Assessing the Impact of Patient Navigation in a Formerly Homeless Population with Substance Abuse and Psychiatric Disabilities

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Homeless Health

• Wider range of medical problems:
  – High rate of chronic diseases
  – Age-adjusted mortality rate 3.5 times greater than the general population in Philadelphia

• Substance use disorders among the homeless are eight times higher than among the general population – around 50% have substance abuse issues

• Around 30% of the homeless population in the U.S. suffer from a severe mental disorder (compared to about 6% in the general population)
Health Care Access for the Homeless

- Difficulty navigating healthcare system
  - History of fragmented healthcare
- Frequent use of emergency department and inpatient hospital services
- Low use of primary care services
  - Specific diagnoses of substance abuse or schizophrenia are correlated to a lower likelihood of receiving three or more medical visits
  - Attributed to systemic barriers and lack of access to primary care and preventive medicine
Pathways to Housing PA

• **Housing First model**
  – Providing housing first, treatment second
  – 92% retention rate (clients that remain housed)

• **PTH requires:**
  – Half the cost of permanent housing
  – 32 percent less than residential drug and alcohol programs for the homeless mentally ill

• **Incorporates Assertive Community Treatment (ACT)**
  – Evidence-based service-delivery model
Pathways to Housing PA

• PTH clients
  – Mean age: 51.5 years, range 30-78 years
  – 72% male, 28% female
  – 68% Black, 27% White, 3% Hispanic
  – Income:
    • 64% Welfare/SSI, 21% SSDI, 16% Pension, 7% do not receive income
PTH: Client Health Characteristics

- **Most common chronic diseases:**
  - Hypertension (43.5%)
  - Diabetes (10.7%)
  - Asthma (16.0%)
  - COPD (11.5%)
  - HIV (6.1%)
  - Overweight or obese (67%)

- **77% have a chronic physical disease, while 60 percent have two or more chronic diseases**

- **Most common Axis I diagnoses:**
  - Schizophrenia Spectrum Disorder (47%)
  - Major Depressive Disorder (25%)
  - Bipolar Disorder (17%)
  - Anxiety Disorder (5%)
ACT at PTH & Integrated Healthcare

• ACT model initially used primarily as mental health intervention
• Integrated Healthcare collaboration program
  – Integrating primary care into ACT services to reduce high costs associated with use of acute medical care
• Integrated Healthcare: Collaboration with Jefferson Family Medicine Associates at Thomas Jefferson University Hospital
  • Primary care physician from JFMA works directly with ACT team nurses and psychiatrists
Patient Navigation

• Despite successes, client barriers to health care still present and team nurses have significant portion of burden in managing complex chronic illnesses

• A potential solution is Patient Navigation
  – Navigation is associated with improved rates of screening and follow-up and higher patient satisfaction
  – Beneficial to many patients, including underserved and disadvantaged populations
  – Navigators could be useful in providing additional support services
Research Question

Is Patient Navigation an effective strategy for addressing barriers to healthcare for the Pathways to Housing PA client population?
Project Aims

• **Aim 1:**
  - To determine whether patient navigation improves appointment attendance for medical visits by increasing the number of completed versus missed follow-up specialty appointments for clients at PTH.

• **Aim 2:**
  - To examine client satisfaction and perceived utility of patient navigation services when compared to regular health services offered through service coordination.

• **Aim 3:**
  - To better understand the patient navigation process at Pathways to Housing and to determine the yearly navigator caseload.
Methods

• Project Design
  – Mixed Methods

• Participant Characteristics
  – Any PTH client on this team who has been placed into housing and had an upcoming appointment within a three-month period was eligible
  – All clients on other teams and clients who had not yet been placed into housing were excluded

• Patient Navigator Characteristics
Methods

- **Aim 1:** To determine whether patient navigation improves appointment attendance for medical visits by increasing the number of completed versus missed follow-up specialty appointments for clients at PTH.
  - Chart Review for both groups
    - Demographic Data
    - Health Characteristics
  - Service documentation
    - Total appointments in past 12 months: Completed and Missed
  - Navigation Documentation
    - Tracked navigated visits
Methods: Aim 2

**Intervention Group:**

**Pre-interviews**
- Assessed:
  - Barriers to care
  - Satisfaction with past health experiences
  - Needs and expectations of navigator

**Patient Navigation**
- Communicated with team nurse and clients
- Coordinated appointments
- Obtained referral and insurance paperwork
- Identified client barriers and used appropriate strategies
- Accompanied clients to appointments

**Post-interviews**
- Assessed:
  - Client satisfaction
  - Impact of navigation on health
  - Helpfulness and need of services
  - Success in overcoming barriers
  - Suggestions for improvement
  - Recommendation of the service to others
Methods: Aim 2

Comparison Group:

Service coordinator support for appointments
- Clients were accompanied by service coordinators to scheduled appointments in the two months before start of navigation pilot program

Post-Interviews
- Assessed:
  - Client satisfaction
  - Impact of staff support on visits
  - Helpfulness and need of services
  - Success in overcoming barriers
  - Suggestions for improvement
Methods

• **Aim 3:**
  – Calculate Summary Navigation Data
    • Average time required to prepare for navigation
    • Average time required for navigation
    • Average transportation time required per visit
  
  – Calculate the yearly navigator caseload: how many clients can a navigator serve in a year?
Sample Demographics

• Intervention Group (n=5)
  – Mean age: 47.2 years, range 33-58
  – Mean number of chronic illnesses: 3.8
  – Mean total number of appointments: 26.4
    • Specialty: 14.8; Missed: 13.2
  – Total specialty appointments (n=5): 140
  – Completed 52.8% of their scheduled specialty visits prior to navigation

• Comparison Group (n=5)
  – Mean age: 53.4 years, range 45-60
  – Mean number of chronic illnesses: 3.0
  – Mean total number of appointments: 16.6
    • Specialty: 6.6; Missed: 3.8
  – Total specialty appointments (n=5): 52
  – Completed 63.5% of their scheduled specialty visits
Sample Demographics

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Intervention (n=5)</th>
<th>Comparison (n=5)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Co-morbidity &amp; Dual Diagnosis:</strong></td>
<td>n</td>
<td>n</td>
</tr>
<tr>
<td>Chronic Medical Illness</td>
<td>5</td>
<td>4</td>
</tr>
<tr>
<td>Mental illness (MI)</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>Substance abuse</td>
<td>5</td>
<td>1</td>
</tr>
<tr>
<td>MI and Medical</td>
<td>5</td>
<td>4</td>
</tr>
<tr>
<td>MI and Substance Abuse</td>
<td>5</td>
<td>1</td>
</tr>
<tr>
<td>Medical and Substance Abuse</td>
<td>5</td>
<td>1</td>
</tr>
<tr>
<td>All three</td>
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<td>1</td>
</tr>
<tr>
<td><strong>Medical diagnosis:</strong></td>
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<td></td>
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<tr>
<td>Hypertension</td>
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<td>4</td>
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<tr>
<td>Diabetes Mellitus Type 2</td>
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<td>0</td>
</tr>
<tr>
<td>Hepatitis C</td>
<td>3</td>
<td>1</td>
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<tr>
<td>HIV</td>
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<td>Cardiovascular/Heart Disease</td>
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<td>2</td>
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<td>1</td>
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<tr>
<td>Hyperlipidemia</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Asthma</td>
<td>4</td>
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<tr>
<td>Emphysema</td>
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</tr>
<tr>
<td>Obstructive Sleep Apnea</td>
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<td>Bipolar disorder</td>
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<td>PTSD</td>
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<td>Major Depressive Disorder</td>
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</table>
Results: Aim 1

Total number of completed and missed specialty appointments prior to navigation, and completed appointments during navigation by Intervention group case number (n=5)

<table>
<thead>
<tr>
<th>Case Number</th>
<th>Completed</th>
<th>Missed</th>
<th>Completed</th>
<th>Missed</th>
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<tr>
<td>1</td>
<td>5</td>
<td>12</td>
<td>8</td>
<td>0</td>
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<td>2</td>
<td>27</td>
<td>6</td>
<td>12*</td>
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<tr>
<td>3</td>
<td>18</td>
<td>32</td>
<td>5</td>
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<tr>
<td>4</td>
<td>24</td>
<td>15</td>
<td>3</td>
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<tr>
<td>5</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>0</td>
</tr>
<tr>
<td>Mean</td>
<td>14.8</td>
<td>13.2</td>
<td>6</td>
<td>0</td>
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<tr>
<td>Total percent</td>
<td>52.9</td>
<td>47.1</td>
<td>100</td>
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</table>

*Note that this case was navigated for a 3-month time period.
Results: Aim 2

- **Client Satisfaction Survey**
  - Navigated clients reported increased satisfaction with navigation services for:
    - Improving client understanding of the physician
    - In aiding in the recall of important medical information during the visit
    - In having an impact on client health care services
    - Providing them with information pertaining to their visits
    - Meeting their needs
Results: Aim 2

Total client responses per group for Agreement questions

<table>
<thead>
<tr>
<th></th>
<th>Strongly Agree</th>
<th>Agree</th>
<th>Neutral</th>
<th>Disagree</th>
<th>Strongly Disagree</th>
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<tbody>
<tr>
<td>Intervention group (n=5)</td>
<td>7</td>
<td>3</td>
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<tr>
<td>Comparison group (n=5)</td>
<td>6</td>
<td>2</td>
<td>2</td>
<td>0</td>
<td>0</td>
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</table>

Total client responses per group for Satisfaction questions

<table>
<thead>
<tr>
<th></th>
<th>Very Satisfied</th>
<th>Slightly Satisfied</th>
<th>Neutral</th>
<th>Slightly Dissatisfied</th>
<th>Very Dissatisfied</th>
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<tbody>
<tr>
<td>Intervention group (n=5)</td>
<td>44</td>
<td>11</td>
<td>0</td>
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<tr>
<td>Comparison group (n=5)</td>
<td>12</td>
<td>16</td>
<td>14</td>
<td>11</td>
<td>2</td>
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</table>
## Results: Aim 2

### Qualitative Interviews

<table>
<thead>
<tr>
<th>Reasons for satisfaction with visits</th>
<th>Type of service</th>
<th>Clients who were accompanied in exam room (n=7)</th>
<th>Clients who were not accompanied in exam room (n=3)</th>
<th>Total (n=10)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Transportation assistance</td>
<td>6</td>
<td>2</td>
<td>8</td>
<td></td>
</tr>
<tr>
<td>Companionship</td>
<td>7</td>
<td>2</td>
<td>9</td>
<td></td>
</tr>
<tr>
<td>Improving understanding and two-way communication with the physician</td>
<td>6</td>
<td>0</td>
<td>6</td>
<td></td>
</tr>
<tr>
<td>Emotional support</td>
<td>3</td>
<td>0</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Advocating</td>
<td>2</td>
<td>0</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>Trust</td>
<td>2</td>
<td>0</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>Appointment coordination</td>
<td>4</td>
<td>0</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>How services can be improved</td>
<td>Staff presence in examination room</td>
<td>2</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>Additional support</td>
<td>Requested continued support of the same magnitude</td>
<td>4 (of 5 non-navigated)</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>Advocacy and help in communication with the physician</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td></td>
</tr>
</tbody>
</table>
Results: Aim 2

Across both groups, 8 out of 10 total clients stated they needed **transportation assistance**

- “I would not have made it to my appointments without the support person...The support person gave me tokens for transportation and met me at the train station by my house.” (Navigated client 1, accompanied into the exam room)

- “[The support person] got me to my appointments.” (Non-navigated client 4, not accompanied into the exam room)
Results: Aim 2

Across both groups, 9 out of 10 total clients stated they needed **companionship**

• “Having someone with me was helpful in making the situation less gloomy and more lively.” (Non-navigated client 3, accompanied into the exam room by team nurse)

• “[My visits] would be the same [without a support person] but I liked the company and moral support.” (Non-navigated client 2, not accompanied into the exam room)
Results: Aim 2

6 of the 7 clients accompanied into the exam room reported **improving understanding and two-way communication with the physician** as a reason for their satisfaction

• “It was helpful to have someone...to verify the information and get it all straight so I can understand. [It] helped me understand the difference between what I think and what is actually happening... The nurse helped explain things to me in a way that I could understand.” (Non-navigated client 3, accompanied into the exam room by team nurse)
Results: Aim 2

4 out of 10 clients reported appointment coordination as a benefit of navigation services. None of the non-navigated clients reported this benefit.

- “[I] would not have been able to call and schedule appointments on my own without the support person's help. The support person supported me and helped me take care of myself... Helped me with scheduling my appointments, getting referrals and other paperwork, and calling the doctor's office. (Navigated client 2, accompanied into the exam room)
Results: Aim 2

How can health services at PTH can be improved?

• Staff presence in the examination room
• Need for advocacy, support and companionship
• Support in communication with the physician and request for nurse-accompanied appointments.

“Continue with the same, but I would also like more help and support. It would help if the person went in to the room with me. It would make me feel more support.”

“Go with me to my appointments… Support me by talking to the doctor with me and advocating for me.”
Results: Aim 3

• Average navigation time: 1.64 hours
• Average preparation time: 1.46 hours
• Average transportation time: 0.84 hours

• On average, it takes a total of 3.94 hours to navigate each client per appointment.

• The yearly navigator caseload is approximately 24 clients (number of clients per navigator per year)
Discussion

• Pilot project suggests:
  – Navigation appears to be helpful in improving appointment adherence among PTH clients
  – Clients enrolled in a navigation program at PTH appear to value the additional support and report higher satisfaction when compared to those clients enrolled in regular health services provided through service coordination
  – With increased complexity and substance abuse issues, clients need for someone to advocate, explain health issues and enhance understanding
Discussion

• Navigator presence in the examination room makes a difference in support to clients

• Navigator could serve as additional support person for clients and allow team nurse to focus on care rather than coordination
Limitations

• Convenience sampling
• Small sample size
• Short navigational period
• Survey not fully validated in population
• Personal biases in qualitative data analysis
• Response bias & faulty recall
Recommendations for Future Study

- Continue exploring navigation by expanding program
  - Reduce current project limitations by increasing sample size and time period
- By improving limitations, further study could more reliably judge the effectiveness of navigation services
Recommendations for Future Study

• Many more areas of potential study
  – Examine effect of patient navigation on Emergency Department visits and hospitalizations among PTH clients
  – Clinical categorization of clients to determine navigational need
  – Peer-based strategies in patient navigation

• Later potential steps:
  – Creating PTH-specific navigation protocol for use among multiple navigators
  – Developing navigation training program
  – Evaluating the effectiveness and cost efficacy of navigation over a longer time period
Conclusion

• As use of navigation as a service tool expands into new and untested populations, this project will offer elementary data for future research study

• Despite limitations, project provides initial examination of navigation services among a formerly chronically homeless population with mental health & substance abuse issues
  – Suggests navigation as service tool to address barriers to health and provide support services
Thank you!!

• Rickie Brawer, PhD, MPH
• Lara Weinstein, MD, MPH
• James Peightel, MD
Questions?