### Clinical Improvement Worksheet Side D

**MEASUREMENT OF KEY VARIABLE**

<table>
<thead>
<tr>
<th>Variable:</th>
<th>Unit of Measure:</th>
<th>Method of Measurement:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Date</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Time</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Measures (X)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Moving Range (R)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

1. Enter your data

2. Do these calculations

3. Plot limits, data, averages

**Example Calculations:**

- **Average:** \( \bar{X} = \frac{\text{Sum of X's}}{\# \text{of X's}} \)
- **Upper Natural Process Limit:** \( \bar{X} + (2.66 \times R) \)
- **Moving Range:** \( R = |X_j - X_k| \) (Absolute #’s only)
- **Lower Natural Process Limit:** \( \bar{X} - (2.66 \times R) \)
- **Average Range:** \( \bar{R} = \frac{\text{Sum of R’s}}{\# \text{of R’s}} \)

**Limits:**

- **Upper Control Limit for Range Limit:** \( 3.27 \times \bar{R} \)

### Clinical Improvement Worksheet Side A

**AIM:** Accelerate clinical improvement by linking outcome measurements, structure, process and pattern knowledge with the design and implementation of pilot tests of change.

1. **OUTCOMES** → Select a population
   - **What's the general aim?**
   - **Given our desire to limit/reduce the burden of illness for this type of patient, what are the desired results?**

2. **PROCESS** → Analyze the process
   - **What's the process for giving care to this type of patient?**

3. **PATTERNS** → Identify the common patterns at work (feelings, behaviors, traditions and outcomes)
   - **Consider working relationships, people’s feelings about working here, patient, family and community relationships.**
   - **Do you meet regularly to improve the process of care?**
   - **What have you successfully changed?**
   - **What are the key outcomes for this type of patient?**
   - **How do leaders relate to staff?**
   - **How often do you meet to discuss safety and reliability?**
   - **What is the most significant pattern of variation?**

4. **STRUCTURE** → Visualize the Actual Setting
   - **What and who's there?**
   - **What equipment?**
   - **What technology is available?**

5. **CHANGES** → Develop Change Ideas
   - **What ideas do we have for changing what is currently done (the process) to get better results?**

6. **MORE CHANGES** → Ideas from literature search?
   - Evidence to support proposed changes?
   - Best practices or “benchmarking”?
   - Change concepts?

7. **PILOT** → Select first/next change for pilot testing
   - **How can we pilot test an improvement idea using the PDSA, plan-do-study-act method?**

Clinical Improvement Worksheet

A. SELECTED CHANGE ➔ How would you describe the change that you have selected for testing?

TEAM MEMBERS ➔ Who should work on this improvement?

1. ____________________ 5. ____________________
2. ____________________ 6. ____________________
3. ____________________ 7. ____________________
4. ____________________ 8. ____________________

RELEVANT ASPECTS OF:
- structure
- process
- pattern

B. AIM ➔ What are we trying to accomplish? (more specific AIM)

C. MEASURES ➔ How will we know that a change is an improvement?

D. PLAN ➔ How shall we PLAN the pilot? (structure, process, pattern)
- Baseline data to be collected?

E. DO ➔ What are we learning as we DO the pilot?
- Did original outcomes improve?

F. STUDY ➔ As we STUDY and check what happened, what have we learned?
- (structure, process, pattern)

G. ACT ➔ As we ACT to hold the gains or abandon our pilot efforts, what needs to be done?
- (structure, process, pattern)

H. SDSA (STANDARDIZE-DO-STUDY-ACT) ➔ How do we ensure changes are standardized and practiced?
- What do we measure?

Flowchart of Basic Clinical Process

Patient with need for care ➔ Access System ➔ Assessment ➔ Diagnosis (Dx) ➔ Treatment (Rx) ➔ Follow-up ➔ Outcomes/Costs

Tips:
- It's important to diagram the actual process first — to discover improvement opportunities.
- Identify the first step, then identify each additional step by asking "What is the next thing we do?"
- Record steps on sticky notes so they can be easily rearranged.
- If you've written the steps, action verbs are tips to activities, "ifs" are tips to decisions. (See the shape descriptions to the right for treatment of the steps.)
- Reviewing drafts of individual work is a better team activity than creating flow diagrams over again.

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