Variation in case management programs and their effectiveness in managing high-risk patients

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Core Leadership Team

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Barakat (Patient Partner)

Sarrazin (site PI)
Davin (Patient Partner)
Goals for Today

1. Review and interpret study results to date (still preliminary)
2. Review classification scheme for case management programs
3. Identify ideas/priorities for future projects
The Story of Sandra

• Sandra is a 72 year-old woman with type 2 diabetes on insulin, congestive heart failure, hypertension, chronic kidney disease, and depression.
• She was admitted to our hospital with acute shortness of breath.
• In the last week, she gained 20 pounds and had painful edema in her legs.
• She is on 12 medications, sees 4 specialists, and has been in the hospital 5 times in the last year for acute heart failure.
Role of Case Management

- Defined as a supplemental service in which a single person, usually a nurse or social worker, is responsible for:
  - coordinating and implementing a patient’s care plan
  - either alone or in conjunction with a team of health professionals

- Key components include:
  - planning and assessment
  - coordination of services
  - patient education
  - clinical monitoring
Project Aim 1

1. Characterize case management programs
   - 22 health systems, 2 networks
     - GPC, SCILHS
   - Interview 2 sites (survey dev.)
     - Patients
     - Health system leaders
     - Case management program directors
   - Survey 20 sites
   - Develop categorization
Interviews at two sites
## Sites for In-depth Interviews

<table>
<thead>
<tr>
<th>Site Information</th>
<th>Wisconsin</th>
<th>Boston</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>ACO details</strong></td>
<td>28,600 patients; 300 providers; 45 clinics; launched 2013</td>
<td>34,000 patients; 208 providers; 19 clinics; launched 2012</td>
</tr>
<tr>
<td><strong>Case Management Program</strong></td>
<td>2013</td>
<td>2005</td>
</tr>
<tr>
<td>Patients</td>
<td>500</td>
<td>2551</td>
</tr>
<tr>
<td>Primary contact method</td>
<td>Telephone</td>
<td>In-person</td>
</tr>
<tr>
<td>Program entry</td>
<td>Risk score or referral</td>
<td>Risk score</td>
</tr>
<tr>
<td># contacts with program</td>
<td>2 per month</td>
<td>1-4 per month</td>
</tr>
<tr>
<td>Duration in program</td>
<td>160 days on avg.</td>
<td>Indefinite</td>
</tr>
<tr>
<td>Manager caseload</td>
<td>20-25 prime; 40-50 second</td>
<td>200</td>
</tr>
<tr>
<td>Staff type</td>
<td>RN + SW dyad</td>
<td>RN, SW</td>
</tr>
</tbody>
</table>

- **Sites**: Wisconsin and Boston
- **Program Details**: Case Management Program
- **Participants**: Patients in Wisconsin are 28,600, in Boston are 34,000
- **Program Access**: Wisconsin uses telephone, Boston uses in-person
- **Program Duration**: Wisconsin is 160 days, Boston is indefinite
- **Manager Caseload**: Wisconsin has 20-25 prime and 40-50 second cases, Boston has 200 cases
Interview Themes

• Expansions to Medicaid have brought complexity
  • Both programs started as Medicare only
  • Behavioral health and substance use are major challenges

• Role clarity with RN, SW
  • Do patients know their case manager?

• Similar outcome metrics
  • Emergency care, Hospitalization
  • Process data vary in detail
    • Staff activity and hours of effort
Questions

• In the qualitative interviews we see large differences in program size and staff caseloads.

  • What are some possible explanations for these differences?
Survey of 20 sites
80% response rate (18 sites)

Greater Plains Collaborative
University of Kansas Medical Center
University of Iowa Healthcare
University of Wisconsin - Madison
Medical College of Wisconsin
Marshfield Clinic
University of Minnesota
University of Nebraska MC
University of Texas-San Antonio
University Texas Southwestern MC
University of Missouri
Indiana University

SCILHS
Beth Israel Deaconess MC
BJC Healthcare / Washington University
St. Louis
Boston Medical Center
Brigham and Women’s Hospital*
Grady Memorial Hospital
Massachusetts General Hospital*
Morehouse School of Medicine
University of California Davis
University of Texas -Houston
Wake Forest Integrated System
## Survey Questions

### Program Characteristics
- What do you call the care/case management program that exists in your healthcare system?
- How are patients identified?
- Who does your program provide service to?
- How do case managers interact with patients?

### Program Outcomes
- Have you analyzed data from your program?
- What program outcomes do you measure?
- How would you rate the quality of communication between program staff and PCPs?
## Program Characteristics

### Caseload & Staffing

<table>
<thead>
<tr>
<th>Characteristics</th>
<th>Median</th>
<th>Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>Median Current Cases</td>
<td>2,150</td>
<td>70-40,000</td>
</tr>
<tr>
<td>Median Annual Cases</td>
<td>2,750</td>
<td>100-28,000</td>
</tr>
<tr>
<td>Median Caseload per professional</td>
<td>90</td>
<td>16-2,500</td>
</tr>
<tr>
<td><strong>Staffing</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Registered Nurse</td>
<td>14</td>
<td></td>
</tr>
<tr>
<td>Medical Social Worker</td>
<td>11</td>
<td></td>
</tr>
<tr>
<td>Community Health Worker</td>
<td>7</td>
<td></td>
</tr>
<tr>
<td>MD</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Certified Care Manager</td>
<td>3</td>
<td></td>
</tr>
</tbody>
</table>

### Cases Remain Active

- **> 6 Months**
  - 8 Programs

- **3-6 Months**
  - 4 Programs

- **< 3 Months**
  - 2 Programs

*N=18*
How Do Case Managers Interact with Patients?

- **Telephone**: 14
- **Home**: 8
- **Clinic**: 12
- **Patient Portal**: 7
- **Email**: 1
- **Text**: 2
- **Virtual**: 0

N=18
Questions

• Is the location of contact likely to make a difference in outcomes?
  • Telephone
  • Clinic
  • Patient portal
  • Home visit

• Which outcomes might be affected?
Care Management Processes: Wide Range

- All surveyed programs
  - Initial triage, check medical visits, care coordination after inpatient, and assist medication management.

- More than 10 programs
  - Treatment and referral for complex chronic conditions (13)
  - Deciding on goals of care (13)
  - Arranging for financial assistance (12)

- Fewer than 10 programs
  - Arrange help with activities of daily living
  - Provide support or educational groups
  - Remote disease monitoring
Measuring Program Effectiveness

Focus on cost and utilization reduction...

- 30 day readmission rates (12)
- Emergency visits (11)
- Disease/condition specific quality measures (10)*
- Healthcare costs (8)
- Efficiency or cost-effectiveness (7)

...less on patient experience...

- Patient-centeredness (7)
- Effectiveness (4)
- Patient safety (3)
- Access to healthcare (3)
- Timeliness of care (2)
- Equity (2)
Characterization of Case Management

- Program activity did not lend itself to a classification scheme
  - Core activities
  - Unique activities

- Characterized by
  - Disease specific
  - Level of practice integration
Questions

• Many activities are similar across programs that have widely varying caseloads

  • What might explain these differences?
Future Areas of Research

• What is the relationship between the patient, case manager, practice, and system?
  • How many points of contact for a family and patient?

• Wide variation in caseload, but not activity
  • Measure activity per case to explain the variation?

• What patient-reported outcomes would be important to measure?