**Observation**

The Tincture of Time and Pathways 2.0

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**Content Summary**

- PAST  
  - Observation defined  
  - Observation growth and evolution  
  - Pathways 1.0  
- PRESENT  
  - More Observation growth  
  - What works best  
- FUTURE  
  - Complex Observation  
  - Pathways 2.0  
  - Sustainability

**What is Observation Care**

- Focused clinical care of select patients for more than 6 hours and up to 24 hours to assess need for outpatient versus inpatient care  
- Pathway driven  
- Interdisciplinary team model  
- The Centers for Medicare & Medicaid Services (CMS) defines observation care as a specific, defined set of clinically appropriate services, which include ongoing assessment and reassessment and short-term treatment

**Brief History of Observation and its Pathophysiology**

- 1984 - Observation services created but ambiguous  
- 2000 - CMS stopped paying separately for OBS  
- 2003 - CMS starts paying OBS only for CP, CHF, Asthma  
- 2007 - CMS removes barriers, pays for all OBS  
- 2012 - CMS defines inpatient with 2WN rule -  
- 2016 - Comprehensive APC, NOTICE Act, MOON

**Growth of OBS Services**

- Return to baseline when Medicare resumed payment for observation services in 2008  
- Hospital fears of being targeted by RAC auditors for inappropriate inpatient admission  
- Lack of clarity regarding the definition of an inpatient  
- Medical innovations shifting care from inpatient to outpatient settings
Growth of OBS Services

- ED overcrowding, resource overutilization, squeezed Medicare payments, avoidable admissions, payer audits and denials = HIGH COSTS, LOST REVENUE
- Hospital maximizes revenue by being able to accept more ED patients and by avoiding lost revenue from ambulance diversion and patients who leave without being seen
- As a result, observation units have grown in numbers

Why Observation in Emergency Medicine

- The health system’s tritons of time
- The ED’s safety net
- The cutting edge of acute healthcare

Why Observation in Dedicated Setting

- Improved patient satisfaction
- Lower health care costs
- Shorter LOS
- Improved use of hospital resources
- Less diagnostic uncertainty

Critical outcomes

- Reduce the number of unnecessary inpatient admissions
- Evolve to manage complex observation patients
- CREATE INPATIENT CAPACITY, OPTIMIZE ED THROUGHPUT

What works best

- Know the history and rules of the game
- Staff - Dedicated MDs, APPs, RNs, plus
- Case management - level of care support, disposition planning
- Prioritization
- Rules - General guidelines, limitations, challenges
- Space - Dedicated - Type 1
- Access - 24/7
- Know your benchmarks
- Pathways and order-sets - evidence based practice model
- Use your data - Metrics, dashboards, scorecards

It takes a village...

- RN
- APP
- CM
- Core MD group
- Consultants
- SW
- Support staff - transport, unit clerk, EVS
- All team members vested in observation care model
Observation Guidelines

- 80% probability of discharge within 24 hours - if managed actively
- Focused patient care goal
- Limited intensity of service and severity of illness
- Defined and supported endpoint

Observation Limitations

- Incomplete charting
- High severity or illness
- High intensity of service
- Inpatient level of service is required
- Age and gestational age limitations
- High risk of self-harm
- Anticipated LOS less 6hrs or greater 48hrs

Observation Challenges

- Ambulatory dysfunction
- Altered mental status
- New, persistent neurologic findings
- Patients receiving inpatient-type procedures, such as renal or liver biopsy
- Post-operative recovery
- Patients who meet inpatient criteria *

Where Can Observation Services Be Provided

ACEP policy recognizes care in a dedicated ED observation area, rather than a general inpatient bed or an acute care ED bed, as a best practice

CDU Background and Mission

- The clinical decision unit (CDU) was created by the Department of Emergency Medicine to help decrease ED boarding, control resource over-utilization and create inpatient capacity
- Mission to be a top-functioning observation unit that provides efficient, high-quality care that is Emergency Medicine driven, evidence-based, and patient-centered

Growth Strategy

- Simple to complex model
  - Pathways 2.0
- Business proposal
  - Project cost savings from geographic EM OBS placement
  - Project new revenue from improved OBS LOS>
  - Increased IP capacity and increased CMI
- Created division of OBS Medicine under EM
  - Separated Tax IDs for MDs to optimize pro-fees
- Closed unit
  - No to low boarders policy
  - OBS->IP prioritized off floor
Benchmarks - Simple Model Observation

Type 1 OBS Units [protocol driven; highest evidence for favorable outcomes]:

- Target 5-15% of ED volume
- Turn 1-1.5 patients per room per day
- Mean LOS 15hrs
- Inpatient conversion 20%
- RN staffing 1:4 to 1:5
- APP staffing 1:10 to 1:12
- MD staffing variable from 8-32hrs/day based on proximity to ED, complexity of unit

Pathways

- General:
  - Abdominal pain
  - Allergic reaction
  - Asthma exacerbation
  - Back pain
  - SIH
  - COPD exacerbation
  - Delirium
  - DVT
  - Headache
  - Hypertension
  - Hypoglycemia
  - Pneumonia
  - Pyelonephritis
  - Syncope
  - Urolithiasis
  - General

  Collaborative:
  - ED Cardiology: Chest pain
  - ED Cardiology: CHF
  - ED Ortho PRP: Wound infection
  - ED Ortho PRP: Post op pain
  - ED Ortho PRP: DVT
  - ED Hematology: Refractory anemia
  - ED Nephrology: Infections
  - ED Nephrology: Renal failure
  - ED GI UGI: UGI bleed
  - ED GI UGI: Vomiting
  - ED GI UGI: Hypercalcemia
  - ED GI UGI: Hypothyroidism
  - ED GI UGI: Hyperparathyroidism
  - ED GI UGI: Neoplasia

- Dedicated vs Non-dedicated Observation

<table>
<thead>
<tr>
<th></th>
<th>CDU</th>
<th>Non-CDU</th>
</tr>
</thead>
<tbody>
<tr>
<td>Average/Median LOS</td>
<td>21.1/18.6hrs</td>
<td>32.1/26.5hrs</td>
</tr>
<tr>
<td>IP Conversion</td>
<td>16.58%</td>
<td>38.28%</td>
</tr>
<tr>
<td>30 Day Returns</td>
<td>11.80%</td>
<td>11.4%</td>
</tr>
<tr>
<td>Encounters</td>
<td>2,531 [63%]</td>
<td>1,466 [37%]</td>
</tr>
</tbody>
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Dedicated vs Non-dedicated Observation

April 1, 2017 - Sept 30, 2017

Portion of TJUH/MHD Observation Patients

The CDU cares for almost half of all patients who are at Jefferson in observation status. The CDU plays a vital role in hospital throughput by timely efficient care.

Rehab Utilization

Rehab Utilization for All Observation Patients July 2016 - August 2017

<table>
<thead>
<tr>
<th>Metric</th>
<th>FY17</th>
<th>FY18</th>
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<tbody>
<tr>
<td>TJUH/CC Observation Visits</td>
<td>3,822</td>
<td>2,639</td>
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<tr>
<td>Speech Cases</td>
<td>4</td>
<td>24</td>
</tr>
<tr>
<td>PT Cases</td>
<td>73</td>
<td>56</td>
</tr>
<tr>
<td>OT Cases</td>
<td>72</td>
<td>86</td>
</tr>
<tr>
<td>PT + OT Cases</td>
<td>148</td>
<td>335</td>
</tr>
<tr>
<td>Speech Utilization Rate</td>
<td>0.1%</td>
<td>0.9%</td>
</tr>
<tr>
<td>PT Utilization Rate</td>
<td>3.3%</td>
<td>12.1%</td>
</tr>
<tr>
<td>OT Utilization Rate</td>
<td>1.9%</td>
<td>3.3%</td>
</tr>
<tr>
<td>PT + OT Utilization Rate</td>
<td>3.9%</td>
<td>12.7%</td>
</tr>
</tbody>
</table>
Ectopic Observation

CDU Heatmap

Sickle Cell Utilization

HUH Impact Executive Dashboard
Philadelphia Opioid Epidemic

Trapped by the "Walmart of Heroin"

A Philadelphia neighborhood is the largest open-air hard drug market for heroin on the East Coast. Addicts come from all over, and many never die.

Pathways Development

- EM Cardiology - Intermediate risk Chest pain
- EM Ortho - Post op infection
- EM Ortho - Post op pain
- EM Ortho - Post op DVT
- EM Hematology - Refractory Ascites - Paracentesis
- EM Internal Med - Sepsis and septic shock criteria
- EM GI - Chronic - all pain
- EM GI - Low risk GIB - AIMS 65 score 0-1
- EM Neurology - TIA - ABCD2 score 0-3
- EM Neurology - Headache
- EM Internal Med - Hypertension
- EM Trauma
- EM Low Risk PTX - BIG 1 Criteria

CDU Pathway 2.0 and EBM

- EM GI Low risk GIB - AIMS 65 score 0-1
- EM Neurology TIA - ACDI score 0-3
- EM Neurology Headache
- EM Atrial Fibrillation - TRA2B53 - WASS score 0-3
- EM Low Risk PE - sPESI score 0
- EM Bariatric Post op dehydration
- EM Spine - Back pain
- EM Opioid MAT
- EM Psychosis
- EM Trauma
- EM Low Risk PTX
- EM Low Risk TBI - BIG Criteria

EM Ortho Post op infection/pain/DVT

EM Hematology Sickle cell vaso-occlusive crisis
EM Low Risk PE

**Inclusion Criteria:**
- Probability of discharge within 24 hours > 80%
- Imaging consistent with non-central PE
- SPESI score of zero
- No other contraindications to outpatient anticoagulation.

**JATS consultation notified in ED with JATS evaluation within 12 hours of arrival**

**Exclusion Criteria:**
- Meets criteria for inpatient admission
- SPESI score greater than or equal to 1
- Patient not a candidate for anticoagulation due to bleeding risk.
- Elevated troponin
- Right heart strain on imaging
- Multiple co-morbidities
- Renal insufficiency defined as CrCl < 30mL/min
- Inability to care for self, noncompliance, or recent lost to follow up
- Pregnancy
- Dementia with no caregiver present for education
- Necessity for heparin gtt
- Probability of discharge home within 24 hours < 80%

**Typical Observation Management:**
- Review ED diagnostic tests, labwork, imaging
- Monitor vital signs, telemetry
- Labs to include BMP, LFTs, Coags
- TTE to evaluate for R heart strain if necessary
- Initiation of outpatient DOAC regimen per JATS consultation
- Anticoagulation teaching
- Case management, insurance verification and case review
- Pharmacy verification
- Home care coordination as needed

**Disposition:**
- Home if observation course completed and stable
- Stable or improved exam
- Anticoagulation initiated and teaching completed

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EM Trauma Pathway

**Inclusion Criteria:**
- Probability of discharge within 24 hours > 80%
- Primary/Secondary survey complete and documented
- Trauma consultation

**Review ED diagnostic tests, monitor vital signs, case management review within 12 hours, home care coordination as needed, PT/OT evaluation/treatment, tertiary survey**

**Disposition:**
- Home if observation course completed and stable
- Arrange surgical follow up

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EM Trauma Spine NH Spine Pathway

**Inclusion Criteria:**
- Probability of discharge within 24 hours > 80%
- Surgical consultation

**Review ED diagnostic tests, monitor vital signs, serial exams, case management review within 12 hours, home care coordination as needed**

**Disposition:**
- Home if observation course completed and stable
- Arrange follow up with orthopedic surgeon

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EM Surgery Pre-op Pathway

**Inclusion Criteria:**
- Probability of discharge within 24 hours > 80%
- Surgical consultation

**Review ED diagnostic tests, monitor vital signs, serial exams, case management review within 12 hours, home care coordination as needed**

**Disposition:**
- Home if observation course completed and stable
- Arrange surgical follow up

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EM Trauma Spine NH Spine Pathway

**Inclusion Criteria:**
- Probability of discharge within 24 hours > 80%
- Surgical consultation

**Review ED diagnostic tests, monitor vital signs, serial exams, case management review within 12 hours, home care coordination as needed**

**Disposition:**
- Home if observation course completed and stable
- Arrange follow up with orthopedic surgeon

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**EM Low Risk PTX Pathway**

**Inclusion Criteria:**
- Probability of discharge within 24 hours > 80%
- Primary/Secondary survey complete and documented
- Trauma consultation

**Review ED diagnostic tests, monitor vital signs, case management review within 12 hours, home care coordination as needed, PT/OT evaluation/treatment, tertiary survey**

**Disposition:**
- Home if observation course completed and stable
- Stable or improved exam
- Anticoagulation initiated and teaching completed
- Arrange surgical follow up

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**EM Trauma Pathway**

**Inclusion Criteria:**
- Probability of discharge within 24 hours > 80%
- Primary/Secondary survey complete and documented
- Trauma consultation

**Review ED diagnostic tests, monitor vital signs, case management review within 12 hours, home care coordination as needed, PT/OT evaluation/treatment, tertiary survey**

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- Home if observation course completed and stable
- Stable or improved exam
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- Probability of discharge within 24 hours > 80%
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**Review ED diagnostic tests, monitor vital signs, serial exams, case management review within 12 hours, home care coordination as needed**

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**EM Surgery Pre-op Pathway**

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- Probability of discharge within 24 hours > 80%
- Surgical consultation

**Review ED diagnostic tests, monitor vital signs, serial exams, case management review within 12 hours, home care coordination as needed**

**Disposition:**
- Home if observation course completed and stable
- Arrange surgical follow up

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**EM Trauma Spine NH Spine Pathway**

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- Probability of discharge within 24 hours > 80%
- Surgical consultation

**Review ED diagnostic tests, monitor vital signs, serial exams, case management review within 12 hours, home care coordination as needed**

**Disposition:**
- Home if observation course completed and stable
- Arrange follow up with orthopedic surgeon
2018 Updates

• Type 1 Unit - Dedicated and protocol driven patient selection
• Complex Model - CM driven
• Dedicated RN, APP, MD group
• Tax ID separation in process
• Increased LOS and IP bc complex patients
• General pathway utilization
• CDU boarders in ED, IP boarders on 10P

2019 Goals

• Obs pathway 3.0
  • SIPS data
  • ENT pre-adm
  • Surgical obs - Trauma obs
  • Peds obs
  • Cards, GI, Neuro
• Closed unit pilot
  • Obs -> IP @ 2MN -> off floor
  • APP staffing
  • Prioritization and institutional support

Collaboration and Prioritization

• Cardiology
• Stress and TTE lab
• Neurology
• Radiology
• GI
• Surgery
• Ortho
• Hematology
• Case management, Social work
• PT
• Support services

Looking ahead

• 30+ beds
• Hybrid EM/IM/FM model
• Division of observation
• Educational curriculum
• Direct to observation placements
• SIPS
• Leveraging metrics
• Care coordination, Appointment scheduling

Future of Observation

• It’s not JUST about the $$$ and creating space
• Tincture of time
• Evidence-based medicine not metrics medicine
• Complex observation
• Hybrid provider model
• Novel pathways
• Education
• Research

Future of Observation in Emergency Medicine

• Division of Observation Medicine
  • Research/Publication
  • Education - UME, GME, Fellowship, APP
  • Operations, Informatics
  • Quality and Safety