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.
8 FIRST PAN-CANADIAN CONSENSUS RECOMMENDATIONS FOR PROTON BEAM THERAPY ACCESS IN CANADA
Gunita Mitera
University of Toronto, Toronto, ON

Purpose: Proton Beam Therapy (PBT) is a new treatment option for select cancer patients. It is currently not available in Canada. Assessment and referral processes for out of country treatment for eligible patients vary by jurisdiction, leading to variability in access to this treatment for Canadian cancer patients. The purpose of this initiative was to develop a framework document to inform consistent and equitable PBT access for appropriate patients through the creation of pan-Canadian PBT access consensus recommendations.

Materials and Methods: A modified Delphi process was used to develop pan-Canadian recommendations with input from 22 PBT clinical and administrative experts across all provinces, external peer-review by provincial cancer and system partners, and feedback from a targeted community consultation. This was conducted by electronic survey and live discussion. Consensus threshold was set at 70% agreement.

Results: Four consensus rounds resulted in a final set of 27 recommendations divided into three requirement categories: patient eligibility (n=9); program level (n=10); and system level (n=8). Patient eligibility included: anatomic site (n=4), patient characteristics (n=3), clinical efficacy (n=2). Program level included: regulatory and staff requirements (n=5), equipment and technologies (n=4), quality assurance (n=1). System level included: referral process (n=5), costing, budget impact and quality adjusted life years (n=2), eligible patient estimates (n=1). Recommendations were endorsed by the Canadian Association of Provincial Cancer Agencies and its member organizations in June 2021 and distributed to all 43 cancer programs in Canada.

Conclusions: The consensus-building approach resulted in evidence-based, peer-reviewed suite of recommendations that support application of consistent clinical criteria to inform treatment options, facility set-up and access to high quality proton therapy. Annual review will ensure alignment with best practices, emerging evidence, and status of PBT availability in Canada.

9 TRENDS IN RADIOTHERAPY FRACTIONATION IN ONTARIO FROM 2011/12 TO 2020/21 FOR THE MAJOR DISEASE SITES AND THE IMPACT OF COVID19
Jonathan Wang1, Audrey Wong1, Brian Liszewski1, Eric Gutierrez1, Sophie Foxcroft1, Jason Pantarotto2
1Ontario Health, Toronto, ON
2University of Ottawa, Ottawa, ON

Purpose: Over the past nine years, there has been a consistent trend in Ontario towards hypo-fractionation for external beam treatment across the major disease sites. COVID-19 has accelerated the adoption of hypo-fractionation across the province, but the size and spread of the impact provincially are not known. This work quantifies the trends in fractionation in Ontario and discusses implications on provincial megavoltage treatment machine capacity planning.

Materials and Methods: A cross-sectional retrospective analysis of radiation treatment visits to megavoltage treatment machines and the number of radiation treated cases by facility and major disease sites (breast, genitourinary, gastrointestinal and lung). Fractionation was estimated by examining the annual ratio of radiation treatment visits to treated cases. Descriptive statistics were used to evaluate the provincial impact of COVID-19 on fractionation trends and to describe the variation in trends across the different facilities in Ontario.

Results: In 2011/12, there were 14 radiation treatment facilities in Ontario with a total of 100 megavoltage treatment machines. 615,507 radiation treatment visits were seen for 34,406 radiation treated cases for a facility median ratio of 17.4 (range: 15.1 to 21.3). In 2020/21, there were 17 radiation treatment facilities in Ontario with a total of 108 megavoltage treatment machines. 567,575 radiation treatment visits were seen for 40,946 radiation treated cases for a facility median ratio of 13.2 (range: 11.8 to 16.9). This represents an overall nine-year reduction of 24% in the ratio of radiation treatment visits to treated cases, with an average, pre-COVID-19 year over year reduction of 1.7%. During COVID-19, the ratio dropped by 11% from 2019/20 to 2020/21, more than five times the drop compared with 2018/19 to 2019/20. Similar trends in the ratio of visits to treated cases were observed for breast (-16% from 2019/20 to 2020/21; six times the drop compared with 2018/19 to 2019/20), genitourinary (-11%; two times the drop), gastrointestinal (-10%; four times the drop) and lung (-8%; eleven times the drop).

Conclusions: This work shows the size and spread of the impact of COVID-19 on fractionation trends in Ontario. The continued move towards hypo-fractionation has implications on megavoltage treatment machine capacity planning, potentially reducing the number of machines required to support the same patient caseload. Further work is required to understand the other variables that affect machine capacity, specifically treatment visit durations and hours of operation.

10 COST MINIMIZATION ANALYSIS OF CONVENTIONAL VERSUS SHORT-COURSE RADIOTHERAPY WITH TEMOZOLOMIDE FOR NON-ELDERLY PATIENTS WITH NEWLY DIAGNOSED GliobLASTOMA
Jordan Hill1, Samir Patel1, Michael Zhu1, Tanner Steed1, Mustafa Al Balushi1, Conley Kriegler1, Yugmeli Niljjar1, Eldon Spackman1
1University of Alberta, Edmonton, AB
2University of Calgary, Calgary, AB

Purpose: Standard of care for adults aged 70 years or younger with an ECOG performance status of 0-2 and newly diagnosed glioblastoma is maximal safe resection followed by radiotherapy/RT (60 Gy in 30 fractions) with concurrent temozolomide/TMZ (75mg/m2) followed by 6-12 months of adjuvant TMZ (150-200 mg/m2). Recently a Phase III non-inferiority trial compared conventional (60 Gy in 30 fractions) RT with TMZ versus short-course (60 Gy in 20 fractions) RT with TMZ and found that short-course RT with TMZ was non-inferior on two separate interim analyses conducted to date.

Materials and Methods: We performed a cost minimization analysis to determine the cost savings of short-course RT with TMZ versus conventional RT with TMZ for patients with newly diagnosed glioblastoma. All the resources necessary to deliver the two treatment regimens including the time and expertise of various health care professionals, supplies, infrastructure, and other means were identified by experienced clinicians at our institution. Shared costs between the two different treatment regimens were identified, as they cancel each other out, and were not included in our analysis. Costs were obtained from several sources including institutional databases, collective bargaining agreements, Minister of Health cost documents, and expert elicitation. All costs were analyzed in 2022 Canadian dollars (CAD).