
Social problems	
<b>Acute</b>	<b>Description/examples</b>
Acute abdominal pain	Appendicitis
Acute breathing difficulties	Respiratory failure from: <ul style="list-style-type: none"> <li>• <b>Asthma</b></li> <li>• <b>COPD</b></li> <li>• <b>Pneumonia</b></li> </ul>
Acute confusion	Psychosis Delerium
Acute paralysis	Stroke or TIA
Anaphylaxis and /or angioedema	Insect bites Food reactions
Chest pain	Acute coronary syndrome
Collapse	Vaso-vagal or arrhythmia
Fitting/seizure	Febrile convulsions
	Epilepsy
Haemorrhage	Miscarriage Gastrointestinal bleed
Lacerations and fractures	Fracture of neck of femur or radius Dog bite
Painful red eye and/or visual loss	Herpes simplex Keratitis Glaucoma
Racing or irregular heart beats	Supra Ventricular Tachycardia (SVT) Atrial fibrillation
Severe skin rashes	Cellulitis, erysipelas, Herpes simplex, or zoster

Students should also be aware of the **Australian National Health Priorities** for prevention, early detection and management of the following:

- Cardiovascular disease
- Cancer
- Injury
- Mental Health disorders
- Diabetes
- Asthma
- Arthritis and musculoskeletal conditions
- Obesity

## Procedural Skills for General Practice

Skill	Description
<b>History and Communication</b>	
History taking	Take a focused history about any body system
Clinical Reasoning	Application of clinical reasoning in primary care for joint decision making with the patient to develop a management plan
Documentation/Information Management	Demonstrate clear concise clinical notes
Explain to a patient	<ul style="list-style-type: none"> <li>• Common conditions</li> <li>• Investigations and how they are performed</li> <li>• How the results of investigations will influence management</li> <li>• Common treatments</li> <li>• Risks and benefits</li> </ul>
<b>Physical Examination (to observe or perform)</b>	
General physical examination	Examine all body parts across all ages
Breast examination	Examine the breast
Vital signs	<ul style="list-style-type: none"> <li>• Temperature</li> <li>• Pulse</li> <li>• Blood pressure</li> <li>• Respiratory rate</li> <li>• Weight</li> <li>• Waist and BMI</li> </ul>

Vaginal examination and/or HPV/cervical test	<ul style="list-style-type: none"> <li>Inspect external genitalia (vulva),</li> <li>perform a vaginal examination,</li> <li>perform a bimanual and speculum examination</li> <li>Take HPV / cervical screening sample</li> </ul>
Pregnant abdomen	Examine the pregnant abdomen
Male reproductive organs	Examine male reproductive organs- <ul style="list-style-type: none"> <li>testes</li> <li>penis</li> <li>prostate</li> </ul>
Health Assessment	Perform a health assessment/GP management plan
Mental Health Assessment	Use and interpret tools in a GP mental health plan or assessment (K10 or MMSE)
Urine analysis	Perform and interpret a urine dipstick analysis
Urine pregnancy test	Perform and interpret a urine pregnancy test
<b>Procedures (to observe/assist/perform * if pandemic permitted)</b>	
Ankle Brachial index	Perform or assist GP and nurses
Injections	Give injections/vaccinations
Wound management	Swab, clean, debride, manage a wound and apply sutures
Spirometry*	Perform and interpret results of spirometry*
Ultrasound examination	Use to assist GP in diagnosis/care
Inhaler/spacer/nebuliser*	Teach a patient how to use these devices
Investigations	Order and interpret GP relevant blood tests
ECG	Perform and interpret an ECG for common conditions: <ul style="list-style-type: none"> <li>Cardiac ischemia</li> <li>Arrhythmias</li> </ul>

## Clinical Supervision and Assessment

Students have a variety of workplace-based assessments (WBA) to successfully complete during this Clinical Placement. All WBA are completed in Osler ePortfolio, a cloud-based mobile assessment technology, giving students, supervisors and faculty immediate access to WBA feedback and evaluation. WBA are not only the students' richest source of personal feedback on performance but are also evidence of their clinical skills development and safety to practice.

At the end of each clinical placement, the Board of Examiners (BOE) will review all required WBA to decide whether the student has passed the Clinical Placement. If all WBA are not submitted by the due date, the BOE may not have sufficient evidence to make an Ungraded Pass decision and the student progression in the Medical Program may be delayed. Students can be failed for not meeting attendance requirements on Clinical Placement.



## All WBA are to be submitted in Osler by 8 am Monday following the end of each Clinical Placement

In Clinical Placement 5, ITA can be completed in W6 due to the OSCE being held in W7  
In the final Clinical Placement 12 (Subject MEDI72-503) all WBA are due end of W5

- For assistance with Osler contact: [osler@bond.edu.au](mailto:osler@bond.edu.au)
- For assistance with WBA contact: [Med-assessment@bond.edu.au](mailto:Med-assessment@bond.edu.au)
- Full details of all WBA requirements are located on iLearn

## The In-Training Assessment (ITA)

This workplace-based assessment tool provides the opportunity for the clinical supervisor to comment the student global performance on that placement to date. The ITA is a summary evaluation of whether students have met the requirements of that placement at the time of completion for:

- Clinical knowledge
- Procedural skills
- Clinical History taking and physical examination skills
- Communication
  - Communication with children and families
  - Appropriate clinical handover using ISBAR
- Personal and professional behaviour
- Attendance on clinical placement

The ITA can be completed by the supervising Consultant or their delegate registrar, preferably after seeking opinion from the team about the student performance. The clinician who spends the most time observing the student, is the best person to complete this task. In ICU, nursing staff can complete the ITA if they are consistently observing the student in practice.

## End-Placement ITA Due WK7

is completed by the assigned supervising Consultant or their delegate registrar, after seeking opinion from the clinical team about the student performance throughout the placement as to whether the student is performing 'at expected level'. Students can fail for not meeting attendance requirements on Clinical Placement – if they are not present then they are not spending time with patients sufficient to demonstrate competency.

## Mini-CEX due WK6

Students are encouraged to participate in active learning by interacting with patients by conducting a history or physical examination and then engage in discussions with clinician supervisors, known as Mini-Clinical Examinations (Mini-CEX). During the clinical placement, students will be supervised by their consultant supervisor or their delegate which includes ICU nurses and a range of clinicians such as those in specialist training pathways in the medical team, Senior House Officer or higher. PGY 1 and 2 are not permitted to complete Mini-CEX.

Students are required to complete and evidence **four (4) Mini-CEX in the form of 4 x Patient Managements Plans.**

- In this situation, students take the patient history, conduct the examination, review their investigations – then integrate this information and share their recommended patient management plan with a clinical team member
- It may be possible to do this task one-on-one or in a group setting such as ward rounds, clinics, operating theatre, and patient-management meetings

Patient Management plans are an observed Mini-CEX that requires the student to take a history, conduct a physical examination and review investigations. The student then integrates these skills and has a verbal discussion with the observing supervisor on next best steps in patient management. This integrated clinical task reflects the higher level of clinical reasoning and synthesis required as they approach internship. Feedback provided in the WBA should align to that given to students at the time of the interaction. The Global score given relates to the students' ability to conduct this clinical skill relevant to their current level of learning:

- |                          |   |
|--------------------------|---|
| <input type="checkbox"/> | 1. Unable to complete the task and requires direct instruction and intervention from supervisor |
| <input type="checkbox"/> | 2. Performs the task with proactive supervisor input and intervention (Repeat task)             |
| <input type="checkbox"/> | 3. Performs the task competently with minimal supervisor input and intervention (Pass)          |
| <input type="checkbox"/> | 4. Performs the task competently and independently with supervision nearby if required (Pass)   |

Outcomes:

- Level 3 (Student level) and 4 (intern level) are considered a Pass
- Level 1 (fail) or 2 (Borderline) require the student to Repeat the skill or conduct another Mini-CEX until level 3 is reached in a minimum of four (4) by end of the clinical placement.

## Ward Call

Students are required to complete in their final year one (1) Ward Call by graduation. Students will join the clinical team attending to a rapidly deteriorating/critically unwell patient. Students will observe the team in action and can offer to assist with clinical tasks which are within their scope of practice such as:

1. Write Notes about Clinical Assessment- doing an SBAR of the clinical interaction
2. Assist in the delivery of any basic airway care/recovery position/medication or fluid changes by nursing staff
3. Assist with performing ECG/monitoring of saturations/BP that might be done as part of the assessment- emphasising the clinical relevance of these observation to the given interaction
4. Conduct any procedures that might be done like IV, blood tests taken, urine tests
5. Look and detect and calculation of the clinical signs of deterioration that might indicate need for ICU/Reg review such as GCS and seizure type
6. Seek out opportunities to be involved in these types of clinical assessment
  - a. Fall in an elderly patient
  - b. Assessing Chest pain on the ward
  - c. Respiratory Assessment in the post-op patient

## Procedural Skills and Clinical Tasks:

Bond Medical Students are required to complete the following Procedural Skills and Clinical Tasks on patients by the completion of their Phase 2 to graduate. Ten skills are to be completed on patients under guided supervision whilst two clinical tasks and three theory modules support their skills development. A wide range of health professionals can evaluate their skills competency, including doctors, nurses, allied health, and hospital technicians.

#	Required Procedural Skills
1	In-dwelling Catheter insertion
2	Intravenous Cannulation
3	Suturing – basic wound closure
4	Intramuscular injection
5	Subcutaneous injection
6	Electrocardiograph acquisition
7	Venesection
8	Blood Culture Sampling
9	Sterile handwash, gown, and glove
10	Airway Management
<b>Required Theory Modules</b>	
11	Personal Protective Equipment
12	Assessment of the ICU patient
13	Pulse Oximetry
<b>Required Clinical Tasks</b>	
14	Discharge Summary completed in EMR
15	Ward Call

Students choose the location and timing of when they are ready to conduct this skill for assessment.

They are encouraged to conduct the skill for learning multiple times prior to being assessed for evidence of their competency

Students are required to complete all 15 clinical tasks prior to graduation

Evaluation of student procedural skills performance is based on an Entrustability Rating Scale:

- **Trust Level 1. Requires physician assistance / direct instruction (Repeat skill)**
- **Trust Level 2. Requires significant supervisor input (\*Repeat skill)**
- **Trust Level 3. Performs independently but requires direct supervision (Pass – medical student level)**
- **Trust Level 4. Safe to perform independently (supervision immediately available) (Pass – intern level)**

**In addition, to WBA, MD students will conduct the following other assessments:**

Students will sit an OSCE during Wk7 of Clinical Placement 5 as a check on clinical skills competency  
Students will also conduct five (5) written knowledge Open Book Progress Tests, one at the end of each semester to promote continuous development in their clinical knowledge

**If you have any concerns regarding any aspect of student behaviour and/or performance  
Please contact the GP Lead, Dr Jane Smith (07 5595 4499) or MED Placement Team (0420  
928 125 or MED-Placements@bond.edu.au) ASAP.**

## MD Program Outcomes PHASE 2 (YEAR 4 and 5)

### MEDI71-401, 402 and 403

#### Core Clinical Practice A, B and C

### MEDI72-501, 502 and 503

#### Extended Clinical Practice and Research, A, B and C

The Australian Medical Council's Graduate Outcome Statements are organised into four domains. Within this subject, the framework mapped to the learning outcomes are Science and Scholarship Domain (learning outcomes 1-3), Clinical Practice Domain (learning outcomes 4-11), Health and Society Domain (learning outcomes 12-15) and Professionalism and Leadership Domain (learning outcomes 16-21).

1. Science and Scholarship: The medical graduate as scientist and scholar (SS)
2. Clinical Practice: The medical graduate as practitioner (CP)
3. Health and Society: The medical graduate as a health advocate (HS)
4. Professionalism and Leadership: The medical graduate as a professional and leader (PL)

Program LOs 2024		Description On successful completion of this program the learner will be able to:	AMC 2012	AMC standards 2023
01	Y5SS01	Apply current medical and scientific knowledge to individual patients, populations and health systems.	1.1, 1.2, 1.3, 1.4	4.1, 4.2, 4.3, 4.4, CP 1.13, 1.24
02	Y5SS02	Apply evidence-based and environmentally sustainable healthcare practices in patient care and research methodology.	1.5, 1.6, 2.7	4.2, 4.3, 4.5, 4.6, CP 1.15, 1.16
03	Y5SS03	Apply project management and/or communication skills to complete an evidence based and professionally focussed project including its dissemination.	1.1, 1.5, 1.6, 3.3, 4.9	4.5, 4.6, HS 3.6,
04	Y5CP01	Demonstrate cognitive, technical and interpretive skills in undertaking an accurate, detailed system-focussed history from a range of patients within a variety of clinical settings.	2.1, 2.2	1.3, 1.2, 1.4, 1.6, 1.8,
05	Y5CP02	Perform an accurate and complete physical examination on any body system including a mental state examination.	2.3	1.9
06	Y5CP03	Use knowledge of common conditions, the patient history and physical examination findings, and clinical data, to undertake clinical reasoning and formulate probable and differential diagnoses.	2.2, 2.3, 2.4, 2.7, 2.8, 2.10	1.10, 1.13, 1.16, 1.22,
07	Y5CP04	Recognise and assess deteriorating and critically unwell patients who require immediate care and perform common emergency and life support procedures.	2.12	1.20, 1.21, 1.23
08	Y5CP05	Safely perform a range of common procedures.	2.6, 2.11, 2.14	1.1, 1.5, 1.6, 1.7, 1.11, 1.12, 1.14, 1.17, 1.18
09	Y5CP06	Safely prescribe by applying the principles of "quality use of medicines" in an environmentally sustainable way.	2.7, 2.11	1.11, 1.12, 1.16, 1.17, 1.18,
10	Y5CP07	Select and justify common investigations, with regard to the pathological basis of disease, utility, safety, cost-effectiveness, and sustainability, and interpret their results.	2.5, 3.7	1.11, 1.12, 1.15, 1.23, HS 3.7, 3.8 SS 4.1
11	Y5CP08	Formulate an initial management plan in consultation with patients, family and carers across a variety of clinical settings with consideration of psychosocial, environmental and cultural aspects that may influence management.	2.1, 2.7, 2.9, 2.13, 2.14, 2.15, 3.2, 3.4	1.1, 1.5, 1.6, 1.7, 1.11, 1.12, 1.16, 1.19, 1.23, 1.24, HS 3.2, 3.3
12	Y5HS01	Apply evidence from behavioural science and population health research, integrate prevention, early detection, health maintenance and chronic disease management into clinical practice.	1.6, 2.10, 3.5	3.7, 3.8, CP 1.4, 1.7, 1.22

13	Y5HS02	Recognise and critically reflect on the diversity of populations regarding health issues applicable to the relevant unique historical, social and cultural contexts in the clinical and community settings including First Nations peoples.	3.1, 3.2, 3.4, 3.5, 3.8, 3.9	3.10, 3.2, 3.3, 3.8, 3.5, 3.12, CP 1.7
14	Y5HS03	Recognise and understand the complex interactions between the healthcare systems and environment, as well as the doctor and patient, whilst reflecting on power and privilege, to understand the role of these to ensure a culturally responsive and safe working context.	2.1, 2.8, 3.4, 3.6, 3.7, 4.5	3.3, 3.9, 3.1, CP 1.2, 1.5, 1.11,
15	Y5HS04	Communicate successfully in all roles including health advocacy, education, assessment, appraisal and with the First Nations peoples.	2.1, 3.3, 3.4, 3.8, 4.9	3.6, 3.3, 3.5, CP 1.3, 1.4, 1.6,
16	Y5PL01	Contribute to teams providing care to 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"	4.1, 4.2, 4.3, 4.4, 4.5, 4.6, 4.7, 4.8, 4.9, 4.10	2.3, 2.5, 2.6, 2.8, 2.9, 2.11, 2.12, 2.13, 2.16, 2.17, 2.18
17	Y5PL02	Explain and apply the principles and concepts of medical ethics including physician virtue and the 'four principles' of autonomy, beneficence, non-maleficence and justice in the context of team-based patient care.	3.6, 4.1, 4.2, 4.3, 4.4, 4.6, 4.10	2.1, 2.2, 2.3, 2.4, 2.9, 2.10, 2.15, 2.18 HS 3.9,
18	Y5PL03	Apply the legal responsibilities of a medical practitioner across a range of professional and personal contexts in the practice of team-based patient-care.	2.15, 4.1, 4.2, 4.3, 4.10	2.2, 2.15, 2.18, CP 1.19
19	Y5PL04	Evaluate the performance of self and others as self-regulated and effective members of a diverse healthcare team in the management of a case load, respecting the roles of all healthcare professionals within the clinical setting and community settings, demonstrating professional foundation and essential skills.	3.1, 4.1, 4.2, 4.6, 4.7, 4.8, 4.9	2.2, 2.5, 2.3, 2.6, 2.9, 2.11, 2.12, 2.13, 2.15, CP 1.5, 1.6, HS 3.10,
20	Y5PL05	Demonstrate, and role model for junior medical students, skills to support the planned and active development of a career.	4.1, 4.2, 4.3, 4.8, 4.9	2.5, 2.2, 2.6, 2.11, 2.12, 2.13, 2.15, 2.16,
21	Y5PL06	Demonstrate, and role model for junior medical students, the active management of self-care in a clinical environment as part of a clinical team managing patients.	4.1, 4.2, 4.5, 4.6, 4.7, 4.9	2.2, 2.3, 2.5, 2.7, 2.9, 2.13, 2.15, 2.16