Evaluation of Alcohol Withdrawal Management Practices at a Community Hospital
A Doctor of Nursing Practice (DNP) Scholarly Project

Jane M. Zielinski-Carter DNP, RN, CCRN, CNRN, TNS

OSF Saint Anthony Medical Center · Rockford, IL • Vanderbilt University School of Nursing · Nashville, TN

Background & Significance

Alcohol-most addictive, abused substance in the U.S.
- ›50.8% (125 million) are current drinkers
- ›6.9% (17 million) are 'heavy drinkers' (Saitz, 2005)
- ›2001 Cost to society-$185 billion (77% healthcare) (Harwood. 2000)
- ›50% of traumas alcohol-related (Gentilello, 1999)

Alcohol dependence (AD)
- ›4% population, age 18-64, meet diagnostic criteria (Saitz, R. 2005)
- ›↑ Mortality/morbidity (2-4 times the general population) (NIAAA, 2001)
- ›An estimated 15-20% hospital admissions (Saitz et al, 2006; Smothers et al,) >25% for Orthopedic, psychiatric, ENT (Vincent et al,)

Unrecognized, mismanaged alcohol withdrawal (AW)
- ›↑Health care costs (Length of stay, resource utilization, complications)
- ›↑Risk of injury (violent episodes, restraint use)
- ›↓Staff & patient satisfaction
- ›Legal liability

Purpose

►Evaluate processes and outcomes of an initiative intended to minimize or eliminate untoward effects of AW in AD hospitalized patients at SAMC

►Identify baseline metrics prior to 'retooling' of electronic medical record with EPIC™ implementation

Setting

►254-bed nonprofit community hospital
- ›Level 1 Trauma Center
- ›Magnet recognized by ANCC
- ›Serves northern Illinois

►Member of OSF Healthcare system
- ›Multi-state , Catholic religious affiliation
- ›Sisters of the Third Order of Saint Francis (OSF)
- ›Mission: "To serve all with the greatest of care & love"

Theoretical Foundation

►Synergy Model (AACN, 2008)
- ›Ensure "Safe passage" across the continuum
- ›Competent fit with patient needs

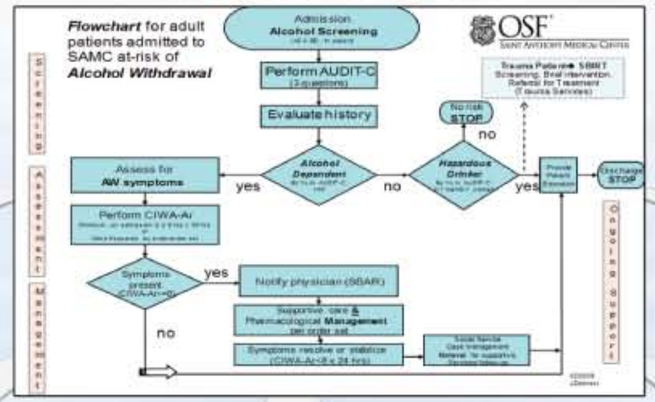
►Logic Model (Gelman, Foucek, & Waterbury, 2004)
- ›Focus-structure, process, outcomes
- ›Evaluation matrix
  - •Core concepts, key indicators, & methods

Methods

►Retrospective Chart review
- ›121 patients (FY2008-2009)
- ›AW-related ICD-9 codes (291.0. 291.081, 291.3)
- ›Three 8-month periods (Plan, Pilot, Implement)

►Staff Nurse Questionnaire
- ›251 direct care RNs
- ›General & ICU units
- ›Self-rated understanding & confidence, and knowledge

Alcohol Withdrawal Performance Improvement Initiative Patient Flowchart (2007-2009)



I. Screen
- ›Early identification of AW risk
- ›Uniform methodology
  - •Consistent
  - •Avoids bias

II. Assessment
- ›Standardized symptom assessment
- ›Evidence-based tool
  - •*Clinical Institute of Withdrawal Assessment for Alcohol*, revised (CIWA-Ar)

III. Management
- ›Symptom Control
- ›Drug Therapy
  - •Benzodiazepine, Thiamine
- ›Resource Utilization
  - •Sitter utilization, LOS
- ›Untoward events
  - •Violent episodes, Restraint use

IV. Nurse Capability
- ›Understanding
- ›Confidence
- ›Knowledge

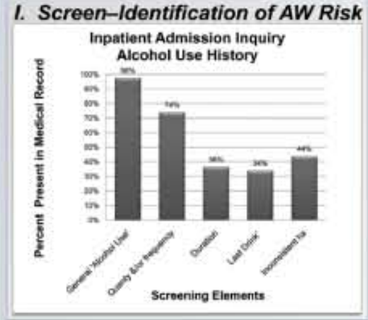
IV. Support
- ›Bridge to recovery
  - •Patient education
  - •Counseling
  - •Referral after discharge

Evidence-Based Core Concepts

Results *Patient Evaluation*

Population
►Males-99 (82%), Females-22 (18%)
► Age-24.4-85.6; Avg. 54.9, SD 14.1

I. Screen–Identification of AW Risk



II. AW Symptom Assessment
►CIWA-Ar assessment tool
- •Used to guide medical management
- •Within workflow & documentation
- •Wide variation in accuracy, frequency, adherence to order set

Period I: Planning
10/01/07-05/31/08

Period II: Pilot (ICUs)
06/01/08-01/31/09

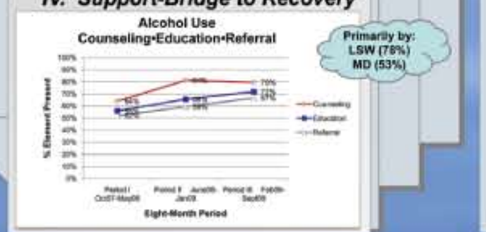
Period III: Implementation
02/01/09-09/31/09

III. Management & Symptom Control

Time period	n	Avg. time to first BZD [Days (hrs)]	% of patients with sitters	Avg. sitter time for patients w/ sitters [Days (hrs)]	Avg. LOS [Days]	% of violent episodes	% of patients requiring Restraints
Period-I	49	1.25 (30.13)	65.3%	5.24 (125.90)	11.00	38.8%	61.2%
Period-II	33	1.42 (34.28)	57.6%	4.83 (115.95)	9.27	36.4%	54.5%
Period-III	39	0.94 (22.46)	51.3%	6.40 (153.77)	8.95	20.5%	56.4%
Overall	121	1.16 (27.76)	58.7%	5.46 (131.04)	9.87	32.2%	57.9%

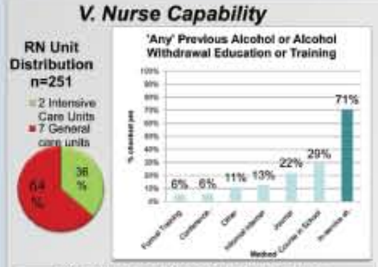
- *Sitter use: 71/121 patients required 9306 hours, estimated cost $139,604*
- *Restraint use: 70/121 (57.9%) patients required use of restraints*
- *Violent Episodes: 39/121 (32.2%) patients experienced violent episodes*

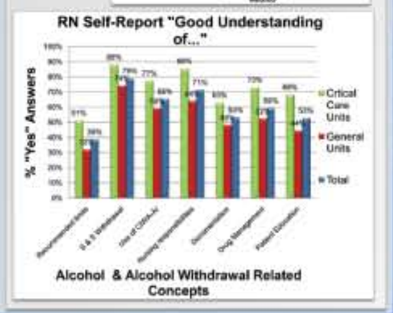
IV. Support-Bridge to Recovery



Results *Nurse Evaluation*

V. Nurse Capability





Analysis
►Descriptive statistics
- ›Nurse Questionnaire: ICU, general, aggregate scoring
- ›Chart Review: Trends between Periods I,II, III, & aggregate

Limitations
►Generalizability to other organizations/populations
►Confounding variables (patient & practice variations)
►Patient population dependent on physician coding
►Correlation of interventions to outcomes

Discussion

►**Standardized processes for AW management yet to be hardwired into patient care processes:**
- •***Risk identification***. Basic foundation present. Need to ↑ consistency, link to interventions & understanding.
- •***Symptom assessment***. Within workflow & staff familiarity. Need to ↑ accuracy and consistency.
- •***Management***. Order set readily implemented & utilized. Decreasing trends: 1) times to first drug; 2) sitter and restraint use; & 3) violent episodes.
- •***Support.*** Increased trends in alcohol use counseling, education, and referral, primarily by LSW & MD.
- •***Capability.*** Majority of nurses received alcohol-related training at work; ICU nurse reported greater understanding

Implications & Next Steps…
►Baseline metrics to guide future practice changes
►Broaden ICU nurse expertise & role of LSW
Build foundational AW understanding
Develop process links within caregiver workflows
► Develop future staff alcohol-related training program

Conclusion
►The provision of effective, efficient, evidence-based care across the acute care continuum is imperative to ensure safe passage to patients who experience AW while in the hospital.

►Utilization of the Logic Model's evaluation matrix provided a useful means to evaluate & target future improvements for care delivered to a high risk patient population.

►Opportunity to decrease cost and improve outcomes without significant ↑ expenditures through more efficient & effective workflows & processes.

References

►Feiken, D.A., Reid, C., & O'Connor, P.G. (2000). *Screening for alcohol problems in primary care. A systematic review. Archives of Internal Medicine, 160,* 1977-1989.
►Gentilello, L.M. et al. (1999). Detection of acute alcohol intoxication and chronic dependence by trauma center staff. *The Journal of Trauma, Injury, Infection and Critical Care, 46,* 1131-1145.
►Institute of Medicine. (1990). *Broadening the base of treatment for alcohol problems.* Washington DC: National Academy Press.
Mayo-Smith, M. F., Beecher, L. H. et al. (2004). Management of alcohol withdrawal delirium. An evidence-based practice guideline. *Archives of Internal Medicine, 164,* 1405-1412.
►Phillips, S., Haycock, C., Boyle, D. (2006). Development of an alcohol withdrawal protocol. *Clinical Nurse Specialist, 20,* 190-198.
►Saitz, R. (2005). Unhealthy alcohol use. *New England Journal of Medicine, 352,* 596-607

05/2010