RWD61

Migration Between Academic And Community Treatment Settings From Diagnosis To Treatment Among Patients With Breast Cancer: A Real-World Analysis Leveraging NorstellaLinQ Electronic Health Records (EHR) And Claims

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Background

Breast cancer care increasingly crosses academic and community organizations, but the direction and asymmetry of that flow — from where patients are diagnosed to where they are actually treated — has not been quantified at population scale.

Objective

Quantify how far, and in which direction, incident breast cancer patients move between academic and community organizations between diagnosis and first systemic treatment — and test how sensitive that pattern is to attribution choice and academic definition.

Methods

1 Data Source & Population

- NorstellaLinQ linked US EHR + Open Claims
- Index period: Jan 2022 – Dec 2024
- ≥2 ICD-10 C50.x diagnoses on distinct dates
- 12-month treatment-free lookback
- ≥1 systemic breast cancer therapy post-index

2 HCO Attribution

- Diagnosing HCO: rendering provider on the index diagnosis record
- Treating HCO: rendering or prescribing provider on the earliest post-index systemic therapy event
- All NPIs mapped to parent HCO

3 Academic vs Community Classification

- Multi-signal classifier at parent-HCO level
- Full definition: NCI/NCCN + academic health system + teaching + oncology network signals
- Strict definition: NCI/NCCN or academic-system signal only — used as sensitivity

4 Analysis

- Per patient: setting at diagnosis → setting at first treatment
- Overall and conditional on diagnosis setting
- Same-HCO vs same-setting rates computed separately to expose organizational fragmentation
- Descriptive and unadjusted

Key Findings

Care concentrates in academic centers — but the driver is community-to-academic migration, not academic retention.

260,126
Analyzable Patients
Incident breast cancer patients with both diagnosis and treatment HCO resolvable to setting

4×
Asymmetric Migration
57% of community-diagnosed patients move UP to academic — vs only 14% of academic-diagnosed patients moving DOWN

74% vs 34%
Setting ≠ HCO
Three-quarters treated in the same setting type — only one-third at the same organization

1 in 4
Community-Diagnosed at Index
Only 26% of incident breast cancer patients had their index diagnosis at a community organization — most will end up treated elsewhere

The Asymmetric Pull Toward Academic Centers

Conditional retention — where patients diagnosed in each setting were actually first treated

If diagnosed at an **ACADEMIC** center…
(n = 192,796 patients — 74.1% of cohort)

85.6%
STAYED ACADEMIC

14.4% moved to community

Academic-diagnosed patients are STICKY — they overwhelmingly remain in the academic setting for first treatment.

If diagnosed at a **COMMUNITY** center…
(n = 67,330 patients — 25.9% of cohort)

57.3%
MOVED TO ACADEMIC

42.7% stayed community

Community-diagnosed patients MIGRATE UP — a majority move into academic centers for first systemic treatment.

The Setting-vs-HCO Paradox

Same setting type is not the same building. Organizational fragmentation is invisible if we only classify care as academic vs community.

74.5%
SAME SETTING

vs
~40 pp gap

34.6%
SAME HCO

Same-setting rates alone understate how much patients move between organizations. Measuring same-HCO alongside — as this analysis does — surfaces the organizational movement that setting labels miss.

Robustness Check — Does the story hold when we change how we define things?

The migration numbers depend on two choices: **(1)** which provider counts as the patient's *treating provider* (first-treatment provider vs longitudinal managing HCP), and **(2)** which centers count as *academic* (full multi-signal definition vs strict NCI/NCCN only). We re-ran the analysis under all 4 combinations. If the numbers hold, the pattern is real — not an artifact of our specific choices.

74.5%
Range across 4 versions: **70.9 – 74.5%**
SAME SETTING

14.8%
Range across 4 versions: **14.8 – 16.5%**
COMMUNITY → ACADEMIC

10.7%
Range across 4 versions: **10.7 – 12.6%**
ACADEMIC → COMMUNITY

What this means: Every rate stayed within ~4 percentage points of the primary result across all 4 versions. That's a small shift — the primary same-setting rate is 74.5%, and the lowest across all versions was 70.9%, still saying *"about three-quarters of patients stay in the same setting."* The migration pattern is really in the data — **not a side-effect of how we defined "academic" or "treating provider."**

Conclusions

Finding: In 260,126 US incident breast cancer patients, treatment concentrates in academic centers through **asymmetric migration** — 57% of community-diagnosed patients move UP for first systemic treatment, versus only 14% of academic-diagnosed patients moving DOWN. Even within the same setting type, most patients are treated at a different organization.

Why this matters for business decisions: Site-of-care planning, referral models, payer strategy, and field team deployment across oncology rely on RWD conventions — attribution to the diagnosing HCO, and classification of care as academic vs community — that this analysis shows are **wrong at population scale**. Getting the attribution wrong at the analysis layer means getting the business decision wrong at the strategy layer.

Path forward: These migration patterns should now be evaluated **after adjustment for disease stage and clinical complexity** — that is where the causal mechanism lives. Norstella surfaces the phenomenon here at population scale so the field can build on it.

The next question is not whether the pattern is real. It is why.

Limitations

- Descriptive and unadjusted — no adjustment for stage, receptor status, disease complexity, or line of therapy
- Setting attribution depends on NPI-to-HCO crosswalk completeness; unresolvable NPIs excluded (1.7% of cohort)
- Diagnosis setting reflects the billing/encounter site, not necessarily where the clinical decision was made
- Findings are population-level — individual clinical journeys may follow different attribution logic

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This research was sponsored by Norstella, which all authors were employed by at the time of conduct. The authors declare no conflict of interest in connection with the presented work.