

Quality Improvement Community of Learning

April 27, 2022
1:00-2:00 pm ET



Welcome!

Thank you for joining the call! We will get started shortly.

- You may be **muted upon entry** to the call
- You **DO have the ability** to unmute yourself
- We encourage participants to remain muted in an effort to reduce background noise

This presentation will be recorded



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The NICHQ Team



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Improvement Advisor



Jane Taylor, EdD
Improvement Advisor

The faculty have nothing to disclose.



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Objectives of the 5 QI Sessions

Participants Gain:

- Increased capability in improvement science and improvement basics
- Increased understanding of what is happening in other States
- The ability to include others (partners, team members, staff, community-based organizations) to expand boundaries of the work
- The ability to influence others to adopt quality improvement as an execution framework



Sessions 1, 2 & 3 Review

- Welcome & Introductions
- Quality Improvement
 - What is it?
 - Using Adult Education Theory and Principles with Improvement Science
 - Why do we use improvement science?
 - How do we start?
- Creating the Case for Change and Assessing Readiness for Change
 - Assessing the gap
 - Identifying steps to close gaps
- Model for Improvement Part 1
 - Overview
 - Focus on Aim and Changes
 - Driver Diagrams
 - PDSAs
- Model for Improvement Part 2
 - PDSA Review
 - Measurement for Improvement
 - Finding Story in Data
- Leaving in action



Organizing Your Measures Worksheet©

Topic for Improvement:

Aim/Driver Concept	Potential Measure(s)	Outcome	Process	Balancing	Structure

Adapted from: R. Lloyd. *Quality Health Care: A Guide to Developing and Using Indicators. 2nd Edition*, Jones & Bartlett Learning, 2017.

Operational Definition Worksheet

Measure Name: _____

(Remember this should be specific and quantifiable, e.g., the time it takes to..., the number of..., the percent of... or the rate of...)

Operational Definition

Define the specific components of this measure. Specify the numerator and denominator if it is a percent or a rate. If it is an average, identify the calculation for deriving the average. Include any special equipment needed to capture the data. If it is a score (such as a patient satisfaction score) describe how the score is derived. When a measure reflects concepts such as accuracy, complete, timely, or an error, describe the criteria to be used to determine "accuracy."

Can you develop good Operational Definitions?

Measurement Dashboard Worksheet[©]

DPQC's Aspirin Project

Project: _____

<u>Measure Name</u> (Be sure to indicate if it is a count, percent, rate, days between, etc.)	<u>Operational Definition</u> (Define the measure in very specific terms. Provide the numerator and the denominator if a percentage or rate. Be as clear and unambiguous as possible)	<u>Data Collection Plan</u> (How will the data be collected? Who will do it? Frequency? Duration? What is to be excluded?)	Goal
% of eligible patients on LDA during pregnancy (Notes: Sue Butts-Dion)	Numerator: Of Den, # on LDA Denominator: # eligible patients during measurement month OR if sampling 20, would denominator always be 20 because you would always pick 20 charts of those eligible? (Notes: Sue Butts-Dion)	Is there any way to get data more frequently and, if possible concurrent vs. retrospective? That way it would inform current process change vs. look back? (Notes: Sue Butts-Dion)	75% of eligible patients will be on LDA during their pregnancy
Quarterly random chart audits (20 per hospital).	Random chart audits have shown an average of 16-18/20 patients qualify for LDA. Results have shown that 2/16 to about 4/16 have actually been on it.	Each hospital has a clinical data person that works with the DPQC. They randomly pull 20 charts from the last quarter and answer "yes" or "no" to each risk factor. The DPQC nurse coordinator then tallies the scores (2	

Is the measure % on LDA or something related to the risk factors that you mention on the pink sticky note? (Notes: Sue Butts-Dion)

Today's Agenda

- Welcome
- Review from last month
- More on Data for Improvement
 - Measurement Frequency
 - Run Charts and Run Chart Rules
 - Stratifying Data by Race, Ethnicity and Language (REaL)
- Leaving in Action
- Next Steps and Close





QI Community of Learning Overview

Topic	Month
Quality Improvement: What is it? Why do we use it? How do we start?	January 25, 2022, 2-3:30pm ET
The Model for Improvement Part 1	February 22, 2022, 2-3pm ET
The Model for Improvement Part 2	March 31, 2022, 1-2:30pm ET
Obstetric Hemorrhage: Sharing Successes and Guidance	April 2022 (exact date TBD)
More on Using Data for Improvement	April 27, 2022, 1-2pm ET
Severe Hypertension in Pregnancy: Sharing Successes and Guidance	May 2022 (toward end of month)
Care for Pregnant and Postpartum People with Substance Use Disorder: Sharing Successes and Guidance	June 2022 (exact date TBD)
Sustaining the Gains and Spread	July 26, 2022, 1-2:30pm ET
Cardiac Conditions in Obstetrical Care: Sharing Successes and Guidance	August 2022



Be sure to add all webinars to your calendar if you have not already done so!

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Model for Improvement

Measures →



Source: Langley, et al, The Improvement Guide, 2009

Measurement Assumptions

- **All measures have limitations**
 - Limitations do not negate their value
- **Measures are an important “voice” of the system**
 - Hearing the voice of the system gives us information on where to work and focus efforts
- **Measures tell a story – qualitative data confirms or may challenge the story**

A Family of Measures for Quality Improvement

Outcome measures

- Did our changes impact the aim as predicted?
- Are we getting results and seeing improvement based on our aim?
- The “what” of the QI project
- Limit to a small set of measures

Process measures

- How did we make the changes?
- Reflects key steps required for improvement
- The “how” of the QI project
- Limit to a few measures

Balancing measures

- Unintended consequences of improving the system
- May be positive or negative
- May be something else your team wants to monitor
- Limit to one or two measures

Structural Measures

A measure meant to designate the conditions under which care is provided:

- Material resources (such as equipment and facilities)
- Human resources (such as the number, variety and qualifications of professional and support personnel—educated or not)
- Organizational characteristics (such as the organization of the staff—presence/absence of staffing models, supervision and performance review, methods of paying for care, etc.)
- Policies, procedures and protocols (done or not done, followed or not followed)

Data for Improvement, Accountability and Research in Health Care

Aspect	Improvement	Accountability or Judgment	Clinical Research
<u>Aim:</u>	Improvement of care processes, systems and outcomes	Comparison for judgment, choice, reassurance, spur for change	New generalizable knowledge
<u>Methods:</u>	Test observable	No test, evaluate current performance	Test blinded
<u>Confounders:</u>	Accept consistent	Measure and adjust to reduce	Design to eliminate
<u>Sample Size:</u>	“Just enough” data, small sequential samples	Obtain 100% of available, relevant data	“Just in case” data
<u>Flexibility of Hypothesis:</u>	Hypothesis flexible, changes as learning takes place	No hypothesis	Fixed hypothesis
<u>Testing Strategy:</u>	Sequential tests	No tests	One large test
<u>Determining if a Change is an Improvement:</u>	Run charts or Shewhart control charts	No focus on change	Hypothesis, statistical tests (t-test, F-test, chi square, p-values)
<u>Confidentiality of the Data:</u>	Data used only by those involved with improvement	Data available for public consumption	Research subjects’ identities protected
<u>Frequency of Use:</u>	Daily, weekly, monthly	Quarterly, annually	At end of project

Source: The Health Care Data Guide: Provost and Murray, 2011. Developed from Solberg, Leif I., Mosser, Gordon and McDonald, Susan. “The Three Faces of Performance Measurement: Improvement, Accountability and Research.” Journal on Quality Improvement. March 1997, Vol.23, No. 3.

Using and Reacting to Data in Real Time



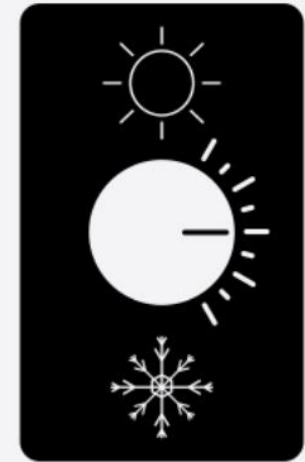
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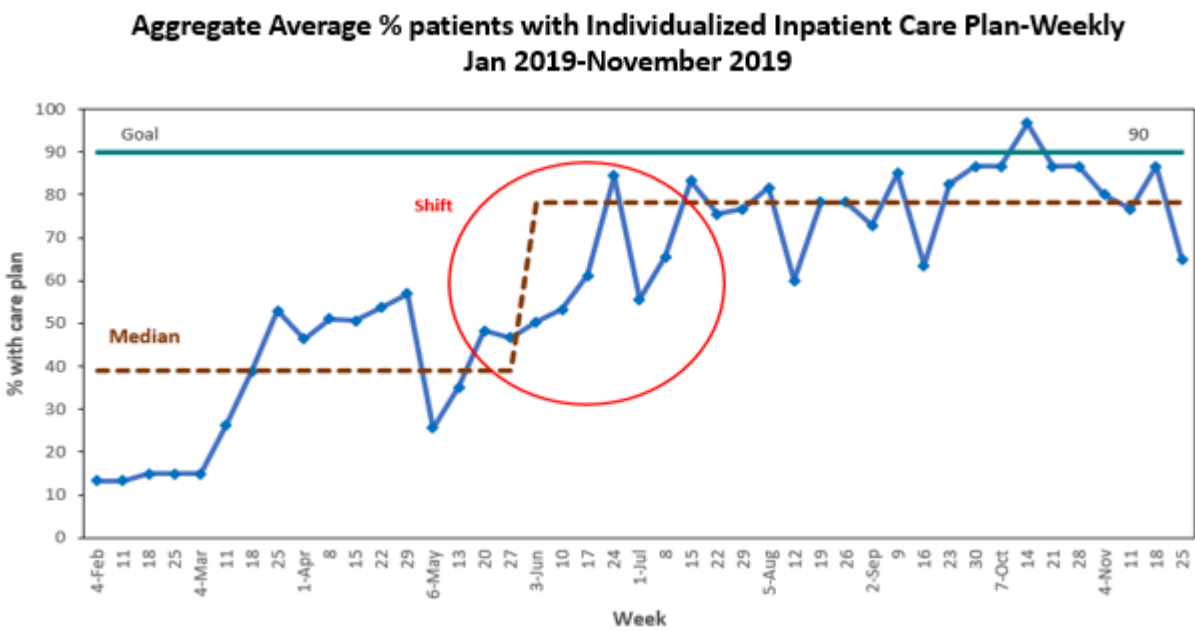
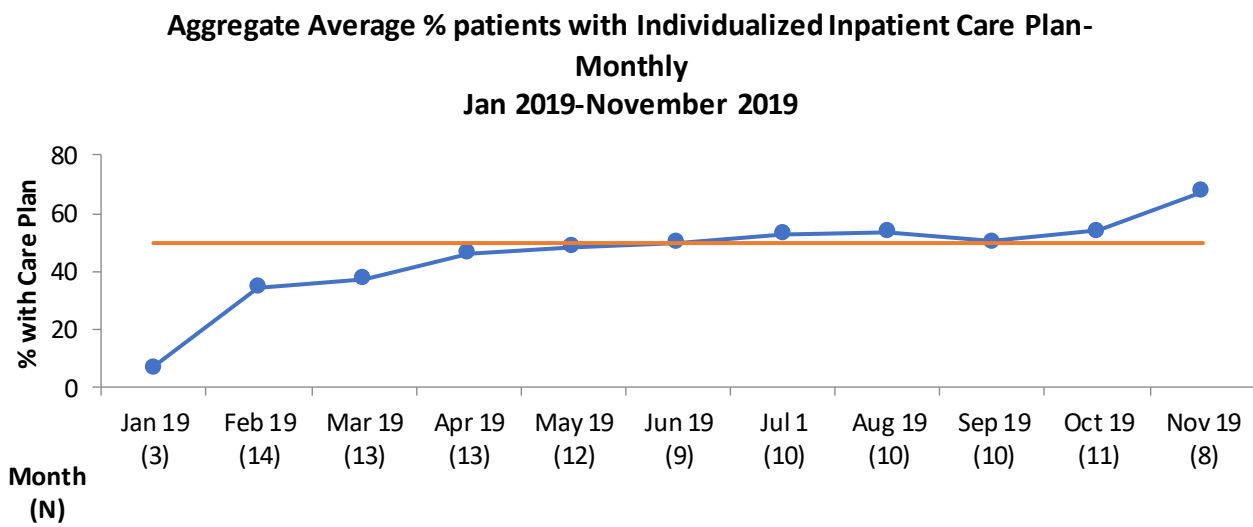
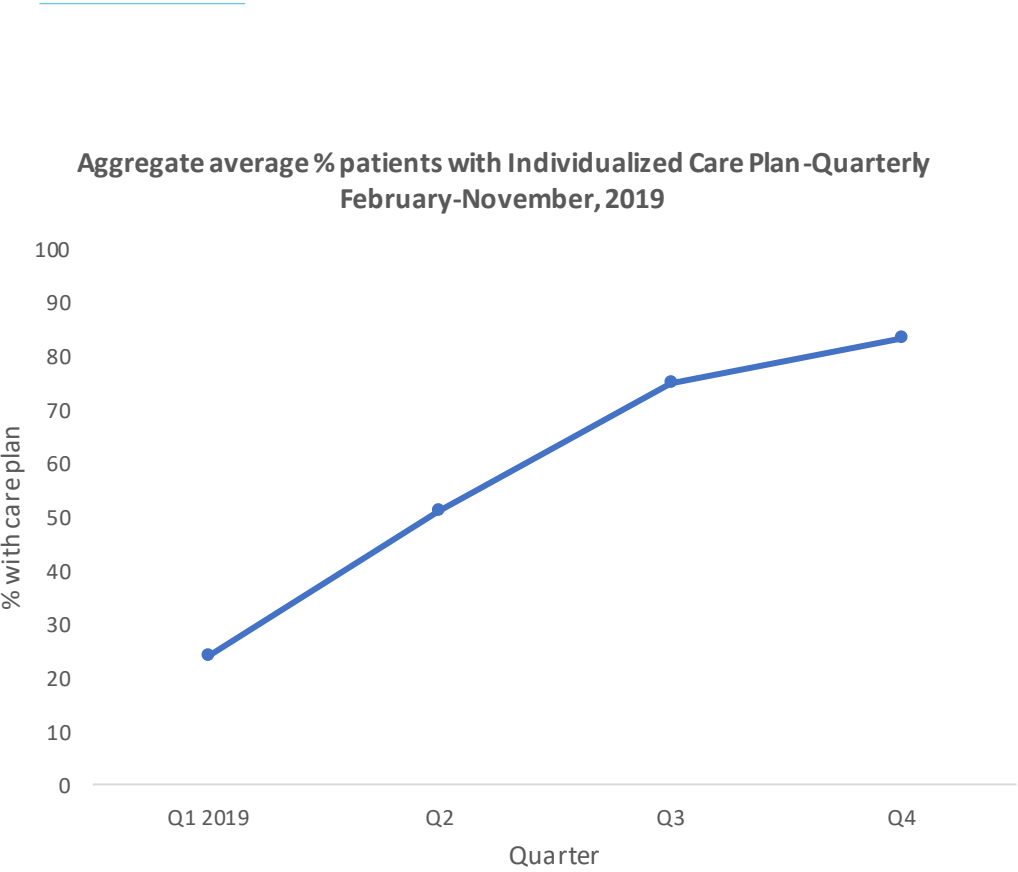


Created by David Christensen
from Noun Project



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Measure Frequency-Monthly Minimum (Mock Data)



Source: Butts-Dion Consulting, Inc.

Lead and Lag Measures

	Lag	Lead
Purpose	Reflect what we want to improve Mortality and Morbidity data	Reflect key processes and changes that contribute to achieving the aim of a related lag measure % of those with HTN with BP cuff @d/c
Responsiveness	Time delay between tests of change and the desired improvement	Provide earlier signals of improvement when tightly linked to lag measure of improvement
Collection	Data may lag due to complexities related to data collection, assessment, and frequency reported	May be collected locally, i.e., at point of service; more frequently; more sensitive to change than a lag measure



Source: Jane Taylor, EdD, Improvement Advisor

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Data for Improvement



Immediate Progress: over time, real-time to identify signals



Discovery: which changes are beneficial, which need refining



Immediate reactivity (vs lag time for coding)



Action: prompts discussion and action as necessary

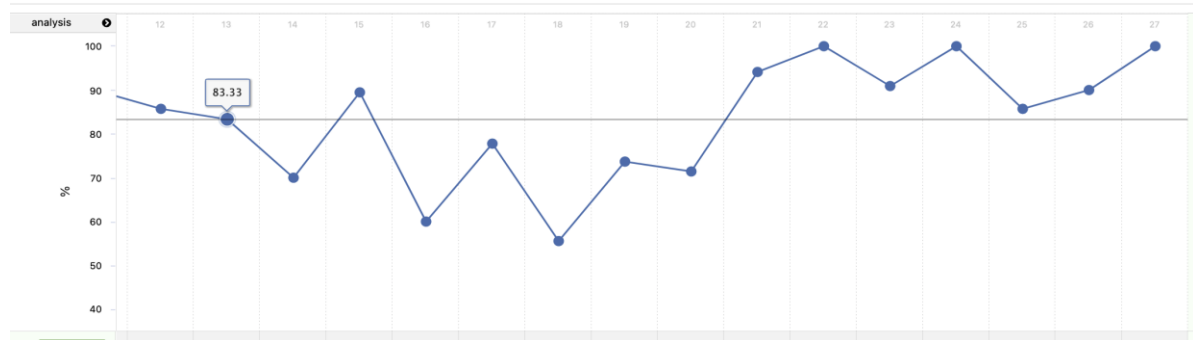


Maximize learning: more data points we have (weekly for process), the more verified analysis we can make for improvement

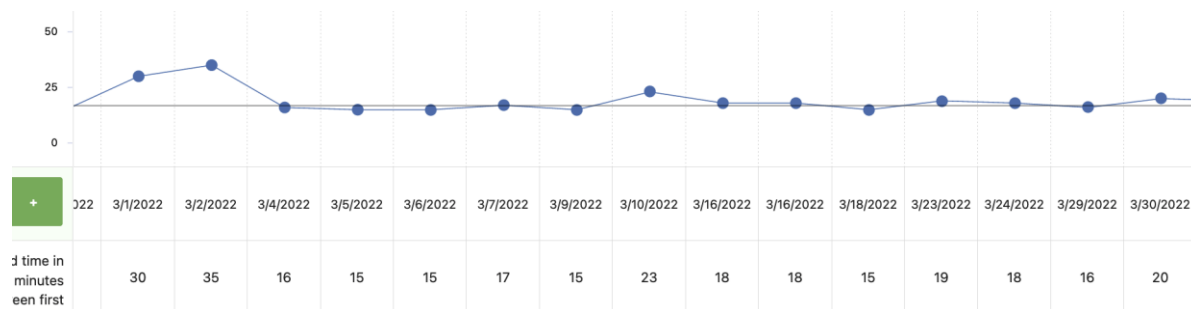


Percentage treated within 60 minutes

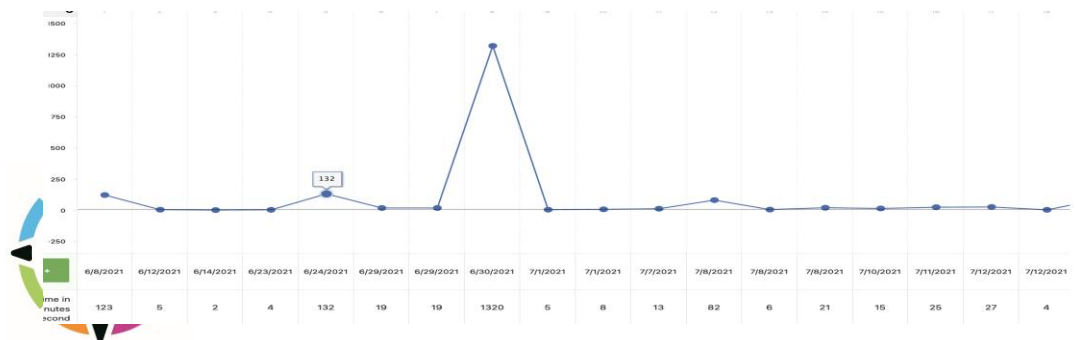
1. Percent of birthing people with severe range BP treated w/in 60 minutes



Lapsed minutes between first and second

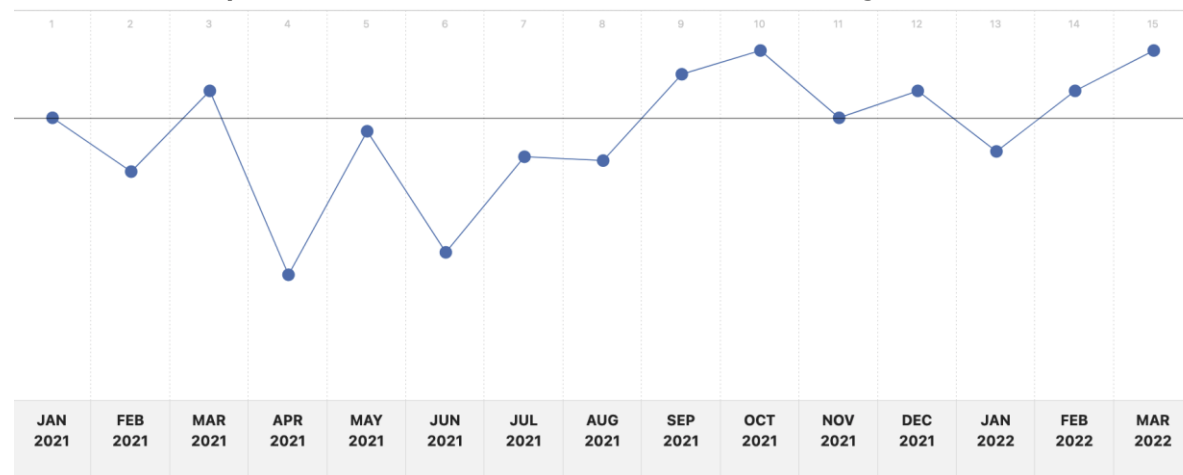


Lapsed minutes between confirmation and treatment

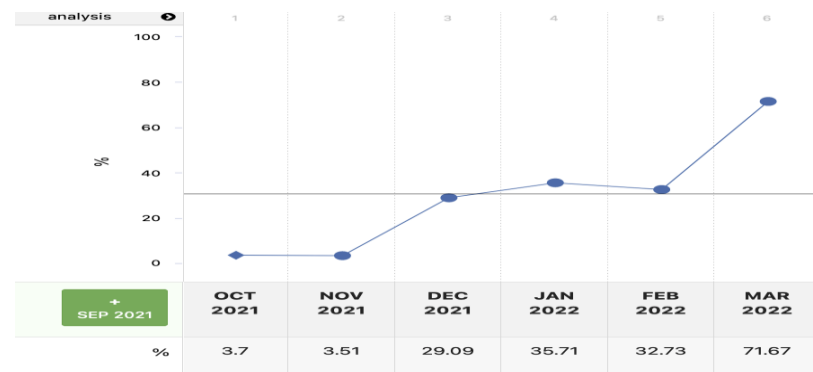


Family of Measures for HTN

Compliance with OB HTN Pathway – “All Entries”



% with HTN Disorder d/c with blood pressure cuff



Run Charts

Finding the story in our data...



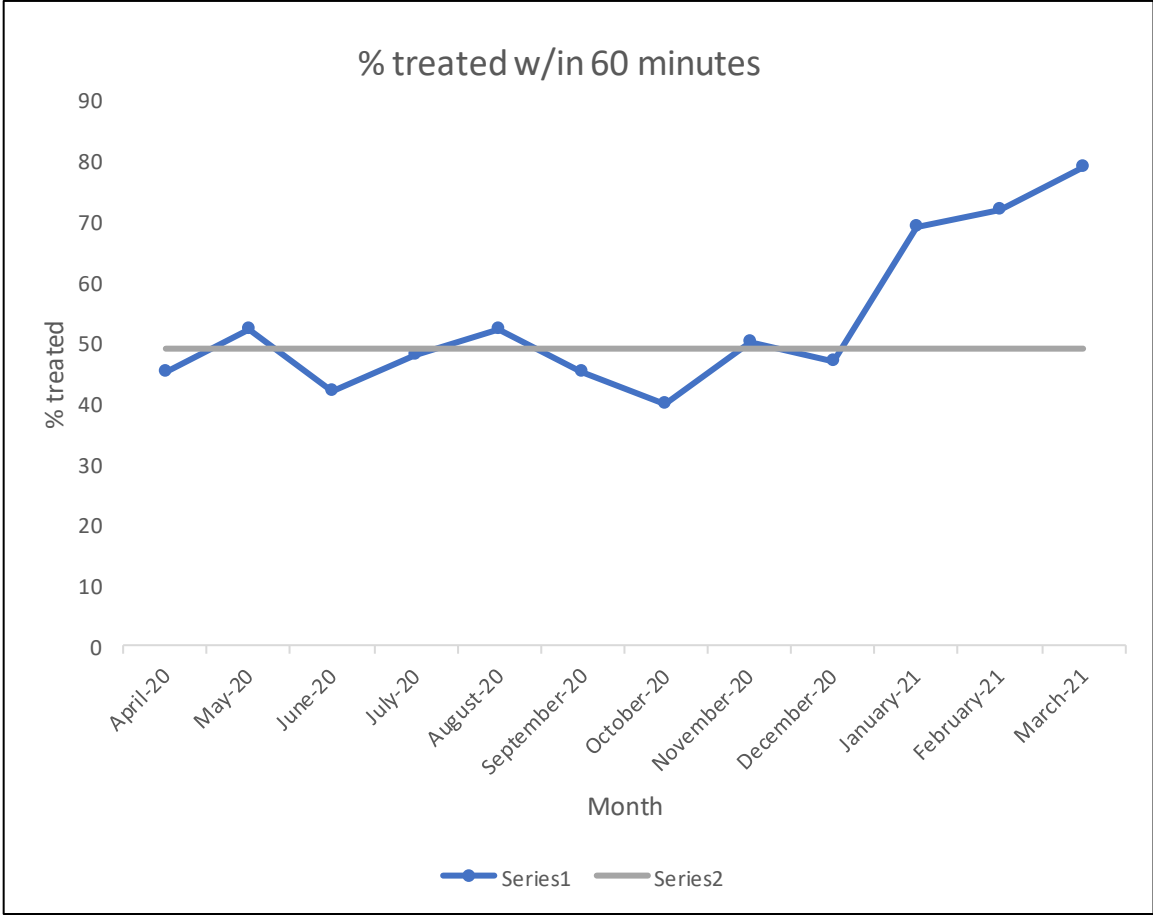
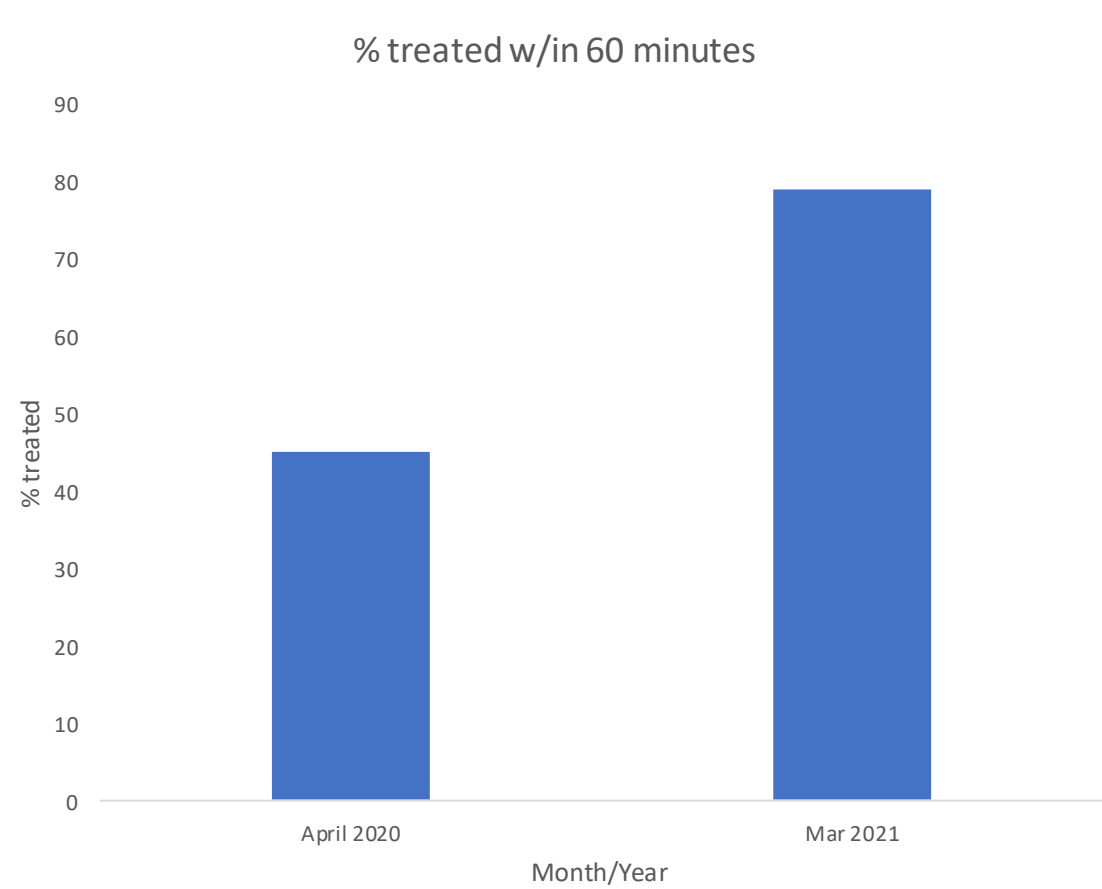
Enumerative (Static) Statistics



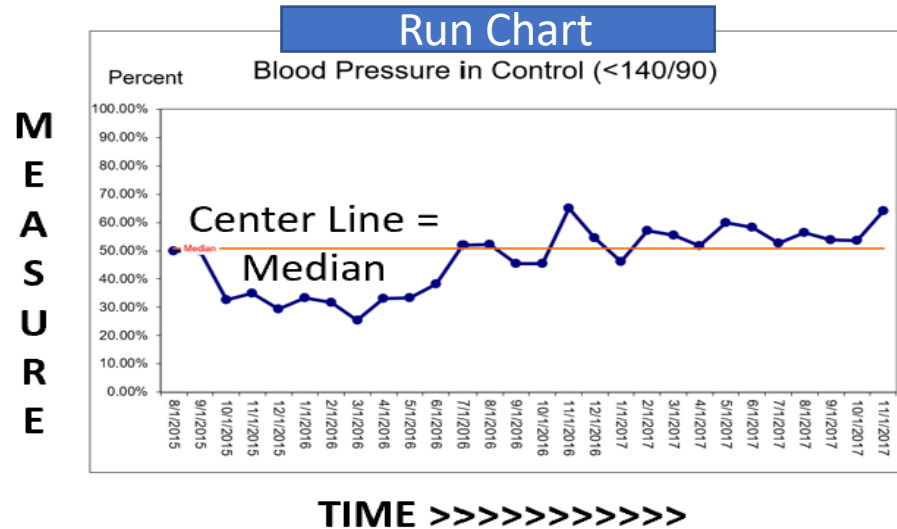
Analytic Statistics...



Over Time rather than Before/After

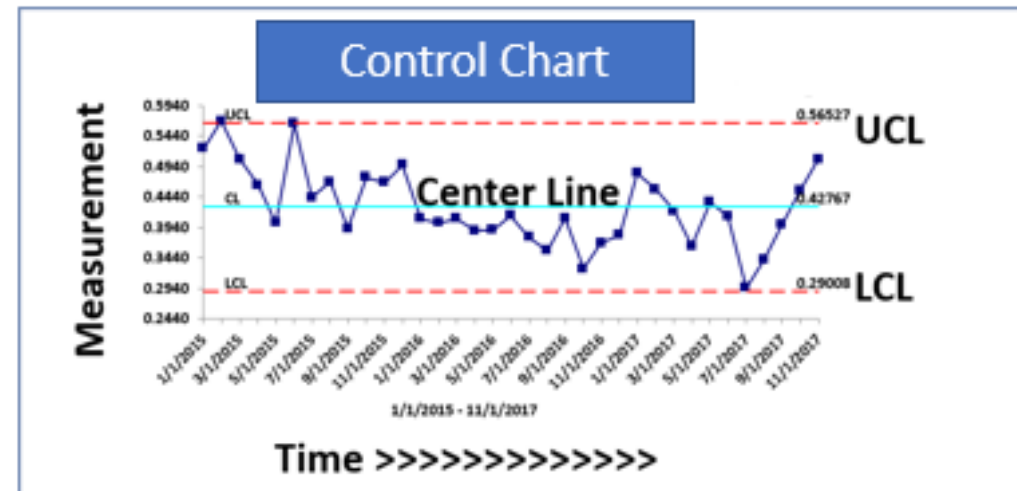


Two key tools helps us to uncover and understand variation in our data

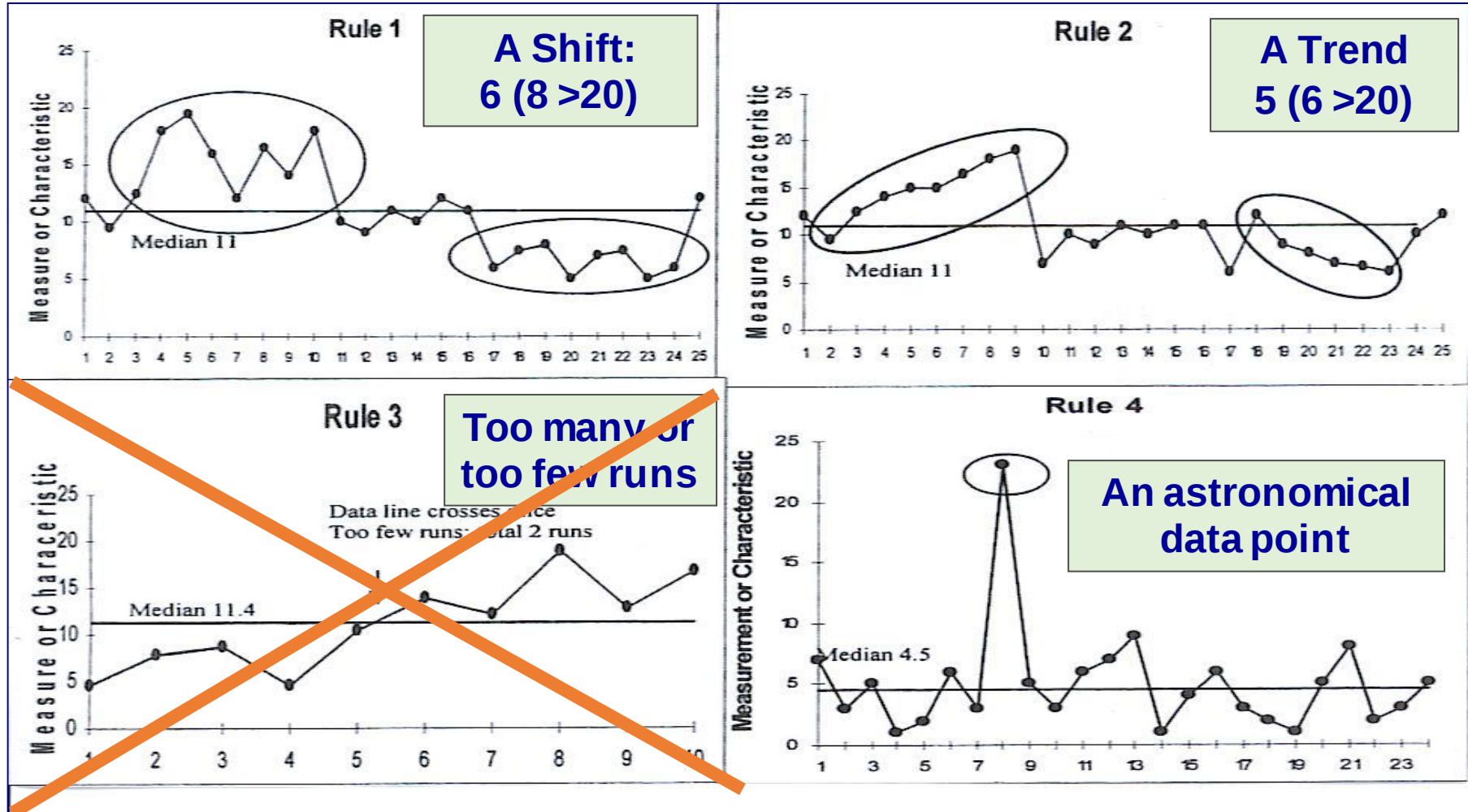


- **Adds limits (4th element)**
- More sensitive
- Center Line = Mean
- But more complex
- Need software

- ✓ Can be for any type of data
- ✓ No calculations are required.
- ✓ Can easily make by hand
- ✓ Show behavior at-a -lance
- ✓ They are easily understood
- ✓ **3 Elements: Measurement, Time, & Median**



4 Run Chart Rules are used to identify non-random signals



Taking Action on Variation

Random variation only, no signal (**act on process/system**)

- Develop and test theories that might result in improvements to the system

Signal of non-random variation: Shift, Trend, Too Many/Few Runs, Astro (**act on points**)

- If positive: Investigate and propagate
- If negative: Investigate and eliminate



Obs.	Value
1	26.0
2	20.0
3	15.0
4	20.0
5	23.0
6	19.0
7	16.0
8	16.0
9	12.0
10	20.0
11	26.0
12	14.0
13	19.0
14	15.0
15	6.0
16	11.0
17	8.0
18	11.0
19	19.0
20	7
21	17
22	7
23	3
24	5
25	7
26	7
27	11
28	10
29	6

RC Rules: 1. Shift? $(6/8 > 20)$ _____ 2. Trend? $(5/6 > 20)$ _____
 3. Astro? _____

Insights?
 Questions?
 Suggestions?
 Action?

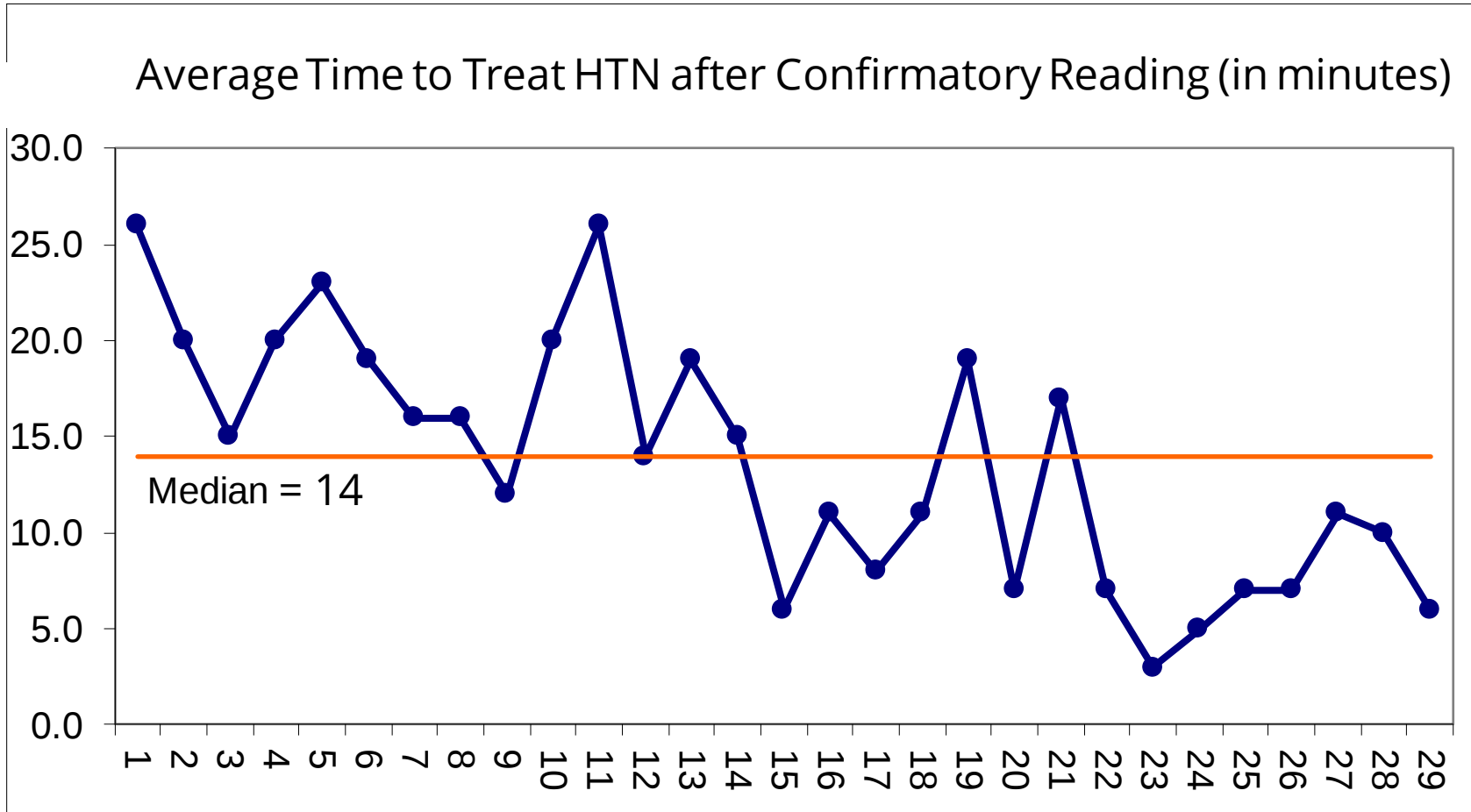
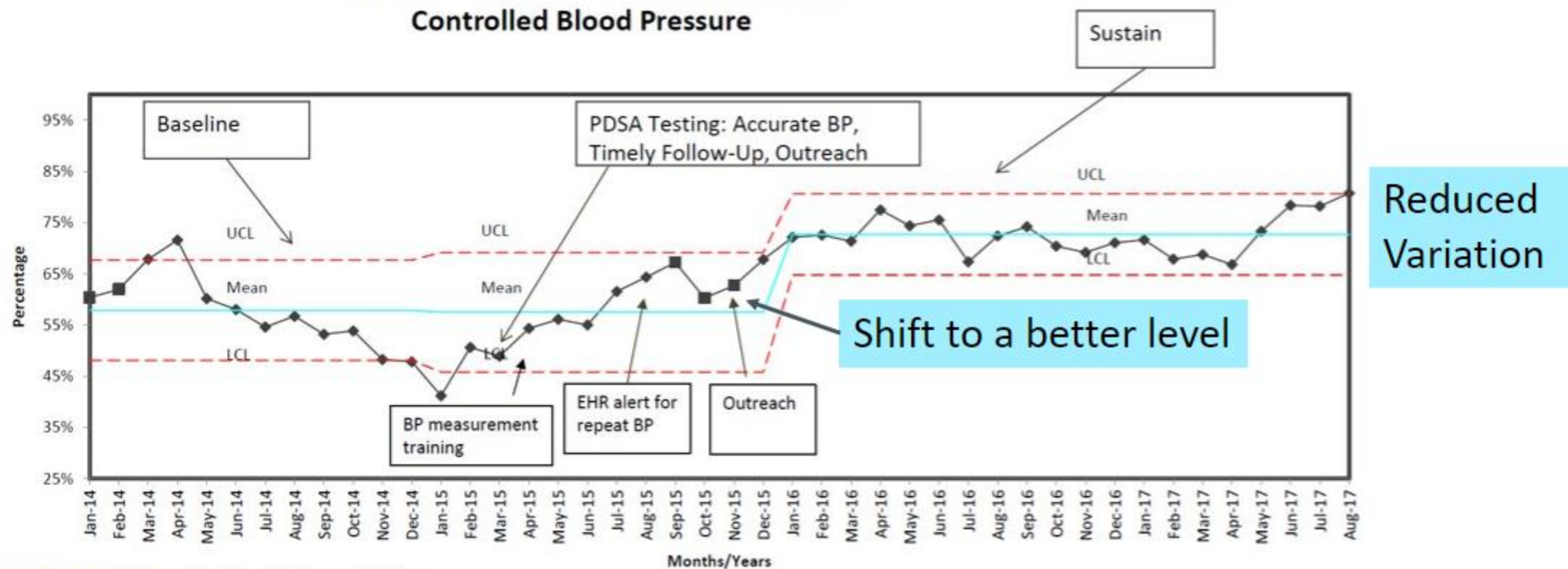


Chart Source: adapted from slide by Phyllis M. Virgil

Percentage of Hypertensive Patients with Controlled Blood Pressure



Source: Metro Health, Cincinnati Ohio

Run Chart Maker

Run Chart Template

v. 2.0 • 5-30-2016

Developed by Richard Scoville, PhD. (richard@rscoville.net)

Vertical Axis Label
Graph Label

Enter dates or observation numbers into the green cells at right. (clear the sample data before you begin)

Enter your data values into the blue cells. Goal values are optional.

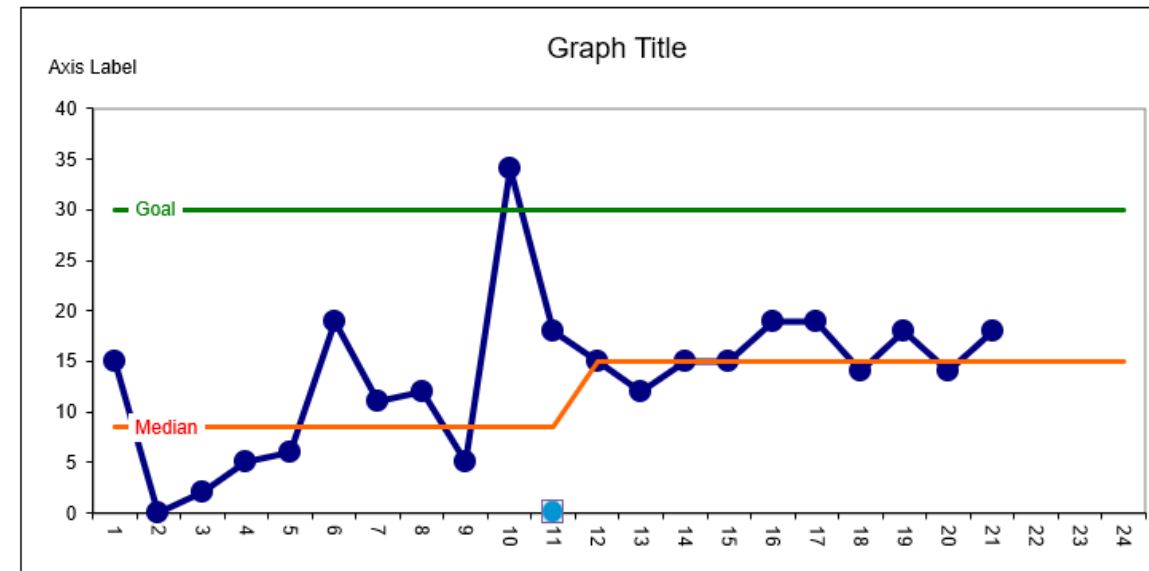
Don't leave any blank cells in the Date/Observation column.

Enter an 'X' into the orange column to freeze and extend the median

Enter a 'N' into the orange column to create a new median (phase)

Enter your graph title and y axis label into the cells

Date / Observation	Value	Median	Goal	Extend Phase = 'x' New Phase = 'n'
1	15	8.5	30	
2	0	8.5	30	
3	2	8.5	30	
4	5	8.5	30	
5	6	8.5	30	
6	19	8.5	30	
7	11	8.5	30	
8	12	8.5	30	
9	5	8.5	30	
10	34	8.5	30	
11	18	8.5	30	n
12	15	15	30	
13	12	15	30	
14	15	15	30	
15	15	15	30	
16	19	15	30	
17	19	15	30	
18	14	15	30	
19	18	15	30	
20	14	15	30	



Run Chart Tool | IHI - Institute for Healthcare Improvement

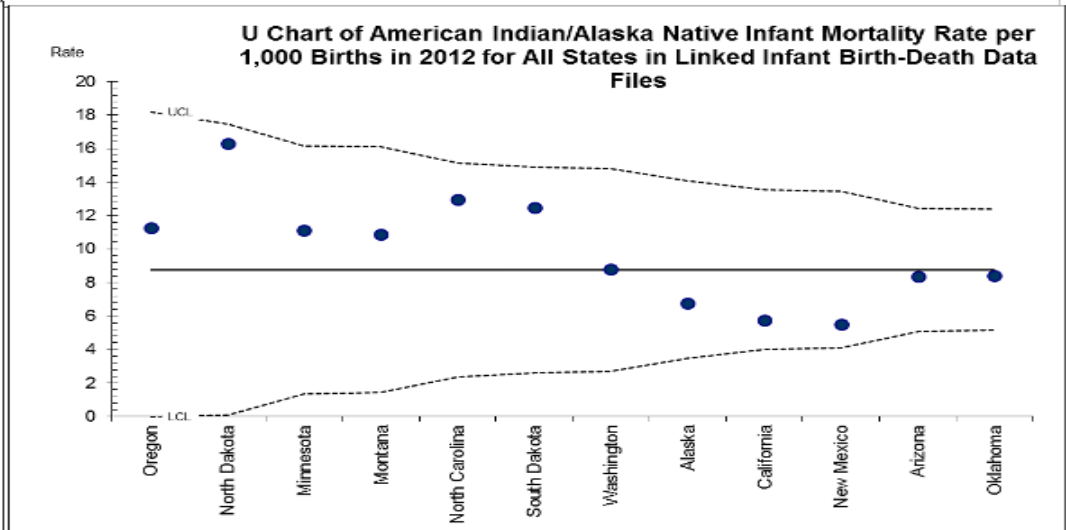
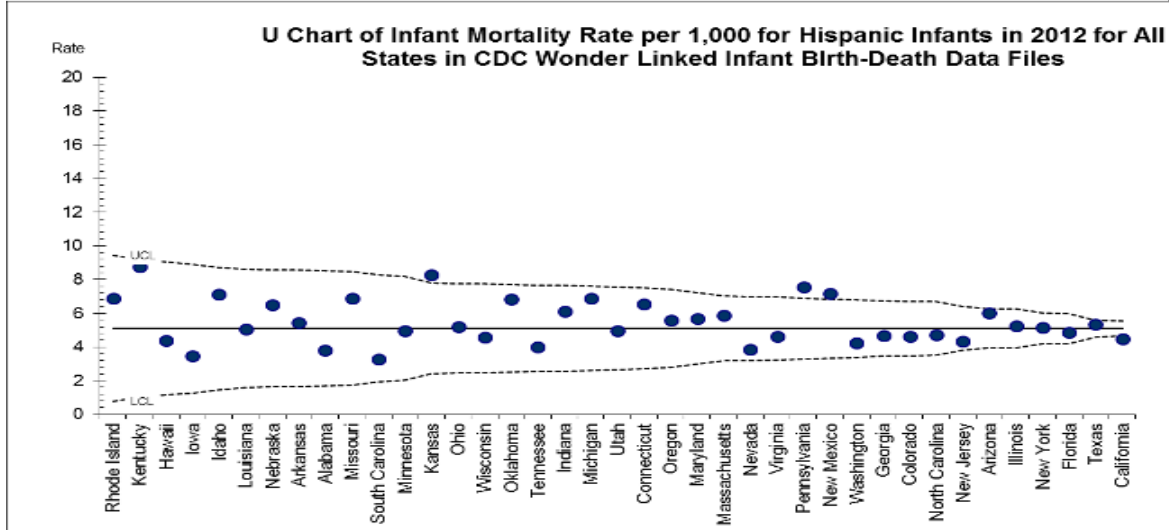
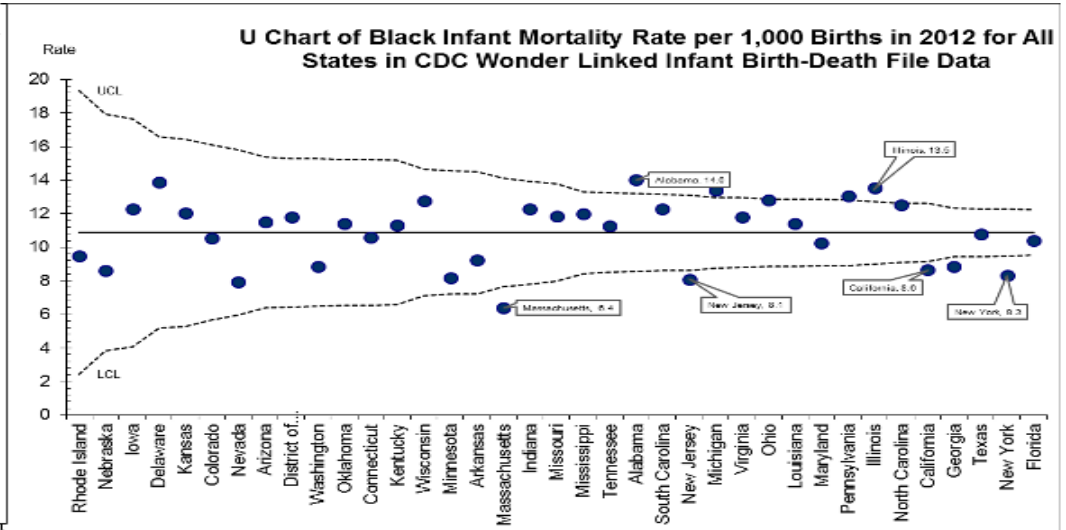
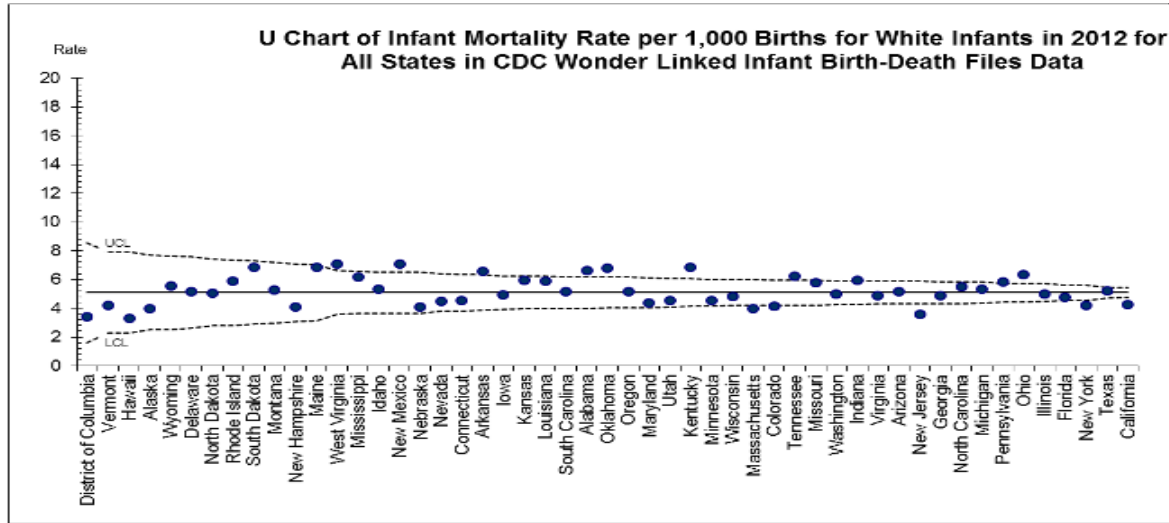
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Stratifying Data by Race, Ethnicity and Language (REaL)

Deeper Analysis of Data

Stratification by race

Example from infant mortality data



Leaving in Action



- Go to <https://1drv.ms/b/s!AlvzNhmTpx9kgQB8IWkLFa9ZKidC> to access your state's Jamboard
- If you haven't already done so, identify at least one outcome measure, 1-2 process measures and a balancing and structural measure (if useful) for your project
- Test making a run chart for at least one of your measures (can use Run Chart Maker http://www.ihi.org/resources/Pages/Tools/RunChart.aspx?PostAuthRed=/resources/_layouts/download.aspx?SourceURL=/resources/Knowledge%20Center%20Assets/Tools%20-%20RunChartTool_35cea96e-7360-4db3-94db-9c4640ab759b/Run%20Chart%20Template.xls)
- Continue to test using PDSA cycles between now and the next session



Photo by [Sammie Vasquez](#) on [Unsplash](#)

Resources

- [NICHQ QI 101](#)
- [NICHQ QI 102](#)
- How to Improve, IHI Website [How to Improve | IHI - Institute for Healthcare Improvement](#)
- Dr. Robert Lloyd's "A Family of Measures" on youtube@ <https://www.youtube.com/watch?v=uow7mzrFif4>
- Dr. Lloyd's "Applying Four Rules to Understand a Run Chart" on youtube @ <https://www.youtube.com/watch?v=8e38RCU8-uA>



Reminders and Next Steps

- The next QI COL webinar will be held at the end of May (date to be announced soon). The topic will be Obstetric Hemorrhage: Sharing Successes and Guidance
- If you have not done so already, register for all QI COL sessions and download them to your calendar:
- You can sign up for at least one TA session. Complete this TA request form to set up a session with Jane or Sue when you're ready! One person from your state should fill this out.

<https://nichq.zoom.us/meeting/register/tJckcOGorDoiHdXJ27vnCTcEZC8iuE39ucS6>

<https://survey.alchemer.com/s3/6707471/QI-Community-of-Learning-TA-Form>



Thank you!

We are improvers at heart.

We want to hear and learn from your experiences during these sessions.

Please take a moment to complete the brief evaluation before signing off!

<https://survey.alchemer.com/s3/6835867/AIM-COL-Session-Evaluation-4-27-22>



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