Implementing a Protocol-driven Medical Clearance Algorithm in Behavioral Health Crisis Services

Sara Bortner, DNP, RN
Katherine Fornili, DNP, MPH, RN, CARN, FIAAN

Problem Statement, Purpose, & Goals

Background:
- In 2015, 5.7 million visits to the emergency department (ED) were for psychiatric complaints.
- In 2016, 44.7 million adults reported having mental illness and 19.7 sought treatment from either an ED, inpatient psychiatry, and/or outpatient behavioral health services.

Problem Statement: A lack of standardized recommendations for medical clearance admissions to inpatient behavioral health units (BHUs) from emergency care settings can lead to:
- Increased patient distress
- Unnecessary lab work/diagnostic testing with low yield
- Increased health care costs
- Increased length-of-stay (LOS) with reduced bed turnover in emergency services
- Delays in receipt of specialty psychiatric services
- Increased morbidity and mortality due to increase in medical errors.

Practice Change Question: Will a protocol-driven medical clearance algorithm decrease the LOS from patient triage to disposition decision without affecting patient safety?

Setting: Behavioral Health Crisis Intervention Center

Population: Adult patients with psychiatric symptoms presenting to a crisis center for emergency care

Implementation procedure: Weekly data collection and analysis of medical clearance checklist

Short-term Goals:
- Approval of the medical clearance algorithm
- At least 50% utilization of the algorithm as evidenced by completion of the medical clearance check list
- More comprehensive history and physical assessments (H&P)
- Appropriate diagnostic testing for clinically significant findings on H&P
- Selection of medical records documented at ED discharge
- Increased length of stay for mental health patients at ten Massachusetts emergency departments.

Long-term Goals:
- Improved patient safety related to more comprehensive H&Ps
- Reduction in unnecessary or duplicative lab work
- Reduction in related health care costs

Search Strategy/Evidence Appraisal

- Search Terms: “Medical clearance,” Emergency department, Laboratory testing; Psychiatric (447 studies)
- Search Platform: Pubmed, PsychINFO, MEDLINE, CINAHL
- Appraisal of level & quality of evidence: Johns Hopkins Nursing Evidence-based Practice Rating Scale (Newhouse, et al., 2006)
- Project Development: Seven Steps of Evidence-based Practice Model (Melnyk & Fineout-Overholt, 2011)
- Project Implementation: Mobilize, Assess, Plan, Implement and Track (MAP-IT) Framework

Contact
Sara Bortner: Email abortner@umd.edu

Evidence Table

<table>
<thead>
<tr>
<th>Author/Year</th>
<th>PURPOSE</th>
<th>RESULTS</th>
<th>EVIDENCE</th>
<th>EVIDENCE QUALITY</th>
</tr>
</thead>
<tbody>
<tr>
<td>Parmar et al. (2012)</td>
<td>To determine the prevalence of laboratory and diagnostic testing for patients with only a psychiatric complaint in the emergency department.</td>
<td>All 173 adult patients received history, physical exam, and psychiatric evaluation for diagnostic testing.</td>
<td>Level II (Moderate Quality)</td>
<td></td>
</tr>
<tr>
<td>Korn, C.S., Currier, S.O., (2000).</td>
<td>To determine if laboratory studies are beneficial in patients with acute psychiatric symptoms.</td>
<td>7% of patients in the ED had abnormal laboratory results rarely affecting patient disposition.</td>
<td>Level V (.systematic reviews of cohort studies)</td>
<td></td>
</tr>
<tr>
<td>Amin, M., &amp; Wang, J. (2009).</td>
<td>To determine if routine laboratory screening for patients with only a psychiatric complaint in the emergency department.</td>
<td>Most studies indicated that routine laboratory screening in psychiatric patients is not beneficial.</td>
<td>Level IV (Well-designed case-control and cohort studies)</td>
<td></td>
</tr>
</tbody>
</table>

Results

Total Project: 11-weeks N=425
- 3 weeks Baseline N=115 (LOS and Disposition data only)
- 8 weeks Implementation N=310 (received medical clearance algorithm) 

Disposition/Decision Outcome (N=425)

| No Admission (Discharge Home) | 94 (85.2%) |
| Transfer to Behavioral Health Unit | 40 (3.78%) |
| Transfer to local Emergency Department | 5 (4.4%) |
| Transfer to Crisis Residential Unit | 12 (10.43%) |

- Most patients discharged were seen at the Center’s outpatient clinic within a week of visiting the Crisis Center.

Length of Stay (LOS) Data

<table>
<thead>
<tr>
<th>Baseline (N=115)</th>
<th>Implementation (N=310)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean (SD)</td>
<td>Median</td>
</tr>
<tr>
<td>213.70 (199.07)</td>
<td>168.00</td>
</tr>
</tbody>
</table>

Limitations:
- The Crisis Center opened three months prior to project implementation
- Lack of reliable medical providers

Long-term Goals:
- Improved patient safety related to more comprehensive H&Ps
- Reduced unnecessary or duplicative lab work
- Reduced in related health care costs

References


Figure 1. Crisis Center Medical Clearance Algorithm