MB ChB
Curriculum Map

UNIVERSITY
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OTAGO

SAPERE – AUDE

Te Whare Wānanga o Otāgo

2016 version

An interim document pending release of the online version of the revised curriculum map

Authorised by the OMS MB ChB Curriculum Committee (MCC)

University of Otago Medical School

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Introduction

The Otago Medical School MB ChB programme curriculum map (the curriculum map) outlines the key elements of expected learning within the MB ChB programme. It demonstrates how the elements are organised, structured and related to each other. It also shows the associations, via modules, with learning opportunities in the curriculum and to learning resources. The map contains the expected learning outcomes and opportunities, but does not itself describe the programme structure, contain timetables or describe the entire curriculum.

The core of the curriculum can be accessed and learned by students via three central organising constructs which form a '**common currency**' for the curriculum:

Core Presentations (CPs)
Core Conditions (CCs)
Core Professional Activities (CPAs)

The core lists represent common points of access for the students to learning and also are the primary point of linking to learning outcomes and to learning opportunities (modules) and learning resources.

The use of the term 'core' reflects that fact that the lists of presentations, conditions and professional activities have been chosen to represent the essential minimum requirements for an undergraduate curriculum. The lists and associated learning are not intended to be exhaustive or to limit or bound student learning in any way. These terms are fully defined in the glossary section but essentially, 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.

Learning Philosophy

All the required learning outcomes within the curriculum can be achieved by attending to learning linked to the core presentations, core conditions and core professional activities. [1]

The heart of the programme is learning through experience and linking theory to practice.. Theory and knowledge are represented by the specific learning outcomes that are categorised or grouped according to the six domains. Practice is represented by the learning opportunities in modules where the core elements are covered and/or are likely to be encountered. The structure of the curriculum map (where learning outcomes are associated primarily with core elements rather than directly to modules) facilitates learning flexibility and accommodates revisiting, reinforcement and serendipitous opportunistic learning. Students are supported and guided in their learning by the linking of learning resources and learning outcomes to the

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[1] Note: This document does not contain the individual learning outcomes but outlines the core elements and other important aspects of the curriculum map.

common currency of the core professional activities, core presentations and core conditions and by associated guiding questions.

The deliberate allocation and progression of levels of learning by stage of training is consistent with the commitment to the concept of spirals of learning.

Please see the Glossary in Appendix 1 for detailed definitions.

Learning outcomes are not only linked to these core elements of the curriculum but are also classified according to **domain** groupings – these being:
Clinical Skills
Diagnostics and Therapeutics
Hauora Māori
Population Health and Epidemiology
Professional Practice
Science, Scholarship and Research

These domains are also more comprehensively defined and described in the glossary section.

Underlying Goals and Purpose

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 learning opportunities and resources, so 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 also the progression (spiral) and coordination of learning that occurs throughout the overall programme

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 and administrative staff to identify and collaborate with each other where they share core elements
- Facilitating sharing and refinement of relevant resources
- Representing the curriculum in sufficient detail and format to enable understanding by external bodies including accreditation authorities
- Representing the curriculum in a way that will facilitate efficient review, modification and quality control

Map Structure and Inter-relationships

The diagram below outlines the important elements of the curriculum map and relationships between them. Essentially, each learning outcome can be linked to any one or more core element (CP, CC or CPA) and each core element also has links both to modules, which provide the main learning opportunities, and to learning resources, via the module link to Med Moodle.
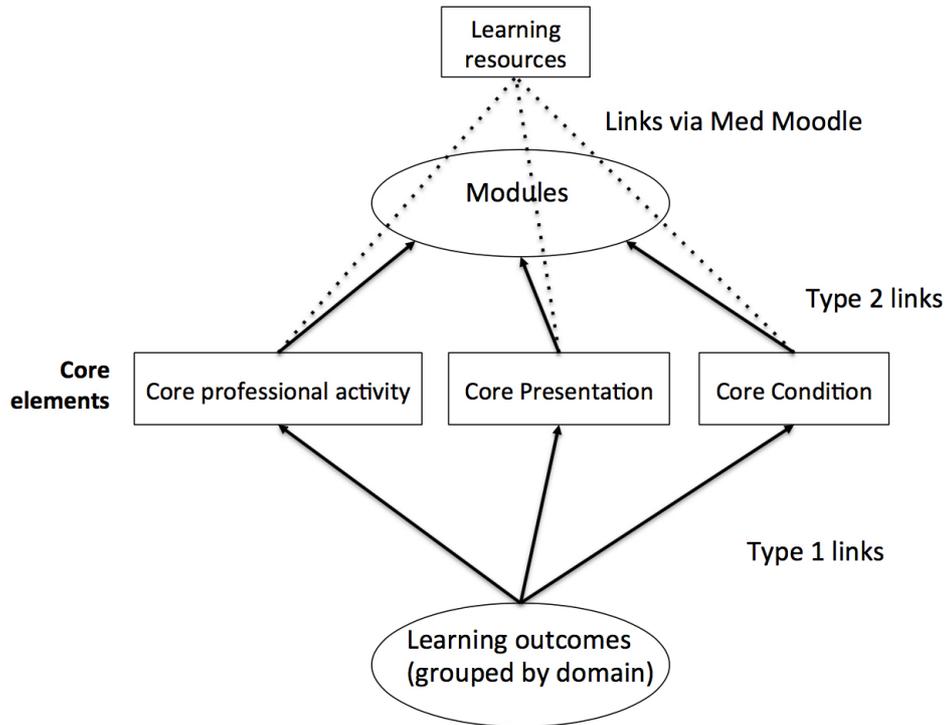
Because each core element is linked to more than one module, staff and students can see where content is reinforced and/or built upon. It also helps staff and students identify learning resources from other modules. The work of identifying important and useful links between individual learning outcomes and core elements is underway but incomplete. Work is about to commence on identifying meaningful links between the core elements and modules. A critical component of this process will be conversations with module convenors. Details of the principles and process involved in this work are included in Appendix 3.

The third indirect type of link between learning resources and relevant core elements (CPs, CCs and CPAs) occurs via the existing mechanisms in Med Moodle.

While the learning outcomes and learning opportunities within the MB ChB curriculum map are freely and publicly accessible via the website, the learning resources are hosted on the Med Moodle learning platform and are password protected. This allows control of access to resources, including access in relation to stage of training, and will enable quality control of the resources such as controlling editing rights.

Map Governance

Content of the curriculum map is overseen and authorised by the Curriculum Map sub-committee (CMSC) of MCC. This oversight includes responsibility for ensuring the consistency and coherence of the map.

Most domain groupings, into which all learning elements are classified, are overseen by the corresponding MCC sub-committee. Diagnostics and Therapeutics as yet has no oversight body other than the CMSC. It is anticipated that most learning outcomes in this domain will receive oversight via clusters of module convenors whose modules share common core elements.

The Core Elements

The following pages provide detail of the core elements in the curriculum map, the CPs, CPAs and CCs.

Core Presentations (CPs)

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 (133) 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 learning levels are specified and described according to the particular presentation.

The detailed descriptors of levels of learning (see Appendix 2) and associated guiding questions also help students to understand the depth and breadth of learning required in relation to presentations.

Guiding Questions for Presentations:

The following are typical questions students should work towards answering when learning about a particular presentation. The range of questions tackled will depend on both the stage of training and the expected level of learning for the specific presentation as indicated within the map.

1. What body structures and functions (biomedical and psychosocial) could be involved in this presentation?
2. What disruptions of structures and functions (biomedical and psychosocial) could be involved in this presentation?
3. What clinical features of the presentation (history and examination) and patient and population variables (such as age, sex, race, ethnicity, socio-economic background, co-morbidities, and population prevalence) are helpful in identifying a provisional and differential diagnosis (aetiology, correlation of clinical features with underlying causes including 'red flags')?
4. What conditions most commonly cause this presentation?
5. Are there potentially serious and life-threatening conditions to be considered and specifically diagnosed (ruled-in) or excluded (ruled-out)?
6. What guiding principles and specific diagnostic tests/investigations will help determine the diagnosis?
7. In what circumstances does management of the presentation need to proceed at the same time as investigation and diagnosis?
8. What are the management priorities while undertaking investigation and diagnosis?
9. Are there any clinical guidelines which outline the approach to this presentation? What are the benefits and limitations of these guidelines in general and for individual patients?
10. In what circumstances should help be sought from others such as more senior medical professionals and allied health professionals?

Core Presentation List:

1. Anaemia/pallor
2. Lymphadenopathy
3. Bruising/purpura/petechiae
4. Splenomegaly
5. Immune deficiency/immunosuppression
6. Palpitations/abnormal heart rhythm
7. Abnormal blood pressure
8. Chest pain
9. Heart murmur/abnormal heart sounds in an adult
10. Heart murmur/ abnormal heart sounds in an infant/child
11. Shock
12. Unilateral swelling in the calf or leg
13. Pain in calf, thigh, or buttocks on walking
14. Shortness of breath
15. Respiratory distress in a child
16. Obstructed airway
17. Coughing up blood
18. Cough
19. Upper respiratory symptoms (nasal blockage, nasal discharge, sore throat)
20. Sleeping problems
21. Abnormal development of secondary sex characteristics
22. Malnutrition/undernutrition
23. Dehydration
24. Polyuria/polydipsia
25. Neck swellings/lumps
26. Difficulty/pain swallowing
27. Abdominal/loin/groin pain
28. Abdominal pain in children
29. Disturbance of bowel habit
30. Gastro-intestinal bleeding
31. Jaundice
32. Infant jaundice
33. Nausea/vomiting
34. Abdominal mass/swelling in an adult
35. Abdominal mass/swelling in a child
36. Oliguria/anuria
37. Blood in the urine
38. Urinary retention
39. Urinary incontinence
40. Lower urinary tract symptoms
41. Genital ulceration/discharge/warts
42. Scrotal/groin pain or abnormality
43. Breast lump/other changes
44. Female pelvic pain/ discomfort

45. Abnormal vaginal discharge

46. Disorder of menstruation/intermenstrual/ post -menopausal vaginal bleeding

47. Menopausal symptoms

48. Unintentional weight loss

49. Obesity

50. Fatigue/lethargy/malaise

51. Generalised/peripheral oedema

52. Febrile illness in an adult

53. Febrile illness in an infant/child

54. Hypothermia/frostbite

55. Skin wound, including human or animal bite

56. Burn(s)

57. Ingestion of toxic substances (accidental or intentional)

58. Multiple trauma

59. Head injury

60. Eye injury

61. Spinal injury

62. Chest/abdominal/pelvic injury

63. Fracture/dislocation/soft tissue limb injury

64. Confusion/altered mental state

65. Eating disturbance

66. Altered mood

67. Anger/aggression

68. Anxiety/agitation/stress

69. Psychosis/hallucinations/delusions

70. Self-harm/suicidal intent

71. Back/neck pain.

72. Limb(s) pain/lump(s)

73. Limp/abnormal gait in a child

74. Single joint problem

75. Multiple joint problem

76. Sore joints in a child

77. Deformity of spine/chest/upper limb/lower limb

78. Muscle spasms/cramps

79. Falls

80. Loss of consciousness

81. Altered level of consciousness

82. Headache/facial pain

83. Memory loss/forgetfulness

84. Speech/language disturbances

85. Involuntary movements/gait disturbance

86. Dizziness/vertigo

87. Numbness/paraesthesiae

88. Weakness focal/generalised.

89. Red eye

90. Painful/dry/irritable eye
91. Pupil abnormality
92. Double vision
93. Sudden change of vision
94. Gradual change of vision
95. Visual problems in infancy and childhood
96. Bulging eye(s)
97. Nose bleed
98. Ear ache/discharge
99. Hoarseness/voice change
100. Hearing loss/tinnitus
101. Childhood disability/chronic condition
102. Normal pregnancy/labour/puerperium
103. Vaginal bleeding in pregnancy
104. Large or small for dates gestation
105. A medical complication in pregnancy
106. Complications of labour
107. Problems in the puerperium
108. Sick newborn/infant
109. Infant feeding problems
110. Failure to thrive
111. Developmental delay/dysmorphic features
112. Slow or accelerated growth in childhood
113. Localised skin change/lesion
114. Skin change in unwell patient
115. Rash
116. Urticaria (hives)/angioedema
117. Pigmented skin lesion/pigment patch
118. Pruritus/itchy skin
119. Skin ulcer(s)
120. Hair/nail complaints
121. Skin/subcutaneous lump(s)
122. Unplanned pregnancy
123. Suspected/actual physical, sexual, psychological or emotional abuse within the family group
124. Risk-taking behaviours such as alcohol and other drug use, and risky sexual activity
125. Request for help with behaviour/life style change
126. Request for preventive health information
127. Patient and/or family requiring community support/respite care
128. Request for sexual health information/help with sexual dysfunction
129. Infertility
130. Request for contraception/sterilisation
131. Discussion about termination of pregnancy
132. Cardiorespiratory arrest
133. Advanced, progressive or terminal disease requiring a palliative approach

Core Professional Activities (CPAs)

Definition:

Core Professional Activities (CPAs) are discrete, identifiable activities required of medical professionals that are not specific to any particular patient presentation or condition. Core professional activities are based around some of the most common and important roles and tasks required of medical professionals and require integrating knowledge, skills and attitudes into a meaningful whole. Each CPA constitutes one of the many 'things doctors do' in their professional roles. For the 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.

Most 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 relating to the professional self, colleagues, the profession as a whole and the wider community and systems of care.

When undertaken by qualified medical professionals, some of these CPAs 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 link learning experiences/opportunities with underlying knowledge and theory. CPAs that are largely cognitive and reflective or occurring outside of the learning environments need to be explicitly shared with and articulated to students making them both visible and able to be learned.

Short Definition:

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 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

Given that CPAs attempt to describe activities which integrate knowledge and skills across domains and across the complex applied practice of medicine, the descriptors of CPAs are quite long. A short heading has been provided for each CPA but the full descriptor should be considered when linking to relevant student learning and resources.

CPA List:

CPA Number	Full description	Short title
1	Complete a doctor-patient consultation addressing the patient's needs and perspectives, including cultural aspects, while also completing the medical tasks and duties.	Doctor-patient consultation
2	When the patient identifies as Māori, manage the consultation in a manner which includes Māori health models of engagement and assessment utilising te reo, tikanga and other relevant Hauora Māori competencies.	Maori consultation
3	Appropriately incorporate advice and guidance from a Māori health clinician, worker or provider.	Incorporate guidance from Maori health workers
4	When the patient identifies as Pacific, manage the consultation in a manner which includes Pacific health models of engagement and assessment.	Pacific consultation
5	Help patients and family/whānau navigate their illness-related journeys by considering the whole person including their psychosocial, cultural and spiritual needs, and by working with the health care team to ensure appropriate support is provided.	Help patients navigate their illness-related journey
6	Be flexible in order to adapt the assessment and management approach to take account of context, patient factors, population risks and prevalence rates.	Patient and population risk factors
7	Select, organise and/or perform appropriate core diagnostic tests and explain the tests/procedures and the results to patients.	Diagnostic tests
8	Recognise and initiate management of the acutely unwell and/or deteriorating patient.	Acutely unwell and deteriorating patients
9	Contribute to the shared management of patients with chronic conditions.	Management of chronic illness
10	Appropriately modify assessment and management strategies in circumstances where the patient has impaired competence and/or autonomy.	Impaired competence or autonomy
11	Appropriately modify assessment and management strategies in circumstances where the patient has impaired communication, language difficulties, and/or disability.	Communication difficulties
12	Recognise and appropriately manage a situation when the interaction with the patient is challenging or difficult.	Challenging/difficult interactions
13	Assess and manage patients around the time of an operation.	Assess and manage patients around the time of an operation
14	Complete an age-appropriate consultation of a paediatric patient; including adolescent, child, infant and new-born.	Paediatric consultation
15	Share information and decision-making with a patient, and when appropriate, their family/whānau or chosen others, in order to construct an acceptable management plan which incorporates the patient's preferences and values.	Sharing of information and decision making
16	Communicate patient information to health professional	Communication with

	colleagues in a way which demonstrates clinical reasoning through a provisional diagnosis, differential diagnosis and formulated management plan.	colleagues
17	Select, organise, and/or perform or prescribe, monitor and/or evaluate appropriate core therapeutic interventions.	Core therapeutic interventions
18	Contribute to the effective provision and receipt of handover of care of a patient.	Handover of care
19	Function competently as a member of a health care team including respectful and effective communication, and calling for help and/or closer supervision when appropriate.	Function competently as a member of a health care team
20	Respect and protect patient confidentiality within consultations and within teams and systems of health care, recognising and managing circumstances in which there are limits to confidentiality.	Patient confidentiality
21	Follow appropriate process and procedures for consent in health care, recognising and managing circumstances when consent is not obtained or possible.	Consent issues
22	Contribute to discussions with patients, and when appropriate their family/whānau or chosen others, in relation to poor prognosis, advance care planning, end-of-life care, and resuscitation status including DNACPR orders (do not attempt cardiopulmonary resuscitation)	Poor prognosis and end-of-life care
23	Contribute to health care team discussions involving the range of ethical dilemmas arising in clinical practice.	Discussion of ethical dilemmas
24	Recognise and manage situations where personal moral values differ from those of individual patients and/or the accepted moral codes of the medical profession.	Issues around moral values
25	Comply with legislation relevant to clinical practice in New Zealand.	Legislation relevant to clinical practice
26	Apply appropriate cultural competencies to interactions with patients, family/whānau and communities.	Cultural competencies
27	Undertake continuing professional development by recognising and managing personal limits, and seeking and responding appropriately to feedback.	Continuing professional development
28	Maintain appropriate professional boundaries, and seek and offer support in circumstances where there is recognisable risk of boundary violations.	Professional boundaries
29	Contribute to the professional development and/or supervision of students, peers and health professional colleagues.	Professional development of peers and colleagues
30	Recognise and manage risks to personal wellbeing that could impact on practice and/or professional development.	Personal well-being
31	Recognise and respond to situations where impairment of wellbeing and/or the competence of a peer or colleague could pose a risk to patients or the public.	Wellbeing and competence of colleagues
32	Formulate a practice-related question, gather, critically appraise and interpret relevant information and evidence, and apply these to the question.	Evidence based practice

33	Apply health promotion principles to develop and/or evaluate an initiative designed to improve the health of a population.	Health promotion principles
34	Recognise and decide when a health problem requires a choice between a population approach and an individual approach.	Population versus individual approaches
35	Contribute to quality assurance and quality improvement of health care delivered by individuals and systems.	Quality improvement
36	Recognise and manage systems and/or individual factors where there is a risk of error, harm or sub-optimal care and manage occasions when these have occurred.	Error and sub-optimal care
37	Identify major determinants of health, and advocate for and contribute to, interventions that reduce inequities and improve the health of populations.	Reduce inequities and improve population health
38	Engage patients in preventive and population strategies to improve individual and population health.	Preventive and population health strategies
39	Apply the science of normal structure and function (from genome to whole body) to optimize individual and population health.	Science of normal structure and function
40	Apply the science of abnormal structure and function (from genome to whole body) to prevent, diagnose and manage individual and population health problems.	Science of abnormal structure and function
41	Apply the science of environmental, microbiological, radiation and other external factors to prevent, diagnose and manage individual and population health problems.	Science of environmental, microbiological and other external factors
42	Apply the behavioural and social sciences to optimize health and manage conditions of individuals, family/whānau and communities.	Behavioural and social sciences
43	Understand common qualitative and quantitative study designs and interpret and apply study findings to practice	Research designs and interpretation

Core Conditions (CCs)

Definition:

A Core condition is an abnormal (pathological) disorder, disease, illness or injury which affects 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 learning level is specified and described according to the particular condition.

The detailed descriptors of learning levels (see Appendix 2) and associated guiding questions help students to understand the depth and breadth of learning required in relation to conditions.

Guiding Questions for Core Conditions:

The following are typical questions which students should work towards answering when learning about a particular condition. The range of questions tackled will depend on both the stage of training and the expected level of learning for the specific presentation as indicated within the map.

(1) What disruptions of structures and functions (biomedical and psychosocial) are involved in this condition?

(2) How does this condition typically present? (clinical features on history and examination and other ways e.g. abnormal test/investigation results) What are the important atypical presentations?

(3) What other conditions should be considered in a differential diagnosis before reaching a definitive diagnosis?

(4) What are the prevalence and incidence of this condition? What are the condition-specific, individual patient and population variables which influence these?

(5) What are the main impacts (physical, psychosocial, cultural and spiritual) of this condition for the individual patient, their family/whānau and friends, society and for health services?

(6) What is the natural progression and prognosis of the condition?

(7) What are the common associated conditions and co-morbidities?

(8) What principles guide therapeutic interventions in this condition?

(9) What are the management options for patients with this condition and how do these affect prognosis and patient wellbeing?

(10) Are there any individual and population based preventive, screening and treatment strategies which can be used for this condition?

(11) What are the current challenges and controversies in relation to this condition?

Core Conditions List:

Croup
Diabetes - Type I
Electrical injury
Foreign body in the ear, nose or throat
Foreign body in the eye
Near drowning
Pelvic fracture
Thermal/chemical burn
Otitis Media
Tympanic membrane rupture
Distributive shock
Cardiogenic shock
Hypovolaemic shock
Zoonotic bacterial diseases
Urinary calculus disease
Cystitis / urethritis
Acute bronchitis
Heart failure
Adult respiratory distress syndrome
Airway stenosis and malacia
Aortic aneurysm
Arrhythmias
Asthma
Bladder cancer
Bronchiectasis
Systemic fungal infections
Central sleep apnoea syndrome
Testicular torsion
Vesicoureteral reflux
Chronic bronchitis
Chronic renal failure
Community-acquired pneumonia
COPD (chronic broncitis and/or emphysema)
Diaphragmatic hernia, including hiatus hernia
Diving-related disease
Adverse drug reaction
Dust, smoke or toxic gas exposure
Infective Endocarditis
Erectile dysfunction
High-altitude disease
Disordered fluid, electrolyte, or acid base balance
Primary Hypertension
Orthostatic (postural) hypotension
Ischaemic heart disease
Tuberculous infection
Marfan's syndrome
Nephrotic syndrome

Non-tuberculous mycobacterial diseases
Nosocomial pneumonia
Obstructive sleep apnoea syndrome
Acute coronary syndromes
Parapneumonic effusion and empyema
Pericarditis (acute, chronic, or constrictive)
Peripheral vascular disease
Phrenic nerve palsy
Pleural effusion
Pneumoconiosis and asbestos-related disease
Infection in the immunocompromised host
Pneumothorax
Pyelonephritis
Prepuce and penile / glans disorders
Primary ciliary dyskinesia
Pulmonary hypertension (primary and secondary)
Pulmonary embolism
Radiation-induced respiratory disease
Secondary Hypertension
Sarcoidosis
Testicular cancer
Urinary tract obstruction
Cardiac valvular disorders
Injury of urinary tract (kidney ureter, bladder, or urethra)
Glomerulonephritis (GN)
Urinary tract infection
Varicose veins
Ano-rectal fissure, fistula or abscess
Ischaemic bowel
Intestinal Obstruction
Occult blood loss
Short Bowel Syndrome
Oesophageal achalasia
Acute pancreatitis
Alcoholic Liver Disease
Alpha-1 Antitrypsin Deficiency
Appendicitis
Autoimmune Hepatitis
Barrett Oesophagus
Blind loop syndrome
Gastro duodenal cancer
Ovarian cancer
Acute renal failure
Oesophagus cancer
Pancreas cancer

Chronic Pancreatitis

Coeliac Disease

Crico-Pharyngeal Incoordination

Inflammatory Bowel Disease

Cystic Fibrosis (CF)

Diverticulosis / Diverticulitis

Drug induced liver disease

Duodenal Ulcer

Gallstone Disease, including acute cholecystitis

Gastric Ulcer

Gastritis / Duodenitis

Gastro-oesophageal Reflux Disease (GORD)

Gilbert's Syndrome

Haemochromatosis

Haemorrhoids

Hepatolenticular degeneration (Wilson's disease)

Hepato-Renal Syndrome

Irritable Bowel Syndrome

Lactose intolerance

Cancer - hepatocellular

Oesophageal stricture

Oesophageal tears/rupture

Pancreatic insufficiency

Gastrointestinal polyps

Portal hypertension

Primary biliary cirrhosis

Primary sclerosing cholangitis

Radiation colitis

Non-alcoholic Steatosis / Steatohepatitis

Viral Hepatitis (A, B, C, EBV, CMV)

Hyperparathyroidism and hypoparathyroidism

Hypopituitarism

Insulinoma

Long-term glucocorticoid therapy

Paget's disease of bone (osteitis deformans)

Diabetes - Type II

AmblyopiaAdrenal insufficiency (Addison's disease)

Adrenal tumour

Hyperaldosteronism

Thyroid cancer

Congenital adrenal hyperplasia

Disorders of vitamin D nutrition and metabolism

Dyslipidaemia

Pituitary tumour

Hypercalcaemia and hypocalcaemia

Hyperprolactinaemia

Hyperthyroidism

Hypothyroidism

Obesity

SIADH (Syndrome of inappropriate antidiuretic hormone hypersecretion)

Solitary thyroid nodule

Malnutrition (including starvation and re-feeding syndrome)

Nutritional anaemias

Osteoporosis

Iodine deficiency

Acute and overuse muscular injuries

Polyarthritis

Infectious gastroenteritis

Hospital acquired infections

Viral respiratory infections

Osteomyelitis

Peritonitis

Septicaemia

Acute glaucoma

Scleritis / Episcleritis / keratitis / iritis

HIV / AIDS

Osteoarthritis

Infectious mononucleosis

Adverse reaction to blood components and products

Aplastic anaemia

Congenital disorders of coagulation / haemostasis

Limb amputation

Traumatic brain injury

Acquired disorders of coagulation

Breast cancer

Cervix cancer

Colorectal cancer

Cerebral palsy

Dementia

G6PD deficiency and acquired disorders

Haemoglobinopathies and thalassaemia

Hereditary spherocytosis

Femur fracture

Acute Leukaemia

Lung cancer

Lymphoma

Skin cancer

Myeloma

Retinopathy of prematurity

Parkinson's Disease

Progressive neurological diseases of adults

Prostate cancer

Spinal cord injury or compression

Affective disorders including major depression, dysthymic disorder, and bipolar affective disorder

Anxiety disorders

Behavioural and emotional disturbance in childhood, including ADHD

Anorexia nervosa / bulimia, and other eating disorders

Organic mental disorders (OMS)

Personality disorders

Schizophrenia and related delusional and psychotic disorders

Somatoform and dissociative disorders, including dissociative seizure and psychogenic hyperventilation

Substance misuse / abuse

Malpresentations in labour

Pre-term birth

Intrauterine growth restriction (IUGR)

Prolonged pregnancy

Amenorrhoea

Antepartum haemorrhage

Cancer - Endometrium

Chronic hypertension in pregnancy

Cord prolapse

Disorders of the vulva

Dysfunctional labour

Dysfunctional uterine bleeding

Dysmenorrhoea

Miscarriage

Eclampsia and pre-eclampsia

Ectopic pregnancy

Endometriosis

Hydatidiform mole and other trophoblastic disorders

Anaemia in pregnancy

Diabetes - gestational

HIV in pregnancy

Gestational hypertension

Syphilis and other STIs in pregnancy

Infection in the mother and foetus/neonate

Menopause

Menorrhagia

Pelvic inflammatory disease

Placental abruption and placenta previa

Conjunctival degenerations

Polycystic Ovarian Syndrome (PCOS)

Postnatal mental disorders

Postpartum Haemorrhage (PPH)

Premenstrual tension

Puerperial pyrexia

Recurrent miscarriage

Rhesus isoimmunisation

Sexually transmitted infections

Shoulder dystocia

Vaginal and uterine prolapse

Physiologic jaundice in infants

Child - Non-accidental injury / abuse

Chromosomal abnormalities

Inborn errors of metabolism

Child: congenital heart disease

Foetal alcohol syndrome

Infant hypoglycaemia / hypothermia

Alzheimer's disease

Bell's palsy

Brain/meningeal tumours

Cerebral haemorrhage and infarction

Huntington's disease

Meningitis

Migraine

Congenital and acquired myopathies

Nerve root / Plexus lesion

Neuromuscular junction disorders

Peripheral nerve lesions

Posterior fossa lesions including cerebellar and brainstem vascular syndromes

Cancer – Spinal cord/cranial nerves

Spinal Stenosis (cord or cauda equina compressions)

Subarachnoid haemorrhage

Tardive dyskinesia

Systemic connective tissue disorders

Toxic-metabolic encephalopathy

Epileptic seizure / status epilepticus

Acoustic neuroma

Conditions of the inner ear

Fracture of the skull or facial skeleton (including orbital fractures)

Rhinitis

Sinusitis

Cancer of the nose, oropharynx and larynx

Pharyngitis, tonsillitis, quinsy, laryngitis

Vocal cord palsy

Pharyngeal pouch (Zenker's diverticulum)

Cancer – Eye and orbit including retinoblastoma

Sub-conjunctival haemorrhage

Chronic glaucoma

Retinal detachment and retinal vascular occlusions

Ptosis

Optic Neuritis

Horner's syndrome

Ectropion / entropion

Conjunctivitis

Anisocoria

Polymyalgia rheumatica

Corneal epithelial abrasions and burns

Orbital & periorbital infections

Cataract

Fungal infections of the skin, mucous membranes, hair or nails

Follicular skin disorders

Chloasma

Necrobiosis lipoidica

Pyoderma gangrenosum

Erythema multiforme

Exanthematous viral skin infections

Granuloma annulare

Head, body and pubic lice

Venomous snake, spider or insect bite

Intertrigo

Contact dermatitis

Eczema

Pityriasis rosea

Psoriasis

Scabies

Dysplastic naevus syndrome

Benign epithelial tumours of the skin

Benign mesenchymal tumors of the skin

Keratoacanthoma

Lentigo maligna

Impetigo

Necrotizing fasciitis

Bullous skin diseases

Toxic epidermal necrolysis

Cellulitis

Hyposplenism

Rhabdomyolysis

Tendon laceration/rupture

Polycystic Kidney disease

Polycythaemia vera

Deep venous thrombosis

Neural tube defects

Protozoal diseases

Ovarian cyst

Benign prostatic hyperplasia

Hydrocele

Epididymitis

Varicocele

Inguinal / femoral hernia

Vascular injury in a limb

Fractures of the wrist and hand

Fractures of the shoulder and upper arm

Vertebral fracture

Fractures of the lower leg and foot

Common dislocations of the upper limb

Dislocation patella

Prolapsed intervertebral disc

Ankylosing spondylitis

Chronic widespread pain syndrome (fibromyalgia)

Gout / other crystal arthropathies

Frozen shoulder

Meniscal cyst

Enthesopathies

Scoliosis

Foot deformities

Non venomous insect / spider bites (including bedbugs)

Tension headache

Infection / inflammation of the eyelid

Otitis externa

Impacted earwax

Hydramnios

Uterine fibroid

Mastitis

Foetal distress

Uterine rupture

Helminthic diseases

Congenital deformities of the hip (particularly hip dysplasia)

Benign mammary dysplasia

Tenosynovitis

Dupuytren's contracture

Osteochondropathies

Temporomandibular joint disorders

Rheumatic fever

Trigeminal neuralgia

Musculoskeletal cancer

Renal cancer

Breast – Fibroadenoma

Metastatic cancer

Chronic (postviral) fatigue syndrome

Malignant cachexia

Tetanus

Hydrocephalus

Lichen simplex

Infantile respiratory distress syndrome

Undescended testicle

Heat exhaustion / heatstroke

Mumps

Salivary gland disorders including parotitis and duct stones

Disorders of refraction

Macular degeneration

Presbyopia

Allergy

Alcohol intoxication

Cardiomyopathy

Congenital malformations of the digestive system

Faecal incontinence

Herpes simplex

Viral Warts

Zoonotic viral diseases

Otosclerosis

Genetic hearing loss

Acute meniscal tear in the knee

Intentional self-harm

Diabetes insipidus

Presbycusis (age related deafness)

Noise-induced hearing loss

Ligament injury

Hypersplenism

Raynaud's Disease

Reactive arthropathy

Vasovagal / neurocardiogenic syncope

Benign cardiac murmur

Popliteal synovial cyst (including cyst rupture)

Meningococcal disease

Transient cerebral ischaemic attack

Poliomyelitis

Blocked nasolacrimal duct

Haemophilus influenzae disease

Pertussis

Pneumococcal disease

Diphtheria

Cholera

Juvenile osteochondrosis of the spine

Spondylolysis / spondylolisthesis

Aseptic (avascular) necrosis of bone

Mesothelioma

Myelodysplastic syndromes

Monoclonal gammopathy of undetermined significance (MGUS)

Chickenpox

Bronchiolitis

Aortic dissection

PUJ obstruction

Cholangiocarcinoma

Septic arthritis

Influenza

Adverse reaction to IV fluid therapy

Elder abuse

Encephalitis

Visual pathway disorders

Giant cell arteritis

Multiple sclerosis

Chronic Leukaemia

Compartment syndrome

Essential thrombocytosis

Pulmonary thromboembolism

Arterial thromboembolism

Orchitis

Prostatitis

Cluster headache

Hypertensive retinopathy

Diabetic retinopathy

Anaphylaxis

Angioedema

Drug intoxication

Drug abuse

Shingles

Other Core Lists: Learning Outcomes

As well as the core elements of CPs, CPAs and CCs, the curriculum map identifies core lists of some specific categories of the learning outcomes. These currently include a core diagnostics list, the pre-existing essential drug list, and will in the future include also core therapeutics and core procedures. The refinement and generation of these lists is still work-in-progress.

Core Diagnostics:

This list (129) includes diagnostic tests considered essential for the assessment and management of core presentations and core conditions. Only two different levels of learning (LL) are considered necessary to describe the level of learning that should be reached by the end of the TI year. The full description of the LL is found in Appendix 2 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.

Blood tests

1.   Full blood count (FBC): Red blood cell count (RBC) and Haemoglobin (Hb), White blood cell count (WBC) and differential, Platelet count   4
2.   Coagulation tests: INR, APTT, DIC screen, Coagulation screen   4
3.   Blood film report   4
4.   Creatinine, urea and electrolytes   4
5.   Bilirubin and liver function tests   4
6.   Amylase/lipase   4
7.   Calcium   4
8.   Phosphate   4
9.   Magnesium   4
10. Thyroid function tests   4
11. Parathyroid hormone (PTH)   2
12. Vitamin D   2
13. Uric acid   4
14. Lipid profile   4
15. Blood glucose   4
16. Tests of glycaemic control   4
17. Myocardial injury markers   4
18. B-type natriuretic peptide (BNP)   4
19. D-dimer   4
20. Acute phase and inflammatory markers: Erythrocyte sedimentation rate (ESR), C-reactive protein (CRP), fibrinogen   4
21. Iron studies   4
22. Vitamin B12 and folate   4
23. Thiamine   4
24. Coeliac disease antibodies   4

25. Autoantibodies and Rheumatoid factor   4
26. Prostate Specific Antigen (PSA)   4
27. Serum protein electrophoresis (SPE)   4
28. Arterial blood gases (ABG)   4
29. Blood tests for allergy/ anaphylaxis   2
30. Blood typing, Group and hold, crossmatch   4
31. Tissue typing   2
32. Synacthen test   4
33. Endocrine gland suppression/ stimulation tests   2
34. Hypothalamic and pituitary function tests   2
35. Therapeutic drug monitoring   4
36. Blood alcohol level   4
37. Toxicology drug screening and levels   4

Imaging tests

38. Plain X-ray of chest   4
39. Plain X-ray of abdomen   4
40. Plain X-ray of spine report   4
41. Plain X-ray of long bones for fracture   4
42. Plain X-ray of pelvis and hips   4
43. Mammography report   4
44. Ultrasound scanning of abdomen report   4
45. Ultrasound scanning of pelvis report   4
46. Ultrasound scanning of renal tract report   4
47. Ultrasound scanning of thyroid report   4
48. Pregnancy ultrasound report   4
49. Carotid Doppler report   4
50. Duplex ultrasound report   4
51. CT scan (± contrast) of head report   4
52. CT scan (± contrast) of abdomen report   4
53. CT scan (± contrast) of chest report   4
54. CT scan (± contrast) of spine report   4
55. CT urogram report   4
56. CT pulmonary angiogram report   4
57. CT coronary angiogram report   2
58. MRI scanning report   4
59. Angiography report   2
60. Intravenous pyelography (IVP) report   4
61. Cystography report   2

Cardiac investigations

62. Electrocardiogram (ECG)   4
63. Exercise ECG report   4
64. Other cardiac stress testing report 2
65. Continuous (Holter) ECG monitoring report   2
66. Echocardiography report   4
67. Cardiac catheterisation report   4

Urine tests

68. Urine dipstick analysis   4
69. Urine pregnancy test   4
70. Mid-stream urine (MSU)   4
71. Bladder puncture urine (BPU)   4
72. Urinary sediment examination and microscopy   4
73. 24 hour urine collection   2
74. Urine biochemistry   4

Microbiological and biochemical tests

75. Microscopy, staining, culture and biochemical analysis (urine, urethral, high-vaginal, cervical, nasal, nasopharyngeal, throat, sputum, pleural, ascitic, blood, CSF, faecal, wound, swabs, joint aspirates, other aspirates)   4
76. Rapid streptococcal antigen testing   4
77. Serology   4
78. Virology   4
79. Tuberculin skin testing   4
80. Skin scrapings and nail clippings   4

Cytology, histology and biopsy

81. Cytology/histology/biopsy report   4
82. Cervical smear report   4
83. Lymph node biopsy report   4
84. Bone marrow aspirate and biopsy report   2
85. Temporal artery biopsy report   4
86. Pleural aspirate and biopsy report   2
87. Skin biopsy report   4
88. Renal biopsy report   4
89. Trans-rectal ultrasound guided prostate biopsy report   4
90. Breast aspirate and biopsy report   4

Endoscopy

91.   Upper GI Endoscopy report   4
92.   Endoscopic retrograde cholangio-pancreatography (ERCP) report   4
93.   Percutaneous trans-hepatic cholangio-pancreatography (PTHC or PTC) report   4
94.   Lower GI Endoscopy report   4
95.   Arthroscopy report   2
96.   Bronchoscopy report   2
97.   Colposcopy report   4
98.   Cystoscopy report   2
99.   Hysteroscopy report   2

Other tests

100.   Faecal occult blood testing   4
101.   Faecal calprotectin   2
102.   Faecal elastase   2
103.   Polymerase Chain Reaction (PCR)   2
104.   GI contrast studies   4
105.   Nerve conduction and Electromyogram (EMG) studies   2
106.   Electroencephalogram (EEG)   2
107.   CSF pressure recording (lumbar puncture) 4
108.   GI contrast studies   4
109.   Hydrogen breath test   4
110.   Bone densitometry report   4
111.   Ventilation perfusion (VQ) scan report   4
112.   Bone scan report   4
113.   Thyroid isotope scan report   2
114.   Positron emission tomography (PET) scan report 2
115.   Paediatric vision and hearing tests   2
116.   Tear drainage test   2
117.   Tonometry   4
118.   Audiometry   2
119.   Bronchial provocation testing   2
120.   Spirometry   4
121.   Sleep studies   2
122.   Dermoscopy   4
123.   Mole mapping   4
124.   Allergy skin testing   4
125.   Antenatal screening tests   4
126.   Neonatal screening tests   4
127.   Sweat test for cystic fibrosis   2
128.   Genetic tests (karyotyping, FISH testing, single gene mutation testing)   2
129.   Foetal and maternal monitoring in labour   2

Essential Drug LIst:

The core therapeutics list, which will include core pharmacotherapeutics, is still being identified but for now the map incorporates the current essential drug list as previously agreed by the Otago Medical School..

Essential Drug List – 2014

DRUG CLASS	Drugs in class – must know the pharmacology profile of those in bold in detail, and major effects and key points of others
ACEi	**cilazapril**, enalapril, quinapril
Alpha-blocker	**doxazosin**, terazosin
Anaesthetics	**propofol,** lignocaine (local anaesthetic)
Antianginal	**glyceryl trinitrate**, isosorbide, perhexiline
Antianxiety/hypnotic	**diazepam**, zopiclone, lorazepam
Antibacterial	**penicillin**, **gentamicin**, erythromycin, ciprofloxacin, ceftriaxone
Anticoagulant/antithrombotic	**enoxaparin, warfarin**, dabigatran, alteplase
Antidepressant	**citalopram**, fluoxetine, nortriptyline, moclobemide, lithium
Antidiabetic	**insulin, gliclazide, metformin**, sitagliptin, pioglitazone
Antidotes	**naloxone,** flumazenil
Antiemetics	**metoclopramide**, ondansetron, cyclizine
Antiepileptic	**phenytoin**, carbamazepine, valproate, lamotrigine
Antifungal	**itraconazole**, terbinafine
Antihypertensive	**Clonidine,** alpha-methyldopa
Antiparkinsonian	**l-dopa/carbidopa**, selegiline, ropinirole
Antiplatelet	**aspirin**, clopidogrel
Antipsychotic	**haloperidol**, clozapine, quetiapine, risperidone
Antiviral	**Aciclovir, ritonavir**, oseltamivir
Beta-blocker	**metoprolol**, propranolol, atenolol, carvedilol
Bisphosphonate	**alendronate**, zoledronate
Bronchodilator	**salbutamol**, ipratropium, salmeterol
Calcium channel blocker	**amlodipine**, **diltiazem**, verapamil
Contraceptive	**levonorgestril/ethinylestradiol**
Corticosteroid	**prednisone**, fludrocortisone, fluticasone
Diuretic	**bendroflumethiazide**, **furosemide**, spironolactone
Gastric acid suppressant	**omeprazole**, ranitidine
Heart rate control	**digoxin,** amiodarone
Hypouricaemic	**allopurinol**, probenecid
Immunosuppressant	**azathioprine**, methotrexate, cyclophosphamide, infliximab
Lipid lowering	**atorvastatin**, bezafibrate
Major analgesic	**morphine**, methadone, fentanyl
NSAID	**diclofenac**, naproxen, ibuprofen
Simple analgesic	**paracetamol, codeine**
Substance misuse	**ethanol,** cannabinoids, nicotine, methamphetamine
Sympathomimetic	**adrenaline**, dopamine

Appendices

Appendix 1: Glossary

Learning outcome: (LO)
= an **element of learning** plus a **level of learning** in relation to that specific element.

The specification of a level of learning with an element of learning demonstrates the progressive nature of the learning through the stages of training (from ELM to end of year 3, ALM to end of year 5, and at graduation at end of year 6). The level of learning for each learning outcome shows the minimum expected level for each stage of training, including at graduation.

Level of learning (LL):
The **learning levels** are described using a variation of Millers pyramid [Knows About (KA), Knows How (KH), Shows How (SH), Does (D) and the descriptors for each of the levels have been specified according to the type of element to which they apply.
(See Appendix 2)

Domain:
For the curriculum map, all learning outcomes have been classified within one of 6 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. Clinical Skills also has a set of definitions specific to that domain which can be found in the CS Overview Map.
http://micn.otago.ac.nz/wp-content/uploads/micn/2011/05/OMS-MB-ChB-Clinical-Skills-Overview-Map-Version-2016-Final.pdf

Clinical Skills – includes communication skills, history taking, examination, clinical reasoning, documentation, procedural skills and teamwork skills
Diagnostics and Therapeutics – includes investigations and their interpretations (including laboratory studies, imaging, and all other diagnostic modalities), medical therapeutics including clinical pharmacology, surgery, other interventional therapies, and disease management strategies, palliative medicine and end-of-life care
Hauora Māori
Population Health and Epidemiology – includes communicable disease control, epidemiology, equity and access, health promotion, health economics, health systems, international health, MOH Functions Health protection / environmental health, occupational health, and screening and prevention
Professional Practice - includes ethics, medicolegal practice, professional development, quality and safety, the medical humanities, interprofessional education/learning, and culture self and diversity
Science, Scholarship and Research - includes anatomy, biochemistry and metabolism, behavioural and social science, genetics (molecular and clinical), immunology, microbiology, pathology, physiology, evidence-based decision making and professional guidelines, research and information literacy

As noted previously, most domain groupings, into which all learning elements are classified, have oversight by the corresponding MCC sub-committee. Diagnostics and Therapeutics are currently overseen by the CMSC.

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 oversee of learning in the specified area in the curriculum but do not have scheduled time or direct responsibility for delivery).

It is anticipated that in the future elements of learning currently overseen by virtual modules may be overseen via clusters of module convenors whose modules share common core elements.

Appendix 2: Levels of Learning (LL)

	Curriculum Map Levels of Learning			
	Knows About LL1	**Knows How LL2**	**Shows How LL3**	**Does LL4**
Presentations	Knows structure and function of body systems, and the underlying science principles relevant to the presentation	Uses knowledge of body systems and sciences to consider causes of the presentation and an approach to management	Demonstrates (in a structured and/or simulated setting) an approach to assessment, investigation and differential diagnosis considering the common and important causes of the presentation	Safely and effectively undertakes (in supervised authentic health care settings) assessment, investigation and initial management of the presentation. Makes appropriate referrals for specialist/ expert input
Presentations (short descriptors)	Knows and explains relevant body systems and underlying sciences	Describes potential causes and management options	Constructs a prioritised differential diagnosis and management approach	Undertakes initial assessment and management in conjunction with the patient and specialist input as appropriate
Conditions	Knows structure and function of body systems, and the underlying science principles relevant to the condition	Uses knowledge of body systems and sciences to understand how the condition presents, is investigated and approaches to management	Demonstrates (in a structured and/or simulated setting) an approach to assessment, investigation and initial management of acute and chronic manifestations of the condition. Knows when and how to make appropriate referrals for specialist/expert input. Is aware of both individual and population education and prevention strategies	Safely and effectively undertakes (in supervised authentic health care settings) assessment, investigation and initial management of the condition, associated complications and co-morbidities. Makes appropriate referrals for specialist/ expert input. Includes the patient in prevention and management strategies
Conditions (short descriptors)	Knows and explains relevant body systems and underlying sciences	Describes potential causes and management options	Constructs an individual and population based approach to assessment and management	Contributes to comprehensive assessment and management in conjunction with the patient and specialist input as appropriate

	Knows About LL1	Knows How LL2	Shows How LL3	Does LL4
Curriculum Map Levels of Learning				
Diagnostic tests/ Investigations (and their interpretations) and Therapeutic/ management interventions		Knows how the diagnostic test/investigation or therapeutic intervention contributes to diagnosis and management and some of the principles underlying its use and circumstances in which it is used		Can safely and effectively order/arrange/organise/prescribe/use and interpret this investigation (or its report) or therapeutic intervention in a supervised authentic healthcare setting i.e. understands how the investigation/therapeutic intervention is conducted and can explain this to patients, knows the indications, contraindications and risks of the investigation (and its interpretation) or therapeutic intervention, and can interpret the results (or the report) or incorporate the therapeutic intervention in the context of common and important presentations and conditions
D&T (short descriptors)		Knows how the test/investigation or therapeutic intervention is used		Safely and effectively uses the test/investigation or therapeutic intervention
Clinical skills	Knows about the skill, including underlying theory behind the practice. For procedural skills it involves knowledge of indications, contraindications, potential complications and alternate strategies or approaches if the skill is unsuccessful or unable to be performed	Knows and can explain the actual practice of the skill. For procedural skills it includes the procedure itself and also the post-procedure care of the patient and/or specimens obtained. The student has observed the procedure on at least one occasion	Demonstrates performance of the skill at least once in the clinical environment or in a simulated setting but the experience and opportunities are insufficient to amount to the achievement of competence at the skill	Can independently perform the skill safely and effectively in the clinical setting. Competence, especially in procedural skills, does not necessarily equate to successfully completing the skill on each occasion, but requires that the student recognizes his/her limitations and the specific circumstances where assistance is required
Clinical Skills (short descriptors)	Knows about the skill	Knows and can explain how the skills is used and performed	Shows how to use and perform the skill	Safely and effectively uses and performs the skill

Curriculum Map Levels of Learning				
	Knows About LL1	**Knows How LL2**	**Shows How LL3**	**Does LL4**
Sciences, Scholarship and Research Hauora Maori Population Health and Epidemiology Professional Practice	Knows relevant concepts, principles and facts, and their potential applications	Interprets, organises, understands and knows how to apply relevant knowledge, skills and/or professional attitudes/ behaviours	Applies relevant knowledge, skills and/or professional attitudes/ behaviours in a structured and/or simulated setting	Applies relevant knowledge, skills and/or professional attitudes/ behaviours safely and effectively in a supervised authentic healthcare/community setting
Sciences, Scholarship and Research Hauora Maori Population Health and Epidemiology Professional Practice (short Descriptors)	Knows relevant learning	Knows how to use and apply relevant learning	Shows how to use and apply relevant learning	Safely and effectively uses and applies relevant learning

Appendix 3: Curriculum Map Work in Progress

Linking Elements Within the Curriculum Map

While the linking of learning outcomes to CPAs has largely been completed, ongoing work to identify links with the other core elements will be guided by the following principles:

Type 1 Links: Learning Outcomes (LO) to Core Elements:
- Each LO can be linked to any one or more of the core elements (CPs, CCs, CPAs)
- The appropriate links will be identified and made using the guiding principles that LOs should be linked to CPs, CCs and CPAs when:
  - The presentation, condition or professional activity is a 'good time' or 'good opportunity' to learn that LO
  - The presentation, condition or professional activity illustrates 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
- Links are not intended to be complete or exhaustive but to ensure the best match from an educational perspective and to ensure that all LOs are met if students attend to all of the Core Element lists

Type 2 Links: Core Elements to Modules (Learning Opportunities)

Work to identify where core elements of the curriculum are learned and/or assessed is also planned. This will assist coordination and collaboration and will be guided by the following principles:
- Core elements should only be linked to modules when the core element is a focus of the module. The aim is limit links to those which are meaningful and useful. The intent is not to construct complete or exhaustive lists which include all or any core element that might be covered.
- Linking core elements to modules should assist collaboration between modules that share the same core elements.

To identify meaningful and useful links, module convenors will be asked to consider the core elements from three perspectives: learning, resources and assessment, and to choose 1 option from each category as it applies to their module.

Learning:
- This core element (CP/CPA/CC) or a component of it, has an explicit learning outcome and opportunities for ALL students to learn in your module (examples of learning opportunities include timetabled activities, patient contact, prescribed independent learning activities)
- There are opportunities for most, but not all, students to learn this core element (CP/CPA/CC), or a component of it, in this module
- No specific expectations in this module or opportunistic learning for only a few students

Resource
- A written, electronic or staff expert learning resource relating to this core element (CP/CPA/CC), or a component of it, is identified or provided in this module
- No such learning resource is identified or provided in this module

Assessment
- Assessment of this core element (CP/CPA/CC), or a component of it, is explicit in this module and contributes to progress decisions for all students (summative for all)
- Assessable (students are aware that it could be assessed for progress decisions, but it may not be)
- Not assessed

For two CPAs (39 and 40) (see p14) which focus on the science relating to structure and function, additional detail, as below, should enable more detailed identification and mapping of learning/assessment to modules and of modules which share elements. Module convenors can also identify which body systems or structures, and which processes or functions from the lists below are focused on in their module.

Body systems or structures:
- Cardiovascular
- Respiratory
- Gastrointestinal, hepatic and nutrition
- Skin
- Male and female reproductive, including breast
- Nephrology and urology
- Musculoskeletal
- Nervous and sensory systems
- Brain and behaviour
- Endocrine
- Haematology, immunology and lymphoid system
- Other

Processes or functions:
- Cell biology
- Molecular biology / gene expression
- Cell replication, differentiation, tissue injury, repair and death
- Neoplasia
- Infection, immunity and inflammation
- Homeostasis
- Neurological function
- Muscle function
- Inter- and intra- cellular communication (endocrine, neurocrine, paracrine, autocrine)
- Nutrition, absorption, excretion, distribution, metabolism, energy
- Vascular/circulatory disturbances
- Gaseous exchange/respiration
- Psychological processes (emotion, cognition, behaviour)
- Inheritance
- Other

Once data gathering and analysis are complete a synthesis will be presented back to module convenors. This should provide substantial assistance to convenors in identifying modules that share common elements and enabling collaboration between those modules. It will also contribute to a mechanism whereby module convenors contribute to oversight and governance of the curriculum map.

Learning Outcomes

More work is to be done on refining the wording of the learning outcomes, identifying duplications, and further refining and reconciling after comparison with learning outcomes currently used by module convenors.

Some links do already appear in the current web-based version of the map however they cannot currently be considered wholly accurate or reliable.

Appendix 4: Historical Background to the Curriculum Map

The curriculum map project has developed and evolved over time. Currently the bulk of the work is being done by the Faculty Curriculum Map group. This group arose from two previous working groups – the Outcomes Database Moderating group and the Core Topics working group. The project itself has its origins in the previous Outcomes Database and a desire to transform this database into a working curriculum map. Core topics which were promoted in the original Master Plan for the curriculum have now been absorbed into the curriculum map. The Curriculum Map group is a subcommittee of FCC with defined TOR and membership.

The Origin of the Outcomes and Domain Groupings

The starting point for the learning outcomes within the current curriculum map was the pre-existing Outcomes Database. These outcomes were checked for duplications, and then re-categorised from the previous structure of a mix of practice domains and programme domains into the current six overarching domains.