Introduction
Substance abuse is a national health problem. Our acute care hospital identified many challenges in caring for these patients, particularly those addicted to alcohol, opiates and benzodiazepines. We examined current processes, gaps and developed strategies for improvement in the care of non critical care substance use disorder patients.

Purpose
Goals for the project included:

- Manage clinical and financial resources and provide safe compassionate care.
- Create a continuum of care from the emergency department (ED) to the noncritical care inpatient unit through utilization of evidence based protocols.
- Decrease observation length of stay and convert to full admission if appropriate.
- Actively engage patients and families in care.

Approach
A multidisciplinary team coordinated by Operations Improvement included nursing, care management, and physicians from the hospitalist, emergency room and addictions service used the A3 methodology to systematically approach solving the problem.

A3 thinking:
- 9 steps or boxes that makes problem solving visual
- A fast effective way for consensus building
- A way to unify culture around a simple systematic methodology

A3 Approach

**Box 1 and 2 Reason for Action and Initial State**
- Detox observation patient’s length of stay >60 hours (goal- 23 hours)
- 20% of pts on detox unit not meet observation criteria
- Only 20% of long observation stays converted to inpatient status - missed revenue opportunities
- Outpatient* detox patients managed on an inpatient model
- Over 90 managing physicians - not always using protocols
- Inconsistent resource management
- During overflow, staff on non-detox unit uncomfortable with protocols
- “Non medical” challenges add to length of stay

**Box 3 Target State**
- Detect observation patient’s length of stay <60 hours (goal- 23 hours)
- 100% of long observation stays converted to inpatient status - maximized revenue opportunities
- Outpatient detox patients managed on a non-inpatient model
- 90% managing physicians using protocols consistently
- Resource management:
  - Appropriately staffing overflow
  - Active rounding
  - Staff training

**Box 4 Gap Analysis**
- Undefined risk stratification criteria to help ED physicians to consistently disposition appropriately
- No Milligan guidelines defining substance use/abuse observation criteria
- Inconsistent use of criteria to support conversion of observation status to inpatient status
- Undefined intervals to reassess patient “status”
- No difference managing patients in observation or inpatient status
- CIWA / COWs assessments and medication not routinely started in the ED
- Scheduled medication dosing may mask symptoms

**Box 5 Strategies and Desired Outcomes**
- Increase observation patient’s length of stay to 23 hours
- 100% of long observation stays converted to inpatient status
- Outpatient detox patients managed on a non-inpatient model
- 90% managing physicians using protocols consistently
- Resource management:
  - Appropriately staffing overflow
  - Active rounding
  - Staff training

**Box 6 Rapid Experiments**
- Manage using new order sets: Alcohol, Benzod, Opiates, CNS
- CIWA / COWs assessments and medication not started
- Outpatient detox patients managed on a non-inpatient model

**Box 7 Completion Plan**
- Manage using new order sets: Alcohol, Benzod, Opiates, CNS
- CIWA / COWs assessments and medication started
- Outpatient detox patients managed on a non-inpatient model

**Box 8 Confirmed State**
- Manage using new order sets: Alcohol, Benzod, Opiates, CNS
- CIWA / COWs assessments and medication started
- Outpatient detox patients managed on a non-inpatient model

Discussion
- Developing and implementing standards of care from emergency department presentation through the inpatient stay was integral to ensuring consistent patient management.
- Administrative support to assign patients only to hospitalists allowed frequent adjustment of protocols and assessment of discharge readiness.
- Oversight of the physician care management advisor was key to ensuring appropriate inpatient or observation status.
- Daily data collection during implementation focused on compliance with protocols, physician assignment, length of stay for inpatient and observation, readmissions and transfers to higher level of care.
- Nursing staff was supported by daily APN, care manager, and substance abuse counselor rounding and mentoring. This support provided back up for escalating patients and resolution of discharge barriers.
- Financial outcomes included 50% reduction of observation and overall length of stay and an increase in discharges that were classified as inpatients (increased reimbursement).
- Limitations and challenges included a fluctuating census and productivity was difficult to maintain on the original 10 bed dedicated unit, it was closed six months into the project. Patients were absorbed into 5 med surg and intermediate care units. This required extensive staff education and mentoring to develop comfort and competency with this population.

Implications for Practice
- Identifying metrics and methods to monitor success is critical. In addition to financial metrics we monitored clinical indicators such as critical care transfers, discharges against medical advice, readmission rates and acceptance into treatment programs.
- Seeking ongoing feedback from key stakeholders and evaluation of data allows prompt adjustments as needed.
- Clear communication with patients and families regarding hospital scope of service (medical management of withdrawal symptoms) and providing linkage with after hospital services helps provide these patients a comprehensive plan of care.
- Additional areas for further discussion include strategies for engaging patients to link with available resources, assessment of decisional capacity for patients wanting to leave AMA and appropriate use of petition and certificate.