2019-2020 DEPARTMENT OF RADIATION ONCOLOGY

ANNUAL REPORT



Radiation Oncology UNIVERSITY OF TORONTO

Vision

Global leadership in Radiation Oncology by transforming practice through innovation and excellence in Research and Education.

Mission

We prepare future radiation medicine leaders, contribute to our communities, and improve the health of individuals and populations through discovery, application, and communication of knowledge.

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Dr. Fei-Fei Liu

CHAIR'S WELCOME



elcome to the University of Toronto's Department of Radiation Oncology (UTDRO) Annual Report for 2019–2020.

This past year has been like no other – nearly every aspect of our lives have been impacted by the COVID-19 pandemic. While the global crisis has presented unprecedented challenges to health and education systems worldwide, it has also offered an important reflection point to explore new approaches to delivering quality patient care and education. At UTDRO, our educational programs were quickly pivoted to remote learning, ensuring the continuation of teaching and learning. More than ever, I am impressed by our community's resilience, ingenuity, and passion as we adapted new practices to teach and navigate these uncharted waters together.

Despite disruptions to the academic year, we continued to make progress on our Strategic Plan "Reflect. Transform. Lead.", which was launched in 2018. In the past year, we harnessed the talent and resources of the department to continue enabling improved access and equity, by fostering convergence across the disciplines and the rapid adoption of new technologies. We also continued to nurture an environment that is supportive and enabling, encouraging all learners, staff, and faculty to manage their health and well-being during these challenging times.

Our department's successes could not be possible without our talented faculty and outstanding trainees. In 2019–2020, we welcomed 9 new faculty members to the extended UTDRO family – one that has grown to several thousand individuals, who are making a global impact in radiation medicine. Seven faculty members were successfully promoted, and many others, including trainees, were recognized for their outstanding achievements in the field, further enhancing our reputation as one of the top academic cancer programs

worldwide.

I would like to thank Dr. Gregory Czarnota, Executive Vice Chair of UTDRO, and the three Vice Chairs, Drs. Michael Milosevic, Rebecca Wong, and Shun Wong, for their wise counsel and unwavering support throughout the year. I am also deeply grateful to our Executive Committee for their hard work and continued commitment to excellence in our programs. Finally, I thank our faculty members, trainees, and UTDRO staff who have all played a vital role in maintaining our department's position as a global leader in radiation medicine.

As we look ahead, UTDRO will steadfastly focus on delivering high-quality education, while ensuring the safety and well-being of our trainees, faculty, and staff. While many lessons remain to be realized, we will continuously adapt and innovate to better equip our learners to thrive in a rapidly changing world. Quality education that creates future leaders in radiation medicine will be more important than ever.

Thank you,

Dr. Fei-Fei Liu MD, FRCPC, FASTRO Chair and Professor Department of Radiation Oncology

Dr. Gregory Czarnota

EXECUTIVE VICE CHAIR



he COVID-19 pandemic has had a profound effect on health and education systems worldwide. Despite a year of unprecedented challenges and uncertainty, the University of Toronto's Department of Radiation Oncology (UTDRO) continued to gain ground, making significant advances within the radiation oncology landscape. With our collective agility and strength, we continued to push the boundaries in education, innovation, and clinical practice.

Our achievements are a result of the hard work, dedication, and collaboration of our multidisciplinary faculty. Comprised of radiation oncologists, medical physicists, radiation therapists, and scientists, diversity remains our greatest strength. Over the past year, our collaborative spirit has led to major achievements, including the first patient in Canada being treated on the MR-Linac system. In the face of COVID-19, I am impressed by the dedication and resilience of our colleagues and hope we can continue to strengthen the collaborative culture within the UTDRO community.

As we adapt to the "new normal", I commend the efforts and patience of our faculty, administrative staff and trainees. In the past year, many of our regular events and training programs were transitioned to remote delivery with much success. Thank you to everyone for your support and hard work in these challenging times. With our teamwork and expertise across all centres, the future looks bright for UTDRO. A hearty congratulations on another fruitful year. I look forward to achieving and celebrating more successes together in the coming year.

Vice Chair Reports



EDUCATION DR. REBECCA WONG VICE CHAIR, ACADEMIC AFFAIRS

TDRO is home to a comprehensive range of training programs in radiation medicine. Our mission to be the global educator of choice for radiation medicine professionals continues to drive our efforts. In 2019–2020, UTDRO was home to 271 undergraduate medical radiation sciences students (119 RTT, 109 radiological technology, 43 nuclear medicine), 15 physics residents, 20 radiation oncology residents, 29 radiation oncology fellows, and 26 STARS21 scholars.

In the past year, the Medical Radiation Sciences Program continued to broaden teaching and research mentorship by clinical faculty. Several radiation therapy students successfully completed research projects and had their abstracts accepted for presentation at RTi3 and UTDRO Research Day. UTDRO faculty continued to support the Undergraduate Medical Education Program by serving as tutors and hosting numerous elective and selective students. The Postgraduate Medical Residency Program activated several new initiatives, ranging from establishing a Wellness Committee, Resident Retreat, harmonized physics curriculum, Mentorship Program, and the official launch of Competency by Design in July 2019, while preparing for accreditation in November 2020. The Fellowship Program completed a selfevaluation of the program's successes and perceived impact on graduates' professional development, which is now published in the *Journal of Cancer Education*. The Physics Residency Program participated in the central MedPhys Match Program for the first time in 2019. The Strategic Training in Transdisciplinary Radiation Science for the 21st Century (STARS21) Program continued to attract high caliber candidates with many graduates returning as mentors.

Trainees continued to attain various national and international awards including: the AbbVie-CARO ACURA Awards (2020, Piero Bettoli, Rachel Glicksman, Amir Safavi); ERRS Young Investigator Award (2019, Jennifer Kwan); Novartis Oncology Young Canadian Investigator Award (2019, Jelena Lukovic); Hold'em for Life Oncology Fellowship (2020, Hanbo Chen, Rachel Glicksman, Meetakshi Gupta); SpineFest Second Best Abstract Award, Clinical (2020, Ahmed Abugharib); CIHR Vanier Canada Graduate Scholarship (2019, Jennifer Kwan); EORTC Quality of Life in Cancer Clinical Trial Conference Travel Award (2019, Kang

Liang Zeng); and ASCO Merit Award (2019, Jelena Lukovic).

The COVID-19 pandemic brought unique challenges to medical education this past year. We embarked on curricular redesign to ensure the safety of our trainees, faculty, and patients, while maintaining the quality of training. With disruptions to face-to-face teaching, UTDRO faculty and staff successfully adapted the shift towards remote learning. Thank you to everyone for your steadfast dedication and commitment to optimizing the learning experience for our trainees.

I would also like to extend my sincere gratitude to our trainees who stepped up to support various clinical services during this high-needs time. Your compassionate and selfless service to our patients is a wonderful example of what makes our trainees future leaders in radiation medicine.



CLINICAL AFFAIRS DR. SHUN WONG VICE CHAIR, CLINICAL AFFAIRS

COVID-19 pandemic he has put immense pressures on our healthcare systems and has changed the way we deliver care. Despite the challenges posed by COVID-19, academic institutions continue to be united by the common goal of delivering quality programs that will support the success of its students. In the past year, the UTDRO community came together to confidently navigate through the COVID-19 crisis and lead in advancing radiation treatment and cancer care for the province of Ontario.

Staff at the Odette and Princess Margaret Cancer Centres, as well as our affiliated faculty at Southlake Regional Health Care, Trillium Health Partners, Royal Victoria Hospital, and Lakeridge Health continued to participate in departmental teaching and professional development activities. Radiation Oncologists across the various sites provided educational and multidisciplinary tumour board support, as well as outreach consultations to our community-affiliated and community hospitals.

UTDRO welcomed new faculty in the 2019-2020 academic year, including Mikki Campbell, Drs. Leigh Conroy, Jay Detsky, Elysia Donovan, Ezra Hahn, Srinivas Raman, Edward Taylor, Jeff Winter, and Philip Wong. Several UTDRO faculty were cross-appointed to the Department of Medical Biophysics at the University of Toronto, including Drs. Jean-Pierre Bissonnette, Catherine Coolens, and Tom Purdie as Associate Professors, and Drs. Alexandra Rink and Robert Weersink as Assistant Professors.

The past year saw several well-deserved promotions amongst our faculty members. We continued our 29-years' track record of 100% successful promotions within the Faculty of Medicine, and for the second year running, have maintained our record of seven promotions in one academic cycle. We offer our heartfelt congratulations to Drs. Gerard Morton and Ewa Szumacher who were promoted to the rank of Full Professor, and Drs. Scott Bratman, Kathy Han, Daniel Letourneau, Eric Leung, and Mark Ruschin in achieving the rank of Associate Professor.

New programmatic appointments included Dr. Shane Harding, who took on the role as the new Co-Director of the STARS21 Program along with continuing Co-Director, Dr. Anne Koch. Dr. Harding replaced Dr. Marianne Koritzinksy, who had successfully served in this role for 7 years. Dr. Derek Tsang was appointed as the new Director of Undergraduate Medical Education in UTDRO, replacing outgoing Director, Dr. Meredith Giuliani who was instrumental in advancing exposure of undergraduate medical students to radiation medicine during her leadership since 2013. Drs. William Chu and Michael Velec joined the UTDRO Executive Committee as the Odette and Princess Margaret faculty representatives, respectively. Lori Holden joined the UTDRO Executive as the inaugural Radiation Therapy faculty representative.

members Our continued to he honoured with awards and distinctions acknowledging their broad impact on the radiation medicine community. Highlights include: President-Elect of ASTRO (2019, Laura Dawson); President of AACE (2019, Ewa Szumacher); AFMC Young Educators Meredith Award (2020,Giuliani); Edmond Odette Prize for Innovation and Technology in Cancer Care (2019, Eileen Rakovitch); ICRU Gray Medal (2020, Mary Gospodarowicz); LCRF William C. Rippe Award for Distinguished Research in Lung Cancer (2019, Benjamin Lok); University of Pennsylvania John M. Yuhas Award (2020, Brad Wouters); and Fellow of ASTRO (2019, Fei-Fei Liu).



RESEARCH DR. MICHAEL MILOSEVIC VICE CHAIR, RESEARCH

TDRO and its affiliated academic hospitals and research institutes prides itself as being one of the largest, most productive academic radiation medicine programs worldwide. investigators continue UTDRO to disrupt the global radiation treatment landscape and innovate along the entire patient journey from diagnosis through treatment to end-of-life care and longterm survivorship. Key research themes that span the UTDRO community include MR-guided radiation treatment to target cancer more precisely, adaptive radiation oncology to ensure the right treatment at the right time for every patient, and the evaluation of patient-reported outcomes to provide important insights regarding the effectiveness of our treatments.

Despite restrictions on research activities during the COVID-19 pandemic, UTDRO investigators continued to produce numerous influential publications and engage in collaborative research programs locally, nationally, and internationally. The total research funding available to UTDRO investigators last year was \$50.5M. Internally, the Spring 2020 UTDRO Collaborative Seed Grant was awarded to a multidisciplinary team including Dr. Eric Leung (PI) and Co-Principal investigators: Drs. Toni Barnes (SHSC), Patrick Cheung (SHSC), Melanie Davidson (SHSC), Elysia Donovan (SHSC), Anthony Fyles (UHN), Adam Gladwish (RVH), Kathy Han (UHN), Andrew Loblaw (SHSC), Julia Skliarenko (RVH), Amandeep Taggar (SHSC) and Jasper Yuen (CVH), for their study entitled, "SPARTACUS II – A Randomized Phase II Feasibility Trial on Hypofractionated Radiation vs. Conventional Fractionation in Endometrial Cancers". This innovative and impactful study was recognized for its potential to motivate new research directions and change practice for patients with this disease.

There was a total of 486 peer-reviewed research publications by UTDRO faculty in 2019–2020, with many in high impact journals. Numerous publications were products of the collaborative efforts of inter-disciplinary research teams comprised of radiation oncologists, medical physicists, and radiation therapists. These achievements reflect the rich and diverse research culture of UTDRO.

I would like to extend my deepest gratitude to everyone in the UTDRO community who

contributed to our research successes in 2019-2020, including those who committed time and resources to ensure the academic growth of our trainees and those who served as grant and abstract reviewers. Although we were unable to host the annual UTDRO Research Day last year due to COVID-19, a record number of excellent abstracts were submitted by our trainees, highlighting the excellence and scope of research within the UTDRO community.

Finally, I would like to thank the members of the UTDRO Research Committee (Drs. Adam Gladwish, Anthony Fyles, Eric Leung, Jean-Pierre Bissonnette, Lee Chin, Marianne Koritzinsky, Mike Velec, and William Tran) for their ongoing support and commitment to harnessing the full academic potential of our program and shaping the future of collaborative radiation medicine research.

Research Highlights

REPORTING PERIOD: JULY 1, 2019 TO JUNE 30, 2020

PUBLICATIONS









Note: These figures include data for faculty at fully-affiliated hospitals and research institutes. The total funding includes funding for Principal Investigators and Co-Principal Investigators only and excludes large infrastructure grants.

Welcome New Faculty

ACADEMIC YEAR 2019-2020 (JULY 1, 2019 TO JUNE 30, 2020)



MS. MIKKI CAMPBELL, LECTURER

Ms. Mikki Campbell is the Manager of Strategic Initiatives in the Radiation Treatment Program at Odette Cancer Centre. Her clinical interests include Cancer Ablation Therapy (CAT) and spine oncology. Her research focuses on evaluation theory, policy, and health systems.



DR. LEIGH CONROY, ASSISTANT PROFESSOR

Dr. Leigh Conroy is a Clinical Medical Physicist at the Princess Margaret Cancer Centre since 2019. She specializes in the management and clinical applications of artificial intelligence-based technologies. Her research interests revolve around motion management in radio-ablation and MR-guided radiation therapy. Leigh is also the Chair of the Medical Physics Practice Guidelines for the American Association of Physicists in Medicine.



DR. JAY DETSKY, ASSISTANT PROFESSOR

Dr. Jay Detsky is a Clinician Investigator at the Odette Cancer Centre. His clinical interests are in prostate SABR, radiosurgery for brain metastases, and spine SBRT. His research interests include imaging biomarkers for prostate cancer, imaging response for brain metastases, adaptive radiation using the MR-Linac, and spine SBRT outcomes.



DR. ELYSIA DONOVAN, ASSISTANT PROFESSOR

Dr. Elysia Donovan is a Clinician Investigator at the Odette Cancer Centre. Her clinical interests include stereotactic body radiotherapy for breast and gynecological cancers and gynecologic brachytherapy. Her research interests include stereotactic radiotherapy for the treatment of oligometastasis and oligoprogression in breast and gynecologic cancers, MR-guided breast brachytherapy, and quality of life research in patients with oligometastatic cancer.



DR. EZRA HAHN, ASSISTANT PROFESSOR

Dr. Ezra Hahn is a Clinician Investigator at the Princess Margaret Cancer Centre. He specializes in radiation oncology and modeling of late cardiac toxicity after radiotherapy in Hodgkin Lymphoma. His research interests include machine learning, mathematical modeling, imaging, and radiomics in soft tissue sarcoma, genitourinary, testicular, and bladder malignancies.



DR. SRINIVAS RAMAN, ASSISTANT PROFESSOR

Dr. Srinivas Raman is a Clinician Investigator at the Princess Margaret Cancer Centre. His clinical interests focus on adaptive radiation therapy for lung cancer patients based on ¹⁸FDG–PET imaging. His research focuses on automated planning and quality assurance, artificial intelligence, and radiomics.



DR. EDWARD TAYLOR, ASSISTANT PROFESSOR

Dr. Edward Taylor is a Medical Physicist at the Princess Margaret Cancer Centre. His research focuses on combining bio-mathematical models of tumour radiation response with advanced imaging modalities for radiation therapy.



DR. JEFF WINTER, ASSISTANT PROFESSOR

Dr. Jeff Winter is a Medical Physicist at the Princess Margaret Cancer Centre. His research focuses on implementing magnetic resonance imaging as the core imaging modality for radiation therapy planning, targeting, guidance, and response assessment.



DR. PHILIP WONG, ASSISTANT PROFESSOR

Dr. Philip Wong is a Clinician Investigator at the Princess Margaret Cancer Centre. His clinical interests include cold plasma therapy as an adjuvant to radiation therapy in cancer treatment. His research focuses on personalized cancer medicine and artificial intelligence in radiomics.

2020: A Year of Resilience, Innovation & Compassion

n March 2020, the World Health Organization declared the novel COVID-19 outbreak a global pandemic. With more than 130 million cases confirmed to date, the pandemic has posed unprecedented challenges to our health system, economy, and society. Delivering quality education, while ensuring the safety and well-being of our trainees, faculty, and staff has been a top priority for UTDRO. In the past year, UTDRO and its affiliated hospitals established robust and dynamic systems to respond to the ever-changing COVID-19 landscape. At UTDRO, training programs were adapted to curb the spread of COVID-19 and almost all departmental events pivoted to an online format. It has been a year defined by resilience, innovation, and compassion – a year that we never expected, but a year that we endured as we continued to showcase our strength and unity. Herein, we highlight the various initiatives and tireless efforts of our faculty and staff in response to the COVID-19 pandemic.

During the pandemic, staff in all disciplines demonstrated resiliency and the ability to adapt to extraordinary situations.

My hope was that our linac utilization predictive model would help our organization to address operational challenges created by the pandemic.

Predicting Radiotherapy Need

he COVID-19 pandemic has had a profound impact on health systems worldwide. Hospitals scaled back or postponed non-emergency care to reduce patient volumes. Enhanced infection control measures were implemented to impede the transmission of COVID-19. Hospitals faced staffing shortages due to exposures amongst healthcare workers, illness, or caregiving responsibilities. Being responsive and agile as the crisis unfolded has been critical to managing the spread of COVID-19 and ultimately saving lives.

Confronted with the global crisis, the Radiation Medicine Program (RMP) at the Princess Margaret Cancer Centre quickly pivoted its efforts to safeguard the health and well-being of its patients and staff. The program formed a multidisciplinary COVID-19 Steering Committee to guide departmental operations and optimize resource utilization as the cases of COVID-19 grew. Anticipating potential disruptions to departmental workload, a near real-time operational dashboard was established to monitor and forecast linear accelerator (linac) utilization and capacity.

UTDRO Assistant Professor and Radiation Oncologist, Dr. Srini Raman co-led the development of the linac dashboard with UTDRO Associate Professor Dr. Daniel Létourneau, along with Master of Engineering student, Ms. Fan Jia. He explained that under normal circumstances, institutional radiotherapy utilization is not subject to significant weekly or monthly fluctuations, allowing for a steady flow of patients to be treated. However, during the pandemic, RMP had to account for potential staffing shortages and the adoption of various practice changes, including the deferral of treatments whenever safe and feasible, and the increased use of hypofractionated regimens – a technique whereby larger doses of radiation are delivered over fewer treatments. For a large program such as RMP, it was important to monitor how these parameters would affect current and future departmental workload.

Daniel, who is also the Interim Head of Medical Physics at the Princess Margaret, added that the prediction model was based on an adaptive, multiple linear regression approach, which utilized the rate of CT-simulator and treatment bookings as inputs to estimate upcoming linac workload. The model was trained and validated using clinical data from 2020 and was shown to successfully forecast linac utilization over a 4-week horizon. As RMP recovered from the initial impact of COVID-19, being able to predict future linac utilization and capacity was critical for workforce planning and avoiding a growing backlog of postponed treatments.

"During the pandemic, staff in all disciplines demonstrated resiliency and the ability to adapt to extraordinary situations. My hope was that our linac utilization predictive model would help our organization to address operational challenges created by the pandemic," noted Daniel.

Srini and Daniel envision their prediction model to be incorporated into day-to-day practice, enabling RMP and potentially other institutions to make evidence-based decisions on how to prioritize services and maximize resources. "This has a been a fruitful and rewarding collaboration, being able to work with a great multidisciplinary team to apply quantitative methods to solve practical, real-world operational challenges and ensure timely, high-quality care for our patients," said Srini. This is a prime example of how RMP has embraced innovation as part of its operations, enabling the program to emerge from the crisis stronger than before.





he COVID-19 pandemic has driven life online. With the close of non-essential businesses and government-ordered lockdowns, most aspects of everyday life - from work meetings, doctor's appointments to connecting with friends - have migrated to virtual platforms. School is no exception. The pandemic has impacted education systems globally, leading to the temporary closures of schools, colleges, and universities. Unable to attend traditional face-to-face classes. academic institutions and educators have been abruptly forced to shift the majority of their activities online. The past year precipitated a lot of "firsts" for UTDRO, as faculty and staff explored new approaches for hosting academic events and delivering quality education to its trainees.

STARS21

In June 2020, the Strategic Training in Transdisciplinary Radiation Science for the 21st Century (STARS21) Program, led by Drs. Anne Koch and Shane Harding, hosted its first-ever virtual Research Day. With over 70 viewers in attendance, the Research Day consisted of presentations on year-end team projects, individual research projects, and a Keynote address entitled "Canada's Health System Performance: What Have We Learned From COVID-19" by healthcare expert, Dr. Bob Bell. "Our transition to an entirely virtual program allowed us to expand upon our program and explore new avenues for collaboration beyond Toronto," explained Shane. "We now have participants from across Canada, the United States, and the UK. Going virtual has allowed STARS21 to transition into an international program to bring the best of the world to our trainees."

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Clinical & Experimental Radiobiology Course

Similar to STARS21, the annual Clinical and Experimental Radiobiology Course seized the unanticipated opportunity presented by the pandemic to pilot an online program. Organized by Drs. Marianne Koritzinsky, Scott Bratman, and Stanley Liu, the course welcomed 70 attendees from across the country and

several international delegates in April 2020. Marianne, who is the founder and Director of the course had some initial reservations of transitioning to a virtual model. "Tutorials, workshops, and discussions are integral to the success of the course, and we worried how these interactive components would fare in a virtual format," said Marianne. "To our delight, it did not appear to represent a barrier to interaction - on the contrary, we added extra question periods to cover all topics raised by the participants." It was one of the most successful years yet, featuring lectures and tutorials by Drs. Arjun Sahgal, David Hodgson, Gerard Morton, Kathy Han, Shun Wong, Richard Hill, Bradly Wouters, Michael Joiner (Wayne State University), and Albert van der Kogel (University of Wisconsin-Madison), to name a few. "Although we all missed the face-to-face interaction and opportunity for our learners to network, we were also glad to welcome many participants from afar without the cost and carbon footprint of traveling."

Celebrations

Last June, UTDRO also hosted its first virtual Post-Grad graduation ceremony to celebrate the accomplishments of its 2020 graduates (2 radiation oncology residents, 4 medical physics residents, 16 radiation oncology fellows). Despite the distance that separated us all, over 100 attendees gathered virtually to mark this important milestone. The event featured reflections from the graduates, as well as remarks from Drs. Glen Bandeira (Associate Dean, Post-Graduate Medical Education), Fei-Fei Liu (Chair, Department of Radiation Oncology), Andrea McNiven (Director, Physics Residency Program), Andrea Bezjak (Director, Radiation Oncology Residency Program), and Peter Chung (Director, Fellowship Program).

The Medical Radiation Sciences Program (MRS), led by Cathryne Palmer, also celebrated its graduating class of 2020 in a virtual convocation ceremony in June. Over 80 attendees tuned in from across the country to celebrate the 82 undergraduates of the MRS Program (12 nuclear medicine and molecular imaging technology graduates, 35 radiological technology graduates, 35 radiation therapy graduates) as they embarked on a new journey. "After having their clinical training abruptly cut short by a couple of weeks, the program felt that it was incredibly important that the graduates come together to celebrate the completion of three years of hard studying," said Cathryne. "The virtual The virtual convocation ceremony was well attended by not only graduates, but proud parents and grandparents – something an in-person ceremony has not been able to accommodate in the past.

convocation ceremony was well attended by not only graduates, but proud parents and grandparents – something an inperson ceremony has not been able to accommodate in the past. It was an important opportunity for the whole MRS community to come together and celebrate the Class of 2020."



Unmasking Smiles

ancer patients who arrive at any of the UTDRO-affiliated hospitals are used to seeing the friendly faces and smiles of staff. However, when the pandemic hit, stringent safety measures were put in place to protect patients and staff from potential COVID-19 exposure. Masking became routine practice within the Radiation Medicine Program (RMP) at the Princess Margaret Cancer Centre – sadly hiding the friendly faces of staff, along with the comfort it brought to patients.

For Dr. Derek Tsang, UTDRO Assistant Professor and Radiation Oncologist at the Princess Margaret, this meant finding an innovative and fun way for staff to share their smiles with patients and families amid the heightened safety measures. Inspired by the "Share Your Smile" movement at Scripps Mercy Hospital, Derek spearheaded the Photo Buttons Initiative at RMP. Large 3.5" photo buttons featuring the faces of staff were created so patients could see their bright smiles under the layers of PPE. "My hope was that the photo buttons would allow patients and their healthcare professionals to better create and maintain an important caring, human connection through these challenging times," explained Derek. Feedback from patients and staff has been overwhelmingly positive, reinforcing RMP's commitment to enhancing the patient and family experience and providing high–quality, compassionate care. The success of the initiative has led to over 100 buttons being distributed across RMP alone, with expansion to other departments within the Princess Margaret and University Health Network.

My hope was that the photo buttons would allow patients and their healthcare professionals to better create and maintain an important caring, human connection through these challenging times.





Together on the Front Lines

This experience has really illustrated the power of collective action.

So many people within our organization – from residents, fellows, to staff like Maitry – have gone above and beyond to deliver exceptional care to our patients.

n the face of COVID-19, it has never been more important to come together and support each other. The global crisis has created a plethora of challenges for health systems worldwide. Social distancing and infection control measures have reshaped the way health services are delivered. Healthcare professionals are experiencing unprecedented stress and high levels of burnout. Amongst the uncertainty and urgency that we find ourselves in today, frontline workers - from physicians, nurses, allied health professionals to administrative staff - have learned to adapt to the new reality and do what matters most - care for our patients.

Changing the Way We Work

Dr. Ezra Hahn, UTDROAssistant Professor and Associate Director of Inpatient Care within the Radiation Medicine Program at the Princess Margaret Cancer Centre, has seen first-hand the power of effective collaboration. "When COVID-19 started spreading across Ontario, we knew it was a matter of time before we saw COVID-19 in the Medical and Radiation Oncology Inpatient Units," noted Ezra. "Working together with a multidisciplinary team of health professionals from Radiation Oncology, Medical Oncology, and the Princess Margaret Cancer Program, we quickly adapted our model of care to increase capacity and prevent the spread of COVID-19."

In the early phase of the pandemic, several changes were made within the ward, which is shared by the Departments of Radiation Oncology and Medical Oncology. A robust and dynamic staffing model was created to minimize the exposure of at-risk staff and always ensure an adequate workforce supply. To limit the transmission of COVID-19, designated areas within the Princess Margaret were also created for inpatients that were COVID-positive and for those who were waiting for their COVID-19 test results.

"At the time, Toronto General Hospital (TGH) was also absorbing the vast majority of COVID-positive patients to keep the Princess Margaret - with its vulnerable cancer patient population - relatively COVID-free," explained Ezra. "As the number of COVID-19 cases grew, TGH started experiencing space limitations. As a result, we took immediate action to help alleviate some of this pressure. We started admitting non-COVID cancer patients with noncancer specific issues from TGH into our ward. Everyone stepped up to care for patients outside their typical scope of practice."

Rising to the Occasion

Early in the pandemic, residents and fellows were also pulled from their respective training and redeployed to the inpatient unit full time. A rotation system was developed to minimize foot traffic on the ward – 2 trainees would be on the unit throughout the week under the guidance of a staff radiation oncologist, who would be on-site as needed, and on-call on the weekends and weeknights. "Transitioning to this new system happened quickly and would not have been possible without the trainees, especially the residents," said Ezra. "They really stepped up to manage the day-to-day activities of the ward,

helping us to provide safe and effective care for our inpatients."

When it became clear that the pandemic would not end anytime soon and trainees would have to resume their training, "the staffing model transitioned to one with our incredible Physician Assistant, Maitry Patel, and a staff radiation oncologist, who would be on the ward full time." To implement a more sustainable futureoriented model of care, it was further refined to have a hospitalist as the most responsible physician (MRP), who would be on the ward full time and work with a staff oncologist as needed. "The latest iteration of the model aligned with our Medical Oncology colleagues," explained Ezra. "It has allowed us to further reduce foot traffic on the ward and access the existing pool of hospitalists through the Medical Oncology Hospitalist Program, creating greater skill redundancy amongst the inpatient team. By partnering with Medical Oncology, it has enabled us to take a unified approach to care across the entire ward and better implement policies and initiatives to improve inpatient care."

Facing the Future Together

The COVID-19 pandemic has demonstrated the interconnected nature of our hospital system and how we can support each other to set ourselves up for success. "Crises can bring out the best in people and this is true within the UTDRO community," said Ezra. "This experience has really illustrated the power of collective action. So many people within our organization – from

Transitioning to this new system happened quickly and would not have been possible without the trainees, especially the residents.

residents, fellows, to staff like Maitry – have gone above and beyond to deliver exceptional care to our patients." As we closely monitor the evolving situation during these unprecedented times, it is crucial that we continue to work together to forge our post-pandemic future. Only together can we emerge stronger, more resilient, and better equipped as we navigate the new normal.



UTDRO Faculty Members

REPORTING PERIOD: JULY 1, 2019 TO JUNE 30, 2020

PROFESSORS

Andrea Bezjak James Brierlev Charles Catton Edward Chow Bernard Cummings Gregory Czarnota Laura Dawson Anthony Fyles Maria Gospodarowicz (University) Richard Hill (Emeritus) David Hodgson David Jaffray Normand Laperriere Fei-Fei Liu Andrew Loblaw Michael Milosevic Gerard Morton Brian O'Sullivan Eileen Rakovitch A Michael Rauth (Emeritus) Jolie Ringash Arjun Saĥgal Ewa Szumacher Gillian Thomas (Emeritus) Richard Tsang Alex Vitkin Padraig Warde David Wiljer Chong Shun Wong Rebecca Wong Bradly Wouters

ASSOCIATE PROFESSORS

Ida Ackerman (Emeritus) Iean-Pierre Bissonnette Scott Bratman Patrick Cheung James Chow Peter Chung Hans Chung Catherine Coolens Meredith Giuliani Kathy Han Zain Husain John Kim Marianne Koritzinsky Daniel Letourneau Eric Wing-On Leung Stanley Liu Barbara-Ann Millar Geordi Pang Lawrence Paszat David Pavne Thomas Purdie Ananth Ravi Tara Rosewall Mark Ruschin Alexander Sun May Tsao Yee Ung John Waldron

Steven Babic Elizabeth Barnes Aisling Barry Andrew Bavley Alejandro Berlin Anthony Brade Stephen Breen Lee Chin Iohn Cho William Chu Brige Chugh Leigh Conrov Lorraine Cournevea Tim Craig Jennifer Čroke Melanie Davidson Jay Detsky Lisa Di Prospero Colleen Dickie Elvsia Donovan Matthew Follwell Warren Donald Foltz Caitlin Gillan Adam P. Gladwish Ezra Hahn Shane Harding Nicole Harnett Ioelle Helou Lori Holden Andrew Hope Sophie Huang Mohammad Islam Irene Karam Fatma-Zahra Kassam Harald Keller Brian Keller Luluel Khan Anthony Kim Christine Koch Renee Korol Grace Lee Winnie Tsz Yan Li

ASSISTANT PROFESSORS

Ali Hosni Abdalaty

Patricia Lindsay Beniamin Lok Alexander Louie Claire McCann Andrea McNiven Sten Myrehaug Cathryne Palmer Moti Paudel Ian Poon Srinivas Raman Alexandra Rink Danielle Rodin Arman Sarfehnia David Shultz Katharina Sixel Hany Soliman Teodor Stanescu Tony Tadic Amandeep Taggar Kieng Tan Mojgan Taremi Edward Taylor William Tran Derek Tsang Chia-Lin Tseng Michael Velec Danny Vesprini Douglass Vines Robert Weersink Woodrow Wells Jeff Winter Philip Wong Matthew Wronski Collins Yeboah Ivan Yeung Beibei Zhang

LECTURERS

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