

**MB ChB
Curriculum Map Guide**

UNIVERSITY
of
OTAGO



Te Whare Wānanga o Otāgo

2020 version

Authorised by the OMS MB ChB Curriculum Committee (MCC)

University of Otago Medical School

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Executive summary: Current status of the MB ChB Curriculum Map (the Map)

1. The curriculum map website should be considered the definitive source of the Learning Outcomes (LOs) in the Otago Medical School (OMS) MB ChB curriculum and able to be used as a reliable guide to learning and assessments for staff and students.
2. All teaching/learning (T&L) and assessment activities should relate to LOs in the map, with the only exception being optional/selective activities which can include additional LOs not considered core.
3. The Core Elements (CEs) lists - Core Presentations (CPs), Core Professional Activities (CPAs) and Core Conditions (CCs) - were all revised in 2019 will be essentially stable until 2023.
4. The CEs combined with a Level of learning (LLs) produce the Core Element Learning Outcomes (CELOs) and describe minimum expectations in relation to teaching/learning (T&L) and assessment.
5. Domain learning outcomes (DLOs) have been variably refined/revised by their overseeing SCs in recent years and some further revisions are anticipated for the 2021 curriculum, and thereafter from specific curriculum working groups.
6. There should be no major changes to the CEs lists and learning outcomes outside of a 3 yearly review cycle barring unforeseen and exceptional circumstances such as critical changes in medical practice and health care priorities, and as a result of curriculum working groups tasked by the MB ChB Curriculum Committee (MCC) or Domain subcommittees (DSCs) to address particular matters. During this time suggestions for potential changes will be considered and either implemented if critical or batched for the next review cycle.
7. Should there be any minor modifications in CEs before 2023 these will be made within the website.
8. Significant changes at any time e.g. new CEs will also be notified on the Map website, the MB ChB website, and through Domain subcommittees (DSCs) and Curriculum subcommittees (CSCs.)
9. Minor changes to DLOs will be made within the Map website and major changes notified as for CEs.
10. DLOs are intended to sufficiently specific, detailed and granular to guide student learning and to enable module convenors to 'select' them, but not to the level of detail and granularity that would appear in learning outcomes for individual teaching sessions or assessment items.
11. For DLOs in particular, but also CELOs, more evaluation is needed to check that the sequencing and progression of learning (as indicated by LL for stage of trainings) is right. Accuracy in this regard is important not least because it has implications for the standards of performance that can be expected from students in assessments at different stages of the programme.
12. It is recognised that developments toward Programmatic Assessment for the MB ChB require a degree of alignment and mapping between the LOs in the Map and assessments and assessment decisions.
13. 'Internal' linkages (type 1) between DLOs and CEs have been largely completed for CPAs and will be completed this year for CPs and CCs also. Linkages will be selective and purposeful rather than comprehensive or exhaustive with the primary purpose being to guide and facilitate student learning according to guiding principles. If students complete the 'guided' learning in relation to the CEs they will by default also cover all of the core DLOs.
14. The 'external' linkages (types 2 and 3) from the LOs in the Map to Modules and resources in Med Moodle not only serve to help guide students and staff, but will contribute to quality

assurance of the MB ChB curriculum including through attention to constructive alignment (alignment of learning outcomes and learning opportunities and assessments). More work is required to smooth and align the interfaces of the Map and Med Moodle.

15. Developing mechanisms for module convenors to engage directly with the Map and create and edit these linkages is the priority IT development project for 2020.
16. The Curriculum Map is still developing and evolving such that Feedback is not only welcome but also important to help inform future developments ensuring the Map is both accurate and useful.

Introduction

The University of Otago MB ChB programme Curriculum Map (the Map) outlines the key elements of expected learning within the MB ChB programme. It is an outcomes-based curriculum. The Map demonstrates how the elements, including learning outcomes (LOs), are organised, structured and related to each other. It shows the relationships between LOs and structured learning opportunities (modules) in the curriculum and also enables direct links from the core elements (CEs) in the Map to learning resources located in the learning management system (LMS) Med Moodle. While it contains the expected core LOs, the map itself does not describe the programme structure, contain timetables or describe the entire curriculum to the more detailed and granular learning expected from individual teaching sessions and student self-directed activities.

The Core Elements (CEs) of the curriculum are represented in three central 'organising' constructs which form a 'common currency' for the curriculum:

Core Presentations (CPs)

Core Conditions (CCs)

Core Professional Activities (CPAs)

The 'Core Elements' lists represent common 'doorways' or 'points of access' for students to learning and are the primary points of linking to learning outcomes, modules and resources. In essence Core Presentations represent the ways in which patients present to health services, Core Conditions the illnesses and injuries which patients develop and Core Professional Activities the things which doctors do within their professional roles.

The other key organising structure in the map is Domains. For the purposes of the Map the LOs additional to the CE learning outcomes (CELOs) have been classified as fitting within one of 7 overarching domains where a domain encompasses a sphere or field of knowledge. Some of the domains cluster groups of learning outcomes into 'sets' of LOs that logically belong together from a teaching and learning perspective. The seven Domains are:

Clinical Skills (CS)

Diagnostics and Therapeutics (DT)

Hauora Maori (HM)

Pacific Health (PH)

Population Health and Epidemiology (PHE)

Professional Practice (PP)

Science, Research and Scholarship (SRS)

Full descriptors of the core elements, the domains and other key terms used in the map are available in the Glossary <https://medmap.otago.ac.nz/ui/glossary>

The use of the term 'core' reflects that fact that the lists of presentations, conditions and professional activities, CELOs and DLOs have been deliberately chosen as representing the essential minimum requirements for an undergraduate curriculum. The intention is not to limit or bound student learning but to identify the core learning required to produce a competent, safe and effective graduate, and also the assessable curriculum, as described more fully in the OMS MB ChB Purpose (Kaupapa) statement:

“The Otago Medical School MB ChB programme prepares students to graduate as medical professionals committed to the provision of high-quality, patient-centred, evidence-based medical care within the New Zealand health care system and wherever they practise. Students will graduate with the professional, clinical, biomedical and psychosocial foundations to practise as collaborative medical practitioners, and to undertake further training in any field of medicine. The Otago Medical School delivers a socially accountable education programme that emphasises graduate commitment to improving the health of individuals and communities, to equitable health outcomes and to the Treaty of Waitangi.”

Learning philosophy and definitions

The MB ChB curriculum is an outcomes-based curriculum with a twist. Learning through experience and linking theory to practice are at the heart of the programme. Theory and knowledge are represented by the CELOs and DLOs. Structured experiential learning (practice) is represented by the learning opportunities provided within modules. Linkages to learning resources in Med Moodle will facilitate flexibility of learning and accommodate revisiting, reinforcement and serendipitous opportunistic learning. Students should be supported and guided in their learning through use of the Map. All of the expected LOs within the curriculum can be achieved by attending to learning that is relevant to (linked to) the CEs: CPs, CPAs and CCs.

Key definitions

Learning outcome:

A learning outcome (LO) is defined as an element of learning plus a level of learning in relation to that specific element.

An element of learning may be one of the Core Elements (Core Presentation, Core Condition and Core Professional Activity) or some other topic or subject of learning located within the Domains. A CE combined with a LL constitutes a core element learning outcome (CELO) and a domain topic or subject combined with a LL is termed a domain learning outcome (DLO).

The deliberate splitting of LOs into two components – the element or topic/subject of learning and the level of learning allows for transparency in the sequencing and progression of learning by stage of training and also for variation in the final expected learning for different elements/topics. Each CE, and domain topic or subject has levels of learning (LL) described for stage of training at end of ELM3, end of ALM5 and end of ALM6/TI year. It also makes explicit the performance in assessments that can be expected of students in relation to elements of learning at different stages of training.

Level of learning:

Levels of learning (LLs) are described using a variation of Millers pyramid [Level 1/Knows About (KA), Level 2/Knows How (KH), Level 3/Shows How (SH), Level 4/ Does (D)]. Descriptors for each of the levels have been specified according to the type of element, CE or Domain topic/subject, to which they apply.

Specific Level of learning descriptors <https://medmap.otago.ac.nz/ui/lol-definitions>

See also appendix 1

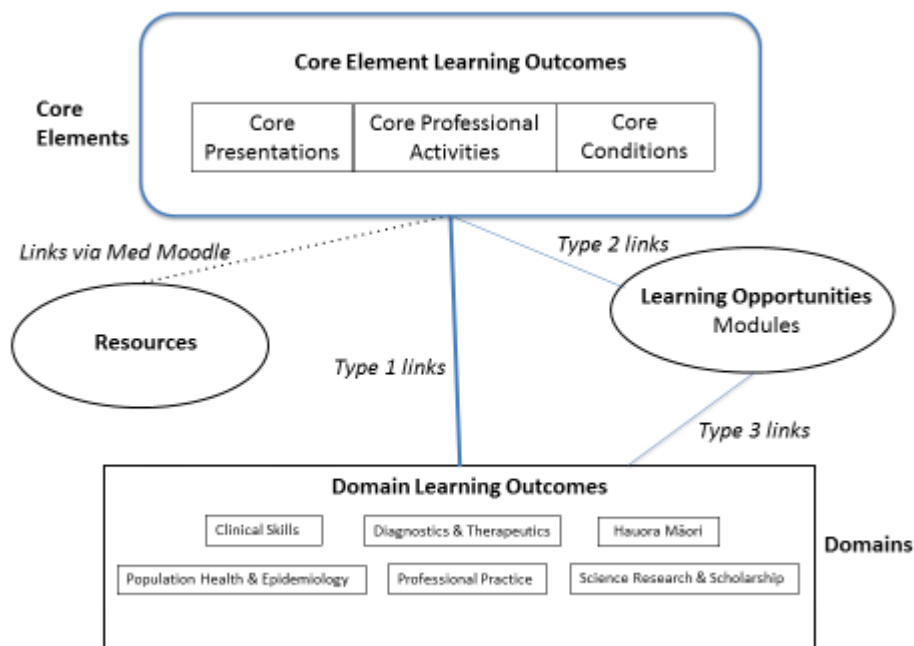
Module:

A module is an organisational unit formed to oversee, coordinate (including timetabling) and deliver teaching/learning opportunities and assessment. Some are horizontal (blocks of time within a single year of the programme which used to be called attachments/runs e.g. surgery), some are vertical (time and content which crosses years and which used to be called threads e.g. ethics), and there are a small number which are virtual (these modules have oversight of learning in relation to the specified area in the curriculum but do not have scheduled time or direct responsibility for delivery).

Please see the Glossary for detailed definitions <https://medmap.otago.ac.nz/ui/glossary>

The glossary includes key terms used in the MB ChB curriculum. It is not a medical dictionary.

Map structure and inter-relationships



The 'internal' components of the curriculum represented within the map - CEs, CELOs, Domains and DLOs - primarily serve to make learning expectations explicit to students and staff and to show the relationships between the main organising constructs. The connections to the programme structure and resources through modules and Med Moodle serve to demonstrate the relationships between the expected curriculum (the 'ought' curriculum) and the currently delivered curriculum and programme of learning. (the 'is' or 'actual' curriculum). Having the ability to map and compare the expected learning as expressed as learning outcomes (CELOs and DLOs) with the learning

opportunities including modules and resources, is critical for constructive alignment of the curriculum and also for quality assurance (QA) and continuous quality improvement (CQI) of the curriculum.

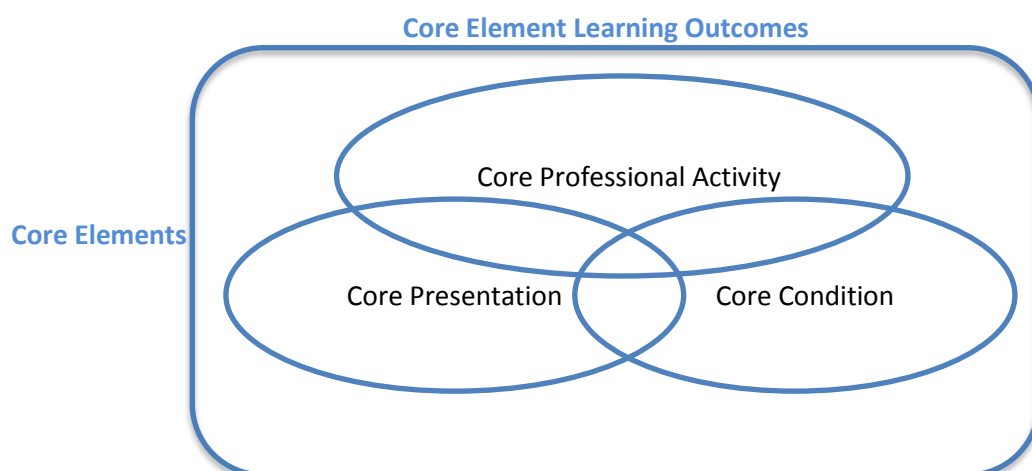
Currently both types of linkages, internal Type 1 linkages and external Type 2 and 3 linkages, are incomplete and still being worked on. Each DLO will ultimately be linked to one or more of the CEs (Type 1 links). Linkages will be selective and purposeful rather than comprehensive or exhaustive with the primary purpose being to guide and facilitate student learning according to guiding principles:

- The presentation, condition or professional activity is a 'good time' or 'good opportunity' to learn that LO
- The presentation, condition or professional activity is illustrative of the underlying LO (likely to be LOs in relation to underlying science or principles)
- The LO is particularly relevant to the presentation, condition or professional activity
- The LO adds 'clarity' or 'detail' in understanding of the presentation, condition or professional activity

The existing data linking CEs and modules (Type 2 links) was gathered in 2016 and needs updating as there have been changes to both CEs and to modules. Data for linking DLOs with modules (Type 3 links) have yet to be gathered. Developing mechanisms for module convenors to engage directly with the Map and create and edit these linkages is the priority IT development project for 2020.

While the CEs are unrelated (not-linked) to each other within the structure of the Map, they are clearly related from a learning perspective, including one of the most important aspects of learning for students in relating CPs and CCs: relating patient presentations to causative conditions (generating provisional and differential diagnostic lists and ultimately a definitive diagnosis of a condition), and in reverse learning about the ways in which conditions present. To assist students with learning in relation to CPs and CCs there are 'Guiding questions' which students can follow both independently and as they progress through the course, and in addition this content is expressed as learning outcomes specific to CPs and CCs located within the SRS and DT domains.

In addition there are learning overlaps between many CPAs and the CPs and CCs.



Some CPAs are not directly related to patient care (e.g. Personal and Professional Development, Professional conduct with colleagues), some are related to all patient care regardless of the condition

or presentation, and some require adaption when applied to a particular patient presentation or condition e.g. a student must learn about managing confidentiality in general terms including obligations and limitations, and also adapt what they do for particular patient presentations and conditions such as self-harm or suicidal event, non-accidental injury in a child, or when the patient is psychotic. Another example would be Core Procedures where it is important that students learn an overarching safe and effective approach to performing procedures, and also learn the specifics of core procedures according to the patient context, and the particular presentation or condition for which the procedure is indicated e.g. urethral catheterisation for obtaining a urine sample, or for managing urinary retention. See also CPA definition section below

Goals and Purpose of the Curriculum Map

The primary purpose of a Curriculum Map is to guide and assist student learning. It aims to enable students and staff to find out what learning is expected, where in the course such learning occurs, and how such learning links to other components of the course.

It will do this primarily by:

- Making visible to students and staff the core learning outcomes (CELOs and DLOs), learning opportunities and resources so that students can link theory with present and future practice
- Providing resources and frameworks to facilitate and maximise learning from both scheduled and serendipitous experience or practice
- Making visible the sequencing, progression (spiral) and coordination of learning that occurs throughout the overall programme by stage of training

The map will also serve several other purposes including:

- Assisting teaching staff, especially module convenors, to see where their individual contribution fits within the overall programme
- Assisting teaching, including clinical, and administrative staff to identify and collaborate with each other where they share core elements and learning outcomes
- Facilitating sharing and refinement of relevant resources
- Representing the MB ChB curriculum in sufficient detail and format to enable understanding by external bodies including accreditation authorities
- Representing the MB ChB curriculum in a way that will facilitate efficient review, modification and quality control

While the MB ChB Curriculum Map is freely and publicly accessible via the website the learning resources which reside within the LMS Med Moodle are password protected. The first time a user links from the Curriculum Map website to Med Moodle to access a resource they will be asked to log in to Med Moodle.

Please note that the Search is a basic 'key word' search. Work is planned to try to improve this functionality.

Governance of the curriculum map

Ultimate oversight and authorisation of the Curriculum Map resides with the MB ChB Curriculum Committee (MCC). This oversight includes responsibility for ensuring the accuracy, consistency and

coherence of the content, components and relationships in the map. In addition Domain subcommittees (DSCs) have oversight and authority to make recommendations in relation to DLOs. A Curriculum Map Academic Lead (CMAL) facilitates this work including communication with various users and stakeholders including MCC, DSCs, campus (DSM, UOC, UOW) and programme (ELM, ALM) curriculum subcommittees (CSCs) and others such as the EDSSU (Education Development and Staff Support Unit), MASC (MB ChB Assessment Subcommittee), academic departments, module convenors and students.

In recognition of the desirability of a stable while still 'living' and responsive curriculum for both students and staff MCC has endorsed annual review for the first 3 years from 2017 and thereafter 3 yearly review. 2020 is the last of the three initial years allowing for significant review of the content expressed as learning outcomes. Otherwise there should be no major changes to the curriculum outside of this 3 yearly cycle barring unforeseen and exceptional circumstances such as critical changes in medical practice and health care priorities, and as a result of curriculum working groups tasked by MCC or DSCs to address particular matters.

Please note and use the 'Feedback' button which sends an email communication directly to the CMAL. All feedback is welcomed and used to inform the ongoing development of the Map.

The Core Elements

All CEs lists were reviewed and refined during 2019, and the updated lists approved by MCC for the 2020 version of the curriculum map. The process used to review and refine the lists included close checking against the currently delivered curriculum as indicated within Med Moodle, targeted requests to academic and discipline groups for specific queries and input, and extensive comparative bench-marking with other undergraduate medical curricula locally, regionally and internationally.

The curriculum map website should now be considered the definitive source for CEs included as core in the curriculum, and the associated LLs (CELOs) as indicative of minimum core expectations in relation to learning and assessment. These lists, annotated to indicate changes compared with 2019, are also available on the MB ChB website along with further explanation specifically related to the modified approach to core conditions.

MB ChB website <https://www.otago.ac.nz/medicine/staff/resources/curriculum-map/index.html>

Current CEs lists are also included below in this document.

Should there be any minor modifications during 2020 these will be made within the website. This should always be considered the definitive source.

More evaluation is needed to check that the stages and progression of learning (by LLs) is right from the perspectives of both optimal learning and feasibility of learning. This is important not least because it has implications for the standards of performance that can be expected from students in assessments at different stages of the programme.

In the Map all CEs pages looks similar containing the definition, status of the data and indications of main linkages, as does the information provided on each individual CP, CC or CPA page. For each of the individual CPs and Primary CCs there are LLs, sections for guiding questions, learning opportunities (modules which have a major interest in and contribution to learning and/or resources and/or assessments for the particular CP, CC or CPA), DLOs that are particularly pertinent and relevant, and

resources. The linking of DLOs to CEs is still work in progress, although mostly complete for CPAs. The linking of CEs to resources located in Med Moodle is only just beginning and will be one of the main tasks for 2020. CPA pages contain the same sections with the exception that there are no guiding questions.

CEs list pages can be expanded from 10 to 100 items per page, filtered by 'whole course' or component of the course i.e. ELM/ ALM UOC/ ALM DSM / ALM UOWs and by keyword terms.

CP and CCs lists can also be filtered by 'Children' identifying those presentations which are either specific to children or by 'Adults and children' to include only those in which a different approach is required in children compared with adults. For the purposes of the MB ChB Curriculum 'Children' is used to encompass all ages from the newborn through infancy, childhood and adolescence as is in keeping with paediatric parlance / terminology.

CEs lists can also be sorted alphabetically by clicking over the Name or by Levels of Learning by clicking over this heading. To reveal the detailed descriptor for the LL click on the numerical indicator.

Core Presentations (CPs)

Map website at <https://medmap.otago.ac.nz/ui/presentations>

MB ChB website <https://www.otago.ac.nz/medicine/staff/resources/curriculum-map/index.html>

CP Definition:

A Core Presentation = a symptom, complaint, problem or request a patient has identified or a clinically recognisable patient state which requires further diagnostic consideration including an initial assessment and management strategy.

All presentations within the Core Presentation list (155) are considered essential learning for medical students by the time of graduation. The list, and the order in which the presentations appear, is not intended to indicate or represent the relative importance or proportionality of systems or disciplines within the overall curriculum.

The level of learning is not uniform for all presentations but specified and described according to the particular presentation.

The detailed descriptors of levels of learning <https://medmap.otago.ac.nz/ui/lol-definitions> and associated guiding questions also assist students to understand the depth and breadth of learning required in relation to presentations.

Core Professional Activities (CPAs)

Map at <https://medmap.otago.ac.nz/ui/activities>

MB ChB website <https://www.otago.ac.nz/medicine/staff/resources/curriculum-map/index.html>

CPA Definition:

Core Professional Activities (CPAs) are discrete, identifiable activities required of medical professionals. They can be:

1. Related to patient care
 - a. generic i.e. applicable to any patient presentation or condition (e.g. Teamwork in healthcare, Doctor-patient consultation, aspects of Clinical Reasoning, Cultural competence, Uncertainty in medicine)
 - b. require adaptation when applied to a particular presentation or condition (e.g. Confidentiality, some Core procedures, Challenging patient interactions, and Care at end-of-life)

2. Not directly related to individual patient care (e.g. Health advancement, Research methods, and Personal and Professional Development)

Core professional activities are based around some of the most common and important roles and tasks required of medical professionals and require integration of knowledge, skills and attitudes into a meaningful whole. Each CPA constitutes one of the many 'things doctors do' in their professional roles. For the purposes of this Curriculum Map each activity is described in terms which reflect the standard or level of competence which can reasonably be expected of a new medical graduate.

The majority of CPAs represent recognisable meaningful activities undertaken or performed, and experienced, in the course of patient care. Others reflect the broader scope of the professional role and include activities in relation to the professional self, colleagues, the profession as a whole and the wider community and systems of care.

Some of these CPAs/activities when undertaken by qualified medical professionals will be clearly visible to students while others may be internalised and hidden from view. The activities which students are able to see/witness as observable behaviours provide a stimulus for students to make links between learning experiences/opportunities and underlying knowledge and theory. Where the activities are largely cognitive and reflective or occurring outside of the learning environments these CPAs will need to be explicitly shared and articulated to students making them therefore both visible and able to be learned.

CPA names:

Given that CPAs (34) attempt to describe activities which integrate knowledge and skills across domains and across the complex applied practice of medicine, the full descriptors of CPAs are quite long. A short name and abbreviated description is available in the list on the CPA home page and the full description is available once opening the specific CPA page. This is the smaller italicised text.

Even though CPAs are written include the verbs which describe the activity expected of a graduating student, there are still LLs for stage of training to help guide the expectations and progression of learning across the programme from years 2 to 6. The inclusion of the descriptor verbs is a deliberate variation from the previously explained approach to learning outcomes where the element or topic/subject of learning is separated from the LL descriptors containing the describing verbs and only once combined describing the Learning outcome (LO). For all CPAs therefore the default LL by end of the TI year will be the LL4 or Does LL.

Core Conditions (CCs)

Map at <https://medmap.otago.ac.nz/ui/conditions>

MB ChB website <https://www.otago.ac.nz/medicine/staff/resources/curriculum-map/index.html>

CC Definitions:

A Core Condition = is a (abnormal, pathological) disorder, disease, illness or injury which impacts on the health and well-being of the person. The Core Conditions list includes the conditions considered to be essential learning for medical students by the time of graduation. The level of learning is not uniform but specified and described according to the particular condition.

From 2020 CCs (total of 430) are a mix of single 'index' conditions and 'grouped' conditions, and also a Primary List (list 1 = 324) and a Secondary list (list 2 = 106). All CCs in both lists are considered essential and are assessable. All Primary conditions will require a level of learning of LL3 (210) or LL4 (114) by end of the TI year. Secondary conditions require less in depth learning as described by LL-S. The term 'other' in reference to the Core Conditions list 'other' is used to indicate and identify that there are 'other' related conditions in the CC list which may be alphabetically dispersed and which might not all be identified together as a result of a single search term or key word. In addition for 'group' conditions a full description of what may be included is found once the individual condition page is opened. The detailed descriptors of levels of learning and associated guiding questions assist students to understand the depth and breadth of learning required in relation to conditions.

Primary Core Conditions list (list 1) (Total 324 – 114 LL4 + 210 LL3)

All conditions in this list are common and /or important requiring in depth learning as outlined in the "Learning outcomes common to conditions" following a staged and progressive pattern of learning beginning with the underlying sciences. The overall Level of Learning (LL) in relation to the condition will be a minimum of LL3 or LL4 at the end of the TI year. LL4 conditions are sufficiently common and/or important that it is reasonable to expect the graduating student to be able to diagnose, and initiate or contribute to management, based on both underlying principles/knowledge and exposure to the condition during training, and ideally also simulation-based training for the more time-critical and serious ones (life and limb threatening). LL3 conditions include some that are less common (than LL4 list) AND some that are common but less serious conditions such that we can reasonably expect graduating students to be aware of them, and how they present and to have in depth knowledge of their aetiology and pathophysiology, progression, assessment and management such that they can show how they would approach the condition from both a diagnostic/assessment and management/treatment perspective. For these LL3 conditions there would be no expectation that the graduating student would be doing anything independently or without supervision and guidance.

Secondary Core Conditions list (list 2) (Total 106)

Conditions in this list require less in-depth learning. They are still core to the MB ChB curriculum and assessable. The majority will be clinically important but uncommon and some will be important as illustrative examples of underlying science principles and concepts. For these conditions students must know that the conditions exists, how it commonly presents, the common cause(s), whether it is treatable or not, and if treatable the most common treatment approach. There is no expectation of covering all of the "Learning outcomes common to conditions" and no expectation that graduating students would be able to independently initiate assessment and management of patients with these conditions. In depth learning would ordinarily only be expected in postgraduate and specialty training programmes or if a PGY1/2 has direct responsibility with their team for a patient with one of these conditions.

In addition to filtering by key word, and 'Children' and 'Adults and Children' CCs can also be filtered by Primary, Secondary and All, and within those lists also sorted alphabetically or by LL. The CC list also includes a 'See also' clarification which helps indicate related conditions, index and/or groups, which are alphabetically remote in the list but relevant and related from both learning and clinical practice perspectives. For example Depression has 'See also Bipolar disorder' and vice-versa, and

Parkinson's disease has 'See also Progressive and extrapyramidal neurological diseases of adults – other'.

Guidance for learning Secondary List conditions

The detailed descriptor for Secondary List conditions (LL-S) should be used to guide learning for these conditions:

LL-S = Knows that the conditions exists, how it commonly presents, the common cause(s), whether it is treatable or not, and if treatable the most common treatment approach.

Domains and Domain learning outcomes (DLOs)

For the purposes of the MB ChB curriculum map all learning outcomes other than CELOs have been classified as fitting within one of 7 overarching domains where a Domain encompasses a sphere(s) or field(s) of knowledge. Some of the domains combine sets of learning outcomes into relatively distinct sub-domains that logically belong together from a teaching and learning perspective.

Each domain topic or subject when combined with a LL constitutes a Domain Learning Outcome (DLO). Each DLO will ultimately be linked to one or more of the CEs (Type 1 links). Linkages will be selective and purposeful rather than comprehensive and exhaustive with the primary purpose being to guide and facilitate student learning.

Within the Domain pages the 'sets' and the topics/subjects within them appear in a default order according to logic in relation to learning. The topics/subjects can also be sorted/re-ordered alphabetically by clicking over 'Topic/subject' and by level of learning by clicking over that column heading. To return to the default order 'collapse' and then 'expand' the set again.

The DLO linkages, shown by clicking and opening an individual DLO, are far from complete, but will eventually show the CEs to which the DLO is linked and in the future also show the Modules in which there is teaching/expected learning and/or assessment of the topic/subject.

Each domain has a description of its scope and field of responsibility – available in the glossary <https://medmap.otago.ac.nz/ui/glossary> and below.

Clinical Skills:

A clinical skill is defined as any discrete act within the overall process of patient care. In the Otago MB ChB programme there are four main categories of CS:

- (1) Clinical skills within the doctor-patient consultation: including communication, medical history taking, examination, clinical reasoning/problem solving, explanation and planning/shared decision-making, and documentation of the consultation
- (2) Additional communication skills required during other doctor-patient interactions
- (3) Clinical skills, including communication skills, required for effective intraprofessional and interprofessional interactions
- (4) Procedural skills.

Diagnostics and Therapeutics:

The Diagnostics and Therapeutics domain includes learning about overarching principles and practice in diagnosis and management and also specific investigations (by type) and therapies including medicines. The therapeutics learning is divided into groups by a mix of clinical context and type of therapeutic intervention as indicated by the headings on the domain page.

Hauora Maori:

The Hauora Māori domain encompasses indigenous rights, protocols and the impact of a colonial history on health status, the role of the determinants of health, models of care and roles and responsibilities to support health advancement.

Pacific Health:

The Pacific Health Domain encompasses learning about the health and wellbeing of diverse Pacific communities in Aotearoa. Areas of mutual importance to New Zealand and Pacific countries are included, as well as the roles of the determinants of health, Pacific models of care, roles of health professionals and responsibilities to support Pacific peoples' health and wellbeing.

Population Health and Epidemiology:

The Population Health and Epidemiology domain includes learning in relation to communicable disease control, epidemiology, equity and access, health promotion, health economics, health systems, global health, health protection / environmental health, occupational health, and screening and prevention, and cultural competency.

Professional Practice:

The profession of medicine requires developing and cultivating a particular set of personal qualities and skills. These relate to values, character, critical reasoning, communication, personal management, compliance with legal requirements, understanding and working within complex systems, managing stress, being responsible for high-stakes decisions, leading and functioning responsibly within teams, and an awareness of the deep and varied significance of illness and treatment to individuals and societies.

Throughout the MB ChB curriculum, including this domain, 'professional practice' refers to medical practice and interprofessional collaborative practice for medical professionals. The terms 'health professional' and 'colleague' are used to denote all staff, not only medical professionals, who are involved in a patient care team including e.g. community health workers, social workers, other allied health workers. The term 'collaborative practice' denotes a continuum from consultation and referral through to full collaborative practice with shared clinical decision-making.

Science, Research and Scholarship:

The SRS domain includes relevant learning from the biological, behavioural, social and medical sciences. Sciences learning is grouped into 4 sections:

1. There are some overarching 'core' biomedical science concepts (adapted from Michael J et al)
2. Structures and functions common to the whole organism i.e. not system or condition specific
3. Learning grouped by body system /related body region /and functions. Structure refers to anatomy and includes gross and microscopic (sometimes called functional) anatomy. Functions refer to physiological, biochemical and metabolic processes and their control.

4. Disorders of functions includes insults and injuries and disease processes which are common across the whole organism /whole person and pathology specific to core conditions and core presentations.

Scholarship and Research outcomes focus on the attitudes and achievements in academic study required for medical practice. This includes knowledge of research paradigms and practice, and the incorporation of research evidence, alongside other information, within the practice of medicine.

Core lists within Domains

In addition to the core elements of CPs, CPAs and CCs the curriculum map identifies some additional core lists of learning outcomes. These currently include a core diagnostics list, core therapeutics lists including core drugs lists and core procedures.

Core Procedures:

Map website <https://medmap.otago.ac.nz/ui/domains/16?expand=508,509>

Within the CS Domain there are 2 sets of procedural skills. The first set of 60 procedural skills, further clustered into 11 (sub) sets by type of procedure, constitutes the Core Procedures list. All of these procedures require a LL of Does (LL4) or Shows How (LL3) by the end of the 6th / Trainee Intern year.

Procedural skills have been defined:

Procedural skills involve an actual physical manoeuvre or intervention which may or may not require specific equipment and which may be undertaken for either investigative/diagnostic (beyond standard examination) or therapeutic/management purposes. Their execution requires both psychomotor skills and background knowledge. When undertaken each procedure should be underpinned by sound clinical reasoning.

Core diagnostics:

Map website <https://medmap.otago.ac.nz/ui/domains/17?expand=524>

Within the Diagnostics and Therapeutics domain there are both Generic Diagnostic Principles and practice LOs and also a Core Diagnostics set/list, further clustered into 8 (sub) sets by type of investigation. This list of 129 Core Diagnostics includes diagnostic tests and/or the reports of test results considered to be essential for the new graduate especially in relation to assessment and management of Core Presentations and Core Conditions. Two levels of learning (LL) were considered adequate to describe the LL that should be reached by the end of the TI year for the vast majority of these Core Diagnostics. The full description of the LLs is found in the map but in essence level 2 equates to the student knowing how the test or investigation is used and level 4 to the student being able to safely and effectively use the test or investigation, and the test results and/or report, in common and important presentations and conditions.

Core Therapeutics:

Map website <https://medmap.otago.ac.nz/ui/domains/17?expand=739>

Within the Diagnostics and Therapeutics domain there are both Generic Therapeutic Principles and practice LOs and also a Core Therapeutics set/list, further clustered into 6 (sub) sets by type of investigation.

- Core Therapeutics: Cognitive, behavioural, psychological, spiritual, physical and life-style interventions - *15 outcomes*
- Core Therapeutics: Fluid, Electrolyte, Nutritional and Blood Products therapies - *11 outcomes*
- Core Therapeutics: Medicines - *4 sets*
- Core Therapeutics: Procedural interventions (involve therapeutic physical manoeuvres on the patient and/or use of technology) - *29 outcomes*
- Core Therapeutics: Surgical and anaesthetic interventions - *29 outcomes*
- Core Therapeutics: Systems of Care and Special/Specialist Services

Included in the Core Therapeutics: Medicine set are the Core drugs lists (109).

Core drugs lists:

Map website <https://medmap.otago.ac.nz/ui/domains/17?expand=737,739>

The core drug list is a selection of drugs that illustrate principles of clinical pharmacology and therapeutics across the curriculum. Each drug listed is followed by the class of drug it belongs to (in brackets). Using the core drug list students are expected to develop a body of knowledge and skills that can be applied to other drugs in clinical practice.

The list is regularly updated and selected using the following criteria: they illustrate key pharmacological principles, are archetypes, and widely used.

The Core drugs with Level of learning (LL) 4 at the end of the TI year are key examples requiring in-depth learning. The LL3 drugs should be learned in sufficient depth to illustrate key points and to illustrate understanding of a class or therapeutic area.

There are specific LL descriptors for Core drugs:

LL4 drugs: the student is expected to be ready to apply detailed knowledge of the drug profile (pharmacokinetics, pharmacodynamics, potential benefits (indications), potential harms (adverse effects/contraindications/precautions), potential interactions and methods of monitoring) in order to safely use/prescribe, monitor and evaluate this drug.

LL3 drugs: the student can describe how the drug is used including its major effects (beneficial and adverse) and its pharmacokinetics.

Ongoing work

1. Completing Type 1 links between DLOs and CEs
2. Gathering data and establishing Type 3 links between DLOs and modules
3. Updating Type 2 links between CEs and modules
4. Ensuring consistency between the Map and Med Moodle in relation to modules
5. Identifying and tagging resources in Med Moodle to enable links to CEs in the Map
6. Ensuring alignment between the Map and the MB ChB programme of assessment
7. Developing QA tools to interrogate and report on data in the Map