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La Conférence
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The call schedule draft: An innovative approach to call scheduling

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Introduction: During residency training, it is expected that residents provide on-call services in addition to their regular working hours. Common practice is for residents to submit time-off requests to delegated individuals responsible for call scheduling. After these requests are taken into account, residents are sent their allocated call responsibilities for the month. To change this authoritarian system, our residents created The Call Schedule Draft. This innovative approach promotes equality and empowers residents to be involved in their own call scheduling.

Methods: We began by creating a document that divides the year into individual days and retrospectively tallies the call shifts completed by each psychiatry resident. A computer algorithm was developed to list the days of the week in a given month and objectively allocate each resident to specific days based on the collated shift tallies. During monthly resident-led call drafting sessions, residents are able to choose their preferred call shift dates in a rotating order. This presentation will detail the implementation and continued utilization of our call drafting system.

Conclusions: This call drafting system has enabled our residents to gain some control within a system that has historically dictated all of their working hours. The Call Schedule Draft promotes resident wellness and offers opportunities for collaboration amongst residents. Additionally, this system has facilitated urgent call coverage by granting shift selection rewards to those who volunteer to cover for their colleagues. The Queen's Psychiatry experience may serve as a framework example for use in other comparable residency programs and university sites.

Using telemedicine to teach clinical reasoning in Guyana - A feasibility assessment

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Introduction: Specialty training has only recently established itself in Guyana over the last 10 years and the internal medicine training program was established in 2013. The program runs in collaboration with international academic partnerships. Given lack of teaching and clinical supervising faculty, there is an obvious need for innovative ways to allow for "distance" coaching around clinical reasoning.

Methods: A collaboration between McMaster University (Canada), Georgetown Public Hospital Corporation (GPHC), the Ministry of Public Health in Guyana (MoPH) and the Pan American Health Organisation (PAHO) resulted in the development of a telemedicine network, DocBox, whose goal was to allow residents to send non-urgent clinical queries to specialists in Canada. The initial phase was to test feasibility with residents. Pre and post surveys were done with residents at 3 months and 6 months to assess feasibility of implementing telemedicine.

Results: To date, over 200 cases have been reviewed with the residents by McMaster faculty. While issues such as WiFi accessibility and timely faculty response are being tackled, the telemedicine project has been viewed overall contributing to the learning process and clinical reasoning skills of the residents and assisting patient care.

Conclusions: We describe a novel approach on using telemedicine in providing not only consults but feedback to medicine residents around complex cases to improve their clinical reasoning skills. Overall feasibility assessment has been successful and the team now looks forward to moving to the next phase of the study which will be to disseminate to regional hospitals.

MacAdemia: Meeting the faculty development needs of community physician teachers in distributive medical education

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Introduction: Physician teachers in distributive/decentralized medical education (DME) sites who practice at varying distances from the main campus face increasing clinical and teaching demands. Although institutions offer ongoing faculty development programs, DME physician teachers do not participate optimally due to many barriers.

Methods: The McMaster University Program for Faculty Development (PFD) Team administered a needs assessment survey to DME teachers. The results showed that although enthusiastic, they lack confidence in their skills and desire more feedback. In 2018, the PFD team launched MacAdemia, a new faculty development certificate program designed for physician teachers in two distributive campuses. Compared to the main campus programs, MacAdemia is uniquely interactive, personalized, self-directed, and accessible. It is designed to support the busy physician teachers to reach their goals without incurring significant burden to their existing clinical and teaching practices. At this time, eleven clinician teachers from various practice locations and specialties have enrolled in the program.

Conclusions: MacAdemia faculty development program has worked as a vehicle for faculty development delivery and a scaffold for building a teaching community-of-practice. It benefits all DME physician teachers including those who do not register in the program. Through MacAdemia, McMaster University PFD Team has started to succeed in engaging more DME physician teachers. As we support physicians in achieving their individual teaching goals and building a teaching community, we help deliver the university's academic mission in the DME setting.

Appreciative Inquiry (AI) as strategy for evaluation of a Competency-based Medical Education (CBME) pediatric Antimicrobial Stewardship (AS) curriculum

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Introduction: As infectious disease (ID) subspecialty programs shift towards CBME, AS training rotations require a similar transition. ID programs evaluation is often limited by small number of trainees. AI is a collaborative, strengths based approach for qualitative feedback. Trainees can share different ideas and discuss experiences openly. We implemented AI as an evaluation tool to help effectively guide program implementation of an AS competency-based educational curriculum (CBEC).

Methods: ID trainees completed a one-month rotation in AS for which a new CBEC was created. An AI session (independently facilitated) was implemented for evaluation. Trainees shared stories and identified key features of the CBEC and other related rotations. Participants were asked to choose items that the CBEC needed to (a) keep doing, (b) do more of, or (c) start doing. These detailed discussions were then collated. Feeding into the CBEC development, implementation and evaluation logic model, the AI session contributed with feedback by providing short, medium and long term outcomes. These were then used for further curriculum planning and CBEC integration into ID subspecialty training. Feedback on long term outcomes served to determine whether this new CBEC was producing the desired outcomes as it integrated into larger AS programming at the site hospital.

Conclusions: AI can be used as a novel and useful tool allowing for diversity in programmatic evaluation. In the era of shift to CBME and applied educational strategies it can serve to provide open and optimal feedback and determine whether a program has the desired outcomes.

Leveraging Elentra's assessment plan builder to visualize and track resident performance

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Introduction: With the transition to competency-based models of residency education and the increased emphasis on assessment, residents and those who support their development are faced with interpreting large volumes of assessment data (Lockyer et al., 2017). It is especially important to ensure that the expected outcomes are clearly articulated and that a resident's progressive development towards meeting the outcomes is tracked in a transparent and accessible manner. The facilitation of this process is especially critical given our understanding about the role 'others' play in helping residents accurately interpret their performance information (Sargeant et al., 2015, 2018). Determining how to leverage electronic dashboards to support informed self-assessment can be a challenge and is currently an emergent process.

Summary: Adopting a user-centered approach, the Elentra™ team created an assessment plan builder and program dashboard to facilitate the display and interpretation of assessment data for residents, their academic advisors, program directors and competence committee members. A resident's progression towards meeting the anticipated outcomes is displayed on this dashboard by leveraging the Elentra assessment plan builder, which supports the entry and tracking of customizable assessment requirements. Programs are able to easily identify whether or not their residents are meeting assessment requirements. Multiple functionalities facilitate users' active interaction with and meaningful interpretation of large volumes of performance information.

Conclusions: Providing an interface that supports multiple user groups' meaningful interaction with performance information is critical to support resident development. Involving various user groups in design discussions in an iterative collaborative manner ensures their needs are met.

Broken telephone: Residents and the practice of telephone consultation in an academic health science centre

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Introduction: Providing telephone advice to community physicians is a common clinical service provided by pediatric hospitals. Residents are often given this responsibility with minimal training. To address this learning gap in our institution, we embarked on a review of the practice of telephone consultations.

Methods: Pediatric Department Chairs across Canada were surveyed. In-depth interviews with program directors, select trainees, faculty and stakeholders were conducted. Snowballing purposeful sampling was used. Topics explored included the perceived value of telephone consultation, existing training curricula, modes of supervision and assessment, documentation medicolegal risk, and expectations from regulatory bodies.

Results: While telephone consultation was viewed as a valuable service by hospital leadership, very few had formal policies/procedures guiding this practice. Program directors and trainees endorsed telephone consultations' educational value however, disruption to clinical work flow and documentation were cited as common challenges. Most programs provided adequate supervision to trainees taking these calls, however, training and readiness assessments for this role was cursory or absent. Furthermore, expectations outlined by external regulatory bodies were viewed by the practicing clinicians to be impractical and unrealistic.

Conclusions:

Telephone consultation is a valued clinical service in pediatric medicine. Challenges exist with this current practice. This study's results informed the development of Departmental recommendations to improve the practice of telephone consultation. These included the creation of: (1) realistic standards for consultations; (2) user-friendly documentation; (3) appropriate billing mechanisms and (4) a toolkit for trainees (including an EPA with a milestones template). This project illustrates the potential synergy between QI and residency education.

Role models: @ThisDoctorCanE. Vaux

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Introduction: Role models play a crucial role in the development of our professional and social identities and our leadership potential. Many of us traditionally look to heroic or senior leaders to aspire to and to inspire us. However, the attainment gap or effort to reach such heights may not feel realistic or even possible. It may not even be clear where to start in emulating this ideal. It might even be demoralising with little hope of achieving such accomplishments. Role models to whom we might relate to most are often not visible.

Aim: The Royal College of Physicians has launched @ThisDoctorCan in 2019. The aim is to showcase a wide range of physicians, in training and beyond. These are diverse individuals role modelling equality, diversity and differences, inclusivity, mental health and wellbeing. This focus challenges and rebalances the current stereotypical construction of leadership and provides us opportunities to draw inspiration and learning from authentic and accessible role models. @ThisDoctorCan is bringing to the fore role models we can relate to and give us a sense of what is possible.

Conclusions: The scarcity of diverse and different role models can mean many lose out on the potential benefits of having a role model who is perceived as sufficiently similar or desirable to emulate. @ThisDoctorCan is making more visible and unlocking the potential of diverse and different role models in helping to guide, motivate and inspire more of us as we develop our own authentic professional identity and leadership potential.

From learner to scholar: Diversifying the pool of medical educators through a postgraduate medical education track

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Introduction: Increasingly, postgraduate trainees are in search of additional training to enhance their roles as Scholars. Traditionally medical education tracks have been limited to individual training programs which does not promote collaborative practice across a diverse range of specialties. Emory's Medical Education Residency Track (MERT), is an 18-month program, designed for multidisciplinary trainees to gain competencies essential to becoming medical educators.

Methods: MERT is distributed into three phases: Principles of Scholarly Teaching, Medical Education Scholarship, and Scholarly Project. Sixteen trainees from 11 residency/fellowship programs applied for the 2018-2019 cohort. Eleven were accepted and 10 (91%) completed Phase 1. Phase 1 involved adopting Kolb's experiential learning model to support trainees' learning through peer teaching. As part of a longitudinal, formative evaluation, we used descriptive statistics and content analyses of survey data to explore the effectiveness of Phase 1.

Results: Strengths of Phase 1 included opportunities for group discussions and interactive team work activities. Residents also reported being able to apply skills from sessions about Teaching & Facilitating Learning (70%), Learning Needs & Outcomes (50%), Bed- & Bench-side Teaching Strategies (50%), and Feedback & Contemporary Feedback Models (50%). Resident examples of applying skills in their settings included "Using 1 min preceptor with interns on my service", "utilized Kahoot! during my lectures with Med tech students", and "establishing learning needs and outcomes".

Conclusions: Adopting an innovative peer teaching aspect coupled with using Kolb's 4-stage model not only reinforces learning, but also creates a cadre of future medical educators in a "train-the-trainer" type model.

The night float debrief session: Enhancing resident education and feedback in the night float model

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Introduction: Night float (NF) is a service model employed by many postgraduate medical and surgical training programs internationally (Wallach et al, 2006). This model traditionally focused on reduced work hours and clinical service needs, although residents perceived a low educational value (Luks et al, 2010). To address this issue, we implemented novel biweekly debrief sessions into the NF rotation. These sessions were facilitated by a clinical faculty, and attended by the NF and chief residents. The purpose of this session was to discuss clinical outcomes of the patients seen during NF shifts, engage in a reflective practice and provide formative feedback to the NF resident.

Methods: 55 internal medicine senior residents (PGY-2 and 3) at McMaster University participated in NF debrief sessions. We collected feedback from the learners and faculty after each session through a brief questionnaire. Eight months later, a survey was distributed to all residents for a qualitative assessment of their experiences. The information collected was analyzed and used to make further adjustments to the sessions.

Conclusions: The debrief sessions were well-received. Permanent integration into the NF curriculum was recommended by 67% of senior medical residents. Learners highlighted the clinical case follow up, advanced clinical management discussions, and having an opportunity to discuss non-medical expert challenges to patient care as specific strengths of the sessions. The main perceived challenge was the additional time required from an already demanding residency schedule. Findings from this project support using similar sessions to enhance and provide an educational component to NF rotations.

Building the health advocate role: Innovative Competency-based strategy for residency training

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Introduction: Health Advocacy is one of the central competencies expected of physicians. Yet, very few pedagogical tools are available to support residency training for this CanMEDS role. The Canadian National Collaborating Center in Healthy Public Policy offers a useful but preliminary framework focused on public policy competencies (NCCHPP, 2015). In order to strengthen health advocacy competency-based training, we developed and tested an interactive curriculum, which supports a monthly community of practice for residents.

Methods: Since 2017, the Montreal Public Health Unit develops, leads and evaluates a community of practice in health advocacy for residents pursuing their Public health and preventive medicine specialty at McGill, Montreal and Sherbrooke Universities. Drawing from various disciplines including political sciences, public health, communication studies and public relations, we identified relevant: (1) competencies and milestones; (2) core concepts; (3) practical skills; (4) key references; and (5) practical case studies in order to build an interactive health advocacy and healthy public policy curriculum. The curriculum was built and is adjusted iteratively by faculty and residents through direct feedback as well as process evaluation.

Conclusions: In 2018, residents bestowed an Award for Excellence in Teaching for this pedagogical innovation. The health advocacy curriculum and community of practice constitute a promising capacity-building initiative in support of: (1) teaching health advocacy competencies to residents of various programs or specialties; (2) strengthening faculty's continuing professional development in health advocacy; (3) improving our health organizations' ability to advocate for health on behalf of the populations they serve.

“The intern at work”: A Canadian resident-driven podcast initiative

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Introduction: Residents exemplify the CanMEDs roles of medical expert and leader in their role as teachers to junior learners. Resident teaching often happens spontaneously and independently in relation to specific clinical cases. Therefore, the opportunity for faculty supervision and feedback is often missed, and these sessions are not preserved or further disseminated. “The Intern at Work” is a series of learner-generated podcasts for junior trainees. Podcasts are written by senior residents, faculty-reviewed and distributed worldwide.

Methods: Internal medicine residents nationwide voluntarily write a podcast on an internal medicine topic. Podcasts follow a standardized script, and are reviewed by two faculty physicians who provide direct feedback to the resident writer. Podcasts are recorded and uploaded to a podcast platform for worldwide distribution, and are accompanied by infographics. All podcasts are credited to the podcast writer on release. The project’s success is measured by writer engagement and podcast reach. In a pilot study, resident writers commented on the “fun” and “creative” activity that allowed for content review and knowledge consolidation. All residents felt that developing the podcast made their chosen topic somewhat easier to teach in the future. Since the release of the first podcast 12 months ago, 52 residents and 35 faculty physicians from 5 Universities have participated or are participating in the podcast series. It has over 37,000 individual listens worldwide, and continues to release biweekly episodes.

Conclusions: “The Intern at Work” podcast series is a repository of learner-generated, faculty-reviewed podcasts with a growing and sustainable global reach.

Enhancing surgical education using video playback: A case study on the influence of video playback on the nature and experience of feedback between supervising surgeons and surgical residents

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Introduction: Feedback about intraoperative performance remains a cornerstone of surgical training, yet supervising surgeon and surgical resident perceptions of feedback quality differ. Video playback offers one potential method for more effective feedback. More research is needed to better understand this tool. This study explores the nature of feedback when using video playback.

Methods: Three surgical residents and five supervising surgeons were involved in six laparoscopic cases. Data collected included the intraoperative and video playback conversations between the resident and supervising surgeon and semi-structured interviews exploring the resident and supervising surgeon experience of using video playback. A combination of deductive, inductive and hermeneutic analytic approaches was used. Data was triangulated to develop the big ideas.

Results: Analysis demonstrated that the majority of intraoperative interactions were instrumental and didactic in nature. By contrast, most interactions during video playback dialogic and teaching in nature. Video playback was perceived by residents and supervising surgeons as a valuable tool for feedback and self-reflection. Participants valued the cues provided by exact visual representation of the performance on video for specific feedback. They also perceived the video playback environment as calm and optimized in cognitive load.

Conclusions: Two big ideas emerged from this research: 1. the environment in which video playback occurred contributed positively to the feedback experience; and 2. feedback using video playback is a dialogic critical visual review of the performance. Video playback provided a surgical learning opportunity outside of the operating room which maintained the contextual verity of the surgical case performed.

SafeSpaceHealth app – Leveraging digital technology for wellbeing, education and professional fulfilment of healthcare providers

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Introduction: SafeSpaceHealth App is a revolutionary innovation, providing a completely anonymous digital forum for healthcare providers, including trainees and students to debrief, give and receive support, be coached and experience professional learning.

The burnout phenomenon in healthcare has been detrimental for mental health of students to experienced health professionals, and patient safety globally. Depression and anxiety has become a global epidemic, affecting occupational groups including healthcare. To date, existing policies and interventions have not reversed these trends, suggesting innovative tools and strategies are needed to tackle this crisis.

The aim of SafeSpaceHealth App is to enhance professional fulfilment by reducing/preventing burnout, compassion fatigue, post-traumatic stress, mental illness, self-harm, suicide etc., and help transform healthcare culture.

Methods: There are a number of indications that burnout epidemic is a systems problem that cannot be remedied using current models of care. It requires solution-focused approach that engages a whole system to address challenges around depression and mental health related issues.

SafeSpaceHealth has launched a wellness coaching focused App-based system that seeks to reduce incidence and duration of burnout, and prevent suicide amongst healthcare providers.

The App is based on tackling underlying contributing factors from a systems perspective, taking into account the need for privacy, confidentiality, anonymity, peer support through a safe 24/7 moderated digital space.

Conclusions: This talk will provide examples of how a systems approach can be used to support distressed healthcare providers through an App using peer coaching model as part of an ongoing development of burnout prevention and support program.

Engage me: Serious gaming disruption of CanMEDS professional role

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Introduction: Serious games are commanding attention in medical education with evidence suggesting this pedagogy increases learner engagement and knowledge transfer. Intrinsic CanMEDS roles (e.g. professional) are integral to physician competence however, data highlight difficulties teaching and assessing this content, potentially leading to under-representation or disengagement across medical education programs. We designed and evaluated an online serious game to teach professionalism in the contexts of perioperative disruptive behavior. Innovative design elements and evaluation results measuring engagement and multidisciplinary relevance are described.

Methods: Literature review and multidisciplinary focus groups identified learning needs, objectives, and case narratives common to the perioperative clinical environment. These were iteratively transformed into a simulation-based serious game, framing professionalism issues experienced through different perspectives (resident, staff, and patient). Curricular planning ensured CanMEDS role, patient safety, teamwork, and safe learning environment elements were embedded within the game, self-assessment challenges, and evaluation. Video and online discussion boards were included to encourage realism-immersion with gamified design motivators (e.g. exploration, achievement, socialization) embedded to further stimulate engagement. Qualitative evaluation design informed thematic analysis to identify data patterns.

Conclusions: Early pilot (n=12) evaluations acknowledged engaging CanMEDS relevant content resonating across representatives from anesthesia, internal, critical care, family medicine, and surgical disciplines. Respondents commented favorably on interactive-immersive learning as well as engagement with outside resources and other learners. Results to date have informed final iterations of the learning innovation. We are interested in future robust evaluation once officially launched and the extent to which early data reflect global engagement, relevance, and impact measures.

Doc-to-Doc: A peer mentoring initiative across residency programs

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Introduction: Several studies have shown benefits of peer mentoring on wellness among medical students and health care professionals. Peer mentorship has also been pointed as having interesting potential for International Medical Graduates. However, the literature on peer mentoring at the residency level is limited despite being very well aligned with the CanMEDS Professional role. This study aims to assess the benefits of a resident-led pilot peer mentoring initiative at McGill.

Methods: Over two years, seventeen residents from various residency programs were put in contact with a volunteer peer mentor by email. The structure of the mentorship was flexible. A survey using Likert scale and free text responses was sent to all participants.

Results: There were response rates of 65 % for mentees and 59% for mentors. The majority of mentees thought the service was either moderately helpful (18%) or helpful (36%). Several residents noted that communication by emails and lack of in-person contacts were a limitation in the mentorship experience. The most frequent challenge that led to consult the service was immigration or arrival from another province.

Conclusions: Our results show that our program can be helpful to medical residents, is cost-effective, flexible and could be adapted and replicated elsewhere. In the future, the program will adjust to tend towards a more structured frame, highlighting the importance of in-person contacts in the mentorship experience. The small sample size of participants and the recall bias are some limitations of our study.

Reflections on the Wales Asylum Seeking Refugee Doctors (WARD) project: Increasing diversity in NHS Wales

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Introduction: Pressure continues on the NHS in Wales to spend wisely. Recruitment and staffing costs are under scrutiny and the Wales Audit Office has made a tool available for Health Boards to analyse spend on agency staff. The WARD group is an efficient and reliable source of recruitment for NHS Wales and this study demonstrates how it has improved the lives of refugee doctors and contributed to the NHS through cost savings, patient care and targets.

Method: As part of the WARD project, doctors gain experience in Supernumerary posts (created to empower refugee doctors in Wales and to allow familiarisation and integration into the NHS). These posts help fulfil the current and future workforce needs of NHS Wales and work towards the WG strategic workforce planning. This study drew on the work of Dr Amelia Kehoe to identify reliable measurement methods. Quantitative and qualitative data collected from the work and contributions of the doctors in the supernumerary posts to look at savings, performance and retention of NHS staff and statistics from the Wales Audit Office was used.

Conclusions: The study demonstrated various positive impacts of the WARD project including: (1) Savings in relation to recruitment and staffing costs; (2) Positive impacts on morale and patient care; (3) Improvements in staff performance and increased retention within Wales; (4) Benefits to refugee doctors. Despite its effectiveness, it also supported Kehoe's findings that a more inclusive and supportive culture is needed to support overseas and refugee doctors for further improvements to be affected.

Appraisal outcomes: The effect of professional support considering ethnicity, gender and primary qualification

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Introduction: Support for postgraduate medical trainees/residents must take into account the trainees'/residents' ethnicity, gender and primary qualification. A study shows that for Outcome 3s (development of specific competencies with additional training time) professional support leads to an 11% increase in the likelihood of progression/training completion. Different ethnicities within the trainees/residents adds additional challenges around expectations of success and perceptions of failure. We looked at Core Surgical and Core Medical trainees/residents starting in 2015 (and who would have completed core training by 2018) to demonstrate the impact of professional support for the trainee/resident.

Methods: Statistics from the Wales Professional Support Unit focusing on Core Surgical and Core Medical trainees [n] in Wales commencing the 2-year training programme between 2015 and 2018, were used to consider the impact of professional support. Quantitative review was undertaken into the number of trainees/residents who received an Outcome 2s (development of specific competencies required, no training extension) or 3, whether they accepted support from PSU and their outcomes in subsequent reviews, comparing their gender, ethnicity and primary qualification.

Conclusions: The study showed differential attainment of trainees/residents according to ethnicity, gender and place of primary qualification. Review of attainment demonstrated more positive outcomes after professional support involvement. Further work is planned to try to identify the reasons for the initial differential attainment.

"Professional identity during residency" - Workshop development & evaluation

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Introduction: Although professional identity (PI) is a key concept to the "Professional role" according to the CanMEDS framework, few specific activities address its development during the residency. Since residency is a pivotal moment for PI construction, a workshop on this subject was developed for internal medicine residents. Teachers and residents' opinion of its relevance was evaluated.

Methods: The 2-hour workshop was conducted in 14 groups comprising 2 residents from each cohort (PGY1 to 3), led by a professor. The discussion focused on elements influencing PI construction (i.e. personal and professional values, patient-doctor-collaborators relationship, stressful events). Participants' feedback was assessed through an anonymous online survey immediately after the activity and after 1 month.

Conclusions: 53 residents (response rate of about 63%) completed the appreciation form immediately after the workshop. 100% considered the activity highly relevant and suggested an annual implementation, while initially only 73.6% were very interested in participating. 100% of the respondents undertook a personal reflection, and 77.4% changed the perception of their PI. At 1-month interval, the main benefit of the workshop was normalization of certain concerns through peer sharing and personal reflection. Some respondents reported a positive change in their behaviors as health professionals like improving communication with patients. Following the success of this workshop, the internal medicine residency program has decided to implement it on an annual basis. We believe residents from all fields could benefit from a similar activity.

Early exposure to ophthalmology through the Pre-clerkship Residency Exploration Program (PREP) significantly increases medical student interest in the specialty

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Introduction: The number of Canadian medical students looking to enter the field of Ophthalmology has increased over the past decade. With the number of Ophthalmology residency positions remaining fairly constant, competition for these positions continues to increase. A recent report highlighted that only 5 of 14 Canadian medical schools surveyed offer core Ophthalmology rotations during clinical clerkship. This study seeks to determine if early exposure to Ophthalmology influences how second year medical students view the speciality and potentially influence their interest in it.

Methods: 37 second-year medical students were enrolled in a new two-week program at Dalhousie Medical School called the Pre-Clerkship Residency Exploration Program (PREP). PREP was designed to increase exposure to specialties often not included in core clerkship rotations, such as Ophthalmology. Pre-and post-questionnaires measured things such as students' knowledge of the specialty, current level of interest, and likelihood of pursuing Ophthalmology as a career. Between administration of the two questionnaires was engagement in Ophthalmology, including participation in clinics, use of equipment, lectures, and discussions with residents. Analysis of data was done using Wilcoxon sign-ranked test.

Conclusions: Early exposure to Ophthalmology during PREP showed a statistically significant increase in 1) student knowledge of the specialty and the scope of an Ophthalmologist, 2) current level of interest in Ophthalmology as a specialty. The study also revealed an increase in the likelihood of students ranking Ophthalmology as a top-3 choices in CaRMS. These findings highlight the value of early exposure to Ophthalmology in specialty planning for medical students.

Improving teaching of the medical student cardiovascular physical exam through the development of an objective-based guide.

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Introduction: The adult cardiology residents and staff are responsible for teaching the cardiovascular physical exam to undergraduate medical students at Dalhousie Medical School. Until now, teaching has been unstructured with no clear guide to follow. Residents have identified several areas of improvement, including standardization of clinical skills taught and resource materials for medical students. In response to this need, an objective-based physical exam teaching guide was developed for faculty and resident teachers.

Methods: Relevant adult cardiology objectives were taken from the Dalhousie Undergraduate Medical Education (UGME) webpage and collated. A four-day adult physical exam curriculum was developed that mapped back to these objectives, with plan for dissemination to adult cardiology attending staff and cardiology residents providing undergraduate medical education. These guides were supplemented by standardized background readings for the medical students. The objective-based guide will be assessed formally by surveying resident and staff educators to determine its effectiveness as a teaching aide. Feedback will also be obtained from medical students regarding quality of teaching, which will be compared to feedback from previous years.

Conclusions: An objective-based tutor guide and curriculum was developed to guide the teaching of the second year medical student cardiovascular exam. Formal evaluation is pending, but will include student and resident evaluation. It is expected that this will improve and standardize undergraduate physical exam teaching by residents and faculty.

The KIT: The Northern Ontario School of Medicine pediatric digital handbook

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Introduction: Pediatric care providers require convenient access to clinical tools including treatment protocols, nomograms, and algorithms. Trainees in Northern Ontario face the additional challenge of adapting to protocols across several hospitals. The KIT App, developed at NOSM, is a digital handbook of up-to-date and universally applicable content that can be rapidly accessed by authorized users. Since 2016 the KIT has been available to NOSM Pediatric learners, and to trainees joining us from other universities. The KIT contains not only a library of clinical resources, but also orientation information for each training site, learning objectives, clinical pearls, and self-assessment questions. There are currently 100 medical student, resident, and faculty users.

Methods: Two years after go-live, an email evaluation survey was issued. Responses were analyzed to determine the role and value of the app in the learning and practice environment.

Results: The response rate was 46%. Medical students and residents each comprised 40% of the total respondents. Respondents agreed the KIT is a valuable tool that enhances their pediatric practice. Students use the app primarily for orientation and knowledge acquisition, accessing topics like vital signs and developmental milestones. Pediatric residents and faculty more often refer to complex neonatal protocols like ordering TPN. High ratings for accessibility, navigation, and graphic design appeal were universal.

Conclusions: Our evaluation confirms that program-sponsored digital resources are not only popular amongst trainees, but also harmonize and enhance training across multiple teaching sites. Digital apps represent the evolution of medical training, especially in NOSM's distributed learning environment.

Objective-based clinical vignettes to enhance internal medicine resident teaching on the coronary care unit

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Introduction: All core Internal Medicine residents rotate through the Coronary Care Unit (CCU), an often busy and stressful environment. Recent resident evaluations at Dalhousie University have highlighted a lack of dedicated teaching and limited exposure to uncommon cardiology presentations. In response to this need, a series of vignettes were designed based on the Internal Medicine Royal College objectives.

Methods: Relevant adult cardiology objectives were extracted from the Royal College 'Objectives of Training in the Specialty of Internal Medicine'. Based on these objectives, a series of eight clinical vignettes were developed. These vignettes were designed to be completed in roughly 10 minutes and ranged from ambulatory cardiology presentations to inpatient CCU management. Resident and tutor versions were both developed, with tutor versions containing additional learning resources. These vignettes will be provided to senior cardiology residents and cardiology attendings to administer to internal medicine residents.

The quality of the vignettes as a teaching tool will be assessed quantitatively after completion by each internal medicine resident through a formal survey. Senior cardiology residents and cardiology staff will also evaluate these vignettes.

Conclusions: Royal College objective-based cardiac vignettes were developed for teaching to core medicine residents while rotating on the CCU. These vignettes have just been introduced and formal evaluation is pending. It is expected that this will improve and standardize cardiac teaching on the CCU.

Broadening your perspective in assessing team activities

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Introduction: In many team-based learning (TBL) situations, it is difficult to adequately capture the depth and complexity of interactions, both verbal and non-verbal, between team members. In our own previous studies of TBL, we found brief but intense flurries of concentrated activity. During these interactions, such as patient resuscitation or surgical operations, it is often difficult for the observer to have a good view of the action.

Methods: We have worked on many approaches in video capture and activity metrics during TBL. Based on experience gained from projects on the creation of teaching procedural videos, we present some of the key challenges encountered during regular video capture and post-production, along with a summary of previous attempts with multiple camera setups, multi-camera arrays and mobile devices. Introducing a new generation of technology, we show how readily available 360 degree cameras and software can capture a completely new point-of-view (PoV) on TBL activities. Because this captures a complete perspective on all action around the PoV in high resolution, with dynamic view stabilization, no action is missed; nobody is out of the frame. After the event, the dynamic PoV can be redirected to look at any aspect of the TBL activity in greater detail, to focus on a particular team member, or two separate simultaneous views, generated from the same video stream, show how two team members interact.

Conclusions: This can be applied to many TBL activities in residency, such as simulated resuscitations, surgical operations, and collaboration/communication exercises in IPE events.

Data driven faculty development strategic planning for implementing Competency-based curricular reforms

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Introduction: The wide-ranging changes of Competency based (CB) curricular reform changes have high expectations of all involved including faculty, learners and educational leaders.

Methods: This research collected the input of experienced FD and education leaders who were early implementors in CB reform through multi methods including: an online survey of 168 faculty development leaders; development of a FD planning tool; one to one consultations on FD plans with 23 key informants, and summary of needs and priorities across the FD informant meetings.

Results: The survey response rate was 44.6%. 80% of respondents had programs that had already launched to competency based curricular reform. The survey offered FD advice on best formats, best timing and key topics. The survey results informed the FD planning tool and the semi structured interviews.

Conclusions: Key learning from the interviews was that the greatest need was for resources to support learners and teachers in the fast pace of curricular reform. Additionally, the interviews illustrated the needs faculty development on how to include new assessment tools and processes into their busy clinical practices. Other identified FD needs were for feedback and coaching skills and advanced FD development for Competence Committee Chairs and members. This research illustrates how data driven faculty development can inform and support competency-based curricular reforms. Ongoing check ins and follow up may be helpful to monitor changes in FD gaps and needs over time.

The effectiveness of electronic evaluation and feedback to residents in objective structured clinical examinations: A pilot crossover study protocol.

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Introduction: As competency-based education is implemented, direct observation of resident clinical encounters and evaluations will likely increase in importance. Evaluations through Objective Structured Clinical Examinations (OSCEs) helps resident physicians identify areas of improvement. While some studies have examined the importance of immediate versus delayed feedback in OSCEs, none have looked at the effectiveness of electronic feedback (e-feedback) versus verbal feedback.

Methods: This is a crossover study protocol in which Physical Medicine & Rehabilitation residents at the University of Calgary will undergo six monthly OSCEs. Ten residents will be randomized to two groups, while all OSCEs will be run by two blinded examiners. Randomization will result in two groups, each one undergoing three OSCEs with either verbal or e-feedback, followed by three OSCEs with the second form of feedback. Quantitative outcomes will include the number of feedback variables residents remember - compared to the number of feedback variables given by examiners - immediately and two weeks later. Qualitative outcomes will include the level of satisfaction perceived by residents, as well as their perceptions of their ability to retain feedback through both verbal and e-feedback.

Conclusions: This crossover study will compare verbal feedback to e-feedback in resident OSCE evaluations, at immediate and delayed time periods, as well as resident perceptions and satisfaction. This study has the potential to help programs assess the necessity to transition to e-feedback of resident OSCEs, as well as justifying the cost, time and resources to train examiners and implement e-feedback in OSCEs.

The Wales Asylum Seeking and Refugee Doctors Group (WARD): Experience of supporting doctors from diverse backgrounds into specialty training

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Introduction:

Appreciation of the need to improve social integration and employment opportunity for asylum seekers and refugees drove the impetus to establish a support network for doctors or dentists who wished to return to practice in their adopted country Wales. Funded by the Welsh Government, the WARD group was established in 2002. Managed through Health Education and Innovation Wales, support is provided through the charity Displaced People in Action.

Summary: The WARD group meets regularly, providing the tutoring for the relevant English language examination, support and access to courses for professional entry examinations and help with GMC registration. Following successful completion and GMC registration, there is induction into the NHS and funded clinical posts enabling doctors to apply for training posts. In November 2018, an audit was undertaken as part of an evaluation of 16 years of the scheme. Information available about the doctors who had engaged with the scheme was reviewed.

Conclusions: Since its inception in 2002, over 2 hundred refugee and asylum seeking doctors or dentists dispersed to Wales have engaged with the scheme. 109 doctors have achieved full GMC registration. 40% have achieved specialty accreditation or are completing training schemes. A further 44% work within the NHS. The objective is to ensure that these doctors, who have faced such hardship, have the opportunity to work, contribute to the NHS and provide security and social integration for their families.

The amazing (resident) race 2.0: Experiential learning about the social determinants of health in pediatrics

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Introduction: The future of health care includes integrated health systems, and seamless transitions between hospital and community. As such, physicians must understand their patients' social and economic contexts. Experiential learning effectively develops systems-based competencies. Building on an activity developed in a northern setting, we developed an urban activity highlighting the social determinants of child health.

Methods: Different challenges were created based on actual clinical scenarios. 37 pediatric, psychiatry and pediatric subspecialty residents from an urban program, 4 faculty, and 19 community contacts and agencies participated. Learner teams were tasked with a family's "day in the life". Scenarios highlighted barriers (complex care needs, language, food and housing access) and roles of community agencies. Residents had a half-day to complete their assignment using public transportation. Teams then created short presentations responding to reflective questions. A mixed methods design assessed satisfaction, including a survey and analysis of narrative comments for key themes. Community partners submitted narrative feedback.

Results: 16/37 (43%) participants completed the survey. 100% rated the quality, format and interactivity as either excellent or good. 94% stated learning needs were met and would help them to be more effective in advocating for these patients in the future. Real-life scenarios, the immersive experience, and community interaction were highly rated. Guidance on integration of principles learned into practice was identified as needing further development.

Conclusions: Experiential learning regarding the social determinants of health is feasible and highly rated across diverse residencies. Further study should assess application and retention of learning.

Near-peer teaching as a modality to foster clinical reasoning skills in pre-clerkship

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Introduction: Junior medical students receive limited opportunities to nurture clinical reasoning, while senior students transitioning to residency receive minimal guidance on teaching. Near-peer teaching (NPT) models may bridge these gaps as similarities in knowledge levels ('cognitive congruence') and proximity in training ('social congruence') have been shown to promote junior trainee learning, while providing valuable teaching experiences and reinforcing acquired knowledge for senior trainees.

Methods: We developed a NPT program at the University of Toronto, whereby fourth-year medical students teach second-year students approaches to six common Internal Medicine presentations. Fourth-years were provided a primer on effective teaching strategies and case-specific structured teaching guides. Each 90-minute session was led by paired fourth-year students, covered two cases and attended by 3-7 second-year students. The primary objective was for fourth-years to promote interactive case-based discussions on pertinent aspects of the history, exam and investigations, while encouraging second-year learners to adjust their differential diagnoses iteratively. Structured anonymous surveys were used for program and teacher evaluations.

Conclusions: 108 second-year and 64 fourth-year students participated in the inaugural year. Preliminary surveys (24 junior learners) showed 100% agreement that teacher-facilitated discussions enhanced understanding of covered content, and that material was appropriate to training level. Narrative comments indicated that junior learners felt the program (and particularly near-peer teachers) bridged a gap in training by fostering an approach to tailoring a differential diagnosis. Opportunities for improvement include increasing case duration and complexity. Our findings suggest NPT promotes clinical reasoning in junior learners, while providing senior trainees with teaching experience.

Clinical debating for critical action learning using a constructivist approach-case study

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Introduction: A critical thinking resident can evaluate, conceptualize analyse, synthesise and apply information gathered to create a plan of care for a patient. When a patient outcome is favourable or not this physician should be able to critically reflect i.e. rigorously critique their own actions to derive what went well and what can be done better. This skill is developed throughout one's training using different techniques and is a vital aspect for critical action learning when they are working independently.

Methods: Applying the constructivist learning theory, a clinical debate session was developed for the PGY3 (final year) internal medicine residents in Georgetown Public Hospital Corporation. Every 2 weeks , one of the residents would select a patient case which they were a part of and discussed the case with rest of their PGY3 group. Facilitated by a tutor, the group was encouraged to debate the actions that took place during the management of the patient and if the other residents would select to do something different. The residents had to support their discussions with evidence. The session would end with resident self-reflection.

Conclusions: The constructivist learning theory suggests that acquiring knowledge alone doesn't solidify learning, students are individuals who learn through social interactions, practice and application of knowledge. Self-assessment, peer assessment, feedback and reflection are important tools which are used to develop critical thinking and reflection. Final year residents are being prepared to work with minimal to no supervision, it is important that they develop these skills.

Longitudinal pediatric emergency medicine block: A program evaluation

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Introduction: Emergency medicine (EM) practitioners must be proficient at caring for patients of all ages, including pediatric patients. Traditionally, EM trainees learn pediatric emergency medicine (PEM) through block rotations. This is problematic due to the seasonal nature of pediatric diseases and infrequent critical events. Spaced repetition learning theory suggests PEM would be better learned through longitudinal rotations. At McMaster University, senior EM trainees can choose either traditional PEM blocks or longitudinal rotations. Our objective was to explore the perceived advantages and disadvantages of longitudinal PEM training.

Methods: We conducted semi-structured interviews with key stakeholders (trainees, program directors, attending physicians) in EM. Data were analyzed using thematic analysis. All investigators coded a subset of transcripts independently and in duplicate to achieve intercoder agreement.

Results: A total of 11 interviews were completed with trainees (n=9) and staff physicians (n=2). Both groups felt longitudinal blocks offset seasonal variation in presentations. Block rotations were identified as more valuable to junior trainees learning fundamental concepts. Senior longitudinal trainees reported less atrophy of skills and knowledge as well as increased entrustment with pediatric patients. All groups felt there was no difference between competence at graduation but the longitudinal group reported an increase in confidence and comfort with PEM.

Conclusions: Longitudinal learning provides numerous advantages to learning PEM, including increased case variety, spaced repetition of core concepts and a perception of greater entrustment of the learner by PEM physicians. Future projects looking to quantify the differences between longitudinal and block learning to objectively show a difference in skills and knowledge are needed.

Resident-driven strategic planning and development of a program evaluation framework to improve the residency experience

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Introduction: Canadian residency programs typically engage in surveys to evaluate resident educational experience as a requirement of accreditation. Queen's University's Public Health and Preventive Medicine residents identified that survey data has not been useful in informing areas for improvement due to consistently high ratings. We were unable to identify a defined process for learner-led program evaluation in the literature. After agreement among all residents, we moved forward with the innovative development a learner-driven approach for program evaluation informed by strategic planning, serving both to benefit the program and fulfill learner educational goals in leadership and collaboration.

Methods: Initially, two residents arranged a strategic planning workshop for all residents. We identified that further education was needed on formal evaluation, and so a logic model teaching session was held followed by an environmental scan of current program goals by the senior residents. Evaluation experts have been involved throughout the process. A modified Delphi process will be used in the coming months to identify resident priorities, informing the creation of a final strategic plan and development of a logic model for routine resident-led program evaluation.

Conclusion: Creation of a strategic plan and logic model will allow for ongoing evaluation of our program in a resident-centred way, ensuring our future initiatives are guided by learner needs. The process has functioned as a valuable educational exercise, and would be easily adapted for any training program looking to offer a practical management experience for residents that brings learner agency and educational value to their program.

A new model for addiction training: Reversing stigma and creating competence

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Introduction: Amidst the ongoing opioid crisis, it has become clear that U.S. ACGME residency programs do not adequately prepare physicians for treating substance use disorders (SUDs). The elements of effective clinical training have been described as the clinician's triad: an adequate knowledge base, a positive attitude toward the patient and treatment, and a sense of professional responsibility for treating SUDs (Renner 2004). Although addiction is a chronic disease, most required addiction psychiatry rotations take place in short-term, high-acuity settings where patients may be at their lowest point. Such experiences negatively impact physicians' attitudes towards patients and reinforce the abdication of responsibility for treating these conditions. Trainees seldom have supervised opportunities to treat patients in long-term recovery.

Methods: We developed a year-long, half-day clinical elective for general psychiatry residents designed to expose them to long-term care of patients with SUDs and co-occurring psychiatric disorders. Specifically, we aimed to teach necessary clinical skills including Medication Assisted Treatment, foster appropriate attitudes and enhance trainees' sense of responsibility for treating this population.

Conclusions: Prior to this rotation residents had no exposure to longitudinal management of addiction; the integrated and multidisciplinary format of this rotation is unique within our state and region. Positive feedback from trainees completing this elective shows that a half-day longitudinal clinical experience can sufficiently prepare psychiatry residents to feel comfortable and confident in treating patients with SUDs. Future directions should continue to explore novel approaches to addiction training in residency.

Resuscitation simulation training program with 'pause and discussion' for PGY1 residents

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Introduction: Within the last ten years, simulation used in resuscitation team training has become an educational modality in emergency medicine. A 'Pause and Discussion' strategy has been incorporated into resuscitation scenario simulations in PGY1 resident training. The purpose is to enhance their skills and competency required to respond and work effectively as a member of a resuscitation team.

Methods: At Veterans General Hospital, Taichung, Taiwan, PGY1 residents in training programs regularly participate in team-based simulations. Each simulation consists of a twenty-minute resuscitation scenario and ten-minute feedback. A 'Pause and Discussion' strategy has been incorporated to better resolve difficulties encountered during simulation. After the session, team members assess the experience in the management of critical situations and effective teamwork.

Results: The participants were PGY1 (n=418) in the one-month emergency medicine rotation. The learner satisfaction survey achieved a 95% level of satisfaction. Having undergone 'Pause and Discussion' strategy, residents expressed decreased levels of anxiety when encountering obstacles during simulations. They reported increased confidence in the ability to prioritize when multi-tasking, use a structured approach in critical situations, effectively communicate within a team, lead and make decisions during resuscitation scenarios.

Conclusions: The PGY1 residents expressed high levels of learner satisfaction with the 'Pause and Discussion' simulation training, with increased confidence in a resuscitation scenario, less anxiety and more effective teamwork.

The missing piece in CanMEDS: Using technology to teach financial literacy skills during residency training

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Introduction: Much attention is placed on clinical competence, professional development, and career progression in CanMEDS. This focus can result in personal matters remaining on the sideline, such as sizable medical school debt, finding a home, and ensuring a sustainable household budget. Our needs assessment showed that residents feel inexperienced in managing the financial aspects of personal financial literacy. Video-based education modules with a flipped classroom component are an ideal method to address these topics in an engaging educational manner.

Methods: Together with the Harvard University Employees Credit Union (HUECU), we developed a video-based education module with a flipped classroom component on 'home buying and renting' aimed at resident physicians. Residents were provided with a short video, covering basic information on the advantages and disadvantages of renting versus buying, followed by a walkthrough of the process of home buying. Following the module, residents could schedule consultations with financial experts at HUECU to apply new content knowledge to their own situation. By providing this flipped classroom module and others on adjacent financial topics, our aim is to increase financial literacy amongst resident physicians and eliminate the adverse effects of feeling inexperienced in dealing with personal finances.

Conclusions: We plan to make these modules freely available to other residency programs and will continue to fine-tune the content and delivery. We believe that we have overcome many of the potential barriers for residency programs to each individually create these types of modules including lack of time, institutional buy-in, or willing financial content expert partners.

A call from medical librarians: How hospital library service can support medical humanity and holistic care education

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Introduction: In 21th century, the needs to approach medical humanity (MH) and holistic care education are various and the hospital library should provide multiple services to meet the needs. We implemented a MH program in our library and hope through this new role and soft environment of library to establish learners the meaningful learning actions and reflections by using experiential learning.

Methods: We designed a program with a series of MH session MH book resources exhibition and expert lecture in different subject including cardiovascular, transplantation, dementia, etc. The sessions included the library resources exhibition, film festival broadcasting about related topics and providing a master talk from each special field to share the holistic care experiences at our medical library.

Results: From the questionnaire with learners' feedbacks, 98.5% of participants were satisfied with the library exhibition which can understand more about the library resources and literature retrieval system in MH and strengthen the attitude and capability in lifelong learning. Moreover, through the expert talk, 95% of participants can experience the MH style, apply the empathy and respect about life, as well as use positive attitude to face the adversity and inspire the medical enthusiasm on holistic care. 95% participants thought this program can induce self-learning desire and create the connections with their previous holistic care experiences.

Conclusions: A program integrated library materials and expert's sharing as a mentor to educate MH not only can utilize the library resources, but also can enhance participant's experiencing learning and holistic healthcare cognition.

The development and delivery of pediatric subspecialty curricula in a low resource setting

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Introduction: Mbarara University of Science and Technology (MUST), Uganda and the University of Calgary (UofC), formed an education partnership in 2013 with the purpose of developing and implementing general pediatric subspecialty curricula.

Methods: Kern's model was used throughout this project. During Phase I (2014-16), U of C faculty developed and delivered interactive modules over a 2 week on-site visit. MUST residents completed evaluations. Knowledge change was measured using pre/post tests. UofC faculty met every 2 months to review challenges. The curricula were refined prior to Phase II site visits (2017-18).

Results: The theme of "excellent, no improvements needed" emerged with initial evaluations. Subsequently, the critical incident questionnaire was implemented and yielded richer, specific feedback on modules difficulty and student engagement. Faculty feedback identified the challenges of a) limited resources for subspecialty investigations /therapeutics, b) limited UofC faculty tropical medicine expertise, and c) limited curriculum time. In response, curricula refinements included a) adaptation of clinical approaches and simulation cases to a low resource setting, b) leveraging local expertise, c) classroom "flipping" and d) monthly MUST resident/UofC faculty case teleconferencing. The Phase II Pre/Post tests demonstrated the following mean SD score increases: GI 26 11%, Oncology 27 8%, Nephrology 42 17%, Neurology 41%.

Conclusions: Despite a differing spectrum of disease and limited local resources; U of C faculty, delivered a condensed adapted curriculum that supported learning and was well received.

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