Cancer, a complex, chronic condition, will affect an estimated two in five Canadians in their lifetime.¹ Cancer requires many types of care, from tertiary care providing a broad range of specialized services to local ambulatory care that may have more limited offerings. Primarily, cancer services in Canada have been delivered in large metropolitan centres that deliver services such as surgery, chemotherapy, radiation, and advanced diagnostic imaging.² As technologies and treatments have improved, patients with cancer are living longer, yet models of care for the delivery of outpatient cancer services have lagged behind and there is a need for ambulatory cancer services.³ Increasingly, people with cancer are relying on ambulatory cancer services from diagnosis, to treatment, and through to long-term care.⁴ Reliance on these ambulatory cancer care centres has increased as patients are seeking care closer to home, and there has been a recent emphasis in the medical oncology community on providing conveniently located centres for patients.² Some patients require services and interventions that can be provided on a same-day basis or in an outpatient setting. The level of care needed for these patients may require fewer resources than acute or emergency cancer services, yet they are often delivered at the same centre. Travelling to large metropolitan centres in a busy environment can add to patient burden. Also, the availability of resources at tertiary cancer centres may benefit if patients are instead being seen at ambulatory care centres. Tertiary centres may not be appropriate for the delivery of long-term, low-risk interventions for which a patient can be seen and receive same-day treatment.

In Canada, there has been a recent shift to community-based cancer care and ambulatory services.² For example, in recent years, more than half of all chemotherapy has been delivered outside of tertiary cancer centres in Ontario and British Columbia. In Alberta, it is estimated that 30% of chemotherapy is delivered outside of tertiary cancer centres,² providing patients with access to cancer care services closer to their homes.

Some jurisdictions in Canada are interested in establishing ambulatory cancer care centres that are independent from, and off-site of, hospitals. These centres would provide less complex care than offered at tertiary cancer centres. Possible health care interventions offered at independent, ambulatory cancer care centres might include: consultations with oncologists, rehabilitation services, nurse-managed drug injections, and group support. These centres could provide a welcoming environment, closer to a patient’s home, to simplify the patient experience. Yet factors regarding the feasibility of such centres must be considered, including adequate and appropriate staffing, determining which services can be safely offered, coordination of patient care with other centres, and ensuring efficient delivery of care. This report aims to review the current environment of ambulatory cancer care centres in Canada.

Objectives

The objective of this Environmental Scan is to identify and summarize information about ambulatory cancer care centres in Canada, including services and interventions provided to cancer patients outside traditional acute care settings. The Environmental Scan also aims to describe the experience of implementing ambulatory cancer care centres, including feasibility, factors for consideration, and lessons learned.

The following questions will be addressed:

1. What is the jurisdictional context surrounding the establishment of independent, off-site ambulatory cancer care centres?
2. What criteria are used for selecting which oncology services can be performed in ambulatory settings?
3. Which oncology services and interventions are performed in ambulatory cancer care centres?
4. What are the experiences, lessons learned, success factors, patient-related factors, and other considerations that play a role in the provision of quality cancer care in ambulatory settings?

Methods

The findings of this Environmental Scan are based on responses to the Health Interventions in Ambulatory Cancer Centres Environmental Scan Survey (Appendix 1). Surveys were sent to key informants from cancer agencies and health care agencies from jurisdictions across Canada. Surveys were gathered until July 9, 2015.
In addition to the information provided by the survey, a limited literature search was conducted on key resources including Ovid Medline, PubMed, Canadian health technology agencies, Federal and provincial Ministry of Health websites as well as a focused Internet search. No methodological filters were applied to limit retrieval by publication type and conference abstracts were not included in the search results. The search was limited to English language documents published between January 1, 2010 and May 27, 2015. Regular alerts were established to update the search until project completion.

For the purposes of this Environmental Scan, ambulatory cancer centres that are independent and off-site from hospitals were considered in scope. Ambulatory cancer centres may be partnered with hospitals, but associated outpatient clinics and centres located on-site or within hospitals were excluded. Interventions and services considered in scope for this scan were any publically funded, therapeutic or investigational oncology procedures, services or programs for chronic care including palliative care. Interventions considered out of scope were any acute care services, surgical procedures, inpatient care, and laboratory tests. Tertiary cancer centres were considered out of scope.

Findings
The findings of this Environmental Scan are not intended to provide a comprehensive review of the topic, but rather to present an overview of the current status of ambulatory cancer care centres in Canada. Survey responses were received from Alberta, British Columbia, Ontario, Quebec, and Saskatchewan.

Jurisdictional Context for Off-site Ambulatory Centres
Based on the responses and literature search, no ambulatory cancer care centres were identified within the predefined scope of this Environmental Scan. The majority of ambulatory cancer care centres are offered within hospitals, or operate within the setting of large tertiary cancer centres. The following offers more details on cancer centres by jurisdiction.

British Columbia
British Columbia reported that there are no non-hospital, off-site ambulatory cancer care clinics in the province. There are community cancer centres located in the province, but these are situated within community hospitals. There are also six regional cancer centres in operation; however, these are large centres outside of the scope of this Environmental Scan.

Manitoba
In Manitoba, there are 15 Community Cancer Program sites that operate as outpatient units in local hospitals, and are therefore out of the scope of this report. Operation of these centres involves collaboration between CancerCare Manitoba and Manitoba’s Regional Health Authorities.

New Brunswick
In New Brunswick, patients with cancer receive care at one of the two tertiary cancer centres that are supported by Regional Health Authorities.

Newfoundland and Labrador
Newfoundland and Labrador have three regional cancer centres that operate out of regional health care centres, and one tertiary cancer centre.

Northwest Territories
Patients requiring care in the Northwest Territories are referred to Alberta’s Cross Cancer Institute, located in Edmonton. Limited care is available at Yellowknife’s Stanton Territorial Hospital.

Nova Scotia
There are two cancer centres in Nova Scotia, both of which operate out of health care centres.

Nunavut
There are no cancer care services in Nunavut. Patients requiring cancer care in Nunavut must travel to Ontario, to the Ottawa Hospital Cancer Centre.

Ontario
Ontario reported that there are no non-hospital, off-site ambulatory cancer care clinics in the province. Cancer Care Ontario, through Regional Cancer Programs, offers cancer care services; however, all are located within local hospitals.
Prince Edward Island
Patients with cancer in Prince Edward Island receive treatment at the PEI Cancer Treatment Centre, which is part of the Queen Elizabeth Hospital.\textsuperscript{13}

Quebec
Quebec reported that there are no non-hospital, off-site ambulatory cancer care clinics in the province. Cancer care services in Quebec are provided in association with hospitals.\textsuperscript{14}

Saskatchewan
Saskatchewan reported that there are no non-hospital, off-site ambulatory cancer care clinics in the province. The Community Oncology Program of Saskatchewan has 16 centres that are located in regional hospitals throughout the province.\textsuperscript{15} There are also two tertiary cancer centres that operate in, or on-site with, other hospitals.\textsuperscript{16}

Yukon
Cancer care in the Yukon is delivered at the Whitehorse General Hospital,\textsuperscript{17} which is outside the scope of this report.

Additional Findings
As no ambulatory cancer care centres were found to be within scope, the following presents general findings regarding ambulatory cancer services.

Criteria for ambulatory cancer interventions and services
The survey responses from Alberta and Saskatchewan identified patient safety as a major concern when delivering ambulatory cancer care services. In Alberta, community cancer centres are associated with hospitals, equipped with emergency services, in case a patient has a severe reaction to treatment or chemotherapy drugs. Ambulatory cancer care centres must be able to deliver cancer services safely to patients.

Issues regarding skills and competencies of health care professionals, as well as feasibility of clinic implementation were also raised by survey respondents. Health care professionals, including nurses and pharmacists, must be appropriately trained in oncology services and certified or trained on a recurring basis. For example, the Canadian Association of Nurses in Oncology provides the standards and competencies that must be met for nurses delivering cancer care, including services delivered in an ambulatory setting.\textsuperscript{18} The feasibility of ambulatory cancer care centres includes professional collaboration to effectively provide care in this setting.

Additionally, it was noted that in Alberta, all patients with head and neck cancer, or patients in clinical trials must be seen at tertiary cancer centres. For patients with head and neck cancers, the need for close follow-up and lack of specialists in this clinical area precludes them from being seen outside of the tertiary cancer centres. Also, only certain pediatric chemotherapeutic agents are administered in community cancer centres.

In summary, the criteria for interventions and services that can be provided in an ambulatory cancer centre primarily involves factors related to patient safety. These services may differ by cancer type, and additional patient factors. Interventions and services may also depend on the ability to staff these centres, and the regulations regarding competencies needed by health care professionals in ambulatory oncology settings.

Oncology services and interventions in ambulatory care
The following services available at community cancer centres located within hospitals were identified:

• Blood transfusions\textsuperscript{15}
• Chemotherapy\textsuperscript{5,15}
• Counselling\textsuperscript{15}
• Dietary support\textsuperscript{15}
• Follow-up care\textsuperscript{5}
• Patient navigation services
• Screening for distress
• Systemic therapy
• Toxicity assessment
• Wound care

It is uncertain whether it would be feasible to offer all of these services in ambulatory centres located outside of hospitals. Patient safety is the foremost concern, and centres independent of a hospital would need to offer low-risk interventions.

Experience and implementation considerations
The following challenges were identified regarding the implementation of community cancer centres located within hospitals or health care centres, yet it remains unclear whether these concerns would be similar for independent, off-site cancer care centres:

• Consistent and smooth implementation of information technology
• Efficient distribution of drugs within the provinces to ensure quality and timeliness
• Maintenance of equipment, such as pharmacy hoods
• Communication and coordination of patient care between existing and new staff
• Human resource issues, such as hiring staff and ensuring appropriate volume of staff
• Infrastructure and funding challenges
• Patient safety, for example, double checks on high risk drugs when there is a limited number of staff present

From a patient perspective, there are other gaps in the delivery of outpatient cancer care. Reports on patient experience of outpatient cancer care from Ontario and British Columbia both identified gaps in care regarding emotional and mental support, while most patients found their physical care and concerns were well addressed. Ambulatory cancer care must focus on these aspects of patient care in order to support patients through their cancer treatment and management.

No specific success factors or lessons learned were identified. In general, outpatient cancer centres have had success in addressing patients’ physical discomfort and acknowledging patient preferences in receiving care.

**Conclusion**

There has been a recent emphasis in the medical oncology community on cancer care services that can be delivered outside of major, tertiary cancer centres. For the purposes of this Environmental Scan, only centres independent of and off-site from hospitals were considered in scope. This Environmental Scan found that the majority of ambulatory cancer care centres across Canada are located within hospitals, and no centres were identified that fit the scope of this report.

Generally, patient safety remains a concern when selecting which oncology interventions and services can be performed in ambulatory cancer centres. Currently, ambulatory cancer centres are located within tertiary cancer centres, or hospitals equipped with emergency services, in the event a patient has an adverse reaction to cancer therapy. There are also considerations regarding the appropriate training of health care professionals, in both an oncology and ambulatory setting. Additionally, there may be limitations regarding the types of patients that can be seen in ambulatory cancer centres.

In terms of the services that can be provided, several types of interventions were identified in the cancer centres located within hospitals. It remains unclear whether these services could be administered in an independent, off-site ambulatory cancer care centre.

Several challenges were identified for the delivery of cancer care services in hospital-associated centres. These included systematic and logistical concerns, such as the funding and staffing of these centres, as well as concerns regarding patient safety and the efficient delivery of interventions. It is also unclear whether these challenges would be similar for independent, off-site ambulatory cancer care centres.

In summary, despite increasing interest in ambulatory cancer care centres that are independent and off-site from hospitals, no such Canadian centres were identified. Some provinces have community cancer care centres as alternatives to large, tertiary cancer centres, however, these are situated within hospitals or health care centres. Whether the considerations and challenges of these centres would apply to independent and off-site ambulatory cancer care centres is uncertain.
References


Appendix 1: Health Interventions in Ambulatory Cancer Centres Survey

Survey Questions

1. In your jurisdiction, are there non-hospital (off-site) ambulatory clinics providing oncology services to cancer outpatients? This can include palliative care.
   - [ ] YES   - [ ] NO
   IF YOU HAVE ANSWERED “NO”, PLEASE GO NO FURTHER AND SIMPLY SUBMIT YOUR RESPONSE

2. Does the operation of these ambulatory cancer centres involve partnerships with other organizations? Please describe.

A. Criteria for ambulatory cancer interventions and services

3. What set of criteria are used to select the various oncology interventions or services that can be performed in an off-site setting?

B. Oncology services and interventions in ambulatory centres

4. Please list the types of health care interventions that are performed in off-site ambulatory cancer centres of your jurisdiction. These must involve a patient-related health outcome and be provided by certified personnel.

5. Aside from cancer-related interventions, are there additional provisions to support patients should they develop unexpected health problems?
   - [ ] YES   - [ ] NO
   If so, please describe.

C. Experiences and implementation considerations

6. What type of staff needs to be available in an ambulatory care centre for ensuring quality and timely provision of health services?

7. Can you describe any barriers you encountered (and solutions, if any) when planning the provision of new services in an ambulatory setting? This can include unforeseen staff or material requirements.

8. Can you describe any consideration that would facilitate the implementation of ambulatory cancer facilities and the provision of quality care?

9. In your experience, what kind of information must be shared with major cancer centres or other health centres for appropriate patient management?

10. Aside from health services, are other services deemed important to accommodate cancer patients (e.g., transportation, temporary child care, psychosocial and spiritual resources)?

11. Can you describe any other quality assurance process for the provision of ambulatory cancer care in your context?
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Canadian Agency for Drugs and Technologies in Health (CADTH)
600-865 Carling Avenue,
Ottawa, Ontario K1S 5S8