

Provincial Isotope Sector Briefing Québec



Image from McGill University Health Centre

Executive Summary



World-class Infrastructure

Québec is home to some of Canada's most state-of-the-art nuclear medicine facilities. Québec's infrastructure is equipped with cutting-edge diagnostic capabilities and isotope production.



Diagnostic Capabilities

Québec is the leading province in PET-CT use with 24 scanners and the highest exam volume.




Collaboration


Québec combines clinical care, research and training through its facilities, reinforcing its leadership in innovation and workforce development.

Isotope Infrastructure

Québec has an expansive cyclotron fleet that is supporting Canada's isotope leadership:

Centre hospitalier de l'Université de Montréal (CHUM)



12 full-time nuclear medicine physicians	 Dedicated RLT Nurses and physicians
7 SPECT-CT scanners	3 PET-CT scanners
5 out-patient treatment rooms	4 in-patient treatment rooms
1 cyclotron (IBA Cyclone 18/9)	

**CHUM's radiotracers are transported to the hospital using a dedicated pneumatic system*

*Centre Hospitalier Universitaire de Québec - Université Laval Research Center
Integrated Cancer Centre*



Largest cancer centre in Québec

 Cyclotron (KUIBE 18)  PET-CT

Centre de Recherche Sherbrooke (CHUS)



 19 MeV TR-PET cyclotron since 1997

 TR-24 cyclotron since 2012

McGill University: Montréal Neurological Institute "The Neuro"



5000+ isotope production days

30+ tracers
The Neuro has one of the largest selections of tracers in the world, producing over 30 tracers

1st in Canada
Canada's first medical cyclotron in 1981, replaced in the 1990s and still operates today

IBA cyclone 18

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Isotope Infrastructure

Montréal General Hospital



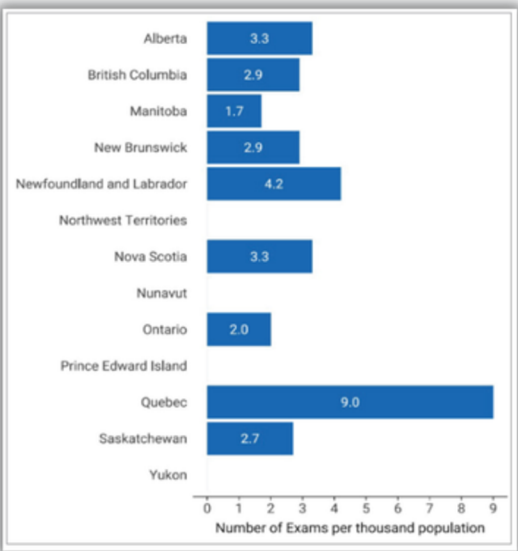
newly renovated Nuclear Medicine unit
PET-CT & SPECT-CT

ISOLOGIC Innovative Radiopharmaceuticals Manufacturing Facility



ISOLOGIC Innovative Radiopharmaceuticals operates a PET manufacturing facility in Lachine, Québec, that is home to a GE PET Trace 13 MeV Cyclotron. ISOLOGIC also maintains a partnership with CHUM for the production of F18-FDG to ensure supply for Eastern Canada.

100,000+ patient doses of F18-FDG produced in 2025
\$29.9 million in investments to expand the Québec facility and triple production
10,000 sq ft will be added to the facility including a new **18 MeV cyclotron** and **17 hot cells**



PET-CT Exams per 1,000 Population for Public Facilities, 2022 to 2023
Source: CADTH 2022-2023

Québec currently has the **highest number of PET-CT units** and the **highest volume of PET-CT exams** in Canada.

79,299 exams annually
20+ PET-CT units
90,000 exams projected by 2040

DID YOU KNOW?

The Montréal Neurological Institute housed the first PET scanner in Canada known as the "Positome".



Workforce Development and Education



CHUM/Université de Montréal has the largest nuclear medicine training program in Québec. Nuclear medicine residents receive both hands-on and classroom experience in clinically approved theranostics and research.



CHUM also offers an RLT Preceptorship, aimed at in-practice nuclear medicine physicians who want to further develop their expertise and a newly launched theranostics fellowship.



Collège Ahuntsic, Cégep de Sainte-Foy and CHU de Québec-Université Laval (CHU) announced the implementation of the Nuclear Medicine Technology program in the fall of 2025 in Québec City. This pilot project responds to a pressing need to train technologists specializing in this field and thus offer a concrete solution to the labour shortage in the health network. CHU de Québec also features a dedicated radiopharmacist (nuclear pharmacist)

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Workforce Development and Education

Collège Ahuntsic

The Nuclear Medicine Technology program, unique to Collège Ahuntsic, is recognized for its excellence within the Canadian and American medical community, as well as abroad.

McGill

In 2024, the McGill University Health Centre announce the opening of its newly renovated Nuclear Medicine unit at the Montreal General Hospital (MGH), equipped with cutting-edge diagnostic technology. The McGill University Health Centre also offers residencies in nuclear medicine, research in interventional radiology, etc

Additionally, McGill offers a residency training program in nuclear medicine. The program offers studies in Molecular Imaging and Theranostics fellowship, and Tomography (PET) in Oncology fellowship.



Québec has a long history of nuclear medicine, which has contributed to its strong workforce. Out of approximately 290 nuclear medicine specialists in Canada, roughly **120 work in Québec alone.**



Patient Access to Life-Saving Radiopharmaceuticals

Since 2012, CHU de Québec has offered Peptide Receptor Radionuclide Therapy (PRRT) under a Special Access Program



In 2025, Québec became the sixth province in Canada to publicly reimburse **Pluvicto** for eligible patients with PSMA-positive metastatic castration-resistant prostate cancer (mCRPC) .

According to the Association of Medical Specialists in Nuclear Medicine of Québec, approximately **200 to 300 patients per year are expected to benefit from the treatment.**



In 2020, the Québec Ministry of Health and Social Services approved treatment with **Lutathera** for GEP-NETs patients with advanced disease that is metastatic or not removable by surgery.



Boston Scientific's **TheraSphere™ Y-90 Glass Microspheres** is approved for use in Québec for liver cancer.



Québec has strong professional governance/clinical leadership particularly through the Association of Medical Specialists in Nuclear Medicine of Québec brings together certified nuclear medicine specialists practicing in all regions of Québec.




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Clinical Trials

Québec has a unique approach to clinical trials with its clinical core facility at CHUM/CRCHUM that specializes in early phase (I and II) trials. The Unit for Innovation Therapies is a one-of-a-kind facility that offers full “turnkey” services from project start-up to patient recruitment, clinical service/care and monitoring.



16 
bed unit (both in-
and out-patient)

40 
full-time staff

70+
phase I studies
since 2019

50 
investigators




DID YOU KNOW

CHUM was the **first center in Québec** to have a comprehensive nuclear medicine team and dedicated RLT nurses. A unique feature of the facility is that a significant proportion of staff is also shared between clinical work and research work. Which allows for easier knowledge transfer between clinical and research work.

Spotlight - Companies and Organizations

AtkinsRéalis

 Amos, Baie-Comeau, Boucherville, Bromont, Dollard-des-Ormeaux, Gatineau, Jonquière, La Sarre, Laval, Lebel-sur-Quevillon, Montréal, Rimouski, Rouyn-Noranda, Thetford Mines, Trois-Rivières, Val-d'Or, Ville-Marie

Engineering and nuclear services, connecting people, data and technology to transform the world's infrastructure and energy systems.

CALIAN

 **Vaudreuil-Dorion**

Calian has been foundational in helping to share and deliver critical research projects which have led to the expansion of the Canadian isotope sector.

framatome

 **Montréal**

Framatome Canada, a subsidiary of Électricité de France (EDF), provides engineering, technical services, and system integration expertise, enabling irradiation technologies.

ips

 **Montréal**

A provider of integrated Engineering, Procurement, Construction, Management, and Validation solutions, supporting clients across the entire isotope lifecycle.

ISOLOGIC TRUSTED QUALITY CARE

 **Dorval**

Isologic is a Health Canada and CNSC licensed GMP manufacturer and distributor of PET and SPECT radiopharmaceuticals for clinical and research use.

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References

[Advanced prostate cancer: hope for 250 patients per year](#)

[A promising treatment to fight cancer developed in Sherbrooke](#)

[An important step towards the commissioning of the cyclotron - CHU](#)

[CADTH Health Technology Review Canadian Medical Imaging Inventory 2022– 2023: PET-CT and PET-MRI](#)

[Chief Scientist of Québec - Producing medical isotopes in a cyclotron](#)

[Collège Ahuntsic - Nuclear Medicine Technology](#)

[First PET Scanner in Canada](#)

[Initial operation of the Sherbrooke EBCO 19 MeV cyclotron](#)

[Integrated Cancer Centre](#)

[Integrative Cancer Centre – Hôpital de l'Enfant-Jésus](#)

[ISOLOGIC makes \\$29.9 million investment in advanced isotope production facility in Quebec](#)

[Isotopes: a major breakthrough at the CHUS Research Centre](#)

[Major Clinical Breakthrough at the Centre de Recherche du CHUS in Sherbrooke, Quebec](#)

[McGill Nuclear Medicine](#)

[Medical Radiation Technologists](#)

[Pharmacology Institute of Sherbrooke - Imaging](#)

[PRRT in Canada: The CHU de Québec Experience](#)

[Quebec implements public reimbursement of Pluvicto](#)

[Radiopharmaceutical Lutathera now reimbursed in Quebec for cancer patients](#)

[The Neuro \(Montreal Neurological Institute-Hospital\)](#)

[The Neuro - The Cyclotron and Radiochemistry facility](#)

[The Neuro - 5000 days of cyclotron production](#)

[Nuclear Medicine Technology](#)

[Nuclear Medicine Technology Program Established in Quebec City](#)