Project Engage

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Revolving Door – A. Smith

- 53 year old Caucasian male, unemployed on Medicaid
- H/o Etoh dependence complicated by withdrawal, cirrhosis, GI bleeding from varices s/p banding, coagulopathy and pancytopenia, hepatitis C, subarachnoid hemorrhage, spontaneous bacterial peritonitis, depression
A. Smith – 2010

- 18 ER admissions/ 10 admissions
- 19 CT scans, 1 MRI, 13 Xrays, 3 U/s
- Costs (16 Er/6 hospitalizations)
  - Total costs to CCHS = $120,000
  - Reimbursement MA = 40,000
  - Loss to CCHS = $80,000
Hospitals Aggregate the Highly Disordered

- High rates of alcohol and substance abuse
- Most are dependent – 77%*
- Significant medical comorbidities
- Expensive revolving door
  - higher use of ER (2.3x), inpatient care (6.7x)**
  - Increased AMA, readmissions***

* Saitz, JGIM, 2006; Annual of IM, 2007, Bertholet, JGIM, 2010
** Stein, J Sub Abuse, 1993
*** Hwang, 2003; Jankowski, 1977; Chan, 2004
And Yet......

- Little innovation in the care of inpatient SUDS over last decade
- No evidenced-based methods for engaging and transitioning inpt SUDs into ongoing effective care
- Prevailing clinical nihilism
  - “Really, what can I do, he’s hopeless.”
  - Health care overutilization accepted as cost of doing business
Winds of Change?

- Patient Protection and Affordability Care Act
- Mental Health Parity Act
Hospitals have an Emerging Imperative

Need to Improve:
- Safety
- Joint Commission compliance
- Health care costs
Impact on the Hospital: Safety

- Unrecognized withdrawal can result in Delirium Tremens
  - Disruptive
  - Dangerous to the patient and staff
- CCHS: 3 Sentinel Events related to alcohol withdrawal
Impact on the Hospital: Joint Commission

- Funding to develop performance measures for the assessment and treatment of tobacco, alcohol for all hospitalized patients
- Final submission 2011

www.jointcommission.org/PerformanceMeasurement/PerformanceMeasurement/Screening+and+Treating+Tobacco+and+Alcohol+Use.htm
Financial

- Current Financial Environment is challenging
- SUD associated with significant costs
- Often uninsured, State-Insured are not fully reimbursed
- AMA rates high, poor primary care so prone to readmission – soon to be nonreimbursable
## Financial Impact of AWS on Christiana Care – 1 year (1000$)

<table>
<thead>
<tr>
<th>Payor</th>
<th>Cost</th>
<th>Revenue</th>
<th>Loss</th>
</tr>
</thead>
<tbody>
<tr>
<td>Self</td>
<td>994</td>
<td>57</td>
<td>937</td>
</tr>
<tr>
<td>Medicare</td>
<td>2292</td>
<td>1547</td>
<td>745</td>
</tr>
<tr>
<td>Medicaid</td>
<td>2207</td>
<td>1729</td>
<td>478</td>
</tr>
<tr>
<td>Other</td>
<td>2388</td>
<td>3971</td>
<td>-1583</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>7881</strong></td>
<td><strong>7304</strong></td>
<td><strong>577</strong></td>
</tr>
</tbody>
</table>

Based on 435 cases, 2009-10
Hospitals Need Methods/tools to:

- Screen and diagnose – must be pragmatic
- Effectively treat withdrawal
- Engage and transition into ongoing drug tx
- Methods to measure healthcare outcomes

SBIRT - Plus
SBIRT: Screening, Brief Intervention, Referral to Treatment

- 25 years of research support use
- Benefits most clearly non-dependent alcohol abusers - approx 20% effect rate
- Most attention paid to ER, outpatient SBI

Babor, Substance Abuse, 2007
SBIRT: Screening, Brief Intervention, Referral to Treatment

- Madras – reduces substance use in a variety of health settings
- InSight Project – Harris County, Tx,
  - BI resulted in approx half the severity of ETOH/drug use at 6 months.
  - Inpt outcomes not broken out

* Madras, Drug and Alcohol Dependence, 2009
** InSight Project Research Group, Alcoholism, 2009
SBIRT: Fiscal Outcomes

- Fleming – BI reduced Etoh use and fewer hospital stays and ER visits
  - $712 saved for $205 spent
  - $43,000 saved for $10,000 spent
  - CBR = 4.3

- Storer – BI lowered Etoh readmissions
  - $606,400 saved vs $31,500
  - CBR = 19.1

Fleming, Med Care, 2000
Storer, Mil Med, 2003
Does SBIRT Work on the Hospital Medical Service?

Saitz – not effective for dependent inpatient medical patients when look at substance use outcomes

**BUT**

Bertholet – linkage to CD treatment improves 1 year drinking outcomes

Saitz, Annals Int Med, 2007
Bertholet, Journal Gen Int Med, 2010
SBIRT: Should be the Focus

- Inpatients have higher rates of addiction, a chronic brain disorder*
- Chronic Disease Model required**
- Addiction tx outcome assoc with length of time in treatment***
- Engagement into ongoing long term treatment should be our goal

* Saitz, 2006; Bertholet, 2010
** McLellan, JAMA, 2000
***McLellan, Principles of Addiction Medicine, 2009
Referral to Treatment

Estee – 9 ERs in Washington (WASBIRT)

- Disabled Medicaid recipients
- Study had a referral component
- 2/3 of screen + needed CD treatment
- $366 reduction per member per month
- Reduced inpatient days (.12 pmpm)

Estee, Medical Care, 2010
Referral to Treatment – Works

Krupski – 9 ERs in Washington State,

- BI facilitated admission into CD tx 1.9 fold (33% vs 23%).
- 52% of those receiving BT engaged in CD tx but only 20% referred accepted

Krupski, Drug Alcohol Depend. 2010
So, in Summary

- Hospitals have plenty of severely disordered SUD patients requiring chronic disease management
- SBIRT may facilitate linkage into CD tx improving overall outcome
- Potential fiscal benefits - may facilitate adoption
A Different Perspective on SBIRT

- Engage many problem users, small effect to prevent big fish,
- Catch a few, significant effect
Delaware’s Epidemiology

- Estimated 2009 population of 885,000
- 9% of adults alcohol/drug abusing or dependent*
- 65,000 in need of alcohol/drug treatment**
- 8,216 admissions to publicly-funded SA treatment services statewide 2006***

* 2004-2005 NSDUH data
** Wright et al. 2007
*** Delaware Department of Health and Social Services, Division of Substance Abuse and Mental Health, 2007
Where do these patients go when they’re sick?
Project Engage

- Community partner imbedded at Wilmington Hospital
- Peer-to-peer inpt/outpt intervention
- Use motivational interviewing
- Identify and address barriers
Aims: Patients with untreated substance use disorders (SUDs) often present to hospitals for treatment of substance-related medical problems. Project Engage (PE), a pilot program at Wilmington Hospital, was conducted to identify, refer, and engage these patients into community-based SUD treatment, with the aim of reducing subsequent hospitalizations and other costly healthcare services.

Methods: An embedded intervention from a community SUD program provides consenting patients suspected of having untreated SUDs with one or more bedside assessment/MI sessions and a facilitated referral/admission to SUD treatment. Completely de-identified insurance claims data of two small samples of patients (2009, N=18 and 2010, N=25) were reviewed over a 6-month period (2009; 3 months before and 3 months after the intervention) and over a 12-month period (2010; 6 months before and 6 months after the intervention).

Results:

Data Analytic Strategy

Results and Discussion

Strengths

- Addresses an important problem
- Unique; there have been few studies on this topic.
- Provides pilot data to justify future studies; could help many people.

Limitations

- Small Ns
- Participants were not randomly selected.
- Retrospective, not prospective.
- Not an experimental design; no control or comparison groups.

Conclusions

- There were changes in all of the variables studied before vs. after the interventions during both time periods.
- Outpatient substance abuse treatment utilization was consistently increased subsequent to the interventions.
- Overall medical costs decreased subsequent to the medication during both time periods.

Further Research

- Studies comparing Project Engage to “Referral as Usual” or to an enhanced version with seamless transition to treatment are necessary.

References

- Available Upon Request

Financial Support: Christiana Care Community Services and Christiana Care Health System. Supported in part by the Delaware NIDA Clinical Trials Network Delaware Valley Education Grant, NIDA U10 DA 15043 and KO5 DA 15043.
Project Engage Outcomes

Patients seen and engaged

- N = 423  (9/1/08- 12/30/10)
- 180 (41.7%) successfully admitted into 33 inpt/out drug/alcohol treatment programs *

* Horton, CPDD, 2011
### Outcomes: Healthcare Utilization and Costs

Claims from June 1, 2009 - November 30, 2009
3 months before and after claims review, n = 18

<table>
<thead>
<tr>
<th>Metric</th>
<th>Pre</th>
<th>Post</th>
<th>Finding</th>
<th>Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Medical inpatient admits</td>
<td>12</td>
<td>8</td>
<td>33% decrease ($35,938)</td>
<td></td>
</tr>
<tr>
<td>ER visits</td>
<td>54</td>
<td>33</td>
<td>38% decrease ($4,248)</td>
<td></td>
</tr>
<tr>
<td>BH/SA inpatient admits</td>
<td>7</td>
<td>10</td>
<td>43% increase ($1,579)</td>
<td></td>
</tr>
<tr>
<td>BH/SA outpatient visits</td>
<td>12</td>
<td>16</td>
<td>33% increase ($847)</td>
<td></td>
</tr>
<tr>
<td>PCP office visits</td>
<td>27</td>
<td>51</td>
<td>88% increase ($1,281)</td>
<td></td>
</tr>
</tbody>
</table>

Total Savings = ($36,479)

Modified from Wright, Delaware Physicians Care Inc, 2010
### Outcomes: Healthcare Utilization and Costs

#### Claims from January 1, 2010 - December 30, 2010
6 months before and after claims review, n = 25

<table>
<thead>
<tr>
<th>Metric</th>
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<th>Post</th>
<th>Finding</th>
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</thead>
<tbody>
<tr>
<td>Medical inpatient admits</td>
<td>17</td>
<td>7</td>
<td>58% decrease : $68,422 saved</td>
</tr>
<tr>
<td>ER visits</td>
<td>133</td>
<td>116</td>
<td>12.7% decrease : $3,308 saved</td>
</tr>
</tbody>
</table>

Total Savings = ($71,730)

Modified from Wright, Delaware Physicians Care Inc, 2011
Lessons Learned

1. Critical Need for a Dedicated Social Worker
   - Liaison to inpatient medical team
   - Help Addressing Barriers
   - Expert on community resources
Lessons Learned

2. Need to Simplify Referral Pathways
   - Traditional Social Worker consults were a bottleneck
   - Expand who can order a “consult”
     - New Role for Nurses
       - Facilitating the Conversation
       - Nursing Attitude Study
Lessons Learned

3. Sustainability
   - Need to define a revenue stream
     - SBIRT codes
   - Define healthcare utilization savings for
     - Hospital
     - The State
Partnership with State of Delaware

- Healthcare utilization and costs outcomes study of Project Engage Medicaid participants
  - In collaboration with UPenn and TRI
- Effort to recognize and reimburse efforts of peer-to-peer counselors
- Statewide roll out - Delaware as a model
In Summary

- Hospitals inpatient services aggregate the highly disordered – expensive revolving door
- A hospital-based model can engage into ongoing long term treatment (sbiRT)
- Likely healthcare utilization savings
- Adoption requires that benefits be articulated to hospitals and payors
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