

# Provincial Isotope Sector Briefing Manitoba



Image from the University of Manitoba

## Executive Summary



### Local Isotope Supply

Established a local supply of medical isotopes.



### Investing in the future

Investing in clinical research and isotope innovation in the province.



### Workforce Development

Addressing workforce development gaps through educational programs to combat nuclear medicine technologist shortage.

## Isotope Infrastructure

Before Manitoba established its own production capabilities of medical isotopes with the opening of the Winnipeg Cyclotron Facility (WCF) in 2010, isotopes were shipped daily from Edmonton or Montreal.

### Manitoba's PET history

2004



2010



2017



2020



Manitoba installed its first PET-CT imaging system at the University of Manitoba's John Buhler Research Centre, scanning the first patient in July 2005.

Establishment of the Winnipeg Cyclotron Facility.

According to Shared Health, patient demand rose from 1,981 scans in 2017-18 to 2,456 scans in 2022-23

Manitoba installed a new PET-CT scanner at the Health Sciences Centre (HSC), replacing the original 2004 unit.

With the capacity to produce medical isotopes locally, the HSC PET-CT scanner was able to double its capacity, enabling expanded research opportunities and rising patient demand. The medical isotopes are supplied by the WCF's Siemens Eclipse Dual Beam HP cyclotron.

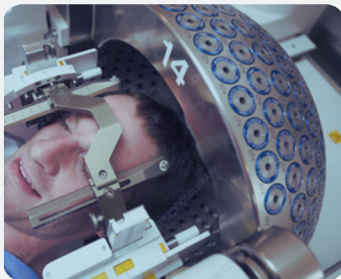
# Provincial Isotope Sector Briefing Manitoba

## Isotope Infrastructure



CancerCare Manitoba also delivers comprehensive services through its radiotherapy program and Radiation Oncology Program, which provides state of the art clinical services in Winnipeg and Brandon. The program supports:

**1** Winnipeg site for brachytherapy for gynae patients    **6** SPECT Units across Manitoba    **8** SPECT-CT Units across Manitoba    **22,000** SPECT-CT and SPECT exams performed across Manitoba in 2023-24



CancerCare Manitoba also partners with Shared Health Manitoba and operates a dedicated SBRT Radiosurgery system and a Gamma Knife SRS unit at the Health Sciences Centre .

Additionally, Manitoba also offers capabilities for both structural/anatomical and functional imaging to Manitoba scientists at the Small Animal and Materials Imaging Core Facility (SAMICF). The facility offers a PET-CT and SPECT-CT to support academic, preclinical and industrial research.



## Workforce Development and Education

Manitoba faces ongoing challenges in developing a skilled isotope and nuclear medicine workforce. According to the Canadian Association of Medical Radiation Technologists, the province has limited local training opportunities for nuclear medicine technologists, often requiring students to leave Manitoba to be trained.



This shortage impacts Manitoba's ability to expand nuclear medicine in the province. For example, a new PET-CT scanner installed in 2023 to improve patient access was under-utilized for several months due to challenges finding trained staff to operate the equipment.



As of March 2025, it was reported that seven certified nuclear medicine physicians practice in Manitoba.

Efforts to address the workforce gaps include the introduction of training programs in the province, including:



**The Department of Radiology at the University of Manitoba** is the only academic radiology department in Manitoba and includes nuclear medicine and features a **Radiation Oncology Fellowship Program** to support advanced clinical training in precision radiation therapy with training in SBRT.



The University of Manitoba offers an **Advanced Neuroimaging Fellowship** with a focus on advanced training in diagnostic neuroimaging techniques.. These facilities are equipped with state-of-the-art technology, including: **PET-CT, and SPECT-CT cameras and Gamma Knife** Perfexion SRS.

# Provincial Isotope Sector Briefing Manitoba

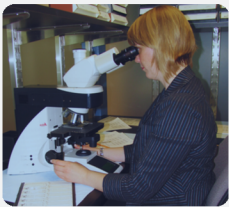


**Medical Physics Undergraduate, Graduate and Residency Training Programs:** The graduate program offers M.Sc. and Ph.D. degrees through the University of Manitoba (UFM) and is accredited by the Commission on Accreditation of Medical Physics Education Programs (CAMPEP).



**Diploma/BSc Degree in Radiation Therapy Program:** The CancerCare Manitoba/University of Winnipeg, Department of Physics Joint program is accredited by the Accreditation Canada - Health Education Accreditation - Equal Canada.

## Clinical Trials



The **Clinical Trials Unit (CTU) at CancerCare Manitoba** coordinates and supports clinical research across a variety of disciplines in the province. The CTU enables approximately 120 adult and pediatric clinical trials each year, supporting 300 patients per year on average.

While not specific to isotopes, research includes studies run through cooperative groups, pharmaceutical companies, and in-house initiatives, giving patients access to some of the most innovative treatments, tests, and prevention tools available.

In 2025, the Manitoba government announced a new clinical trials office to fast-track health research, establishing the **Research Improvements Through Harmonization in Manitoba** project to grow Manitoba's bioscience sector. Led by Research Manitoba, the initiative will bring industry partners together to streamline the review system so research projects can be approved faster and more efficiently.



## References

[Advanced Neuroimaging Fellowship - University of Manitoba](#)

[Canadian Healthcare Technology](#)

[Canadian Medical Imaging Inventory PET\\_CT 2024 Report - CADTH.pdf](#)

[Canadian Medical Imaging Inventory 2022-2023: SPECT and SPECT-CT. CADTH.pdf](#)

[Clinical Trials Manitoba](#)

[Manitoba Isotope Research](#)

[Medical Imaging in Canada 2019-2020](#)

[Province of Manitoba. News Release. Manitoba Government Makes It Easier To Invest In Health Research](#)

[Province of Manitoba. News Release. Manitoba Leads Breast Cancer Care with Innovative Technology.](#)

[The Science Behind Nuclear Medicine](#)

[Radiation Oncology Program Team](#)

[Science Photo Library](#)

[University of Manitoba History](#)

[Winnipeg Cyclotron Facility](#)