Predicting Follow-up Compliance after Psychiatric Crisis: A Prospective Cohort Study

Jana Lincoln, MD\textsuperscript{1,2}; Rosalee Zackula, MA\textsuperscript{1}; Denise Williams LMSW, MBA\textsuperscript{2}; Hala Kazzochi, MD\textsuperscript{1,2}; Alisha Oeke, MD\textsuperscript{1,2}; Jennifer Gibson, LMSW\textsuperscript{2}; Shean McKnight, MD\textsuperscript{1,2}; Alexandra Flynn, MD,PhD\textsuperscript{1,2}; Crystal Larson, DO\textsuperscript{1,2}; Vikram Malhotra, MD\textsuperscript{1,2}; Anurag Goel, MD\textsuperscript{1,2}

\textsuperscript{1}University of Kansas School of Medicine-Wichita, \textsuperscript{2}Via Christi Behavioral Health Services

Introduction

Psychiatric patients often fail to follow up with an outpatient provider after crisis. Such non-compliance leads to overuse of psychiatric emergency services (PES), increases costs and lowers treatment efficacy.

Purpose: Identify patient characteristics and prior service utilization associated with compliance immediately following psychiatric crisis.

Methods

Design: Multisite prospective cohort study
Setting: Psychiatric inpatient unit (PIU) and PES
Recruitment: PIU (scheduled follow-up appointment) or PES (unscheduled, recommended provider) between June 2012 and Sept. 2013
Eligibility: Cognitively intact adults with GAF score > 40

Primary outcome: Initial aftercare attendance (compliance)

Protocol:
\begin{itemize}
  \item Day 0: patients consented at discharge
  \item Day 7: A) call provider, if non-compliant call participant (discharged from PIU); B) call participant (discharged from PES)
  \item Day 10: 2nd call attempt to participant (non-compliant or unscheduled)
  \item Day 14: last call attempt to participant (non-compliant or unscheduled)
  \item Phone survey: administered upon participant contact; calling stopped
\end{itemize}

Sample size: 40% survey response rate with 80% power

Results

Participants analyzed
580 adult psychiatric patients
- 53% female
- 42% unmarried
- 55% scheduled at discharge
- Mean age 36 y; sd 12.7

Table 1. Patient characteristics

<table>
<thead>
<tr>
<th>Description</th>
<th>Attended</th>
<th>No show</th>
<th>Lost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Female</td>
<td>163 (61.0)</td>
<td>46 (48.4)</td>
<td>96 (47.1)</td>
</tr>
<tr>
<td>Not Married</td>
<td>99 (67.8)</td>
<td>49 (77.8)</td>
<td>99 (79.8)</td>
</tr>
<tr>
<td>Psychotropic Meds.</td>
<td>58 (21.6)</td>
<td>10 (10.4)</td>
<td>30 (14.7)</td>
</tr>
<tr>
<td>Antianxiety</td>
<td>45 (16.7)</td>
<td>10 (10.4)</td>
<td>18 (8.8)</td>
</tr>
<tr>
<td>Mood Stabilizers</td>
<td>31 (11.5)</td>
<td>4 (4.2)</td>
<td>16 (7.8)</td>
</tr>
<tr>
<td>Antidepressants</td>
<td>75 (27.9)</td>
<td>14 (14.6)</td>
<td>29 (14.4)</td>
</tr>
<tr>
<td>SSRI</td>
<td>106 (39.4)</td>
<td>23 (24.0)</td>
<td>61 (29.9)</td>
</tr>
<tr>
<td>Scheduled</td>
<td>211 (77.3)</td>
<td>20 (20.8)</td>
<td>86 (40.8)</td>
</tr>
</tbody>
</table>

Table 2. Prior six month service utilization

<table>
<thead>
<tr>
<th>Prior service</th>
<th>Attended</th>
<th>No show</th>
<th>Lost</th>
</tr>
</thead>
<tbody>
<tr>
<td>ED: Emergency department (for any reason)</td>
<td>46 (17.1)</td>
<td>28 (29.2)</td>
<td>30 (14.7)</td>
</tr>
<tr>
<td>Two +</td>
<td>44 (16.4)</td>
<td>20 (20.8)</td>
<td>49 (24.0)</td>
</tr>
<tr>
<td>PES: Psychiatric emergency service</td>
<td>59 (21.9)</td>
<td>50 (52.1)</td>
<td>74 (36.3)</td>
</tr>
<tr>
<td>Two +</td>
<td>9 (3.3)</td>
<td>3 (3.1)</td>
<td>5 (2.5)</td>
</tr>
<tr>
<td>PIU: Psychiatric inpatient unit</td>
<td>106 (39.4)</td>
<td>11 (11.5)</td>
<td>54 (26.5)</td>
</tr>
<tr>
<td>Two +</td>
<td>16 (5.9)</td>
<td>2 (2.1)</td>
<td>5 (2.5)</td>
</tr>
</tbody>
</table>

Figure 1. Participant flow diagram

Consented Patients at Discharge
n = 608

Excluded
28 (4.6%)

Hospitalized
237 (39.4%)

Moved/Phone disconnected
20 (3.3%)

Scheduled at discharge: PIU = 317 (52.1%)

Not Scheduled: PES =263 (43.3%)

Attended
211 (66.6%)

Attended
62 (23.6%)

No show
20 (6.3%)

No show
76 (28.9%)

Lost to follow-up
86 (27.1%)

Lost to follow-up
125 (47.5%)

Figure 2. Primary outcome: Follow-up compliance aftercare attendance

Attended 47%

Lost 36%

No Show 17%

Figure 3. Non-compliant patients by disorder

Non-Compliant patients (No show or Lost):
- Significantly less likely
  - Females; Table 1
  - Psychotropic medication; Table 1
  - Scheduled follow-up care; Table 1
  - Prior PIU hospitalizations; Table 2

Significantly more likely
- Prior ED visits; Table 2
- Prior PES visits; Table 2
- Adjustment disorder (62% or 45%); p < 0.001

No significant differences between compliant or non-compliant patients for substance related disorders; participants may have multiple diagnoses

Conclusion

Prescheduling patients prior to discharge may improve treatment compliance and prevent overutilization of emergency services, especially for those with adjustment and substance related disorders; Figure 3

Study limitation: observational design w/o randomization

Proposed plan to improve patient outcomes:
\begin{itemize}
  \item Implement targeted patient discharges
  \item Advocate for social worker within the PES to schedule follow-up appointments for all patients
  \item Initiate patient call back procedure to encourage compliance
\end{itemize}

Funding Sources
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