**Data for Improvement: Exercises**

**Small Group Activity #1: Mother’s Milk as First Feeding in NICU Infants**

As a part of an initiative to reduce Necrotizing Enterocolitis (NEC) and increase the use of human milk in the Very Low Birth Weight (VLBW) infants in your NICU, you are focusing the use of mother’s own milk at first feeding as a process measure. You have data on total VLBW infants per month and how many received mother’s milk as the first feeding.

|  |  |  |  |
| --- | --- | --- | --- |
| Month | MM at First Feed | Total VLBW Patients | Percent with First Feed of MM |
| Jan-14 | 12 | 27 | 44.4% |
| Feb-14 | 28 | 51 | 54.9% |
| Mar-14 | 16 | 35 | 45.7% |
| Apr-14 | 18 | 42 | 42.9% |
| May-14 | 17 | 33 | 51.5% |
| Jun-14 | 34 | 56 | 60.7% |
| Jul-14 | 26 | 46 | 56.5% |
| Aug-14 | 31 | 63 | 49.2% |
| Sept-14 | 22 | 38 | 57.9% |
| Oct-14 | 29 | 53 | 54.7% |
| Nov-14 | 22 | 33 | 66.7% |
| Dec-14 | 19 | 36 | 52.8% |
| Jan-15 | 30 | 50 | 60.0% |
| Feb-15 | 22 | 37 | 59.5% |
| Mar-15 | 26 | 51 | 51.0% |
| Apr-15 | 41 | 56 | 73.2% |
| May-15 | 39 | 52 | 75.0% |
| Jun-15 | 28 | 48 | 58.3% |
| Jul-15 | 31 | 52 | 59.6% |
| Aug-15 | 32 | 49 | 65.3% |
| Sept-15 | 32 | 44 | 72.7% |
| Oct-15 | 28 | 42 | 66.7% |
| Nov-15 | 32 | 50 | 64.0% |
| Dec-15 | 34 | 47 | 72.3% |

Step 1: On graph paper, plot a run chart using the first 12 data points. Calculate the median and add the median line to your run chart.

Question 1: Do you see signal? Do you have the ‘right’ number of runs?

Step 2: Add the next 12 months of data. Re-calculate the median for the entire data set and add a new median line.

Question 2: Do you see signal in your data now? Do you have too few or too many runs?

**Data for Improvement: Exercises, part 2**

**Small Group Activity #2: Time to First Milk Expression for Mothers of VLBW Infants**

As a part of the same project, your team is also measuring another process measure- time from birth to first milk expression in mothers of VLBW infants. The first 10 data points represent your baseline data points before you began testing and implementing changes.

|  |  |  |
| --- | --- | --- |
| Patient # | Hour of Initiation of Milk Expression | QI Interventions |
| 1 | 7 | Obtaining Baseline Data |
| 2 | 8 |
| 3 | 8 |
| 4 | 2 |
| 5 | 12 |
| 6 | 3 |
| 7 | 6 |
| 8 | 10 |
| 9 | 15 |
| 10 | 31 |
| 11 | 6 | Roll Out Early Milk Expression Kits |
| 12 | 9 |  |
| 13 | 6 |  |
| 14 | 9 |  |
| 15 | 5 | L&D Staff Distribute Kits |
| 16 | 4 |  |
| 17 | 2 |  |
| 18 | 4 |  |
| 19 | 4 |  |
| 20 | 3 |  |
| 21 | 4 |  |

Step 1. Plot the first 10 data points. Add the median to your graph.

Question 1. Do you see signal? Do you have the right number of runs?

Step 2. Add the remaining 11 data points. Now re-calculate the median for the entire data set and add a new median line.

Question 2. Now do you see any signal? How many runs are there? Has the process become more stable?

Question 3. How can you make this chart more powerful?