

1-29-2020

Acute Care Patient Transfer Patterns from Community Hospital Emergency Departments

Dylan Selbst

Michael Knapp

Vasil Mico

Follow this and additional works at: <https://jdc.jefferson.edu/pel-plus>



Part of the [Health and Medical Administration Commons](#)

[Let us know how access to this document benefits you](#)

This Article is brought to you for free and open access by the Jefferson Digital Commons. The Jefferson Digital Commons is a service of Thomas Jefferson University's [Center for Teaching and Learning \(CTL\)](#). The Commons is a showcase for Jefferson books and journals, peer-reviewed scholarly publications, unique historical collections from the University archives, and teaching tools. The Jefferson Digital Commons allows researchers and interested readers anywhere in the world to learn about and keep up to date with Jefferson scholarship. This article has been accepted for inclusion in Physician Executive Leadership-Plus (PEL-Plus) by an authorized administrator of the Jefferson Digital Commons. For more information, please contact: JeffersonDigitalCommons@jefferson.edu.

Acute Care Leakage



Physician Executive Leadership at Thomas Jefferson University

Our Team



Dylan Selbst



Michael Knapp



Vasil Mico

Case Vignette

Thomas Jefferson is a 277 year old male presents to the ED following a traumatic accident. He is actively hemorrhaging and without intervention will soon bleed out. Medical staff treat the source of the bleeding and he makes a full recovery.

A Thomas Jefferson University affiliated ED sees approximately 67,000 patients and admits 13,000 of those patients each year. It refers roughly 5% of its acute care patients out of network. These transfers disrupt continuity of care and represent lost revenue for the system.

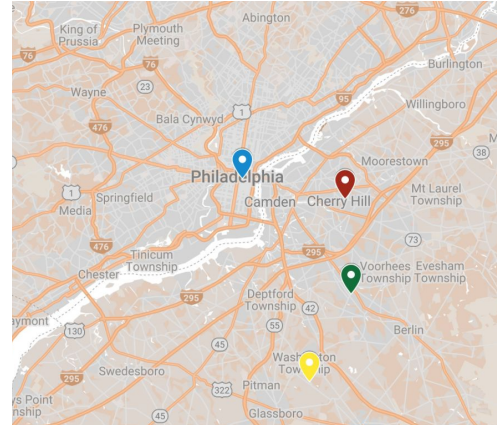
...How do we intervene?

Project Scope:

Jefferson Health: A 14 hospital network in the Philadelphia and Delaware Valley region

Our focus: The NJ Jefferson hospitals
Washington Township, Cherry Hill, and Stratford

- Out-of-network (OON) volume leakage
- Missed revenue
- Major departmental culprits
- Proposed solution



- TJUH
- Cherry Hill
- Stratford
- Washington Township

Patients Admitted



CH	7,099
ST	5,661
WT	13,233

Total 25,993

ER Visits



CH	41,761
ST	39,000
WT	66,735

Total 147,496

Average Length of Stay



CH	5.3 days
ST	4.0 days
WT	4.4 days

Total 4.6 days

Births



CH	N/A
ST	N/A
WT	1,015

Total 1,015

Stakeholders

Patients

Improved continuity of care for patients, improved patient outcomes



Providers

Improved and clarified guidelines for inter-hospital patient transfers



Executives

Minimal financial impact for the Jefferson Health Network

Shared Interests

Improved patient experience and reduced financial burden of out-of-network leakage.

Methods

Collection

Received raw leakage data of out of network transfers from *Washington Township, Cherry Hill, and Stratford* hospitals through the Jefferson Transfer Center

Organization

Cleaned, sorted, and organized all leakage data

Investigation

Analyzed and represented data trends to visualize and quantify leakage

Analysis

Calculated financial burden based on approximate cost per leaked patient

Methods cont.

JX	A	EL	EM	EN	EO	EP	EQ	ER	ES	ET	EU	EV	EW	EX	EY	EZ	FA	FB	FC
4	Washington Twp																		
5	<i>Cath Lab</i>	<i>Cath Lab</i>	0	1	2	0	1	0	3	4	<i>Cath Lab</i>	\$0	\$13,200	\$26,400	\$0	\$13,200	\$0	\$39,600	\$52,800
6	<i>CCU</i>	<i>CCU</i>	0	1	0	1	1	2	2	5	<i>CCU</i>	\$0	\$13,200	\$0	\$13,200	\$13,200	\$26,400	\$26,400	\$66,000
7	<i>CDU</i>	<i>CDU</i>	4	0	0	0	0	0	4	4	<i>CDU</i>	\$52,800	\$0	\$0	\$0	\$0	\$0	\$52,800	\$52,800
8	<i>ED</i>	<i>ED</i>	152	118	121	119	131	126	510	767	<i>ED</i>	\$2,006,400	\$1,557,600	\$1,597,200	\$1,570,800	\$1,729,200	\$1,663,200	\$6,732,000	\$10,124,400
9	<i>ICU</i>	<i>ICU</i>	40	19	15	14	21	16	88	125	<i>ICU</i>	\$528,000	\$250,800	\$198,000	\$184,800	\$277,200	\$211,200	\$1,161,600	\$1,650,000
10	<i>Med/Surg</i>	<i>Med/Surg</i>	14	13	4	8	9	11	39	59	<i>Med/Surg</i>	\$184,800	\$171,600	\$52,800	\$105,600	\$118,800	\$145,200	\$514,800	\$778,800
11	<i>PCU</i>	<i>PCU</i>	7	4	3	6	5	3	20	28	<i>PCU</i>	\$92,400	\$52,800	\$39,600	\$79,200	\$66,000	\$39,600	\$264,000	\$369,600
12	<i>Step Down</i>	<i>Step Down</i>	16	16	16	17	10	16	65	91	<i>Step Down</i>	\$211,200	\$211,200	\$211,200	\$224,400	\$132,000	\$211,200	\$858,000	\$1,201,200
13	<i>Tele</i>	<i>Tele</i>	78	81	59	96	59	73	314	446	<i>Tele</i>	\$1,029,600	\$1,069,200	\$778,800	\$1,267,200	\$778,800	\$963,600	\$4,144,800	\$5,887,200
14	<i>Other</i>	<i>Other</i>	1	4	2	3	2	3	10	15	<i>Other</i>	\$13,200	\$52,800	\$26,400	\$39,600	\$26,400	\$39,600	\$132,000	\$198,000
15	Total		311	253	220	261	237	247	1045	1529		\$4,105,200	\$3,339,600	\$2,904,000	\$3,445,200	\$3,128,400	\$3,260,400	\$13,794,000	\$20,182,800
16	Cherry Hill																		
17		SERVICE	2018 Q1	2018 Q2	2018 Q3	2018 Q4	2019 Q1	2019 Q2	2018 Tot	TOTAL		2018 Q1	2018 Q2	2018 Q3	2018 Q4	2019 Q1	2019 Q2	2018 Tot	Total
18	<i>CCU</i>	<i>CCU</i>	2	4	0	1	3	2	7	12	<i>CCU</i>	\$26,400	\$52,800	\$0	\$13,200	\$39,600	\$26,400	\$92,400	\$158,400
19	<i>ED</i>	<i>ED</i>	47	70	44	57	62	51	218	331	<i>ED</i>	\$620,400	\$924,000	\$580,800	\$752,400	\$818,400	\$673,200	\$2,877,600	\$4,369,200
20	<i>ICU</i>	<i>ICU</i>	15	19	9	10	3	4	53	60	<i>ICU</i>	\$198,000	\$250,800	\$118,800	\$132,000	\$39,600	\$52,800	\$699,600	\$792,000
21	<i>MED/Surg</i>	<i>MED/Surg</i>	6	4	3	1	5	1	14	20	<i>MED/Surg</i>	\$79,200	\$52,800	\$39,600	\$13,200	\$66,000	\$13,200	\$184,800	\$264,000
22	<i>PCU</i>	<i>PCU</i>	6	1	2	1	1	2	10	13	<i>PCU</i>	\$79,200	\$13,200	\$26,400	\$13,200	\$13,200	\$26,400	\$132,000	\$171,600
23	<i>Step Down</i>	<i>Step Down</i>	7	7	6	4	6	3	24	33	<i>Step Down</i>	\$92,400	\$92,400	\$79,200	\$52,800	\$79,200	\$39,600	\$316,800	\$435,600
24	<i>Telemetry</i>	<i>Telemetry</i>	18	43	23	24	16	15	108	139	<i>Telemetry</i>	\$237,600	\$567,600	\$303,600	\$316,800	\$211,200	\$198,000	\$1,425,600	\$1,834,800
25	<i>Other</i>	<i>Other</i>	0	1	0	0	1	0	1	2	<i>Other</i>	\$0	\$13,200	\$0	\$0	\$13,200	\$0	\$13,200	\$26,400
26	Total		101	148	87	98	96	78	434	608	Total	\$1,333,200	\$1,953,600	\$1,148,400	\$1,293,600	\$1,267,200	\$1,029,600	\$5,728,800	\$8,025,600
27	Stratford																		
28		SERVICE	2018 Q1	2018 Q2	2018 Q3	2018 Q4	2019 Q1	2019 Q2	2018 Tot	TOTAL		2018 Q1	2018 Q2	2018 Q3	2018 Q4	2019 Q1	2019 Q2	2018 Tot	Total
29	<i>ACE</i>	<i>ACE</i>	1	0	0	0	0	0	1	1	<i>ACE</i>	\$ 13,200.00	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 13,200.00
30	<i>ED</i>	<i>ED</i>	86	106	76	92	45	47	360	452	<i>ED</i>	\$ 1,135,200.00	\$ 1,399,200.00	\$ 1,003,200.00	\$ 1,214,400.00	\$ 594,000.00	\$ 620,400.00	\$ 4,752,000.00	\$ 5,966,400.00
31	<i>ICU</i>	<i>ICU</i>	16	12	7	12	10	6	47	63	<i>ICU</i>	\$ 211,200.00	\$ 158,400.00	\$ 92,400.00	\$ 158,400.00	\$ 132,000.00	\$ 79,200.00	\$ 620,400.00	\$ 831,600.00
32	<i>MED/Surg</i>	<i>MED/Surg</i>	11	7	7	3	3	1	28	32	<i>MED/Surg</i>	\$ 145,200.00	\$ 92,400.00	\$ 92,400.00	\$ 39,600.00	\$ 39,600.00	\$ 13,200.00	\$ 369,600.00	\$ 422,400.00
33	<i>Step Down</i>	<i>Step Down</i>	8	4	6	0	6	7	18	31	<i>Step Down</i>	\$ 105,600.00	\$ 52,800.00	\$ 79,200.00	\$ -	\$ 79,200.00	\$ 92,400.00	\$ 237,600.00	\$ 409,200.00
34	<i>Telemetry</i>	<i>Telemetry</i>	60	34	26	29	36	26	149	211	<i>Telemetry</i>	\$ 792,000.00	\$ 448,800.00	\$ 343,200.00	\$ 382,800.00	\$ 475,200.00	\$ 343,200.00	\$ 1,966,800.00	\$ 2,785,200.00
35	Total		182	163	122	136	100	87	603	790	Total	\$ 2,402,400.00	\$ 2,151,600.00	\$ 1,610,400.00	\$ 1,795,200.00	\$ 1,320,000.00	\$ 1,148,400.00	\$ 7,959,600.00	\$ 10,428,000.00

In 2018 alone, the out-of-network leakage from **Washington Township, Cherry Hill, and Stratford** led to an estimated loss of:

\$27,482,400

This loss of revenue is significant for the Jefferson Health network and must be addressed.

Our main offenders ultimately are...

Washington Twp.

ED → 49%

Tele → 30%

ICU → 8%

Cherry Hill

ED → 50%

Tele → 25%

ICU → 12%

Stratford

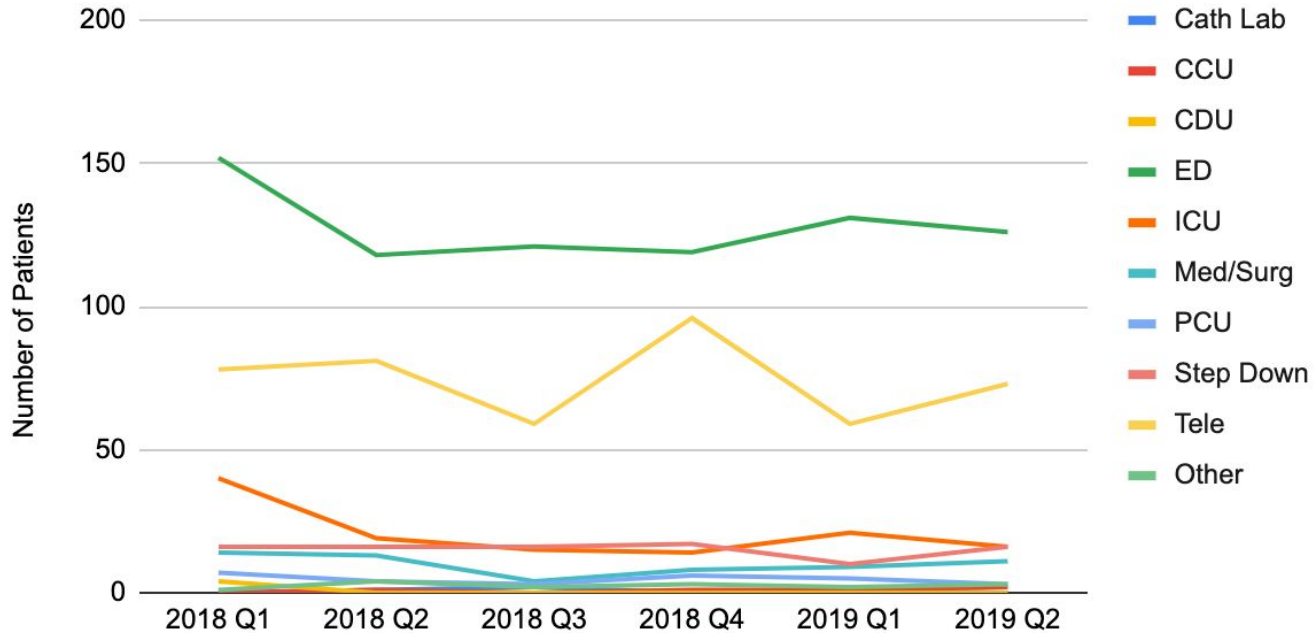
ED → 60%

Tele → 25%

ICU → 8%

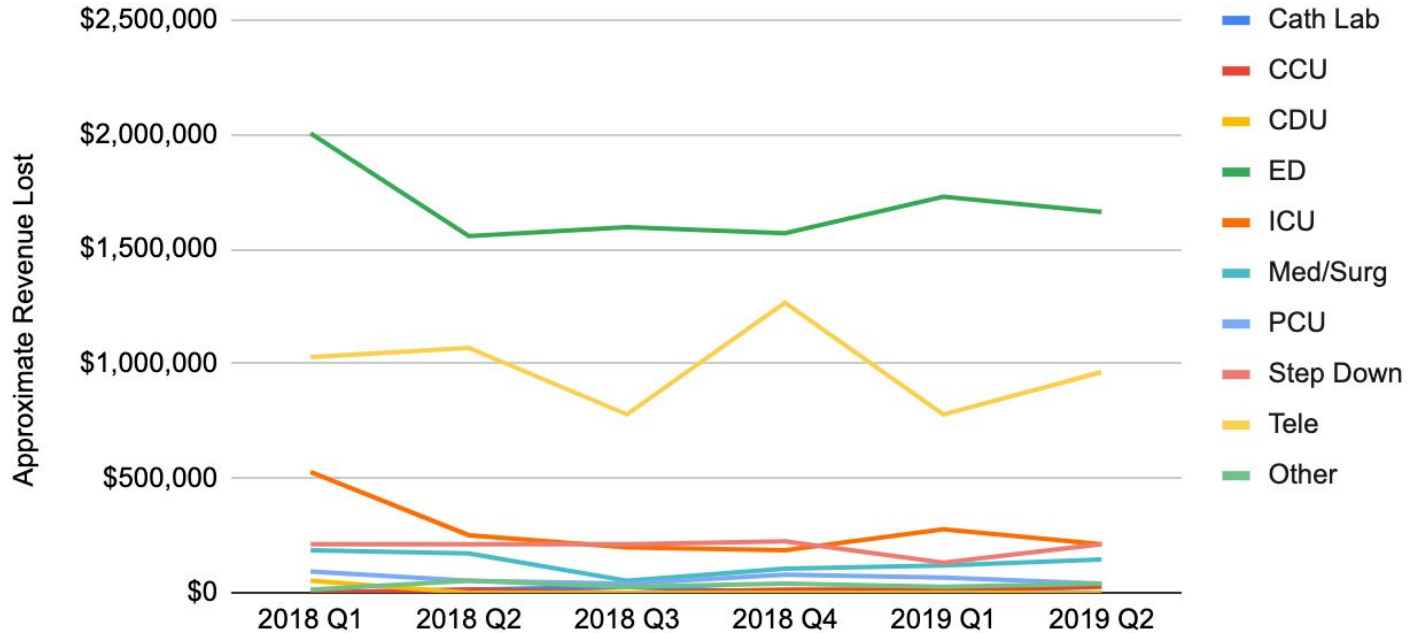
Example Leakage Data

Quarterly Leakage by Referring Department, Jefferson Washington Township



Example Leakage Data

Quarterly Leakage by Referring Department, Jefferson Washington Township



A Closer Look: Emergency Department

Non-modifiable:

1. Time sensitive intervention
2. Unstable conditions
3. Patient preference

Modifiable:

1. Awareness among providers
2. Departmental guidelines for inter-hospital transfers
3. Choice Architecture

Communicating Performance Metrics

We need a method of informing providers about the impact that out-of-network transfers have on the Jefferson Health system.

An intervention should be:

- Simple, yet impactful
- A tool for comparison
- Able to highlight areas for improvement

Our Solution: A Quarterly Scorecard

What is a Scorecard? A visual representation of data, delivered quarterly, to stakeholders representing trends over time in acute care leakage

1. Quarterly trends
2. Projected revenue lost
3. Recipient services in destination hospitals
4. Areas for continued improvement

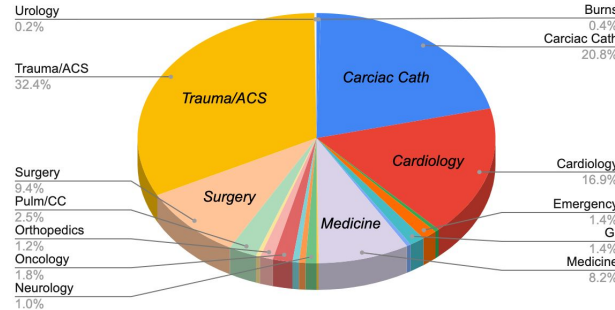
Acute Care Leakage

Jefferson Washington Township Hospital: Emergency Department – 2018

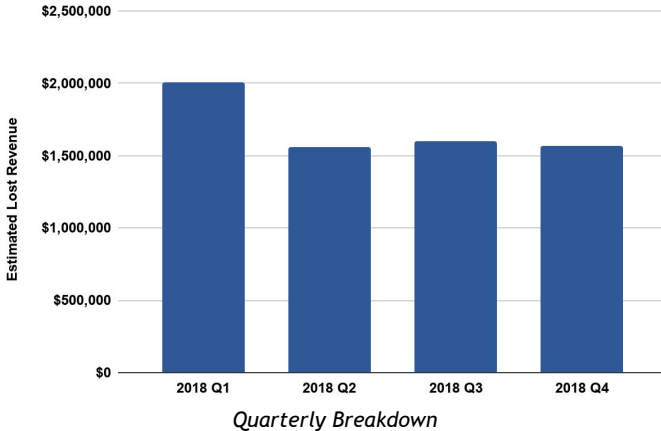
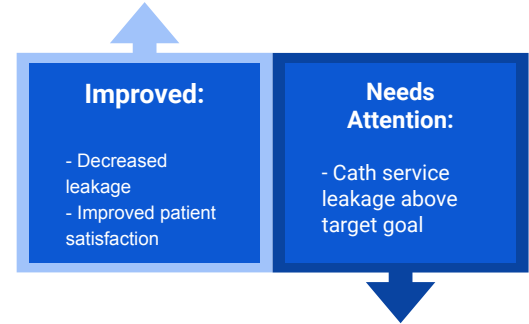
Explanation of Scorecard

This scorecard indicates the out of network leakage to which your department contributed.

Patient leakage is an important stat to monitor because inefficient patient transfer leads to poorer patient outcomes and a loss of revenue for our hospital network.



Explanation of outgoing service-line breakdown



Avg. cost per patient lost:

\$13,200

Total Patient Leakage:

510

Total Lost Revenue

\$6,732,000

Interpretation and Future Directions for this Service

In 2018 the emergency department has saved \$396,000 by referring in-network compared to similar quarters in 2018. We are still slightly short of our overall goal of \$462,000. Patient leakage is an important stat to monitor because inefficient patient transfer leads to poorer patient outcomes and a loss of revenue for our hospital network.

Scorecard Process

Design

1. Clean and organize data from the Jefferson Transfer Center
2. Create a scorecard for each department and each hospital
3. Identify trends and areas of focus

Implementation

1. Deliver scorecards quarterly to department heads
2. Update metrics or visuals used in the scorecard based on feedback
3. Survey providers and department heads about scorecard design

Analysis

1. Determining baseline impact of the pilot implementation
2. Finalize scorecard design and metrics of interest
3. Expand scorecards to more departments and hospitals

Quantifiable Goals

1. 10% reduction in OON transfers from these three hospitals equating to **\$2.7 million** in reduced leakage each year
2. Consistently improve physician and patient satisfaction metrics with surveys administered annually
3. Education to 90% of physicians in the Jefferson New Jersey Health Network

Future directions

1. Retrospective analysis of impact
2. Expand focus on additional hospitals and services
3. Explore physician satisfaction and receive feedback
4. Determine if improvements in patient outcomes and satisfaction were observed

A Special Thanks to:

Bob Burkholder

Kevin Kleinschmidt, MBA, BSN

Jefferson Transfer Center

Michael Zimmerman and Chris Li



Jefferson Health®

HOME OF SIDNEY KIMMEL MEDICAL COLLEGE

Abington Hospital | Abington - Lansdale Hospital | Jefferson Bucks Hospital | Jefferson Cherry Hill Hospital
Jefferson Frankford Hospital | Jefferson Hospital for Neuroscience | Jefferson Methodist Hospital
Jefferson Stratford Hospital | Jefferson Torresdale Hospital | Jefferson Washington Township Hospital
Magee Rehabilitation Hospital | Physicians Care Surgical Hospital | Rothman Orthopaedic Specialty Hospital
Thomas Jefferson University Hospital