INTERPROFESSIONAL INFORMATICS
EDUCATION FOR 21ST CENTURY
HEALTHCARE STUDENTS

2nd ITU-Academia Partnership Meeting:
Developing Skills for the Digital Era

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OVERVIEW

• Canadian healthcare context
• University of British Columbia context
• Interprofessional informatics curriculum team, objectives and context
• Game logic
• Game components
• Delivery of feedback to students during game
• Student outcomes
GEOGRAPHICAL CONTEXT FOR CANADA

10 PROVINCES
3 TERRITORIES

UNIVERSAL HEALTHCARE
(PPP – 30%)

PRIMARY HEALTHCARE

65,000 STUDENTS; 6,000 FACULTY, 11,000 STAFF
17 HEALTH SCIENCE PROFESSIONAL PROGRAMS
UBC HEALTH → CENTRE FOR INTERPROFESSIONAL EDUCATION

- Audiology (Graduate)
- Counselling Psychology (Graduate)
- Dental Hygiene (Undergraduate)
- Dentistry (Undergraduate)
- Dietetics (Undergraduate)
- Genetic Counselling (Graduate)
- Kinesiology (Undergraduate)
- Medical Laboratory Sciences (Undergraduate)
- Medicine (Undergraduate)
- Midwifery (Undergraduate)
- Nursing (Undergraduate AND Graduate)
- Occupational Therapy (Graduate)
- Pharmacy (Undergraduate AND Graduate)
- Physical Therapy (Graduate)
- Population and Public Health (Graduate)
- Social Work (Undergraduate AND Graduate)
- Speech Language Pathology (Graduate)
THE CONTEXT OF DIGITAL HEALTH EDUCATION

• Increasing uptake of digital health technology in the provision of health
• Increasing need to increase interactive/experiential components of curricula
• Increase strategy for interprofessional educational opportunities
ITERATIVE DEVELOPMENT

• Partners
  • Regional health authority
  • Health sciences program representatives across entire province
  • Engineering & library sciences representatives

• Timeline
  - Fall 2016: Funding → common ground & scope
  - Fall 2017: Pilot test prototype
  - Spring/Summer 2018: Serious Game
  - Fall 2019: Deploy Serious Game
The Principles of Effective, Safe, Person-Centred Care

Person-Centred Care

Clinical Knowledge and Decision Making

Professionalism

Context of Practice

Patient Safety and Quality Improvement

Collaboration and Communication

Effective Person-Centred Care Supported by Health Informatics
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<th><strong>DOMAIN</strong></th>
<th><strong>COMPETENCY</strong></th>
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<td><strong>Person-Centred Care</strong>&lt;br&gt;Uses ICT to improve care delivered to patients, families and communities.&lt;br&gt;<strong>This domain is also embedded in the others</strong></td>
<td>1. Uses ICT to accurately and appropriately share relevant information and ensure understanding with patients/clients and their families throughout the continuum of care&lt;br&gt;2. Uses ICT to integrate information from multiple sources, including other health care professionals, patients/clients and families, to provide the best informed care&lt;br&gt;3. Educates patients/clients and their families to appropriately use ICT&lt;br&gt;4. Uses ICT in a manner that supports (i.e. does not interfere with) the relationship between patients/clients and their health care teams&lt;br&gt;5. Uses ICT to support the delivery of care for patients and families in rural and remote communities&lt;br&gt;6. Use ICT to support longitudinal care&lt;br&gt;7. Ensure patients have timely access to information using ICT</td>
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<td><strong>Advocacy and Leadership</strong>&lt;br&gt;Facilitates change and innovation through the conscientious use of current and emerging ICT, when appropriate, to improve care for patients/clients.&lt;br&gt;<strong>This domain is also embedded in the others</strong></td>
<td>8. Introduces new ICT ideas, devices, or methods&lt;br&gt;9. Advocates for the use of ICT when appropriate as a way to support safe, effective person-centred care&lt;br&gt;10. Understands the importance of staying current with new and emerging ICT&lt;br&gt;11. Is able to appropriately use ICT to improve care (access, quality, cost effectiveness) through CQI processes</td>
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<td><strong>Collaboration</strong>&lt;br&gt;Uses ICT to provide comprehensive, integrated services by working with patients/clients, families, care providers, and communities to coordinate and deliver the highest quality care across practice settings.&lt;br&gt;<strong>This domain is also embedded in the others</strong></td>
<td>12. Able to use a variety of ICT to deliver collaborative person-centred care to diverse populations across practice settings&lt;br&gt;13. Uses ICT to support and enhance relationships between health care providers, patients and families&lt;br&gt;14. Coordinates patient/client care and treatment through ICT systems&lt;br&gt;15. Uses ICT to support and improve team functioning and processes&lt;br&gt;16. Uses ICT to engage in joint decision-making and support continuity of care</td>
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<td><strong>Ethics</strong>&lt;br&gt;Uses ICT in a way that adheres to the principles of ethical practice, taking direction from their professional codes of ethics.</td>
<td>17. Uses ICT appropriately in communicating with patients/clients and other health care providers in compliance with legal, privacy, confidentiality, and regulatory requirements&lt;br&gt;18. Demonstrates that professional judgment must prevail when using ICT&lt;br&gt;19. Considers the ethical implications of using ICT for patient/client care and research&lt;br&gt;20. Demonstrates efficient and ethical use of clinical decision support tools (e.g. clinical alerts and reminders, critical pathways, clinical practice guidelines, etc.) to assist clinical judgement and safe patient care&lt;br&gt;21. Uses ICT in a way that is culturally safe</td>
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<td><strong>Knowledge and Understanding of Current and Emerging Technology</strong>&lt;br&gt;Has the ability to effectively use appropriate ICT to support their practice.</td>
<td>22. Understands the various ICT used across the continuum of care and their clinical, administrative, and research uses&lt;br&gt;23. Understands data interrelationships and dependencies among the various health information systems&lt;br&gt;24. Demonstrates understanding of health information terminology (e.g. classifications, vocabularies, nomenclature, abbreviations, acronyms, etc.) and standards, and their appropriate use&lt;br&gt;25. Is able to interpret research data and analyze how it can inform practice</td>
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<td><strong>Safe, Effective Practice</strong>&lt;br&gt;Prevents errors, learns from the errors, and promotes quality assurance in relation to ICT.</td>
<td>26. Documents patient/client care activities in a timely, retrievable, usable manner for access by other care providers, and in the interest of patient/client outcomes and safety&lt;br&gt;27. Maintains effective practice and patient safety during any period when technology is unavailable&lt;br&gt;28. Identifies and reports issues with ICT according to organizational policies and procedures&lt;br&gt;29. Identifies and advocates for a review of errors to enhance care and promote effective risk management</td>
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THE GAME LOGIC

STORYLINE: The overall Storyline involves Progressive Disclosures of Information about the Case

CONTENT

Case Information disclosures:
- Video clips
- Email communication
- Description of event
- Screen text

Opportunity to ‘Request Additional information’
- These are optional
- Tailored to case

Decisions
Students select ‘best’ answer as a team

SCORING

Points

Additional points for checking appropriate resources when appropriate

Trust

+5 points for all correct answers
-5 points for all incorrect answers

Trust increases or decreases if the decision affects the patient
HEALTH INFORMATICS
THE GAME

Help	Start
During this game, you'll follow Sam
Case-based context

Explore EHR

Immediate Feedback

Assess for Digital Literacy
TECHNOLOGY-MEDIATED ADVERSE EVENT
FEEDBACK DURING GAME
Team collaboration rating & ranking by team

![Image of collaboration process]

![Scoreboard with team names and scores]
## POST-GAME EVALUATION

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<tr>
<th>Question</th>
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<td>1. Define ICT within the healthcare context</td>
<td>3.62 (.71)</td>
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<td>2. Define and differentiate key terms and concepts and their use in different contexts of care</td>
<td>3.76 (.66)</td>
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<td>3. Describe the overarching goals of ICT within the current healthcare context</td>
<td>3.76 (.56)</td>
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<td>4. Describe how ICT supports safe, collaborative, person-centred care to diverse populations across practice settings</td>
<td>3.71 (.56)</td>
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<td>5. Describe the principles that guide effective ICT use in healthcare</td>
<td>3.65 (.68)</td>
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DISCUSSION

• During the game, students were laughing and playful
• Total time to completion was about 35 minutes

• Next Steps:
  • interprofessional informatics competencies measurement instrument in development
  • Scale to fully online teams
  • Add content AI, robots, mhealth, Virtual care
ACKNOWLEDGEMENTS

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THANK YOU!