Clinical Safety & Effectiveness
Cohort 22
Team 9

Outpatient Parenteral Intravenous Therapy (OPAT) Transitions of Care

Educating for Quality Improvement & Patient Safety
The Team

• Division
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  • Kristi Traugott, PharmD, BCPS (*CS&E Participant*)
  • Thomas Patterson, MD, FACP, FIDSA, ID Attending
  • Heta Javeri, MD, MPH, ID Attending
  • Ruth Serrano, MD, ID Fellow
  • Delilah Chandler, LVN
  • Brenda Reyes, MA
  • Ramon Gallegos Jr., MAA, BSN, RN
  • Sherry Martin (Facilitator)

• Sponsor Department
  • Jan E. Patterson, MD, MS; Jason Bowling, MD;
  • Division of Infectious Diseases, Department of Internal Medicine
Our Aim Statement

**Process aim:** To improve the adherence to “standard of care laboratory monitoring” for patients enrolled in the Outpatient Parenteral Antibiotic Therapy (OPAT) Clinic at University Health System from 11% to 80%, by May 24, 2018

**Outcome aim:** To improve the readmission rate from 37% to 10% for patients receiving OPAT at UHS by 1/2020.
What is OPAT and Why is it Important?

Outpatient Parenteral Antibiotic Therapy

• Delivery of intravenous (IV) antibiotic (atb) therapy outside the hospital
  • Home
  • Skilled nursing facility
  • Clinic
  • Infusion center

• OPAT has been shown to:
  • Reduce hospital LOS
  • Reduces readmissions
  • Reduce hospital morbidity
  • Increases patient satisfaction
  • Patients incorporate to society
  • Dramatically reduces overall costs

Bone and Joint Infections
Endocarditis
Bacteremia
SSTI
UTI
Others

Tice AD., et al., Practice Guidelines for OPAT • CID 2004:38
Key Elements For Success

- Defined Roles and Responsibilities
- Active Participation of Patient and Caregiver
- Effective 24h Communication
- Appropriate Patient Selection
- Multidisciplinary Team
- Close Monitoring

Tice AD., et al., Practice Guidelines for OPAT • CID 2004:38
Standard of Care Monitoring in OPAT

**Clinical Monitoring**
- ≥ 1 f/u prior to completion of therapy
- Pertinent studies w/in 7 days

**Laboratory Monitoring**
- Weekly
- Based on antimicrobial prescribed

**VAD Monitoring**
- Weekly nurse or infusion clinic visits for care

Tice AD., et al., Practice Guidelines for OPAT • CID 2004:38
### Impact of Close Laboratory Monitoring on Readmission Rates

<table>
<thead>
<tr>
<th>Outcome</th>
<th>Tests not available (n = 109)</th>
<th>Tests available (n = 291)</th>
<th>OR (95% CI)</th>
<th>P value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Readmitted while on OPAT</td>
<td>34 (31)</td>
<td>48 (16)</td>
<td>2.29 (1.33 – 3.93)</td>
<td>0.001</td>
</tr>
<tr>
<td>Seen at an ID follow-up office visit</td>
<td>37 (34)</td>
<td>212 (73)</td>
<td>0.19 (0.12 – 0.32)</td>
<td>&lt; 0.001</td>
</tr>
<tr>
<td>Premature discontinuation of OPAT due to antimicrobial adverse events</td>
<td>1(1)</td>
<td>18 (6)</td>
<td>0.14 (0.003 – 0.91)</td>
<td>0.03</td>
</tr>
<tr>
<td>Actual OPAT duration (days), median (Q1 – Q3)</td>
<td>11 (7 – 19)</td>
<td>20 (11 – 35)</td>
<td>-9.42 (-12.44 - -6.39)</td>
<td>&lt; 0.001</td>
</tr>
</tbody>
</table>

## Baseline OPAT Clinic Data (10/2017 - 12/2017)

<table>
<thead>
<tr>
<th>Standard of Care Elements</th>
<th>n=27</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Complications from OPAT</td>
<td>5</td>
<td>19%</td>
</tr>
<tr>
<td>Appropriate lab monitoring</td>
<td>3</td>
<td>11%</td>
</tr>
<tr>
<td>Pre-clinic studies available at f/u</td>
<td>6</td>
<td>22%</td>
</tr>
<tr>
<td>Therapy completed</td>
<td>15</td>
<td>56%</td>
</tr>
<tr>
<td>Seen prior to completion of therapy</td>
<td>6</td>
<td>22%</td>
</tr>
<tr>
<td>No-show</td>
<td>11</td>
<td>41%</td>
</tr>
<tr>
<td>Unknown</td>
<td>6</td>
<td>55%</td>
</tr>
<tr>
<td>Lost to follow-up</td>
<td>2</td>
<td>18%</td>
</tr>
<tr>
<td>In hospital</td>
<td>1</td>
<td>9%</td>
</tr>
<tr>
<td>Non-compliance</td>
<td>1</td>
<td>9%</td>
</tr>
<tr>
<td>In jail</td>
<td>1</td>
<td>9%</td>
</tr>
<tr>
<td>Readmissions</td>
<td>10</td>
<td>37%</td>
</tr>
<tr>
<td>Infection</td>
<td>5</td>
<td>50%</td>
</tr>
<tr>
<td>PICC problem</td>
<td>3</td>
<td>30%</td>
</tr>
<tr>
<td>Other</td>
<td>2</td>
<td>20%</td>
</tr>
</tbody>
</table>

**Composite Standard of Care Monitoring:** 4%
Baseline Data, Pareto Chart
Pre-Intervention Flowchart

ID Inpatient team refers patient to OPAT

Primary Team (PT) and SWICM screens patient and decides disposition

PT enters HH order

ID recs accurate?

Yes

Order entered correctly

CM sends HH order to HH agenty and infusion company

CM writes discharge panning note

Patient is discharged

No

Order entered incorrectly

Unsafe discharge

No verification of orders by pharmacy

No transitions of care to clinic

No specific criteria to decide on disposition

GMC clinic receives fax with weekly labs

GMC clinic MA places in ID box

OPAT physician reviews labs

Lab abnormalities?

Yes

Appropriate follow up made?

Yes

Preclinic studies available?

Yes

Patient is evaluated and appropriate decisions are made

No

OPAT physician documents in chart

No

Inability to make decisions, delay in care, AE

No

OPAT physician provides orders

Inability to make decisions, delay in care

Results in patient safety issue and delay in care

Delay in care, AE

Delay in care, AE
Lack of clinical summary to transition to clinic
No inpatient to outpatient point of contact
No established protocol of handoff to clinic
No pharmacy support to verify HH orders

No direct contact clinic providers
Clinic unable to reach physicians for acute issues
No OPAT education for patients or clear discharge instructions

No dedicated pharmacist
No dedicated CM in clinic
\# of patients is too high for clinic capacity
Need nursing staff to assist with orders

Patients scheduled after therapy completed
Lack of system and patient registry to monitor labs
No pre-clinic labs available during follow up
No system to input orders to start or change atb

Clinic is overbooked and high no show rate
Difficulty reminding patients at SNF
Inefficient scheduling through call center

Lack of OPAT education
Non-compliance

No priority slots available
Clinic is overbooked and high no show rate
Difficulty reminding patients at SNF
Inefficient scheduling through call center

Lack of system and patient registry to monitor labs
No pre-clinic labs available during follow up
No system to input orders to start or change atb

Clinic unable to reach physicians for acute issues
No OPAT education for patients or clear discharge instructions

No direct contact clinic providers
Clinic unable to reach physicians for acute issues
No OPAT education for patients or clear discharge instructions

COMMUNICATION
SCHEDULING
PATIENT ISSUES
TRANSITIONS OF CARE
MONITORING AND ORDERS
LACK OF SUPPORTING STAFF
INAPPROPRIATE FOLLOW UP

Fishbone Diagram
Data Measurement

Process measure: “Standard of Care Laboratory Monitoring”

# of patients with weekly labs obtained
# total number of patients

• Weekly labs are tracked through our Excel registry. Data will be collected weekly by registry and EMR audit.
<table>
<thead>
<tr>
<th>Goal</th>
<th>Primary Drivers</th>
<th>Interventions</th>
<th>Measure</th>
<th>Responsible</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Lack of transition of care from inpatient to outpatient.</strong></td>
<td></td>
<td>ID fellow will write a “Transition note” using an acronym expansion and forwarded to the clinic staff using SHM. (March 1st)(RS 3)</td>
<td>No measure</td>
<td>ID fellows</td>
</tr>
<tr>
<td></td>
<td></td>
<td>IT will create a standard document for the “Transition note” with specified elements and fields. This will replace the acronym expansion. All ID fellows will be responsible of writing this note. (May 1st)(RS 4)</td>
<td>No measure</td>
<td>IT team</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Establish an OPAT registry: once notified of patient through SHM, clinic staff to add patients to excel file (ongoing) (RS 2)</td>
<td>No measure</td>
<td>LVN, OPAT physicians</td>
</tr>
<tr>
<td></td>
<td></td>
<td>IT will create a “Patient list tag for OPAT” order. This will be activated inside the “Transition note”. This will allow us to create an automated registry in the EMR active patients. (May 7th)(RS 4)</td>
<td>No measure</td>
<td>IT team</td>
</tr>
<tr>
<td><strong>Lack of lab monitoring resulting in many patient safety issues</strong></td>
<td></td>
<td>LVN and assigned MA will be given protected time weekly to follow up with HH and outpatient pharmacist to obtain labs (ongoing).</td>
<td>% compliance with standard of care lab monitoring.</td>
<td>LVN</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Documentation of weekly lab monitoring in the chart (ongoing)</td>
<td></td>
<td>OPAT physician</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Twice a week meeting with clinic staff to discuss issues with patients</td>
<td></td>
<td>OPAT physician and LVN</td>
</tr>
<tr>
<td><strong>Inability to monitor OPAT program</strong></td>
<td></td>
<td>Create an automated registry in EMR by using “Patient tag” (May 1st) (RS 4)</td>
<td>Accurate readmission rate</td>
<td>IT Team</td>
</tr>
<tr>
<td><strong>Inappropriate follow up</strong></td>
<td></td>
<td>Develop a strategy to prioritize appointments. (Future project)</td>
<td>No show rate</td>
<td>OPAT physician and Clinic leadership</td>
</tr>
</tbody>
</table>
Intervention: Transition of Care
Creating a “Transition to OPAT” note

ID Diagnosis:

Antibiotic Regimen:
Duration of therapy:
Start date:
End date:

Safety labs:
Appointment:

The OPAT clinic is located at the Robert B. Green campus, 3rd floor. Please fax labs to clinic fax number: 201-358-5945, attention to ID Clinic. The number for the clinic is 210-358-3555.

Forward to clinic using SHM
## Intervention: Patient registry

<table>
<thead>
<tr>
<th>Name</th>
<th>MR#</th>
<th>Status</th>
<th>Diagnosis</th>
<th>Regimen</th>
<th>Duration</th>
<th>Start</th>
<th>End</th>
<th>Infection Site</th>
<th>HHS</th>
<th>SNF</th>
<th>SNF Start</th>
<th>SNF End</th>
<th>Discharge</th>
<th>Discharge Start</th>
<th>Discharge End</th>
</tr>
</thead>
<tbody>
<tr>
<td>Active: Post-sternotomy MSSA mediastinitis</td>
<td>vanc, cmck</td>
<td>8</td>
<td>vanc, cmck</td>
<td>vanc, cmck</td>
<td>8</td>
<td>13-Feb</td>
<td>10-Apr</td>
<td>St. Mark Home Health, 2103662352</td>
<td>paragon 2105936700</td>
<td>19-Apr</td>
<td>4-Apr</td>
<td>11-Apr</td>
<td>18-Apr</td>
<td>25-Apr</td>
<td>2-May</td>
</tr>
<tr>
<td>Active: Epidural abscess, Group B beta streptococci</td>
<td>ceftriaxone 2 gr IV daily</td>
<td>6</td>
<td>ceftriaxone 2 gr IV daily</td>
<td>ceftriaxone 2 gr IV daily</td>
<td>6</td>
<td>22-Feb</td>
<td>5-Apr</td>
<td>San Antonio Residence</td>
<td>12-Apr</td>
<td>28-Feb</td>
<td>7-Mar</td>
<td>14-Mar</td>
<td>21-Mar</td>
<td>28-Mar</td>
<td>4-Apr</td>
</tr>
<tr>
<td>Active: Chronic osteomyelitis of first metatarsal</td>
<td>piperacillin/tazobactam (9 gr IV)</td>
<td>6</td>
<td>piperacillin/tazobactam (9 gr IV)</td>
<td>piperacillin/tazobactam (9 gr IV)</td>
<td>6</td>
<td>1-Mar</td>
<td>12-Apr</td>
<td>Guardian Angels Home Health 210-2970-7200</td>
<td>10-Apr</td>
<td>7-Mar</td>
<td>14-Mar</td>
<td>21-Mar</td>
<td>28-Mar</td>
<td>4-Apr</td>
<td>11-Apr</td>
</tr>
<tr>
<td>Readmitted: Diabetic foot infection s/p DLI and on fix</td>
<td>vancomycin + cephalosporin</td>
<td>6</td>
<td>vancomycin + cephalosporin</td>
<td>vancomycin + cephalosporin</td>
<td>6</td>
<td>8-Mar</td>
<td>19-Apr</td>
<td>Morningside Ministries at 830-216-7111</td>
<td>9-May</td>
<td>13-Mar</td>
<td>20-Mar</td>
<td>27-Mar</td>
<td>3-Apr</td>
<td>10-Apr</td>
<td>17-Apr</td>
</tr>
<tr>
<td>Active: L frontol epidural abscess and L frontal</td>
<td>ceftriaxone 2 gr IV q 12 hrs.</td>
<td>6</td>
<td>ceftriaxone 2 gr IV q 12 hrs.</td>
<td>ceftriaxone 2 gr IV q 12 hrs.</td>
<td>6</td>
<td>2-Mar</td>
<td>13-Apr</td>
<td>AGTS 210-349-0096</td>
<td>1-COMPANY</td>
<td>1-May</td>
<td>8-Mar</td>
<td>15-Mar</td>
<td>22-Mar</td>
<td>29-Mar</td>
<td>5-Apr</td>
</tr>
<tr>
<td>Active: Complicated MSSA bacteremia (duration of 2 weeks)</td>
<td>ceftazolin 6 gram cl</td>
<td>4</td>
<td>ceftazolin 6 gram cl</td>
<td>ceftazolin 6 gram cl</td>
<td>4</td>
<td>22-Mar</td>
<td>19-Apr</td>
<td>RAM SPECIAL</td>
<td>11-May</td>
<td>3-Apr</td>
<td>10-May</td>
<td>17-May</td>
<td>24-May</td>
<td>1-May</td>
<td>8-May</td>
</tr>
<tr>
<td>Active: Hardware related osteomyelitis of the R hip</td>
<td>ceftriaxone 6 gr cl + metronidazole</td>
<td>6</td>
<td>ceftriaxone 6 gr cl + metronidazole</td>
<td>ceftriaxone 6 gr cl + metronidazole</td>
<td>6</td>
<td>8-Mar</td>
<td>19-Apr</td>
<td>Nurses in Touch 8305217111</td>
<td>Option care 8305217111</td>
<td>8-May</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Active: Acute osteomyelitis of left 4th toes metatarsal</td>
<td>ceftriaxone 2 gr IV q 12 hrs.</td>
<td>6</td>
<td>ceftriaxone 2 gr IV q 12 hrs.</td>
<td>ceftriaxone 2 gr IV q 12 hrs.</td>
<td>6</td>
<td>28-Feb</td>
<td>10-Mar</td>
<td>AGTS 210-349-0096</td>
<td>2105936700</td>
<td>26-Apr</td>
<td>2-Mar</td>
<td>9-Mar</td>
<td>16-Mar</td>
<td>23-Mar</td>
<td>10-Mar</td>
</tr>
<tr>
<td>Completed: Complicated MSSA bacteremia, septic</td>
<td>vancomycin to 1.25 gr IV q 12 hrs.</td>
<td>6</td>
<td>vancomycin to 1.25 gr IV q 12 hrs.</td>
<td>vancomycin to 1.25 gr IV q 12 hrs.</td>
<td>6</td>
<td>27-Feb</td>
<td>10-Mar</td>
<td>Powerback 210-4000</td>
<td>2105936700</td>
<td>24-Apr</td>
<td>5-Mar</td>
<td>12-Mar</td>
<td>19-Mar</td>
<td>26-Mar</td>
<td>2-Mar</td>
</tr>
<tr>
<td>Readmitted: Wound infection s/p partial</td>
<td>vancomycin</td>
<td>6</td>
<td>vancomycin</td>
<td>vancomycin</td>
<td>6</td>
<td>6-Mar</td>
<td>17-Apr</td>
<td>AGTS 210-349-0096</td>
<td>2105936700</td>
<td>4-May</td>
<td>18-Mar</td>
<td>26-Mar</td>
<td>7-Apr</td>
<td>4-Mar</td>
<td>16-Mar</td>
</tr>
<tr>
<td>Pending: Discharge</td>
<td>Ceftriaxone 6 gram cl</td>
<td>6</td>
<td>Ceftriaxone 6 gram cl</td>
<td>Ceftriaxone 6 gram cl</td>
<td>6</td>
<td>20-Feb</td>
<td>3-Apr</td>
<td>POC CIU 210-702-7267</td>
<td>26-Apr</td>
<td>26-Feb</td>
<td>5-Mar</td>
<td>12-Mar</td>
<td>19-Mar</td>
<td>26-Mar</td>
<td>c</td>
</tr>
<tr>
<td>Active: ID Diagnosis Left vertebral osteomyelitis</td>
<td>cefepime 6 gr cl, clavulanic acid 750 mg bid</td>
<td>6</td>
<td>cefepime 6 gr cl, clavulanic acid 750 mg bid</td>
<td>cefepime 6 gr cl, clavulanic acid 750 mg bid</td>
<td>6</td>
<td>16-Mar</td>
<td>27-Apr</td>
<td>Comprehensive Home Health</td>
<td>2105936700</td>
<td>11-May</td>
<td>31-May</td>
<td>7-Apr</td>
<td>14-Apr</td>
<td>21-Apr</td>
<td>28-Apr</td>
</tr>
<tr>
<td>Active: Chronic diabetic foot ulcer associated with PTT/TAO 4.5 g/ day</td>
<td>piperacillin</td>
<td>6</td>
<td>piperacillin (4.5 g/ day)</td>
<td>piperacillin (4.5 g/ day)</td>
<td>6</td>
<td>1-Mar</td>
<td>12-Apr</td>
<td>Paragon 2105936700</td>
<td>Heights of Pleasanton</td>
<td>15-May</td>
<td>5-Mar</td>
<td>12-Mar</td>
<td>19-Mar</td>
<td>26-Mar</td>
<td>2-Apr</td>
</tr>
<tr>
<td>Active: MSSA vertebral osteomyelitis</td>
<td>vancomycin 1 gr IV q 12 hrs.</td>
<td>8</td>
<td>vancomycin 1 gr IV q 12 hrs.</td>
<td>vancomycin 1 gr IV q 12 hrs.</td>
<td>8</td>
<td>25-Feb</td>
<td>22-Apr</td>
<td>AGTS 210-349-0096</td>
<td>2105936700</td>
<td>30-Apr</td>
<td>5-Mar</td>
<td>12-Mar</td>
<td>19-Mar</td>
<td>26-Mar</td>
<td>4-Apr</td>
</tr>
<tr>
<td>Active: ESBL producing infection complicated w/ chron joint infection</td>
<td>ertapenem 1 gram daily</td>
<td>3</td>
<td>ertapenem 1 gram daily</td>
<td>ertapenem 1 gram daily</td>
<td>3</td>
<td>14-Mar</td>
<td>4-Apr</td>
<td>2105936700</td>
<td>Northgate skilled</td>
<td>10-May</td>
<td>16-Mar</td>
<td>23-Mar</td>
<td>30-Mar</td>
<td>6-Apr</td>
<td>13-Apr</td>
</tr>
<tr>
<td>Active: Proven peripheral vasculitis complicated w/ chronic joint infection</td>
<td>ertapenem 1 gram daily</td>
<td>6</td>
<td>ertapenem 1 gram daily</td>
<td>ertapenem 1 gram daily</td>
<td>6</td>
<td>9-Mar</td>
<td>20-Apr</td>
<td>Val Verde Nursing Home 830536700</td>
<td>STN of Elk</td>
<td>4-May</td>
<td>13-Mar</td>
<td>20-Mar</td>
<td>27-Mar</td>
<td>3-Apr</td>
<td>10-Apr</td>
</tr>
<tr>
<td>Completed: Complicated MSSA bacteremia, L spine osteo</td>
<td>vancomycin 750 gr cl</td>
<td>6</td>
<td>vancomycin 750 gr cl</td>
<td>vancomycin 750 gr cl</td>
<td>6</td>
<td>6-Feb</td>
<td>20-Mar</td>
<td>AGTS 210-349-0096</td>
<td>2105936700</td>
<td>17-Apr</td>
<td>16-Feb</td>
<td>21-Feb</td>
<td>28-Feb</td>
<td>7-Mar</td>
<td>14-May</td>
</tr>
</tbody>
</table>
Intervention: Education and Communication

• Meetings with UHS leadership
• Creation of SOP for all processes
• Weekly audit and feedback with clinic staff
• Frequent follow up with fellows on service
Proposed Post-Intervention Flowchart

- **Intervention Implemented**
- **Intervention Implemented and in process of change/improvement**
Our Progress So Far...

Lab compliance

Proportion of patients with Lab compliance

Weeks

Mar 19 – Mar 23
Mar 26 – Mar 30
Apr 2 – Apr 8
Apr 9 Apr 15
Apr 16 – Apr 22
Apr 23 – Apr 29
Apr 30 – May 4
May 7 – May 11
May 14 – May 18
May 21 – May 24

CL

UCL

0.3733

0.6152
## OPATROI - Why OPAT is Needed?

<table>
<thead>
<tr>
<th>Expenditure</th>
<th>No OPAT</th>
<th>OPAT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cost of Hospitalization</td>
<td>$34,231,680</td>
<td>$5,705,280</td>
</tr>
<tr>
<td>Cost of Home Health/Day</td>
<td>$0</td>
<td>$3,074,400</td>
</tr>
<tr>
<td>Cost of 0.88 FTE OPAT MD + benefits</td>
<td>$0</td>
<td>$189,000</td>
</tr>
<tr>
<td>Cost of 0.22 FTE OPAT Medical Director + benefits</td>
<td>$0</td>
<td>$50,000</td>
</tr>
<tr>
<td>Cost of 0.75 FTE LVN + 25%</td>
<td>$0</td>
<td>$42,186</td>
</tr>
<tr>
<td>Cost of 0.75 FTE Medical Asst + 25%</td>
<td>$0</td>
<td>$30,000</td>
</tr>
<tr>
<td>TOTAL (current state)</td>
<td>$34,231,680</td>
<td>$9,090,866</td>
</tr>
<tr>
<td>DIFFERENCE</td>
<td>$25,140,814</td>
<td>$25,031,708</td>
</tr>
<tr>
<td>0.5 FTE Pharmacist + 25%</td>
<td>0</td>
<td>$72,500</td>
</tr>
<tr>
<td>0.25 FTE LVN + 25%</td>
<td>0</td>
<td>$14,062</td>
</tr>
<tr>
<td>0.25 FTE Medical Asst + 25%</td>
<td>0</td>
<td>$10,000</td>
</tr>
<tr>
<td>TOTAL (with added resources)</td>
<td>$34,231,680</td>
<td>$9,199,972</td>
</tr>
<tr>
<td>DIFFERENCE</td>
<td>$25,031,708</td>
<td>$25,031,708</td>
</tr>
</tbody>
</table>
# OPATROI

## Why Laboratory Monitoring is Important?

<table>
<thead>
<tr>
<th>Expenditure</th>
<th>No Monitoring</th>
<th>Monitoring</th>
</tr>
</thead>
<tbody>
<tr>
<td>Readmissions</td>
<td>31%</td>
<td>16%</td>
</tr>
<tr>
<td>Number of patients/year</td>
<td>149</td>
<td>77</td>
</tr>
<tr>
<td>Cost/Readmission</td>
<td>$13,857,000</td>
<td>$7,161,000</td>
</tr>
<tr>
<td><strong>DIFFERENCE</strong></td>
<td><strong>$6,696,000</strong></td>
<td></td>
</tr>
<tr>
<td>0.5 FTE Pharmacist + 25%</td>
<td>0</td>
<td>$72,500</td>
</tr>
<tr>
<td>0.25 FTE LVN + 25%</td>
<td>0</td>
<td>$14,062</td>
</tr>
<tr>
<td>0.25 FTE Medical Asst + 25%</td>
<td>0</td>
<td>$10,000</td>
</tr>
<tr>
<td><strong>TOTAL (with added resources)</strong></td>
<td><strong>$13,857,000</strong></td>
<td><strong>$7,257,562</strong></td>
</tr>
<tr>
<td><strong>DIFFERENCE</strong></td>
<td><strong>$6,599,438</strong></td>
<td></td>
</tr>
</tbody>
</table>

Lessons Learned

• Support of leadership is key
• Close follow up and guidance/coaching, show progress
• Frequent feed back sessions
• Implementation is challenging and keeping an open mind and room for change is key for success.
• Not all hesitation to change is due to unwillingness to change, some ideas may just not be the right ones
• It is not only about achieving the metric, it is about sustainability and learning through the process
Future Interventions and Sustainability

• IT changes
  • Standardized document for “Transition to OPAT”
  • OPAT order tag → Automated patient list
  • Clinical summary view
  • Ambulatory flow sheet → Outside lab entry

• Prioritize scheduling
  • Urgent slots available
  • Capacity to schedule patients prior to completion of therapy

• Having dedicated OPAT staff
  • Clinical pharmacist
  • Full time LVN and MA
  • ID fellow and attending
Thank you!

Educating for Quality Improvement & Patient Safety