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## OVERVIEW OF 2024 PHASE 1 COURSES FOR FACILITATORS.

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**Note: Course and scenarios are reviewed each year so may be subject to change closer to the teaching period.**

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### MFAC1501 FOUNDATIONS, TP1 2024

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**NOTE: It is recommended that staff facilitating in Foundations have a strong knowledge of the UNSW undergraduate Medicine program structure and requirements and are able to clearly convey these to the students. This course may not be suitable for staff facilitating for the first time.**

The overall aim of the Foundations course is to introduce you, as new medical students, to the independent and collaborative learning approaches that characterise the Medicine program at UNSW and commence you on your learning journey through the medicine program.

Specifically, it introduces you to:

- the learning processes and environments in the Medicine program
- the disciplinary basis of medical practice
- Aboriginal and Torres Strait Islander health and wellbeing
- the Australian healthcare system
- student mental health and well-being
- assessment in the Medicine program, including the Graduate Capabilities
- The process of inflammation.

The Foundations course is designed to explain to students how the medical program is structured, how the capabilities relate to underlying knowledge, the development of skills and to each other.

Following the first scenario, we will introduce important concepts and learning 'skills', such as how to study at university (and specifically in medicine), as well as teamwork and reflective learning. You will be introduced to assessments including individual assignments, group projects and exams. In Foundations we also introduce many basic sciences and concepts used to understand the body, how it works and how we relate to our community and environment.

The second part of Foundations, commencing in week 4, introduces more 'content' within the structured teaching formats: lectures, tutorials, practical classes and Scenario Group (SG) sessions. Scenarios are used as an organising framework throughout Phase 1 of the program, and each is designed with specific learning goals in mind.

### SCENARIO: NEW TO MEDICINE

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The 'New to Medicine' scenario is designed to introduce you to many of the things you will be dealing with over the first few weeks as a medical student at UNSW.

This scenario will touch on things like:

- Navigating UNSW (physically, mentally and online)
- Getting to know people (e.g., Med camp, Medsoc, mentors)
- Types of learning activities (e.g., lectures, practical classes, labs, tutorials)
- Balancing life (academic, personal and professional commitments)
- Assessments (e.g., assignments, projects, exams, portfolios), finding resources and referencing
- Projects (teamwork, peer feedback, organising group projects)
- Graduate capabilities – how to address these
- Exams – (formative, summative) and other assessments
- How to approach study/life at university
- An introduction to self-care

## SCENARIO: SOCIAL DETERMINANTS OF HEALTH

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This scenario introduces the importance of viewing health in its social, cultural, economic and environmental contexts. The family scenario illustrates one application of the ecological mode of health to explore the ways in which the various factors influence health, disease and access to care.

It provides an introduction to the social determinants of health, doctor patient communication, aspects of the health system and barriers to access, as well as the relationship between health and human rights.

The injury scenario introduces inflammation and healing and starts to develop the relationship between the underlying sciences and patient presentations.

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## MFAC1527 SOCIETY AND HEALTH, TP1 2024

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This course has been designed to help you understand how social, cultural, psychological and environmental factors can contribute towards a person's health. Health is not just about the absence of specific diseases. Good or poor health is experienced in the context of a family, community, society and a country, and is significantly influenced by these contextual factors.

The course focuses on human immunodeficiency virus (HIV), influenza and tuberculosis as well as other respiratory and infectious diseases. You will have the opportunity to engage in an in-depth study of the structure and function of the respiratory system. Immunology and Physiology are both major components of the course and the clinical skills sessions will also focus on the respiratory system.

### SCENARIO 1: HIV

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The plenary introduces students to the medical, social and cultural aspects of HIV. We are fortunate to have two guest speakers who will share their experiences and highlight the various issues faced by people living with HIV. The plenary also features a clinical expert in HIV who will explore contemporary issues around diagnosis, treatment and management of HIV.

The two-week scenario covers the epidemiology, microbiology, immunology, pharmacology and clinical aspects of HIV, and the more general theme of transmission of infectious diseases. You will learn through a number of lectures that focus on the structure and function of the immune system that will help you understand how the body protects itself against infection: lectures focusing on microbiology will help you understand disease causing organisms. The scenario develops the theme of comparing the drivers and the impacts of HIV in various countries. Students will have opportunities to assess the impact of the same disease in both affluent and under-resourced settings and to consider how sociocultural factors can profoundly affect approaches to disease prevention and treatment. Lectures and practicals will focus on the anatomy and physiology of the respiratory system and link to learning around respiratory illness. During clinical skills sessions and you will develop essential skills in taking a clinical history focused on the respiratory system.

### SCENARIO 2: INFLUENZA

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The second scenario of the Society and Health course focusses on influenza. The scenario examines important issues such as the role of the clinician, epidemics and emerging infections, the role of public health interventions, and immunisation. Within the context of the ongoing pandemic, the relevance of these issues to COVID-19 will be explored.

The two-week scenario will further develop concepts around international health as well as the microbiology, immunology and epidemiology of influenza and other viral infections including COVID-19. The medical, social and ethical issues associated with vaccination will be addressed. Relevant social and cultural determinants of health will be explored. Differences in basic health status and inequitable access to healthcare in various countries will be discussed.

### SCENARIO 3: TUBERCULOSIS AND OTHER RESPIRATORY DISEASES

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The scenario provides an overview of the pathophysiology and treatment of tuberculosis. This scenario aims to trigger an appreciation of the social determinants of health, global health goals and wider human rights issues. TB should be considered as an exemplar of diseases that have global impacts on health and whose challenges must be met if inequities and under-resourcing in health care are to be overcome. In addition, this scenario will provide you with opportunities to reflect on public health measures, such as isolation and quarantine, used to control or limit the spread of infectious diseases like TB and Covid.

Learning activities within this scenario will also cover other respiratory diseases including chronic obstructive pulmonary disease (COPD) and lung cancer from a clinical perspective.

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## MFAC1521 BEGINNINGS, GROWTH AND DEVELOPMENT A, TP2 2024

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The Beginnings, Growth and Development courses in Phase 1 have been designed to help you gain an understanding of the particular health issues that arise during conception, pregnancy and childhood.

In BGD A there are three scenarios, focusing mainly on the course themes of conception, pregnancy and birth, with a minor emphasis on some issues related to the course themes of childhood, growth and development, sexuality and nutrition.

The first scenario considers the issues facing two pregnant teenage girls. The focus here is on normal pregnancy and on the medical, social and cultural issues facing these girls. The second scenario involves two new mothers and traces their experiences, with a focus on screening issues. The third scenario involves a couple who are having difficulty conceiving a baby.

The three scenarios focus on a range of issues surrounding conception, pregnancy, birth and the care of neonates.

They aim to stimulate student interest in:

- The medical sciences that inform medical practice in the area of obstetrics and gynaecology, especially in relation to conception, pregnancy, and birth
- Embryology and fetal development
- Biochemistry, molecular biology and genetics
- Reproductive physiology and anatomy
- Microbiology of infection
- Pathology of inflammation and cervical cancer
- Pharmacology of the autonomic nervous system and reproduction
- Impact of history, culture and socio-economic status on reproductive health, especially on Indigenous reproductive health, and on access to health care
- Maternal responsibility, including contraception and pregnancy planning, nutrition and drug taking
- Screening, both antenatal and newborn, including the physiological, genetic and clinical issues
- The notion of rights and duties, especially in relation to reproduction
- Communication issues, including dealing with ambiguous test results, giving advice and gaining consent
- The psychological impact of pregnancy and infertility on women and on couples

### SCENARIO 1: TEEN PREGNANCY

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The scenario is about two pregnant 15 year-old girls. Deborah is an Aboriginal girl living in western Sydney as part of an urban Aboriginal community. She is 22 weeks pregnant and attends an Aboriginal Medical Centre. Doctors are worried because her fetus may be small for her apparent dates. Jessica is a Caucasian girl living in a small country town and is in year 9 at the local high school. She is worried that she is pregnant because her period is two weeks overdue.

This scenario addresses the question: What inhibits, and what enhances, healthy outcomes in pregnancy?

It will examine the basic science surrounding a healthy pregnancy such as:

- Anatomy and physiology of reproduction and development, including conception and implantation
- Embryology
- Anatomy and physiology of labour
- Cellular mechanisms in reproduction and development, including genetics and biochemistry

It will also explore a range of issues including:

- Impact of the social determinants of health – particularly history, culture, geography, socio-economic status and politics – on Indigenous and rural reproductive health
- Maternal responsibility, including nutrition and drug taking
- Access to health care, including options for care, choices in reproduction (termination, adoption etc.) and equity issues
- Contraception and pregnancy planning

## SCENARIO 2: TWO NEW MOTHERS

In this scenario the focus is on the later stages of pregnancy and on neonates. It supports the Domain themes: Conception, pregnancy and birth and Nutrition, growth and body image.

Close friends Olivia and Amelia, who are both pregnant with their first babies, catch up and naturally their discussion turns to their pregnancies. Olivia is 37 years old, and is thrilled to be pregnant after having difficulty conceiving and suffering several miscarriages. Amelia is 32 years old and was not planning on conceiving yet – she and her husband were intending to focus on their careers for a few more years before starting a family. While the pregnancy was unexpected, now that it has happened, Amelia very much wants this baby. She is, however, worried when genetic testing shows that she and her husband Mark are both Cystic Fibrosis carriers. She is told that this means there is a 1 in 4 chance that her baby will be born with Cystic Fibrosis. She chooses not to have diagnostic testing during her pregnancy, opting instead to have specific genetic testing for Cystic Fibrosis when her baby is born. While Olivia's pregnancy is initially normal, she goes into premature labour at 28 weeks, and the baby is delivered pre-term.

The scenario aims to stimulate interest in the following topics:

- Quality of medical practice (QMP)
- Embryology
- Factors influencing maternal and perinatal outcomes.
- Screening, both antenatal and newborn, including the physiological, genetic and clinical issues.
- Communicating ambiguous test results, and issues in giving advice and gaining consent.
- The implications of obtaining genetic information on an individual, the family and society.
- Anatomy and histology of the cervix.

## SCENARIO 3: INFERTILITY

This scenario focuses on a couple who have been so far unsuccessful in conceiving a child. They are seen discussing the issues with their GP and undergoing a series of tests.

Married couple Lucy (38 years old) and Philip (42 years old) have been trying to get pregnant (unsuccessfully) for the last 6 months. Lucy has a history of pelvic infection (chlamydia) in her late teens and had an ectopic pregnancy 6 years ago. Lucy and Philip have a preliminary consultation with their GP to discuss their difficulties in trying to get pregnant. Their GP refers them to a fertility specialist, who organises a series of investigative tests.

The scenario supports the course themes of 'conception, pregnancy and birth', and it aims to stimulate interest in a range of topics including:

- Molecular, cellular and microbiological causes of infertility.
- Fetal physiology
- Adaptation of the newborn in term and pre-term delivery
- Counselling and screening.
- The psychological impact of infertility on women and on couples.

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## MFAC1522 BEGINNINGS, GROWTH AND DEVELOPMENT B, TP2 2024

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The Beginnings, Growth and Development courses in Phase 1 have been designed to help you gain an understanding of the particular health issues that arise during conception, pregnancy, childhood and adolescence, building upon learning from previous courses.

In BGDB there are three scenarios:

- Catherine – Healthy Babies
- Alex & William – Childhood Development
- Teenage Mental Health

These scenarios explore the issues of growth and development in an extended family group. It provides a context to explore issues such as: nutrition and failure to thrive in a baby; hearing and otitis media; intellectual disability; and teenage mental health and well-being. Students will study the structure and function of the upper gastrointestinal system and the ear with a focus on the conditions that affect babies and young children. They will consider the many issues involved in teen stresses including mental health and depression. Relevant aspects of public health, including clinical epidemiology, community resources and accessibility of health care will be explored.

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### SCENARIO 1: CATHERINE – HEALTHY BABIES

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#### *AIMS:*

To develop understanding of:

- Nutrition and growth in the first 5 years;
- Gastrointestinal (GI) tract function;
- Normal cognitive and language development;
- The ear and hearing.

#### *KEY CONCEPTS:*

- Normal growth and developmental milestones;
- GI tract development, structure and functions;
- Nutritional requirements for normal growth and the converse: growth problems;
- Families and parenting, access to healthcare for young families;
- Ear anatomy and physiology, audiometry and hearing loss.

Alex is brought to the general practitioner for review of an ear infection. His mother (Angela) has also brought his 3-month-old sister Catherine along. Angela says that she vomits a lot, is very unsettled, and is a poor feeder. She did initially try to breast feed her, but now has changed to bottle-feeding. However, Catherine has failed to gain weight adequately. She does not sleep well, and Angela is up most of the night trying to settle her.

Catherine has had a runny nose with difficulty breathing and a cough for the past 3 days. Her feeding has been even more problematic. She has had frequent runny stools. Further history reveals normal developmental milestones, including smiling at 9 weeks of age, and reaching out for objects.

On examination Catherine is an alert baby who makes good eye contact and smiles reactively. Her weight is well below expected and she has little subcutaneous fat. Her nose is crusty and blocked. She has a moist cough and wheeze on listening to the chest, and some mild increased work of breathing. The remainder of her examination is normal.

Her brother, Alex, is 3 years old and is currently well but had a short admission to hospital for pneumonia at two years of age and has asthma for which he is on a preventer medication. His immunisations are up to date. Alex was a very fussy eater after weaning, only eating plain rice or pasta and refusing to eat any vegetables or red meat resulting in a diagnosis of iron-deficiency anaemia last year.

Today, Catherine's mum is very tired and frustrated. She has tried going to the local Tresillian residential centre<sup>1</sup> to help with settling techniques with Catherine, but could only stay for one night as Alex became distraught and she had to return home. She appears teary and anxious.

## SCENARIO 2: ALEX AND WILLIAM - CHILDHOOD DEVELOPMENT

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### AIMS:

To develop an understanding of:

- Normal physical development and behaviour in 1- 5 year age group.
- The detection and impact of developmental delay.
- Intellectual disability.
- Socio-cultural influences on normal development and health.
- Common childhood infections; including viral GIT infections.
- Clinical genetics.
- The endocrine system and sexual development.

### KEY CONCEPTS:

- Normal physical development and detection and causes for delay.
- Causes of speech delay – hearing, neurological, anatomical.
- Otitis media.
- ‘The Early Years’ of Aboriginal and Torres Strait Islander children’s health.
- Psychosocial issues of living with intellectual disability.
- Genetic influences on health and development.
- Endocrine system- development, homeostasis, and effect on health.

In this middle scenario you are going to learn about two young boys who were born a few weeks apart and who at face value are very similar in their acute health issues. However, you will find out that they are growing and developing very differently. You will also meet a young boy of same age who is the son of a close family friend.

We met 3-year-old Alex with his younger sister Catherine in the first scenario. He is back at the doctor with a history of fever and pulling at his right ear associated with a runny nose and a moist cough, especially at night. He has had three episodes of otitis media in 3 months. He was previously toilet trained during the day, but has recently been wetting his pants, without telling his mother until she discovers his wet clothing.

Alex has a cousin called William who is also 3 years old; their mothers are sisters. William has Down syndrome, which was diagnosed at birth. William has recurrent ear infections like Alex and also had a bout of pneumonia last year probably exacerbated by a mild congenital heart defect that makes him more susceptible to chest infections. His immunisations are up to date and he eats well. He has regular paediatric review with his paediatrician including screening for other conditions he might be susceptible to due to his Down syndrome, such as autoimmune hypothyroidism and growth hormone deficiency.

William’s mother is also visiting the doctor as she is concerned that William does not speak much, and mainly indicates his needs by gestures and single words. His mother also notes that he has developed difficult behaviours such as scratching and kicking recently. He is not fully toilet trained as yet but his mother is continuing to encourage him to use a potty. William lives with his parents and an older stepbrother David who is 16 years old and attending the local high school.

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<sup>1</sup> **Tresillian Family Care Centres** - a child and family health organisation providing expert parenting advice to families during the early years: <https://www.tresillian.org.au/>

Isaac is 3 years old and the son of a family friend of Alex and William's mothers. He has autism, which was diagnosed just after his second birthday. Isaac was born at full-term with no complications during pregnancy or delivery. Isaac's mum reported that he has been healthy with normal motor development (sitting, standing and walking) but he does not respond to his name or join in any play or social interactions. His communication has been delayed and even at age 3, he has not developed any words. He has regular paediatric review as he has behavioural and sleep difficulties and is receiving early intervention for speech and social skills.

You will be learning more about the main health and other underlying issues for William and Alex and their families by introducing you to normal childhood development, the socio-cultural and health determinants that affect growth and learning and how healthcare workers can monitor and support this stage of life

### SCENARIO 3: TEENAGE MENTAL HEALTH

This Teenage Mental Health scenario explores some of the changes that occur during adolescence, including the physiological changes, emerging sexuality, and emotional changes. Adolescence is a time of important transitions that can impact mental health of teenagers.

#### AIMS:

To develop an understanding of:

- The transition between childhood and adulthood.
- The associated development of identity, with respect to cultural and social values, emerging sexuality and gender identity.
- Mental well-being and coping strategies for dealing with the stressors of adolescent life.
- The distinction between normal adolescent behaviour and mental health problems.
- The accessibility of health care for young people.

#### KEY CONCEPTS:

- Normal mood.
- Stress and factors that affect the response to stress.
- Cognitive behavioural therapy model.
- Well-being, resilience and coping.
- Psychiatric conditions in adolescence.
- Risk and protective factors for mental health issues in adolescence.
- The interaction between genetic and environmental factors that contribute to major depressive disorder.
- Issues involved around accessibility of health care for teenagers.
- Mental health promotion programs for teenagers.

David was a happy boy who did well in school, especially in the sciences. By the age of 9 he had decided he wanted to be a doctor, to help people and discover new treatments. When he was 12, David's parents' relationship broke down and they went through a bitter divorce. David found the arguments distressing and was upset that no matter what he tried he could not make his parents happy with each other. They would become very angry and he felt they did not care enough about him and his sister to try to stay together. David noticed that he felt pretty low at times but found he could retreat to his computer games and competing with the school swimming squad, which he still enjoyed.

When his parents split up David decided to live with his father and new stepmother in Sydney, while his older sister lived with their mother in Goulburn. David missed his Mum and sister but felt they did not miss him that much. His mother told him she had depression and had been to see a doctor and had some tablets for it. He saw on Instagram that his older sister also had depression, but he didn't know the details. This reminded him that his mother had once explained that his Uncle suffered from depression, too.

David's new stepmother was initially a great support who helped him cope with his parents' split. Soon after the new family settled in, David's stepmother had a baby, William, who was born with Down Syndrome (Trisomy 21). Shortly after the birth, David's father told him his stepmother had developed postnatal depression. David noticed she was



very tired and didn't smile or talk to him as much. William seemed to take up all his parents' attention. David's father and stepmother were absorbed with the new baby and David felt cast aside. At times they even seemed to be angry with him for getting in the way. It was just like when his Mum and Dad broke up – they didn't have time for him and didn't seem to care what he did at school or how his sports were going. David felt sad when he was at home, and again turned to his schoolwork for an escape. He also found it easier to spend time away from home with his friends.

Over the next year, David's home life gradually improved and he found his parents were less cranky with him and his stepmother smiled more. He also enjoyed playing with William, who was mostly a happy baby.

Homelife had been fairly stable, but then, in Year 9, David didn't do as well as he had expected to in the National Assessment tests (NAPLAN). He scored in band 9 for all three tests (reading, language conventions and numeracy). The national minimum expected is band 6, but David's best friends all gained band 10 or above. He was really upset as he had achieved good results at secondary school and had done better than his peers in most schoolwork assessments during year 8. He felt like a failure and was embarrassed to have his friends know his results. They would think he was stupid, and that all his talk about doing medicine had just been big lies. He found it hard going to school and facing them and his teachers.

David didn't talk with his parents about his worries. They always seemed too busy to spend time with him and were focused on William, who was now a toddler with special needs. David thought he might go and live with his mother and sister. When his mother told him that was not an option David felt like he had nowhere to turn. No-one had any time for him or thought he was important. They must have decided he was a failure too.

David felt terrible. Nothing would lift his black mood. He had trouble sleeping at night and had no energy and no longer felt able to take part in the swimming team. He withdrew from his friends and his grades started slipping further as he went into year 10. He decided he wouldn't be worthy of medical school and there wasn't much point trying any more. He often stayed in bed all day feeling hopeless instead of going to school. One day David googled "teenage sadness" on the net. From the information that came up he realised his problem was more than just sadness. He didn't really know where to get help and was reluctant to seek help or tell anyone about his symptoms.

**Cautionary note:**

The topics under discussion in this scenario may well resonate with personal or family experiences of mental health issues, suicide, bullying, your current stress levels, etc. If you need help or support, please speak with your facilitator or contact:

**Student Wellbeing Advisor** (<http://med.unsw.edu.au/student-wellbeing-advisor>):

Catherine Marley

Email: [c.marley@unsw.edu.au](mailto:c.marley@unsw.edu.au)

OR

**UNSW Psychology and Wellness** (<http://student.unsw.edu.au/counselling> )

Level 2, East Wing, Quadrangle Building,

Tel: 9385 5418

Email: [counselling@unsw.edu.au](mailto:counselling@unsw.edu.au)

Office Hours: 9:00am - 5:00pm, Monday to Friday

Out of hours: Call UNSW Mental Health Support, 5pm – 9am: 1300 787 026

**Other useful services:**

- **Headspace**, <http://www.headspace.org.au>
- **Reach Out!**, <https://au.reachout.com> (Online youth mental health service) run by the Inspire Foundation
- **Youth Beyondblue**, <http://www.youthbeyondblue.com/> (online advice support)
- **Lifeline**, <http://www.lifeline.org.au> (24/7 telephone crisis support) Tel: 131 114
- **Kidsline**, <http://www.kidshelp.com.au>  
(telephone counsellors for callers up to age 25 yrs) Tel: 1800 55 1800
- **Doctor's Health Advisory Service (NSW)**, <http://www.dhas.org.au>  
(24/7 helpline (Tel: 02 9437 6552) for NSW doctors, including medical students)

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## MFAC1523 HEALTH MAINTENANCE A, TP3 2024

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The Health Maintenance courses in Phase 1 are primarily concerned with the adult period of peoples' lives and the mechanisms involved in maintaining health in adulthood. For most people, this period is characterised by good health and relative stability. This course addresses some of the mechanisms by which health is maintained at the cellular, individual, social and population levels. These mechanisms are considered under four major themes;

- homeostasis,
- host defence,
- lifestyle factors which risk health, and
- education, health promotion and disease prevention.

In HMA there are four scenarios, each running for approximately 2 weeks. The first three scenarios relate to members of the extended Lee family.

These three scenarios ('Joe the Diver', 'Eric's Worries', 'Alice and Sophia') have been designed to form a continuum of issues that can develop over time. The continuum is created by the fact that the three scenarios;

- involve members of the same extended family
- all revolve around aspects of cardiovascular function and dysfunction
- involve individuals that have adapted to a new society and culture.

The fourth scenario, 'Recreational Drugs' continues to explore the Health Maintenance themes of (1) homeostasis, with an emphasis on drug abuse and thermoregulation, and (2) lifestyle factors that risk health – this time with regard to recreational drug use and health education in the form of harm minimization programs.

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### SCENARIO 1: JOE THE DIVER

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*AIM:*

Students should be able to:

- Identify the basic elements of normal cardiovascular structure and function, and how they are assessed
- Understand the concept of normality, and how it is defined
- Recognise and describe the major risk factors for cardiovascular disease
- Describe how exercise affects heart rate and blood pressure

In this scenario, Joe presents to his GP with a form that he needs to have signed so that he can undertake a Scuba diving course. He wants the GP to sign the form, which Joe has already completed. It has a rather extensive checklist of issues relevant to suitability for underwater diving.

In looking through the form, and through conversation with Joe, the GP becomes aware of issues that are of immediate significance (history of possible cardiac events as a youth), making her hesitant to sign the form immediately. It also becomes apparent that Joe is exhibiting a number of behaviours that will increase his risk of cardiovascular disease in the future.

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### SCENARIO 2: ERIC'S WORRIES

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*AIM:*

Students should be able to:

- Describe the stages of the readiness to change model and how it can be used in advising patients on lifestyle changes
- Describe the burden of disease caused by smoking, physiological effects of smoking and pharmacotherapies which may assist patients in giving up smoking
- Describe causes, risk factors, patho-physiology, clinical effects, and principles of management of ischaemic heart disease

Eric's worries are based on a series of episodes that are revealed to students in two parts. In the first part, Eric wants his GP to prescribe a new drug that he has heard will help him to stop smoking. In the second part, Eric has an acute ischaemic episode, and is hospitalized. Thus, the scenario looks specifically at the problem of ischaemic heart disease, and the issues that it encompasses.

The scenario also provides students with an opportunity to see hospitalization from the point of view of an otherwise healthy individual, and appreciate the significant psychological, financial and social effects that sudden illness can bring.

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### SCENARIO 3: ALICE AND SOPHIA

*Aim:*

Students should be able to:

- Describe common mechanisms and clinical manifestations of disturbances of peripheral circulation
- Understand the normal structure/function relationships in the heart and their disruption in common cardiac diseases
- Recognise common health problems that may arise as a result of hospitalisation.
- Understand the different classes of antibiotics and their use, and antibiotic resistance.
- Describe the cardiovascular functions of the autonomic nervous system
- Have an introductory overview of cardiovascular pharmacology

The third scenario looks at Alice, the matriarch of the family. Her specific problem relates to a chronic leg ulcer, underpinned medically by worsening cardiac failure on the basis of rheumatic heart disease, and in a social sense by her sense of independence, which makes it hard for her to seek or accept medical care. Alice's GP chooses to hospitalise her and this decision is called into question.

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### SCENARIO 4: RECREATIONAL DRUGS

*Aim:*

Students should be able to:

- Discuss aspects of recreational drug abuse (including risk taking, pleasure seeking and health promotion, basics of their physiological effects, including an introduction to dependence and withdrawal, epidemiology, morbidity and mortality, public health and behavioural aspects)
- Describe basics of CNS pharmacology and drugs of abuse
- Describe principles of thermoregulation

In this final scenario, we address our Health Maintenance themes (particularly homeostasis, risk factors & health promotion) in two related contexts, recreational drug use and thermoregulation. The plenary introduces the use of illegal drugs and perspectives from various points of view. Biological and social aspects of recreational drugs are introduced by predominantly the consideration of the use of Ecstasy and other so called "party drugs" within the dance party / rave party scene, although this scenario will also later cover aspects of thermoregulation and more general aspects of drug use and neuropharmacology .

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## MFAC1526 AGEING AND ENDINGS B, TP4 2024

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The Ageing and Endings courses in Phase I have been designed to help students gain an understanding of the health issues that arise as people age. The course addresses the biological mechanisms of degenerative disease and how this impacts patient management and care. For many people, end-of-life issues (and choices) are closely bound to social and cultural perspectives of life. We therefore consider these as we examine palliative care and support for the patient and close family members as the end of life approaches.

The Ageing and Endings (AE) courses in Phase 1 have been designed to help students gain an understanding of the health issues that arise particularly as people age, building upon learning done in previous courses.

The B-cycle (AE B) of the course, focuses mainly on the course themes of:

- The ageing process
- Degenerative disease

In this course neurological disease will be used to explore these themes. You will study the structure and function of the brain and central nervous system, the consequences of space occupying lesions, the pathology of stroke, and dementia, and relevant issues related to carers. Relevant aspects of public health, including clinical epidemiology and community resources will be explored, whilst the learning of clinical skills will involve examination of the central nervous system.

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### SCENARIO 1: SPACE OCCUPYING LESIONS

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*Aim:*

1. Describe the structure and function of the cells of the nervous system (CNS)
2. Describe the functional localisation in the CNS
3. Explain the effects of a raised intracranial pressure and a space occupying mass on the CNS function
4. Explain the causes, consequences and likely outcomes of neoplasms in the brain
5. Describe the rationale underpinning investigations to differentiate mass lesions in the brain

This scenario focuses on space occupying lesions like brain tumours, the underlying mechanisms and structures, and the procedures to differentiate the lesion. Several cases are discussed by a panel of experts during the plenary lecture.

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### SCENARIO 2: STROKE – BRIAN'S WARD

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*Aims:*

1. Describe the blood supply to the brain and explain the effects of occlusion of each of the major arteries.
2. Explain the causes, consequences and likely outcomes of cerebrovascular diseases.
3. Describe the functions of individual cranial nerves and explain the consequences of cranial nerve dysfunction.
4. Evaluate scientific and ethical issues surrounding brain death and withdrawal of life support.

This scenario focuses on stroke, the underlying mechanisms and structures, and the consequences for individuals. Several cases are presented at a stroke unit meeting working on a stroke ward. The cases are discussed by the multidisciplinary team that makes up the Stroke Unit.

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### SCENARIO 3: BARBARA - PARKINSON'S

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*Aims:*

1. Describe synaptic transmission including the synthesis, storage, release, binding and re-uptake of neurotransmitters
2. Explain the role of the basal ganglia and cerebellum in the control of movement.
3. Describe the structures, functions and relationships in the central nervous system that underlie cognitive function.
4. Explain the causes of neurodegenerative diseases and the consequences of these diseases for the individual, their family and the community.
5. Discuss issues in caring for people at the end of life.

Barbara suffers from Parkinson's disease and this scenario explores the underlying science while raising some of the issues involved for her and her family.