



Clinical Safety & Effectiveness Cohort # 10

**Improve Patient Census and Referral Tracking
to Grow Oncology Service Lines at CTRC**

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UT HEALTH SCIENCE CENTER

The Team

Name	Role	Contribution
Niko Papanikolaou, Ph.D.	CS&E Participant	Project Leader
Don York, MS	CS&E Participant	Project Leader
Richard Crownover, MD	Team Member	Advisor
Emily Garrison, MHA	Team Member	Marketing development and strategy
Lissa Persson, BBA	Team Member	Database queries and report development
Debbie Ivy	Billing SME	Average charges by Tx type

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Aim Statement

The aim of this project is to increase patient census and referrals from UT Medicine to CTRC from an average relative value of 22% to 50% by the end of 2012.

There is currently no reliable, consistent methodology for tracking or reporting patient census counts and referrals. The ability to track these measures is necessary in order to grow service lines and increase revenues at CTRC.

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Project Milestones

- Team Created Jan 2012
- AIM statement created Jan 2012
- Background Data, Brainstorm Sessions, Workflow and Fishbone Analyses Jan – Mar 2012
- Interventions Implemented May 2012
- Data Analysis Apr-May 2012
- CS&E Presentation Jun 2012
- Graduation Date

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Background

Tracking the patient census and referral data is important to CTRC in order to identify:

- The source of referrals or lack thereof
- The fraction of patients that decide to receive treatment at CTRC, and
- The relative census per disease site treated at CTRC compared against TX State published data for site specific cancer incidence.

Desired Outcomes

Analysis of the data from this project will help CTRC to:

- Facilitate business and marketing strategies through accurate, consistent and timely data reporting.
- Identify specialty areas where referrals to CTRC can be improved.
- Identify limitations in the current data collection methodology.
- Develop an automated solution for collecting and reporting data for review and strategic planning.
- Follow up with patients that elected to not receive treatment at CTRC and find the reasons for their decision.

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Data to be Collected

- Incidence of cancer by disease site from the Texas Cancer Registry.
- Count of Patients with cancer Dx by disease site for all of UT Medicine (includes CTRC).
- New Patient counts by disease site for CTRC.
- Count of New Patients electing to receive Tx at CTRC.
- Count of New Patient referrals from UT Medicine by disease site.

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Data Sources

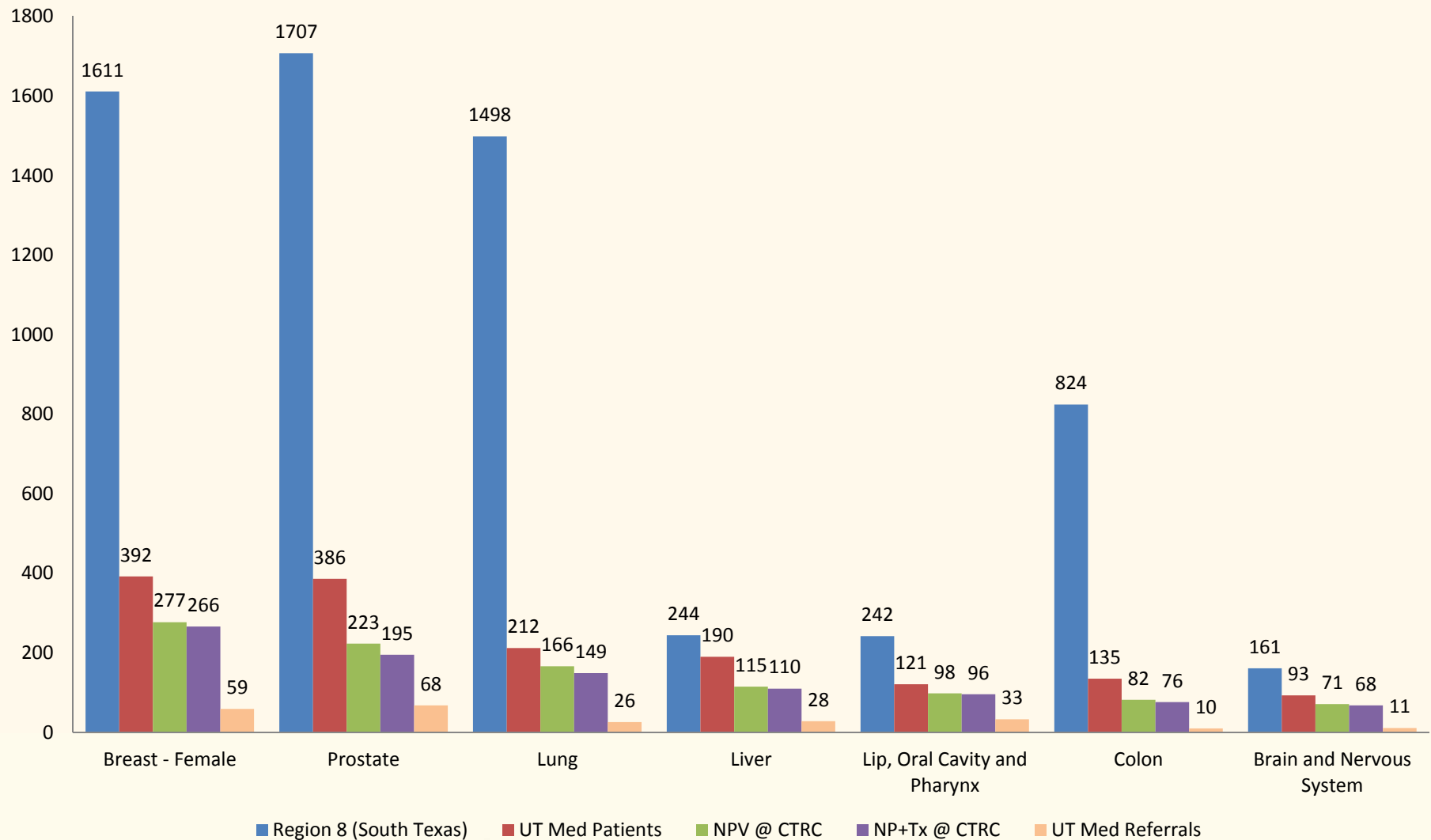
- Epic EMR (Clarity DB at UT Medicine)
- Mosaiq EMR (CTRC)
- IDEAS (Clinical Trial DB)
- Texas Cancer Registry
- CTRC Data Warehouse

Data Analysis

Data	What it tells us
Newly diagnosed patients at UT Medicine compared to all incidents in south/central Texas by disease site.	Opportunities for reaching more patients in our immediate region.
NPVs at CTRC vs. newly diagnosed patients at UT Medicine.	Opportunities within UT Medicine to refer more patients for CTRC.
CTRC Referrals from UT Medicine	How often UT Medicine physicians are referring cancer patients to CTRC.
Patients treated compared to NPVs	Whether patients that came to CTRC for a NPV elected to stay at CTRC for their treatment.

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Top 7 Cancer Sites Treated at CTRC in 2011



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Metrics

Metric	Description
$\frac{\text{UT Med Total Patients}}{\text{Region 8 Total}}$	Patients at UT Medicine compared to all incidents of the same disease in Region 8*
$\frac{\text{NPV}}{\text{UT Med Total Patients}}$	New Patient Visits (NPV) at CTRC compared to all patients at UT Medicine (including CTRC) with a cancer Dx
$\frac{\text{UT Med Referrals}}{\text{NPV}}$	NPV from UT Med seen at CTRC compared to all NPV (from all referral sources) seen at CTRC
$\frac{\text{Patient Tx}}{\text{NPV}}$	Percentage of New Patients seen at CTRC that elected to receive their Treatment at CTRC

* Region 8 includes Bexar county and 27 surrounding counties.

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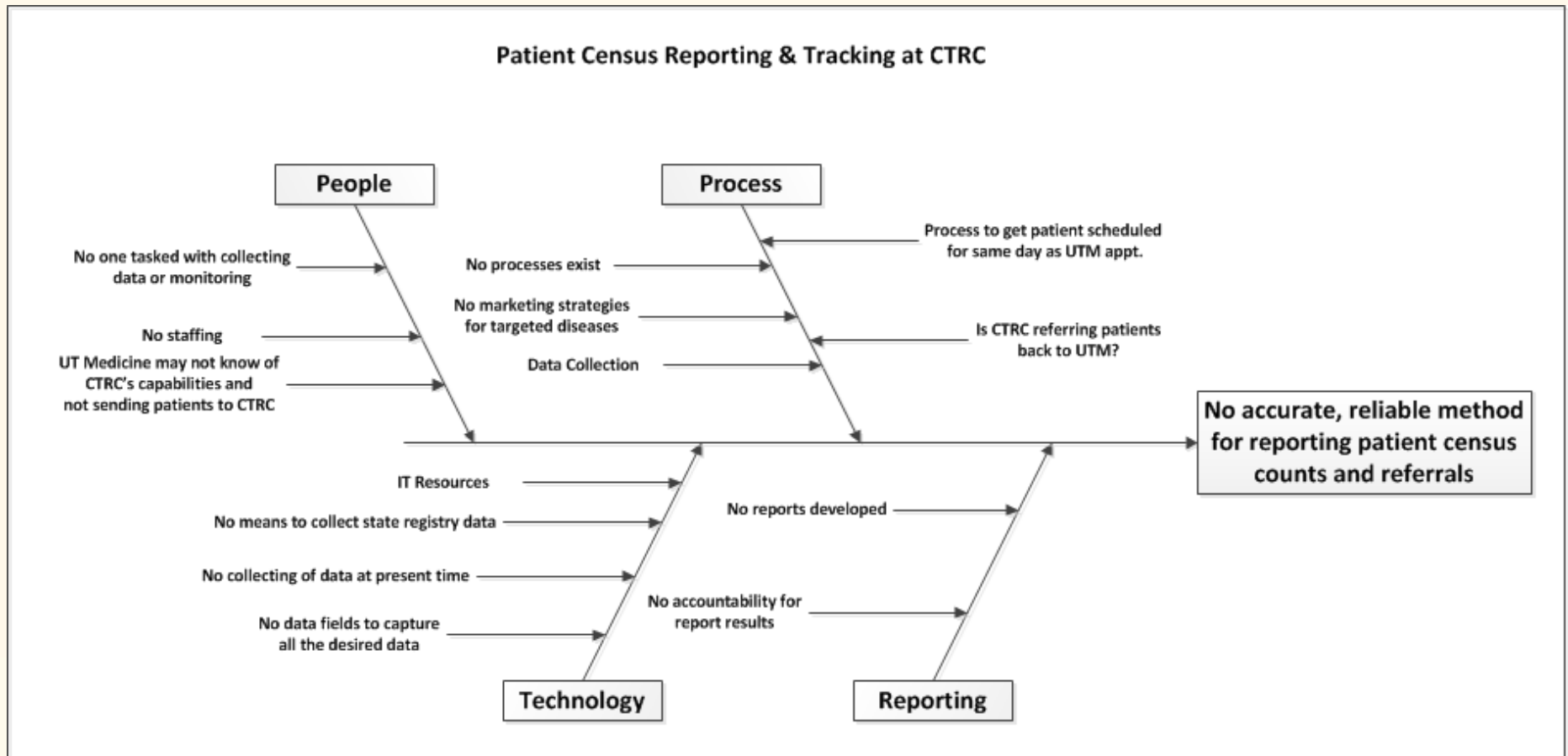
CTRC Metrics for 2011

Metrics	Breast	Prostate	Lung	Liver	Lip, Oral	Colon	Brain; Nervous	Avg
UT Medicine Total/Region Total	24%	23%	14%	78%	50%	16%	58%	38%
NPV/UTM Total	71%	58%	78%	61%	81%	61%	76%	69%
UTM Referrals/NPV	21%	30%	16%	24%	34%	12%	15%	22%
Tx/NPV	96%	87%	90%	96%	98%	93%	96%	94%

Improvement over current baseline statistics will result in higher percent values for all the data shown in this table

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Process Analysis Tool



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Changes That We Expect Will Result in Improvements

- Monthly reporting using standardized, validated queries.
- Implementation of rules for internal processes to standardize the capture of referring data.
- Scrub referral tables in Mosaik to ensure clean data.
- Marketing of CTSC services to internal (UTMed) and external physician groups.

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System Changes Made (or in Process)

- Interface upgrade
 - More demographic and referral data from Epic is captured in Mosaiq
- Standardization of Referral data entry

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Intervention (Plan)

- Validate queries and create monthly, automated reports.
- Perform monthly review of data and trends.
- Plan marketing efforts accordingly.

Implementing the Change (Do)

- Publish monthly reports for CTIRC leadership
- Aggressively market CTIRC services to all UT Medicine physicians to maximize internal referrals
- Schedule “Meet & Greet” sessions
- Follow up with physicians that have in the past or present referred patients to CTIRC

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Results/Impact (Check)

- Monitor trends on monthly charts.
- Watch for upticks following marketing efforts

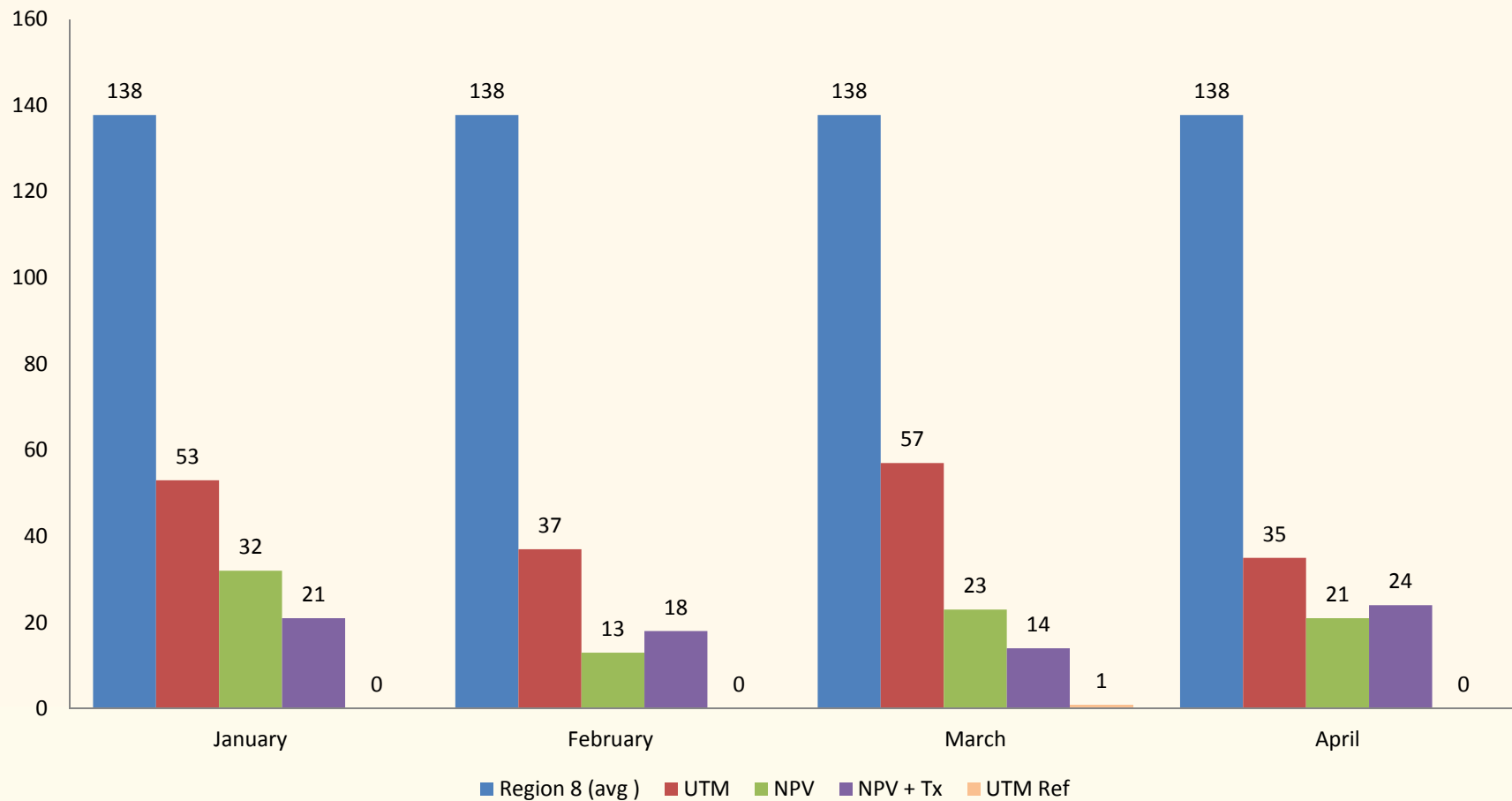
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Expansion of Our Implementation (Act)

- Expand tracking for more disease sites
- Break down data into finer elements
 - Medical Oncology
 - Radiation Oncology
 - Surgical Oncology

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Breast Cancer Patients – 2012



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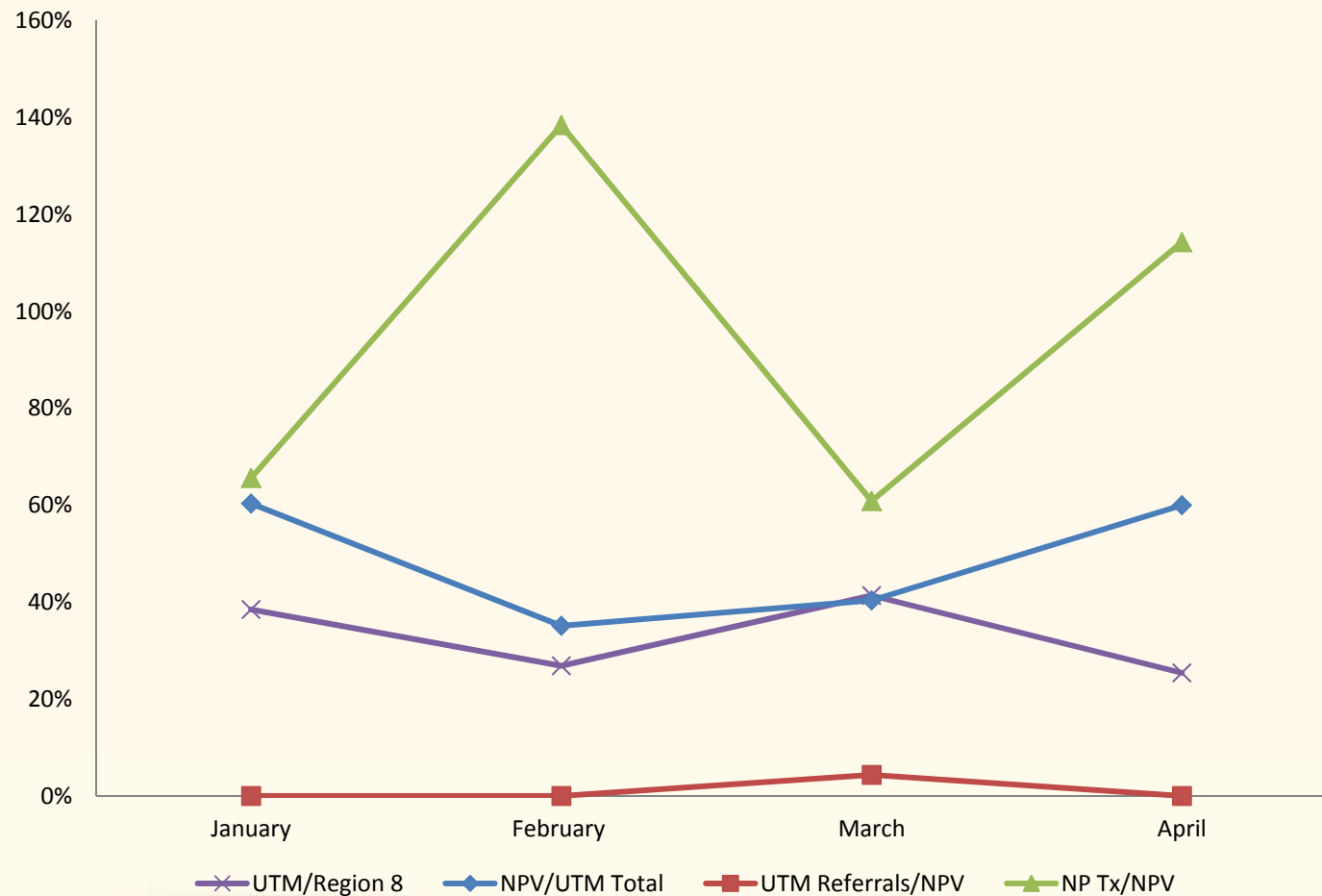
Metrics for Breast Cancer – 2012

Metric	Jan	Feb	Mar	Apr	Avg
UT Medicine Total/Region Total	38%	27%	41%	25%	33%
NPV/UTM Total	60%	35%	40%	60%	49%
UTM Referrals/NPV	0%	0%	4%	0%	1%
Tx/NPV	66%	138%	61%	114%	95%

Note: Coding and billing are typically several weeks behind in processing claims; therefore, data may not be complete for several months.

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Breast Cancer Metrics – 2012



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Return On Investment

Breast Cancer: An increase in referrals from 21% to 50% (29 additional patients) has the potential for the following increases:

Breast Cancer Patients Treated at CTRC in 2011		
Item	2011 (Baseline)	Increase to
Referrals	59	88
NPV	277	306
NPV → Tx	266	295
Avg. Revenue for Breast cancer patients receiving treatment*	\$5.1M	\$5.7M

* Average revenue per patient is \$19,441/year and is based on a sampling of patients treated for Breast cancer in both Medical Oncology and Radiation Oncology departments. Sampling provided by the Billing Office.

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ROI – All Primary Disease Sites

Referrals	Breast	Prostate	Lung	Liver	Lip, Oral	Colon	Brain; Nervous	Total
2011 Baseline	59	68	26	28	33	10	11	235
Potential 2012	88	102	39	42	50	15	17	353

Referrals	Total	Avg Rev/Pat	Rev (Avg)
2011 Baseline	235	\$19,441	\$4.5M
Potential 2012	353	\$19,441	\$6.8M
Return	+118 patients		\$2.3M

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Conclusion/What's Next

- The data confirms that several opportunities exist for increasing patient census.
- The data confirms that more referrals could be sent to CTSC from UT Medicine.
- Due to lag times in coding and Billing, data from the most recent months is not always accurate.
- Implement rules for capturing referring data.
- Scrub tables to ensure accurate, complete data.

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Thank you!!



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