Since January 2020 Elsevier has created a COVID-19 resource centre with free information in English and Mandarin on the novel coronavirus COVID-19. The COVID-19 resource centre is hosted on Elsevier Connect, the company's public news and information website.

Elsevier hereby grants permission to make all its COVID-19-related research that is available on the COVID-19 resource centre - including this research content - immediately available in PubMed Central and other publicly funded repositories, such as the WHO COVID database with rights for unrestricted research re-use and analyses in any form or by any means with acknowledgement of the original source. These permissions are granted for free by Elsevier for as long as the COVID-19 resource centre remains active.

Conclusion: We report significant declines in MCR from 2010 − 2020 for common RO courses with the largest declines for IMRT. Hypofractionated regimens were not spared severe cuts, discouraging its broader adoption. Policymakers should consider the significant cuts to MCR that have already occurred when considering further cuts, and the negative impact of such cuts on quality and access to care.

Abstract 2754 − Table 1

Course	2010 AR ($)	2015 AR ($)	2020 AR ($)	Δ in AR (2010 to 2020) (%)	Course	2010 AR ($)	2015 AR ($)	2020 AR ($)	Δ in AR (2010 to 2020) (%)
HN 35 Fx IMRT (2 phase)*	$30.7K	$22.1K	$18.8K	-39%	Lung (L) 5 Fx SBRT w/ 4D CT*	$11.3K	$10K	$8.6K	-24%
Prostate (P) 5 Fx SBRT*	$11.2K	$9.7K	$8.2K	-27%	L 30 Fx IMRT w/ 4D CT*	$26.8K	$19.5K	$16.6K	-38%
P 28 Fx IMRT*	$25.2K	$18.2K	$15.6K	-38%	Palliative (Pa) 5 Fx 2D†	$2.9K	$2.7K	$2.7K	-9%
P 37 Fx IMRT (2 phase)*	$32.1K	$23K	$19.7K	-39%	Pa 10 Fx 2D†	$4.4K	$4.2K	$4.2K	-3%
P 44 Fx IMRT (2 phase) *	$37.8K	$27.1K	$23.3K	-38%	Pa 10 Fx 3D-C‡	$5.5K	$5K	$4.9K	-11%
Breast (B) 5 Fx APBI*	$6.9K	$5.2K	$4.2K	-39%	Pa 1 Fx 2D	$1.9K	$1.7K	$1.6K	-18%
B 16 Fx 3D-C with 5 Fx photon boost intact breast*	$10.9K	$9.5K	$9.4K	-13%	Pa 5 Fx SBRT*	$10.3K	$8.9K	$8.4K	-19%
B 28 Fx 3D-C post-mastectomy*	$14.1K	$12.4K	$12.3K	-13%					

*Daily CBCT.

†Weekly port film.

‡Daily kv-kv.

Author Disclosure: J.S. Hogan: None. P. Karraker: None. C.A. Perez: Independent Contractor; Mevion Medical Systems, ViewRay Corp. J. Pollock: None. M.P. Mehta: None. N. Vapiwala: None. B.W. Fischer-Valuck: None. J.C. Baumann: None. J.D. Bradley: None. B.C. Baumann: None.

2755

Are National Cancer Centers Prepared to Deliver Climate-Smart, Resilient Healthcare? An Overview and Analysis of Organizations' Sustainability Plans

K. Lichter,[1] A. Maniar,[2] M. Husain,[3] R. Kishan,[4] A. Hantel,[5] and S. Grover[6]; [1]*University of California, San Francisco, California, CA,* [2]*Columbia University, New York, NY,* [3]*The Ohio State University Wexner Medical Center, Columbus, OH,* [4]*Texas Tech University Health Sciences Center, Lubbock, TX,* [5]*Dana Farber Cancer Institute, Boston, MA,* [6]*Princess Marina Hospital, Gaborone, Botswana*

Purpose/Objective(s): Climate change will be the greatest global health threat of the 21st century. The impact on human health is well-documented and expected to increase if mitigation efforts remain inadequate. The health care sector and oncologists are on the front line of this crisis with vulnerable and marginalized patients bearing the burdens of a changing climate. Equally important, healthcare significantly contributes to greenhouse gas (GHG) emissions. In the U.S., healthcare is responsible for nearly 8.5% of GHG emissions and the loss of 388,000 disability-adjusted life-years annually. Cancer care encapsulates a significant portion of hospital resources. Therefore, it is imperative and urgent that cancer centers actively engage in transitioning to delivering climate-smart, resilient healthcare. Today, centers' engagement in sustainability planning remains largely unknown. This comprehensive review reports on the existence of publicly available sustainability plans at National Cancer Institute (NCI) Cancer Centers and their affiliations.

Materials/Methods: An online review of 64 NCI designated Comprehensive/Cancer Centers and affiliated hospitals/universities was performed using standardized search terms to identify organizations' publicly accessible sustainability plans. Quality of the plans was assessed based on the existence of U.S. Environmental Protection Agency (EPA) Scope 1, 2, 3 emissions. Key personnel and hospital leaders were identified and contacted to understand the centers' involvement in affiliated hospital/university plans. Independent t-tests were utilized to assess the relationship between state cancer incidence rates/per capita and the presence of a sustainability plan.

Results: Amongst the 64 Cancer Centers, only two centers (3%) had independent sustainability plans, although 7 (11%) centers mentioned sustainability on their homepage. A total of 55 of the affiliated hospitals/universities had publicly available sustainability plans (36 university, 12 hospital, and 7 joint hospital/university). A majority (77%) of hospitals with plans also had appointed sustainability leadership. In states where a hospital had a sustainability plan, there was a higher cancer incidence rate ($p = 0.052$), but there were no significant relationships with specific cancer disease sites (breast [p=0.090], colon [p=0.078], lung [p=0.088], prostate [p=0.696]).

Conclusion: Our findings highlight the critical gap in NCI Cancer Centers' involvement in transitioning to environmentally sustainable and resilient healthcare that will be necessary as cancer patients are affected by the imminent changes of climate. While most centers do not independently report on sustainability efforts, the majority (84%) of their affiliations have publicly accessible sustainability plans. Thus, highlighting the opportunity for centers to partner with their affiliated organizations, and together, ensure a future of climate-smart care for all patients and communities.

Author Disclosure: K. Lichter: None. A. Maniar: None. M. Husain: None. R. Kishan: None. A. Hantel: None. S. Grover: None.

2756

A 20-Year Review of the Ontario Radiation Therapy Access to Care Crisis: Lessons Applied to the COVID-19 Pandemic

G. Mitera,[1] C. Earle,[1] J.S. Hoch,[2] and M. Dobrow[1]; [1]*University of Toronto, Toronto, ON, Canada,* [2]*University of California, Davis, Davis, CA*

Purpose/Objective(s): Cancer systems across Canada are struggling with an acute access to care crisis resulting from the COVID-19 pandemic. Policies are being considered and applied across the country to address the backlog of patients needing access to cancer services, including radiation therapy (RT). The purpose of this research was to assess the impact of central (provincial health ministry and cancer agency) and regional (cancer center) policies on access to RT in Ontario between 1997 and 2017, and consider their relevance to today's challenges.

Materials/Methods: The research design was a case study with multiple embedded units. The case was Cancer Care Ontario. The embedded units were four diverse regional cancer centers representing the 14 different Ontario cancer centers. Methods included a document review, longitudinal quantitative data collection, and 43 key informant interviews. The theoretical underpinning was an extension of Kingdon's Multiple Streams Framework, to examine the 'problem', 'policy' solutions and 'politics' surrounding the crisis.

Results: The access to RT problem started as a wait time issue in the 1990s caused by inadequate RT facility capacity and a shortage of RT specialized staff, and evolved into a shortfall in RT utilization. Thirty-seven policies were identified and categorized as: improving existing RT capacity (n=5), system planning (n=7), performance management (n=6), human resources (HR, n=12), and building new RT capacities (n=7). Ten of the HR policies implemented to address recruitment and retention had mixed success because of implementation and political

context issues. Many of these same policies are now being applied across Canada to address access to cancer services during the COVID-19 pandemic.

Conclusion: A 20-year case study of the Ontario RT access crisis in the 1990s, and the post-crisis periods, offer many useful learnings that can be applied to current policy challenges in access to care due to the ongoing pandemic.

Author Disclosure: G. Mitera: None. C. Earle: None. J.S. Hoch: None. M. Dobrow: None.

2758

Self-Reported COVID-19 Infections and Social Mixing Behavior at Oncology Meetings

W.J. Talcott,[1] K. Chen,[2] G.W. Peters,[1] K.K. Reddy,[3] S.M. Weintraub,[4] S. Mougalian,[5] K. Adelson,[2] and S.B. Evans[1]; *[1]Department of Therapeutic Radiology, Yale School of Medicine, New Haven, CT, [2]Yale School of Medicine, New Haven, CT, [3]University of Mississippi Medical Center, Jackson, MS, [4]Southcoast Health, Fairhaven, MA, [5]Department of Medical Oncology, Yale School of Medicine, New Haven, CT*

Purpose/Objective(s): The COVID-19 pandemic largely suspended conventional in-person scientific meetings because of the risk of disease spread. In the era of vaccination and social distancing practices, meetings have slowly begun to return to in-person formats. We surveyed attendees and potential attendees of two United States oncology meetings to identify rates of mixing behavior and the subsequent rate of self-reported COVID-19 infection.

Materials/Methods: We collected reported social mixing behavior and COVID-19 positivity of actual and potential in-person oncology meeting attendees of the American Society of Clinical Oncology (ASCO) Quality Care Symposium in Boston, Massachusetts on September 24-25, 2021, and the American Society for Radiation Oncology (ASTRO) Annual Meeting in Chicago, Illinois on October 24-27, 2021 via survey. Participants were identified through publicly available meeting materials and targeted via email when possible. Recruitment was also conducted through Twitter and a radiation oncology newsletter, as well as an anonymous link made available to emailed recruits, with sharing encouraged. In-person respondents to the later ASTRO survey who had attended the ASCO meeting were excluded from the analysis. Statistical significance was determined using Fisher's exact test for rates of COVID-19 positivity and the chi-squared statistic for differences in group characteristics, with a cutoff for statistical significance $p<0.05$.

Results: Response rates from attendees with publicly available emails were 27.4% for the ASCO meeting and 14.3% for the ASTRO meeting. The ASCO survey produced 94 responses, with 48 responding as in-person attendees. The ASTRO survey produced 370 responses, with 267 responding as in-person attendees. Across both meetings, 3 of 308 (1.0%) of in-person attendees versus 2 of 141 (1.4%) of non-attendees tested positive for COVID-19 ($p=0.65$). Among in-person attendees, there were similar low COVID-19 positivity rates among those spending more (>20) vs less (≤20) hours attending live sessions (2.2% vs 0%, $p=0.25$) and between those who went to indoor social events vs those who did not during the meeting periods (0.8% vs 1.9%, $p=0.44$). Attendees largely felt that they would feel comfortable attending additional in-person meetings after experiencing the ASCO (87.5%) or ASTRO (91.9%) meetings and that mask compliance was good or excellent at the ASCO (100%) and ASTRO (94.6%) meetings.

Conclusion: This study indicates that in-person meetings do not seem to be contributing to high rates of new COVID-19 infections in the setting of mask mandates, vaccine mandates, and decreased room capacity allowances. The rate of self-reported COVID-19 infection of both in-person attendees and non-attendees was very low and the meetings were successful at creating an environment where participants felt safe. These findings support the possibility of a path forward for at least partially in-person conferences as new variants emerge and COVID-19 becomes endemic.

Author Disclosure: W.J. Talcott: None. K. Chen: None. G.W. Peters: None. K.K. Reddy: None. S.M. Weintraub: None. S. Mougalian: None. K. Adelson: None. S.B. Evans: None.

2759

Landscape of Oncology-Specific, FDA-Approved, Artificial Intelligence and Machine Learning-Enabled Medical Devices

S. Zhu, M. Gilbert, I.J. Chetty, and F. Siddiqui; *Department of Radiation Oncology, Henry Ford Cancer Institute, Detroit, MI*

Purpose/Objective(s): Machine learning (ML), a type of artificial intelligence (AI) technology that uses a data-driven approach for pattern recognition, has been shown by numerous research studies to be beneficial for tasks across healthcare. In this study, we aim to characterize the commercial availability of oncology-specific AI/ML applications in the clinic by performing a detailed analysis of such devices that were approved/cleared by the US Food and Drug Administration (FDA).

Materials/Methods: A list of 343 AI/ML-enabled medical devices that were approved or cleared by the FDA up to June 2021 was published by the agency, and this list was used to construct the initial database for our study. The publicly available FDA approval letters for these devices were independently reviewed by two research assistants, and a device was classified as oncology-specific if its primary intended use is related to assisting the diagnosis or treatment of oncologic pathologies. For oncology-specific devices, additional details on device characteristics, FDA regulatory process, and approved indications were obtained. A basic descriptive statistical analysis was performed on the aggregated data.

Results: Fifty-two (15.2%) of the 343 AI/ML-enabled medical devices were classified as oncology-specific. The growth of the oncologic-specific devices sharply rose since the mid-2010s, with 49 (94.2%) approved in 2016 or after. Fifty (96.2%) devices were cleared by the 510(k) premarket notification pathway, and, except for one class III device, the remaining 51 devices were considered as class II by the FDA. All but one device was considered Software as a Medical Device (SaMD). Thirty-six (69.2%) devices were intended for diagnostic purposes, of which 24 (66.7%), 9 (14.3%), 1 (6.3%), 1 (6.3%), and 1 (6.3%) was for the detection of breast cancer, lung cancer, prostate cancer, thyroid cancer, and bone cancer, respectively. The 16 devices intended for therapeutic purposes were all related to radiotherapy: 15 are for radiation treatment planning (all included organ auto-segmentation as the main function), and 1 is a linear accelerator equipped with AI/ML algorithms.

Conclusion: Our results showed a rapid increase of oncology-specific, FDA-approved, AI/ML-enabled medical devices since 2016. Further study is needed to assess the impact made by these devices on the delivery of oncology care.

Author Disclosure: S. Zhu: Research Grant; Varian Medical Systems. Travel Expenses; Varian Medical Systems. M. Gilbert: None. I.J. Chetty: Research Grant; Varian Medical Systems, Inc, Philips Healthcare, ViewRay Inc. Honoraria; ViewRay Inc. Speaker's Bureau; ViewRay Inc. Travel Expenses; Varian Medical Systems, Inc, ViewRay Inc. Board member; Indo-American Society of Medical Physicists (IASMP. Member of the ASTRO Nominating Committee; ASTRO Nominating Committee. F. Siddiqui: Research Grant; Varian Medical Systems, Inc. Honoraria; Varian Medial Systems Inc, Varian Medical Systems, Inc., American College of Radiology. Speaker's Bureau; Varian Medial Systems Inc. Advisory Board; Varian Noona. Travel Expenses; Varian Medial Systems Inc, Varian Medical Systems, Inc.; HFHS Bylaws and Governance Committee, Henry F.