

From Buzzword to Action: Continuous Quality Improvement Strategies and Sustainability



Adele Panico, LMSW – Program Director for Community Based HIV Primary Care and Prevention Program, Institute for Family Health
Benjamin Rosenberg, LCSW – Associate Program Director & Continuous Quality Improvement Coordinator, Institute for Family Health



**Continuous Quality Improvement (CQI)
Committee**

Plan. Do. Study. Act.

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Continuous Quality Improvement

CQI



What does Continuous Quality Improvement mean?



In the beginning....

- Continuous Quality Improvement is a methodology that first became widespread in collective consciousness during the era of transition from natural philosophy into the field of science
 - E.g., the systematic exploration of cause and effect in the work of Sir Frances Bacon.

What does Continuous Quality Improvement mean?



- Modern CQI methodology evolved further from the work of statisticians in the medical and business fields (e.g., Walter Shewart, Edward Deming)
- One of the most widely used CQI models is the PDSA model (more on this later), which is directly derived from a former incarnation called the “Shewart Cycle”

What does Continuous Quality Improvement mean?



- Purpose of Continuous Quality Improvement
 - To ensure quality of care (Quality assurance, quality control)
 - To identify service needs/needs for program change
 - To document change over time and program success
 - To promote growth in provider knowledge and to bridge the gap between knowledge and practice

What does Continuous Quality Improvement mean to you?

Problems

- How do we do this?
- What do we want to study?
- Who has the time for this?
- How do we get staff buy in to do this?
- Do we need money to do this?
- I am bad at math!
- What is Continuous Quality Improvement?
- Who will do this?



What is CQI anyway?

-What sorcery is this?-

- CQI is a philosophy and methodology to improve services, operations, systems, etc. It's a systemic process that seeks to evaluate processes, operations and improve quality.
- It's a method and framework to identify your objectives, carry out your objectives/interventions, evaluate results and then assess.

...no sorcery is involved

How do I think of a project?

Over the years project ideas at the Institute for Family Health have spanned from methods to increase adherence to appointments to smoking cessation to viral suppression.

There is no “good” project idea (only good CQI methodology!). Most likely someone in your department has or is working on a CQI project.

I can't think of a project

- A lot of times, the CQI projects can come out of an idea, or a question. Such as “I wonder how I can increase adherence for my patients” or “How can I reduce my patient’s PHQ9 scores?” These are good questions with a lot of different answers.
- The goal of CQI is not to find the definitive answer; it’s to evaluate an answer.

Data

$\psi(x) \rightarrow \psi(x) + \epsilon \varphi(x)$ ← [A VARIATION $\varphi(x)$ IS ADDED]

$$\frac{\partial}{\partial \epsilon} (\Delta x)^2 (\Delta p)^2 = (\Delta p)^2 \frac{\partial}{\partial \epsilon} (\Delta x)^2 + (\Delta x)^2 \frac{\partial}{\partial \epsilon} (\Delta p)^2 = 0$$

$$(\Delta x)^2 \left[\left(\frac{h}{4\pi}\right)^2 \left(\frac{1}{\Delta x}\right)^4 \frac{\partial}{\partial \epsilon} (\Delta x)^2 + \frac{\partial}{\partial \epsilon} (\Delta p)^2 \right] = 0 \quad \left\{ \begin{array}{l} \text{UNDETERMINED } \Delta p \\ \text{REPLACED BY (1)} \end{array} \right.$$

$$\frac{\partial}{\partial \epsilon} \left[-\left(\frac{h}{4\pi}\right)^2 \left(\frac{1}{\Delta x}\right)^2 + (\Delta p)^2 \right] = 0 \quad \left\{ (\Delta x)^2 > 0, \text{ OTHERWISE } \frac{(\Delta p)^2 \rightarrow \infty}{\epsilon \rightarrow \infty} \right.$$

$$\frac{\partial}{\partial \epsilon} \left[-\left(\frac{h}{4\pi}\right)^2 \int \left(\frac{d\psi(x)}{dx}\right)^2 dx + 2m \int (E - V(x)) \psi^2(x) dx \right] = 0 \quad \left\{ \begin{array}{l} \text{USING} \\ (5) \text{ \& } (6) \end{array} \right.$$

$$-\left(\frac{h}{2\pi}\right)^2 \int \frac{d\psi(x)}{dx} \cdot \frac{d\varphi(x)}{dx} dx + 2m \int (E - V(x)) \psi(x) \varphi(x) dx = 0 \quad \left\{ \frac{\partial}{\partial \epsilon} \mathcal{L} = 0 \text{ (7)} \right.$$

$$\int \left[\left(\frac{h}{2\pi}\right)^2 \frac{d^2\psi(x)}{dx^2} + 2m(E - V(x))\psi(x) \right] \varphi(x) dx = 0 \quad \left\{ \begin{array}{l} \text{INTEGRATION BY PARTS} \\ \varphi(x) = 0 \text{ AT BORDERS} \end{array} \right.$$

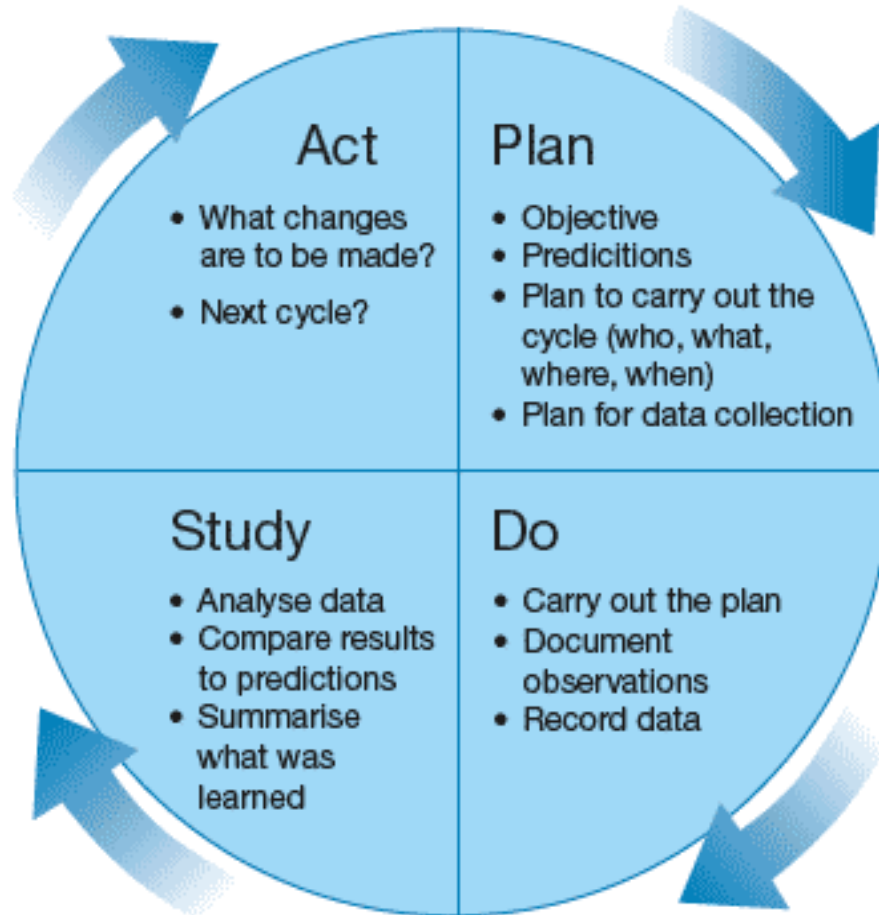
$$\boxed{\frac{d^2\psi(x)}{dx^2} + 2m\left(\frac{2\pi}{h}\right)^2 (E - V(x))\psi(x) = 0} \quad \left\{ (1) = 0 \text{ FOR ALL VARIATIONS } \varphi(x) \right.$$

SCHRÖDINGER'S WAVE EQUATION

Data is not a four letter word

- The purpose of CQI to create a data driven project and to be able to apply that data to recommendations.
- The data and calculations involved rely on the ability to use simple mathematical skills to apply basic statistical analysis and track data.
- You will not be asked to apply Pythagorean Theorem or anything about a parabola. Remember, in CQI the goal of the data is not to overwhelm, but to inform.

Plan-Do-Study-Act



Plan

- The objective is defined, clarifying the notion of what the change might produce, considering both upstream and downstream impact.
 - The roles of individuals and the various functions to be completed are defined and assigned.
 - Timing for the testing is established, and any training needs are identified and completed.
 - Data needed to determine success or failure is identified, along with the data sources and who is responsible for data collection.
 - The test duration is established, as well as a statement of expectations of the results.

Do

- The test is implemented and a team leader is assigned to oversee the pilot; collect data about results, including documentation of unexpected events; gather member feedback about the pilot; present measured results; and plan time to debrief on the outcome.

Study

- Analyzing the data, reflecting on results, assessing and evaluating what happened, and establishing additional change options based on unexpected positive or negative results to determine the next test phase.

Act

- Encompasses the decision to modify, implement or abandon a tested change option. Given what was learned, what is the next step toward improvement?

Rapid Cycle CQI

- The Rapid Cycle Improvement Model aims to accomplish the following:
 - Manage Variation
 - Eliminate waste
 - Design systems to avoid mistakes
 - Avoid lots of planning but no action

Rapid Cycle CQI

- It's a state of perpetual motion. However, this doesn't mean that once you are in the "Do" phase you cannot go back to the "Plan" phase. This means that suppose I run my Quarter 1 data and I realize that this may be the wrong measurement, I can then review my plan and add more information, or reframe the question, according to the data.
 - Making fast changes lasting and pervasive, rapid improvement strategies speed things up without changing the nature of necessary improvement activities
 - Describe the key focuses of rapid improvement strategies
 - Apply rapid improvement strategies to an improvement initiative
 - Create an efficient trial-and-learning methodology

Sustainable Projects

- Think of your CQI project like a car. If the car is not working, you would not throw the whole car away.



Structural Sustainability

- On the Program level:
 - Develop a CQI team
 - Identify a project lead
 - Discuss in regular staff meetings

Structural Sustainability

- On a department level:
 - Develop a CQI point person
 - Assists with development of projects
 - Collects projects and offers feedback

Structural Sustainability

- Provide time sensitive deadlines:
 - At the Institute for Family Health, we use Quarters
 - Provide Project Lead accountability
 - Knowledge of goals
 - Knowledge of baseline

Quarterly Reports

Institute for Family Health Psychosocial Services Department

Continuous Quality Improvement

Quarter "X" 2014 Report

Name of Site/Functional Area:	
Name of Measure/Project:	
Reason for Measure/Project Being Selected:	
Project Team Members with Leader First:	
Goal- (Should be a numerical goal, and state if it has changed since the last report):	
Interventions employed in 2014 (in chronological order):	
Barriers: System oriented Patient centered Personnel centered Environmental	
Results for - Should be a numerical percentage or unit. Please include baseline, interim and final results:	

Quarterly Reports

Baseline Data	
How does the Quarter 3 data compare/differ to Quarter 2 data?	
How does the Quarter 3 data compare to the baseline data?	
Based on this data, my recommendations for Quarter 4 are:	

Comments (Attach Graphs and Spreadsheets here):

Storyboards

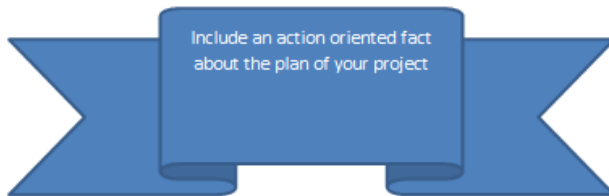


Name of project

Subtitle/Purpose of Project

Plan

Include a description of the project plan here. Include a description of the project here.



Do

1. What actions are you completing to address the project plan and purpose?
2. Use these numerical bullet points to create an action oriented list
3. What are the providers doing?
4. Talk here about steps taken to compile the data

Study

- Put your study question here/purpose of project

Put the proposed answer to your study question here.

Use this box here to add graphs, quantitative data of your success so far. This must be quantitative. Use percentages, graphs, or pure numbers.

Act

- Intended impact
- Summary of your learning/finding about the project this far
- Future recommendations for Q4

The Story of a CQI Project

April 2012 until now

From 2012-2014 a CQI to target viral load suppression has evolved from a small, program based CQI to an institute wide CQI with built in structures and protocols across sites.

2012: small, program specific, tightly monitored

2013: Across all of IFH, reports helped ↓ amount of time spent chart reviewing, process outcome

2014: Across all of IFH, more deliberate interventions and shared responsibility for chart review among leaders at each site.

2012: The Beginning

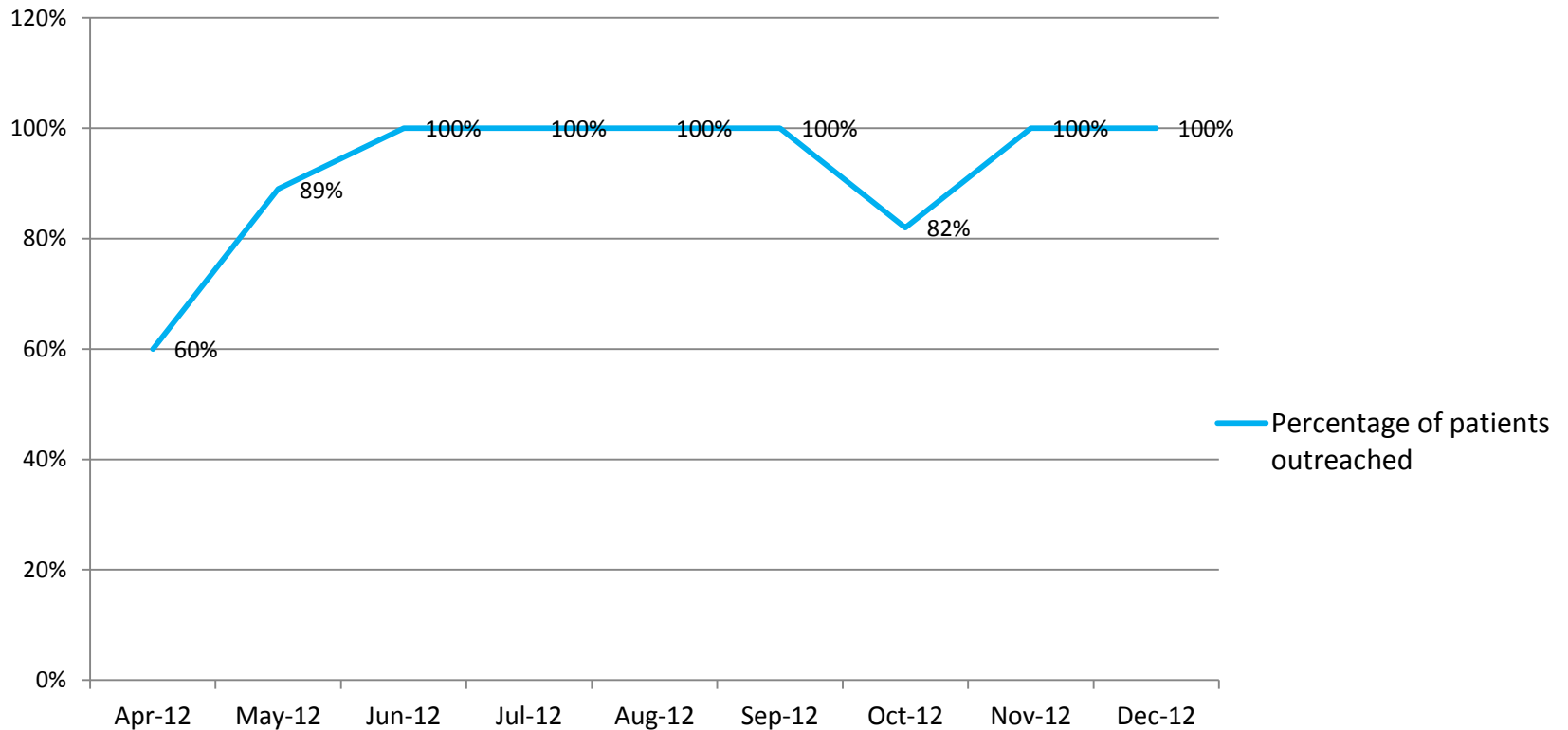
- WHY?
 - In partnership with the AIDS Institute Community Health Center Quality Learning Network, the CBP Program was interested in doing a CQI to target improvement in **viral load suppression rates**
- WHO?
 - The patients that were enrolled in the CBP program (around **140** of the 900+ patients living with HIV/AIDS IFH Wide)

2012 CQI design

- Case Managers and Social Workers on the CBP team each had an assigned list of patients with unsuppressed viral loads.
- Each team member was responsible for completing monthly phone outreach to address adherence barriers.
- The CBP Program Director manually reviewed each chart on the last day of the month to ensure outreach was done, and if not, did it.
- Process and Outcome results were able to be tightly monitored due to the size of the project.

2012 Outreach Results

Percentage of patients with unsuppressed viral loads outreached

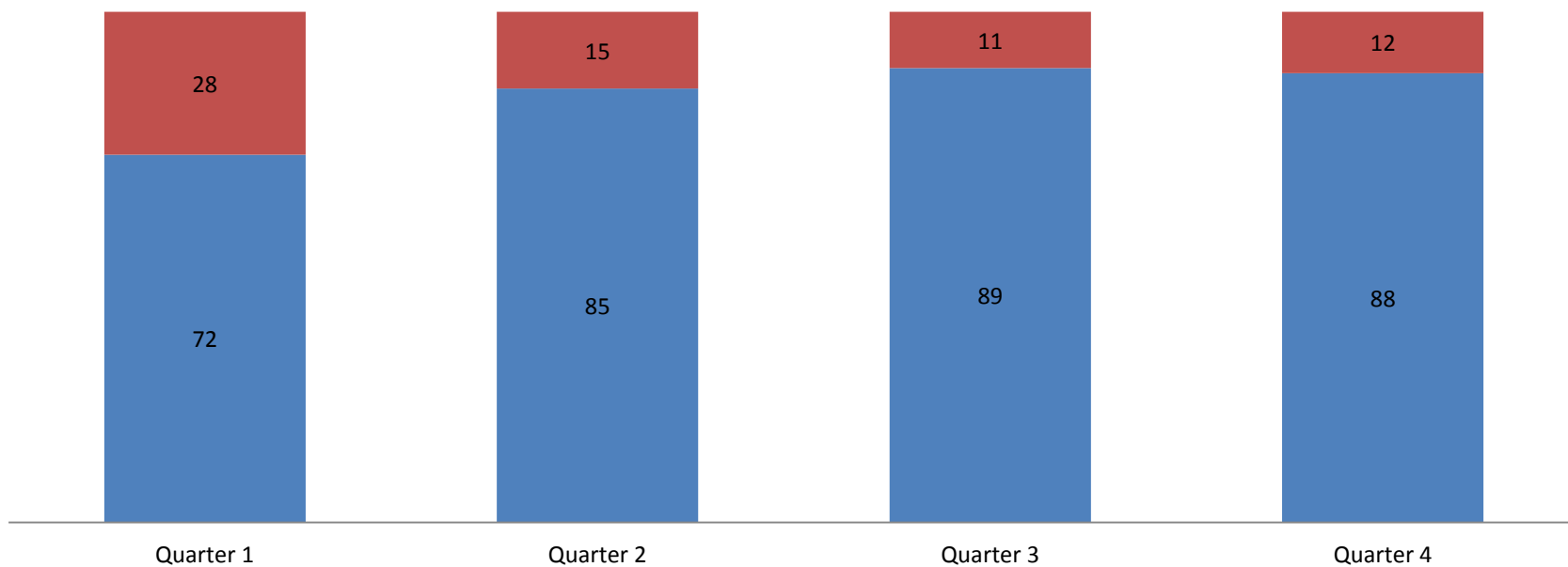


*In October, the percentage of patients outreached decreased since computer and phone systems were down due to inclement weather

2012 Viral Load suppression results

Percentage of Total CBP patients with suppressed versus unsuppressed viral loads 2012

■ Suppressed ■ Unsuppressed



Successes & Limitations of 2012 CQI

- Successes:
 - Improved viral load suppression rates for CBP enrolled patients
- Limitations:
 - Very time consuming to complete the monthly chart review
 - (Seemingly) impossible to spread this intervention across all of the Institute for Family Health
 - When asked if expanding the intervention was possible, my response was 'I don't think so'

2013: Let's go Institute wide!

How can 900 charts be reviewed manually monthly?

- Answer: A report was built in Epic especially to find patients with unsuppressed viral loads.

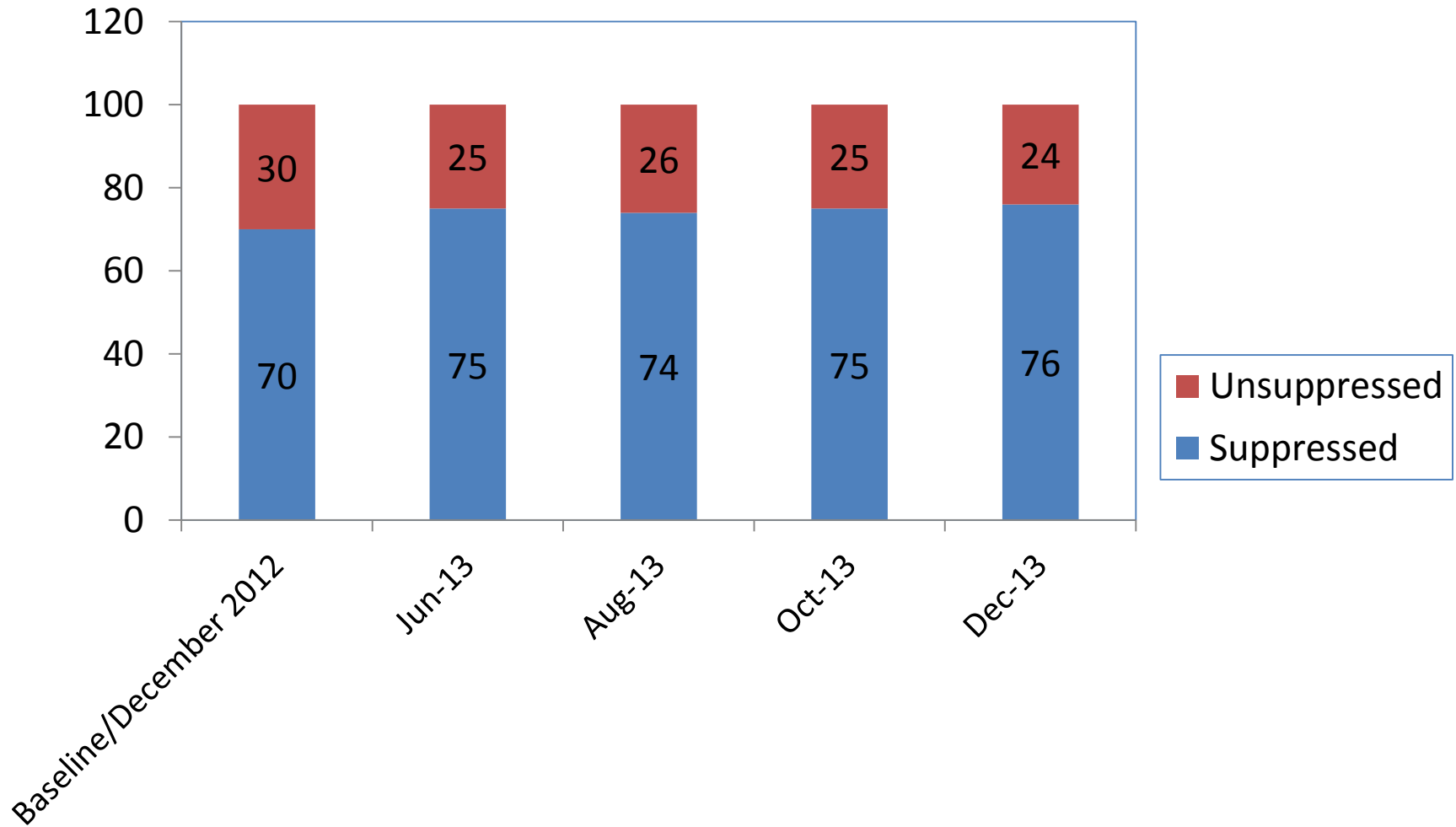
How can staff find time to outreach all patients with unsuppressed viral load at last labs (could be between 200-280 patients at a time)

- Answer: We will only look at report of patients with unsuppressed lab results in previous month

How can the process outcomes be tightly monitored to be sure the interventions are being completed for every eligible?

- Answer: It can't 😞

2013 Viral Load Suppression Results



Areas of Improvement for 2013 CQI

- Phone calls that address unsuppressed viral loads were helpful, but no particular intervention was chosen or tailored to suit each individual patient.
- Patients were often receiving phone calls from someone they did not know well from the clinic which did not allow for best possible communication of patient's needs

Design of 2014 CQI

- Case Conferences

- The COMPASS team at each site will decide which worker will outreach based on relationship with patient
- Intervention ideas will be discussed and will include a variety of options, not just phone calls.
- A COMPASS Manager at each site will complete chart review before the end of each month to ensure the interventions are taking place

Lessons Learned

CQI projects can start **small** and include just a few staff members to test the change and still be **effective**

What we don't think is possible, may be possible if we are willing to let go of some of what would be 'perfect' and **adjust our expectations**

Sharing responsibility is a necessary part of expanding projects



Quality is a never-ending cycle of continuous improvement!

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Adele Panico, LMSW - Apanico@institute2000.org

Benjamin Rosenberg, LCSW – Brosenberg@institute2000.org