

ELM

Guide to the Early Learning in Medicine Curriculum 2011

The electronic version of the guide will be updated regularly and a new paper version will be produced and distributed at the beginning of each academic year.

Web address: <http://tinyurl.com/ELMGuide>

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Introduction

The revised Early Learning in Medicine [ELM] programme was implemented in 2008 and the first cohort of students entered the Advanced Learning in Medicine [ALM] programme in 2010. It is essential that the learning achieved in ELM is acknowledged and built on in the ALM programme. This guide is primarily aimed at ALM teachers and offers an overview of ELM learning plus directions for accessing more detailed content.

Staff Involved in the Administration and Delivery of the ELM Course

(See *appendix 10* for the organizational structure of ELM)

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An Overview of the Early Learning in Medicine Curriculum

The Early Learning in Medicine [ELM] curriculum comprises four programme modules; the Integrated Case, Clinical Skills, Healthcare in the Community, and Medical Science programme modules. These programme modules are interlinked and build on material delivered in Health Sciences First Year [HSFY]. They promote learning from a clinical perspective and therefore link strongly with the Advanced Learning in Medicine [ALM] curricula in the Dunedin, Christchurch and Wellington campuses.

WHAT IS THE EDUCATIONAL PHILOSOPHY OF THE ELM CURRICULUM?

The educational philosophy of the ELM curriculum is based on the following principles:

- Parallel learning of medical and clinical sciences
- The acquisition of both factual knowledge and conceptual understanding
- The ability to learn independently
- The recognition of the interplay of body, mind and physical/social/environmental factors (biopsychosocial) in illness
- The patient centred approach to care
- The empathic and compassionate approach to care
- The development of professionalism
- The importance of self awareness in health care workers
- The acknowledgement of uncertainty in medicine
- Learning in a variety of contexts, particularly in the community.

HOW DOES LEARNING IN ELM RELATE TO LEARNING IN HSFY?

The HSFY curriculum delivers foundation medical sciences. ELM delivers more advanced medical sciences as well as clinical sciences and linkages with HSFY material are identified. The learning culture of the ELM curriculum is different to HSFY and is more complex. In particular, the Year 2 course can be seen as one very large integrated paper where all material delivered has relevance across the whole programme. At the beginning of Year 2 it can be hard to see the linkages, but relevance increases as Year 2 progresses.

THE PROGRAMME MODULES

Medical Sciences

The Medical Science Programme Module delivers the theoretical knowledge which provides the foundation for understanding the scientific basis of medicine and clinical practice. The Programme Module comprises many individual modules, which fall into two categories: block or vertical modules.

Block modules – there are 11 block modules, which are mainly based on body systems and are usually presented over 4 weeks with up to 10 lectures, 2 labs and one tutorial per week. The integrated cases run in parallel and reflect the material being presented in the block module. The main contributors are anatomy, physiology, biochemistry, pharmacology, microbiology and clinical disciplines

Vertical modules – there are 12 vertical modules, spread over years 2 and 3. These are not based on body systems but represent disciplines that are relevant to most medical problems e.g. ethics, blood, genetics etc. They are presented as dispersed lectures or groups of lectures and, whenever possible, in a way that is relevant to material being presented concurrently in the other programme modules. The appreciation of the relevance of vertical module material may not always be immediately obvious but this builds up over time.

Integrated Cases

The integrated cases are a central component of the curriculum whereby clinical scenarios are presented in tutorials to illustrate the application of medical sciences to clinical practice, to promote the understanding of clinical medicine and to integrate material from all programmes in the course around a patient's problem.

Clinical Skills

Using the Calgary Cambridge model of consulting skills, this programme is focused on the medical consultation i.e. introduction to the patient, taking a medical history using evidence-based communication techniques, basic physical examination and basic medical procedures. This necessitates contact with patients and the development of an appreciation of the broad factors contributing to illness. Physical examination of peers is an important part of this programme. The Faculty expects all students to participate as examinees and examiners unless there are compelling reasons not to do so. Peer examination promotes a good learning environment and requires professionalism, awareness of the patient perspective and gaining consent appropriately.

Healthcare in the Community [HIC]

This module provides opportunities to apply clinical science to real situations; i.e. to learning about the importance of the patient's context and the management of chronic disease. The main goals are:

- to gain a more patient-oriented perspective of illness
- to gain an understanding of the delivery of health and social services
- to develop skills and attitudes in relation to real patients
- to develop an understanding of social and environmental factors that either cause or prevent illness
- to enhance knowledge of multi-disciplinary teams and clinical work
- to gain some practical experiences of health care work prior to the transition to year 4.

There are two main community clinical placements: in Year 2, students work as assistant caregivers in aged-care facilities, while in Year 3 they spend a week in rural communities during Community Contact Week. Links to the other programmes are made by students over the course of ELM.

HOW DO THE PROGRAMME MODULES RELATE TO EACH OTHER?

The programme modules provide the basic knowledge and skills to understand the practice of medicine. The ultimate integration occurs at the patient's bedside and all programme modules have the understanding of total patient care as their goal. The structure of the consultation record [see *appendix 11*] provides the paradigm for all learning and integration in ELM. The Integrated Case Programme Module explicitly integrates learning from the Medical Science, HIC and Clinical Skills Programme Modules around a realistic patient scenario. The sequence of learning in other Programme Modules aligns with the the delivery of Integrated Cases [see *appendix 4*].

PROGRESSIVE LEARNING

Progressive learning describes the sequence of learning medical and clinical sciences to understand the scientific basis of illness and the major clinical conditions and their management. Progressive learning commences in HSFY and proceeds through ELM reaching full application and understanding towards the end of ALM. Science concepts and clinical conditions are visited repeatedly through the whole curriculum. Full understanding of medicine requires a step-by-step learning approach so cannot be achieved in the ELM years. It is crucial to keep this fact in mind to prevent feeling frustrated at times.

HOW MUCH INDEPENDENT LEARNING IS THERE IN ELM?

Independent learning [learning which occurs outside the timetable] is an important feature of undergraduate medicine, starting in ELM and progressing through ALM. We promote the concept of independent learning where objectives, key concepts and a structure for learning is given but there is no

formal teaching provided and students work on their own or in small groups. We do not initially use the terms 'self directed' or 'problem based' learning in the ELM curriculum as this implies that students need to identify their own learning needs. However, this will be achieved by the end of the ALM course. Independent learning is not the same as personal study or revision, it is the independent achievement of learning for a specified component of the curriculum. The ELM timetable indicates 16 hours of independent learning per week during which independent tasks can be completed.

GROUP LEARNING

Group learning is an important part of medical training as health professionals usually function within a group or team. Group learning in tutorials and to complete independent learning tasks is promoted as the group members will have a diversity of skills to apply to problem solving. Working cooperatively in groups represents a culture change as we are seeking group excellence rather than individual excellence. The culture of learning in ELM should be that of achieving high competence, actively contributing to the learning of the group and enjoying the learning environment.

THE WEEKLY TIMETABLE

The timetable normally contains 24 hours of teaching contact and 16 hours of independent learning time [see *appendix 1*]. The timetable comprises lectures, laboratories and tutorials. There are a maximum of 2 lectures per day and therefore ten per week. The year 2 timetable is very similar to the year 3 timetable. The timetable runs from 9am until 6pm.

THE LEARNING MANAGEMENT SYSTEM

Moodle is the web based student learning management system and provide the outcomes and objectives for modules and laboratories, handouts for lectures and lecture power points as well as course information and notices. Summary handouts for lectures and power-point presentations are placed on Moodle. Discussion boards are provided separately for years 2 and 3 and are monitored by our education advisors rather than by teaching staff. See *appendix 2* for instructions about Moodle.

GRAPHICS FOR YEAR 2 AND 3 PROGRAMMES – (see *appendix 4*)

STUDENT PROGRESS COMMITTEE

As well as formal assessments and examinations we monitor professional development and in-course progress for each student in terms of attendance, attitudes and behaviours demonstrated in labs and tutorials, the ability to deliver satisfactory verbal presentations and proficiency in English. Attendance is mandatory for all tutorials and laboratories and any other type of group work. Attendance at lectures is not mandatory. Student progress in these areas is documented on the student progress form and is reviewed towards the end of both semesters by the Student Progress Committee [see *appendix 3*]. If underperformance in the above areas is noted the student will be notified and remedial action suggested. If remediation is unsuccessful the Board of Examinations is notified and this may compromise the granting of Terms.

ELM Programme Modules

The Medical Science Programme Module

Goals

To enable students –

- To acquire an understanding of the medical sciences that underpin clinical medicine
- To describe the normal structure, function and development of a person
- To describe the pathophysiology of common conditions
- To understand the various treatment options for common conditions
- To begin to integrate knowledge from different cognate disciplines to understand different patients' problems

Rationale

Learning in the medical sciences occurs in a variety of formats and is reinforced in the Integrated Cases and Clinical Skills components. The teaching is delivered in 11 block modules that are related generally to the systems of the body. This is, of course, an artificial separation and some disciplines/topics (and patients) do not fit neatly into this format. These disciplines have been labeled vertical modules and mapped throughout ELM to ensure that they are neither forgotten nor over-represented. Where possible these disciplines e.g. ethics, professional development, are integrated in appropriate places within the block modules. However, further opportunities for learning in these vertical modules occur in the 2 foundation weeks at the beginning of Year 2 which integrate learning across disciplines.

The formal teaching in the medical sciences has been reduced in ELM from the previous curriculum and consists of a maximum of 16 face to face contact hours per week. These contact hours typically consist of up to 10 hours lectures or clinical demonstrations, 2x2 hour laboratories and a 2 hour tutorial but there is some flexibility so that, where appropriate, laboratories or tutorials can replace lectures.

To encourage students to play an active role in their learning handouts for each lecture including the objectives, key readings and references to prior learning that has been delivered earlier in the programme e.g. HSFY or year 2 are provided. To facilitate this all students have access on Blackboard/Moodle to all of the learning they have received from the beginning of the programme (from HSFY onwards).

To access details of lectures see lecture summaries (objectives, linkages with other learning, key headings) and lecture PowerPoints under programme documents on Moodle.

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Block Modules Year 2

Behavioural Medicine

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Synopsis

Because interactions with people will be a key part of practice in any medical field, we will be presenting current knowledge of psychology. We aim to help the student understand more deeply normal psychological functioning from a wide range of perspectives and theories. We think this knowledge will be important for the student to incorporate in all areas of their medical practice. The Behavioural Medicine block module has been placed early in Year 2 as this is not represented in the HSFY programme and the material is fundamental for understanding human interactions in medicine.

Overarching objectives

- Be able to critically evaluate the theoretical models of *health behaviour*, including community based health behaviour, health service access, the patient-doctor relationship, and patient adherence to treatment management
- Understand the theoretical models of *illness experience and behaviour*, and be able to apply these to an understanding of health related behaviour and optimal healthcare delivery
- Describe the basic principles of learning theory, including the role of *antecedents and consequences* in promoting health-related behaviours (as well as unhealthy lifestyles)
- Be able to describe the theoretical models of *human cognition, language, memory, and information processing*, and be able to apply these to an understanding of health related behaviour
- Understand the major theoretical models of *human social behaviour*, and experience the application of some of these and to consider how these relate to optimal healthcare delivery
- Be able to describe the theoretical models of *human emotion including stress, personality and appetitive behaviours*, and be able to apply these to an understanding of health related behaviour and optimal healthcare delivery
- Be able to describe the theoretical models of *health professional communication* and begin to apply these models in practice
- Describe the main theories and stages of *human social and emotional development* across the lifespan and identify any common problems that may occur
- Understand the influence of *lifestyle and beliefs* on health and models of change
- Develop a basic understanding of the field of neuropsychology
- Be developing some *critical thinking skills* in relation to both medical decision making and reading scientific literature.

Musculoskeletal

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Synopsis

The musculoskeletal module (block module) is closely aligned with relevant vertical modules (Pathology, Pharmacology, Infection & Immunity), the Integrated Cases, Clinical Skills and Healthcare in the Community programme modules.

The module runs for 6 weeks in total (weeks 8-13). There are 3 integrated cases during this period: Case 4 “Polyarthritis”, Case 5 “Headache, neck pain, meningitis”, and Case 6 “Haemophilia”.

The contributors to the musculoskeletal module are Anatomy (10 lectures, 13 practicals), Histology (4 lectures, 3 practicals), Physiology (5 lectures, 2 practicals, 1 tutorial), Biochemistry (2 tutorials), Pathology (3 tutorials), Microbiology (1 lecture), Pharmacology (1 lecture), Radiology (3 lectures), and Orthopaedic Surgery (6 Clinical Demonstrations).

Overarching objectives

To provide a course of integrated and independent learning to facilitate the development of:

- Knowledge of essential normal gross anatomy of the musculoskeletal system (with emphasis on the limbs and back), together with corresponding terminology.
- An understanding of the normal histology of the tissues comprising the musculoskeletal system, and associated ultra structural and biochemical details of these tissues needed to understand their normal function.
- An understanding of the large scale organization of the nervous system (with emphasis on the spinal cord and peripheral nervous system, but excluding the brain).
- An understanding of the normal function of the musculoskeletal system, at three different levels:
 - The biochemical function of the tissues of the musculoskeletal system, with special emphasis on muscle, and on the means of production of chemical energy required for muscle contraction.
 - The function of excitable tissues, introduced first in relation to nerve tissue, and extended to cover muscle.
 - The biomechanical function of the musculoskeletal system, whereby bones, joints, and muscles collaborate in producing organized movement of the whole body or its major segments.
- An acquaintance with some of the more common medical and surgical problems arising within the musculoskeletal system, together with their presenting symptoms, histopathological and pathophysiological features, associated abnormal anatomy as detected clinically or with imaging methods, pathology, and the basic principles of their management. Teaching of these topics is centered on clinical demonstrations, integrated cases, and relevant vertical modules.
- A basis for the clinical examination of the upper and lower limbs. (Clinical Skills)
- An acquaintance with the impact of a musculoskeletal injury or disorder and its treatment on an individual’s experience of illness, psychological state, level of functioning, and social interactions. (Healthcare in the Community)

Cardiovascular

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Synopsis

This module aims to develop core understanding of basic cardiovascular structure and function and to begin developing an understanding of the clinical and social impact of cardiovascular diseases.

Overarching objectives

- Be able to describe the normal structure and function of the organs of the cardiovascular system at a metabolic, cellular and organ level including the heart, aorta and large elastic arteries, arteries, arterioles and capillaries, venules and veins.
- Be able to explain the way in which contraction of the cardiac muscle is regulated and the way the different components of the cardiovascular system are coordinated to maintain blood pressure and perfusion of tissues under a wide range of physiological and pathophysiological states.
- Be able to describe the mechanism by which the excitation-conduction tissue of the heart regulates heart rate.
- Be able to recognise and identify the scientific basis for the changes in structure and/or functioning of the cardiovascular system in the following disease states: valvular heart disease (pumping action of the heart), arrhythmias (electrical properties of the heart), atherosclerosis and ischaemic heart disease (structure and function of the vasculature).
- Be able to describe the impact of infection on the structure and function of the cardiovascular system.
- Be able to describe the mechanisms of action and clinical application of drugs that affect the force of cardiac contraction, vascular tone and rhythm of the heart.
- Be able to explain the principles underlying the preventive measures and therapeutic interventions used to prevent or modify the course of cardiovascular diseases
- Be able to describe the impact that cardiovascular disease and its treatment has on an individual's experience of illness, psychological state, level of functioning, and social interactions.
- Be able to demonstrate basic history taking and clinical examination of the cardiovascular system as a platform for clinical reasoning.

Respiratory

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Synopsis

This module encompasses an important group of respiratory conditions affecting infants, children and adults. Using an integrated clinical case format, the following disciplines/departments contribute to this module: Anatomy, Physiology, Pathology, Microbiology and Immunology, Pharmacology, Medical and Surgical Sciences and Preventative and Social Medicine.

Overarching objectives

- Be able to describe the anatomy of the upper and lower airways, associated auxiliary structures and the pulmonary circulation; the mechanics and chemical/neuronal control of ventilation and the regulation of gas exchange and carriage in order to understand the pathophysiology of specific lung diseases in adults and children
- Be able to explain the immunological processes and associated inflammatory mediators which underpin the pathogenesis of bronchospastic and inflammatory lung diseases
- Be able to identify the common microbial organisms which cause respiratory disease and be able to describe the associated clinical presentations
- Be able to interpret lung function tests and basic radiological investigations in relation to respiratory diseases
- Be able to explain the mechanisms of action of drugs used in the management of asthma, chronic obstructive respiratory disease and other respiratory diseases, the value of combination drug therapy and potential adverse effects
- Be able to describe drug algorithms for the management of asthma and the advantages and disadvantages of inhalational versus oral routes of administration

Gastrointestinal

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Synopsis

The Gastrointestinal Module is taught in the second semester during weeks 10 - 13. It is based around two Case Tutorials and is taught in conjunction with vertical modules, in a similar fashion to the previous Block Modules.

Overarching objectives

- Be able to describe the normal structure and function of the organs of the gastrointestinal system at a metabolic, cellular and organ level including the mouth, oesophagus, stomach, small and large intestine, rectum and anus, as well as the liver, gall bladder, pancreas and appendix
- Be able to explain the way the different components of the Gastrointestinal system are inter-related anatomically, and are coordinated for the propulsion of masticated food from the mouth to the anus under normal and pathophysiological conditions
- Be able to describe the mechanism by which the peristalsis of the gastrointestinal system is maintained, and the physiology of digestion, secretion and absorption in various parts of the Gastrointestinal system
- Be able to discuss the enteric endocrine system, and be able to discuss the absorption and digestion of carbohydrates, fats and proteins, as well as vitamins and minerals
- Be able to discuss the functions of the liver, and its inter-relationship with the Gastrointestinal system. Be able to discuss the aetiology and pathophysiology of jaundice and hepatitis
- Be able to recognise and identify the scientific basis for the changes in structure and/or functioning of the Gastrointestinal system in the following disorders - Jaundice, diarrhoea, vomiting and constipation, as well as in disease states including Inflammatory Bowel Disease, Irritable Bowel Syndrome, Gastric Ulcer, Coeliac disease and colon cancer
- Be able to describe the normal flora of the Gastrointestinal system and the impact of infectious agents on the structure and function of the various parts of the Gastrointestinal system
- Be able to describe the mechanisms of action and the clinical applications of drugs that act on the components of the Gastrointestinal system.
- Be able to explain the principles underlying the preventative measures and therapeutic interventions used to prevent or modify the course of gastrointestinal diseases including bowel cancer.
- Be able to describe the impact that Gastrointestinal disease and its treatment can have on an individual's experience of illness, psychological state, level of functioning, and social interactions.
- Be able to demonstrate basic history taking and clinical examination of the Gastrointestinal system as a platform for clinical reasoning in patient management.
- Be able to demonstrate knowledge of tests used to investigate the Gastrointestinal system, including laboratory tests and imaging modalities.

Block Modules Year 3

Renal

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Overarching objectives

- Be able to describe the structure and function of the glomerulus in order to understand diseases of the glomerulus and their management
- Be able to describe the structure and function of the renal tubule in order to understand clinical conditions with renal tubular dysfunction and appropriate management of these
- Be able to describe the causes, pathophysiology and consequences of acute renal injury and the key aspects of management
- Be able to describe the causes, pathophysiology and consequences of chronic renal impairment, including multisystem effects, and the management of these
- Be able to describe the epidemiology, clinical manifestations and impact on health services of type II diabetes
- Be able to explain how abnormalities of kidney structure and function lead to recognisable clinical symptoms and signs. In particular the importance of salt and water retention related to alterations in the renin-angiotensin-aldosterone axis.
- Understand the importance of how the pathophysiology of renal disease interacts with pharmacology with respect to the management of kidney disease.
- Be able to describe the key components of urinalysis and the significance of any abnormalities shown

Metabolism and Nutrition

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Synopsis

The Metabolism and Nutrition Module deals primarily with the major pathways of carbohydrate, fat and amino acids and how they are integrated and regulated within the whole body, and how they impact on health and disease.

Overarching objectives

- Describe the mechanisms that regulate blood glucose concentration and describe how the pattern of metabolism of the tissues adjusts to meet energy demands under various anabolic and catabolic situations, such as occurs in feeding, fasting, anorexia, injury, trauma, sepsis and cancer cachexia.
- Describe the roles of insulin, glucagon and other hormones in the regulation of metabolism involved in maintaining the blood glucose concentration within the normal range in healthy adults in order to identify, understand and manage diabetes.
- Outline the functions and molecular mechanisms of action of insulin, leptin and other adipokines, and describe the neuroendocrine control of appetite, in order to relate these to causes and potential treatments of obesity and other energy balance disorders.
- Deduce the metabolic consequences of monogenetic disorders affecting enzymes important in carbohydrate and nitrogen metabolism in order to identify the abnormality in an affected child from the results of metabolic studies, biochemical tests and clinical symptoms.
- Describe how amino-nitrogen is used in the body and explain how defects in the metabolism of nitrogen-containing compounds can lead to disease and how an understanding of these defects can indicate possible treatments.
- Determine the nitrogen balance and metabolic state of a person from the amount of nitrogen-containing compounds excreted in a 24h urine sample and dietary protein intake.
- Recognise the major signs and symptoms of diabetes and explain how the signs and symptoms of uncontrolled diabetes mellitus including effects on plasma glucose, plasma osmolality, plasma ketones, plasma electrolytes, arterial pH and blood gases, are consequences of the biochemical abnormalities caused by lack of insulin or the lack of response to insulin. [Case Objective]
- Interpret blood glucose tests to diagnose normal, impaired glucose tolerance and diabetes mellitus. Explain the significance of the presence or absence of glucose in urine. [Case Objective]
- Differentiate between Type 1 and Type 2 diabetes in terms of clinical presentation, biochemical abnormalities and cause of disease. [Case Objective]
- Discuss the aetiology, complications and management of diabetes. [Case Objective]
- After completing your study of Genetics you should be able to:
 Discuss the importance of genetic predisposition and environmental factors in relation to the aetiology of common multifactorial disorders such as diabetes, obesity, gout, etc.
- After completing your study of Nutrition you should be able to:
 List the dietary requirements for health and identify situations in which they may be compromised.
- Discuss the use of food groups in dietary guidelines and the individual and public health approaches to encouraging appropriate nutrient intake.
- Compare the methods used for assessment of nutritional status and dietary intake and, given the results of such studies, evaluate an individual's nutrient requirements.
- Discuss the role of dietary components in the aetiology, management and prevention of diseases, such as obesity, dyslipidaemia, diabetes, etc.
- List ways in which obesity may be defined and how risk factors for obesity may be modified. [Case Objective]

- Choose the most appropriate intervention for a specific obese patient depending on the clinical picture and patient circumstances and provide practical advice tailored to the individual patient needs. (Case Objective)
- Describe the major nutritional determinants of total cholesterol, LDL cholesterol, HDL-cholesterol and triglycerides in blood. (Case Objective).

Endocrine

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Synopsis

The material in the Endocrine Module is intended to build on the students' learning in First Year Health Sciences, in particular the teaching materials on Homeostatic Principles and the Endocrine System in HUBS191 (available on Blackboard/Moodle). In addition, material from the Renal Module covering the role of the kidney in water, electrolyte, and calcium homeostasis, and in the regulation of blood pressure, will overlap and inform their learning in the Endocrine Module.

Overarching objectives

At the completion of this module you should be able to use clinical information and results of investigations to identify and explain abnormalities in patients who have common and/or important disorders of the endocrine system. The major components of this would include an ability to:

- Identify the major hormones associated with the following endocrine organs: Pituitary and Hypothalamus, Thyroid, Adrenals (cortex and medulla), Parathyroids (and other contributors to calcium regulation). (Note that Pancreatic hormones are dealt with in the Metabolism block module and other parts of the course, and the major reproductive hormones will be covered in the Reproduction, Development and Aging block module).
- Describe the main chemical classes and physiological functions of these hormones, how they are synthesized, stored and secreted, how they are carried in the blood, and how they are inactivated and excreted.
- For each hormone, describe the systems (positive and negative feedback loops) that normally regulate the production and secretion of these hormones to maintain appropriate plasma levels in healthy individuals. Predict the consequences of failures that may occur within these regulatory systems.
- Describe the relevant anatomy, histology and embryology of the major endocrine organs.
- Outline the causes and effects of hormonal excesses and deficiencies, and discuss the mechanisms that lead to these effects.
- Describe the physical appearance of individuals with specific hormonal excess or deficiency and the associated signs and symptoms.
- Describe the major investigations that are used in the assessment of endocrine function, discuss their principles, and apply them to the diagnosis of some common or important pathologies.
- Discuss treatments (including drugs) used in common or important endocrine disorders, and the indications for using hormones as 'medicines' in other applications.

Nervous System

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Synopsis

In this module we focus mainly on the nervous system components concerned with enabling interactions with the external world, and with the so-called “higher functions” of the brain, including mental experience. Understanding the nervous system, its disorders, and their diagnosis and treatment requires a sound platform of anatomical, physiological, psychological, pharmacological, pathological and cultural knowledge. Thus many disciplines and departments will contribute to the teaching with specific input from several vertical modules. We aim to integrate learning of this core material with introductions to clinical procedures and common syndromes, through the concurrent cases and clinical demonstrations, as well as through the Clinical Skills and Health in the Community sessions. Furthermore, there is important prior learning about the nervous system from 1st and 2nd year that it is essential to revise before beginning the module. Learning opportunities will be provided through lectures, laboratories, tutorials, clinical demonstrations, and self-directed study.

Overarching objectives

- Have an excellent understanding of the surface anatomy of the brain (cerebrum, cerebellum & brainstem) and how its features relate to the blood vessels and meninges of the brain and to the bones of the cranium. (*traumatic head injury*)
- Understand the embryological origins of the nervous system and its parts, and know the major stages in functional brain development. (*delayed development*)
- Know the major sulci and gyri of the brain, the localisation of major brain functions within these, and the blood supply of these major regions (*stroke*)
- Have an excellent understanding of synaptic transmission, and an overview of how the functions of the brain may emerge from interconnecting networks of neurons. (*epilepsy*)
- Have an excellent understanding of the structure and functioning of the motor control systems of the brain and spinal cord (*Parkinson’s disease, motor neuron diseases, stroke*)
- Have an excellent understanding of the structure and functioning of the somatosensory systems, including pain (*stroke; pathological pain syndromes*)
- Have an excellent understanding of the anatomy and major functions of the cranial nerves, including the location of the major cranial nerve nuclei in the brainstem, their relation to other major brainstem structures and the peripheral course of the nerves (*brainstem stroke; brainstem tumors*)
- Be able to interpret radiographic images of the brain, based on an excellent understanding of its sectional anatomy, and of the characteristics of the major types of imaging used for the brain. (*traumatic head injury, stroke, neoplasm*)
- Have an excellent understanding of the anatomical and physiological basis of vision, hearing and vestibular function
- Have an overview of the aetiology, clinical presentation and pathophysiology of depression, bipolar disorder and schizophrenia and an understanding of how these may contribute to suicide
- Gain a thorough understanding of the mechanisms of action underlying major CNS drug therapies.
- Be able to relate each of the above major areas to relevant and important clinical syndromes, and to begin to make differential diagnoses based on your knowledge of these areas (1-11 above), and your ability to test key clinical signs and symptoms

Reproduction, Development and Aging

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Synopsis

This module provides an overview of life from gametogenesis, conception through to the end of life. The following disciplines/departments contribute to this module: Anatomy, Bioethics, Medical and Surgical Sciences, Microbiology and Immunology, Preventive and Social Medicine, Psychological Medicine, Women's and Children's Health.

Overarching objectives

- Identify and evaluate the ethical issues that may arise in reproduction, development and aging
- Describe the structure and function of the reproductive system
- Describe the physiological and psychological changes that occur during pregnancy, parturition and lactation
- Describe the normal human development from fertilisation to birth and identify points of vulnerability
- Describe normal growth and development from birth through adolescence to adulthood
- Describe common patterns of sexual development behaviours and how these impact on sexual health
- Develop skills of communication to be able to comfortably and appropriately discuss issues relating to reproduction, development and aging, including sexual health
- To describe the process of aging and its impact on health and disease

Regional Clinical Anatomy

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Synopsis

The focus of the Regional and Clinical Anatomy block module is on practical, *clinically relevant* anatomy of the head and trunk. It should equip the student with the necessary anatomical knowledge for everyday clinical practice in the community or hospital. The module builds on previous anatomical studies in HUBS and second year medicine and aims to consolidate anatomy of the head and trunk. Active involvement in dissection is encouraged because this gives a unique opportunity to find and identify structures and to consider them in the context of injury or disease.

Overarching objectives

- Be able to describe the *surface anatomy* of structures in the neck (thyroid, trachea, cricothyroid membrane, jugular veins and carotid arteries), chest (heart, lungs, and pleura), abdomen (liver, spleen and other major abdominal viscera), and perineum (male and female), in relation to clinical examination and diagnostic/therapeutic access
- Be able to describe the general course and distribution of the cranial nerves, how they are assessed, and the functional consequences of injury or disease
- Achieve a solid understanding of the anatomy of the heart and pericardium, particularly in relation to coronary artery disease, heart valve lesions, common congenital structural anomalies, and pericardial effusion
- Be able to describe the lymphatic drainage of key regions (e.g. breast, lungs, oesophagus, stomach, cervix, testis, oral cavity, face and scalp) relevant to the spread of malignant disease
- Be able to describe the anatomy of the male and female urogenital tract and the structures that are palpable by pelvic (rectal and vaginal) examination
- Be able to name and demonstrate the major compartments, gutters, pouches, and spaces within the abdomen and pelvis and to describe the anatomy of the inguinal and femoral canals in relation to hernias
- Be able to describe the anatomy of respiration, swallowing, phonation, voiding (micturition, defaecation, and childbirth) and biliary drainage
- Be aware of the anatomical basis of referred pain and its importance in clinical diagnosis
- Be able to describe the anatomy and potential hazards of clinical procedures such as endotracheal intubation, pleural and pericardial drainage (thoracocentesis and pericardiocentesis), intercostal nerve block, urethral catheterization, central venous access, needle biopsy of the liver and endoscopic examinations
- Have a clear concept of the major compartments of the head and neck, their boundaries and contents: the cranial cavity, subdivisions of the ear, orbit, oral and nasal cavities, paranasal sinuses, and the compartments of the neck
- Be able to interpret the main anatomical features visible on plain radiographs and cross sectional images (CT/MRI scans) of the head, neck, and trunk

Vertical Modules ELM

Blood

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Synopsis

The Blood Module encompasses a broad range of material from three main topic areas:

- **General haematology** - dealing with the cells of the blood and their disorders
- **Haemostasis** – blood clotting, fibrinolysis and thrombosis
- **Transfusion medicine** – blood groups and the use of blood components and manufactured products in clinical treatment

For the purposes of the Otago curriculum, basic Biochemistry is also listed within the Blood vertical module. Objectives for this material will be provided separately.

Biochemistry, haematology and transfusion medicine have an impact on all organ systems of the body. We aim to present the Module material at appropriate points of the Block Modules to facilitate learning in a real clinical context and to enhance the relevance of the Block Module material. Medicine Year 2 will start with two lectures dealing with red cells and anaemia. The Module will then cover basic Biochemistry and then return in mid year to Haemostasis. The second semester will include key material on important causes of anaemia. An introduction to Transfusion Medicine will be provided in Year 3, together with in depth material on leucocyte disorders.

Overarching objectives

- Be able to describe the main cellular and haemostatic elements of blood and their function, and outline how they are produced and cleared from the circulation. Recognise the cells present in a normal blood film and identify common important abnormalities in a blood film. Describe the function of haemoglobin and outline the main features of its component parts: haem and the alpha and beta globin peptides
- Be able to identify physiological and geographical factors that affect population reference ranges for haematological parameters. Interpret laboratory data for the full blood count, reticulocyte count, ESR, (and CRP,) and blood film and how they vary in health and disease. Comment on the significance of differences from the reference ranges
- Be able to evaluate a history, symptoms and signs of common and clinically important haematological diseases and identify appropriate investigations likely to be needed in reaching a diagnosis. Interpret the test results and identify further relevant investigations, appropriate basic treatment and, or the need for referral to a Specialist
- Be able to describe the clinical and laboratory features of infectious mononucleosis and identify the potential causes for this syndrome
- Be able to recognise and evaluate the impact of haematological disease on systemic or other organ-specific disease
- Be able to recognise the clinical syndrome of altered response to infection and identify common and clinically important haematological and immunological causes, including: cytopenias, dysplasia of leucocytes, malignancy, and other clinically important acquired and congenital disorders. Outline common and clinically important neutrophil and lymphocyte function defects and their consequences
- Be able to describe the function and role of blood flow, endothelial cells, platelets and the coagulation cascade in the normal haemostatic balance and the critical role of normal platelet function and the thrombin burst in effective control of bleeding

- Be able to describe the patterns of clinically important inherited and acquired bleeding and prothrombotic disorders and how these involve the endothelium, platelets and plasma proteins. Apply this information appropriately to request and interpret appropriate laboratory tests when assessing patients with suspected bleeding or thrombotic disorders. Identify appropriate treatment for patients with common and important forms of bleeding disorders
- Be able to describe the main indications, contraindications, complications of anticoagulation therapy and how it is clinically controlled
- Be able to describe the clinical significance of red cell blood groups and related antigens on leucocytes, platelets and plasma proteins; identify their importance for clinical transfusion practice
- Be able to describe appropriate indications for the commonly used therapeutic blood components and products available in New Zealand. Recognize the need for appropriate clinical consultation with a Haematologist/Transfusion Medicine Specialist for advice on use of other blood components and products. Access reference information on the nature, clinical use and adverse effects of blood components and products
- Be able to demonstrate the process for obtaining informed consent for administration of blood products and identify the main expected benefits, risks, and alternative forms of treatment, where these exist
- Be able to describe the main acute and chronic adverse effects from transfusion of blood products and be able to initiate investigation and management of clinical adverse effects of transfusion. Outline the reasons for national monitoring of adverse reactions to blood transfusion
- Be able to explain the importance of HLA and major blood group compatibility in organ transplantation

Cancer

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Synopsis

Cancer is a broad topic ranging from the molecular aspects of cell regulation to the personal consequences of facing a life-threatening illness plus the study of populations and the environment to identify causative factors. The cancer vertical module aims to provide you with the necessary foundation knowledge about cancer which you can apply in many settings over the next two years and beyond.

Since cancer is a multi-system disease many disciplines and departments contribute to the teaching both within the module and outside. These include Biochemistry, Epidemiology, Public Health, Pharmacology, Pathology, Psychological Medicine, Oncology, Paediatric Oncology.

Overarching objectives

- Be able to describe, compare and contrast the pathological features of dysplastic tissues, benign, in-situ and malignant neoplasms, including the histological grading of neoplasms, and be able to apply this to the management of neoplasms, including screening for early neoplasms
- Be able to describe the cellular kinetics of normal tissues and neoplasms and the genetic changes that underpin these in order to identify familial cancer syndromes and to understand the molecular targets for cancer therapies
- Be able to describe the epidemiology and impact of cancer in New Zealand, draw key international comparisons and identify the major causes of cancer in order to identify strategies for the primary prevention of cancer
- Be able to describe the principles of cancer screening including the characteristics of screening tests, the variable utility of screening for different cancer sites and the selective effects of lead time and length bias on early cancers detected by screening
- Be able to describe how neoplasms spread and the staging systems for common cancers in order to identify the extent of the disease and plan appropriate cancer therapies
- Be able to describe the major cancer treatment modalities, their common side effects including long term effects, the rationale for the use of the specific modalities and the key goals of cancer therapies
- Be able to describe the likely presenting features and natural histories of the common cancers and the appropriate diagnostic and staging investigations
- Be able to describe the common psychological and social impacts of cancer on patients and their families in order to identify appropriate referral for therapy and support
- Be aware of the concept of quality of life and be able to apply this principle to anti-cancer and palliative therapies

Evidence Based Practice

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Synopsis

ELM 2 will initially cover key concepts and skills in evidence-based medicine and focus on issues related to finding and appraising information. In ELM3, there will also be a greater emphasis on gaining a wider understanding of safety and quality improvement in health care.

Overarching objectives

- Appreciate the nature of quality in health care and understand its dimensions
- Appreciate the steps in evidence based practice and exhibit skills to effectively formulate questions, search for and retrieve information, evaluate the validity, accuracy and relevance of information related to diagnosis, prognosis, aetiology and prognosis
- Appreciate the nature of adverse events and understand their systems causation
- Be aware of key responses to improving safety including reporting, investigating and disclosing harm.

Bioethics

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Synopsis

Because ethics is so much part of the reality of medicine, we have integrated it as much as possible into the rest of your medical education. In ELM, for example, ethical issues will be found in many of the cases you'll be studying, and will arise in Health in the Community and Clinical Skills. In addition, from time to time, specialist ethics lectures and small groups will take place to introduce you to framework concepts for apprehending, understanding and thinking through ethical problems.

Overarching objectives

- Demonstrate dedication to appropriate ethical behaviour, based on a well-developed awareness of your own personal moral values
- Demonstrate respect for patients and a dedication to work with patients to optimise their health and wellbeing
- Demonstrate sound knowledge of the ethical principles underlying the practice of medicine and an ability to apply this knowledge as part of competent medical practice

Genetics

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Synopsis

The Genetics module combines the previous 'Biochemical Genetics' and 'Genetics' modules (2007) and builds on the revised FYHS curriculum (2007) particularly CELS191 and BIOC192. Material from these courses is available on Blackboard/Moodle.

Overarching objectives

- Be able to describe the features of common chromosomal abnormalities and explain how these abnormalities arise
- Be able to explain the concepts relevant to the basis and presentation of Mendelian genetic disorders
- Be able to explain and apply the concepts of population genetics
- Be able to describe the importance of genetic predisposition in relation to multifactorial aetiology of disease
- Be able to describe the approaches to investigation and management of genetic disorders, including ethical considerations
- Be able to describe the somatic and inherited genetic contribution to the pathogenesis of cancer
- Understand how novel genetic research is interpreted, evaluated in a clinical context and applied appropriately to the care of patients

Hauora Māori

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Overarching objectives

- Be able to describe Māori health status for selected key health indicators including life expectancy, mortality and leading causes of morbidity among Māori
- Be able to describe factors contributing to Māori health and Māori health outcomes including major determinants of health
- Be able to demonstrate a strong foundation knowledge of the key contexts underpinning Māori health including the Treaty of Waitangi and impacts of colonisation, population and cultural contexts
- Be able to describe at least one Māori model of health and observe how to apply this model when working with Māori individuals, whanau and communities.
- Be able to explain the roles of doctors in working with Māori and the roles of doctors in achieving positive health outcomes for Māori as individuals, whanau and communities/populations
- Be able to explain the roles of Māori health practitioners [non-medical] and Māori health provider services in working with Māori and the roles these individuals and groups play in achieving positive health outcomes for Māori as individuals, whanau and communities/populations
- Be able to demonstrate cultural competency, based on experience, when working with Māori including te reo Māori pronunciation, engaging with Māori and understanding key cultural concepts associated with Hauora
- Be able to describe cultural practices associated with marae and the role marae have in health and wellbeing of Māori with reference to experience gained on a visit to a marae
- Be able to describe key tools used to research and measure Māori health

Infection and Immunity

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Synopsis

The Infection and Immunity Vertical Module is comprised of two related components, microbiology and immunology. The microbiology section covers the aetiology, pathogenesis, laboratory diagnosis and treatment of infectious diseases common in New Zealand. The immunology section covers different facets of protective immunity against infection, markers for vaccination and diagnosis, and immune pathology associated with infectious disease, allergy and autoimmunity. The following disciplines contribute to this module: Microbiology and Immunology, Pathology and Preventive and Social Medicine.

Overarching objectives

- Be able to explain the pathogenesis of the major infectious and immune-mediated illnesses with reference to the major groups of pathogenic organisms, risk factors for infection and long term sequelae
- Be able to identify the role of key host defences against infection including normal microflora, anatomical barriers and the immune system and explain how microbial virulence factors or immune compromise can allow infection to become established
- Be able to explain the interplay between the immune system and microorganisms, antigens and allergens
- Be able to identify the predominant clinical features of infectious and immune mediated illnesses in the different body systems and explain their pathogenesis
- Be able to identify the major sources and routes of transmission of common pathogenic microorganisms in order to minimize the incidence of infection
- Be able to identify and explain the basis of the key diagnostic tests for infectious and immune mediated illnesses, to understand the importance of rigorous specimen collection, to interpret anti-microbial sensitivity assays and to be aware of possible limitations in test interpretation
- Be able to describe the major classes of antimicrobial and anti-inflammatory agents, explain their mechanisms of action and describe their application to specific infectious and immune mediated diseases
- Be able to describe strategies for prevention of infection including vaccination, antimicrobial prophylaxis and lifestyle factors

Pathology

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Overarching objectives:

- **Acute inflammation.** Describe the process of acute inflammation and apply this knowledge to any tissue or organ in order to recognise, diagnose and manage disease processes involving inflammation
- **Chronic inflammation.** Describe the process of chronic inflammation with application to common disease processes
- **Healing.** Outline how the various tissues of the body heal after injury
- **Immunology.** Describe the innate and acquired immune responses with reference to infection, injury and autoimmunity
- **Necrosis.** List the causes of cell death in the various organs and tissues of the body and the resulting sequelae
- **Haemostasis, thrombosis and embolism.** Outline normal haemostasis as seen in the homeostatic state and in disease states. Apply this knowledge to explain the pathogenesis and consequences of the various coagulation disorders
- **Vascular disorders.** List and describe the disease processes that affect the vessels of the body, and the pathological effects these processes may cause on tissues and organs and the clinical consequences which can result
- **Neoplasia.** Outline the pathogenesis, genetics and pathology of neoplastic disease (benign, insitu and invasive lesions). Describe the clinical consequences and likely prognosis for neoplasia in various sites
- **Genetics.** Describe how genes determine human characteristics. Outline how genes are involved in inherited and acquired disorders
- **Infection.** Outline how microorganisms cause disease and describe the pathological features of common infectious diseases
- **Degenerative.** Outline how degenerative, toxic and deposition disorders cause disease and outline the clinical consequences of these processes in various organs and tissues

Professional Development

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Synopsis

PD is a broad ranging subject area covering a number of topics. These include being a professional, the complexities of the doctor/patient relationship, being a reflective practitioner, professional boundaries including receiving gifts, treating friends and family, and having sexual relationships with patients. We will also be welcoming you into medicine on the first official day of the course where you will be asked to make a declaration to your peers and to staff that you have accepted and will follow the medical student code of professional and ethical behaviour. In the Professional Development module you will also examine the structure of health care in New Zealand and regulation of health care through an integrated medical law programme. The PD course runs from second year right through to the sixth year. Our general aim for the course is to encourage students to be reflective about their new role as a doctor. Students have a number of opportunities for practical training in reflective practice, for example in their mid year OSCE DVD and feedback and in their reflective essays in both years 2 and 3.

Overarching objectives

- Be able to describe the implications of professionalism including the responsibilities, obligations and privileges of being a doctor
- Demonstrate an ability and willingness to learn and appreciate that learning continues throughout life and that the maintenance of professional standards is a lifelong commitment
- Display insight and awareness into your own needs as a person and the occupational hazards of medical practice, and establish and use appropriate support methods
- Display an awareness of the doctor-patient relationship and the factors that may positively or negatively impact upon it
- Be able to explain and demonstrate skills in team work and group work with peers and other health care professionals
- Be able to describe and demonstrate the establishment and maintenance of appropriate professional boundaries in medical practice
- Know how to recognise and manage uncertainty, error and adverse outcomes in medical practice and have awareness of the causes especially including preventable ones
- Be able to explain the impact on the student and doctor of witnessing suffering, loss, death and dying
- Display an awareness of the environment of medical practice including the medicolegal structure
- Be able to describe the impact of cultural background and beliefs on health and health care
- Develop insight into your own culture and beliefs and how these may differ from others

Pharmacology

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Overarching objectives

- Be able to describe key pharmacokinetic processes, including the absorption, distribution, metabolism and excretion of drugs, as well as the concepts of oral availability, volume of distribution and half-life
- Describe and explain pharmacodynamic concepts of drug-receptor interactions to accurately predict drug responses
- Be able to define and use terms such as efficacy, potency, therapeutic-index, agonist and antagonist as they relate to drug therapy
- Demonstrate an in-depth understanding of the mode of action and therapeutic utility of all drugs listed on the Essential Learning Drug List
- Be able to describe the basic mechanisms involved in modification of drug responses by disease, age and genetics
- Be able to source drug information from accurate and reliable sources, and use the information obtained to make appropriate therapeutic decisions
- Be able to describe the potential for drug-induced adverse effects and toxicities of major drug classes and specific drugs
- Be able to use the principles of pharmacokinetics and pharmacodynamics to predict drug interactions
- Be able to describe the principles of clinical trials, pharmacovigilance and meta-analysis to appraise the efficacy and safety of new and 'established' drugs in the formulary
- Be able to describe the mechanism of action of drug classes and specific drugs used in the treatment of diseases of the cardiovascular, respiratory, renal, endocrine, nervous and gastrointestinal systems
- Be able to describe the mechanism of action and therapeutic utility of drugs used to treat cancer and infection and the escalating problem of drug resistance
- Be able to demonstrate the basic skills needed to write accurate and legal prescriptions

Psychological Medicine

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Synopsis

Year 2: Following on from our block course on behavioural medicine, it is the intention of psychological medicine to offer a psychological perspective on a wide range of medical topics. The topics we will cover this year are: pain; child abuse; anxiety; death and dying; physical disability; placebo; substance abuse; alcohol abuse. It is our intention to use these lecture and tutorials to apply knowledge of concepts of behavioural medicine and to expand knowledge of psychological perspectives in medicine. This course does not stand alone but is integrated within other blocks.

Year 3: Psychology plays an important role in all medical interactions, diseases and treatments. Following on from our block course on Behavioural Medicine and our ELM2 vertical lectures, it is the intention of psychological medicine to offer a psychological perspective on a wide range of medical topics and expand into psychiatric topics.

Overarching objectives

Psych Med “Abnormal Processes” material to be covered in ELM by Cases and/or Vertical Module Objectives:

- Adjustment to illness, loss of function
- Adherence and Behaviour change
- Prevention
- Pain
- Abuse (sexual, physical, domestic, child, disabled, elderly, hate crimes)
- Anxiety (including OCD)
- Somatisation, Health anxiety, Worried Well, Illness behaviour
- Stress (and preparing people for stressful medical procedures)
- Trauma
- Depression
- Schizophrenia
- Psychoses
- “Diagnosis”, Diagnostic validity, statistics
- Sexuality (puberty, sexual orientation, sexual difficulties, STI’s health behaviour)
- Pregnancy (conception, screening, ToP, birth, lactation)
- Substance use (Alcohol and Drugs)
- Eating Disorders
- Loss and grief
- Death and Dying
- Palliative Care
- Physical Disabilities
- Complimentary and Alternative Medicine
- Child (developmental problems, behavioural problems, serious illness)
- Older age
- Neuropsychology (delirium, dementia, traumatic injury, stroke, degenerative)
- Learning Difficulties (Intellectual Disabilities, Specific Learning Disabilities, ADHD)

Public Health

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Synopsis

As doctors you will need to be aware of the social, economic and cultural context in which health problems occur, and be able to work effectively within this context to prevent disease, injury, and premature death. This will mean being aware of the public health infrastructure and the range of approaches available to tackle public health issues, and being able to work with a range of other professionals outside of the clinical sphere.

Overarching objectives

Knowledge objectives

- Define the concept of public health, and identify important aspects of the history and philosophy of public health
- Define the concept of health status and identify the major determinants that influence public health, including health services
- Understand key public health issues for Māori, including the Treaty of Waitangi and its implications for Māori health, Māori demographic trends, issues relating to classification of ethnicity, key issues relating to Māori health status and appropriate health care delivery for Māori
- Understand basic epidemiological and biostatistical concepts and their application in accessing and interpreting medical literature and in conducting and evaluating research
- Understand the application of epidemiological and biostatistical concepts in improving public health
- Describe general patterns of health and disease in New Zealand and other countries, and discuss how and why these patterns have changed with time
- Understand and discuss current issues and controversies relevant to epidemiology and the health of New Zealanders
- Understand basic social science research methods and their application in conducting and evaluating research
- Identify the major problems affecting the health of New Zealanders and the important community, professional and political factors that influence decisions about health, including the allocation and distribution of health resources
- Identify the major organisational and financial problems facing the New Zealand health system and recent organisational changes that have been implemented
- Understand the important role of public policy in promoting public health
- Explain basic economic concepts and techniques relevant to resource allocation and distribution of health resources
- Understand the principles that guide decisions concerning the introduction of population-based screening programmes
- Understand the principles underpinning immunisation as a population-based health strategy
- Understand the importance of communicable diseases from a public health perspective, and the principles of communicable disease surveillance and control
- Understand important principles of health promotion and the strategies used to improve public health
- Understand important principles underpinning health protection and environmental health and the strategies used to improve public health
- Understand the importance of work and the workplace for public health, how to take an occupational history and the principles of workplace hazard identification
- Understand the main public health needs for specific population groups in New Zealand, including

- Pacific people and new migrants
- Explain the principles of respect for autonomy, beneficence, non-maleficence, justice, and utility; give examples of the application of these principles in public health; and explain why there may be tension between respect for autonomy and the common good in some public health interventions
- Understand and discuss systems for improving safety and quality in healthcare and in public health initiatives, such as immunisation and screening programmes

Skills objectives

- Under supervision, plan a study of a public health problem or service; appropriately collect and analyse data; interpret and present the results and recommendations from the project in writing and orally. (This objective should be read in conjunction with skills objective 3 below.)
- Work effectively as a member of a problem-solving team
- Identify and seek advice from appropriate resource persons in addressing public health problems
- Critically evaluate information including literature relevant to public health
- Formulate strategies for assessing the health status of a defined population or subgroup using various information sources
- Organise and present material so that it can be clearly understood by a variety of audiences

Assessment in the Medical Science Programme Module

Formative assessment occurs at the end of each block module in the format of a short multiple choice examination and for modules in year 2 a short answer question written test also provides opportunities for students to practice questions similar to those they will encounter at the end of the year. A formative OSPE (objective structured practical examination) also occurs mid year in both years 2 and 3. Whilst students are not required to pass these assessments failure to undertake them may result in Terms being denied.

At the end of the year the medical sciences are summatively assessed by 3 x 3 hour scenario-based short answer question exams and an OSPE.

The Integrated Case Programme Module

Goals:

- To integrate clinical problems with the relevant underlying biomedical science
- To demonstrate the breadth of medicine by integrating several ELM disciplines within different patients' presenting problems
- To exemplify the co-operative team approach to patient management through small group work - *'Care like a Doctor'*
- To promote professional behaviour within small groups - *'Behave like a Doctor'*
- To instill the elements of clinical decision making - *'Think like a Doctor'*

Rationale

The Integrated Case Programme Module provides an opportunity for students to identify and apply biomedical science concepts and facts to broad clinical scenarios. The cases provide an introduction to clinical presentations and syndromes and allow the students to develop basic skills in clinical logic. The case tasks are designed for group activity and are configured to stimulate application of diverse concepts and facts. The Integrated Cases represent the most comprehensive vehicle for horizontal integration in ELM.

Structure and Content

The Integrated Case Programme Module consists of fortnightly case scenarios that include a mixture of paper cases and real people. In some cases a real person is presented as the index case but the case scenario is about a hypothetical person with similar problems. Thus the clinical problem can be seen in the context of the whole person.

The 27 cases over 2 years are representative of the block module in which they occur but they also include as many objectives from vertical modules as possible. Whereas each case usually represents a specific disease or clinical problem, the scientific concepts underpinning that disease can also be applied to similar diseases [see *appendix 5*]. For example, a patient with pneumonia may be hypoxic. Understanding the determinants of hypoxia and how this relates to lung pathology and ventilation can be applied to a patient with asthma. Learning about the biomedical sciences with the clinical application makes it more likely that the science will be recalled in the appropriate clinical context.

Within the case tutorials the tasks encourage application of knowledge that has been gained from the lectures and referenced reading material. The tutorials provide an opportunity for discussion of the advantages and disadvantages of different courses of action in different clinical situations. For example: Is it better to treat a sore throat with antibiotics to reduce the likelihood of a patient developing rheumatic fever or is it better not to use antibiotics in order to reduce the incidence of antibiotic resistance? The tutorial groups are analogous to clinical teams and professional behaviour and mutual respect are modeled.

The progression of learning is reflected by the students' gradual independence from their tutors. They also become less dependent on specific references and are able to search for resource material. While independent learning tasks are specific at the beginning of second year they become less so by the end of third year. In fact it is anticipated that students will progress to identify relevant clinical problems and solutions instead of just looking for the solution of a problem that has already been identified.

The process of clinical reasoning is embedded in this programme module. Students initially learn to reason from a symptom via the possible pathophysiological mechanisms for that symptom to a list of possible diagnoses and then to adjust the probabilities for a particular patient. This culminates in each student doing a formal patient presentation to the tutor and the tutorial group. The student workbooks for all cases are available on Moodle. The student workbooks are the same as the tutor guides but without the comments in italics.

As these documents are for your use, not that of students, you will need a password to open them. If you

don't have a University staff username and password, please email karin.warnaar@otago.ac.nz for the alternate password.

Assessment

Students are formatively assessed on short presentations related to their case-work in the first semester of year 2 to develop their skills in analyzing and organizing material and also to identify those with language problems.

The formative MCQ tests and practice short answer questions completed at the end of each block module contain some questions derived from case material.

The final, summative short answer exam papers are modeled on case scenarios where students need to demonstrate a scientific understanding of clinical problems.

Tutor Guides, including Tutor Guides for each of the cases, are accessible via the Medical Education website: <http://hedc.otago.ac.nz/magnolia/meg/Home.html>, or click on Medical Education on the Faculty of Medicine homepage.

The Integrated Cases

(A synopsis of each case is provided in *appendix 5*)

Year 2

- | | |
|---------------------------------|---------------------------------|
| 1. Trauma | 7. Fainting |
| 2. Health and Illness behaviour | 8. Palpitations |
| 3. HIV | 9. Chest Pain |
| 4. Painful Joints | 10. Shortness of Breath |
| 5. Headache and Fever | 11. Cough |
| 6. Bruising | 12. Abdominal Pain and Jaundice |
| | 13. Colon Cancer |

Year 3

- | | |
|----------------------------|---------------------------------------|
| 14. Traumatic Head Injury | 22. Failure to Thrive |
| 15. Developmental Delay | 23. Lethargy |
| 16. Collapse | 24. Lump in the Neck |
| 17. Suicide and Depression | 25. Infertility and Pregnancy |
| 18. Diabetes | 26. Sexual Health and Cervical Cancer |
| 19. Obesity | 27. Lower Abdominal Pain |
| 20. Haematuria | |
| 21. Chronic Renal Failure | |

The Clinical Skills Programme Module

The Clinical Skills programme in the ELM curriculum has been developed to introduce students to clinical skills from the earliest stages of their training. Careful integration of this aspect of learning with the students' expanding medical science understanding provides added incentives to the students' own learning.

Goals

- To enable the student to perform a basic clinical consultation modeled on proficiency with communication skills.
- To enable the student to perform a basic physical examination
- To enable the student to perform basic medical procedures
- To model appropriate doctor/patient interactions
- To promote the development (and the appreciation) of clinical reasoning, and its role in the interpretation of clinical information derived from the patient consultation
- To promote the understanding and application of reflective practice
- To nurture the development of doctors who are safe, effective and caring practitioners, who understand and respect the boundaries of professional practice
- To provide a clinical context for integrating medical sciences
- To provide relevance for learning by providing early exposure to real patients

We expect that, having become familiar with basic examination techniques, students will find the transition to the wards much less daunting than has been experienced by some of their peers in the past. Thus they will be better placed to make the most of learning opportunities in the ALM programme.

Structure and Content

Students work in tutorial groups of 10 or 11 students, and have a designated tutor for the year. Tutors have a clinical background.

In ELM 2, clinical skills tutors are a mixture of doctors, senior medical professionals (hospital or GP/Community based), university based doctors or doctorate students in the departments of physiology and pathology. In ELM 3, clinical skills tutors are predominantly doctors or senior medical professionals.

Tutorials run for 2 hours each week. The skills are generally demonstrated first by the tutor and then the students begin to practise the technique themselves, under the observation of their tutor. During the Clinical Skills programme, students primarily learn and practice skills on each other. They practice consultation skills with simulated (actor) patients, and on a few occasions are visited by members of the "Friends of Otago Medical School", a group of volunteers who are willing to be questioned and/or examined in a specific body system (e.g. musculoskeletal or gastrointestinal).

Material for each tutorial is contained in workbooks which are produced for each module of learning. Students also have access to a range of web-based resources which have been developed by other Medical Schools which teach Clinical Skills at an early stage.

Competency Levels

There are various ways used to describe skill acquisition. A useful approach is to think of the concept of "novice to expert". At the novice level you are only possibly aware of the skill whereas as an expert (after much practice) you carry it out almost subconsciously. A system developed for classifying skill levels for house officers has been devised by *Ilott and Allen*, who described five levels of skill.

Using their initial work the following skills levels have been identified. These are also referred to in the various Domain Group outcomes databases being developed across the Medical School curriculum.

Level	Database Definition	Ilott & Allen: General description of stages
1	Appreciation of the basic and clinical science underpinning the skill	The student has an understanding of the basic and/or clinical science that will underpin the skill.
2	Exposed to clinical Skill	The student has been exposed to the skill but has not attempted it for themselves: They may have read about the skill or seen it performed.
3	Involved in a clinical skill	The student has been involved and may have assisted with the skill: They have been taught through active demonstration, interactive, video, CAL programme etc
4	Attempted the skill (supervised & unsupervised)	The student has attempted the skill for themselves: They have performed the skill on a model (supervised or unsupervised) or on a patient with supervision.
5	Competent to perform skill	The student is competent to perform the skill: They are able to perform the skill without supervision.
6	Proficient to perform skill	The student is proficient: They can perform the skill routinely without supervision and may be able to teach the skill or explain it to other learners.

Students are not expected to become an expert in all of the skills covered. They are expected to reach the level of competence identified for each skill and this is what they are assessed against. Consequently they will revisit the skills at various points of the course.

All of the following skill levels relate to examining people who are healthy and therefore have no signs of disease. It is envisaged that this will equip the students to more readily identify positive findings of disease as they are exposed to them, being already familiar with “normal”.

Consultation Skills

As is well known, communication and consultation skills are a crucial aspect of patient care, and they like other clinical skills, need to be learned. There are several models available to help students acquire skills in communication, and the ELM has chosen the Calgary-Cambridge framework. A full description of this framework can be found in *appendix 6*.

Students who will be moving into the ALM course in 2010 began 2008 with communication skills teaching which more closely resembled the teaching of previous years, but with the introduction of some of the Calgary-Cambridge emphases, particularly on including the patient's perspective in gathering a history. In 2009 we have made the linkages more explicit, and have spent time coaching the students to integrate the skills they learned last year into the Calgary-Cambridge framework. Students are being encouraged to make the connections themselves between the skills they have already acquired, and the ones described in the Calgary-Cambridge Guides.

By the end of ELM 3, students should be competent to engage with a patient to determine the reasons for their presentation, and having due regard for the patient's perspective of their illness. (Ilott and Allen 5)

They will have attempted to gather information about key symptoms of cardiovascular, respiratory, gastrointestinal, musculoskeletal and neurological diseases. (Ilott and Allen 4)

They will have attempted to interview someone who is angry, or anxious or embarrassed.

They will have been exposed to taking an obstetric history, a sexual history and a history from someone who is depressed. (Ilott and Allen 3)

Students will have also been exposed to the process skills of Explanation and Planning, which is step 4 in the framework. However, because they as yet lack sufficient medical knowledge to successfully undertake this task in any meaningful way, they can not be said to have seriously attempted it.

Please note that the students' opportunities to practise these skills have been limited almost entirely to simulated situations, either with actors or with peers role-playing scenarios. They will benefit enormously from being able to revisit and practise these skills with the patients they meet in the ALM programme.

Examination Skills

By the end of ELM 3, students should be competent at the following: (Ilott and Allen 5)

- Measuring and recording BP (several attempts at this over the two years)
- Hand washing
- Measuring and recording pulse and respiratory rate
- CPR to NZ Resuscitation Council Level 5 (assessed in OSCE in ELM 2, 2008)

They will have attempted all of the following: (Ilott and Allan 4)

- General observation – paying attention to how a patient looks with regard to distress, colour (pallor, jaundice, cyanosis), level of consciousness, demeanour
- Additional vital signs – measuring temperature in ear, mouth and axilla
- CVS – locating the apex beat, listening to heart sounds, looking for a JVP, finding carotid/brachial/radial/pedal pulses
- Respiratory System – measuring chest expansion, percussing the chest, auscultating the chest
- Abdomen – inspecting the abdomen, palpating for tenderness, percussing the liver edge, auscultating for bowel sounds
- Nervous System – Glasgow Coma Scale, mini-mental state examination, assessing power in the limbs, sensation in the limbs, eliciting tendon reflexes and the plantar reflex, assessing the cranial nerves
- Musculoskeletal System – a modified GALS examination (gait, arms, legs, spine) covering basic movements of each region
- ENT – examining the ears, throat and neck
- Eyes – measuring visual acuity
- Other – measuring blood glucose by fingerprick, dipstick urinalysis and venepuncture. They will also have attempted donning basic personal protective equipment [PPE]

They will have been exposed to the following: (Ilott and Allen 3)

- Using an ophthalmoscope (may have attempted also)
- Palpating for abdominal organs (some may have attempted)
- An obstetric examination
- A mental state examination
- A pelvic examination including using a speculum (on models only)

Assessment

Assessment in the Clinical Skills programme is undertaken primarily in OSCE examinations. There is a formative assessment in the middle of the year in both years 2 and 3, and a summative assessment at the end of each year.

Since 2009 a Log Sheet has also been introduced to both year groups. This is held by each tutor and is used as a record of skills each student has been observed performing, and whether that performance is satisfactory.

A more extensive description of assessment in the ELM programme as a whole can be found later in this document.

Summary

The new MBChB curriculum exposes students to clinical skills from week one of year 2, and continues this process through year 3. The two years are seen as a continuum, by the end of which the students should have acquired the skills necessary for the following:

- interview a patient to determine the reasons for their presentation and gather a history from them
- perform a basic examination of the cardiovascular, respiratory, musculoskeletal, gastrointestinal and neurological systems
- begin to formulate differential diagnoses and think about management plans

In addition to this, they will have been exposed to the areas of ENT, Psychiatric, Obstetric and Gynaecological examinations, and had the opportunity to try procedural skills such as venepuncture, blood glucose measurement and urinalysis.

As already stated, all of these skills have been acquired by examining people who are healthy and therefore have no signs of disease. It is envisaged that this will equip the students to more readily identify the positive findings of disease as they are exposed to them, having become familiar with “normal”. This will allow an easier transition to the full clinical environment. Students will demonstrate a more evolved and confident approach to patients and this will allow more rapid engagement in patient assessment, diagnosis and management. The need for a comprehensive clinical introductory course should be reduced.

The Healthcare in the Community (HIC) Programme Module

Learning Objectives

These objectives are based on the international evidence of the benefits of community based learning.¹ HIC contributes to student learning about:

1. The patient experience and their perspective of disease and health care
2. The social context of illness: the social determinants of health and the impact of disease on families and society
3. Health service organisation: health service delivery in primary care settings, and the relationships/interface with secondary care
4. The importance of inter-professional relationships in healthcare.

Learning in HIC will provide opportunities for:

1. The early acquisition of communication skills and professional attitudes (the nature of being a health professional; responsibilities and relationships with patients)
2. Practical experience of health care work in relation to theory
3. Learning about disease, diagnosis, and management
4. Learning about themselves as budding health professionals and the need for professional resilience.

Overall, this experiential learning helps prepare students for their future training in hospital and community settings in ALM.

Rationale and Structure

Students enjoy their two years in HIC where they are in the role of 'student-doctors'. They interview people in their own homes, meet a wide range of community based agencies, and work in rest homes as assistant care-givers (see *appendix 7*) These tasks are based in settings away from the classroom; learning stems from personal experience. Students are provided with many opportunities to learn about *being* a health professional through practical experience. Such professional development is an underlying theme of Early Learning in Medicine.²

This programme module is based on the large international literature on community based learning.³ The general aims are for students to learn about the illness experience, the social determinants of health, the impact of disease on families and society, inter-professional relationships, teamwork, health service delivery in primary care settings, and the interface with secondary care.

HIC is delivered through 'Units' of work, ranging from 2-8 weeks. (see *appendix 8*). Each Unit includes several tutorials on a particular subject as well as practical work in carefully chosen community settings. There are good links to other programmes such as Clinical skills and Cases, where particular topics are reinforced. HIC also provides students with practical examples of certain topics such as head injury or paediatric development. Many of the Units are completed by student-led presentations.

This is 'authentic learning',⁴ as students gain some understanding of what health professionals actually do. They also gain insight into their own strengths and weaknesses as future doctors, which will help their preparation for hospital and general practice based learning in Year 4.

¹ Worley P, Prideaux D, Strassor R et al. Empirical evidence for symbiotic medical education: a comparative analysis of community and tertiary-based programmes. *Med Educ* 2006;40:109-116.

² Howe A. Professional development in undergraduate medical curricula - the key to the door of a new culture? *Medical Education*, 2002; 36(4):353-359.

³ Littlewood S, Ypinazar V, Margolis SA, Scherpbier A, Spencer J, Dornan T. Early practical experience and the social responsiveness of clinical education: systematic review. *BMJ* 2005;331:387-91

⁴ Howe A, Anderson J. Learning in practice: involving patients in medical education. *British Medical Journal*, 2003; 327:326-328.

Students are expected to use their independent learning time between tutorials to read relevant articles or complete various assessments, including presentations and reflective essays (1-2 per year) (see *appendix 9*). Their contribution and participation in tutorial work is monitored closely through regular progress reports reviewed by the Progress Committee (see Progress Committee section).

Community Contact Week (CCW)

CCW is the revised name for Early Community Contact (1998-2008), where students are placed in small towns around New Zealand. Their task is to investigate the health of rural New Zealand and the delivery of primary health care. This week of learning is now under the auspices of HIC as it fits well with community based learning and reinforces other Units in Year 3 such as Primary Health Care, Health Promotion, Domestic violence, and so on.

Until 2008, the Wellington cohort of students was based in Gisborne, where they stayed on various marae. As the new Hauora Māori vertical module in ELM based in Dunedin covers many of initial objectives for Māori health, the Wellington cohort from 2009 is now based in Porirua and is more aligned with the Dunedin and Christchurch programmes. The overall task is to do a 'rapid participatory appraisal' of the health needs of smaller towns.⁵

Student Outcomes from HIC

Students will have gained first hand knowledge and initial understanding of the following topics:

- Individual experiences of illness
- The role of carers, both home-based, and residential care-based
- Health problems for those with disabilities, and how to communicate with them
- Alcohol and drug problems and the role of community agencies in providing support
- Issues with cross-cultural medicine
- Issues in providing medical care for the elderly
- Death and dying
- Primary health care; theory and practical issues
- Issues in health promotion and disease prevention
- Inter-professional health care and teamwork
- Normal developmental stages for children from 3-5 years
- Issues in recovery from stroke and head injury
- Medically unexplained symptoms
- Adverse outcomes and patient safety
- History of medicine, its strengths and weaknesses
- Some initial understanding of the occupational hazards of being a doctor, as well as simple techniques to increase personal and professional resilience (mindfulness, emotional intelligence, and reflective practice).

Evaluation Data from Students

In general, the evaluation data so far indicates that students are responding well to the varied and challenging tasks required of them within HIC. It seems that the vast majority of students very much enjoy this course; while they find it challenging (especially the clinical placements), they have responded well to these challenges with good learning outcomes. Here is a representative quote:

I think the most important thing I have learned was not to write anything off before I had tried it. I would never have thought I could have enjoyed palliative and aged care so much. It gave a little perspective on some aspects of working in a multidisciplinary team also.

⁵ SA Murray et al. Listening to local voices: adapting rapid appraisal to assess health and social needs in general practice. *BMJ* 1994;**308**:698-700.

Summary

Students in HIC should have a practical understanding of the basics of healthcare work, including some of the more complex and difficult issues in modern healthcare. From all their independent work in community settings, their tutorial work, and their presentations, they should be reasonably adept at working in small teams. They should have a broad understanding of the work of a wide variety of health professionals, their various roles, and how they work together in the service of the patient. They should have some awareness of their own strengths and weaknesses, and a working knowledge of methods of professional maintenance and support of others. They should also be able to write effectively and clearly. Further material on the outcomes of Year 2 clinical placements and HIC essays are included in *appendix 9*.

Curriculum Mapping and Domains

Domain

Programme and Practice Domains are organisational groups within the Faculty of Medicine which oversee particular parts of the curriculum, according to staff specialisations

The Learning Outcomes of the Curriculum are defined by six programme domains and eight practice domains. Programme Domains provide an overarching organisation of the skills required of a medical practitioner, while Practice Domains cover broadly allied areas of clinical practice. The learning outcomes may be associated with more than one practice or programme domain and in this way the degree of vertical and horizontal integration becomes more apparent.

The programme domains are those areas that can be found in almost every learning encounter. They are an ability of the student to:

- communicate and employ appropriate clinical skills
- review evidence and think critically
- act in a professional manner, which is both legal and ethical
- underpin practice with a fundamental grasp of foundation science
- consider the cultural aspects of practice, particularly Māori culture
- consider a population health perspective

The practice domains indicate broad areas of the practice of medicine and are related to a student's ability to practice medicine in these contexts:

- Circulation, lungs and renal tract (including cardiology, respiratory, nephrology and urology outcomes)
- Digestion, metabolism and endocrine systems (including gastrointestinal, endocrine, and nutrition)
- Palliative care, continuing care, and rehabilitation (oncology, palliative care, blood, geriatrics, rehabilitation)
- The senses (neurology, neurosurgery, ENT, ophthalmology and dermatology)
- Psychological medicine (psychological and addiction medicine)
- Musculoskeletal, infection, immunology, and sports medicine
- Reproduction and development (obstetrics and gynaecology, paediatrics, genetics, sexual health)
- Acute care (emergency medicine, intensive care, anaesthesia/pain)

Domain groups have decided on the outcomes that require completion at the various stages of the course and inform:

- What level of learning has been acquired in ELM
- What level of learning is required in ALM
- Where the learning takes place, and how it may be assessed

The database can be found at <https://outcomes.facmed.otago.ac.nz/>

For further help in accessing the outcomes allocated please contact Karin Warnaar, karin.warnaar@otago.ac.nz

The database should be accessed by module convenors to inform what outcomes they have responsibility for covering in their module.

Integration within the ELM Course

The ELM course is structured as 2 large and integrated papers, MICN201 and MICN301. Since there is a clear focus on clinical concepts and application in ELM this provides a paradigm for integration, both horizontally and vertically. The structure of the consultation record [Appendix II] represents the ultimate road-map for the integration of learning as this relates to engagement with patients and resolution of their health problems.

Horizontal integration between the 4 Programme Modules is facilitated by expression of overarching objectives in clinical terms. This allows teachers and students in the different modules to identify learning linkages with other course material and to reinforce previous learning. The structures of the Integrated Case and Clinical Skills Programme Modules are directly linked with the Medical Sciences Programme Modules to allow students to perceive the relevance and application of medical sciences to clinical practice.

Vertical integration with HSFY is achieved by identifying for students the linkages between ELM learning and HSFY learning. Vertical integration with the ALM course is defined by the curriculum map. In addition the clinical context of the ELM objectives provides a platform for structuring ALM learning. The philosophy of progressive learning in the ELM programme makes explicit linkage with ALM learning essential. This is particularly the case with Clinical Skills where students will have a basic competence in history taking and physical examination at the end of year 3 and also for Integrated Cases where students will have basic competence in clinical logic and problem formulation.

The Assessment Programme

Purpose of Assessment

During the course there are a variety of assessments. Some of the assessments are to help focus students' study habits, some are to provide formative information, some are to highlight the importance of expected behaviours, some need to be passed in order for a student to be permitted to sit the end of year examination (Terms requirement) and some to progress to the next year of the programme (Summative assessments).

In Course Assessment and Examinations

All courses in ELM involve in-course assessments. In order to be allowed to sit the final examination, students must complete all of these assessments. Students who fail to complete these assessments and assignments will be denied Terms.

Summary of Terms Requirements for year 2

In order to complete Terms and be eligible to sit the end of year exams a student must have:

1. Attended all tutorials, laboratory sessions and the Māori immersion week
2. Completed all 5 computer based tests
3. Completed the OSPE at the end of semester 1
4. Completed the OSCE at the end of semester 1
5. Made at least one satisfactory verbal presentation in a tutorial setting
6. Completed the first essay (semester 1) in Healthcare in the Community
7. Completed the Genetics vertical module assignment
8. Completed the community clinical placement in HIC (second semester)
9. Demonstrated satisfactory professional attitudes and skills
10. Submitted the reflective essay at the end of year 2 – start of week 14

Summary of Terms Requirements for year 3

In order to complete Terms and be eligible to sit the end of year exams a student must have:

1. Attended all tutorials, laboratory sessions
2. Completed all 5 computer based tests
3. Completed the OSPE at the end of semester 1
4. Completed the OSCE at the end of semester 1
5. Completed the 2 assignments for Healthcare in the Community and the Humanities elective
6. Completed the Renal block module essay
7. Attended and completed, to a satisfactory level, the Community Contact Week in Healthcare in the Community (second semester) and the accompanying essay
8. Demonstrated satisfactory professional attitudes and skills

Computer Based Tests

5 computer based tests occur during year 2 and 5 tests during year 3. These occur at the end of each module. The questions may cover any material from the block module, vertical modules, Clinical Skills and Healthcare in the Community (HIC) and Cases that have occurred during that block module period. The number of questions related to a specific module/component broadly reflects the time spent on that module/component in that period.

Whilst each test is formative, students have to complete the test. Students are advised at the end of each test of their performance and the test itself is available to students on Blackboard/Moodle in the Assessment folder under Programme documents, after the testing period. Students are only able to sit each test once during a specified period of time.

Objective Structured Clinical Exam (OSCE)

This assesses clinical skills including communication skills. A formative OSCE occurs as part of the Clinical Skills tutorials towards the end of semester 1 in each year. Regular informal review of clinical and communication skills is provided by tutors during the year and individual feedback provided to students.

Objective Structured Practical Exams (OSPE)

An OSPE is held towards the end of semester 1 in each year. It consists of ~ 40 laboratory-based questions related to the learning objectives covered in weeks 1-13 of semester 1.

Progress Reports (appendix 3)

Attendance is compulsory at a number of sessions including HIC, Integrated Cases, Clinical Skills, laboratories, The Respiratory and Renal Days, the Māori immersion week in year 2 and the clinical placements in Years 2 and 3. Where attendance or other behavioural / attitudinal problems are perceived the Progress Reports from tutors will be used to summarise the problem. Support is given but *if the unsatisfactory behaviour or attitude persists this may be grounds for failing Terms.*

Verbal Presentation Assessment

This is assessed informally by the Case, Clinical Skills and HIC tutors throughout the year and support provided.

All students will be expected to make a satisfactory verbal presentation within the tutorial setting during year 2 as part of Terms requirements.

Assignments

Year 2

One essay will be undertaken during the first semester for HIC. Individual written feedback will be provided to each student. Unsatisfactory essays will need to be re-submitted.

A written assignment also forms part of the Genetics vertical module.

Starting in Year 2, an ELM reflective essay will be progressively introduced as part of annual assessment. Students will write a personally based reflective essay outlining their own learning and progress during that year. This will be submitted at the end of year and marked by HIC tutors. Further details will be supplied to students.

Year 3

Two assignments will be undertaken during Year 3 as part of the HIC component, near the end of each semester. Individual written feedback is provided to each student. Unsatisfactory essays will need to be re-submitted.

In both years 2 and 3 students whose performance in the assignments is unsatisfactory will be provided with feedback and given the opportunity to resubmit further attempts at the assignment.

Community Clinical Placement

All students have a 5 week clinical placement in a community residential care facility in year 2, which has an on-site assessment by their tutor and a hospital representative. In year 3 there is a one week community clinical placement.

Summative Assessments

The following summative assessments occur at the end of the year:

Year 2

1. 3 x 3 hour case based short answer questions - which may cover any of the learning objectives addressed during the year i.e. material from block and vertical modules, Integrated Cases, Clinical Skills and Healthcare in the Community.
2. 1 OSCE – the Year 2 OSCE will be run in two stages. All students will sit the first stage, consisting of 4 stations marked on the 1-5 scale. These stations will be drawn from the defined tasks outlined in the Clinical Skills objectives and will include communication and consultation skills.

At the end of the first stage, decisions will be made about whether more information is required to determine whether individual students have reached the required standard to pass the examination. Those students about whom there is some concern regarding the level of their overall performance will then be required to sit a further four stations..

3. 1 OSPE - this will consist of up to 50 questions, which will include questions on Anatomy and Pathology.

In order to progress to year 3 a student **must pass ALL 3 components** of the end of year summative assessment.

Year 3

1. 3 x 3 hour case based short answer questions - which may cover any of the learning objectives addressed during the year i.e. material from block and vertical modules, Integrated Cases, Clinical Skills and Healthcare in the Community.
2. 1 OSCE – the Year 3 OSCE will be run in two stages. All students will sit the first stage, consisting of 4 stations marked on the 1-5 scale. At the end of the first stage, decisions will be made about whether more information is required to determine whether individual students have reached the required standard to pass the examination. Those students about whom there is some concern regarding the level of their overall performance will then be required to sit a further four stations
3. 1 OSPE - this will consist of up to 50 questions, which will include questions on Anatomy and Pathology.

In order to progress to year 4 a student **must pass ALL 3 components** of the end of year summative assessment.

You can view examples of previously used case-based short answer examinations on the Central Library website (there is a hot link in the blue banner of the website) and the URL is:

<http://www.library.otago.ac.nz/exams/index.html>

Quality assurance and enhancement of ELM

Elements of the course are reviewed and monitored. This includes curriculum structure, content delivery and assessment. ELM also undergoes periodic review utilising an external evaluator.

Student and staff input (feedback) has been extensive for all elements of the newly introduced ELM. This has been performed predominantly using an electronic survey tool. Students are also able to raise issue through student representative and staff committees,

Where possible, staff have responded to student concerns, either indicating a way of addressing the issue or more closely articulating the reasons for employing a certain strategy. 'Closing the loop' – students are informed of changes to the course through, staff/students committees and will have access to our survey results. The results of the student and staff feedback are then fed into our planning cycle. This iteration is to enhance communication between all stakeholders and promote on-going programme improvement. We plan to enhance our communication with students by virtue of the electronic bulletin board in the Hunter Centre.

An ongoing longitudinal evaluation is being conducted as student's progress throughout the course.

Tutors are engaging in a peer review of their teaching practice this year to enhance their skills and promote collaboration. This will include the solicitation of student feedback during the observation.

If more information is required on ELM Quality Assurance and Enhancement please contact: Dr Tony Barrett, anthony.barrett@otago.ac.nz

Practical Recommendations for Teachers in ALM (extending ELM educational directions to ALM)

- Provide students with an overview of attachments, including learning outcomes
- Provide a summary hand-out for each formal teaching session which includes learning objectives, pre-reading and other resource material
- Expect students to do pre-set tasks and pre-reading
- Explicitly identify linkages with previous learning, including previous years
- Highlight concepts as well as facts, explicitly identify key principles so that students can extrapolate from one condition to another
- Set tasks so students can derive skills and knowledge independently
- Promote group/team work as much as possible
- Ensure observation and feedback on performance of clinical skills
- Ask students to present material from group work, prompt and probe learning
- Provide maps for learning in the various disciplines across all of ALM ie identifying learning opportunities for a given discipline across all components of years 4-6
- Promote care as well as cure
- Promote the patient's perspective as well as the doctor's formulation
- Identify the community contribution to the management of illness
- Promote and model professional behaviour

Appendices

Appendix I. A Typical Week in the Timetable - the shaded areas represent the week for one student.

Module tutorial – a tutorial available for one of the modules, usually a vertical module, contributing to the current block module

Independent time – time available to complete independent tasks, either individual or group, from the Modules.

ELM 2 Semester 1		2012										Week One	
		8-9	9-10	10-11	11-12	12-1	1-2	2-3	3-4	4-5	5-6		
Monday	Lecture	A1 - Anatomy Lab 1 DR		A1 Independent/group work			A1 Independent/group work	A1 Independent/group work		A1 Independent/group work			
	Case intro every two weeks	A2 - HIC Hunter Centre - 1st		A2 - Anatomy Lab 1 DR				A2 - Module Tutorial Hunter Centre - Grnd		A2 Independent/group work			
	COLQUHOUN	B1 - Module Tutorial Hunter Centre - Grnd		B1 Independent/group work				B1 - HIC Hunter Centre - 1st		B1 Independent/group work			
		B2 Independent/group work		B2 Independent/group work				B2 Independent/group work		B2 Independent/group work			
Tuesday	Lecture	Lecture	A1 - Clinical Skills Hunter Centre - 1st			Lecture	Lecture	A1 - Module Tutorial Hunter Centre - Grnd					
			A2 Independent/group work					A2 - Clinical Skills Hunter Centre - 1st					
	COLQUHOUN	COLQUHOUN	B1 Independent/group work			COLQUHOUN	COLQUHOUN	B1 Independent/group work					
			B2 - Module Tutorial Hunter Centre - Grnd					B2 Independent/group work					
Wednesday	A1 Independent/group work		A1 Independent/group work			Lecture	Lecture	A1 Independent/group work					
	A2 Independent/group work		A2 Independent/group work					A2 Independent/group work					
	B1 - Anatomy Lab 1 DR		B1 Independent/group work					B1 Independent/group work					
	B2 Independent/group work		B2 - Anatomy Lab 1 DR					COLQUHOUN		COLQUHOUN		B2 Independent/group work	
Thursday	Lecture	Lecture	A1 Independent/group work			Lecture	Lecture	A1 Independent/group work					
			A2 Independent/group work					A2 Independent/group work					
	COLQUHOUN	COLQUHOUN	B1 - Clinical Skills Hunter Centre - 1st			COLQUHOUN	COLQUHOUN	B1 - Case Hunter Centre - Grnd					
			B2 - Case Hunter Centre - Grnd					COLQUHOUN		COLQUHOUN		B2 - HIC Hunter Centre - 1st	
Friday	A1 - Case Hunter Centre - Grnd		A1 - Anatomy Lab 2 DR			A1 - HIC Hunter Centre - 1st		A1 Independent/group work					
	A2 - Anatomy Lab 2 DR		A2 Independent/group work			A2 - Case Hunter Centre - Grnd		A2 Independent/group work					
	B1 Independent/group work		B1 Independent/group work			B1 Independent/group work		B1 - Anatomy Lab 2 DR					
	B2 - Clinical Skills Hunter Centre - 1st		B2 Independent/group work			B2 - Anatomy Lab 2 DR		B2 Independent/group work					

Appendix 2. The use of Moodle

Registering for Moodle

All University medical school staff members and others who teach in the programme are able to gain access to Moodle for ELM. You will need to have an active University Username (in the form smiph67p) and password. To register MOODLE or (Blackboard) contact one of the following staff members:

Faculty of Medicine:	Brendon Rich, brendon.rich@otago.ac.nz or
DSM:	David Tordoff, david.tordoff@otago.ac.nz
UOW:	Judith Cahill, judith.cahill@otago.ac.nz
UOC:	Dean Pester, dean.pesther@otago.ac.nz

They will add you to the Faculty of Medicine staff database.

If you are not a University employee but teach in the ELM programme, you can request a University username and password. Please contact one of the staff members listed above to request an application form or see the University ITS web site to download the application form: <http://www.otago.ac.nz/its/staff/username.html> Once completed, forward to Brendon Rich at the Faculty of Medicine.

Using Moodle

Once you have a username and password you will be able to login at the Med Moodle at: <http://medschool.otago.ac.nz>

Log in using your University username and password. Click on MICN 2011-2016: Medicine Second Year 2012 or the Third Year paper. The layout is similar to Blackboard with folders of information and lecture handouts. You will note some areas on the site are grayed out. That means that only staff can see those parts. You will also see that there are a lot of help icons, for context specific help.

Please feel free to use the staff forum and subscribe to it, if you would like to be kept informed as the trial proceeds. Brendon Rich, the Faculty e-learning administrator is available to assist with any queries or training needs associated with Moodle.

An overview of the site via a video clip is available here:

http://media.otago.ac.nz/uFeDpVpogl/G3lYxaOm/Moodle_Intro.swf

Appendix 3. ELM Progress Report (Clinical Skills version):

The Progress Reports have been revised in 2011 to now more closely match with the Student Code of Conduct, that students read and sign on their first day in ELM.

This is a formative mid-semester report on student progress. The aim is to identify the student who needs more support. This report is only one of many received by the Progress Committee on each student and it will contribute to more accurate assessment of their strengths and weaknesses so far. It is important that you complete this form as accurately as possible, basing your ticks in each section on the given criteria.

Student: Tutor:

Section I: Attitudes and Behaviour

Category from Student Code		Satisfactory	Unsatisfactory
A. Interactions with Patients and Their Families			
1.	Respecting patients and their families	Displays respect for the beliefs and cultures of patients and their families	Is intolerant of patients' cultures and beliefs
2.	Not exploiting patients or their families	Is aware of tensions between patient comfort and own learning	Puts own learning before patient well being
4.	Appreciating the limits of my role	Behaves appropriately for level of training	Misrepresents his or her skills or knowledge. Unable to recognise own limitations
B. Person and Professional Values			
7.1	Maintain Personal Integrity	Acts honestly in all situations	Plagiarism of another person's work. Evidence of dishonest behaviour.
7.4	Maintain Personal Wellbeing	Attends to own wellbeing	E.g. Attends tutorials when not well; over-commits to activities other than Medicine
C. Relationships with Staff and Colleagues			
8.	Show respect to staff and colleagues	Shows respect to colleagues, including allied health professionals, non-teaching staff and simulated patients	Displays disrespectful behaviour to others.
8.5	Maintain confidentiality	Hold in confidence information about my peers	Breaks confidentiality
D. Commitment to Professional Standards and Expectations			
9.1	Hold a life-long commitment to learning and the development of skills	Show commitment to independent learning and development of learning skills.	Does not work well unsupervised
9.3	Response to feedback Awareness of own limitations in knowledge / skills	Responds thoughtfully to feedback from others Usually recognises own limitations	Has difficulty in incorporating feedback when planning future learning. Has difficulty in incorporating feedback when planning future learning
9.5	Show commitment to medical training Punctuality	Good participation and contribution to tutorial work and work in the community. Mostly motivated and enthusiastic; prepared to work Mostly or always punctual; notified tutors of unavoidable lateness	Little participation or contribution to tutorial work and work in the community. Often lacking in motivation and enthusiasm; poorly prepared Often late
9.7	Care for my peers and work collaboratively Sensitivity	Good relationships with other students, aware of value of teamwork and your effect on the learning of others. Mostly or always aware of others' needs and contributions in the group	Has problems or difficulties with other students; does not fulfil learning obligation to others. Unaware of others' contributions and needs in the group, insensitive to feelings of others
<input type="checkbox"/> I have discussed any ticks in the unsatisfactory column above with the student; no further action is required at this stage <input type="checkbox"/> I have discussed any ticks in the unsatisfactory column above with the student; further action is required			

Section 2: Attendance (This Section is a summary of the Attendance records to Week 6)**Explained absences: Unexplained absences:****Total absences:****Section 3: Language skills**

Category	Satisfactory	Unsatisfactory
Verbal expressive skills within tutorial work	Expresses self clearly most or all of the time	At times is difficult to understand, which interferes with current tasks
Verbal listening skills within tutorial work	Understands most or all of the time, and asks for clarification as required.	At times does not understand and does not ask for clarification
Written Language Skills	Understands use of written English	Difficult to understand at times
<input type="checkbox"/> I have discussed any ticks in the unsatisfactory column above with the student; no further action is required at this stage		
<input type="checkbox"/> I have discussed any ticks in the unsatisfactory column above with the student; further action is required		

Section 4: Programme specific feedback

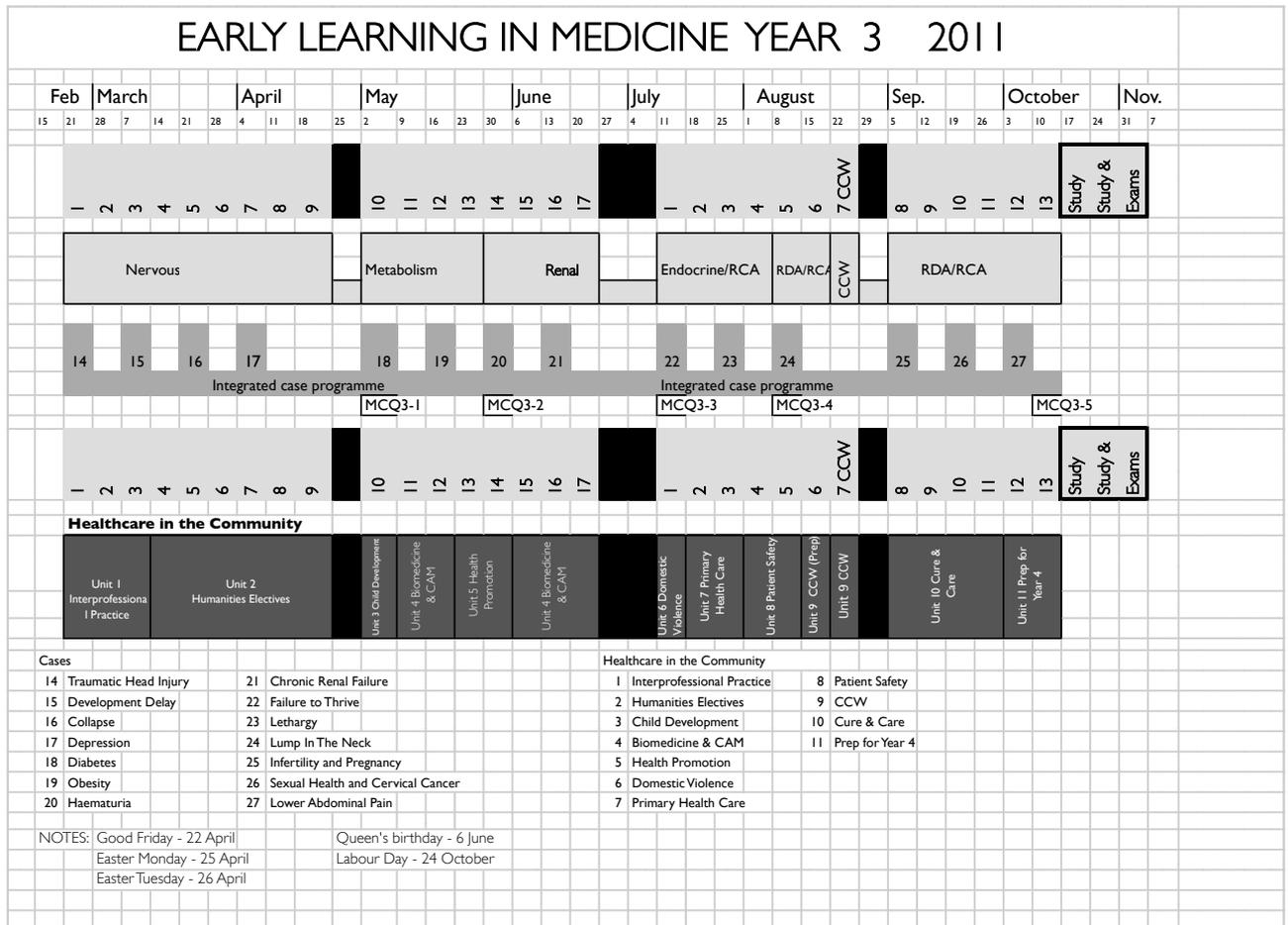
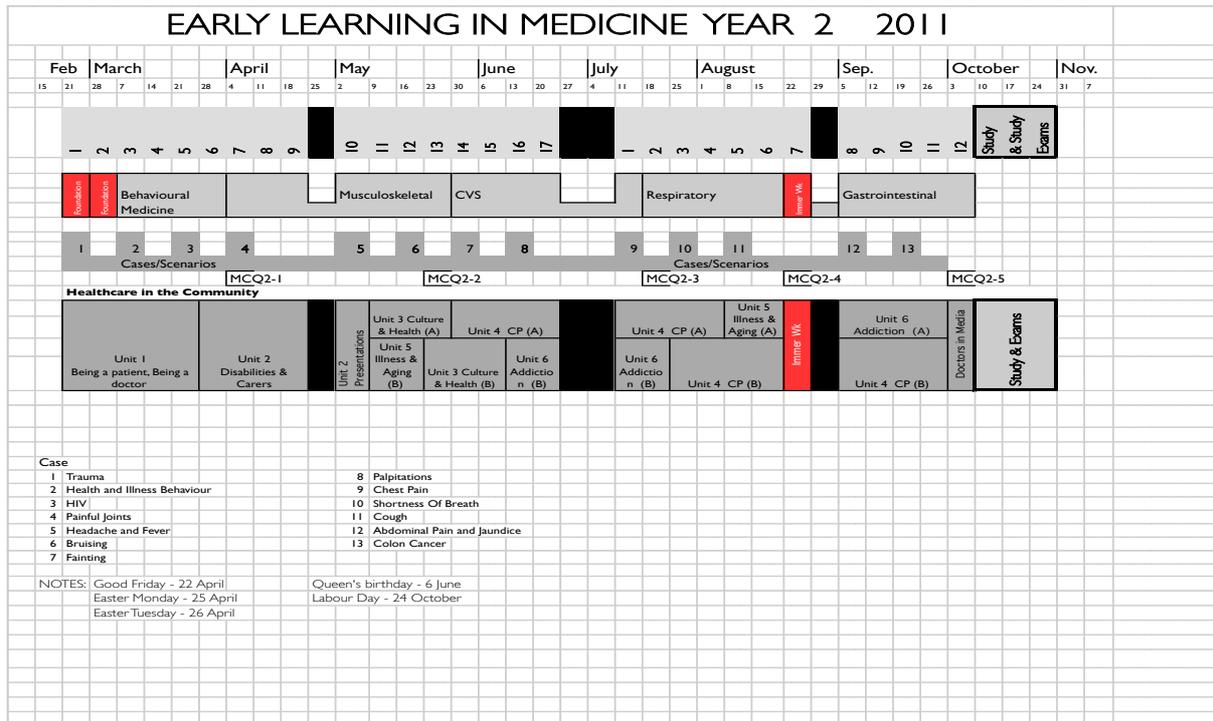
Category	Satisfactory	Unsatisfactory
Unit 1 Worksheet Unit 2 Carer interview, impairment interview, and poster presentation	The student has engaged with patients well, demonstrating an initial understanding of them as persons and their illness/disability/carer experiences. The student comes across as curious and empathetic.	Not clear from observations or worksheets if the student really engaged with these patients or grappled with the problems they described
Adequate presentations of patient/posters etc	The student provides an engaging summary of the patient/agency/disability issues so the tutorial group becomes interested and curious	The tutorial group does not learn much from the presentations
<input type="checkbox"/> I have discussed any ticks in the unsatisfactory column above with the student; no further action is required at this stage		
<input type="checkbox"/> I have discussed any ticks in the unsatisfactory column above with the student; further action is required		

OVERALL SUMMARY:

I have **NO Concerns** about this student; progress is satisfactory
 Summary of Overall Concerns about this student are as follows:

Student Signature - I have discussed these issues with the tutor:**Tutor Signature:**

Appendix 4. Graphical Representations of the ELM Year



Appendix 5. Synopses of the Integrated Cases

First Semester (tutor present for both hours of both tutorials)

Foundation Fortnight

1. Trauma.

Follows the progress of John Doe from his car crash (triage at the scene) to ED where he is resuscitated (causes of hypotension), given pain relief (pharmacodynamics of morphine in a shocked patient) and had his fractures internally fixed. The optimum time to break the bad news of his friend's death is discussed, he develops an anterior compartment syndrome (anatomy of the anterior compartment) which is successfully treated and the issues around reducing road traffic injuries are discussed. Lastly the ethics of treating drunk drivers and long term consequences of trauma are considered.

Modules Involved (M): Musculoskeletal, Bioethics, Pathology, Pharmacology, Public Health, Infection and Immunity

Disciplines Involved (D): Anatomy, Physiology

Behavioural Medicine Module

2. Health and Illness Behaviour.

This case introduces the process of clinical reasoning: working through a framework to categorise the possible cases of nausea and vomiting. The scenario reveals a man with unhealthy behaviours and the students reflect on the desirability of persuading the patient to change. The students role play giving someone unwelcome advice, after considering a time they received unwelcome advice and talking about their attitudes to people choosing various lifestyles. Primary and secondary health care is introduced.

M: Behavioural Medicine, Bioethics, Professional Development, Public Health, Psychological Medicine

3. HIV.

There are several issues around the doctor-patient relationship that are covered during this case. These are exemplified by a person who comes and talks to the students about their experiences. Topics discussed include taking care with professional boundaries, having potentially judgmental feelings about patients depending on whether the patient's behaviour has contributed to their disease, and the importance of maintaining confidentiality. The diagnosis and course of HIV and AIDS is also covered, as well as the sensitivity and specificity of tests. Tutorial also includes a practice short answer exam on the Behavioural Medicine block module (1hr).

M: Behavioural Medicine, Professional Development, Bioethics, Public Health, Infection and Immunity, Evidence Based Medicine, Psychological Medicine

Musculoskeletal Module

4. Painful Joints.

'Isabel' is a young woman in her 20's who comes to talk to the students. She has rheumatoid arthritis and had a stormy few years after first being diagnosed. The students have a chance to see the difference between 'Illness' and 'Disease' issues and how these affected the course of her management. Discussions include the multidisciplinary nature of pain, the systemic inflammatory response, and the comparing of different types of arthritis.

M: Musculoskeletal, Pharmacology, Psychological Medicine, Pathology, Infection and Immunity, Bioethics, Blood, Professional Development

D: Anatomy

5. Headache and Fever.

This case (Frank Kernig) continues the reasoning process of dealing with very common symptoms with potentially very serious consequences and the role of the GP in diagnosis and management of them. It also introduces the students to the concept of uncertainty in diagnosis and outcome and some of the biases the doctor may be subject to as well as the predictive value of tests. The ethical principles involved in sharing responsibility of follow-up are discussed. Public health issues of reporting and treating infectious disease epidemics and vaccination are also addressed.

M: Infection and Immunity, Musculoskeletal, Pharmacology, Public Health, Professional Development, Evidence Based Medicine, D: Anatomy

6. Bruising.

Initially the structure of a paper case (Leopold Albany) with history, examination and investigations of a child with bruising so both a bleeding disorder and child abuse need to be considered. The coagulation cascade and the genetics of haemophilia are covered as well as the ethical issues involved in genetic counseling.

M: Blood, Genetics, Musculoskeletal, Professional Development, Bioethics, Psychological Medicine

Cardiovascular Module

7. Fainting.

This case (Ernest Starling) starts with the physiology of pressures and events in the cardiac cycle related to someone with aortic stenosis and compares these to someone with mitral stenosis. The principles underlying the public health issues of acute rheumatic fever and the microbiology of acute bacterial endocarditis are researched before a discussion on the antibiotic therapy of sore throats to prevent recurrent rheumatic fever versus the overuse of antibiotics. The ethics of deciding who gets put on a waiting list for cardiac surgery are also discussed. Includes a practice short answer exam (one hour)

M: Cardiovascular, Pharmacology, Infection and Immunity, Public Health, Bioethics, Hauora Māori

D: Physiology, Anatomy

Second Semester (the second tutorial is without the tutor for the first hour)

8. Palpitations.

Mrs. P. Wave is a patient with atrial fibrillation and hypertension and presents three times. First she is managed with cardioversion and the principles of the different classes of antihypertensive is researched. Secondly, when her AF recurs she is managed with anticoagulants and the theory behind this is discussed. On her third presentation she is considered for ablation surgery and the ethics of informed consent is introduced.

M: Cardiovascular, Pharmacology, Psychological Medicine, Blood, Bioethics, Evidence Based Medicine, Professional Development

D: Physiology

9. Chest Pain.

Mr Arthur Smith has atherosclerosis and presents first with angina, then with an acute myocardial infarction and then has a cardiac arrest. The different diagnostic, treatment principles and drugs are discussed at each stage as well as the issues around his death after the cardiac arrest. The students prepare and stage a debate on the topic 'Prevention is Better than Cure' to present the individual and population aspects of management of coronary artery disease.

M: Cardiovascular, Biochemistry, Pharmacology, Public Health, Pathology, Bioethics, Professional Development

D: Physiology, Anatomy

P: HIC

Respiratory Module

10. Shortness of Breath.

This case shows how the spirometry and blood gases can be used in the assessment of asthma and how the underlying pathological processes (inflammation, bronchospasm and/or retention of secretions) can be used to find the most appropriate treatment. The ethics of direct-to-consumer marketing is also discussed. Then there are 4 scenarios of chronic obstructive respiratory disease for assessment.

M: Respiratory, Pathology, Infection and Immunity, Pharmacology, Public Health, Bioethics, Professional Development

P: Clinical Skills

D: Physiology

11. Cough.

The majority of this case is about cystic fibrosis - underlying pathology and genetics - and a public health task comparing the screening for a disease versus carrier status. In addition, three different presentations of pneumonia are discussed - taking into account the presenting signs and symptoms, and possible predisposing factors that include skeletal injury complicating the management of cystic fibrosis, foreign body obstructing the airway in a child, and chronic smoking. Co-morbidities are explored. Relevant anatomy, physiology and pathology are discussed. Includes a practice exam (1 hr)

M: Respiratory, Infection and Immunity, Pathology, Genetics, Psychological Medicine, Pharmacology, Bioethics, Public Health

Gastrointestinal Module

12. Abdominal pain and Jaundice.

The first tutorial covers the differential diagnosis of abdominal pain with the important features outlined in 21 different scenarios. The second tutorial is an E-Learning quiz about the diagnosis of a case of jaundice, and includes the ordering of tests and the costs incurred.

M: Gastrointestinal, Pathology, Professional Development

D: Anatomy, Biochemistry

P: Clinical Skills

13. Colon Cancer.

This case begins with the underlying pathology of the polyp-carcinoma sequence related to various screening possibilities at each stage. Students are introduced to a patient who had recently had surgery for colon cancer with some complications. Students complete an on-line risk assessment for colon cancer and a task based around the issues of communication breakdown between the doctor and the terminally ill patient. The effects of a cancer diagnosis on family is also discussed. Public health considerations relating to ethnicity and lifestyle practices in the development of a colon cancer are also explored.

M: Gastrointestinal, Pathology, Cancer, Public Health, Psychological Medicine, Genetics, Evidence Based Medicine

Third Semester (the first hour in the second tutorial is without a tutor)

14. Traumatic Head Injury.

This case deals with the assessment of a head injury that occurs at work and the significance of different sites of haemorrhage. The Glasgow Coma Scale is applied and the diagnosis of brain death is discussed. The second tutorial contains the post-traumatic epilepsy and aspects of occupational health

M: Nervous System, Public Health, Psych Med, Bioethics, Pharmacology

D: Anatomy, Physiology

Nervous System Module

15. Developmental Delay.

A paper case, where a child with developmental delay, is investigated. Following an introduction to normal developmental milestones observable in a 2 and a 4 year-old child, students attend a presentation where a mother whose child has autism, speaks of her and her child's experiences before and after diagnosis. Other possible causes of developmental delay are also explored (eg. learning difficulties, autism, deafness, child abuse, congenital conditions, and infections). Issues around child abuse - diagnosis, reporting, and management are then addressed.

M: Nervous System, Infection and Immunity, Psychological Medicine, Physiology, Bioethics

D: Anatomy,

16. Collapse.

During the first tutorial students are given the clinical details of various people who have suffered a stroke, and are then asked to assess the likely anatomical site of the lesion. The second tutorial deals with the rehabilitation from stroke and the involvement of community and family resources.

M: Nervous System, Hauora Māori, Blood, Bioethics, Psychological Medicine

D: Anatomy, Physiology

17. Suicide and Depression.

The suicide part of this case is dealt with separately with an interview of someone whose family member has committed suicide. The case deals largely with depression especially when found incidentally and compared with schizophrenia and bipolar disease. The advantages and disadvantages of antidepressants is debated.

M: Nervous System, Hauora Māori, Psychological Medicine, Pharmacology, Bioethics, Public Health

Metabolism and Nutrition Module

18. Diabetes.

This case is about Jason, who presents with ketoacidosis and follows his life with Type 1 Diabetes. It looks closely at the inter-relationship of glucose metabolism, insulin, other hormones and activity. Then there are some scenarios comparing Type 1 with Type 2. A one week case with one tutorial only

M: Metabolism Pathology, Genetics, Pharmacology

19. Obesity.

Two patients with obesity - one who has had bariatric surgery and one on the waiting list are presented to the class. In the first tutorial a DVD produced for Māori TV is shown that outlines the problem of obesity for the population, communities, whanau and individuals. Within this are some approaches being taken by these groups to address the problem. Then the students discuss the responsibility for obesity - should the individual or society be responsible for the management? The second tutorial looks at an obese individual who

wants to lose weight and the dietary and psychological implications of this. The patient then reports his GP to the Health and Disability Advocate.

M: Metabolism and Nutrition, Hauora Māori, Bioethics, Professional Development, Psychological Medicine

P: HIC and Clinical Skills (Health Day)

Renal Module

20. Haematuria

This case begins with the possible causes (from an anatomical and pathological aspect) of haematuria and oliguria, leading to a differential and then definitive diagnosis. The pathology of post-infectious glomerulonephritis after the infection, and immunity, are discussed. There is also a comparison of oliguria as a result of hypertension (glomerulonephritis) and hypotension in Case 1 (shock).

M: Renal, Infection and Immunity, Pathology

D: Anatomy, Physiology

21. Chronic Renal Failure.

This case was largely about the complications of Type 2 Diabetes - renal failure being one of the most important. A case summary including all the positive findings in the history, physical examination, current diagnoses and therapies of a patient with Type 2 Diabetes (Sylvia Nidds), is used as the basis for a task designed to provide a framework for clinical reasoning.

The ability to succinctly summarise a patient presentation is also emphasised.

M: Renal, Pathology, Psychological Medicine, EBM, Blood, Bioethics, Public Health, Hauora Māori, Pharmacology.

Fourth Semester (the first hour in both tutorials is without a tutor)**Endocrine Module**

22. Failure to Thrive.

This case starts with a video showing a paediatrician taking a history from a parent and child and leads to the question: What is the difference between an adult and a paediatric history? A child who is failing to thrive is introduced at the end and the students research three potential causes: emotional deprivation, growth hormone abnormality or malabsorption. Implications of coeliac disease are explored.

M: Endocrine, Pathology, Psychological Medicine, Nutrition

D: Biochemistry,

23. Lethargy

This case starts with the approach to a patient with lethargy as the presenting symptom. This is another exercise in reasoning within a framework where additional information increases or decreases the probability of a particular cause. A patient with Addison's Disease is presented during the week and the second tutorial is about the issues around managing someone on steroid therapy.

M: Endocrine, Pathology, Pharmacology

D: Biochemistry

24. Lump in the Neck.

The first tutorial is an on-line problem of a patient with a lump in the neck. The students have to decide how they would determine which organ is causing the lump, the possible pathologies of this lump, and then the structures to be aware of when going to biopsy this lump. The second tutorial contains aspects of international health since the person with the lump in the neck has recently arrived from overseas.

M: RDA/RCA, Infection and Immunity, Professional Development, Public Health, Bioethics, Cancer

D: Anatomy

Reproduction, Development and Aging (RDA) and Regional Clinical Anatomy (RCA)

25. Infertility and Pregnancy.

This case introduces a couple who are initially infertile and consider IVF and the health economics surrounding this issue. Once they eventually become pregnant, factors in the antenatal course are followed including screening and detecting any possible defects and the associated embryology. Decisions around the course of action to be followed if any fetal abnormality is discovered are also discussed. The second tutorial relates to the perinatal period.

M: RDA/RCA, Bioethics, Obstetrics and Gynaecology, Professional Development, Psychological Medicine, Infection and Immunity

D: Anatomy

26. Sexual Health and Cervical Cancer.

In the first tutorial the students watch a DVD of parts of the Cartwright Enquiry and then discuss research ethics. The second tutorial consists of the students role-playing 5 or 6 different scenarios including STIs, and cervical smears so that they can practise talking about sex.

M: RDA/RCA, Psychological Medicine, Infection and Immunity, Professional Development, Public Health, Bioethics, Cancer

27. Lower Abdominal Pain.

The two hours of the first tutorial consist of a quiz consisting of pictures of various radiological investigations and occasional snippets of extra information including some symptoms and/or physical signs. The second tutorial consists of the students presenting the patients from the scenarios in the first tutorial.

M: RDA/RCA, Professional Development, Psychological Medicine, Pharmacology, Bioethics, Cancer

D: Anatomy

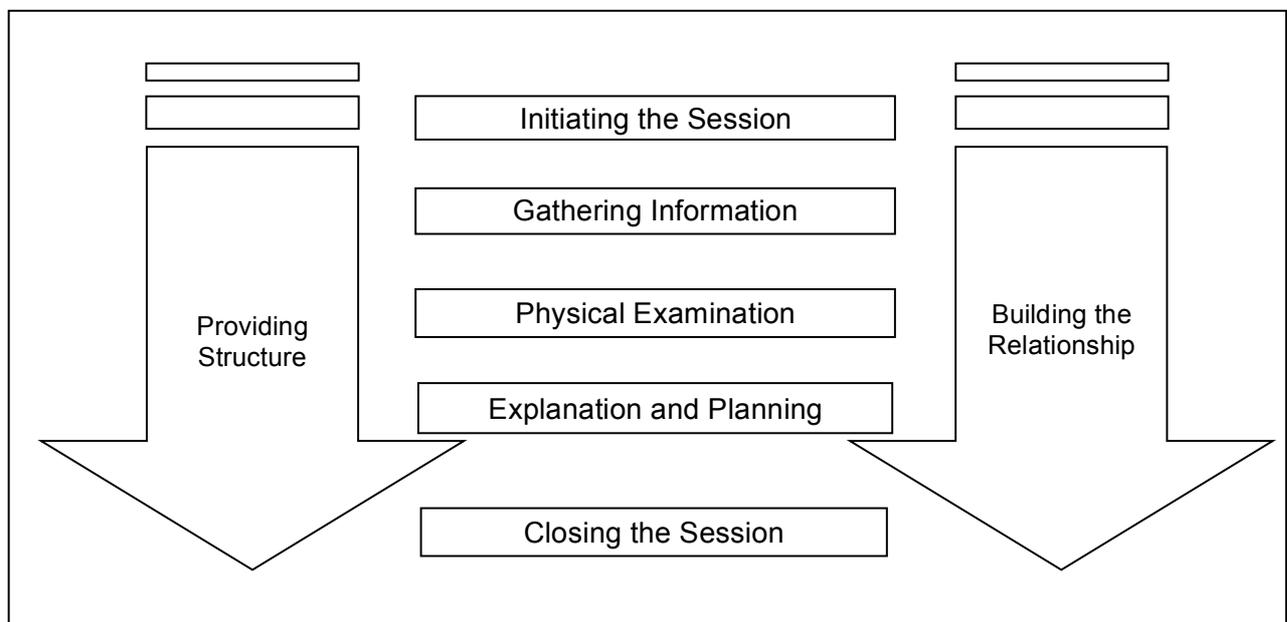
Appendix 6. The Calgary Cambridge Guides

Calgary-Cambridge, Clinical Skills and ELM An Overview

Introduction

The Calgary-Cambridge Guides to Communicating with Patients⁶ were developed in the 1990s by a group of medical academics from Canada and the UK, led by Jonathan Silverman and Suzanne Kurtz. They were in response to emerging evidence that the way forward in providing safe and effective medical care for patients resided in the Patient Centred Medicine approach, and that enhanced communication skills significantly contributed to this. Subsequent publications have become widely used in the teaching of consultation and communication skills around the world, with over 60% of medical schools in the UK now using this format for both training and assessment.⁷⁸

Silverman, Kurtz and their colleagues systematised the process of the medical consultation, breaking it down into identifiable (and in this case teachable) necessary skills. They set those individual skills within an overall framework, which is outlined in the following diagram.



(From: Kurtz S, Silverman J, Benson J, Draper J. Marrying Content and Process in Clinical Method Teaching: Enhancing the Calgary-Cambridge Guides. *Academic Med.* 2003; 78:p806)

Thus, the consultation is broken down into five separate and sequential steps, each of which requires particular skills to successfully move through them. Alongside these steps are the tasks of Building the Relationship and Providing Structure. These are continuous threads, which run throughout the consultation.

Working within the framework illustrated above, the Calgary-Cambridge Guides enumerate the individual skills which the authors have identified as necessary to negotiate each step. The vast majority of these skills are in fact what most practitioners already do instinctively (e.g. introducing oneself, listening actively and attentively to what the patient is saying, using a mixture of open and closed questions to elicit information and so on.) What the Guides do is make explicit these usually implicitly employed skills, so that they can be more readily passed on to students. Both teachers and

6 Kurtz SM, Silverman JD. The Calgary-Cambridge observation guides: an aid to defining the curriculum and organising the teaching in communication training programmes. *Med Educ* 1996;30:83-9.

7 Silverman JD, Kurtz SM, Draper J. *Skills for Communicating with Patients* 2nd edition. Radcliffe Publishing (Oxford).

8 Brown J. How clinical communication has become a core part of medical education in the UK. *Med Educ* 2008;42:271-278

students can then use the same language to discuss consulting skills, and effective feedback becomes easier and more accurate.

Initial versions of the Calgary-Cambridge model placed the greatest emphasis on the process skills required to effectively communicate, but in 2003 a revised model was published which integrated content with process.⁹ It is this integration which now makes them so successful as a model and therefore as a tool for teaching and learning consultation skills. It is this model with which we are working in the ELM programme.

As an example, the following table sets out what this means in practice for the Gathering Information step. It includes both the **process** skills which are required, (the *how* of the consultation), and also the **content** which needs to be discovered by the doctor, (the *what* of the consultation). The doctor is encouraged to do a parallel search of both illness and disease, weaving between these two perspectives as he or she explores the patient's problems.

Gathering Information		
<u>Process Skills for Exploration of the Patient's Problems</u>		
Patient's narrative		
Question style: open to closed cone		
Attentive listening		
Facilitative response		
Picking up cues		
Clarification		
Time-framing		
Internal summary		
Appropriate use of language		
Additional skills for understanding the patient's perspective		
<u>Content To Be Discovered</u>		
<i>The biomedical perspective (disease)</i>		<i>The patient's perspective (illness)</i>
Sequence of events		Ideas and beliefs
Symptoms analysis		Concerns
Relevant systems review		Expectations
		Effects on life
		Feelings
<i>Background information – context</i>		
Past medical history		
Drug and allergy history		
Family history		
Personal and social history		
Review of systems		

There are many similarities between the Calgary-Cambridge Guide skills and what medical students have been taught in the past as 'Communication Skills'. Thus they are still expected to be able to engage with the patient such that they can successfully gather information from them, and attend to their feelings with appropriate empathy.

Where there are differences is in the structure of the consultation, and in some of the terminology used to describe the techniques the authors suggest be employed. In addition to this, the framework encompasses the entire medical consultation, including the content of that consultation. The model also makes it clear that patients are to be encouraged to express their ideas, concerns and feelings.

⁹ Kurtz S, Silverman J, Benson J, Draper J. Marrying Content and Process in Clinical Method Teaching: Enhancing the Calgary-Cambridge Guides. *Academic Med* 2003;78:802-809.

Applying the Calgary-Cambridge Guides

The first of the sequential steps within the consultation is **Initiating the Consultation**. As you would expect, this involves greetings and introductions, and determining why the patient has come to the doctor. The key difference though, is that the patient is encouraged to list *all* of the reasons for their visit, before any one of those reasons is explored in detail. This requires the doctor to refrain from pursuing a line of questioning until they have ensured that the patient has said all they wish to say. The doctor and patient then negotiate an agenda for the consultation. This should include what is most important to the patient *and* what is most important to the doctor, which reduces the risk of the last minute declaration of an important symptom which can not be put off. At times however, it may also involve deferring problems to a subsequent consultation.

The first 7 skills listed in the guides are designed to facilitate this first step. Students in the ELM programme are now expected to attempt to follow this process.

The second of the sequential steps is **Gathering Information**. Once again, much of it will be routine for many practitioners, with the differences being set out in the table cited above.

The key difference is in the explicit expectation that the patient's perspective (i.e. illness) will be incorporated, and explored. Many of us do this instinctively already, but by making it explicit, there is a greater likelihood of it becoming part of the accepted routine for students, and that patient issues identified will be included on the Problem List for action or referral. In the ELM, students are being expected to routinely explore both illness and disease perspectives, rather than simply trying to reach a diagnosis.

Other differences are largely to do with terminology. Where previously we have referred to the Presenting Complaint and History of Presenting Complaint, we now refer to Presenting Problem(s), and Exploration of Patient's Problems, (which is further broken down into the biomedical perspective and the patient's perspective). Past medical history, medications, allergies and so on, now go under the heading of Background Information.

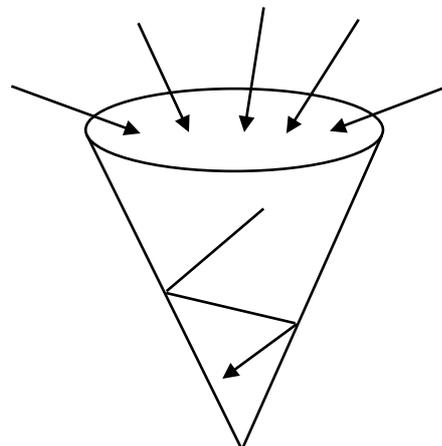
Calgary-Cambridge sets out numerous skills to facilitate the effective gathering of information. These can be seen in the Guide which follows this document, and as can be seen from that guide, many are self explanatory. It is important to note too, that these skills are intended to be used **as required** to achieve the desired outcome in a particular consultation, and **not** as a list to be obsessively followed in every patient encounter.

One specific technique with which the students are becoming familiar is that of using an “open to closed cone” when questioning patients. This is the process of moving from an open questioning style to later using closed questions to ensure appropriate information is elicited.

This is best summarised in the diagram opposite .

The wide open mouth of the cone captures as much information as possible (with open questions).

Gradually the questions become more specific, and finally closed



Conclusion

There are different ways in which the Calgary-Cambridge guides can be used. One is to focus on the broad principles espoused by the authors and captured in the diagrams they use to illustrate these principles. This enables students to learn about the various parts of consultations and how they are linked together. How each of the steps in the framework is successfully negotiated can depend on the particular approaches to communication skills with which teachers are familiar.

A second method is to adopt the model in its entirety, using the individually identified skills as the means for achieving mastery of the principal steps. Given that there are just over 70 such skills identified, this requires a significant commitment on the part of teachers to becoming familiar with the extraordinary detail provided by the authors.

In the ELM programme we have adopted an approach which is comprised of elements of the two. Students who will be moving into the ALM course in 2010 began 2008 with communication skills teaching which more closely resembled the teaching of previous years, but with the introduction of some of the Calgary-Cambridge emphases, particularly on including the patient's perspective in gathering a history. In 2009 we have made the linkages more explicit, and have spent time coaching the students to integrate the skills they learned last year into the Calgary-Cambridge framework. The Guide which follows this document best illustrates this, with students being encouraged to make the connections themselves between the skills they have already acquired, and the ones described.

By the end of the ELM, students should be able to adequately initiate a consultation, and gather information (take a history) from a patient. They will have had the opportunity to attempt this with angry, anxious or embarrassed 'patients'. Please note that their opportunities to practise these skills have been limited almost entirely to simulated situations, either with actors or with peers role-playing scenarios. Students will have also been exposed to the process skills of Explanation and Planning, which is step 4 in the framework. However, because they as yet lack sufficient medical knowledge to successfully undertake this task in any meaningful way, they can not be said to have seriously attempted it.

INITIATING THE SESSION

Establishing initial rapport

1. **Greets** patient and obtains patient's name
2. **Introduces** self, role and nature of interview; obtains consent if necessary
3. **Demonstrates respect** and interest, attends to patient's physical comfort

Identifying the reason(s) for the consultation

4. **Identifies** the patient's problems or the issues that the patient wishes to address with appropriate **opening question** (e.g. "What problems brought you to the hospital?" or "What would you like to discuss today?")
5. **Listens** attentively to the patient's opening statement, without interrupting or directing patient's response
6. **Confirms list and screens** for further problems (e.g. "so that's headaches and tiredness; anything else.....?")
7. **Negotiates agenda** taking both patient's and physician's needs into account

GATHERING INFORMATION

Exploration of patient's problems

8. **Encourages patient to tell the story** of the problem(s) from when first started to the present in own words (clarifying reason for presenting now)
9. **Uses open and closed questioning technique**, appropriately moving from open to closed
10. **Listens** attentively, allowing patient to complete statements without interruption and leaving space for patient to think before answering or go on after pausing
11. **Facilitates** patient's responses verbally and non-verbally e.g. use of encouragement, silence, repetition, paraphrasing, interpretation
12. **Picks up** verbal and non-verbal **cues** (body language, speech, facial expression, affect); **checks out and acknowledges** as appropriate
13. **Clarifies** patient's statements that are unclear or need amplification (e.g. "Could you explain what you mean by light headed")
14. **Periodically summarises** to verify own understanding of what the patient has said; invites patient to correct interpretation or provide further information.
15. **Uses concise, easily understood questions and comments**, avoids or adequately explains jargon
16. **Establishes dates and sequence** of events

Additional skills for understanding the patient's perspective

17. Actively **determines and appropriately explores**:
 - patient's **ideas** (i.e. beliefs re cause)
 - patient's **concerns** (i.e. worries) regarding each problem
 - patient's **expectations** (i.e., goals, what help the patient had expected for each problem)
 - effects: how each problem **affects** the patient's life
18. **Encourages patient to express feelings**

PROVIDING STRUCTURE

Making organisation overt

19. **Summarises** at the end of a specific line of inquiry to confirm understanding before moving on to the next section
20. Progresses from one section to another using **signposting**: includes rationale for next section

Attending to flow

21. Structures interview in **logical sequence**
22. Attends to **timing** and keeping interview on task

BUILDING RELATIONSHIP

Using appropriate non-verbal behaviour

23. Demonstrates appropriate non-verbal behaviour

- eye contact, facial expression
- posture, position & movement
- vocal cues e.g. rate, volume, tone

24. If reads, writes **notes** or uses computer, does **in a manner that does not interfere with dialogue or rapport**

25. Demonstrates appropriate confidence

Developing rapport

26. **Accepts** legitimacy of patient's views and feelings; is not judgmental

27. **Uses empathy** to communicate understanding and appreciation of the patient's feelings or predicament; overtly **acknowledges patient's views** and feelings

28. **Provides support**: expresses concern, understanding, willingness to help; acknowledges coping efforts and appropriate self care; offers partnership

29. **Deals sensitively** with embarrassing and disturbing topics and physical pain, including when associated with physical examination

Involving the patient

30. **Shares thinking** with patient to encourage patient's involvement (e.g. "What I'm thinking now is...")

31. **Explains rationale** for questions or parts of physical examination that could appear to be non-sequiturs

32. During **physical examination**, explains process, asks permission

CLOSING THE SESSION (PRELIMINARY EXPLANATION & PLANNING)

33. **Gives any preliminary information** in clear well organised manner, avoids or explains jargon

34. **Checks patient understanding** and acceptance of explanation and plans; ensures that concerns have been addressed

35. **Encourages patient to discuss** any additional points and provides opportunity to do so (eg. "Are there any questions you'd like to ask or anything at all you'd like to discuss further?")

36. **Summarises session** briefly

37. **Contracts** with patient re next steps for patient and physician

References:

Kurtz SM, Silverman JD, Draper J (2005) *Teaching and Learning Communication Skills in Medicine 2nd Edition*. Radcliffe Publishing (Oxford)

Silverman JD, Kurtz SM, Draper J (2005) *Skills for Communicating with Patients 2nd Edition*. Radcliffe Publishing (Oxford)

Kurtz S, Silverman J, Benson J, Draper J (2003) *Marrying Content and Process in Clinical Method Teaching: Enhancing the Calgary-Cambridge Guides Academic Medicine*;78(8):802-809

Appendix 7. HIC Clinical placements in Year 2

Students in Year 2 are required to spend 4 hours a week for 5 weeks working as assistant caregivers in rest homes or community hospitals around Dunedin. These placements are based on the concept of 'service learning',¹⁰ where novice professionals are placed in real work situations to provide service for clients or patients, while learning occurs experientially. Some students initially questioned the value of these placements:

Some of the residents asked me "what was the point in coming to the home just to do what caregivers do?" [that is] if we weren't diagnosing and treating patients doing 'doctor stuff' then what use was the placement? Initially I struggled to decide whether or not they were right, however after more thought I began to see the real value of the exercise.

Year 2 is chosen for these placements as students have insufficient knowledge as yet to function as 'doctors'; their task instead is to learn about elderly and dependent patients, their health needs, the nature of 'professional care', and their own experiences of the student-patient relationship. These placements appear to provide opportunities for students to 'test themselves out' as budding health professionals, and many comment on how much confidence they gain as a result. Student evaluation has been very positive:

It's given me a better idea of what it means to be a doctor - that doctoring is predominantly about people. I say this because given the amount of biomedical stuff we have to learn this year, the people aspect of being a doctor sometimes gets lost under all the work we are doing.

My learning experiences have taught me to be more aware of the many issues patients face. It reinforced the psychosocial aspect of illness and how it impacts on patient wellbeing. I also got the chance to find out about what patients thought of healthcare professionals and the healthcare system. Their opinions and views will definitely impact on my future practice.

Ideally, this early exposure to ward work may reduce some of the previously identified problems in the student transition to Year 4, although one student had a word of caution:

I thought I was thrown into the clinical placements without feeling confident and trained. I think that this has really made me want to be prepared before entering the clinical years, especially in the clinical skills that we get taught.

Student outcomes from clinical placements

While logistically complicated, the overall learning outcomes are encouraging. In 2009, we reviewed all 240 student essays about their clinical placements. Students describe the following topics in considerable detail: getting over their initial anxiety about actually being in the role of helping patients, learning how to relate to the elderly, learning how to work with other health professionals, being impressed at the professionalism of carers, learning how to touch patients, learning how to be in their intimate space in a professional way, how not to let their own personal space become invaded, how to maintain the dignity of people who are dependent, how to communicate with people who have communication difficulties, how to interact with people with dementia, how dying is managed in community settings, how they respond to a resident they know is dying, how these first hand experiences are very helpful to back up their theoretical teachings so far on death and dying, their first experiences and understandings of the hierarchical structure of healthcare delivery, the extent of urinary and faecal incontinence in the elderly and how this managed, how to respond to perceived poor clinical practice, when does empathy become over-involvement, their perceptions of staff who are too 'detached' or too 'objective', the role of rest homes in providing for the needs

¹⁰ Scavenius M, Schmidt S, Klazinga N. Genesis of the professional patient relationship in early practical experience: qualitative and quantitative study. *Med Educ* 2006; 40: 1037-1044.

of the elderly in NZ, and learning how to listen and engage with the elderly patient who is lonely and frightened.

In summary, these essays indicated that students had learned a great deal, that they gained considerably more confidence in themselves, and that these experiences had been very helpful in terms of learning to become a doctor.

The placement has provided me with a valuable insight into the field of healthcare which I have made a commitment to entering. Seeing the caregivers and working as a caregiver for 5 weeks provided me with important insights as to the road which lies ahead caring for the ill. It has also reinforced and reminded me of the reasons I wish to be involved in healthcare, not for wealth, social status, or to fulfill my own sense of self righteousness, but to use what talents and skills I have in the service of others.

Caregivers and doctors alike have a complicated balance to preserve between the professional demands of the job, catering to the emotional needs of patients and at the same time retaining an awareness of our own capabilities and emotional state. These skills will be every bit as important as knowing how to take a medical history, insert a cannula or record a blood pressure.

Appendix 8. Units in HIC

Units in HIC Year 2

- Unit 1: Being a doctor, being a patient (5 weeks)
- Unit 2: Living with disabilities, being a carer (5 weeks)
- Unit 3: Illness and ageing (2 weeks)
- Unit 4: Addiction in the community (4 weeks)
- Unit 5: Culture and health (3 weeks)
- Unit 6: Community clinical placement (8 weeks).

Units in HIC Year 3

- Unit 1: Interprofessional practice (2 weeks)
- Unit 2: Humanities electives (6 weeks)
- Unit 3: Child development (1 week)
- Unit 4: Health promotion and disease prevention (3 weeks)
- Unit 5: Biomedicine and CAM (4 weeks)
- Unit 6: Domestic violence (1 weeks)
- Unit 7: Primary Health Care (3 weeks)
- Unit 8: Adverse outcomes and patient safety (1 week)
- Unit 9: Community contact week (2 weeks)
- Unit 10: Cure and care (4 weeks)
- Unit 11: Preparation for Year 4 (2 week).

Appendix 9. ELM reflective essays

Students are required to write reflective essays in both Year 2 and Year 3, where students base their essays on their professional experiences so far (of patients, clinical placements, and what they are learning). Submission and tutor feedback is completed by email; students have to resubmit a revised essay if their first attempt is not adequate.

This reflective essay requirement was first initiated in HIC and has been a steep learning curve for both students and tutors. Students are required to describe and evaluate their learning experiences; this means drawing on a different type of 'evidence' compared to their other assignments (such as in Genetics). They need to draw conclusions based on their own observations rather than from textbook knowledge. Initially, tutors were also quite daunted by the requirement for detailed feedback on this style of writing.

In response to these concerns, we have provided detailed instructions for students as well as step-by-step reviewing schedules for tutors (see below). The concept of marking and grading this reflective work was more time consuming than expected, but the positive learning outcomes for students are encouraging.

These essays are a start to what is known as 'reflective practice',¹¹ a concept that has perhaps been better developed in other undergraduate training such as nursing, social work, or occupational therapy. While there are operational difficulties in implementing this course requirement, (benchmarking, tutor variability, etc), Faculty objectives do refer to concepts such as 'self-awareness', 'critical thinking', and 'self-direction'; these essays are arguably methods of facilitating these skills and concepts. The essay topics are listed below. **ELM 2 2011**

1. HIC essay: Using illustrative examples, outline and describe the personal experience(s) of illness and/or disability and the role of the doctor.
2. Faculty Reflective Essay

This essay is informed by two overlapping components:

1. Students' observations and insights from their workplace learning during their clinical placement in HIC.
2. Comments and review of the following submitted work and tutor feedback:
 - HIC essay 1 and tutor feedback
 - Genetics essay and tutor feedback
 - Clinical Skills DVD and tutor feedback.

Task: Students are to identify and discuss their strengths so far, areas they would like to improve on, and plans for how they will do so, as they prepare to enter Year 3 of the Early Learning in Medicine programme. **Word limit:** 1500-2000 words

Feedback:

Essays will be marked by ELM tutors (largely from HIC) using the scoring rubric below that articulates the core components expected in self-monitoring. Tutors provide a grade and written feedback. Borderline essays will receive moderation (i.e. benchmarking and collaborative marking). The essay must be completed to a sufficient standard that demonstrates the student's capacity for insight into their own learning.

- Overall standard required: grades 3 – 5
- Standard not met: grades 1 & 2

¹¹ Boud D, Walker D. Promoting reflection in professional courses: the challenge of context. *Studies Higher Educ* 1998;23:191–206.

Reviewing schedule for Year 2 ELM Reflective Essay

Grading Components	Excellent 5	Proficient 4	Acceptable 3	Needs Improvement 2	Unacceptable 1	Scoring
Depth of Reflection	Demonstrates a conscious and thorough exploration of learning development, as well as the ability to articulate <u>several</u> strengths, weaknesses, and goals for improvement	Demonstrates a thoughtful awareness of learning development, as well as the ability to identify <u>some</u> strengths, weaknesses, and goals for improvement	Demonstrates a basic awareness of learning development, with the ability to identify at least <u>one</u> strength, one weakness, and one goal for improvement	Demonstrates a limited awareness of learning development with <u>inconsistent</u> reference to the student's strengths, weaknesses, and/or goals	Demonstrates little or no awareness of learning development with only an <u>unsatisfactory</u> reference to the student's strengths, weaknesses, and/or goals	
Substantiation of claims	Uses specific and convincing examples from his/her work to support claims and interpretations, with skillful explanations of how future performance could be improved	Uses relevant evidence from his/her work to support claims and interpretations, with an attempt to explain how future performance could be improved	Uses evidence to support most of the claims and some interpretations, with a basic attempt to explain how future performance could be improved	Uses incomplete or vaguely developed evidence to only partially support claims and interpretations, with inconsistent attempt to explain how future performance could be improved	Uses little or no evidence to support claims and interpretations, with little or no attempt to explain how future performance could be improved	
Presentation and use of English	Uses language that is precise and engaging, with notable sense of voice, awareness of audience and purpose, and varied sentence structure Minimal grammatical, spelling or typographical faults	Uses language that is fluent and original, with evident a sense of voice, awareness of audience and purpose, and the ability to vary sentence structure. Few grammatical or typographical faults	Uses basic but appropriate language, with a basic sense of voice, some awareness of audience and purpose and some attempt to vary sentence structure Some grammatical or typographical faults impacting on the flow.	Uses language that is vague or imprecise for the audience or purpose, with little sense of voice, and a limited awareness of how to vary sentence structure. Grammatical, spelling or topographical faults causing problems understanding	Use language that is unsuitable for the audience and purpose, with little or no awareness of sentence structure. Grammatical, spelling and/or typographical faults have serious impact on the flow making it difficult to read	
Global Score (out of 5)						

Reviewer's general comments:

Overall grade here: _____

Meets required standard (grades 3-5)

Does not meet required standard (grades 1 & 2)

Marker Name and Date:

ELM 3 2011

Students are to write an essay based on the following topic:

- “Discuss the role of the doctor in patients’ decision-making about life-style choices.”

1500-1800 words, submission date 15th July, end of Week 1, Semester 4. Submission is a terms requirement. *Essays should be referenced using the Vancouver style.*

Explanation for students

This essay is quite a broad topic, so it is an opportunity to demonstrate your understanding of the relevant and current background issues when patients talk to their doctor about their life and health. It is an opportunity also to refer to some of the wide range of different learning opportunities that you have experienced over the last 2 years. In no particular order, these might include:

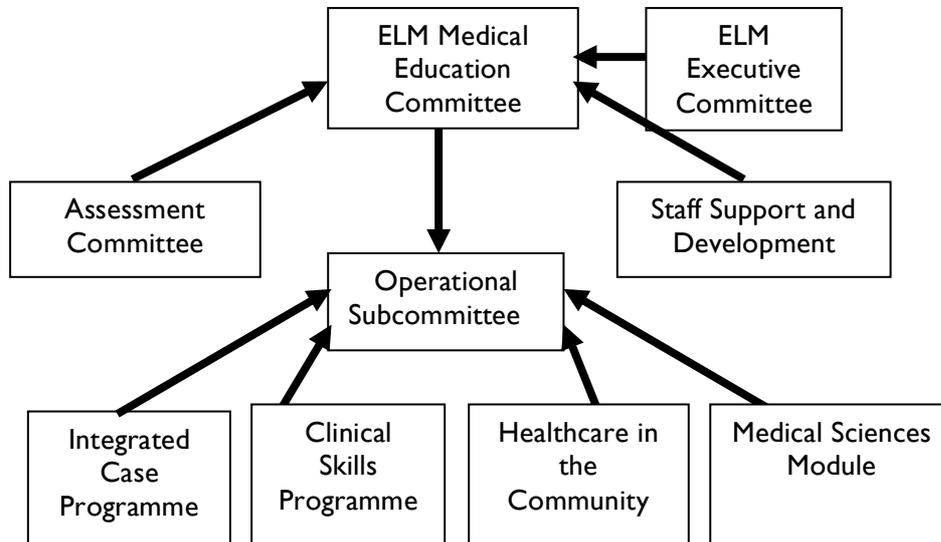
- Basic consulting skills within Clinical Skills programme
- Block module, is lectures and labs on metabolism, obesity, diabetes, and life-style issues
- Psychological medicine (vertical module) re psychological aspects of patienthood, the experience of illness, contextual factors for individual patients
- Your interviews with patients in their own homes in HIC, and at the Town Hall (Life style day)
- Patient presentations in Integrated cases (eg Year 2 life style etc)
- Perspectives gained through the Humanities Electives
- Issues discussed and explored in HIC Unit 5 (Health Promotion).

Some of the issues you may wish to cover during this essay are:

- Your own reactions to various patients that you have met personally or who have been presented to you over the last 2 years
- How these experiences have triggered you to examine or re-examine your own assumptions and expectations of patients and of health care
- Your own expectations of the role of the doctor with particular patients
- How this may vary for different patients with particular life style issues that impact on their health
- Your current understanding of issues within the doctor patient relationship
- Your understanding of the societal, economic and cultural forces on lifestyle decisions of patients from different sectors of society.

Students will receive feedback from their HIC tutor based on a reviewer’s template.

Appendix 10. The Organisational Structure of the ELM Programme



ELM Medical Education Committee – primarily comprises programme module and module convenors, staff support and development representatives with HoDs as ex-officio members

ELM Executive Committee – the Director of ELM [Chair], Deans of OSMS and DSM, Associate Deans for Education of OSMS and DSM, the Faculty Manager

Operational Subcommittee – primarily comprises programme module convenors, Associate Deans for Education of OSMS and DSM and staff support and development representatives

APPENDIX II. The Structure of the Consultation Record; A Paradigm for the ELM Curriculum

- a. Patient's Problem List (The Presenting Complaint(s))
- b. Exploration of Patient's Problems (The History of the Presenting Complaint)
 - i. The Medical Perspective (Disease)
 1. Sequence of events - see below
 2. Symptom analysis - see below
 3. Relevant systems review
 - ii. The Patient's Perspective (Illness Experience) - see below
 1. Ideas and concerns
 2. Effects on functioning
 3. Expectations
 4. Feelings
 5. Meaning
- c. Background Information (context)
 - i. Past History
 - ii. Family History
 - iii. Social, Life-style and Occupational History - see below
 - iv. Drug History and Allergies
- d. Review of Systems
- e. Analysis of the History (Possible diagnoses to inform a targeted examination)
- f. Physical Examination
 - i. General observation, vital signs and mental status
 - ii. Targeted examination of relevant system(s)
 - iii. Brief examination of remaining systems (safety net)
- g. Problem Re-formulation - see below
- h. Differential Diagnoses for active problems
- i. Identification of simple, immediate, bedside investigations for active problems
- j. Identification of further information needed
- k. Planning for further investigations
- l. Working diagnosis(es) with supporting reasons
- m. Planning for treatment incorporating team decisions
- n. Explanation and planning with the patient (and/or family/carers)
 - i. What the patient has been told and understood
 - ii. Current plan of action negotiated
 - iii. Future prevention or notification for contagious illness

Sequence of Events: *Note that sequence of events is particularly pertinent to somatisation which accounts for 10-20% of new illness presentations. The following questions help to elicit psychosocial factors that contribute to physical symptoms in the absence of identifiable organ disease)*

1. What was going on in your life around the time the symptom or problem started?
2. Are your symptoms ever related to pressure, responsibility, relationships, stress, personal challenges?
3. Are there any times you don't have symptoms, or when they seem to be better?
4. Are there any times when you always, or are very likely to get symptoms?

Symptom Analysis: *the clinical reasoning behind interpretation of the presenting problem(s) that will show which system(s) is(are) relevant for review*

The Patient's Perspective (Illness Experience)

1. Ideas and concerns: *their ideas, beliefs or concerns about the cause and seriousness of the presenting problem(s)*
2. Effect on functioning: *the immediate or ongoing impact on the patient's life and work eg independence at home, driving etc*
3. Expectations: *what sort of help they are expecting for each problem*
4. Feelings: *the underlying feelings that may be apparent or may not have been expressed explicitly so far*
5. Meaning: *what this sickness or illness means overall for this particular person*
6. Supports: *How are you and your family coping? Who else is concerned about you?*

Social, Life-style and Occupational History

1. Who is at home with you?
2. Are you working at the moment? What do you specifically do at work?
3. Do you smoke? How many per day and for how many years? (*Pack Year History= number of packs per day X number of years smoked*)
4. Alcohol intake; *Single screening question for at-risk drinking: "How many times in the past year have you had X or more drinks in a day?" (X=4 for female, 5 for male). Positive answer is >1.*
5. Exercise assessment: *To elicit weekly physical exercise use NZ Physical Activity Questionnaire (NZPAQ).*
 - a. *During the last 7 days, on how many days did you walk at a brisk pace and for how long?*
 - b. *During the last 7 days, on how many days did you do moderate physical activities, and for how long?*
 - c. *During the last 7 days, on how many days did you do vigorous physical activities, and for how long?*

Note: recommended minimum Total Physical Activity per Week (Duration x frequency in minutes) = 150 minutes walking equivalent (for vigorous activity multiply duration by 2)

Problem Re-formulation

1. The most distressing health issue for the patient - symptom or, if known, diagnosis (active)
2. Factors contributing to the patient's distress e.g. psychological, social factors (active)
3. New problems or signs detected on physical examination (active)
4. Other distressing health issues - list in order of concern (active)
5. Established diagnoses (active or inactive)
6. Known health risk factors (active or inactive)