Manufacturing Recovery

Utilizing Six Sigma Methodology in Community Mental Health Care
What is Six Sigma (DMAIC)?

Six Sigma seeks to improve the quality of the output of a process by identifying and removing the causes of opportunities for improvement and minimizing variability.

This tool designed for manufacturing can be a powerful quality improvement methodology for community mental health.

“If we have data, let’s look at data. If all we have are opinions, let’s go with mine.”
– Jim Barksdale, former Netscape CEO
## Examples of Possible 6 Sigma Projects

<table>
<thead>
<tr>
<th>Industry</th>
<th>Opportunity for Improvement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Manufacturing</td>
<td>Defective components produced</td>
</tr>
<tr>
<td>Marketing</td>
<td>People not completing online registrations</td>
</tr>
<tr>
<td>Hotels</td>
<td>Rooms not cleaned in under 8 minutes</td>
</tr>
<tr>
<td>Airlines</td>
<td>Pilots landing out of designated lines (control lines)</td>
</tr>
</tbody>
</table>
Define
What are the opportunities for improvement? What is the goal?

Measure
What is the current state? How many opportunities for improvement currently exist?

Analyze
Why is the current state what it is? Identify potential root causes of the outcomes both desired and undesired.

Improve
Identify and test potential solutions. Implement the successful ones.

Control
Put a plan in place to ensure the improvements will be sustained.

“what I love is finding hidden patterns; I love being a data detective.”
-David McCandless
Recovery does not need to fit into Six Sigma, Six Sigma fits into recovery.

“Unless you use local guides, you cannot get the lay of the land.”
–Sun Tzu, 544–496 BC
Involving the people being served at every level

- Participation on the project team
- Service user input on defining the project goals
- Use of service users and families as subject matter experts (SME)
- Questionnaires for service users and family
- Brainstorming with service users and family
- Focus groups with service users and family
- Feedback forms completed by service users and family

Participation not representation
Ensure that barriers to participation are considered and removed.

For example:
- focus groups during the day may eliminate employed clients or family
- Speed and style of brainstorming may limit participation by those who need extra time to process
- Accessible locations with no physical barriers, gender neutral bathrooms
- Child care requirements
- Surveys being accessible in terms of wording, language, font size, etc
An audit was conducted by a new manager and it is discovered that every staff member on an Assertive Community Treatment Team (ACTT) is behind on multiple documentation requirements. A Six Sigma Project was conducted with this team.

“The price of light is less than the cost of darkness.”
-Arthur C. Nielsen, Market Researcher
The opportunity for improvement is staff members that don’t have priority documentation up to date.

The goal is 100% compliance with priority documentation requirements.
# Voice of the Customer

<table>
<thead>
<tr>
<th>Document name</th>
<th>Opportunities for Improvement</th>
<th>Importance to Service User</th>
<th>Senior Management</th>
<th>Staff</th>
<th>Total Weighted Opportunities</th>
</tr>
</thead>
<tbody>
<tr>
<td>Crisis Plan</td>
<td>88</td>
<td>7</td>
<td>5</td>
<td>6</td>
<td>18480</td>
</tr>
<tr>
<td>Case Note</td>
<td>88</td>
<td>4</td>
<td>7</td>
<td>7</td>
<td>17248</td>
</tr>
<tr>
<td>OCAN</td>
<td>66</td>
<td>6</td>
<td>6</td>
<td>5</td>
<td>11880</td>
</tr>
<tr>
<td>Kardex</td>
<td>88</td>
<td>5</td>
<td>4</td>
<td>4</td>
<td>7040</td>
</tr>
<tr>
<td>ATR</td>
<td>88</td>
<td>2</td>
<td>3</td>
<td>3</td>
<td>1584</td>
</tr>
<tr>
<td>Nursing Assessment</td>
<td>88</td>
<td>3</td>
<td>2</td>
<td>2</td>
<td>1056</td>
</tr>
<tr>
<td>Psycho Social Assessment</td>
<td>88</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>88</td>
</tr>
</tbody>
</table>

7 highest, 1 lowest
Crisis Plan Case Note OCAN Kardex ATR Nursing Ax Biospychosocial

Pareto Chart

Opportunities for Improvement

Crisis Plan 18480
Case Note 17248
OCAN 11880

Cumulative %
32.21% 62.27% 82.98% 95.25% 98.01% 99.85% 100.00%

Count

Kardex 7040
ATR 1584
Nursing Ax 1056
Biospychosocial Ax 88

Cumulative Percent
0.00% 10.00% 20.00% 30.00% 40.00% 50.00% 60.00% 70.00% 80.00% 90.00% 100.00%

10 min
### Project Name
**Quality Improvement Initiative**

**Date:** November 10th, 2014

### Project Objectives
ACTT Team to achieve and maintain agency standards regarding client Crisis Plans, OCANs, and Case Notes in 12 months.

### Expected Benefits
- 100% Clients having current OCAN.
- 100% Clients with current crisis plan.
- All staff having notes which meet standards.
- Accreditation requirements met.
- Agency standards met.
- Service user needs addressed.

### Project Scope

<table>
<thead>
<tr>
<th>In scope</th>
<th>OCANS</th>
<th>Crisis plans</th>
<th>Case notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Out of scope</td>
<td>Purpose of documentation</td>
<td>Quality of documentation</td>
<td>All other documentation</td>
</tr>
</tbody>
</table>

### Roles

<table>
<thead>
<tr>
<th>Team Members</th>
</tr>
</thead>
<tbody>
<tr>
<td>Director of Programs</td>
</tr>
<tr>
<td>Manager</td>
</tr>
<tr>
<td>ACT Team</td>
</tr>
<tr>
<td>Admin Assistant</td>
</tr>
</tbody>
</table>

### Budget
0.00
## Schedule

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Define</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Measure</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Analyze</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Improve</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Control</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Close</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
## Work Performance Data

<table>
<thead>
<tr>
<th>Document name</th>
<th>Opportunities for Improvement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Crisis Plan</td>
<td>88</td>
</tr>
<tr>
<td>Case Note</td>
<td>88</td>
</tr>
<tr>
<td>OCAN</td>
<td>66</td>
</tr>
<tr>
<td>Staff not meeting target</td>
<td>11</td>
</tr>
</tbody>
</table>
Control Chart

Case Notes Baseline July 2014

Oppunities for Improvement

Upper Specification Line

Target Line

Lower Specification Line
Control Chart

Case Notes Baseline July 2014

There may be performance issues, there are definitely systems issues.
Cause and Effect Diagram
Why is documentation late or missing?

Why did this issue occur?

- Staff not completing it in a timely fashion.

Why wasn’t it detected?

- No one monitoring documentation.

Why did the management system fail?

- No accountability
- People not auditing own work
- Management audits too infrequent

Why?

- Staff doesn’t have enough time.

Why?

- Too many unnecessary visits and meetings running too long

Why?

- Time is not being prioritized effectively

Why?

- Team is unclear on the importance, value and expectations regarding documentation

- Was not known to be a problem.

- No effective auditing.

- Targets being missed were not an identified priority.

- Management does not recognize the value of documentation.

- Audits not being followed up on.

- Audits not tied to performance or team concept of quality work.
<table>
<thead>
<tr>
<th>#</th>
<th>Action</th>
<th>Champion</th>
<th>Target Date</th>
<th>Current Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Acquire Laptops</td>
<td>Manager</td>
<td>10-01-14</td>
<td>Complete</td>
</tr>
<tr>
<td>2</td>
<td>Clarify targets visually</td>
<td>Admin</td>
<td>10-31-14</td>
<td>Complete</td>
</tr>
<tr>
<td>3</td>
<td>Monthly meetings 1-1(connect documentation to performance)</td>
<td>Manager/Team</td>
<td>12-01-14</td>
<td>Ongoing</td>
</tr>
<tr>
<td>4</td>
<td>Prioritize and set deadlines for documentation</td>
<td>Manager</td>
<td>10-01-14</td>
<td>Complete</td>
</tr>
<tr>
<td>5</td>
<td>Reduce meeting times by focusing on updates being brief but necessary</td>
<td>Team</td>
<td>10-01-14</td>
<td>Ongoing</td>
</tr>
<tr>
<td>6</td>
<td>Adjust hours to have more staff during busiest times</td>
<td>Admin</td>
<td>10-01-14</td>
<td>Complete</td>
</tr>
<tr>
<td>7</td>
<td>2 Staff on vacation at a time</td>
<td>Manager</td>
<td>10-01-14</td>
<td>Ongoing</td>
</tr>
<tr>
<td>8</td>
<td>Staff taking personal responsibility for self-audits</td>
<td>Team</td>
<td>10-01-14</td>
<td>Ongoing</td>
</tr>
</tbody>
</table>
Staff Achieving Targets (%)

![Bar Chart]

- **OCAN**
  - Jun-14
  - Nov-14

- **Crisis Plan**
  - Jun-14
  - Nov-14

- **Case Notes**
  - Jun-14
  - Nov-14

*Note: Improve*
Case Notes November 2014
“In god we trust, all others must bring data!.”
– W. Edwards Deming
Before there is an Opportunity for Improvement:

- Staff provided with appropriate technology to work from a variety of locations
- Staff trained on exactly how to use technology/software etc
- Staff shown that performance appraisals include section on maintaining documentation
- Hiring process includes questions on documentation/multitasking
- Ongoing building of team culture that allows for people to book admin time
- Staff have clear targets that must be maintained and reviewed regularly

As an Opportunity for Improvement is detected:

- Staff conduct self audits regularly
- Staff to approach manager/team lead to request extra hours/admin time

After an Opportunity for Improvement has occurred:

- Manager to conduct regular audits of documentation
- Manager to meet immediately with staff failing to meet targets to discuss solutions
- Manager to include results of audits on performance appraisals
Highlights

- Improved morale
- More time for direct service (no catching up needed, leaner processes)
- Less stress reported
- Never a performance issue connected to these outcomes
- Project highlighted for Accreditation
<table>
<thead>
<tr>
<th>Industry</th>
<th>Opportunity for Improvement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Community Mental Health</td>
<td>Service users disengaging from services</td>
</tr>
<tr>
<td></td>
<td>Service users with metabolic syndrome</td>
</tr>
<tr>
<td></td>
<td>Service users without a General Practitioner.</td>
</tr>
<tr>
<td></td>
<td>Service users not utilizing their crisis plans</td>
</tr>
<tr>
<td></td>
<td>Service user satisfaction rates (OPOC)</td>
</tr>
<tr>
<td></td>
<td>Staff satisfaction rates</td>
</tr>
<tr>
<td></td>
<td>Deaths by suicides</td>
</tr>
<tr>
<td></td>
<td>Deaths by primary care issues</td>
</tr>
<tr>
<td></td>
<td>Service users not engaged in meaningful daily activity</td>
</tr>
<tr>
<td></td>
<td>Staff who identify as burnt out or burning out</td>
</tr>
<tr>
<td></td>
<td>Team meeting durations</td>
</tr>
<tr>
<td></td>
<td>Inpatient hospital days</td>
</tr>
<tr>
<td></td>
<td>Clients without Coordinated Care Plans</td>
</tr>
<tr>
<td></td>
<td>Service user days without food</td>
</tr>
</tbody>
</table>

“Experience without theory is blind, but theory without experience is mere intellectual play.”

-Immanuel Kant


