



CARDIAC PET IMAGING WITH N-13 AMMONIA

Cardiac PET Myocardial Perfusion Imaging (MPI) is a Medicare approved first line test for non-invasive cardiology evaluation that is projected to grow over 60% in the next 5 years.¹

Cardiac PET is a powerful non-invasive imaging tool available that can assess myocardial blood flow (MBF) of the entire coronary circulation and has been demonstrated to be useful in the assessment of microvascular and triple vessel disease. Microvascular disease is known to be highly prevalent in women, as well as patients with cardiometabolic risk factors.²

IONETIX provides health systems, hospitals, cardiology, and radiology/nuclear medicine practice groups the opportunity to utilize the most advanced FDA-approved MPI tracer for their Cardiac PET program.

- Customized N-13 Ammonia production and workflow solution designed to meet each customer's specific needs
- Brand-differentiating service line featuring the most advanced Cardiac PET MPI FDA-approved tracer
- Knowledgeable and experienced IONETIX employees on-site to perform daily production operations and manage regulatory compliance
- Reimbursable, revenue-generating program
- First-of-its-kind model requiring **ZERO CapEx** from the customer for on-site production of N-13 Ammonia

CARDIAC PET - ASNC/SNMMI POSITION STATEMENT³

According to the American Society of Nuclear Cardiology and Society of Nuclear Medicine and Molecular Imaging joint position statement regarding clinical indications for MPI, Cardiac PET is the first line preferred test for patients with known or suspected coronary artery disease (CAD) and are unable to exercise. **There are no clinical scenarios where PET should not be considered a preferred test for these patients.**

Cardiac PET MPI is the recommended test for patients who meet appropriate use criteria⁴ and;

- Prior stress imaging studies considers equivocal or inconclusive
- Body habitus that may affect image quality (obesity, large breasts, or implants etc.)
- High risk patients: diabetes, chronic kidney disease, multi-vessel or left main disease
- Young patients with known CAD in whom repeat testing will be required over their lifetime
- Patients in whom myocardial blood flow quantitation is required

CARDIAC PET/CT MPI PROVIDES DIAGNOSTIC CAPABILITIES FOR A PATIENT POPULATION NOT CURRENTLY VIABLE WITH SPECT MPI OR OTHER FDA APPROVED TRACERS

- Cardiac PET can be performed on morbidly obese patients in whom both SPECT MPI and Stress Echocardiography routinely can be inconclusive
- The higher energy of PET tracers (511 keV) when combined with routine CT based attenuation correction is far superior to SPECT

THE BENEFITS OF CARDIAC PET WITH N-13 AMMONIA

The powerful combination of N-13 Ammonia and the **IONETIX** model yields outstanding image quality, expands service options, and enhances diagnostic capabilities.

- **Superior Image Quality⁵** - While Cardiac PET has been shown to be superior to SPECT, not all tracers are equal. Considered an optimal tracer for myocardial perfusion imaging, N-13 Ammonia provides:
 - High spatial and contrast resolution images
 - High first-pass extraction and retention in the myocardium
 - Consistently high-quality diagnostic studies regardless of patient size or gender
- **Improved Diagnostic Accuracy - N-13**
Ammonia affords high sensitivity and overall accuracy for detecting CAD. The addition of coronary artery calcium score (CACS) can improve CAD risk stratification⁶
- **Few Correction Factors with MBF - N-13**
Ammonia has more reliable quantification, particularly at higher flows (e.g. stress conditions) resulting in smaller correction factors⁷
- **Better Extraction Fraction and Retention -**
N-13 Ammonia extraction is close to 100% at rest and stress, (0.95 – 0.99) making it an excellent myocardial blood flow tracer. In addition, it also has the highest retention of the FDA approved tracers (0.50 – 0.90)⁸
- Lower radiation exposure compared to SPECT MPI⁹
- Shorter imaging time compared to conventional SPECT MPI (35 min vs 3-4 hours)
- Allows for the performance of myocardial blood flow quantitation which is extremely valuable in diagnosing triple vessel and microvascular disease as well as better identification of culprit lesions

- Improved risk stratification and patient management¹⁰
- The 10-minute half-life of N-13 Ammonia makes it possible to perform treadmill stress PET MPI providing additional testing options for your Cardiac PET program and may expand patient selection¹¹
- Published studies are available on request or at <https://ionetix.com/resources>

CARDIAC PET MPI PROVIDES A POSITIVE DOWNSTREAM IMPACT

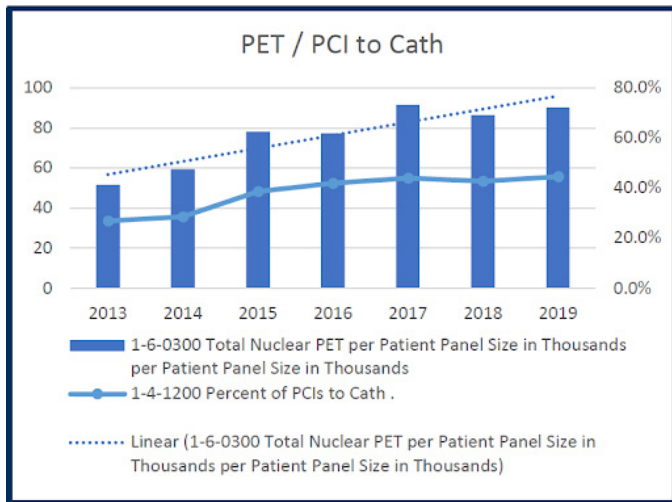
- Nationally the normalcy rate for diagnostic cardiac catheterization is approximately 59% (this has consequences for reimbursement)¹²
- **Getting the right patients to the Cath Lab is critical.** Cardiac PET MPI may have significant impact in preventing:
- **Patients that should go to the Cath Lab and don't** (Defects missed due to limitations of SPECT MPI)– may result in poor outcomes and potential liability
- **Patients that shouldn't go to the Cath Lab and do "normals"** (High rate of equivocal test results with SPECT MPI)
 - The invasive procedure is not without risk and complications
 - These "normals" utilize valuable Cath Lab table time, and are not financially productive
- Catheterization Guidance – Interventional Cardiologists gain valuable information from Cardiac PET MPI studies assisting in guidance during interventional procedures – *what lesions to fix and when*

IMPACT OF CARDIAC PET BEYOND THE CLINIC

- Cardiac PET is rapidly being adopted and it's not a matter of if cardiac PET is coming, it is a matter of when
- Help recruit and retain cardiologists with the best technology available
- Provide value differentiation for your program and enable market growth

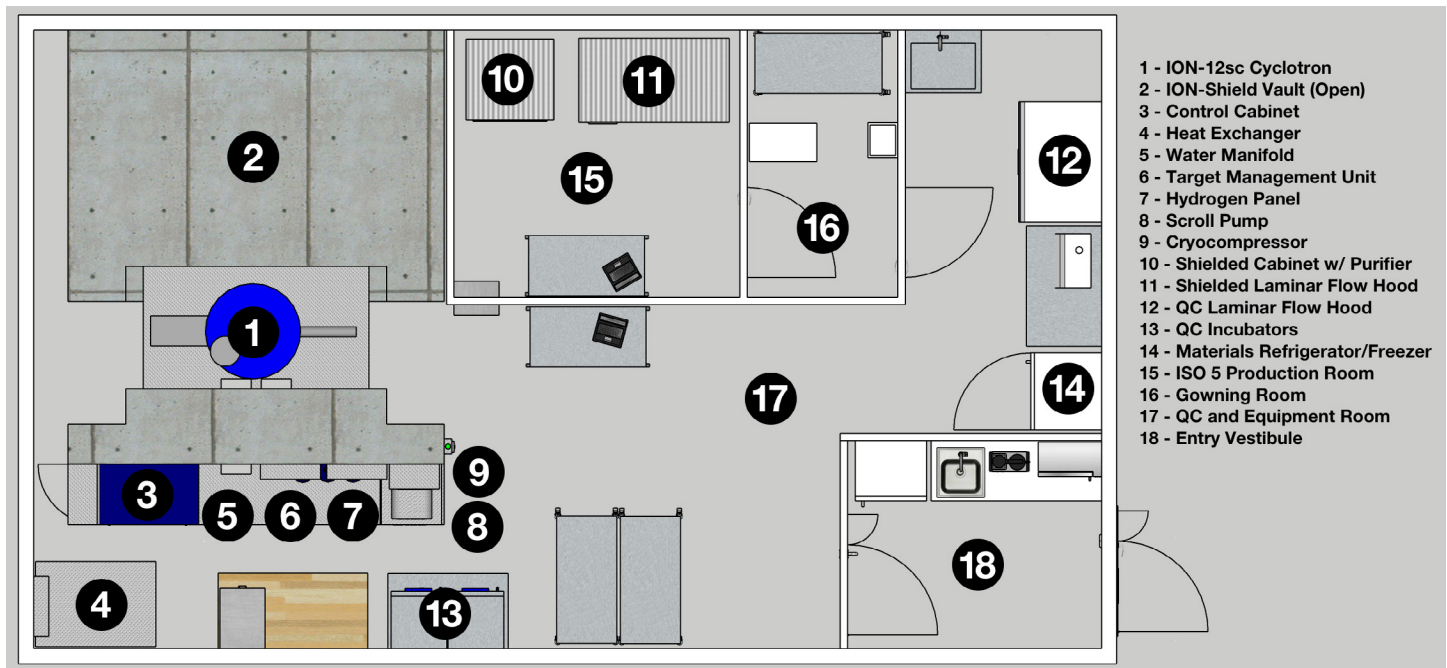
Cardiac Imaging Outpatient Services	5 Year National Growth Estimate
Cardiac CT	12%
Cardiac MRI	17.6%
Myocardial PET	64.9%
Electrocardiogram	7.9%
Transthoracic ECHO	16.4%
Stress Test	4.5%

Advisory Board 2019



PET UTILIZATION FOR PATIENT MANAGEMENT – MEDAXIOM WHITEPAPER 2021

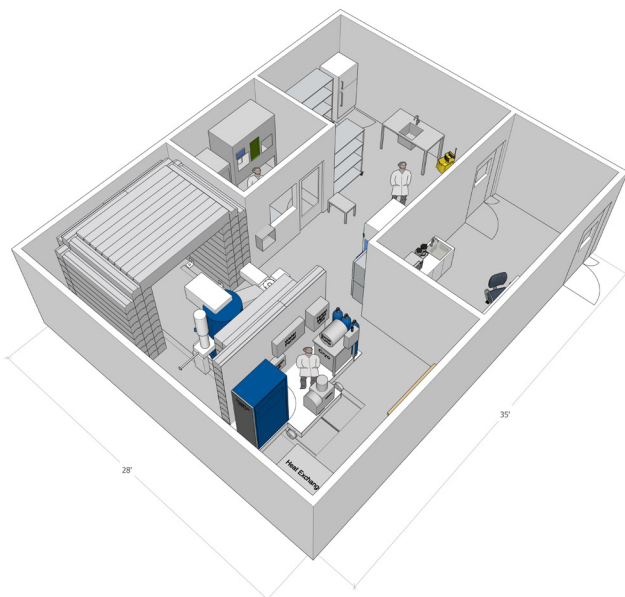
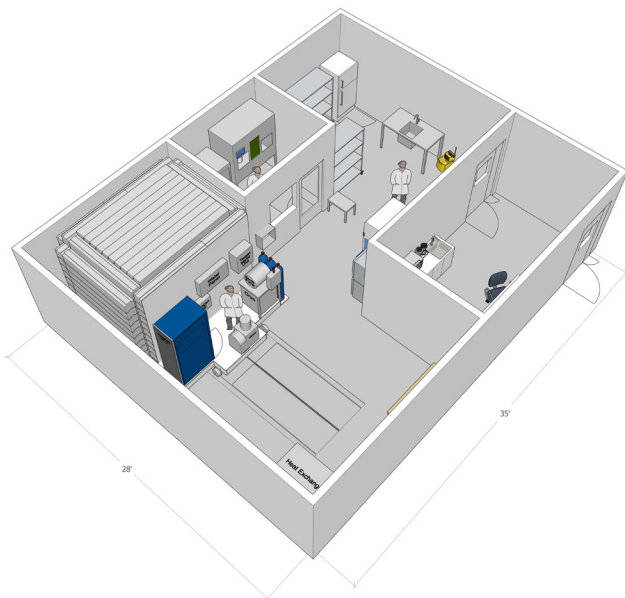
- Cardiac PET does not reduce overall MPI volumes. Programs typically increase total MPIs over time driven by increased confidence in the MPI modality and the ability of Cardiac PET to image a broader patient population.
- Cardiac PET does not reduce Cath Lab volumes, but rather ensures that more of the “right patients” are sent for an invasive procedure. This results in a higher PCI to Cath ratio with favorable financial impact.



TAKE YOUR CARDIAC IMAGING PROGRAM TO THE NEXT LEVEL

Create brand-leading cache for the institution by putting cutting-edge diagnostics in the hands of your providers. The advantages of the IONETIX approach are clear:

- A reimbursable diagnostic offering benefits to referring physicians and their patients
- A no-added-headcount approach to offering advanced diagnostic testing to patients
- A strategic business opportunity that positions your physicians and institution on the cutting edge



A HANDS-OFF, WORRY-FREE SERVICE LINE OF DISTINCTION

IONETIX manages it all. We work with you to bring your cardiac program to the forefront of service line excellence.

- Oversight of the entire construction and approvals process
- No staff required — IONETIX employees handle daily operations related to radioisotope production
- Ongoing clinical, marketing and reimbursement support

A ZERO CapEx MODEL FOR ACHIEVING STATE-OF-THE-ART CARDIAC IMAGING

Elevating your service line offering is surprisingly affordable when you partner with IONETIX.

- IONETIX covers all CapEx costs associated with the entire project
- You pay only for your doses of N-13 Ammonia
- On-site production of N-13 Ammonia creates the most reliable supply chain possible



IONETIX is a leading molecular imaging diagnostics and therapeutics company focused on providing physicians and patients access to N-13 Ammonia.

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For more information, visit [IONETIX.com](https://www.ionetix.com)

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