Radioligand Therapy (RLT) PLAYBOOK

How to Evaluate, Launch, and Scale a RLT Program in Any Practice

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1. Introduction to Radioligand Therapy (RLT)

1.1 What is RLT

Radioligand Therapy (RLT) is a targeted cancer treatment that:

- Uses a biologic ligand (peptide Radioligand, antibody, or small molecule)
- Binds to a specific tumor-associated target
- Delivers localized radiation directly to cancer cells

This approach allows systemic treatment with less toxicity compared to traditional radiation or chemotherapy.

RLT is a Theranostic model:

- Diagnostic imaging confirms target expression
- Therapy uses the same or similar ligand with a therapeutic radioisotope

Key Leadership takeaway:
RLT is not "just another drug." It is a program that combines oncology, nuclear medicine, imaging, pharmacy, radiation safety, payer strategy, and logistics.

2. Types of RLT (Current & Practical Focus)

2.1 FDA-Approved and Commonly Deployed RLTs

Pluvicto® (Lu-177 vipivotide tetraxetan)

Indication: Metastatic castration-resistant prostate cancer (mCRPC)

- **Target:** PSMA (Prostate-Specific Membrane Antigen)
- **Isotope:** Lutetium-177 (beta emitter)
- **Typical course:** Every 6 weeks, Up to 6 cycles

Operational profile:

- Moderate chair time
- Strong dependency on PSMA PET imaging
- Heavy urology + oncology referral integration

Best Suited for: **Practices with strong urology relationships and PSMA imaging access.**

Lutathera® (Lu-177 DOTATATE)

Indication: Somatostatin receptor–positive neuroendocrine tumors (NETs)

- **Target:** Somatostatin receptor (SSTR)
- **Isotope:** Lutetium-177
- **Typical course:** Every 8 weeks; 4 cycles

Operational profile:

- Long visits (5–8 hours)
- Requires amino acid infusions for renal protection
- High nursing and protocol complexity

Best Suited for: **Practices willing to run a high-discipline, protocol-heavy program and capture regional NET referrals.**

Xofigo® (Radium-223 dichloride)

Indication: mCRPC with bone-predominant metastases

- **Target:** Bone mineral (calcium mimic)
- **Isotope:** Radium-223 (alpha emitter)
- **Typical course:** Monthly x 6 doses

Operational profile:

- Simpler administration
- No imaging-based target expression required
- Lower infrastructure burden compared to Lu-177 therapies

Best Suited for: **Practices starting RLT or seeking a lower-complexity entry point into radiopharmaceutical therapy.**

RLT TYPE CHEAT SHEET

THERAPY	CANCER TYPE	IMAGING REQUIRED	VISIT LENGTH	COMPLEXITY
Pluvicto	Prostate (PSMA+)	Yes	Medium	Medium
Lutathera	NETs (SSTR+)	Yes	Long	High
Xofigo	Prostate (bone mets)	No	Short	Low-Medium

3. How to Conduct an RLT Market Analysis (Do This First)

Purpose of the RLT Market Analysis

The goal is to determine whether your organization can realistically:

- Capture patients
- Convert referrals
- Get reimbursed
- Deliver therapy consistently
- Reach break-even volume

A good market analysis should answer one question:

"Can we build a repeatable RLT engine in this geography?"

3.1 Define Your Catchment Area

Step 1: Start Broad (30–100 Miles)

Begin with a 30-mile, 60-mile, and 100-mile ring around your proposed site. Use 3 zones:

Primary Zone	Secondary Zone	Extended Zone
(0–30 miles) = easiest capture	(30–60 miles) = strong opportunity if access is good	(60–100 miles) = viable only if you can outperform hospitals on scheduling and support

Step 2: Adjust Catchment Area Based on Real Patient Behavior

Your catchment is not "distance-based." It's friction-based.

Adjust based on:

Population Density

- Dense metro = smaller radius (patients have options)
- Rural/suburban = larger radius (patients already travel)
- Referral travel tolerance = reality check

Ask: Will a patient travel 90 minutes for this therapy?

In general:

- **Pluvicto** patients travel more (higher urgency, fewer sites)
- **Lutathera** patients travel if the program is “NET-friendly”
- **Xofigo** patients travel less (more commoditized, older therapy)

Competing Centers and Their Strength

A competitor is not just “a hospital offering RLT.” They are a threat only if they:

- Can schedule quickly
- Have established referral pipelines
- Have authorization support
- Don’t lose doses due to inefficiency

Step 3: Define Your Market in Patients, Not Geography

Once you define geography, translate it into population-based estimates:

- # of men >65 (prostate cancer volume indicator)
- # of oncology practices
- # of urology groups
- # of endocrinology/NET specialists

Your catchment area should reflect where referrals will actually come from. You’re not just counting sites, you are diagnosing capacity, friction, and leakage.

Step 1: Build a Competitor Grid by Therapy

For each of the 3 therapies: **Pluvicto** **Lutathera** **Xofigo**

Create a table that includes:

- Facility name
- Type (academic / hospital / community / private)
- Distance from your site
- RLT therapies offered
- Frequency (weekly? monthly?)
- Known backlog (if any)
- Referral reputation (good vs painful)
- Contact name (nuclear med lead or admin)

Step 2: Key Questions to Answer for Each Provider

A) Who is administering?

- Nuclear medicine physician?
- Radiation oncologist?
- Medical oncologist?
- AU availability limited to 1 provider?

Why it matters:

If they have only one AU and that person is fragile coverage-wise, that program is vulnerable.

B) How often are they administering?

Determine cadence:

- 1 day/month = low capacity program
- 1 day/week = moderate program
- 2+ days/week = scaled program

Why it matters:

Frequency tells you whether they treat RLT as a “real program” or a “side offering.”

C) Hospital vs Community?

Hospitals often have:

- More bureaucracy
- Slower scheduling
- Slower prior auth
- Slow infusion/imaging coordination

Community programs can win by being:

- Faster
- Easier to access
- More physician-friendly

D) Capacity Constraints

Ask or infer:

- Are they dose-limited?
- Are they staffing-limited?
- Are they scheduling out 4–8 weeks?
- Are they declining referrals due to authorization backlog?

E) Referral Bottlenecks

Common competitor weaknesses:

- "We only take internal patients"
- "We don't help with auth"
- "We schedule after insurance approval only"
- "We require consult + imaging at our site"
- "We don't coordinate with outside"

Each one of these creates leakage.

**A therapy not offered within 90–100 miles represents a real capture opportunity —
but only if you can operationalize access.**

That means:

- Predictable scheduling windows
- Travel-friendly patient navigation
- Fast authorization processing
- Clear referral pathways

3.2 Analyze Referral Sources (Referral Mapping)

Step 1: Build Your Referral Universe

Your referral sources are not “oncology.” They are specific physician groups.

- Urology groups (especially high-volume practices)
- Medical oncology groups
- NET specialists (endocrinology, GI oncology)
- Radiation oncology groups
- Academic centers (often referral origin points)

Step 2: Identify the Highest-Value Referrers by Therapy

PRIMARY DRIVERS		
For Pluvicto	**For Lutathera**	**For Xofigo**
• Urology groups transitioning into oncology • Med onc groups treating mCRPC • Large prostate cancer clinics • Hospital systems without internal RLT	• NET specialists • GI oncology • Endocrinology networks • Academic NET clinics that are overloaded	• Older med onc groups • Community urology groups • Practices with bone metastasis volume
High signal: urology groups hiring medical oncologists. That usually means they want to vertically integrate cancer care.	**NET is referral-driven and relationship-driven. If you win 2–3 NET specialists, you can own the market.**	**But note: Xofigo has been partially displaced by Pluvicto.**

Step 3: Assess Referral Leakage (Critical)

Ask:

- Where are patients currently being sent?
- Why are they being sent there?
- Are they being lost permanently after referral?

Leakage usually happens because:

- The receiving hospital keeps the patient long-term
- The Scheduling process is painful
- The referring provider doesn't trust the logistics

A referral relationship is not "sending patients." It's sending patients and getting them back.

Step 4: Measure Appetite for a Local Alternative

You are not asking, "Would you refer?"

- You are diagnosing:
  - Frustration level
  - Pain points
  - Openness to co-management

Good questions to gather intel:

- "How long does it take to get your patients scheduled?"
- "Do they make your team handle prior auth?"
- "Do they keep the patient after treatment?"
- "Do you lose the patient once they enter the academic system?"

Step 5: Assess Willingness to Co-Manage Patients

This is one of the most overlooked RLT success drivers.

Referral partners want:

- Fast turnaround
- Clean communication
- Confidence they won't lose the patient
- A program that looks professional and predictable

If you can position RLT as a service line, not a takeover,

referrals will follow.

3.3 Payer Mix & Coverage Reality

This is where most RLT business plans break.

Step 1: Define the Payer Mix in Your Catchment

Break into:

- Medicare Traditional (usually the anchor payer for RLT)
- Medicare Advantage (can behave like commercial - slow and denial-prone)
- Commercial
- Medicaid
- Self-pay/uninsured (usually minimal for RLT)

Step 2: Identify Local Payer Behavior

Your analysis should include:

- Which plans are dominant locally?
- Which plans are known to deny nuclear med therapies?
- Which payers require peer-to-peer?
- Which require “center of excellence” routing?

If you can, obtain:

- Denial history
- Auth timelines
- Reimbursement trends

That becomes strategic advantage.

Step 3: Reality Check: Authorization Complexity

RLT is not “infusion authorization”. It’s a “high-dollar, high-scrutiny authorization”.

Common friction:

- Unclear documentation requirements
- Step therapy expectations
- Imaging prerequisites
- Prior treatment confirmation (especially Pluvicto)

Your market analysis should assume:

- Delays are normal
- Approval is not guaranteed
- Speed is a competitive differentiator

Step 4: Commercial Coverage Isn't Always "Better"

Commercial payers may reimburse more, but they:

- Delay longer
- Deny more often
- Require more documentation
- Medicare is often smoother operationally

Leadership Reality Check

- A strong payer mix is often more important than raw patient volume.
- A market with 15 patients/month but poor coverage can lose money.
- A market with 8–10 patients/month and stable Medicare can succeed.

4. Manufacturer Contracting for Community Oncology (RLT Therapies)

Purpose

Manufacturer contracting determines whether your program can:

- Reliably access product supply
- Get appropriate pricing / reimbursement alignment
- Avoid cash-flow destruction
- Avoid administrative friction that delays treatment
- Scale volume without allocation issues

Directive:
If you cannot secure a clean manufacturer pathway for ordering, delivery, returns/waste, and billing support, your RLT program is not operational — regardless of licensing.

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1. Identify the Manufacturer + Distribution Model (Start Here)

For each therapy, determine the commercial channel:

- **Pluvicto** (Novartis) – tightly controlled distribution, capacity constraints historically
- **Lutathera** (Novartis) – controlled scheduling + manufacturing slot allocation
- **Xofigo** (Bayer) – more mature distribution model

Key Question:
"Is this direct distribution, specialty distributor, or controlled allocation?"
Because that determines how much leverage you have.

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2. Manufacturer Readiness Checklist (Before You Negotiate)

Before pricing discussions, confirm you can meet their onboarding requirements:

Faculty + Compliance Requirements

Ask:

- What licensing documentation is required for onboarding?
- Do you require NRC vs Agreement State proof?
- Do you require proof of AU and RSO credentials?
- Do you require radiation safety policies, waste handling SOPs, or shielding documentation?
- Do you require site inspection or validation?

Operational Requirements

Ask:

- What staffing roles are required (scheduler, ordering contact, receiving contact)?
- Do you require dedicated ordering portal training?
- What is the onboarding timeline from application to first order?

Directive:
If onboarding is 60–120 days, that must be integrated into launch planning.

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3. Community Oncology Contracting Questions to Ask Manufacturers (Core List)

A. Pricing Contract Structure

You need to understand whether you are buying under:

- WAC
- ASP-based methodology
- GPO pricing
- Custom community oncology pricing tier

Questions to ask:

- What is the pricing structure (WAC, contract rate, tiered discounts)?
- Is there a community oncology pricing program?
- Can pricing improve with volume commitments?
- Is pricing tied to GPO membership ?
- Are there penalties if volume projections are missed?
- Are there annual escalators?

Watch Out:

Some “discounts” are meaningless if reimbursement is ASP-based and your acquisition cost floats incorrectly.

B. Payment Terms (This Can Make or Break You)

RLT is expensive inventory. Terms matter more than margin.

Questions to ask:

- What are standard payment terms (Net 30, Net 45, Net 60)?
- Are extended terms available for new sites?
- Is there a credit review process? What are typical credit limits?
- Can we obtain consignment or delayed billing until administration?
- What happens if our first 3 claims are delayed/denied?

Executive Reality:
If your payer reimbursement lag is 60–120 days and your manufacturer terms are Net 30, you may need millions in working capital.

C. Ordering Process & Scheduling Control

Questions to ask:

- How far in advance must doses be ordered?
- Do you require pre-scheduled manufacturing slots?
- Do you allocate slots monthly/quarterly?
- Can we "reserve" slots without patient authorization completed?
- What happens if the patient cancels?
- Who controls the final ship approval?
- **Critical Question:**
  - Do we schedule treatment first, or do we wait until authorization is approved?

Your model should be: *authorization → schedule → order*, but manufacturers sometimes push the reverse.

D. Delivery, Custody, and Chain-of-Control

Radiopharmaceutical delivery is not like chemo.

Questions to ask:

- What carrier is used for delivery?
- What is the delivery window (AM only, timed delivery, etc.)?

- What happens if delivery is delayed?
- Who signs custody? What documentation is required?
- What temperature / packaging requirements exist?
- What are the protocols if the shipment arrives damaged?

Operational Directive:
You need a manufacturer-confirmed workflow for custody transfer, because chain-of-custody errors become reportable events.

E. Dose Cancellation, Returns, and Waste Policy

This is one of the most important financial sections.

Questions to ask:

- What is the cancellation window without penalty?
- If the patient is hospitalized or dies before treatment, are we billed?
- Is there partial credit for unused doses?
- Do you offer dose replacement programs?
- Is there a formal "waste documentation" policy?
- Do you require proof of disposal?

Hard Truth:
If your cancellation terms are unforgiving, you must build a tight pre-treatment clearance process (labs, imaging, clinical sign-off) to avoid wasted doses.

F. Reimbursement Support & Documentation Requirements

Manufacturers often have reimbursement "support" teams. Some are helpful, some are marketing fluff.

Questions to ask:

- Do you provide sample prior auth packets specific to each payer?
- Do you provide payer policy intelligence (coverage criteria by plan)?
- Will you provide a benefits verification service?
- Do you provide peer-to-peer support resources?

- Do you provide coding guidance (HCPCS, revenue codes, ICD-10)?
- Do you provide denial appeal templates?

Ask directly:

- What is your average approval timeline across commercial payers?
- What are the top 5 denial reasons you see?

If they can't answer, their support team is weak.

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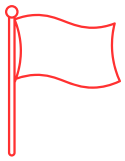
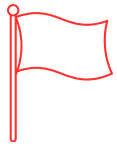
4. Manufacturer Contracting Red Flags



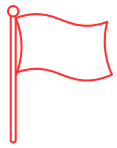
Red Flag #1: "We can onboard you quickly" but no defined process

That usually means chaos and delays.



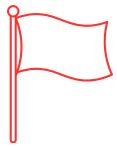
Red Flag #2: Short cancellation window + strict billing

That equals high waste risk.



Red Flag #3: No reimbursement support beyond generic PDFs

That means high workload on your internal team in denials.



Red Flag #4: Payment terms misaligned with payer lag

This is how programs run out of cash.