Health Interventions in Ambulatory Cancer Care Centres

Context
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 selected offerings. Primarily, cancer services in Canada are 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, prompting the need for flexible 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 seek 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 cancer patients do not require acute or emergency cancer services, and may be more appropriately treated at ambulatory centres. Treatment at an ambulatory centre may reduce the burden for these patients; it may also improve access to care for other cancer patients requiring treatment at tertiary cancer centres. Tertiary cancer centres may not be optimal 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.\(^2\) 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 that offered at tertiary cancer centres. By not requiring the infrastructure of a full-featured hospital, they have the potential of being more easily established and operated in various communities. Possible health care interventions offered at independent, ambulatory cancer care centres could include consultations with oncologists, rehabilitation services, nurse-managed drug injections, and group support. 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 to ensure information-sharing between sites, and ensuring the 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 independent 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 independent 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 independent, off-site ambulatory settings?
3. Which oncology services and interventions are performed in independent, off-site 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 independent, off-site ambulatory settings?

Methods
The findings of this Environmental Scan are based on responses to the Health Interventions in Ambulatory Cancer Care Centres 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 care centres that are independent and off-site from hospitals were considered in the scope of the project. Ambulatory cancer care centres may be partnered with hospitals, but associated outpatient clinics and centres physically located within hospitals or on the same site were excluded. Interventions and services considered in the scope of this scan were any publicly 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, in-patient care, screening, and laboratory tests. Tertiary cancer centres were considered out of the scope of this project.

Findings

Survey responses were received from informants in Alberta, British Columbia, Ontario, Quebec, and Saskatchewan — one respondent per province (Appendix 2).

Jurisdictional Context for Off-site Ambulatory Cancer Care Centres

Based on the responses and literature search, one ambulatory cancer care centre was identified within the predefined scope of this Environmental Scan. The majority of ambulatory cancer care centres in Canada are offered within hospitals or operate within the setting of large tertiary cancer centres. The following offers more information on cancer centres by jurisdiction.

Alberta

In Alberta, there are 11 community cancer centres providing cancer care to rural areas, all situated within a host hospital or health care centre. In addition, there are four regional cancer centres located in general hospitals that provide radiation services, as well as systemic therapy. These centres are all outside of the scope of this Environmental Scan, as they are within hospitals.

British Columbia

The British Columbia respondent reported that there are no non-hospital, off-site ambulatory cancer care clinics in the province. There are 23 community cancer centres located in the province, and four satellite cancer centres situated within community hospitals. These operate under collaboration between the regional health authorities and the BC Cancer Agency Communities Oncology Network; at these centres, general practitioners in oncology assist in the delivery of systemic therapy after completion of the Agency’s Family Practice Oncology Network educational program. There are also six regional cancer centres in operation; however, these are large tertiary centres outside of the scope of this Environmental Scan.

Manitoba

Manitoba has one independent facility for the delivery of cancer care that is off-site from hospitals. It operates as a collaboration between CancerCare Manitoba and the Brandon Regional Health Authority. It is estimated that 300 patients will use the facility per year. The Western Manitoba Cancer Centre in Brandon offers the following services:

- a radiation therapy unit with a linear accelerator
- a chemotherapy unit with 20 stations
- a pharmacist, dietitian, social worker, and psychologist supportive care
- volunteer space, and space for patients and family.

There are two additional cancer centres, one located within a hospital and the other located on a hospital campus. These centres operate in partnership with CancerCare Manitoba and the hospitals. In addition, Manitoba has 15 Community Cancer Program sites that operate as outpatient units in local hospitals and are therefore outside the scope of this report. The 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 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. Additional ambulatory cancer care units operate out of community hospitals.

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

Two regional cancer centres, and satellite oncology clinics operating out of community health centres, provide ambulatory cancer care services. There are no non-hospital, off-site cancer care centres in Nova Scotia.

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

The Ontario respondent reported that there are no non-hospital, off-site ambulatory cancer care clinics in the province. Cancer Care Ontario, through regional cancer programs, provides cancer care services within local hospitals.

Prince Edward Island

Patients with cancer in Prince Edward Island receive treatment at the Prince Edward Island Cancer Treatment Centre, which is part of the Queen Elizabeth Hospital.

Quebec

The Quebec respondent 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 or local community health centres.

Saskatchewan

According to the Saskatchewan respondent, there are no non-hospital, off-site ambulatory cancer care clinics in the province. The Community Oncology Program of Saskatchewan comprises 16 centres located in regional hospitals throughout the province. There are also two tertiary cancer centres that operate in, or on-site with, other hospitals.

Yukon

Cancer care in the Yukon is delivered at the Whitehorse General Hospital.

Additional Findings

Survey respondents and the literature search identified considerations and additional information about independent ambulatory cancer care centres.

Criteria for Ambulatory Cancer Care 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, CANO/ACIO — 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. The feasibility of ambulatory cancer care centres includes professional collaboration to effectively provide care in this setting.

Provincially mandated standards may also exist around the level of care required to deliver certain types of therapies; such as the standards developed by Cancer Care Nova Scotia that outline the requirements, for staff and equipment, to administer differing levels of therapies. These levels of care range from therapies that can be delivered at home to those that require specialized hospital facilities; the requirements for equipment and staff differ based on these levels of care. Independent, off-site ambulatory centres would have to consider these standards in their implementation and when delivering care.

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 care 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
- chemotherapy
- counselling
- dietary support
- follow-up care
- patient navigation services
- screening for distress
- systemic therapy
- toxicity assessment
- wound care.

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

Experience and Implementation Considerations

The following challenges were identified by a survey respondent regarding the implementation of community cancer centres located within hospitals or health care centres, which may also be relevant to independent, off-site cancer care centres:

- the consistent and smooth implementation of information technology
- the efficient distribution of drugs within the provinces to ensure quality and timeliness
- the efficient use of drugs to minimize waste and excess cost, especially for expensive therapies, which may require a certain volume of patients for the drugs to be used efficiently (e.g., the need for more than one patient to use a complete vial of drug to minimize waste)
- the maintenance of equipment, communication, and coordination of patient care between existing and new staff
- human resource issues, such as hiring and training specialized staff, and ensuring the appropriate volume of staff is in place
- infrastructure and funding challenges
- patient safety; for example, the monitoring of high-risk drugs when limited staff is present.

From a patient perspective, there are other gaps in the delivery of outpatient cancer care. Reports on patient experiences 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.

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.

Limitations

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 independent ambulatory cancer care centres in Canada. The findings of this report are based on a limited literature search and survey responses from a limited number of jurisdictions. Information from the other jurisdictions was identified by a limited literature search and therefore may not provide a complete representation of all Canadian jurisdictions.

Conclusion

There has been a recent emphasis in the 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. This Environmental Scan found that the majority of ambulatory cancer care centres across Canada are located within hospitals, and one centre was identified that was independent from a hospital.
The Western Manitoba Cancer Centre is an independent, off-site facility that provides outpatient radiation and chemotherapy services to patients. In addition, some specialized services — such as those provided by dietitians, pharmacists, social workers, and psychologists — are offered. Additional services — such as wound care, toxicity screening, and blood transfusions — are provided within hospitals and it is unclear if it would be feasible to offer these services at an independent, off-site ambulatory cancer care centre.

Generally, patient safety remains a concern when selecting which oncology interventions and services can be provided in ambulatory cancer care centres. Currently, ambulatory cancer care centres are located within tertiary cancer centres or hospitals equipped with emergency services in the event patients develop adverse reactions 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 care centres.

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. Similar challenges may occur 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, only one Canadian centre was 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 remains uncertain.
References


6. Health Sciences Centre [Internet]. Winnipeg: Health Sciences Centre; 2015. [cited 2015 Sep 2]. Available from: http://www.hsc.mb.ca/about.html


Appendix 1: Health Interventions in Ambulatory Cancer Care 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 care centres involve partnerships with other organizations? Please describe.

A. Criteria for ambulatory cancer care 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 performed in the off-site ambulatory cancer care 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 must be available in an ambulatory cancer care centre for ensuring quality and the 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 materiel requirements.

8. Can you describe any consideration that would facilitate the implementation of ambulatory cancer care 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?
## Appendix 2: Information on Survey Respondents

<table>
<thead>
<tr>
<th>Province</th>
<th>Organization Represented by Survey Respondents</th>
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<tbody>
<tr>
<td>Alberta</td>
<td>CancerControl Alberta — Alberta Health Services</td>
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<tr>
<td>British Columbia</td>
<td>BC Cancer Agency</td>
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<tr>
<td>Ontario</td>
<td>The Ottawa Hospital</td>
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<tr>
<td>Quebec</td>
<td>Ministère de la Santé et des Services sociaux Québec</td>
</tr>
<tr>
<td>Saskatchewan</td>
<td>Saskatchewan Cancer Agency</td>
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Author: Sarah Garland

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