2022 Abstracts

University of Saskatchewan
College of Medicine

UNIVERSITY OF SASKATCHEWAN
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FACULTY DEVELOPMENT
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Table of Contents

Oral Presentations

Building Good Professional Identity Formation, Collegiality, and Psychological Safety through an Innovative Faculty Development Initiative

Christine Pask, Faculty, University of Calgary

Purpose: Professional identity formation is a process across a professional's career, not just in training as a student and resident. A Faculty Development course at the College of Medicine, University of Saskatchewan was developed to support continuing good professional identity formation for faculty, as well as a resource for teaching students and residents. The main goal is to support positive learning and clinical environments.

Methods/Approach: Kern's six-step method was used to develop the course. The content and modality of the course was guided by several sources of data in the needs assessment, such as a previous needs assessment for ethics related postgraduate education in Family Medicine at USask, public information from the College of Physicians and Surgeons of Saskatchewan, feedback obtained by Faculty Development at the College of Medicine, and a literature review. Learning objectives and goals were developed based on the SMART method. Given the aims of the overall FD curriculum, this course was developed as an individualized interactive instruction (asynchronous) course. The educational strategies used a constructive development framework and reflective practice that were modified for an asynchronous learning environment.

Results/Impact: An asynchronous Faculty Development course was created on Canvas. There are four modules: Professionalism Identity Formation, Psychological Safety, Collegiality, and Ethics. Each module has several sections with a range of content. There are a variety of learning modalities used that were modified for the asynchronous course, such as flipped classroom utilizing podcasts and videos, discussion boards, reflective pieces, among other modalities.

Conclusion/Next Steps: The Faculty Development course is currently in a pilot project in order to gain feedback for improvement. The course will be available to all faculty, and it will be CME accredited. Modules can be used by individuals, or used in a teaching capacity or workplace in any clinical setting as needed.

Health Profession Educator's Experiences amidst the COVID-19 Pandemic and Digital Equity Concerns

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Purpose: Health profession education programs, historically delivered face-to-face, rapidly shifted to remote delivery at the onset of the COVID-19 pandemic. Health care faculty were required to ensure effective pedagogy in a digital landscape, while simultaneously providing supports for students, now including digital equity concerns. To explore the experiences of health faculty, a mixed methods sequential study was conducted to assess whether healthcare faculty, who have been required due to the pandemic, were satisfied with their transition to online or blended teaching, recognizing that online education impacts digital health profession equity.

Methods/Approach: A 27 item Likert-scale survey, the Online Instructor Satisfaction Measure (OSIM) was utilized. The OSIM had 5 subscales: instructor-to-student interaction, affording opportunities, institutional supports, student-to-student interaction, and course design/development/teaching. The OSIM survey was sent across Canada through educational associations and organizations, and social media. The OSIM entailed eight open-ended questions regarding barriers and motivators, and perceived quality indicators. Upon completion, participants (n=49) were invited to engage in one-on-one interviews (n=7) to discuss their experiences in remote teaching during the pandemic.

Results/Impact: The OSIM's open ended questions and interviews conveyed the frustrations of the immediate pivot to online teaching. Major barriers for faculty included the absence of a standardized institutional approach to online education and lack of advanced technological skills, while the flexibility of online education was considered a motivator. Student mental health and wellness also suffered as a result. The relationship between health care faculty and students had been diminished in moving from face-to-face labs/seminars to online learning platforms.

Conclusion: New methods of supports and resources required discovery and navigation by students and faculty to allow effective utilization. Identifying and addressing challenges of access is crucial to creating equitable learning opportunities for students. To facilitate this, health care faculty must be provided the right tools/resources and institutional supports.

Reliability and utility of the Quality of Assessment for Learning (QuAL) score for evaluating written feedback in anesthesiology postgraduate medical education

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Purpose: Competency based residency programs depend on high quality feedback from the assessment of Entrustable Professional Activities (EPAs) which facilitate frequent, formative, and low-stakes assessment and feedback.The Quality of Assessment for Learning (QuAL) score is a tool developed to rate the quality of narrative comments in workplace-based assessments; it has validity evidence for scoring the quality of narrative feedback provided to emergency medicine residents, but it is unknown whether QuAL score can be reliably applied to narrative feedback in other postgraduate programs. The purpose of this study is to validate the QuAL score for the assessment of Anesthesia residency narrative feedback from EPA assessments.

Methods/Approach: Fifty sets of EPA narratives were randomly selected using purposeful sampling. Two competency committee members and two medical students rated the quality of narrative feedback using a utility score and QuAL score. We used Kendall's tau-b co-efficient to compare the perceived utility of the written feedback to quality assessed with the QuAL score. Generalizability and decision studies were utilized to determine sources of variance and reliability.

Results/Impact: Both the faculty's utility scores and QuAL scores ($r = 0.646$, $p<0.001$) and the trainees' utility scores and QuAL scores ($r = 0.667$, $p<0.001$) were moderately correlated. Results from the generalizability studies showed that utility scores were reliable with two raters for both faculty (Epsilon=0.87, Phi=0.86) and trainees (Epsilon=0.88, Phi=0.88).

Conclusion: The QuAL score is correlated with faculty- and trainee-rated utility of anesthesia EPA feedback. Both faculty and trainees can reliability apply the QuAL score to anesthesia EPA narrative feedback. This tool has the potential to be used for faculty development and program evaluation in Competency Based Medical Education. Other programs could consider replicating our study in their specialty.

SAGE (Skilled Academic Generalist Educators)

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Purpose: to encourage the growth of a community of practice of skilled and dedicated faculty teaching in the undergraduate medical education (UGME) preclerkship (Y1 and Y2) program. This is particularly important in light of the new transition of Y1 learning to occur both in Saskatoon and on the Regina campus.

Methods/Approach: In order to develop faculty who are skilled in the Scholarship of teaching and Learning, we completed a needs assessment and are in process of developing an online Canvas course curriculum that will align with our Faculty Development (FD) online courses, as well as a contract that rewards faculty who complete course modules along with a minimum requirement of 50 UGME preclerkship teaching hours per year. Our pilot course includes modules on Teaching Philosophy, Feedback, Facilitating Y1 Anatomy, and 8 hours of participation in PROMPT-Med (Peer Review Observation and Mentorship Program).

Results/Impact: This is a work in progress. Thus far, nine physicians in Regina have been recruited and will begin their contracts May 1st, 2022. Discussions are underway regarding beginning a similar pilot project in Saskatoon.

Conclusion: The SAGE pilot has thus far stirred up some enthusiasm among Regina faculty members. Further research is needed to determine whether SAGE is successful and to resolve many as yet unanswered questions, including: Will physicians be able to complete the modules and teaching hours successfully? Are the requirements enough to encourage participation by faculty and to ensure adequate teaching hour coverage for the additional sessions required at the Regina campus? Will differences in administration (i.e. invoicing of faculty, documenting teaching) create additional challenges if SAGE expands to both campuses? Will participation in online FD translate to additional interest in other FD programs, such as the Clinician Educator program or Masters (Health Professions Education) degree?

Simulation-based Quality Improvement: Enhancing an Existing Curriculum for Surgical Residents

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Purpose: Quality Improvement and Patient Safety (QIPS) is identified as a key competency within the CanMEDS roles, yet residents have reported confusion around the practical application of QIPS teaching through traditional lecture or module-based curriculums into their daily clinical work. This project aimed to take an enhanced approach to teaching residents QIPS through the incorporation of high-fidelity simulation within an existing module-based QIPS curriculum.

Methods/Approach: First-year surgical residents (n=13) were divided into groups and assigned a unique, simulated patient safety scenario. The four scenarios included topics relevant to patient safety such as medication errors, communication failures, equipment malfunction, and adverse event disclosure. Following the simulation, residents were asked to develop a proposal for a QIPS solution that would address their scenario and apply the concepts of their curriculum. Resident perspectives and knowledge of QIPS concepts will be assessed through a survey issued pre-and post-completion of the curriculum, as well as with a validated Quality Improvement and Knowledge Application Tool (QI-KAT,).

Results/Impact: A pre-curriculum survey of resident perspectives towards QIPS methodologies demonstrates that the majority of residents felt that QIPS teaching would be beneficial to patient care in their department, yet 50% reported they did not feel they had the knowledge to develop a QIPS initiative. Post-curriculum analysis of resident knowledge and perspectives will be underway in Spring 2022 following completion of resident presentations outlining their proposed QIPS solution.

Conclusion: This is the first local postgraduate curriculum to incorporate high-fidelity simulation in QIPS teaching. By doing so, we aim to bridge the gap between module or lecture-based QIPS teaching with practical application to better engage residents in QIPS and promote QIPS-focused practices in their future careers.

Transitioning to an Open Textbook

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Purpose: The purpose of this project was to provide open access to a veterinary medical work containing anatomic information essential to staging and treating canine cancer patients that was previously unavailable to English-speaking students and educators, and to integrate the work into undergraduate oncology training at the Western College of Veterinary Medicine. Originally written in German by Dr. Hermann Baum in 1918, *The Lymphatic System of the Dog* contains information not available in any other publication and highly relevant to education of veterinary students today.

Methods/Approach: In 2021, a faculty member at the Western College of Veterinary Medicine and an instructional designer from the Distance Education Unit led a team of undergraduate and graduate students in translating and transitioning *The Lymphatic System of the Dog* to an open textbook using Openpress, the University of Saskatchewan's open academic publishing platform established with Pressbooks. An abundant collection of H5P interactive activities was also designed, using Dr. Baum's original diagrams and images from current clinical practice, creating engagement opportunities for 21st century readers. The interactive learning tools were integrated into Canvas for delivery of the 2022 veterinary Oncology elective at the Western College of Veterinary Medicine.

Results/Impact: In making this work openly available online, we are ensuring Dr. Baum's extensive research is available for future generations of learners. The development of this open textbook led to student and faculty technology skills and collaborative experiences that will support future open publishing at the University of Saskatchewan. The open textbook has been available for the past four months and has already attracted over six thousand visitors.

Conclusion: We hope that sharing the story of this project will increase faculty and student awareness of the open textbook software tools and design support available at the University of Saskatchewan and lead to future collaborations in open publishing.

Education innovation: Optimization of a Clinical Teaching Unit curriculum for Internal Medicine residents

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Purpose: As COVID-19 has driven adaptation and innovation across clinical practice, the same has stood true for resident education. With reduced in-person interactions, gaps have emerged compared with traditional teaching mediums. As a first step within the internal medicine program, a quality improvement project is planned to align our Clinical Teaching Unit (CTU) curriculum with our formal academic half day curriculum. The drivers of this project are resident educational needs, the current health care practice environment, and opportunity to develop a standardized, robust, and complementary approach between the two main structured learning environments.

Methods/Approach: Our working group includes resident representatives, local curriculum experts, and both internal medicine program and health authority leadership. Our framework was founded on Royal College internal medicine competencies, and overlayed with objectives pertinent to inpatient medicine. We propose a multi-modal approach, including didactic teaching from attendings and allied health providers, guideline review by senior residents, case presentations by junior residents, a flipped classroom approach to physical exam with simulated skills practice, ECG and chest x-ray rounds, and knowledge application through an interactive game format. Most content delivery will occur via virtual platforms.

Results/Impact: Initiative impact is predicted across many perspectives. We anticipate growth in residents' knowledge and increased satisfaction with teaching. Attendings may experience clearer expectations and improved program support for their educator roles. Ultimately, the residency program merits from improved teaching organization, quality, and stakeholder engagement. Although an evaluation framework is not finalized, we anticipate using informal feedback, Likert scale surveys, and semi-structured interviews. Evaluation will be concurrent with project implementation, allowing for an iterative process and improved outcomes.

Conclusion: We are committed to re-constructing resident teaching within our CTUs, which has potential to yield increased resident competency and satisfaction, as well as create sustained cultural change where resident education continues to be a priority.

Growing Confidence and Respect in Caring with Older Adults Living in Long-term Care through Interprofessional Experiential Education

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Purpose: The purpose of this project was to rekindle interest for working in long-term care due to recently increased barriers in addition to the pandemic. Some of these barriers include workers seeing long-term care as unchallenging, social devaluing of working with older adults, and misconceptions about choosing long-term care as a career choice rather than a last resort. Some of the goals include alleviating a sense of being alone as learners, developing confidence and deep respect for the life experiences of older adults and instill a sense of community.

Methods/Approach: For the 13 weeks, beginning January 10th, 2022, participants received an email every Monday morning providing a resource to explore. Voluntarily, they met with team members once a week for a recommended 30-40 minutes to discuss the resource and share thoughts and ideas. These resources focus on the following topics: Kind and Clear Communication, Nutrition, Advance Care Planning, Spirituality, Integrating Close Ones, Medications, Everyday 'Presents', Palliative Approach to Care, Consultations and Referrals, Care Conference, Get to Know Your Community, Exiting with Grace and Appreciation, and Oral Health. All resources were available to participants in the LMS system, IPECT.

Results/Impact: Throughout the 13 weeks, the teams continued to expand and develop, and learner cohorts grew. Other institutions have expressed interest in the project, and the number and quality of modules available to participants is growing. At the end of each week, participants engaged in a 5-minute weekly review, a reflection of the module they chose that week showcasing what they gained from this project.

Conclusion: This project supports learners in their long-term care practicums, connecting them with the essential philosophies of care. This approach supports learners to develop a better understanding of the backgrounds and disciplines of their interprofessional team members to facilitate a more productive and collaborative environment.

The Gay Objective: A path for systematically including 2SLGBTQ+ content in the University of Saskatchewan undergraduate medical curriculum

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Purpose: Sexual and gender minority (SGM) individuals experience multiple levels of systemic oppression, including inadequate training of healthcare professionals, that contribute to worse health outcomes. The purpose of our research was threefold: to review the literature for best practices for including sexual and gender minority (SGM) content in healthcare education, to determine the current inclusion of SGM content in the University of Saskatchewan (USask) undergraduate medical curriculum, and to provide recommendations for systematically including SGM content in the undergraduate medical curriculum.

Methods/Approach: A literature search was conducted using terms related to SGMs and healthcare education. Identified articles were analysed thematically. Written course materials were reviewed for SGM content. The degree to which topics were discussed and the amount of focused curricular time was determined. The findings of the literature review were mapped onto the curriculum review to develop recommendations that were presented at a College of Medicine curriculum retreat in December 2021.

Results/Impact: The literature review found four themes: instructional methods, time allotment, educational objectives and transgender health. The curriculum included approximately 10.75 hours of SGM content, mostly as lectures in years one and two. Most of the content focused on sexual minorities and basic topics were not introduced until second year. Recommendations included ensuring that SGM content builds throughout the curriculum, increasing the gender diversity content and including SGM content, when relevant, in discussions of specific disease processes. The recommendations were well received at the curriculum retreat, and discussions about implementation are ongoing.

Conclusion: The USask undergraduate medical curriculum has an above average amount of time already devoted to SGM topics that can be harnessed to improve the training students receive.

Benefits of an antimicrobial stewardship themed escape room as an educational activity for internal medicine residents

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Purpose: In an era of antimicrobial resistance, it is essential to use effective methods of teaching medical trainees about antimicrobial stewardship. Escape rooms have emerged as a motivating and gamified form of simulation-based learning that encourages collaborative learning in medical education. We created an antimicrobial stewardship themed escape room, a competitive game where a team of players must discover clues and solve a series of puzzles to escape a "locked" room.

Methods/Approach: Puzzles reflected ten core infectious diseases and antimicrobial stewardship objectives derived from Royal College of Physicians and Surgeons of Canada competencies for internal medicine. Six escape room sessions were held with 24 first-year internal medicine residents with each team consisting of three to five players. Following the 70-minute escape room, we conducted a debriefing with the participants and invited them to complete a retrospective pre-post self-assessment tool to measure changes in knowledge over ten objectives.

Results/Impact: Five of six teams successfully escaped with an average time of 47 minutes and six seconds. The mean changes in scores for all ten objectives were positive and statistically significant using a Wilcoxon-signed rank test ($p<0.005$). Residents described the escape room as an engaging experience that stimulated learning and promoted knowledge recall.

Conclusion: Our antimicrobial stewardship themed escape room was well-received by residents and our data suggests perceived learning through this innovative simulation-based learning activity. Antimicrobial stewardship themed escape rooms have the potential to be an effective teaching activity that is learner-centered, team-based and can supplement conventional approaches to teaching antimicrobial stewardship.

Teaching in the Age of Zoom: UGME Remote-Learning Toolbox

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Purpose: The purpose of this curricular innovation was to provide faculty resources to support curriculum delivery as the college pivoted to online teaching at the beginning of the pandemic

Methods/Approach: We met with course leads and development teams to understand and explore online-teaching faculty needs. What were the technical challenges faculty were facing? What were their pedagogical concerns? Faculty were experiencing difficulties navigating technological issues within video conferencing tools (i.e. Panopto and WebEx) in addition to challenges interacting with students online. Acknowledging the technological difficulties faculty were experiencing, we began to build a "Toolbox" with technological support for online teaching tools including how to record a new session, reuse existing videos, and accessing conferencing tools through Canvas. Since those initial steps, the Toolbox has evolved to include additional technological pedagogical resources including interactive classroom collaboration tools such as Kahoot, Padlet, Mural, and Poll Everywhere. Using the discussion forum, the Toolbox has capacity for faculty to interact with support people to ask questions about technical issues.

Results/Impact: The Toolbox has been a useful resource for faculty and staff with about 50 people registered in it. The Toolbox has developed along side the needs of faculty and staff and has evolved to house technological and pedagogical resources in addition to recorded Canvas and Zoom Lunch and Learn teaching videos.

Conclusion: The Canvas Remote-Learning Toolbox continues to evolve and grow to reflect and support faculty online-teaching needs.

Pilot Implementation of Virtual Reality Manual Therapy Teaching Tool in Master of Physical Therapy Program

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Purpose: The purpose of this project was to beta test a custom virtual reality (VR) teaching tool with a Master of Physical Therapy (MPT) student, to examine the feasibility and experience for learning of transverse ligamentous stress testing in the cervical spine, in preparation for a larger pilot evaluation.

Methods/Approach: The authors partnered with Luxonic Technologies to contribute to the creation of custom VR software for the education of manual therapy skills with MPT students. One upper year student participated. The custom software, which provided an anatomy overview and training on how to perform stress testing of the transverse ligament was used for 30-minutes. Next, a commercial anatomy software was used, 30-minutes. One researcher was present for instruction. Pre-test questionnaires included health history, and previous experience with VR and ligamentous stress testing. A semi-structured interview followed VR use.

Results/Impact: The student had no previous VR experience or medical issues to prevent participation. Past experience of neck discomfort and stiffness, and challenges with confidence and palpation were reported during previous labs. In the interview, the student expressed enjoyment with performing the stress tests in a VR situation, found it helpful to have the hands change color with correct landmarking, and appreciated the feedback on timing. The student commented “I was actually in the VR as opposed to just looking at the VR” and the experience could be enhanced with an adjustable treatment table to ensure body mechanics and tactile sensations that mimic holding of a person’s head. The commercial software was reported as good, but the student noted “I couldn’t manipulate him with the controllers” and there was no treatment table.

Conclusion: The student appreciated the learning experience and recommended enhancements. An adjustable treatment table was added to the software to ensure body mechanics for the full pilot with 20 students.

Teaching and learning practices among physicians: facilitators, style preferences, expectations, and recommendations for improvement

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Purpose: Physicians are expected to teach and continue learning as part of their professional careers to deliver quality health care. This study investigates style preferences, facilitators, expectations, and recommendations for improvement with regards to teaching and learning methods used in Faculty Development (FD) and Continuing Medical Education (CME) programs.

Methods/Approach: Secondary data analysis of data collected from an initial study carried out to identify barriers and facilitators to participating in university-organized FD and CME programs. Data were analyzed descriptively for responses to questions exploring preferred learning methods, preferred teaching styles, teaching and learning expectations for university offered CPD programs and recommendations for improvement.

Results/Impact: 32 physicians participated in this study. The most preferred learning methods were small groups (72%), followed by case studies (50%), and experiential learning (50%). The most preferred teaching methods were short teaching sessions (63%), workshops (47%) and webinars (22%). Sub-group analyses showed female physicians preferred small groups and self-directed learning (56%) compared with males; although male physicians preferred learning in larger groups (67%) with experiential methods (58%). Frequent attendees to FD/CME programs (70%) cited simulations as a preferred learning method, while non-attendee participants cited large group lectures (70%) as preferred ways to learn. Factors that facilitated physicians' preferences included: convenience, opportunity to interact, boosting self-motivation, and memory retention. Recommendations to improve learning and teaching in university organized FD/CME programs included: 1) should be fun and engaging; 2) should affirm a love for learning; 3) should emphasize high points to enhance memory and practice; 4) enjoyable and not burdensome; 5) should support accountability for career advancement (through evaluation and feedback support mechanisms).

Conclusion: Our study demonstrated a wide array of preferences for teaching and learning methods. CPD programs tailored with a wide range of teaching and learning methods could facilitate engagement and participation to programs.

Discovering a way forward: Equity, diversity and inclusion in postgraduate medical education

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Purpose: Assessment of institutional capacity for equity, diversity and inclusion (EDI) has become increasingly important in healthcare organizations. As part of on-going evaluations, we sought resident suggestions on addressing past concerns on EDI, as well as suggestions for developing EDI within our institution

Methods/Approach: An on-line survey was completed by 118 resident groups across 21 programs. Residents were asked about persisting EDI issues, and to provide suggestions on 'a way forward'. Questions revolved around eight inclusion factors, which map onto three engagement domains (Pearson et al., 2015): Appreciation (respect, appreciation of individual attributes), Camaraderie (sense of belonging, trust), and Vision/Purpose (common purpose, access to opportunity, equitable reward and recognition, cultural competence). Qualitative data was imported into NVIVO, common themes for each domain were generated from responses.

Results/Impact: Although suggestions were generated across all engagement domains, most discussion revolved around factors of trust, respect, and cultural competence. Residents voiced several major concerns with past issues about trust, including communication (e.g., address resident concerns) and changes needed with institutional policies (e.g., on-going review and modification). Open communication and enabling a culture of engagement and accountability were some suggestions for improvement. Discussion around respect resulted in several dominant themes, past concerns included faculty development (e.g., professionalism) and open communication (e.g., discussing different opinions). Residents suggested cultural change was necessary (e.g., diverse leadership team, positive environment) and better communication practices as a way to move forward. Cultural Competence resulted in similar past concerns and suggestions, residents emphasized cultural training and ensuring a diverse work force within the college.

Conclusion: Having diverse and inclusive medical institutions helps foster culturally competent physician populations. The results from this evaluation will be used to modify institutional policies and procedures, as well as be considered for specific actions to improve resident experiences, feedback, learning and well-being.

Virtual Reality as an Educational Tool in Diagnostic Radiology

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Purpose: Virtual reality (VR) has been shown to increase learner satisfaction and improve learning outcomes. Recently, Luxsonic Technologies Inc, a local Saskatoon company, developed SieVRT, an all-in-one VR image viewer which simulates the Picture Archiving and Communications System (PACS) used in clinical practice. We examined medical student perception on the use of SieVRT in radiology during a two-week undergraduate elective experience.

Methods/Approach: 18 students were enrolled in a two-week radiology elective from August 2021-February 2022. Each student had a collaborative, one-on-one, Zoom teaching session with a preceptor using an online PACS viewing system (ODIN). They also had one-on-one teaching sessions with a preceptor using SieVRT. After each of session, they were asked to review 8 cases independently, using ODIN and SieVRT, respectively. Subsequently, the students completed a subjective survey on 1) perceptions on the use of technology in medical education, 2) the use of virtual reality for didactic learning, and 3) functionalities of SieVRT.

Results/Impact: Most students had positive attitudes about using technology for medical education. In general, student preferred using VR over ODIN and agreed that they were able to view subtle imaging findings and abnormalities better on the VR system. However, some students found that some of the functions of the SieVRT system (zooming on images, measuring angles/lengths, etc) difficult to use. There were also some technical glitches with the SieVRT system and minor undesirable physical effects (dizziness, nausea, etc).

Conclusion: Virtual reality has the potential revolutionize education in medicine and radiology by providing users with an immersive and engaging experience. Future developments in designing virtual reality systems should focus on improving user experiences, eliminating technical glitches, and reducing desirable physical effects.

Enhanced Point of Care Ultrasound skills after additional instruction from simulated patients.

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Purpose: Point of Care Ultrasound (POCUS) training in Canadian undergraduate medical programs is steadily increasing. To date, the simulated patients (SPs) in our program have only provided feedback on comfort and professionalism. Involving the POCUS SPs as teachers (SP-teachers) of POCUS skills provides an additional opportunity for instruction. In this pilot study, we explored the impact of SP-teachers instructing medical trainees while they learned PoCUS. Outcomes of interest included the level of proficiency achieved after the session and trainee satisfaction with the learning experience.

Methods/Approach: Second year medical students (n=19) were randomized into a conventional or SP-teacher learning experience. Both groups received the same video tutorial, instructor guidance, and basic SP feedback (comfort and professionalism). The SP-teaching group received additional instruction (landmarks, transducer technique, and troubleshooting) from the SP-teachers when session instructors were assisting others. Students evaluated the session and were subsequently assessed through direct observation.

Results/Impact: Students in the intervention group received significantly higher ratings than students in the control group on image acquisition (control 2.38 (0.52), intervention 2.90 (0.32) p= .029, score range 1-3) and overall entrustment (control 2.88 (0.64), intervention 3.80 (0.42), p= .002, score range 1-5). Effect sizes (Cohen's d) on both image acquisition and overall entrustment was large (d=1.26 and d=1.75. respectively). Both groups rated their sessions highly.

Conclusion: Students that received SP-teaching were observed to better acquire images and achieved higher entrustment scores. In this pilot study, SP-teachers had a positive effect on acquisition of PoCUS skills.

Leader effectiveness and leadership development in physician leaders

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Purpose: Leadership is a critical element in the outcome(s) of any organization, with these outcomes often dependent on the leader's skills, knowledge, abilities and competencies. The purpose of this project was to conduct a study of physician leaders across Canada to investigate the effects of age, gender, and experience on leadership development and self-perceived leader effectiveness.

Methods/Approach: 151 physician leaders from across Canada completed an online survey. Participants were asked to rate their leader effectiveness (LE) in their current leadership role and complete the LEADS self-assessment questionnaire. Independent samples t-tests and one-way ANOVAs were used to explore demographic variables on leadership development (LD) and LE.

Results/Impact: Older participants showed greater LD across all LEADS domains (*ps*<.05); this was particularly true between leaders in the oldest age group (55+) and the youngest (<45). As well, older participants had significantly higher self-perceived LE than both the youngest and mid-aged groups (*ps*<.05). Females rated themselves lower on average than males on all but one leadership variable (develop oneself), and the differences in several of these were significant (*ps*<.05). Overall, male participants had higher LE than females (*p*<.05). Participants in senior leadership roles perceived themselves to be more effective leaders than both frontline or mid-level leaders and showed significantly higher LD on most of the LEADS items (*ps*<.05).

Conclusion: Demographics were found to play a significant role in perceptions of LE and LD. These results hold significance for health organizations to enhance individual and collective leadership within their areas of influence and mandates.

College of Pharmacy Education Focus Survey 2021

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Purpose: Curricular content within pharmacy programs is constantly under review to ensure students are adequately equipped to practice. The objective was to determine the degree of discrepancy, if any, between current content delivery to that of student and community pharmacist expectations.

Methods/Approach: An electronic questionnaire was emailed to year 3 and 4 students and all community pharmacists in Fall 2021. Respondents were asked to consider four main questions related to the nature and adequacy of education they did receive (pharmacists) or should receive (students). For example, does the program at the U of S currently devote the right amount of attention to the following topics?

Results/Impact: Fifty-two of 168 student and 139 of 1283 pharmacist questionnaires were analyzed, for a response rate of 31.0 and 10.8 percent, respectively. Pharmacists were more satisfied with the program they received than current students. Both groups felt strongly that therapeutics and patient counselling needed significant attention. How to give injections was deemed as receiving too little attention. The results did not identify any topic that the groups felt would be better emphasized after graduation. Sufficient time to practice and/or apply concepts was considered to be low.

Conclusion: Curriculum reflection is ongoing and this data will be added to other information received on a yearly basis. At a minimum, it would seem prudent to better support any explanations as to why we do things the way we do. Levels of frustration that are in play with current students will need to be addressed. Lastly, the approach taken examined curricular content at a more specific level than other surveys. As such, it might be useful to consider at other pharmacy institutions.

Scholarly Opportunities for Medical Students and Residents in Canadian Medical Specialty Organizations

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Purpose: Participation in medical specialty organizations may provide medical students and residents with additional research, advocacy, networking, and leadership opportunities. Although some authors have looked at individual specialty organizations in the United States, little is known about trainee involvement in Canadian organizations. Therefore, the aim of this study is to review the current level of medical student and resident involvement within Canadian medical specialty organizations.

Methods/Approach: The websites of 71 Canadian medical specialty organizations were reviewed to assess levels of trainee participation. Organizations were asked to verify the information through email.

Results/Impact: Of the 71 Canadian medical specialty organizations reviewed, 42 (59%) allow medical students and 67 (94%) allow residents to become members. When trainee membership is allowed, it is free for students in 22 organizations (52%) and free for residents in 35 organizations (52%). Most organizations allow trainees to attend their annual conference (83% for students and 93% for residents), and the mean cost of attending the most recent virtual conference was $114 (range: 0 to 475) for students and $142 (range: 0 to 475) for residents. 22 organizations (31%) have travel awards for students and 37 (52%) have awards for residents. Research grants are available in 58% of organizations for students and 79% for residents. Formal mentorship programs exist in 16 organizations (23%) for students and 25 (35%) for residents.

Conclusion: This study highlights the educational opportunities available to trainees within Canadian medical specialty organizations. These opportunities serve as an important source of professional development for the next generation of Canadian physicians.

ePosters

Design and Development of a Virtual Reality Simulation Platform for Cervical Spine Manual Therapy Skills

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Purpose: The purpose of this paper is to discuss our rationale, scenario and interface design, and manual therapy skill feedback system for our custom virtual reality (VR) simulation platform.

Methods/Approach: In collaboration with Luxonic Technologies (LT), our interdisciplinary team conducted several visioning meetings to develop a customized VR platform. Given our team's common interests and goals for future discipline specific projects that would build off our initial platform, we determined focus on the cervical spine was appropriate. For healthcare professional students, there are critical tests for this region that students must achieve competency on for safe practice; however, grasping the anatomy and accurate palpation can be challenging for students with traditional teaching methods. In addition, practice of skills on peers can lead to discomfort and pain. For experiential learning, we worked closely with LT to simulate a real clinical scenario; thus, the "client" in the virtual clinic room can be interacted with in standing, sitting and supine. To facilitate the various stages of conceptual and motor learning of manual skills, three learning tabs are available: 1) education; 2) guided training; 3) assessment. To facilitate learning of the complex anatomy, the labelled structures can be view at various levels (i.e., skin, muscle, ligament, and bone). Finally, as accuracy of palpating specific structures is essential, we worked with LT to include both visual and tactile feedback for the students; the hands in the virtual environment change color and the controllers vibrate depending on accuracy of hand placement.

Results/Impact: A novel VR simulation platform focusing on the cervical region has been developed by an interdisciplinary team. It can be built on by various healthcare professions to facilitate teaching and learning.

Conclusion: The use of VR for student learning is rapidly increasing and we present our rationale and design considerations for a customize platform.

Representative Dermatology in Undergraduate Medical Education

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Purpose: A US survey found that less than half of dermatologists felt their training was adequate to diagnose skin disease in skin of color; further, only 21-38% of images used in dermatologic teaching represent skin of color (Lester et al., 2019). It is known that Black, Indigenous, and People of Color (BIPOC) face inequitable health disparities in Canada and addressing the gaps in training is essential to addressing these inequities (Ogunyemi and Miller-Monthrope, 2017).

Methods/Approach: The innovation was twofold; first, the study team conducted an internal audit of the teaching materials for the Undergraduate Medical Education Dermatology course at the University of Calgary comparing the number of white or light skin images to skin of color images. It was found that there was a significant lack of representation of dermatologic conditions on skin of color. Second, the study team collected and curated an image bank representing the most common dermatologic conditions on skin of color.

Results/Impact: The impact of the innovation was first to demonstrate the need for enhancement of the Undergraduate Medical Education Dermatology curriculum. Secondly, an image bank of common dermatologic conditions on skin of color was created and utilized to enhance future lectures. Third, the student driven project will be long standing, allowing for continued development of learning materials. The broader impact of this innovation was the creation of open-source online flashcard style Cards to be played by medical students, residents and healthcare professionals across the globe.

Conclusion: In conclusion, this project revitalized and diversified the Dermatology curriculum at the University of Calgary; addressing a known gap in education and educational resources. Additionally, this project can serve as a template for future curriculum development at the University of Calgary and other medical schools.

Faculty Development Coach Training in the CME SK Physician Mentorship Program

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Purpose: Exploring coach training methods in competency based medical education, will inform the approach used in the SK Physician Mentorship Program to be offered through CME. Our faculty development (FD) goal is to create, implement and deliver the coach training and to evaluate its effectiveness.

Methods/Approach: In 2021, a review of the literature on coaching physicians was completed as well as an environmental scan of FD coaching programs across Canada. The CAMP (Coaching and Mentorship Program) at UBC is recognized as a potential model. The research base for coaching in medicine is expanding rapidly and will inform the development and implementation of a coach training program in Saskatchewan in 2022.

Results/Impact: Coaching has been integrated in medical education with the introduction of competency based medical education. Although faculty are designated as coaches, there is no standard faculty development or training for these new roles.[2,3] A review of the literature suggests that coaching programs in medical education need coach training that instills a clear understanding of coaching and how it differs from other roles,[5-8] targets key coaching skills including active listening,[3,4,8-10] questioning,[1,3,4,6,8-11] facilitating reflection,[7,11] and goal formation,[1-4,9-12] offers longitudinal support for coaches,[4] and creates a community of learning among coaches.[8,13] The goal of the SK Physician Mentorship program is to enhance recruitment and retention in the province with coaching support.

Conclusion: Using an evaluation framework such as the Kirkpatrick model, will need to be an integral part of the development, implementation and delivery of coach training for the SK Physician Mentorship Program and will be integrated with the evaluation of the overall program. Opportunities for scholarship exist regarding coach training especially given the current lack of a national certification process for coaching in medicine.

Stroke Care and Neurological Emergency Response Simulation (SCaNERS): High-fidelity acute stroke simulation increases learner confidence in providing acute stroke care

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Purpose: Resident physicians often observe stroke alerts before managing them alone, which exposes patients to potential harm from trainees' lack of experience. Simulation training offers a low-risk environment for skill acquisition. This project assessed learners' confidence in leading stroke codes before and after completing a stroke simulation training program during neurology rotations at the University of Saskatchewan.

Methods/Approach: High-fidelity simulation cases were developed encompassing several diagnostic and therapeutic goals of acute stroke care. Standardized patients were trained for increased fidelity. Standardized debriefing was given after each session. Pre- and post-simulation surveys captured learner confidence and cognitive load.

Results/Impact: Pilot data reveal learners' confidence and comfort in providing acute stroke care, including thrombolysis treatment decisions, significantly increases after simulation training (n=8; p=0.0006-0.01). They also felt more prepared to conduct future acute stroke care (p=0.009). Skills not directly addressed in simulation did not show significant improvement (p=0.09-1.89). Learners consistently rated the session as requiring high mental effort.

Conclusion: Implementation of high-fidelity simulation training leads to significant improvement in learner confidence. Future cases will capture additional objectives and ensure acceptable cognitive load. Ongoing data collection to explore residents' experiences and knowledge improvement in stroke care and assess local reductions in treatment delays is underway.

Evaluating Negative Feedback in Postgraduate Medical Education: Prevalence, Impact, and Delivery

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Purpose: An important aspect of residency training is the delivery and reception of feedback to residents so that learning and performance is enhanced. However, there are many instances where feedback is presented as criticism and has a negative impact on residents. We sought to evaluate the prevalence, impact, and explore positive ways that feedback can be delivered to residents.

Methods/Approach: Residents from 30 programs completed a short on-line survey about the frequency and impact that negative feedback has had on them as a learner. Responses from 188 residents were analyzed using NVIVO, content analysis was used to generate emergent themes from the data. Frequencies were used to quantify prevalence of negative feedback across resident responses.

Results/Impact: 78% (n=147) of residents indicated that they had received critical feedback of their performance during training. This feedback was found to be critical of their performance (82%, n=121) and of them as a person (32%, n=47). This negative feedback was shown to affect the resident's self-view (74%, n=138), and negatively affected them after they left work (81%, n=153). Residents suggested ways to stay positive and not let negative feedback affect their self-esteem when the feedback was on their *performance* (e.g., accept it as a tool aimed to better performance) and on the *person* (e.g., peer/family support systems, reflection/mindfulness). Residents provided many suggestions for how the supervising person could provide negative feedback in a more beneficial way, such as providing constructive, direct, specific and directional feedback, include positive elements of performance, and deliver feedback professionally and respectfully.

Conclusion: While negative feedback can be a useful tool to promote learning and enhance performance, it also can have a negative impact on a resident's well-being. The main intent of this evaluation was to address these concerns through interventions at multiple levels (institution, program, individual).

Examining the inter-examiner reliability of vOSCEs in an Undergraduate Nursing Program

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Purpose: The purpose of this study is to examine the inter-examiner reliability of the video OSCE (vOSCE) in an undergraduate nursing program. The objective is to determine if the vOSCE is an objective and valid method of evaluating physical assessment skills. This research study will help nursing faculty and programs to make evidence informed decisions for virtual and in-person evaluations. This evidence will support further OSCE research, and future course changes, specifically if the data suggests a more robust appraisal of student learning and application.

Methods/Approach: This is a quantitative study using a cross-sectional descriptive design. Twenty-eight OSCE videos were collected from student volunteers. The videos were previously recorded in a 2nd year assessment course in the Saskatchewan Collaborative Bachelor of Science in Nursing (SCBScN) program. Five examiners were provided a rubric to grade the 28 videos over a 3-week period. Completed rubrics were submitted for statistical analysis.

Results/Impact: The intraclass correlation coefficient (ICC) = .918 (95% CI = .857-.958), indicating high consistency between the 5 examiners. The data suggests the evaluation of vOSCE is strongly reliable and is an objective way of assessing assessment skills.

Maximizing objectivity of the OSCE is an important step in improving the ways in which we evaluate our students. vOSCE demonstrating reliability across examiners is a promising finding to support the future use of vOSCE in evaluating clinical skills and assessment. Valid, objective and accessible means of evaluating students will become increasingly important.

Conclusion: vOSCE is a reliable and objective method of evaluating assessment skills in undergraduate nursing education. Other benefits include utility in remote learning, opportunity for reassessment, and engaging students in learning from their past performance.
Future research of vOSCEs is required and may include, comparing inter-examiner reliability between vOSCEs and in-person OSCEs, examiner bias and leniency, and student experience.

Grit, Resilience, and Professional Quality of Life: Investigating Wellness in Medical Education

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Purpose: A shifting focus in medical education is aimed at promoting the health and wellness of physicians in Canada. Grit, resilience, and professional quality of life (PQoL) have been shown to be indicators of wellness. The purpose of this project was to explore the relationship between GRIT, resilience, and PQoL, along with various subgroup demographics, in medical students and residents.

Methods/Approach: Four hundred twenty-eight participants (349 from postgraduate medical education, 79 from undergraduate medical education) filled out an online survey. Linear regression was used to compare relationships between resiliency and PQoL (compassion satisfaction [CS], burnout, secondary traumatic stress [STS]) and grit across various subgroups (gender, age, program level). Multiple regressions were performed to explore the effects of grit and PQoL components on resiliency.

Results/Impact: A significant positive relationship between resilience and grit with CS was observed (*p*s < .05). An inverse relationship between resiliency and grit with burnout and STS also emerged; however, the relationship between resilience and STS was only true for women, younger participants, residents, and those in excellent health. Multiple regression revealed components of grit and CS as significant contributors to resilience (*p*s < .001).

Conclusion: Grit and resilience appear to be very pertinent constructs related to one's ability to handle setbacks, negative feedback, and other obstacles in health professionals' education and careers. Understanding the relationship between grit, resilience, and wellness is essential in fostering well-being in medical students and residents.

Entrustable Professional Activities: A narrative predictor?

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Purpose: Medical students learn much knowledge and skills throughout medical school. The expected responsibility of a medical student is different from that of a resident, even though they may only be months different in training. This is where Entrustable Professional Activities (EPAs) come into play. As first described by ten Cate in 2005, "supervisors of trainees should be able to decide when a trainee may be trusted to bear responsibility to perform a professional activity". This form of competency-based education has been in place in the postgraduate setting since 2012 for family practice and 2017 for specialties (UBC, n.d.), but has only recently been introduced in undergraduate medical education with the introduction of the AFMC's entrustable professional activities (2016). Recently, EPA scores (entrustable professional activities) have been a source of assessment at the College of Medicine.

Methods/Approach: The study will be primarily quantitative in nature and involve analyses to determine which EPAs predict later performance. Such analyses may include descriptive statistics, correlations, regressions, and likelihood ratios. We are currently awaiting ethics approval.

Results/Impact: This project will examine how well EPA scores predict further academic difficulties such as failing examinations (including their licensing examination), repeating a required educational activity, or repeating a year.

Conclusion: If EPA scores are found to predict later performance, this may be an additional measure of identifying students who are at risk of academic difficulty and they may be offered additional support.

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