of RR = 0.46, targeted interventions at 10% risk threshold would have resulted in significant positive net savings of C$307,397 (95% CI [C$164,235, C$462,772]) and would have reduced the overall program readmission rate by 3% (95% CI [2.8%, 3.4%]) from 8.8% to 5.8% (95% CI [5.4%, 6.2%]) during the study period.

Conclusions: Predictive analytics can be effective in designing cost-effective post-discharge intervention programs aimed to reduce unplanned hospital readmissions in both cancer and non-cancer populations.

189 PUTTING THE “QUALITY” IN ‘QUALITY-BASED PROCEDURES’: DRIVING QUALITY OF CARE FOR PATIENTS THROUGH THE DEVELOPMENT OF A PROVINCIAL RADIATION TREATMENT FUNDING MODEL

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Purpose: Quality-based procedures (QBP) offer opportunities for healthcare providers to share best practices to promote, through a QBP-linked funding model, quality of care including system efficiencies. Utilization of best practices is intended to provide standardization of care by reducing inappropriate/unexplained variation and ensuring patients get the right care at the right place and time. In 2018, the Ontario Ministry of Health requested that Cancer Care Ontario develop a Radiation Services QBP. The objective of this abstract is to share the creation and application of quality metrics (QMs) to corresponding radiation protocols from the QBP process to inform standardization, best practices, safety, and quality of care.

Materials and Methods: Over an 18 month period, the RT Program at Cancer Care Ontario collaborated with 14 cancer centres (200+ multidisciplinary clinicians) to develop 254 protocols and 761 QMs across 14 disease site groups. This process began with a preliminary environmental scan of local, national and international guidance documents. The resulting set of protocols and QMs were brought forward to clinical consensus meetings for review and input with 22 expert panels (129 clinicians), nine working groups (187 clinicians), and six advisory committee meetings.

Results: The QM development process provided a platform for knowledge translation and exchange (KTE). The 761 QMs were entered into a repository and categorized by disease site groups, sub-disease site, category, disease trajectory (pre-treatment, imaging and planning, treatment, quality assurance, follow-up), data holdings/source, and reporting (self-audit, data-driven, self-reporting).

Conclusions: Creation of the QMs in the QBP have been a successful KTE strategy for sharing clinical best practice. Next steps include utilizing the repository to identify disease-specific QMs and tie them to funding, thereby ensuring the delivery of safe and quality RT across the province (e.g. a breast protocol will not be reimbursed if a QM such as, need to minimize cardiac dose, is not adhered).

190 A NOVEL METHODOLOGY TO ESTIMATE THE NEED FOR PROTON BEAM THERAPY

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Purpose: Currently, Canada is the only G8 country without a proton beam therapy (PBT) facility in operation or under construction. Based on experience from other G8 countries with PBT facilities, it has been estimated that approximately 5-16% of all cancer patients who receive radiation treatment with curative intent should be considered for PBT. To begin planning for a PBT facility in Ontario, a more robust and localized estimate of the need for PBT is required.

Materials and Methods: An expert panel was assembled to develop an estimate of the need for PBT services. A step-wise approach was taken to: 1) identify clinical indications for PBT; 2) obtain volume estimates for curative photon therapy for select practice site groups and patient subpopulations (pediatric, adolescent young adult and adult); and 3) develop and apply clinical algorithms to estimate the proportion of each indication that should be considered for PBT. Data was gathered from program level reporting and published literature. Expert opinion and consensus further informed decision-making.

Results: Thirteen practice site groups for which PBT could have potential clinical benefit were identified: benign neoplasms, breast, central nervous system, endocrine, gastrointestinal, genitourinary, gynecological, hematology, head and neck, lung, other cancers, sarcoma, and skin. The largest variation in practice site estimates across subpopulations were found in endocrine, breast, gastrointestinal, sarcoma, and skin. Applying expert panel proportion estimates to curative radiation treatment volumes gathered from program level reporting for the respective practice groups and subpopulations (n=27,500), the estimated provincial need for PBT is 1,542 (5.6%) patients per year, with a lower bound of 364 (1.32%) and an upper bound of 4,246 (15.44%).

Conclusions: An Ontario PBT facility has the potential to provide equitable access to comprehensive cancer care; decreasing long-term toxicities, improving patient experience and health outcomes. With limited published data in the Canadian context of an estimated need for Proton Beam Therapy, the methodology described provides a more robust estimate of the need for PBT. This methodology can be applied across other jurisdictions to assist with PBT planning exercises.

191 ADVANCING A PROVINCIAL STRATEGIC PLAN: TRANSLATING THEORY INTO ACTION TO IMPROVE THE QUALITY OF CARE FOR PATIENTS

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Purpose: In 2019, the Radiation Treatment Program (RTP) at Cancer Care Ontario (Ontario Health) launched its first provincial strategic plan, defining the program’s vision, goals, and strategic areas of focus, over the next four years. The plan is closely aligned to the Ontario Cancer Plan (OCP). The goal of this work is to translate the areas of focus into actions to achieve the outcomes of the multi-year plan – an area where many strategic plans often fail.

Materials and Methods: The identified areas of focus from the strategic plan are radiation integrated wait times, new funding model, utilization (access), safety/quality (peer review), and innovation. To prioritize steps in our work plan and develop a timeline for implementation, RTP staff used a mixed-methods approach with extensive stakeholder engagement and consensus building, including:

- Planning day with provincial clinical quality leads in radiation oncology, medical physics, and radiation therapy,
- Analysis of provincial data and existing literature,