POSTER 1 – Development and Evaluation of a Patient Case Complexity Measurement Tool

Authors: Peter Loewen, Patricia Gerber, Boris Trinajstic, George Pachev, Asal Taheri, Stacey Tkachuk, Sue Corrigan
Presenters: Peter Loewen, Patricia Gerber

Problem we tried to address: The complexity of patients used in case studies is an important consideration in competency-based healthcare curricula. However, instruments to objectively measure complexity are not routinely used.

What we did: We reviewed published reports of patient complexity instruments to identify those that were applicable to any patient and care setting, required only routinely-collected patient data, and could be completed in less than 15 minutes. INTERMED and the Medication Regimen Complexity Index (MRCI), used together, were deemed the most suitable for evaluation. We evaluated the reliability and acceptability of a hybrid instrument involving 16 pharmacists and pharmacy students coding 15 patient case studies used in the UBC PharmD program. We measured absolute agreement (inter-rater reliability [IRR]) using a fully-crossed mixed model design and collected survey and qualitative feedback from coders.

What we discovered: The hybrid instrument achieved excellent (IRR >0.9) overall, inter-student, inter-pharmacist, pharmacist-student, per-case, and per-domain reliability. Most coders felt the face validity of the instrument was good or extremely good (92%), and all completed the instrument in less than 15 minutes per case. More training of coders would have been helpful, and some modifications to our MRCI adaptation were recommended.

Why it is important: This evaluation supports testing of the hybrid patient complexity instrument in other contexts, including experiential clinical settings, our student assessment program, and to care environments with different health professions. This presentation will provide an in review of the development of the instrument, its evaluation, and potential applications across health professions programs.

Keywords: complexity, patient, case studies

POSTER 2 – Career Decision-Making of Medical Students Related to Practice Location and Specialty Choice

Authors: Anthony Hull-Kennedy, Shayna Rusticus, Derek Wilson
Presenter: Anthony Hull-Kennedy

Several dozen groups of variables have been investigated for their ability to predict the practice specialty and location choice of medical trainees. We conducted a literature review consisting of 38 studies to identify those factors that were most predictive of specialty choice (family medicine vs. generalist vs. specialist) and practice location (rural vs. urban). Factors included, but were not limited to: background, geographic origin, career intent, social and financial factors, and educational exposure and performance. A total of 86 variables were identified in the literature for specialty choice and 54 variables were identified for practice location choice. For practice location choice, rural background and rural exposure during education were most predictive of rural practice. For specialty choice, research experience and career role-modelling were able to differentiate between the three specialties categories. Many other identified factors were capable of predicting specialty choice, with the majority of studies focusing on family medicine. There are very few studies that aggregate information on both location and specialty practice outcomes, and fewer still that come out of Canada. The present review is invaluable for understanding these outcomes within the Canadian context.

Keywords: Medical Students, Practice Location Choice, Specialty Choice

POSTER 3 – BCPoCUS.ca: A Clinically-oriented Ultrasound Education Website Interface

Authors: Bianca Boicu, Oron Frenkel, Dilys Leung, Kathryn Young
Presenter: Kathryn Young

Point-of-care ultrasound (PoCUS) is a bedside procedure typically performed in the emergency room to inform practitioners' clinical assessment and decision-making. As PoCUS technology becomes increasingly available and integrated into rural practice, it is important that medical education resources grow and evolve with the changing landscape. By developing readily accessible educational references organized in a clinically-oriented interface, practitioners are better supported to care for patients at the point-of-care.

Through collaboration with health care providers who seek to safely expand PoCUS practice across BC and user testing with the target audience, BCPoCUS.ca was designed to serve as a free, open access learning tool and educational database offering carefully curated PoCUS content. Content is grouped into three main thematic categories: (1) presenting problems, (2) organ systems, and (3) procedures, and an interactive home page with an optimized search feature enables visitors to efficiently navigate to their area of interest. Practitioners may consult rapid summaries during time-limited visits, or further their learning through videos and how-to guides outside of the clinical setting.

As an educational tool, BCPoCUS.ca provides resources to simplify the challenging process of integrating PoCUS into clinical practice. Over 1,980 users from 69 countries have consulted the website since its soft launch on September 26, 2018. Through further user testing and consultation with medical practitioners during future development phases, the BCPoCUS.ca project will continually explore how engagement with a target audience can inform the development of an accessible, efficient, and timely tool that meets learner and user needs.

Keywords: ultrasound, point-of-care, website

POSTER 4 – Changes in Teaching Perspective in Different Sectors of Work Over Two Decades

Authors: Jian De, Shayna Rusticus, Sandra Jarvis-Selinger, Daniel Pratt
Presenters: Jian De

The Teaching Perspectives Inventory (TPI) measures five different perspectives on teaching: Transmission, Apprenticeship, Developmental, Nurturing, and Social Reform. It produces a 'profile' for individuals and equips them with an explicit vocabulary for reflecting on their teaching and that of others. In August of 2001, the TPI went on-line. Since that time, over 250,000 people from more than 200 countries have taken the TPI. Using the data base from 2001 to 2019, the purpose of this study was to test whether dominant perspectives differed across time and across four different sectors of work: education (n=156,086), health (n=36,880), government (n=9,390), and business (n=9,097). Most respondents were from the United States (41%), Canada (23%), or Australia (7%). Respondents most commonly taught undergraduate levels of training/education (22%), elementary school (15%) or secondary school (14%) and were predominantly female (66%). Within the education sector, Nurturing was the most dominant perspective (39%). For both health and government sectors, Apprenticeship was the most dominant perspective (41% and 37%, respectively). Within the business sector, both the Nurturing and Apprenticeship perspectives were tied for dominance at 34% each. A chi-square analysis was conducted to explore whether the dominant perspectives in each sector had changed between 2001-2009 and 2010-2019. No significant differences were found for the government sector; and only small statistically significant differences were found in the other three sectors. Continued analyses will explore how various demographic variables may affect the proportions of perspectives in each sector.

POSTER 5 – Using a Digital Multimedia Platform to Teach Anatomical Sciences

Authors: Majid Doroudi, Kamal Moghrabi
Presenter: Majid Doroudi, Kamal Moghrabi

The Medical Undergraduate Program (MDUP) in Faculty of Medicine at University of British Columbia has employed video tutorials including anatomy procedures, to prepare students ahead of attending gross anatomy laboratory sessions. The theory is that students who watch these videos will be better prepared to maximize learning from the laboratory sessions, using this time more effectively to achieve learning outcomes. This project produced a video to support the MDUP video series, offering a gross anatomy laboratory dissection guide to outline and present significant anatomical and physiological components of the chest and lungs. Through student survey feedback, we determined the usefulness of videos in helping students achieve anatomy learning objectives and which areas of the videos were most helpful in doing so. If successful, the content of this video production can also be incorporated into the curriculum of other disciplines (healthcare related or otherwise) including, but not limited to, the physical therapy programs, doctor of dental medicine (DMD) programs, bachelor of nursing programs (BSN), and undergraduate physiology and kinesiology degree programs.

POSTER 6 – Refocussing the Grading System of an Assessment-Intensive Programme on Competencies

Authors: Jasdeep S. Jawanda, Vindya Attanayake, George S. Pachev
Presenter: George Pachev, Jasdeep S. Jawanda

An assessment-intensive programme, administered by the Continuing Pharmacy Professional Development faculty at UBC, spans 12 weeks, includes sessions from three pharmacy practice skills areas and requires completion of weekly assignments on tasks from each area. Grades are derived from the assignments in weeks 9 to 11. A psychometric evaluation of the grading system revealed unsatisfactory precision of the final scores. Increasing the number of assignments or changing the final score components' weight had limited effects on precision.

The goals of this study are: 1. Evaluate the precision of the final grades derived from ratings rather than from task-specific checklists; 2. Explore the reliability of the competency scores derived from the ratings.

One cohort's twenty anonymized records provided data for the analyses. Rescoring consisted of: mapping the checklists' items to 6 broad competencies, creating rating scales for each competency, and re-scoring each task using the ratings. Reliability of rescored final grades was evaluated by means of Cronbach's alpha and Generalizability analyses. For each competency, a final score consisting of all ratings across assignments was derived. Generalizability analyses explored the precision of the competency scores and modeled conditions for optimal reliability.

Using ratings of competencies rather than checklists improved the precision of task, area and final scores. The reliability of the competency scores as derived from the ratings across tasks were close to acceptable. These results would allow for refocussing the assessment decision making on competencies, and for designing reporting, performance tracking and feedback systems that capture specific strengths and weaknesses.

POSTER 7 – Creation and Use of Medical Histology-Pathology Electronic Flashcards

Authors: Jeremy Dick, Karen Pinder
Presenters: Karen Pinder

To facilitate medical students' learning of the newly integrated histology-pathology course components of the undergraduate medical school curriculum at the University of British Columbia (UBC), we created electronic study flashcards. Modelled after the histopathology curriculum, the flashcards are designed to utilize spaced repetition learning and to facilitate the recall of normal histologic structures and associated prototypical pathological changes in tissues and/or cells. Nearly nine hundred Anki software-based flashcards were created, with content focussed on annotated histology and pathology virtual slides. Distributed to and used by students online, each flashcard opens with arrows indicating unlabelled structures and asks students to "name the following" prior to clicking on "show answer" to confirm answers. There are also second-order flashcards prompting students to recall relevant aspects related to the unidentified tissues. Survey results demonstrate that the flashcards provide an effective means of augmenting students' learning and developing long-term understanding and recall: 89% of responding medical students agreed that the flashcards are helpful for improving knowledge and exam preparation. This UBC histology-pathology initiative is engaging and efficacious in enhancing student learning and is being used to promote learning in two core foundational medical sciences (histology and pathology). The software and its uses can easily be extrapolated to all of the foundational sciences and therefore it will be of interest to students and faculty in any of the medical and allied fields.

Key words: histopathology, flashcards, medical education/learning

POSTER 8 – Disabled and Competent: Professional Identity Formation Processes of Healthcare Students and Clinicians with Disabilities

Authors: Yael Mayer, Tal Jarus, Elisabeth Gross, Laura Yvonne Bulk, Laura Nimmon, Terry Krupa, Susan Murphy, Michal Shalev, Alfiya Battalova, Michael Lee, Amelia Copland, Fouziah Khairati, Gurdeep Parhar
Presenter: Yael Mayer

Background: Students and clinicians with disabilities, who are underrepresented within healthcare professions, face unique challenges when developing their professional identity alongside their disability identity. They hold dual roles as both service providers and service receivers. The identity of "disabled, service receiver" is often incongruent with attaining a professional identity as a "competent, service provider." Dominant discourses portray disabled people as objects of misfortune while healthcare practitioners are portrayed as capable, active, independent, and competent individuals who assist needy others. This duality is almost unstudied and unaddressed in the healthcare training process and employment. The aim of this study was to explore the multifaceted identity formation processes of healthcare students and clinicians with disabilities.

Method: 27 students and 29 clinicians with disabilities from five healthcare professions were interviewed. Each participant was interviewed between one to three times along one year, for a total of 126 interviews. Study design and data analysis were informed by Grounded Theory.

Results: The main findings included (a) the perception of "Disability as a liability" – disability was perceived as incompetence; (b) Healthcare settings contributed to the challenges of professional identity formation; and (c) the varying levels of incorporation between disability identity and professional identity, which ranged from complete separation of the disability and professional identity, to an integration of these two identities.

Implications: Addressing sources of tension for professional identity formation will support students and clinicians with disabilities in their professional identity formation, their transition to the workforce, and in maintaining their roles as healthcare practitioners.

Keywords: Healthcare Education, Professional Identity formation, Disabilities