“Check In” Survey

• **Goal:**
  – To determine each team’s “status” towards achieving each PBP.

• **Proposed usage:**
  – Today’s Learning Session
    • Administer for the first time
    • Present the collected responses
  – Future Huddles
    • Have teams add the “Check In Summary” to their monthly Leadership reports and share their updated PBP status values

Check In Summary

<table>
<thead>
<tr>
<th>Team</th>
<th>PBP #1 Policy / Procedure</th>
<th>PBP #2 IUDs available in L&amp;D &amp; OR</th>
<th>PBP #3 Implants available on PP</th>
<th>PBP #4 Provider &amp; staff education</th>
<th>PBP #5 Pt education &amp; counseling</th>
<th>PBP #6 Coding, billing, reimbursement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cookeville</td>
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<tr>
<td>Erlanger*</td>
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<tr>
<td>Johnson City</td>
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<tr>
<td>Regional One</td>
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<tr>
<td>Vanderbilt</td>
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</tr>
</tbody>
</table>

* Does not have access to REDCap (awaiting internal approval)

YOUR PPLARC DATA

What are we going to do with all of it?
We’ve discussed our **AIM**…

- To improve the health of infants as well as eligible, desiring mothers in Tennessee by increasing access to contraception through systematically promoting and supporting immediate postpartum LARC in the birth setting in Tennessee, thus reducing unplanned pregnancies, improving pregnancy spacing, and potentially reducing NAS births.

  — **IMMEDIATE AIM:** To increase access to immediate postpartum LARC to 50% of participating institutions by March 2019. Once an institution’s supporting structure is complete, to increase placement in **eligible women desiring** immediate postpartum LARC to 70% by March 2019.

We’ve discussed the **data** we are hoping you can collect...

<table>
<thead>
<tr>
<th>TIME INFORMATION</th>
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<tbody>
<tr>
<td>Month</td>
<td></td>
</tr>
<tr>
<td>Year</td>
<td></td>
</tr>
<tr>
<td>1/2018</td>
<td></td>
</tr>
<tr>
<td>2/2018</td>
<td></td>
</tr>
<tr>
<td>3/2018</td>
<td></td>
</tr>
<tr>
<td>4/2018</td>
<td></td>
</tr>
</tbody>
</table>

**INSTITUTION LEVEL MEASURES**

Please specify which of the following LARC devices you provide:
- IUS: T人流杆
- Contraceptive implant: 环形
- Progestin-only implant:
- Other:

**DEVICE SPECIFIC MEASURES**

- **OUTCOME MEASURE**
  - Number of women eligible for postpartum LARC placement, who received immediate postpartum LARC placement.
  - Number of women with immediate postpartum LARC placement.
- **Process Measures**
  - Did the device become available to the institutional formulary/supply chain?  
    - Yes
    - No
    - Not applicable

But remind me again, why do we need data?

**The Model for Improvement**

- **AIM:** What are we trying to accomplish?
- **MEASUREMENTS:** How will we know that a change is an improvement?
- **CHANGES:** What changes can we make that will result in improvement?

The Model for Improvement

- Primary tool of quality improvement.
- Provides a framework for developing, testing, and implementing changes that lead to improvement.
More specifically...

- Measures = DATA
- Provides us the feedback we need to know if our changes are resulting in improvement.
  - Answers
  - REMEMBER: “All improvement is change, but not all change is improvement.”
- Plays important supportive roles:
  - Using key measures to assess progress toward the project’s aim (“What are we trying to accomplish?”).
  - Using specific measures for learning during PDSA cycles.
  - Using balancing measures to assess whether the system as a whole is being improved.
  - Using data from the system to focus improvement and refine changes.

Ok, but “how” will our data provide us feedback?

- The answer: run charts

What is a run chart?

- Graphical display of data plotted in some type of order.
- Horizontal axis is most often a time scale (e.g., months) but can also be sequential patients, visits, or procedures.
- The vertical axis represents the quality indicator being studied (e.g., infection rate).
• Usually, the median is calculated and used as the chart’s centreline.  
  — The median is the point at which half the observations are expected above and below it.  
  — The median is not influenced by extreme values in the data.  
  — The median is required when applying the run chart rules, which allows us to determine objectively when these data signal a process improvement.  
• Goal lines and annotations of changes and other events can be added.  


Why use a run chart?

• In general,  
  — Easy to construct and simple to interpret.  
  — Encourages us to ask good questions based on the data you are viewing and thus learn about the process or system that the measure represents.  
  — Allow us to learn about a great deal about the data with minimal mathematical complexity.  
  — Allow us to communicate the effects of improvement work to others.  

• Important uses:  
  — Displays data to make process performance visible (ie, depict how well (or poorly) a process is performing).  
  — Determines if changes tested results in improvement.  
  — Determines if we are holding the gain made by our improvement.  
  — Allows for a temporal (analytic) view of our data versus a static (enumerative) view.

Use Of A Run Chart: Example 1

• Data on number of PPLARCs placed.  
• 24 months of data looking at the number of devices placed each month as well as the number of desiring eligible women.  
  — Access to PPIARC was widened (ie, the change) at the beginning of the 2nd year.  
• Based on the provided representation of the data, can we answer the following questions?  
  • Did things improve?  
  • What will happen next?  
  • Should we do something?  
  • Do we need more data?

Source of similar example: edX HarvardX “PH556x Practical Improvement Science in Health Care: A Roadmap for Getting Results”
Use Of A Run Chart: Example 1, cont’d

- Helpful to calculate monthly percent.
- Common practice to help interpret data: “break it down”.
  - Look before the change: Moths 1-12
    - Average = 40%
    - Max = 47%
    - Min = 34%
  - Look after the change: Month 13-24
    - Average = 42%
    - Max = 48%
    - Min = 35%
- Now can we answer the following questions?
  - Did things improve?
  - What will happen next?
  - Should we do something?
  - Do we need more data?

<table>
<thead>
<tr>
<th>Month</th>
<th>Date</th>
<th>No. devices placed</th>
<th>No. desiring eligible women</th>
<th>Percent</th>
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<tbody>
<tr>
<td>1</td>
<td>Jan '17</td>
<td>51</td>
<td>115</td>
<td>44%</td>
</tr>
<tr>
<td>2</td>
<td>Feb '17</td>
<td>61</td>
<td>138</td>
<td>44%</td>
</tr>
<tr>
<td>3</td>
<td>Mar '17</td>
<td>67</td>
<td>143</td>
<td>47%</td>
</tr>
<tr>
<td>4</td>
<td>Apr '17</td>
<td>41</td>
<td>116</td>
<td>36%</td>
</tr>
<tr>
<td>5</td>
<td>May '17</td>
<td>57</td>
<td>129</td>
<td>44%</td>
</tr>
<tr>
<td>6</td>
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<td>106</td>
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<td>10</td>
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<td>44%</td>
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<tr>
<td>11</td>
<td>Nov '17</td>
<td>58</td>
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<tr>
<td>12</td>
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<tr>
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<td>42%</td>
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<tr>
<td>23</td>
<td>Nov '18</td>
<td>68</td>
<td>150</td>
<td>46%</td>
</tr>
<tr>
<td>24</td>
<td>Dec '18</td>
<td>83</td>
<td>174</td>
<td>48%</td>
</tr>
</tbody>
</table>

Better practice: a run chart.
Now you’re able to answer the questions and make some strong conclusions...
Not only can you tell that before the change that there was a lot more variability in the results, but can also see that after the change there was a straight upward trajectory – a direction of goodness (desired direction), that is very, very consistent and reliable.

TAKE HOME: Graphically displaying data over time enables you to be able to interpret the behavior of the data.

Use Of A Run Chart: Example 2

- Imaginary improvement project:
  - Aim: Decrease the “delay time” (in hours).
  - Data collected for 14 weeks.
  - The change was made after week 7.
  - Question: Did the change lead to improvement?
- Common test of change: “before & after test”.
  - “Before”: delay time measured at week 4.
  - “After”: delay time measured on week 11.
  - Often show data as a bar chart.
- Bigger questions:
  - Does this test provide an adequate degree of belief that the change, when implemented, will lead to an improvement?
  - Are there other feasible explanations of the reduction in delay time after the change was introduced?
Remainder of this example:

- Look at a series of different line charts that show possible scenarios that could have yielded the results observed in this test.
- Want to look at each of these cases and ask:
  - "Did the change result in the improvement that you see or don’t see on the run chart?"

Goal of exercise: Recognize the power of run charts.

**Use Of A Run Chart: Example 2, cont'd**

CASE 1:

- No obvious improvement after the change is made.
- Measures made during the test are typical from a process that has a lot of week-to-week variation.
- Conclusion: the change did not have obvious impact on the delay time.

CASE 2:

- Appears that the process has been steadily improving over the 14-week period.
- Rate of improvement did not change when the change was introduced; the improvement started before our change.
- Conclusion: there is no evidence to show that the change made any contribution to the improvement.

CASE 3:

- Initial improvement is observed after the change is made, but the process seems to return to its pre-change level in the last 3 weeks.
  - Results may be due to the "Hawthorne effect":
    - Whenever changes are made, initial improvement is observed, but performance quickly returns to normal after workers become accustomed to the change (focus on the change decreases).
    - Temporary change because you haven't actually changed the process.

CASE 4:

- Improvement in the process has occurred, but it appears that the improvement occurred in week 5 – before the change in week 7.
- Conclusion: the improvement in delay time should be attributed to some other phenomenon, not the change of interest.
Did the change result in the improvement that you see or don’t see on the run chart?

CASE 5:
• Process appears to be consistent, except for an unusual result that occurred in week 4.
  – Makes it appear that the more typical result on week 11 was an improvement.
• Conclusion: no evidence that the change contributed to any improvement.

CASE 6:
• Appears that the process is operating around the same level of performance in week 1 to 7.
• Appear to have a consistent new process at a much better level of performance starting in week 8.
• Conclusion: the change did result in a meaningful improvement.

Learning more
• “The run chart: a simple analytical tool for learning from variation in healthcare processes”
  – Citation: Perla RJ, Provost LP, Murray SK - BMJ Quality & Safety 2011;20:46-51.
  – Also covers
    • Run chart rules
    • Limitation of run charts