Gallium-68-labeled somatostatin analogs (\[68\text{Ga}\]DOTATOC, DOTATATE and DOTANOC) have been identified as important imaging agents to detect and manage neuroendocrine tumors (NETs) and have been shown to be superior to the approved product \[111\text{In}\]-octreotide. In April 2012, the Society of Nuclear Medicine and Molecular Imaging (SNMMI) established a formal \[68\text{Ga}\] Users Group under their Clinical Trials Network (CTN) to advance the use of these \[68\text{Ga}\]-labeled analogs for the imaging of neuroendocrine tumors (NETs) in the US.

### TIMELINE OF \([68\text{Ga}]\)-USERS GROUP ACTIVITY

<table>
<thead>
<tr>
<th>Date</th>
<th>Event</th>
</tr>
</thead>
<tbody>
<tr>
<td>June 2012</td>
<td>Working Groups formed to create IND template sections</td>
</tr>
<tr>
<td>January 2013</td>
<td>Decision approved to submit DOTA agent for Orphan Drug Designation</td>
</tr>
<tr>
<td>April 2013</td>
<td>Contact initiated with precursor producers on drug availability</td>
</tr>
<tr>
<td>August 2013</td>
<td>CTN submits application for Orphan Drug designation for DOTATOC, Slides from June 2013 Gallium Information session posted on CTN website</td>
</tr>
</tbody>
</table>

### Prospective defining and harmonizing chemistry and imaging study parameters from a select group of qualified study sites allows multiple sites to combine their respective clinical trial data thereby simulating a multicenter trial that allows for pooling of data for an NDA submission. The FDA would be asked to review the data as a single multicenter study.

### Radiopharmaceutical of Interest at US Sites:
- Indiana/Purdue University at Indianapolis: DOTANOC
- NIH Clinical Center: DOTATATE
- Radio-isotope Therapy of America: DOTATATE
- Stanford University: DOTATATE
- University of California Los Angeles: DOTATATE
- University of Iowa: DOTATOC
- Vanderbilt University: DOTATATE

### Vanderbilt University: \([68\text{Ga}]\)-DOTATATE PET/CT

Middle aged male with prior small bowel carcinoid with extensive metastases to residual liver. The primary tumor was resected years ago, with a right lobe hepatectomy also performed. The patient presents with no symptoms and negative tumor markers for restaging with \([68\text{Ga}]\)-DOTATATE PET/CT. No other imaging was available at the time of imaging. The \([68\text{Ga}]\)-DOTATATE PET/CT scan demonstrated not only extensive disease in the liver but metastatic disease in the chest, establishing that the patient was not a candidate for a major surgical procedure to attempt to cure his disease. This resulted in a major impact on care (no surgery vs. futile surgery).

### Cardiac metastases not detected on CT scan

Top: Multiple liver metastases, only three of which are shown on these "fused" images.

Left: Unexpected 2 cm metastatic lesion between right posterior ribs 1 & 2 (arrow).

Right: Unexpected 2 cm metastasis in the base of the neck and multiple metastases in the remaining liver (right lobe removed years ago).

### University of Iowa

\([68\text{Ga}]\)-DOTATOC PET/CT

Middle aged male with prior small bowel carcinoid with extensive metastases to residual liver. The primary tumor was resected years ago, with a right lobe hepatectomy also performed. The patient presents with no symptoms and negative tumor markers for restaging with \([68\text{Ga}]\)-DOTATOC PET/CT. No other imaging was available at the time of imaging. The \([68\text{Ga}]\)-DOTATOC PET/CT scan demonstrated not only extensive disease in the liver but metastatic disease in the chest, establishing that the patient was not a candidate for a major surgical procedure to attempt to cure his disease. This resulted in a major impact on care (no surgery vs. futile surgery).