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for Infection Prevention and Control

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TE RATONGA ĀRAI MATE
Infection Prevention and Control Service



Advancing IPC capabilities: design and planning a new postgraduate infection prevention and control curriculum in Aotearoa New Zealand

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Acknowledgement of Country

We acknowledge the Traditional Owners of the land on which we are meeting. We pay our respects to their Elders, past and present, and the Aboriginal Elders of other communities who may be here today.

Overview

- Curriculum design and planning underpinned by theoretical and conceptual frameworks
- International IPC Competency Frameworks guided curriculum development
- Early engagement with sector stakeholders resulted in sustained partnership and investment

Quality in Curriculum Design



A spider's web view of curriculum (van den Akker, 2004, p. 4)

- Ensure course offerings consistent with higher education standards (NZQA, TEQSA)
- Alignment to clinical practice
- Recognition of adult learners with professional experience
- Underpinning educational theories and conceptual frameworks

(McMillan et al. 2019, Morrison et al. 2019)

Why Conceptual Frameworks?

- Mechanisms to support curriculum development for new courses essential to ensure relevancy and responsiveness to dynamic health care systems (Belita et al. 2020, Langrafe et al. 2020)
- Flexible, systematic frameworks required to structure process and yet allow for non-linear, iterative progression (McMillan et al. 2019, Morrison et al. 2019)
- Coherence in teaching, assessment methods and learning outcomes enabled through “constructive alignment” (Biggs 2014, Loughlin et al. 2020)

Stakeholder Theory

- Curriculum design and development is a cyclic process with many stakeholders
- Clinical partner involvement vital due to insights into knowledge and skill requirements for practice
- Stakeholder engagement allows for knowledge and information sharing and alignment of interests to create value and enhance quality

(Belita et al. 2020, Langrafe et al. 2020)

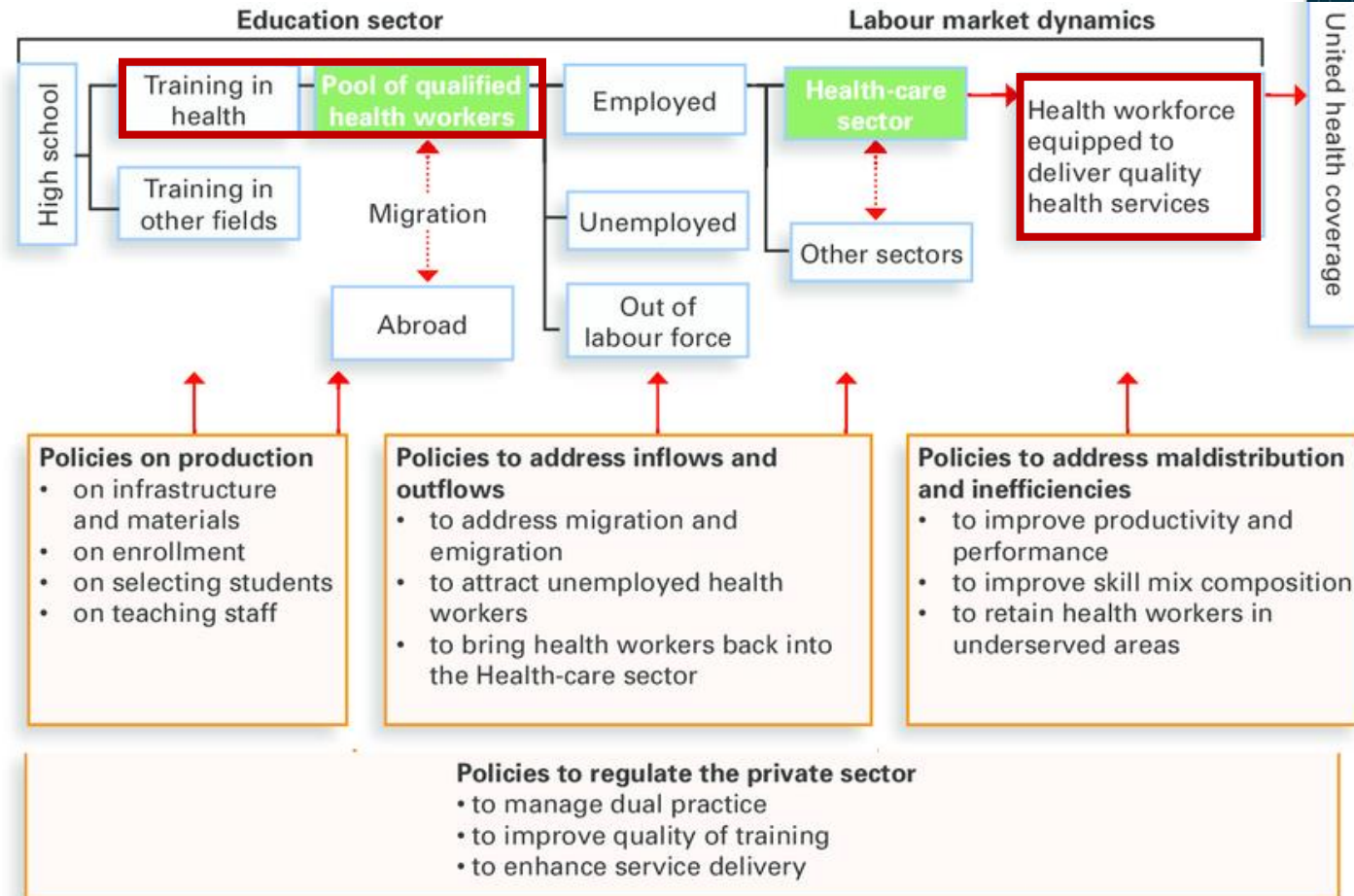
Background

- Internationally recognised need to build infection prevention and control capability in the health workforce
- Problems faced in COVID-19 pandemic highlighted need for improved IPC knowledge and skill in health workforce across sectors

University of Otago approached by sector stakeholders for postgraduate IPC education offering



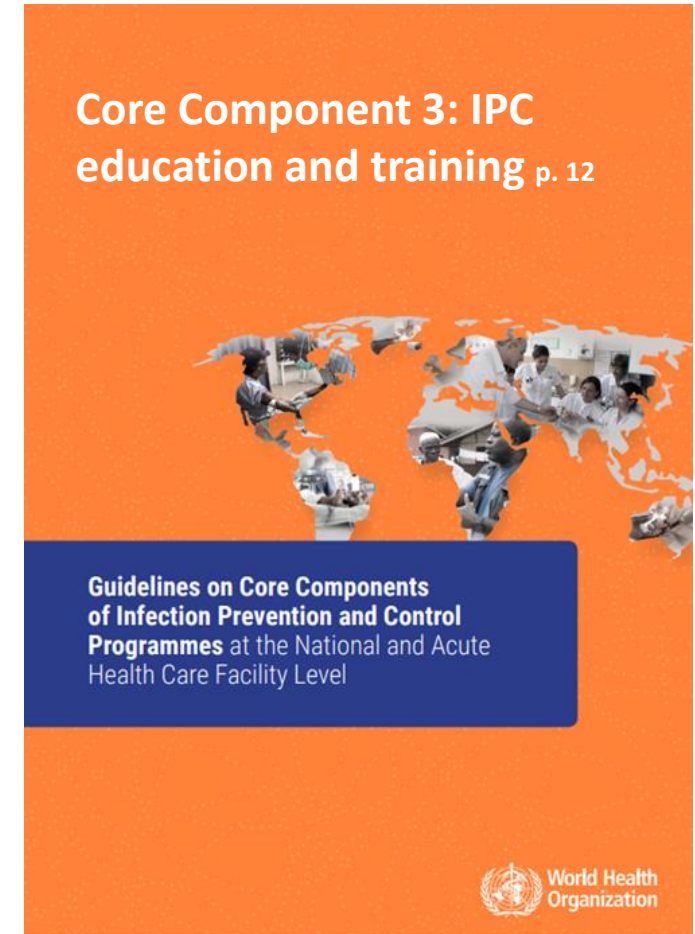
Background



Background

“To support the development and maintenance of a skilled, knowledgeable health workforce, national pre-graduate and **postgraduate IPC curricula should be developed in collaboration with local academic institutions**”

“In the curricula development process, it is advisable to **refer to international curricula** and networks for specialized IPC programmes and to adapt these documents and approaches to national needs and local available resources”



International Frameworks - IPC Core Competency Areas/Domains						
	Clinical Practice	Surveillance	Quality/Research	Education	Leadership	Other
ECDC (2013)	Infection Control activities	Surveillance and investigation of HAIs	Quality improvement			Programme management
APIC (2019)	IPC operations		Quality improvement + Research		Leadership	IPC informatics + Professional stewardship
IPS (2020)	Clinical practice		Quality Improvement and research	Education	Leadership and management	
WHO (2020)	Infection prevention and control in clinical practice	Microbiology and surveillance	Quality, patient safety and occupational health	Education	Leadership & infection prevention and control programme management	
IPAC (2022)	Routine practices and additional precautions	Surveillance and epidemiology + Microbiology	Research utilisation	Education		
IPCNC (2024)	Clinical practice specialty knowledge		Quality and risk management + Research and policy development	Education	Leadership and management	

Method



ADDIE Model for curriculum design and development



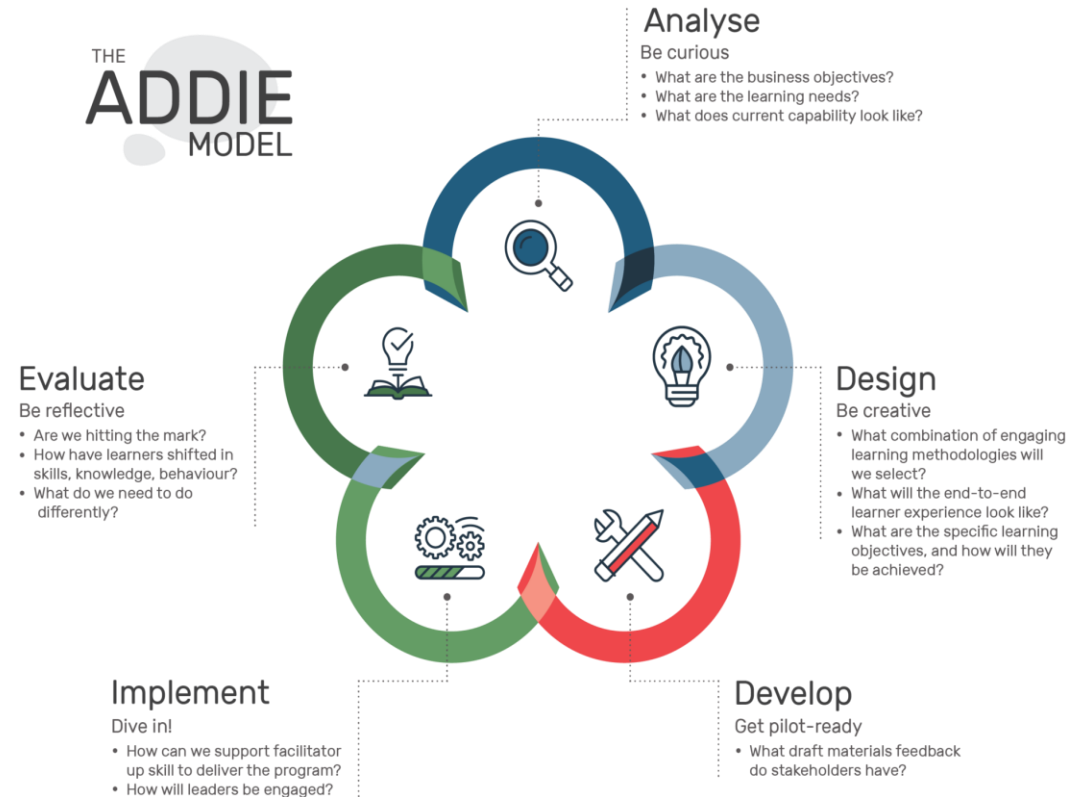
5-stage cycle



Flexible, systematic framework



Allowed for iterative, non-linear progression



STAGE 1 - ANALYSIS

- Driving factors in the environment
- Needs analysis
- Timeline
- Target learner characteristics
- Learning goals and outcomes required
- Delivery options/learning environment

STAGE 2 - DESIGN

- Development of course overview/blueprint
- Course level learning objectives and topics
- Determination of instructional strategy/course delivery method
- Timetabling and scheduling requirements
- Range and types of learning activities
- Type of assessment instruments/tools to gauge performance

STAGE 3 - DEVELOPMENT

Paper 1 (NURS 471) Foundations of Infection Prevention and Control

Paper 2 (NURS 472) Infection Prevention and Control in Practice

- Production of course content
- Flyers, advertisements (digital and hard copy)
- Engagement of teaching staff in particular subject matter experts from sector
- Planning study block timetables
- Establishment of digital learning platform i.e. moodle
- Module handbook production
- Development of assessments/assignments

University of Otago, Christchurch

NURS471 Foundations of Infection Prevention & Control

Timetable 2023: Study Block 1

Sessions	Day 1: 04 th March 2024	Day 2: 05 th March 2024	Day 3: 06 th March 2024
0900 – 0930	Welcome to the paper and Introductions Course overview / Expectations of Study Block 1	Welcome to the day Questions from day 1	Welcome to the day Questions from day 2
0930 - 1030	Student learning systems – Moodle, e-learning Library services and literature searching	IPC Building Blocks: HQSC & Hand Hygiene Programme	IPC Building Blocks: Cleaning and Decontamination
1030 - 1045	<i>Morning Tea</i>	<i>Morning Tea</i>	<i>Morning Tea</i>
1045 - 1200	Medical Microbiology and the role of the laboratory	IPC Building Blocks: Prevention of HAI <ul style="list-style-type: none"> NZS 8134:2021 (IPC) Chain of infection Standard and transmission-based precautions 	IPC Building blocks: High level disinfection and sterilisation
1200 - 1300	<i>Lunch</i>	<i>Lunch</i>	<i>Lunch</i>
1300 - 1400	Fundamentals of Medical Microbiology	IPC Building blocks: Surveillance <ul style="list-style-type: none"> Principles MOH Guidelines HQSC Mandatory Programmes ICNET 	IPC Building Blocks: Management of Healthcare Waste Management and application in practice
1400 - 1500	Epidemiology: how diseases spread		IPC Building Blocks: NZ Food Act and Patient Safety
1500 - 1515	<i>Afternoon Tea</i>	<i>Afternoon Tea</i>	<i>Afternoon Tea</i>
1515 - 1630	Wrap up of the day Questions	IPC Building Blocks: Environmental Auditing	Assignment 1: IPC Policy Critique Wrap up of the day

NB: Timetable Colour coding to indicate IPC Competency Domain/Area

International Frameworks - IPC Core Competency Areas/Domains					
Clinical Practice	Surveillance	Quality/Research	Education	Leadership	Other

University of Otago, Christchurch
Centre for Postgraduate Nursing Studies

NURS472 Infection Prevention & Control in Practice

Timetable 2024
Study Block 1: Venue: University of Otago, Zoom

Sessions	Day 1: 22 nd July 2024	Day 2: 23 rd July 2024	Day 3: 24 th July 2024
0900 – 0930	Welcome to the paper and Introductions Course overview / Expectations of Study Block 1	Welcome to the day Questions from day 1	Welcome to the day Questions from day 2
0930 - 1030	Principles of needs analysis in quality management	Human factors and IPC practice: • Adherence and organisational behaviour	IPC in practice specific settings: Aged Care and disability sector
1030 - 1045	<i>Morning Tea</i>	<i>Morning Tea</i>	<i>Morning Tea</i>
1045 - 1200	Change management - principles and practice	Leading and motivating behavioural change	IPC in practice specific settings: Perioperative and sterile services
1200 - 1300	<i>Lunch</i>	<i>Lunch</i>	<i>Lunch</i>
1300 - 1400	Quality Management Principles and Process Improvement (PDSA)	Health & Safety at Work: • NZ Legislation • Safety work gear/PPE/ N95 mask fit – testing	IPC in practice specific settings: Vascular Access
1400 - 1500	Quality Improvement Processes	Occupational Health: • Principles & Practice • Staff vaccination/BBFE	IPC in rural and remote settings
1500 - 1515	<i>Afternoon Tea</i>	<i>Afternoon Tea</i>	<i>Afternoon Tea</i>

NB: Timetable Colour coding to indicate IPC Competency Domain/Area

International Frameworks - IPC Core Competency Areas/Domains					
Clinical Practice	Surveillance	Quality/Research	Education	Leadership	Other

Assessment

471 – Foundations of Infection Prevention and Control

Focuses on a critical evaluation of policy and antimicrobial resistance/stewardship

472 – Infection Prevention and Control in Practice

Focuses on leading quality improvement and outbreak management

STAGE 4 - IMPLEMENTATION

- First delivered in the 2023 New Zealand academic year
- Delivery entirely on-line. This enabled both participating students and teaching staff to contribute from geographically dispersed locations across New Zealand
- Student engagement was facilitated through learner-orientated course delivery
- Accessible faculty placed emphasis on both formative and summative assessment opportunities to gauge students' progress and performance
- 20 students successfully completed the first-year pilot programme with a grade point average value of 5

Characteristics of the 2023 Student Cohort

NURS471	9
NURS472	11
<i>Area of practice</i>	
Aged Residential Care	5
Private tertiary hospital	1
Public tertiary hospital	5
<i>Level of practice</i>	
Tertiary	6
Primary	5
<i>Profession</i>	
Registered Nurses	11
<i>Location</i>	
Christchurch	4
Whanganui	1
Auckland	2
Dunedin	2
Wellington	1
Whangarei	1
<i>Role</i>	
Clinical Manager	3
IPC Nurse Specialist	5
Hospital Coordinator	1
National Nurse Lead	1
Endoscopy	1
Surgical Nurse	1

STAGE 5 - EVALUATION

“Very informative and interactive lectures throughout the courses”

“Now I have up-to-date knowledge and awareness of how IPC runs in other areas, the course has **empowered me to introduce new ideas to our service**”

“I found this paper has greatly **improved my knowledge regarding IPC and has further stoked my passion to pursue this as a career.** I have already been able to directly apply this new knowledge to my role in providing support and cover to our current IPC CNS”



Conclusion



- Curriculum development project highlights positive impact that clinical and educational stakeholder collaboration can make on course design and delivery
- Cyclic process of iterative refinement to curriculum development continues to maintain relevance and responsiveness over time
- Reflects commitment to advancement of IPC capability in health workforce through delivery of quality postgraduate education in the field of Infection Prevention and Control

Ngā mihi
THANK YOU



For further information and admissions enquiries, contact:

Course Convenor

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Co-ordinator, Student Experience

postgrad.uoc@otago.ac.nz

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