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# Cancer Care Closer to Home: Erie Shores HealthCare experience

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## Abstract

The increasing prevalence of cancer diagnoses highlights a growing need for resources that provide ongoing therapies closer to patients' homes, along with improved support for caregivers. Transportation challenges related to travelling from a patient's residence to treatment facilities can significantly hinder access to timely diagnoses and quality cancer care. Recognizing this pressing healthcare need, Erie Shores HealthCare (ESHC), a community hospital in the region, has partnered with the Erie St. Clair Regional Cancer Program (ESCRCP), a specialized program for cancer care, to establish a satellite clinic in Leamington, Ontario—a rural, agriculture-based town in Southern Canada. Historically, residents of Leamington and its surrounding communities have had to travel to Windsor or Chatham, approximately 50 km away, to receive chemotherapy treatments. For patients in advanced stages of cancer or receiving palliative care for their cancer diagnosis, long-distance travel or travelling during inclement weather poses a considerable challenge. Patients have expressed a strong desire for care to be delivered closer to home, which could potentially reduce their travel time and alleviate travel-related stress, thereby mitigating the psychosocial burdens associated with cancer. This publication details the development and operation of a fully integrated decentralized cancer care program at a satellite clinic located within a local hospital in this rural region of Canada.

**Keywords:** Cancer care; Care delivery model; Rural region; Travel burden.

## Introduction

As of 2020, an estimated 19.3 million new cancer cases and nearly 10.0 million cancer-related deaths occurred globally [1]. In the Western world, cancer remains the leading cause of premature death and disability, significantly impacting social, psychological, and economic factors that are often not precisely measured and frequently overlooked [2]. The rising prevalence of cancer diagnoses underscores the increasing need for resources that provide ongoing therapies closer to home, along with enhanced psychosocial support [3]. Transportation and travel burdens from a patient's residence to treatment facilities can pose significant challenges, affecting access to and quality of cancer care [4]. Previous studies, including research conducted by Stoyanov and colleagues, have evaluated the influence of travel burdens on clinical outcomes in lung cancer patients, revealing that overall survival rates were significantly lower with increased travel distances and times [5,6]. Specifically, the overall survival rate for patients living more than 50 km from the treatment site was 22.4%, compared to 27.1% for those residing within the same city as the treatment facility [5]. Therefore, establishing a satellite site to improve patients' access to cancer care is a sensible approach that could ultimately lead to better survival outcomes.

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Recognizing this healthcare need, Erie Shores HealthCare (ESHC), in collaboration with the Erie St. Clair Regional Cancer Program (ESCRCP), has implemented a satellite clinic in Leamington, Ontario to provide chemotherapy treatment closer to home in 2023. ESHC is a 72-bed rural Ontario acute-care facility serving 470,000 people including local Indigenous population (Caldwell First Nation) [7]. Historically, patients residing in Leamington and surrounding communities have had to travel to Windsor or Chatham, around 50 km distance, for chemotherapy. For individuals living with cancer, quality care encompasses more than just what occurs within a hospital or treatment facility; it also involves factors such as family support, travel and transportation challenges, appointment scheduling, frequency of visits, and monitoring of treatment progress. Patients attending the ESHC frequently express a desire for care that is more accessible, which may help reduce their travel time and associated stress, ultimately alleviating the psychosocial burden of their conditions [5]. Many cancer patients living in the ESHC service area are required to visit the cancer center in Windsor 2-3 times per week during their active treatment. Each visit, which typically lasts over 5 hours, involves various treatment-related activities, including infusions, bloodwork, imaging, and consultations. The burden is further compounded by the fact that patients have to endure a two-hour return drive. Bloodwork is essential for chemotherapy dosing, requiring extra hours for sample collection, result processing, pharmacist calculations, and drug preparation [8]. Delays in chemotherapy lead to patient fatigue, discomfort, and inefficiencies in treatment schedules [5]. This publication details the development and operation of a fully integrated decentralized cancer care program at a satellite clinic located within ESHC in Leamington, a rural region of Canada.

## Method

The Cancer Care Clinic was established in September 2023 as a satellite site of the ESCRCP. Since then, it has been instrumental in delivering chemotherapy and immunotherapy treatments locally. The clinic is lead by an Oncologist. The cancer care team includes one dedicated nurse, one dedicated clerk, systemic therapy staff (n=24) within Windsor Regional Hospital (WRH, referral hospital), three part-time nurses and an Emergency Medicine physician. The clinic is open everyday of the week. The clinic is connected with hospital's Pharmacy and Diagnostic and Imaging department for seamless experience. A social worker is available on site in case a patient needs referral to palliative care. The clinic also allows the patients access the hospital's spiritual care team recognizing the diversity of the population we serve (e.g. Caldwell First Nation, Mennonite population). The eligibility criteria for patients being treated at the satellite clinic are: 1) consented for a transition to ESHC with their oncologist, 2) living within 50 km of the hospital (the criterion is flexible based on patient request), 3) receiving one of the listed medications for the disease site specified in the list (Table 1), 4) had at least one treatment at WRH before transferring care to ESHC, and 5) have agreed to a two-day model (blood draws at ESHC 2 days before treatment & return on treatment day).

**Table 1:** List of chemotherapy offered

| Name of chemotherapy and immunotherapy being provided | |
|---|---|
| 1 | ONCP GU AXIT+PEMB |
| 2 | ONCP OTH PMDR (PAMIDRONATE) |
| 3 | ONCP GU AVELUMAB (MNT) |
| 4 | ONCP HEM ZOLEDRONIC ACID Q28D |
| 5 | ONCP BR AC Q3W |
| 6 | ONCP HEM PMDR (PAMIDRONATE) |
| 7 | ONCP MEL NIVL - NIVOLUMAB Q4W |
| 8 | ONCP BR ZOLEDRONIC ACID Q28D |
| 9 | ONCP BR PEMBROLIZUMAB |
| 10 | ONCP MEL Pembrolizumab |
| 11 | ONCP BR ZOLEDRONIC ACID Adj q24wks |
| 12 | ONCP GU NIVL - NIVOLUMAB Q4W |
| 13 | ONCP GI PEMBROLIZUMAB |
| 14 | ONCP GU Pembrolizumab |
| 15 | ONCP SK CEMIPLIMAB |
| 16 | ONCP HEM ZOLE(HYPER CA) |
| 17 | ONCP GU NIVL - NIVOLUMAB Q2W |
| 18 | ONCP LU Durvalumab Q2W |
| 19 | ONCP GU NIVL+IPIL - NIVOLUMAB+IPILIMUMAB |
| 20 | ONCP LU Pembrolizumab |
| 21 | ONCP BR FLVSRIBO Cycle 2+ |
| 22 | ONCP PEMBROLIZUMAB Q6W |
| 23 | ONCP GU LENV+PEMB Q3W |
| 24 | ONCP LU PEMETREXED |
| 25 | ONCP MEL IPILIMUMAB |
| 26 | ONCP GU NIVL(MNT) - NIVOLUMAB Q4W |
| 27 | ONCP GI DURV(MNT) Q4W |
| 28 | ONCP GU CISPGEMC(W) D1, 8 Q21D |
| 29 | ONCP BR FLVS Cycle 2+ |

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The hospital's decision support unit tracks the patients attending the clinic in their electronic medical records as part of the standard of care. The publication used the decision support unit's routinely collected data to describe the clinic's achievements.

## Result

Since its establishment, the clinic has gradually expanded its chemotherapy medication offerings from 11 to 29, encompassing breast, gastrointestinal, genitourinary, lung, gynecological, hematological, and head and neck cancers. Over the past 17 months, the clinic has recorded 240 chemotherapy visits, serving 34 patients who required recurring treatments (see Table 2).

**Table 2:** Chemotherapy visits at the clinic

| Month | 2023 - 2024 | 2024- 2025 |
|---|---|---|
| Apr | | 11 |
| May | | 9 |
| Jun | | 14 |
| Jul | | 10 |
| Aug | | 20 |
| Sep | 9 | 17 |
| Oct | 10 | 22 |
| Nov | 9 | 16 |
| Dec | 11 | 21 |
| Jan | 8 | 28 |
| Feb | 12 | |
| Mar | 13 | |
| **Total** | **72** | **168** |
| Average Visit/Month | 8 | 16.8 |

The clinic started at a modest pace, averaging eight visits per month in 2023, which has since doubled to 16 trips in 2024. Notably, last month (January) marked the highest number of visits at 28, despite challenging weather conditions, highlighting the clinic's growing popularity among local patients. The services are utilized fairly equally by both genders, with a male-to-female ratio of 47:53. Additionally, more than 80% of clients are elderly; specifically, 57% fall within the 60-79 age range, while 26% are aged 80-100 (see Table 3).

**Table 3:** Demographic of the patient population

| Age | Years | Number (%) |
|---|---|---|
| | 40-59 | 6 (18%) |
| | 60-79 | 19 (57%) |
| | 80-100 | 9 (26%) |
| Sex | Male | 16 (47%) |
| | Female | 18 (53%) |

Feedback about the satellite clinic from patients and their families has been positive. Some patients described it as 'life-changing'. Some have to spend entire days at the WRH, which can be tiring, especially if travelling a long distance. However, at the satellite clinic, they are closer to home and in and out quickly, yet they still receive the same quality of care as on the leading hospital site. The clinic can provide one-on-one nursing care, allowing nurses to converse meaningfully with the patients. Patients attending the clinic develop friendships, often exchanging telephone numbers since they attend for chemotherapy together and live close to each other. More patients drive themselves or take taxis to the clinic since it is closer to home. It has helped patients' families by significantly reducing the time needed to be taken off work. Patients are often able to arrange treatment around working hours, further reducing the impact on their families.

## Discussion

This paper described the development and operation of an innovative, fully integrated cancer care satellite clinic at a community hospital in a rural region of Canada. This care delivery model, unique in its approach, gave the patients and their families continuous real-time access to high-quality cancer care where the patients lived at the given time. Following international cancer care policy guidelines [9], the initiative promotes patient choice and transfer of services closer to their homes. Through this project, the local patients and their families got access to cancer care and community health and care services, both as a routine and as needed by one team of healthcare professionals with competence in oncology. To our knowledge, this is the only integrated cancer clinic in Windsor-Essex and the surrounding area, making it a unique and intriguing development in cancer care.

According to Statistics Canada [10], about 25% of all premature deaths and about 35% of all avoidable deaths from 2011 to 2015 in Canada were treatable. Treatable mortality rates varied significantly by relative remoteness and were higher for remote areas than for more accessible regions, regardless of sex [10]. Rural and remote areas are also distinguished with a higher proportion of the indigenous population [11]. Remoteness can, therefore, be compounded by the proportion of the indigenous population in an area similar to the area we currently serve. In this region, cancer- and palliative care services were requested, and the involved organizations, healthcare personnel, patients, and families widely supported the establishment. The establishment was able to take advantage of the robust existing structures, providing a reassuring foundation for the new services.

One important barrier was motivating oncologists at the WRH to refer patients to colleagues at the local hospital and follow up in community care. Both attitudes among colleagues and the effective reimbursement system, which

played a crucial role in facilitating collaboration, contributed to successfully overcoming that barrier. The audience is encouraged to appreciate the role of such systems in promoting collaboration.

The distinctive advantage of cancer care in cancer clinics is the opportunity for longitudinal patient follow-up. This clinic setting establishes a relationship between the cancer patient and the hospital's palliative care team. This early access, a key feature of our model, promotes shared decision-making, care planning, access to community care resources, and early detection and management of symptoms before they become severe. Our model introduces this early access to palliative care throughout the disease trajectory for cancer patients, following a fully integrated time-based model described in the recent Lancet Oncology Commission paper [21]. The initiative may be particularly cost-effective for a local hospital with a limited patient volume. However, further systematic evaluation may provide evidence for or against that notion.

## Conclusion

Our model was developed to fit a local hospital in a rural area and its surrounding municipalities. The size of the hospital and the resources available did not permit the creation of a structure consisting of one oncology structure and one palliative care structure. However, we believe that our model, designed with the unique challenges of rural healthcare in mind, is a sustainable and adaptable solution for smaller hospitals in these regions. It contributes to giving cancer patients better cancer care closer to home and connecting them early with a palliative care team, instilling confidence in the model's applicability.

## Ethics approval and consent to participate:

The Office of Research's (https://www.erieshoreshealthcare.ca/research) internal ethics committee approved the ethical conduct of care initiative and data collection as part of hospital patient care improvement initiative, exempt from formal ethics review by the University of Windsor Research Ethics Board (https://www.uwindsor.ca/research-ethics-board/) in accordance with the ethical standards on Human Experimentation of the institution in which the experiments were done or in accord with the Helsinki Declaration of 1975.

**Consent for publication:** All authors consented for the publication. No identifying images or other personal or clinical details of participants are presented that compromise anonymity. No patient was involved in the study. Therefore, patient consent is not applicable.

**Availability of data and materials:** Primary data and materials are available upon request.

**Competing Interests:** The authors declare no competing interests.

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**Authors' contributions:** The first author (MS) conceptualized, designed, collected and analyzed data and contributed significantly to writing the manuscript. HH significantly contributed to writing the manuscript. AL and KS conceptualized and designed the project. NS and XX contributed to data analysis and manuscript drafting. DTC and MB contributed to data analysis.

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