Open School

The 9th Annual

Quality Improvement & Patient Safety Conference 2019

HEALTH INNOVATION 2.0

Designing a Better Tomorrow

JUNE 15th

Li Ka Shing Knowledge Institute

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For more information, please visit
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PRESIDENT'S NOTE

On behalf of the University of Toronto IHI Chapter, I am honored to welcome you to the 2019 Quality Improvement and Patient Safety (QuIPS) Conference. We are thrilled to host an incredible group of students and professionals who believe that quality improvement and patient safety are fundamental to the performance of the healthcare system.

Through multiple lenses and the benefit of interdisciplinary expertise, we hope to examine the ways design principles and technologies are transforming the healthcare landscape - from medical tools to that of organizational initiatives and supports for healthcare professionals. Attendees have the opportunity to interact with leaders of the healthcare industry through thought-provoking keynote speeches and breakout sessions, each with its very own exciting theme. This event will also showcase local quality improvement projects which exemplify students' ability to make positive change through leadership and collaboration. Be sure to take advantage of all that this event has to offer.

We know that the success of this event ultimately depends on the many people who have worked with us in planning, organizing and now delivering. I want to convey my sincere gratitude to the UTIHI Leadership Team for organizing an exceptional event. I also would like to thank all of our Faculty Advisors and sponsors for their help developing this program.

Marija Zivcevska

Marija Zivcevska, MSc.
President, UTIHI

ABOUT US

UNIVERSITY OF TORONTO CHAPTER FOR THE INSTITUTE FOR HEALTHCARE IMPROVEMENT

UTIHI is a local Chapter established in 2009 as part of the larger Institute of Healthcare Improvement (IHI) Open School. Currently, IHI is made up of 950 chapters in over 90 countries worldwide. We represent students across various departments at the University of Toronto, such as nursing, pharmacy, medicine, dentistry, medical radiation, engineering, allied health professionals, social work, kinesiology, health policy, management, and public health. We aim to continually motivate and educate aspiring healthcare professionals for success in the field of healthcare improvement.

SCHEDULE

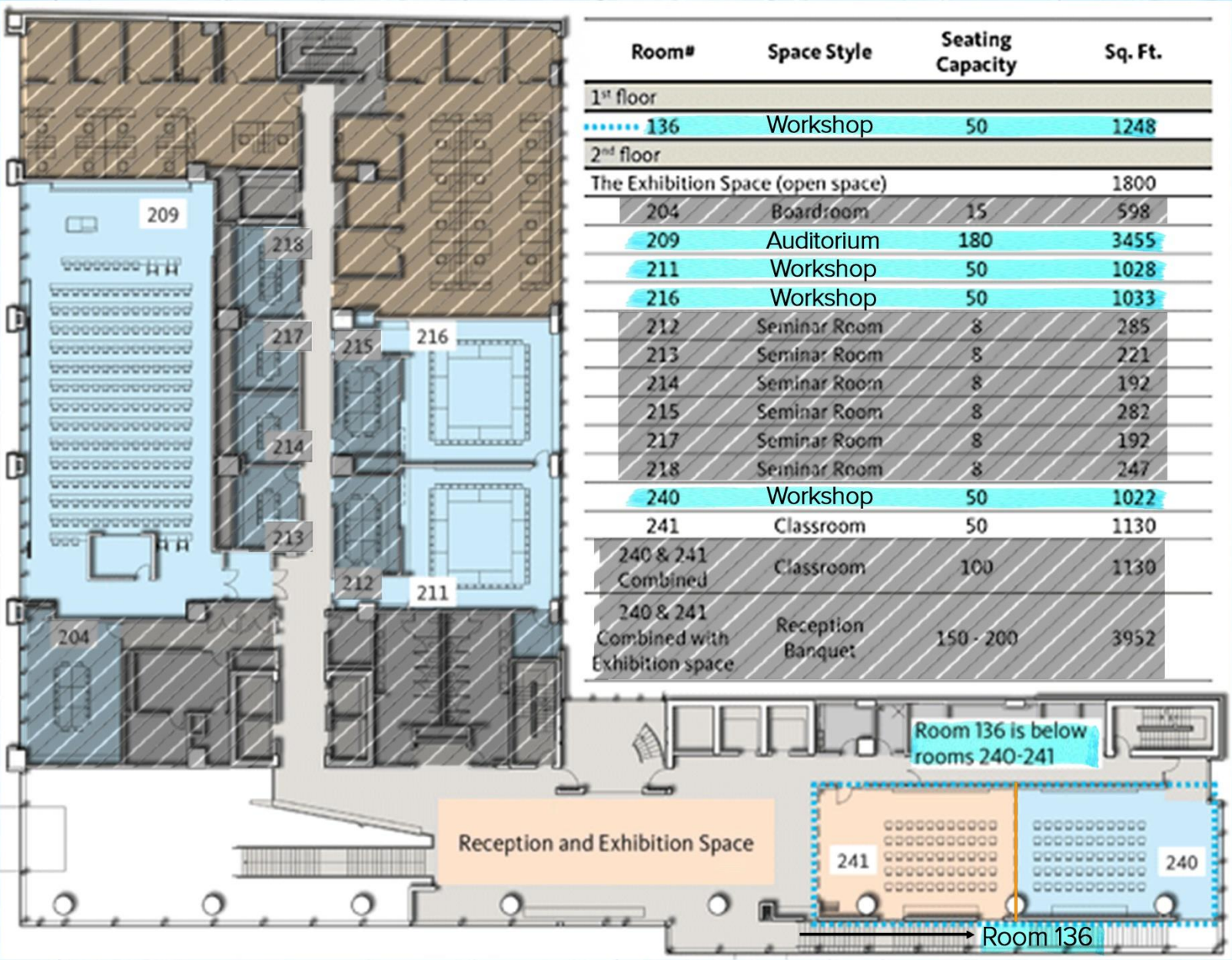
AGENDA

9:00 - 9:30 AM	Registration	Exhibition Area
9:30 - 10:00 AM	Introduction	Auditorium
10:00 - 11:00 AM	Opening Keynote (***Kate Sellen***)	Auditorium
11:00 - 11:15 AM	Break	Exhibition Area
11:15 - 12:45 PM	QI Research Presentations	Auditorium
12:45 - 1:45 PM	Lunch	Exhibition Area
1:45 - 3:15 PM	Workshops	

- **Introduction to Design in Healthcare**
  with Adam Badzinsky & Ryan Ho .....ROOM 136
- **Applying Co-Design Methods to Develop User-Centred Supports for Healthcare Professionals**
  with Kim Massicotte.....ROOM 211
- **Empathizing with End-Users and Rapidly Iterating Concepts**
  with Andrew Schellenbach.....ROOM 240
- **Design and Clinical Decision Making: Improving Patient Safety with Medication Reconciliation**
  with Oliver Tsai.....ROOM 216

3:15 - 4:15 PM	Closing Keynote (***Tai Huynh***)	Auditorium
4:15 - 4:45 PM	Closing Remarks	Auditorium

MAP



Room#	Space Style	Seating Capacity	Sq. Ft.
1st floor			
136	Workshop	50	1248
2nd floor			
The Exhibition Space (open space)			1800
204	Boardroom	15	598
209	Auditorium	180	3455
211	Workshop	50	1028
216	Workshop	50	1033
212	Seminar Room	8	285
213	Seminar Room	8	221
214	Seminar Room	8	192
215	Seminar Room	8	282
217	Seminar Room	8	192
218	Seminar Room	8	247
240	Workshop	50	1022
241	Classroom	50	1130
240 & 241 Combined	Classroom	100	1130
240 & 241 Combined with Exhibition space	Reception Banquet	150 - 200	3952

KEYNOTE SPEAKERS

OPENING KEYNOTE

DR. KATE SELLEN - TRUTH, EVIDENCE, AND THE ROLE OF DESIGN IN HEALTHCARE CHANGE

PhD, Associate Professor, Faculty of Design OCADU, Canada Research Chair in Health Design (Tier 2)

Dr. Kate Sellen is an Associate Professor in the Faculty of Design at OCAD U and Canada Research Chair in Health Design (Tier 2). She leads the Health Design Studio at OCAD U. She was the inaugural director of the Health Design Master's Program. Kate spent her early career as an interaction designer leading design research, digital strategy, and interaction design in the private sector. She now works on bringing an inclusive and interdisciplinary design approach to healthcare design challenges. Much of her work focuses on design for patient safety in safety critical and on high sensitivity topics, including the dosing, ordering, tapering, and management of opiates, communication at end of life, and the issuing and delivery of blood units for surgery. She previously held positions at University of Toronto's Technology for Ageing Gracefully Lab, Knowledge Media Design Institute, and AT&T.

In this talk, Dr. Kate Sellen will illustrate how different types of truth and knowledge inform the work she is engaged in, about how different experiences of health and well-being might come together through participatory and inclusive design research processes, and how designed objects, interactions, and experiences can be personally relevant, community relevant, and evidence based.

KEYNOTE SPEAKERS

CLOSING KEYNOTE

TAI HUYNH
MDes, MBA, Creative Director at UHN OpenLab,
Editor-in-Chief of TheLocal.to,
Co-Founder of Choosing Wisely Canada

Tai Huynh is Creative Director at OpenLab, a design and innovation studio at the University Health Network. Tai specializes in working with diverse groups of people to co-create products, services and technologies that improve health and wellness. Tai is also editor-in-chief of TheLocal.to, an award-winning magazine covering urban health and social issues in Toronto. He is a cofounder of Choosing Wisely Canada, the national voice for reducing unnecessary tests and treatments in health care. Tai has a Master of Design from OCAD University, an MBA from York University and a Bachelor of Science from the University of Toronto.

Those affected by design should have a say in the design process. This was the tenet of participatory design in Scandinavia in the 1960s, which sought to involve workers in the design of workplace information systems previously controlled exclusively by management. In a similar way, but separated by several decades, public services such as healthcare are now acknowledging that for far too long, the design of services has been controlled by providers, with limited involvement from users, particularly those from marginalized groups who, arguably need services the most. Failure to acknowledge the role of power and politics in design often leads to bad experiences and outcomes for users, and perpetuates social inequality.

KEYNOTE SPEAKERS

In this talk, Tai Huynh will discuss the opportunities and challenges for participatory design in the contemporary context. This will be illustrated through several exciting projects undertaken by UHN OpenLab, a multi-disciplinary design and innovation shop located at the University Health Network, Canada's largest research hospital.

WORKSHOPS

INTRODUCTION TO SERVICE DESIGN IN HEALTHCARE

(Room 136)

Ryan Ho, Project Analyst, eHealth Innovation
Adam Badzynski, Product Designer, Healthcare Human Factors

A mobile health app is more than just a product - it is a service. Every product is a service waiting to happen. Using project examples from eHealth Innovation and Healthcare Human Factors, come learn about a range of service design tools and methodologies we use to guide our design and development processes, all aimed to improve the model of care and to ensure that what we build meets the real needs of end-users.

In this workshop, participants will be introduced to:

- Role of service design in healthcare
- Fundamentals of the process
- Applications of design methodologies in real world contexts

WORKSHOPS

APPLYING CO-DESIGN METHODS TO DEVELOP USER-CENTRED SUPPORTS FOR HEALTH CARE PROFESSIONALS

(Room 211)

Kim Massicotte, MDes at OCAD U,
Improvement Specialist at Unity Health Toronto

The majority of health care professionals choose their line of work out of a desire to help the lives of others, but we recognize that sometimes these individuals will need help for themselves. A support program for healthcare workers involved in patient safety incidents is important to an organization because those professionals who have been affected by this type of psychological trauma experience symptoms similar to that of burnout; including anxiety, feelings of personal failure, guilt, detachment, and depression. This workshop will illustrate how design tools and methods were employed to engage healthcare workers throughout a design project aimed at developing a system of psychological support for those negatively affected by a traumatic patient incident.

In this interactive session you will:

- Learn how a system of support for healthcare workers was developed through the use of co-design methods at St. Michael's Hospital in Toronto
- Hear how to use practical design tools and methods to embed the user lived-experience into your design solution
- Experience how video prototyping and simulation can be used as part of an integrative approach to design for health

WORKSHOPS

EMPATHIZING WITH END USERS AND RAPIDLY ITERATING CONCEPTS

(Room 240)

Andrew Schellenbach
MMI, Product Manager at eHealth Innovation, UHN

Making digital health solutions that are functional and that add value is a challenging task. Too often the end user is forgotten and solutions either do not solve a real problem or they create new problems. This is where human centered design helps – when creating solutions, especially in healthcare, we must always keep the end user top of mind.

In this session we will go through a quick review of design thinking, showcase examples of its successful utilization in previous projects, and together we will apply some design thinking principles to today's healthcare challenges. This workshop will focus on empathizing with our end users and rapidly iterating on ideas

WORKSHOPS

DESIGN AND CLINICAL DECISION MAKING: IMPROVING PATIENT SAFETY WITH MEDICATION RECONCILIATION

(Room 216)

Oliver Tsai
Director of Information Technology,
Sunnybrook Health Sciences Centre

Medication errors are a serious issue that pose a threat to patient safety. According to the Institute of Medicine, medication errors are the number one type of medical error made in hospitals at the rate of approximately one error per patient per day.

Medication reconciliation is a process designed to reduce hospital medication errors. Even though Accreditation Canada set medication reconciliation as a patient safety goal more than 10 years ago, the implementation of medication reconciliation has proven to be extraordinarily difficult.

This workshop will review the process and types of medication reconciliation as well as the challenges of implementation. In the interactive segment of this workshop, you will work in teams to analyze the barriers to implementation, and work together to design an IT-based solution. Teams will then present and evaluate each other's proposed solutions.

ARO COLONIZATION PROJECT

Tharshini Jeyakumar, Dinesh Maheswaran, Julianna Charles

Antibiotic-Resistant Organisms (AROs) are endemic to hospital settings and are linked to a multitude of adverse health events. Due to the characteristics of its patient population, Michael Garron Hospital has chosen to address ARO transmission prevention through the universal screening of all patients within 48 hours of admission. The AROs of most concern in the hospital include Methicillin-Resistant Staphylococcus Aureus (MRSA) and Vancomycin Resistant Enterococcus (VRE). A random audit that was conducted in 2018 on patient charts indicated that the hospital's surgical floors (A5/B5) and long term care unit (J5) had low universal screening rates.

After conducting a secondary audit, the issue was found to be two-fold: there was a lack of physicians initiating orders for ARO screening and a lack of the subsequent collection of ARO swabs by nursing staff. The QI team used a system-level approach to improve A5/B5's screening rates. Collaboration with system admin of the hospital's electronic medical record (EMR) resulted in the development of a comprehensive alert strategy that would be embedded into the hospital's EMR. Alternatively, in J5, the QI team took an individualized approach: engaging physicians towards creating a personalized order set that included ARO surveillance screens.

The efforts to mitigate failures initiating orders and collection of ARO swabs have thus far appeared to be working. Short-term audits conducted two weeks after implementation revealed that each unit showing a screening rate improvement of 36%. Overall, the audits conducted immediately after implemented changes reveal promise, however, further audits will be needed to determine the true effectiveness and sustainability of the implemented changes.

IMPROVING LUNG CANCER SCREENING RATES AT A TORONTO FAMILY PRACTICE

Amra Das, Timothy Liu, Amira Namasivayam, Tessy Vattaparambil

Low-dose CT scans are an effective method to screen for lung cancer. Cancer Care Ontario (CCO) is currently piloting a three-year lung cancer screening (LCS) project aimed at helping high-risk patients identify lung cancer at an early stage, thereby increasing the effectiveness of treatment. Physicians can refer to LCS, patients who are between the ages of 55 and 74 with a minimum 20-year history of smoking cigarettes.

In this quality improvement project, two improvement cycles were implemented at a family practice with the aim of improving referral rates of high-risk patients to CCO's program. The first cycle featured an educational video describing risks and benefits of LCS. Workflow analysis was performed to identify wait-times during a patient's appointment, to incorporate the video. Of the ten individuals shown the video over a four-week period, nine agreed to be referred to the pilot. The second cycle featured phone calls made to patients from the clinic. During the conversation, similar information regarding the LCS was provided. Twenty-nine patients were called and ten consented to referral.

Data analysis of run charts generated from PDSA cycles showed that both interventions were effective in improving referral rates for LCS. It was noted that some patients expressed anxiety about their wellbeing from receiving unexpected phone calls in the second intervention. Physician feedback indicated that the intervention improved efficiency in the referral process, whereas nursing staff indicated an increase in workload. Therefore, any future interventions should minimize workload and patient anxiety during recruitment.

IMPROVING ORIENTATION FOR SURGICAL NURSES TO INCREASE INFORMATION RETENTION, PREPAREDNESS, AND COMMUNICATION

Harendri Perera, Jordan LoMonaco, Mary Wang, Humaira Nakhuda

Orientation for new nurses is extremely important because, if done thoroughly, it increases the consolidation of theoretical knowledge, fosters new skill development, and improves competency. The operating room (OR) in Women's College hospital hires experienced nurses who are expected to be generalists across seven specialized services after 1-5 weeks of orientation with a preceptor. The length of orientation and the roles trained are variable and inconsistent between all hires. To help provide equal and comprehensive training, the team first gathered stakeholder feedback on the current state and used it as a guide in developing an orientation tool. Through surveys, better insight into the orientation experience from the student and preceptor's perspective was gained.

The project ran through 2 PDSA cycles (Plan-Do-Study-Act), with the aim of improving the initial state of knowledge capture and training. Results from the surveys indicated that no two nurses had the same orientation experience. Half were not aware of any prior information resources to use post-orientation and all agreed they would benefit from a new orientation tool. Over half of the preceptor nurses had only been working under a year and all said the new nurses training program and tools were not sufficient at preparing them. All suggested the nurses needed better support, more education resources and even a new educator.

Following the implementation of the new orientation tool and respective How-To documentation to optimally use the tool, all the nurses reported being more confident to start using the new website for support and educational resources.

RESEARCH PROJECTS

IMPLEMENTATION OF A NON-PHARMACOLOGICAL SLEEP HYGIENE PROGRAM TO IMPROVE SLEEP QUALITY ON A TRANSITION CARE UNIT IN A REHAB/CCC HOSPITAL

Sadaf Fatima, Kelvin Yam, Rahul Bhundhoo, Sally Twin, Nishita Kamath, Agnes Tong, Mallory Drost

Bridgepoint Active Healthcare is a rehabilitation and complex continuing care hospital in Toronto, Canada. The purpose of this project was to co-design, implement, and evaluate a non-pharmacological sleep hygiene program to improve sleep quality. Using a Plan-Do-Study-Act (PDSA) quality improvement methodology combined with the UK National Health Service's Experience Based Co-Design (EBCD) approach, a multidisciplinary team was created to improve sleep quality for patients on one Transitional Care Unit.

The team completed a literature review including best practices related to non-pharmacologic sleep hygiene interventions, conducted a current state analysis with the clinical staff related to bedtime routine on the unit, as well as interviewed 22 patients about their sleep quality and experience while in hospital. The team co-designed a standardized sleep routine and a reminder tool for clinical staff to perform the standardized bedtime routine was created. Patient reported pre-intervention and post-intervention sleep scores were collected using a numerical rating scale.

A standardized sleep routine consisting of 13 bedtime activities has shown early and promising improvements for three patients who were identified as having poor sleep quality. Staff will continue to encourage patients to complete all 13 bedtime activities as part of the standardized sleep routine. A key next step is to co-design a visual management tool in the form of a poster that supports patients and caregivers to participate in the bedtime activities. The standardized sleep routine will continue to spread, ultimately becoming a routine for all patients on the unit, and eventually scaling to other units.

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