

Using the Model for Improvement in the Real World/Report on Baseline Data

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Have You Heard of...

Total Quality Management

Continuous Quality Improvement

Six Sigma DMAIC

Lean

The Model for Improvement

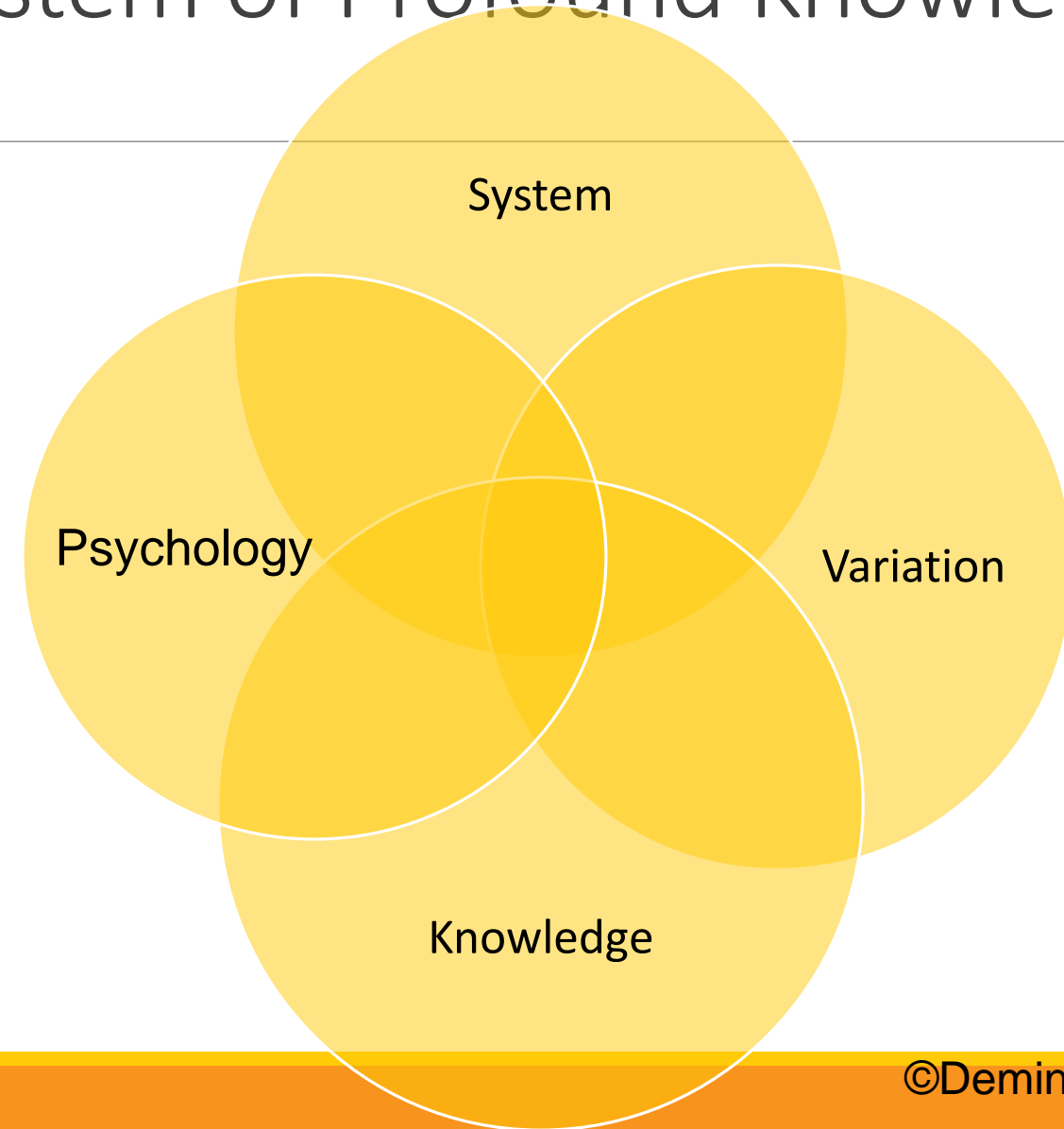
Others?

A Horse of A Different Color



W. Edwards Deming

The System of Profound Knowledge



System of Profound Knowledge

Appreciation for a System

- View its organization in terms of many internal and external interrelated connections and interactions
- Not discrete and independent departments or processes governed by various chains of command

When all the connections and interactions are working together to accomplish a shared aim, an organization can achieve tremendous results.

System of Profound Knowledge

Knowledge of Variation

“Why did something go wrong?” “Why are results so poor?” “How can we repeat this success?”

Theory of Knowledge

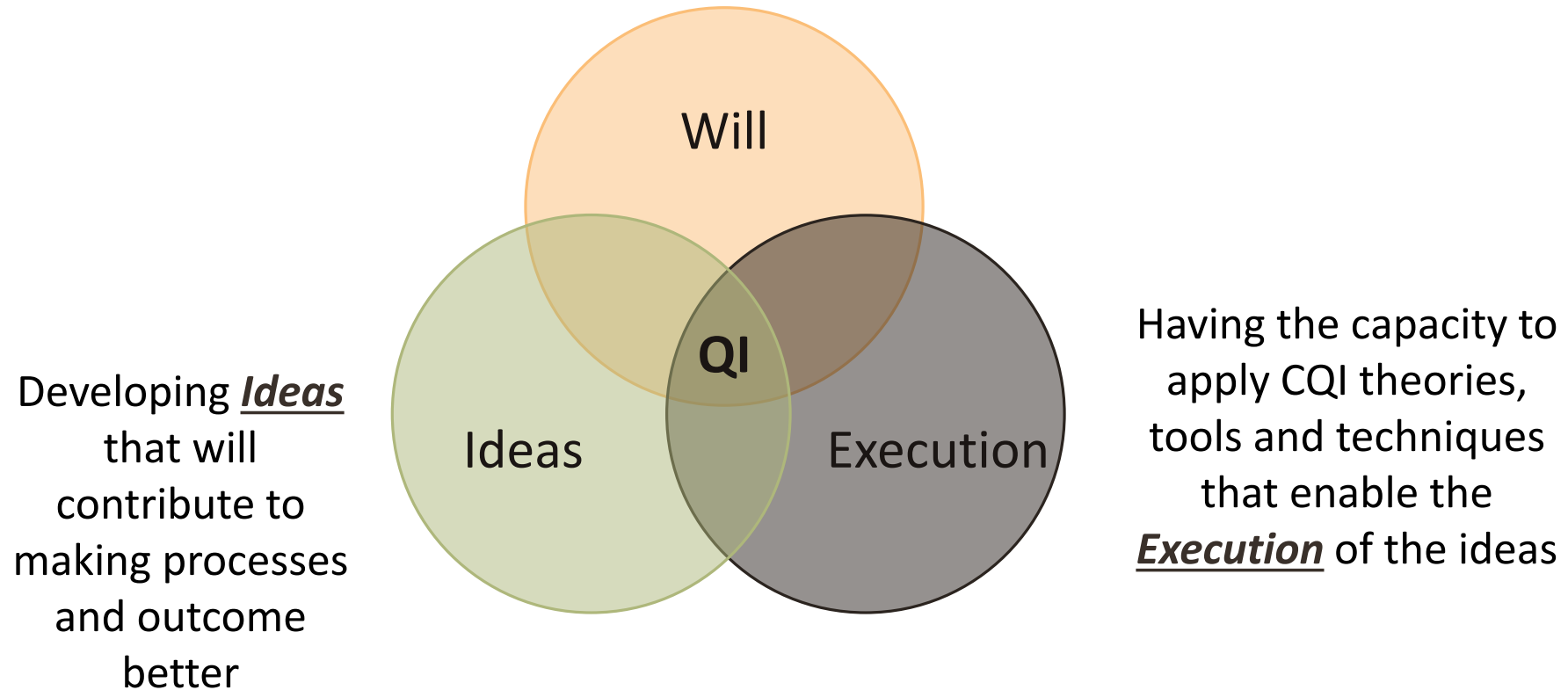
test its opinions, theories, hypotheses, hunches and beliefs against data to truly understand what is going on

Psychology

understand people, and particularly what motivates them to want to do a good job

Key Factors for Quality Improvement

Having the Will (desire) to change the current state to one that is better



Quality Improvement vs. Quality Assurance

Systems focused

Uses proactive approach

Fallibility Recognized

Teamwork

Errors seen as opportunities for learning

Relies on Inspection

Uses retrospective approach

Perfection Myth

Solo practitioner

Errors punished

“How can we provide better services”



“Do we provide good services”

The Human Factor

Quality does not improve on its own

People tend to look at people when things go wrong
(94% of problems are related to systems)

People tend to jump to solutions

People forget to check if their solutions worked

Quality Improvement



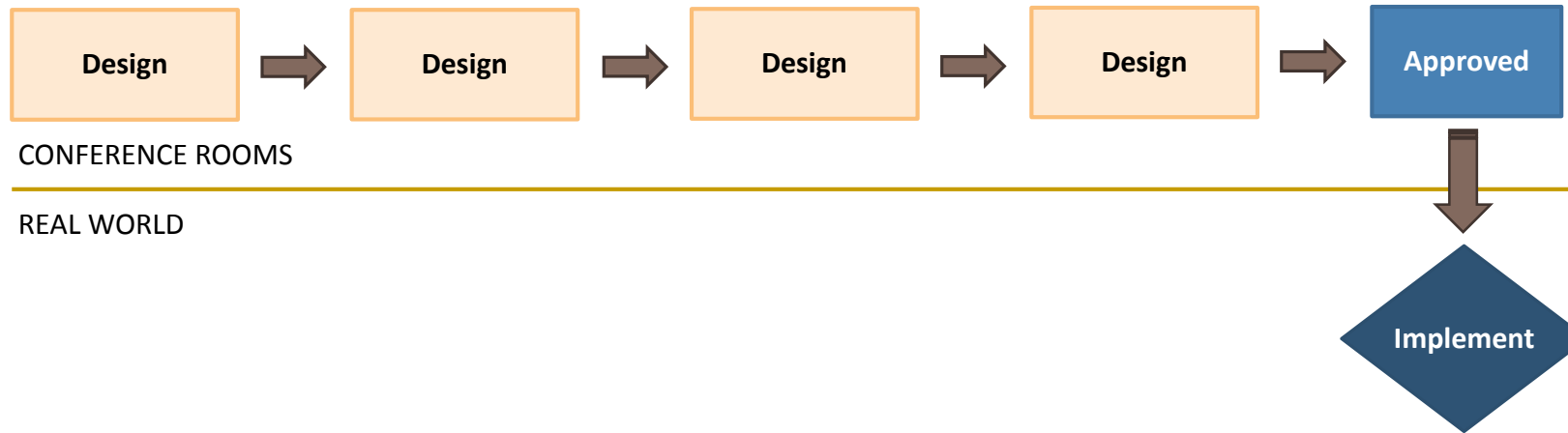
“Every system is
perfectly designed to
get the results it gets.”

- Paul Bataldin



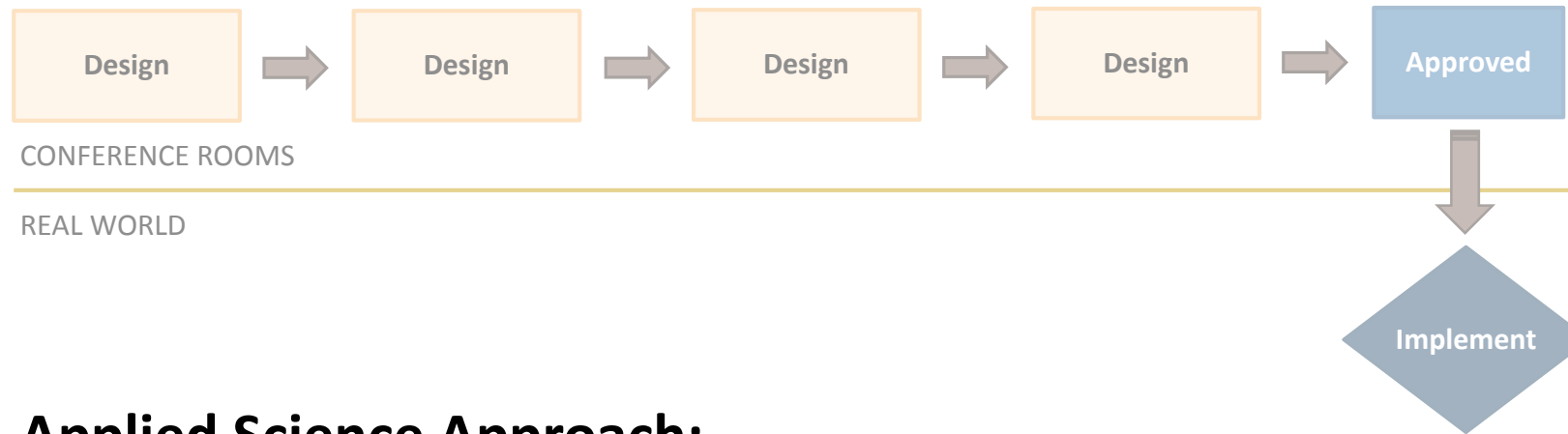
Approaches

The Typical Approach:

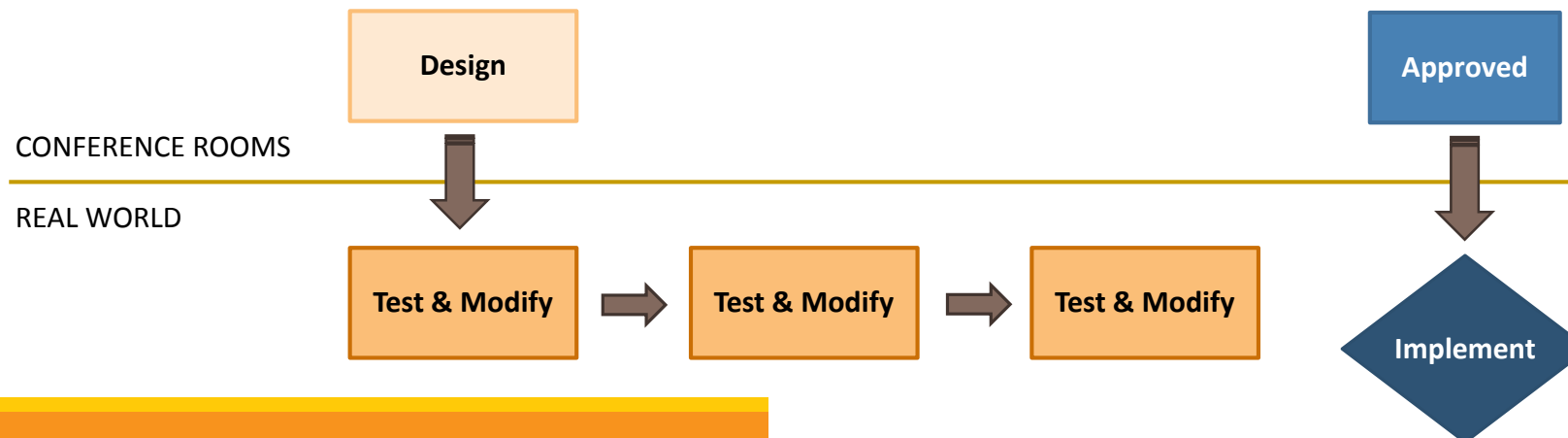


Approaches

The Typical Approach:



Applied Science Approach:



The Model for Improvement

“This model is not magic, but it is probably the most useful single framework I have encountered in twenty years of my own work on quality improvement.”

Dr Donald M. Berwick

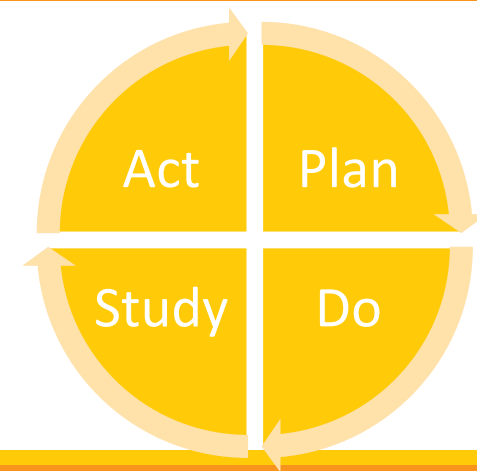
Former Administrator of the Centres for Medicare & Medicaid Services |
Professor of Paediatrics and Health Care Policy at the Harvard Medical School

Model for Improvement

What are we trying to accomplish

How will we know a change is an improvement

What changes can we make that will result in improvement?



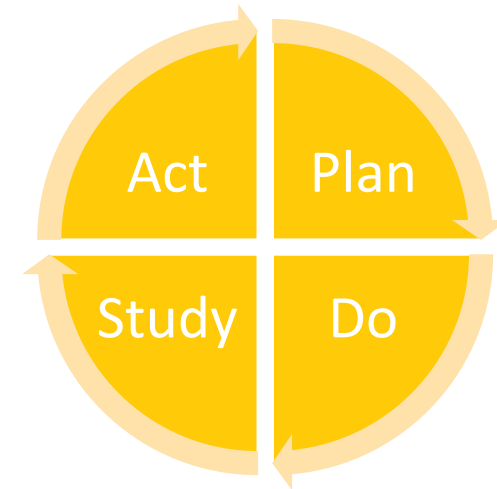
A Model for Learning and Change

Model for Improvement

What are we trying to accomplish

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The Improvement Guide, API, 2009

What Are We Trying to Accomplish?

Aim statement:

- What?
- For whom?
- By when?
- How much?



SMART Goal

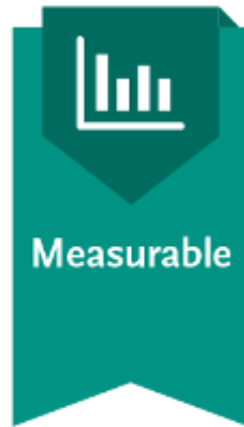
S



Specific

What exactly is it you want to achieve?

M



Measurable

How can you measure and track the progress of the goal?

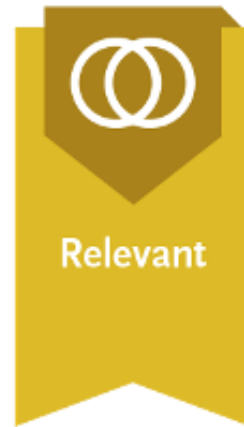
A



Attainable

Is it actually attainable in the given time frame?

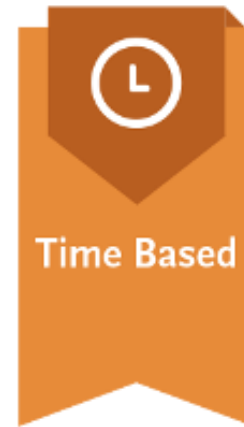
R



Relevant

Is it something that you really want to do? Will it directly benefit you?

T



Time Based

When do you want to achieve this goal by?

Project Aim

By July 2017, five pediatric offices will make practice-based improvements that lead to enhanced care across the delivery system and strengthen the role of the medical home within the EHDI system. The participating pediatric practices will make improvements so that:

- 97% or more of all newborns have documentation of the results of their final newborn hearing screening in their medical records by 6 weeks of age
- 97% of newborns have documentation in their medical record that the results of the newborn hearing screening were discussed with the family no later than 6 weeks of age
- 97% or more of all newborns identified to have risk factors associated with hearing loss will have documentation of those risk factors in their medical record by 6 weeks of age and will have an individualized care plan by the 4 months of age
- 100% of children who do not pass their newborn hearing screening have completed an audiological evaluation by 3 months of age and documentation will be in their medical record by 4 months of age

Our Project Aim



To improve documentation in medical record that the results of the newborn hearing screening were discussed with the family no later than 6 weeks of age

To improve documentation on all newborns identified to have risk factors associated with hearing loss in their medical record by 6 weeks of age and will have an individualized care plan by the 4 months of age

To ensure that all children who do not pass their newborn hearing screening complete an audiological evaluation by 3 months of age and documentation will be in their medical record by 4 months of age

Our Project Aim - Summerwood

Although we have taken a very proactive approach to following up on abnormal newborn screening tests in our patients, we have identified a number of deficits primarily associated with referral services and the subsequent results and interventional dispositions. Over the next three months we would like to establish an organized system of referral and evaluation with the University Hospital ENT/Audiology Department which will provide timely appointments, evaluation summaries and communication with regards to the immediate and future interventions necessary. We will also develop a protocol for the documentation and education of parents which will be performed at our offices.

Project Aims - Centennial

1. By May 2017, 100% of all newborns will have documentation of NBHS in their medical record by 4 weeks of age.
2. By May 2017, 100% of newborns will have documentation in the medical record that results of the NBHS were discussed by 4 weeks of age.
3. By May 2017, 100% of all newborns will have risk factor assessments for late onset hearing loss. Risk factors will include family hx, NICU>5 days, maternal infection etc. Risk factor assessment will be documented by 4 weeks.

Team Time

How would you modify your aim?

Is it

Specific

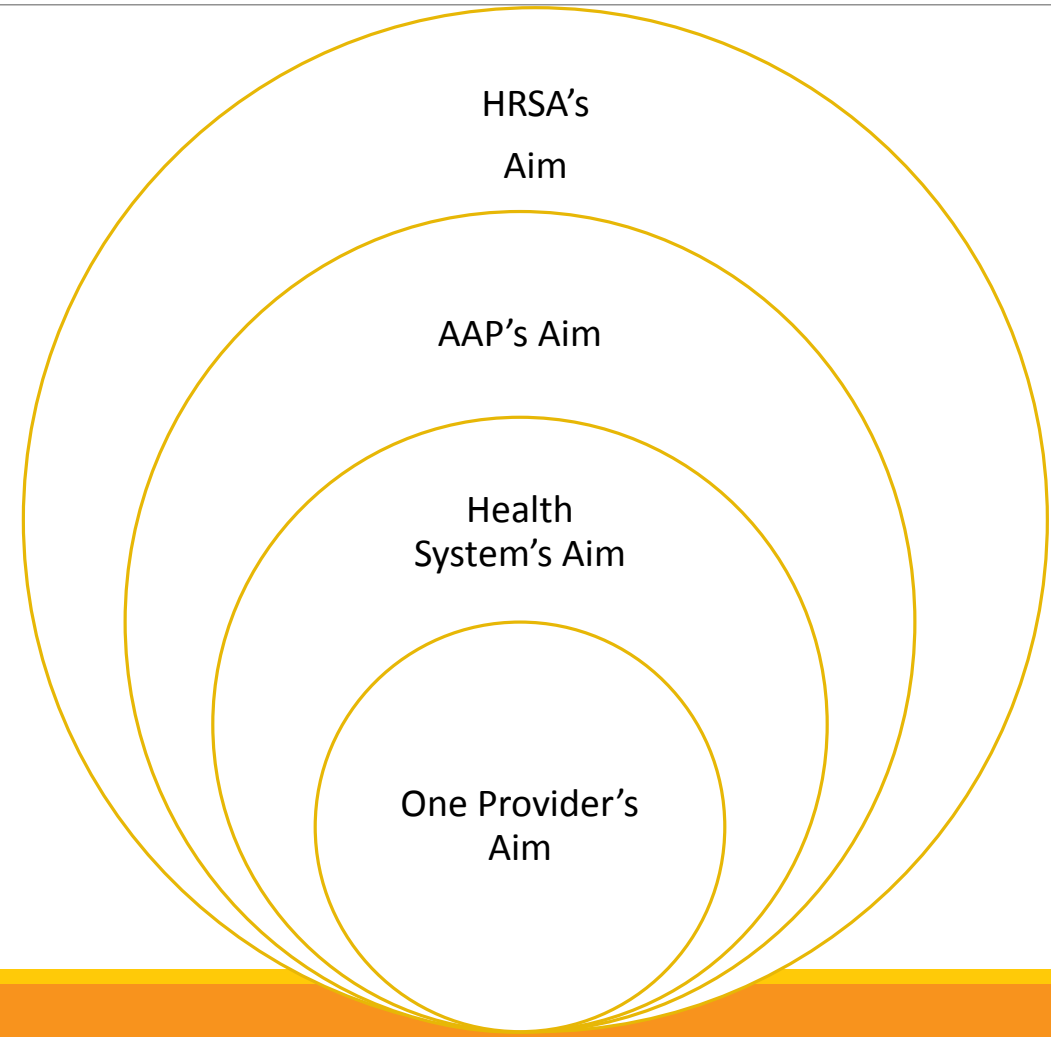
Measurable

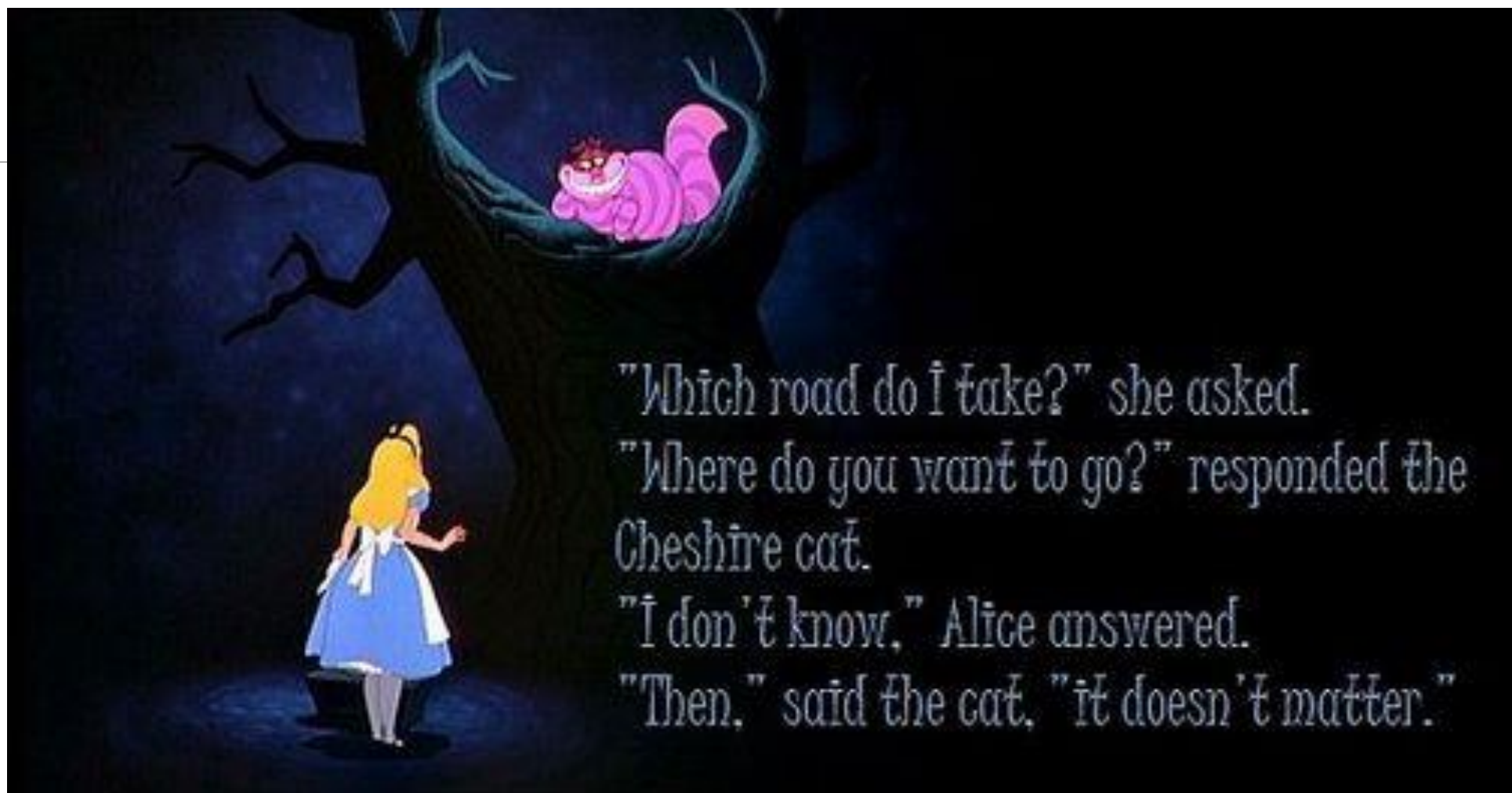
Attainable

Realistic

Time Bound?

The Aim – A Simple and Powerful Tool





"Which road do I take?" she asked.

"Where do you want to go?" responded the Cheshire cat.

"I don't know," Alice answered.

"Then," said the cat, "it doesn't matter."

Measurement for Improvement

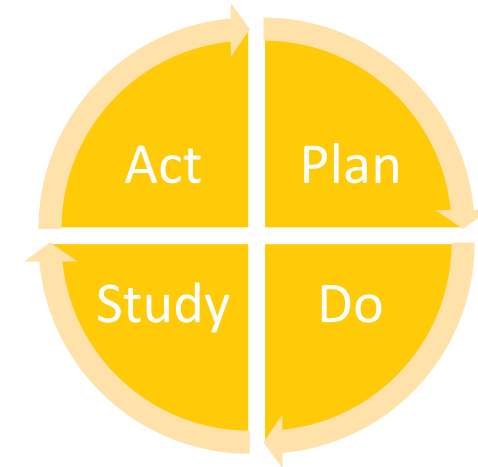
A Model for Learning and Change

Model for Improvement

What are we trying to accomplish

How will we know a change is an improvement

What changes can we make that will result in improvement?



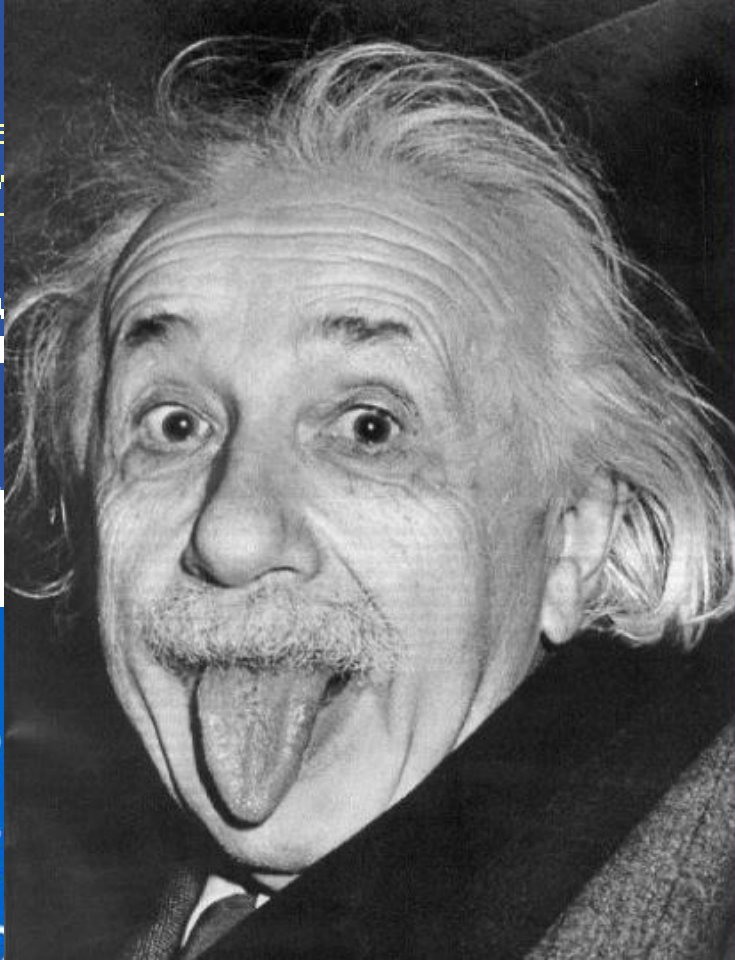
The Improvement Guide, API, 2009

"When you can measure what you are speaking about and express it in numbers, you can not express it in words, and your knowledge is of a higher order."

Lord Kelvin
(1824-1907)

howe
the s
should occasionally
look at the results

Winston Churchill



"Not everything that can be counted, counts; not everything that counts can be counted."

- Albert Einstein

Report by the Commission on the
Measurement of Economic Performance and
Social Progress

Time is a unit of measurement
that is gone in a second
and can never
be given
back.

apes what
pursue —
etermines

rambleon.selenity.net

How Do We Know That a Change is an Improvement?

- Quality Improvement is about changing and improving care provided to infants and their parents
- It is not about measurement.
- However

Measurement Assumptions

- The purpose of measurement in QI is for **learning** not judgment
- All measures have limitations, but the limitations do not negate their value
- Measures are one voice of the system. Hearing the voice of the system gives us information on how to act within the system
- Measures tell a story; goals give a reference point

Aspect	Improvement	Accountability	Research
Aim	Improve care	Compare, reassure, spur change	New knowledge
Methods Test Observable	Yes	N/A. Evaluate current performance	Test blind or controlled
Bias	Accept stable bias	Adjust data to reduce bias	Design to eliminate
Sample Size	Just enough data, small sequential samples	N/A. Report 100%	Just in case data
Hypothesis Flexible	Yes. Revised as learn and test	No hypothesis	Fixed hypothesis
How to determine improvement	Run or Shewhart charts	No focus on change	Hypothesis, Statistical tests: F-test, t-test, chi square, p value
Testing Strategy	Small sequential tests	No tests	1 large test
Data confidential	Data used only by those involved in improvement	No subjects. Data is for public	Subjects protected

Measures


Outcome

Process

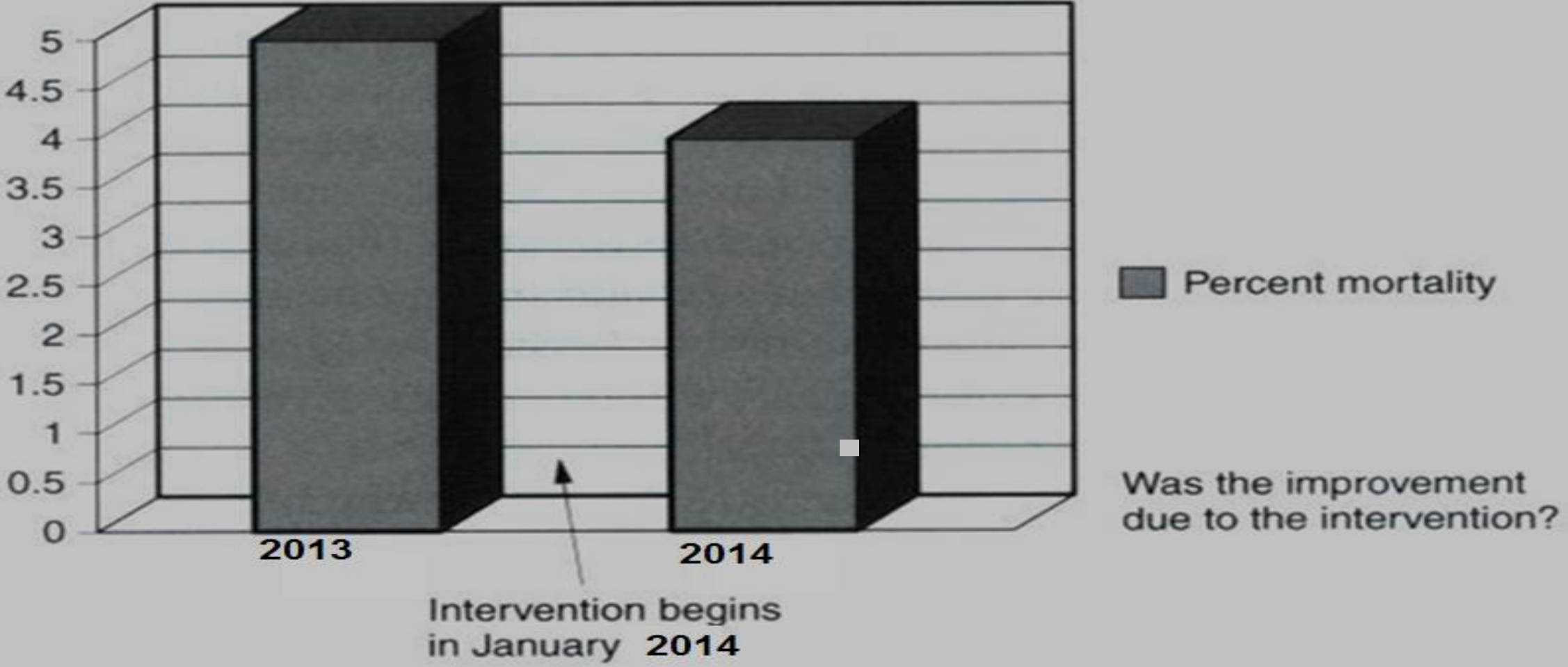
Balancing



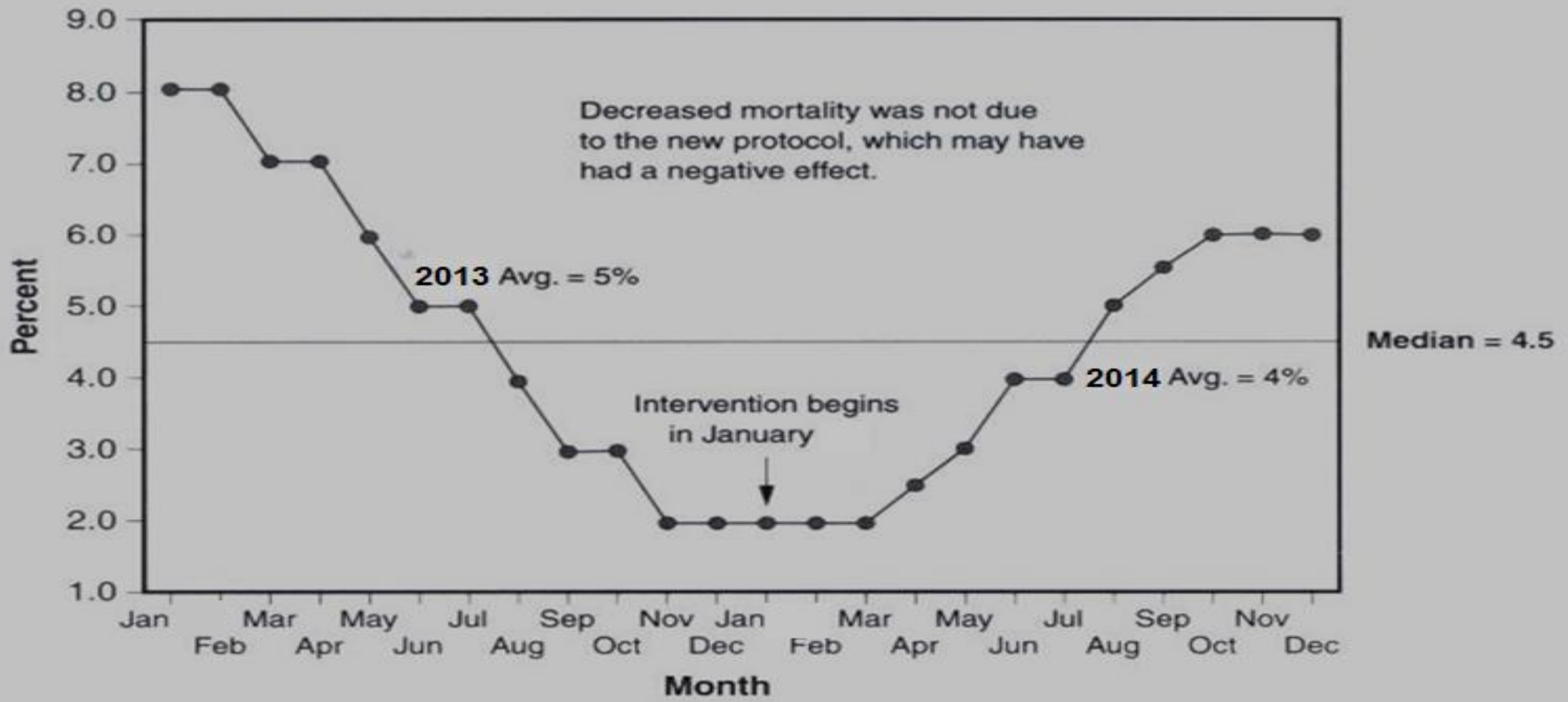
How we display our data influences how
we use our data



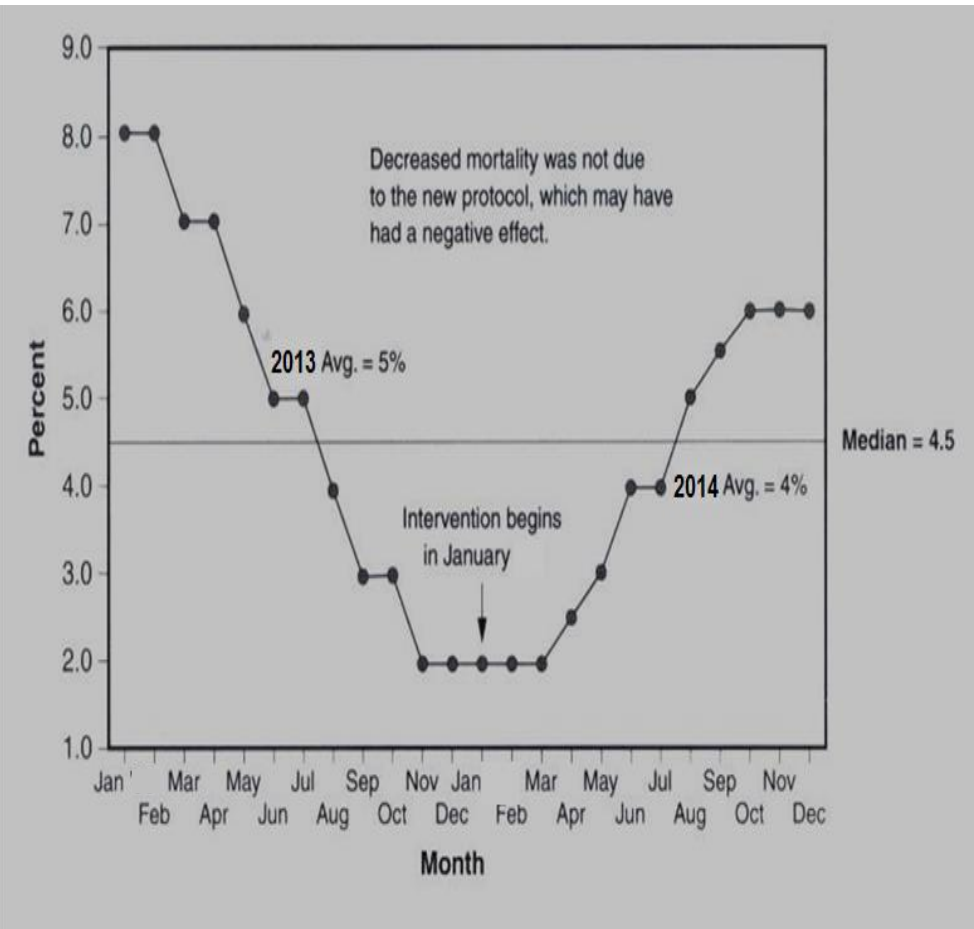
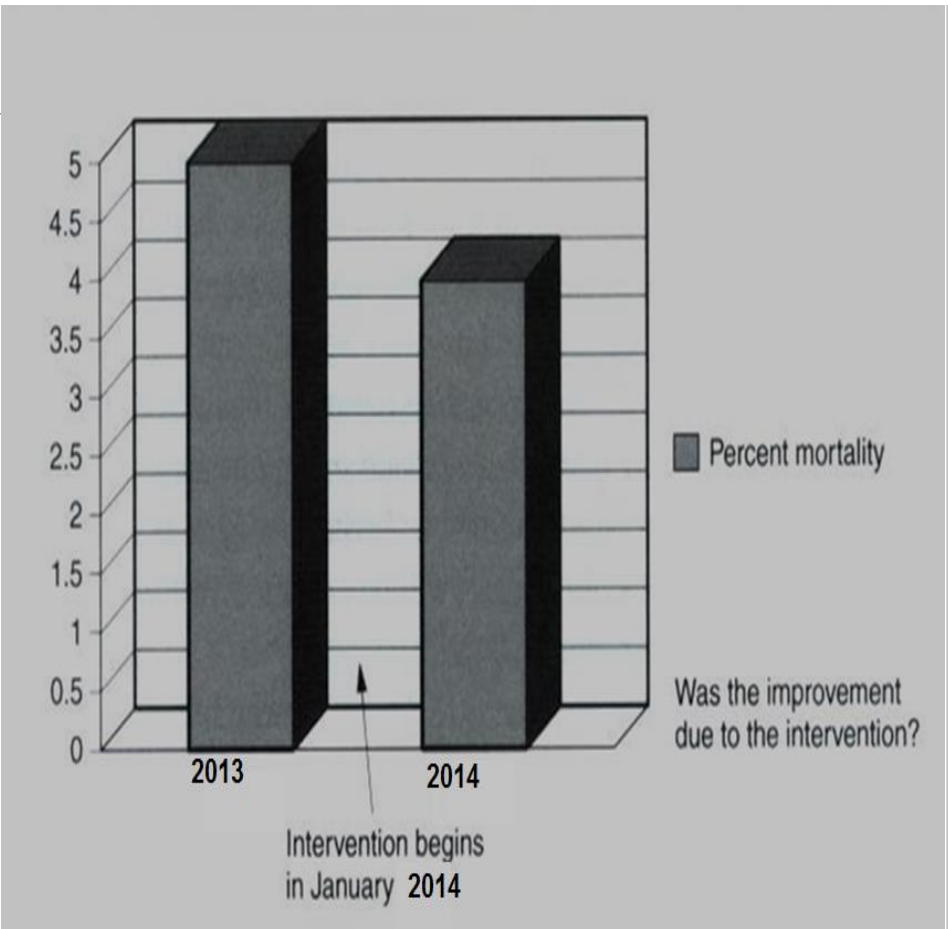
Aggregate data

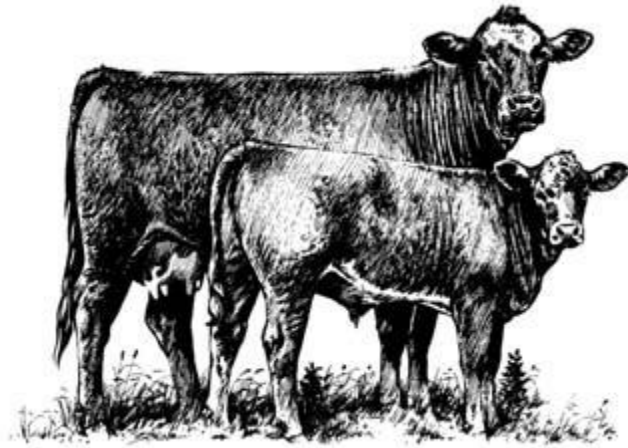


Time Ordered Data



Aggregate vs. Time Ordered





“You can’t fatten a cow by weighing it”

Palestinian Proverb

Pre-work Baseline Record Review

- Records should be pulled and reviewed per practice (not just physician champion records)
- Review **ALL medical records** from the immediate past 3-months (November 2016 through January 2017) for both of the following patient populations:
 - Children at least **6 weeks old** identified as having a “**do not pass**” newborn hearing screening result
 - Children at least **4 months old** identified as having a “**do not pass**” newborn hearing screening result
- Review **up to 20 medical records** from the immediate past 3-months (November 2016 through January 2017) for both of the following patient populations (**up to 40 records total**):
 - Children at least **6 weeks old** identified as having **passed** the newborn hearing screening result
 - Children at least **4 months old** who your practice identified as having **passed** the newborn hearing screening result

Measures – 6 weeks

Screening Results Received

Screening Results Reviewed with Family

Risk Factors Assessed

Risk Factors Reviewed with Family

Referred for outpatient rescreen

Referred to diagnostic – DNP only

Measures – 4 months

Risk Factors care plan created

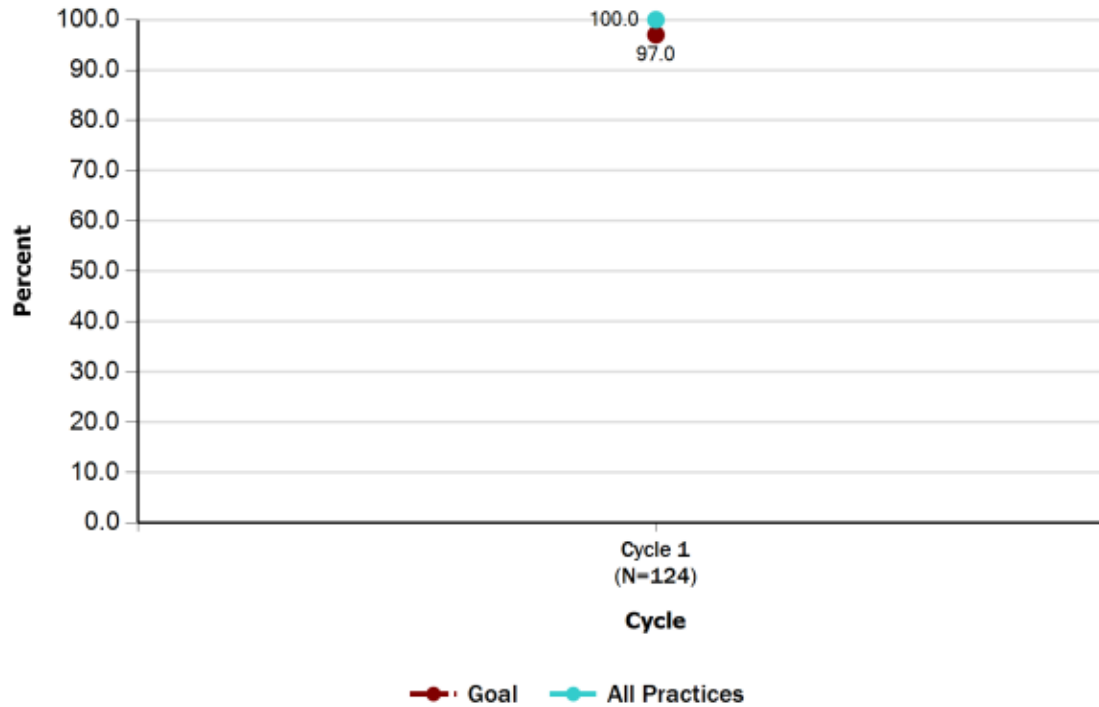
Documentation of audiology results

Diagnostic appointment completed by 3 months

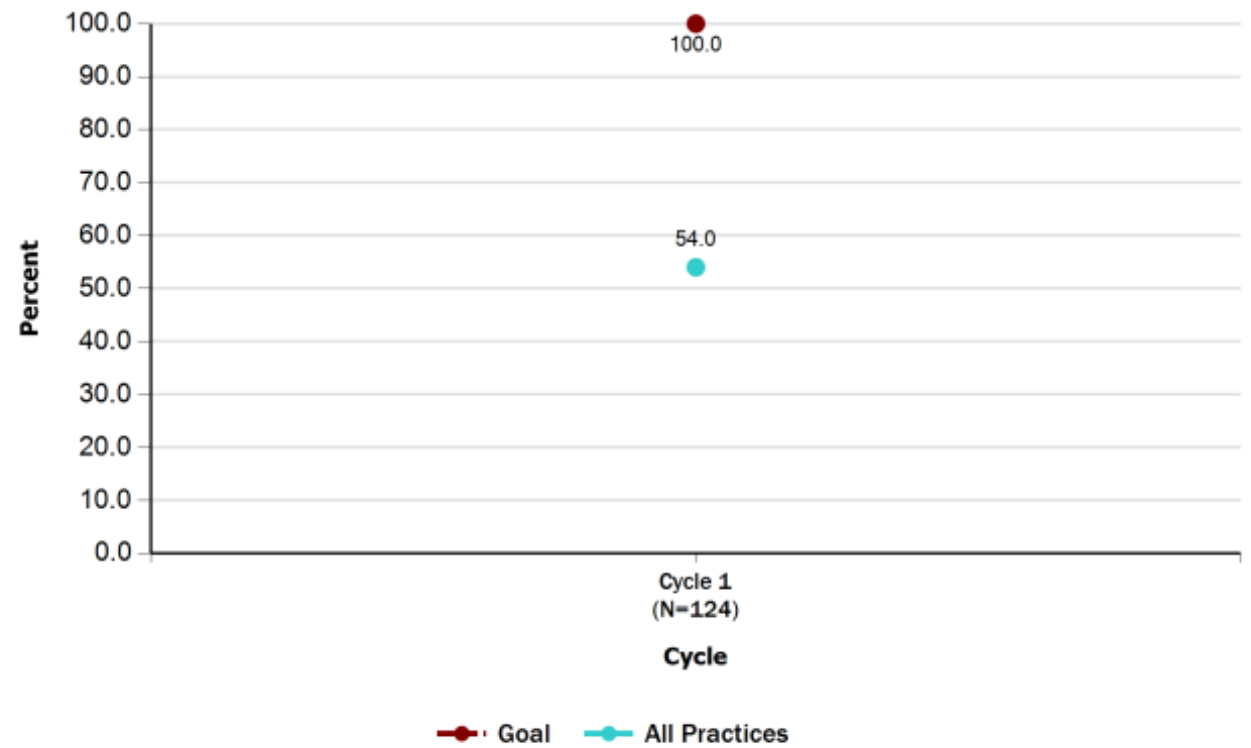
Diagnostic appointment reviewed by 4 months

Screening Results

Screening Results

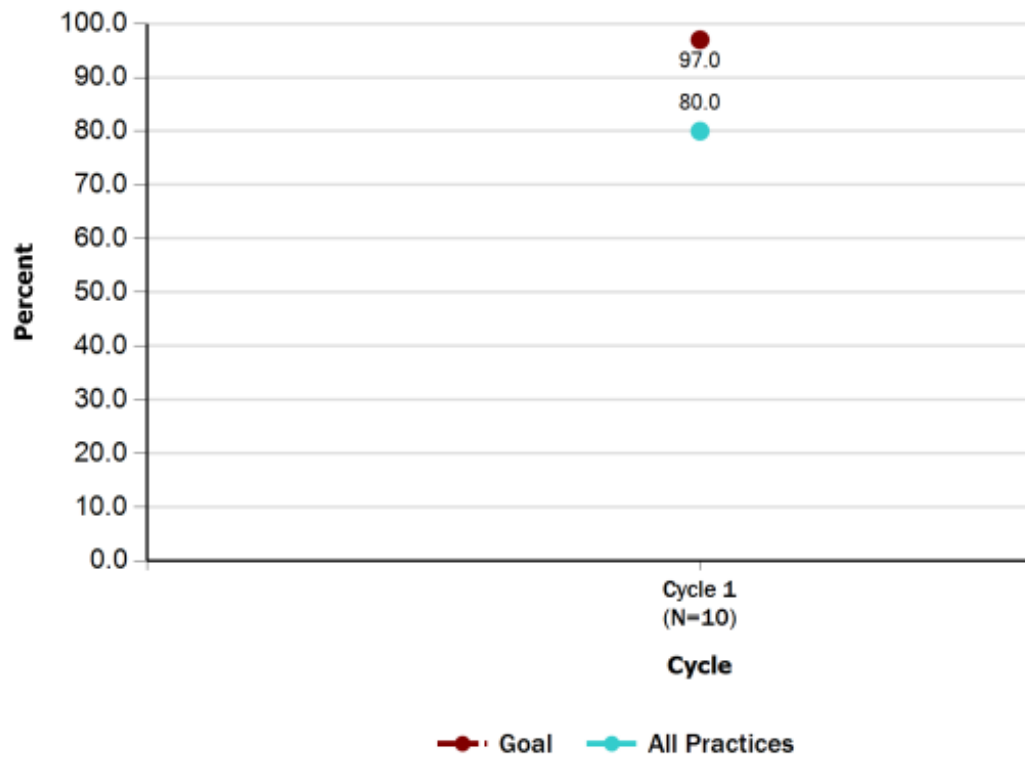


Results Conversation

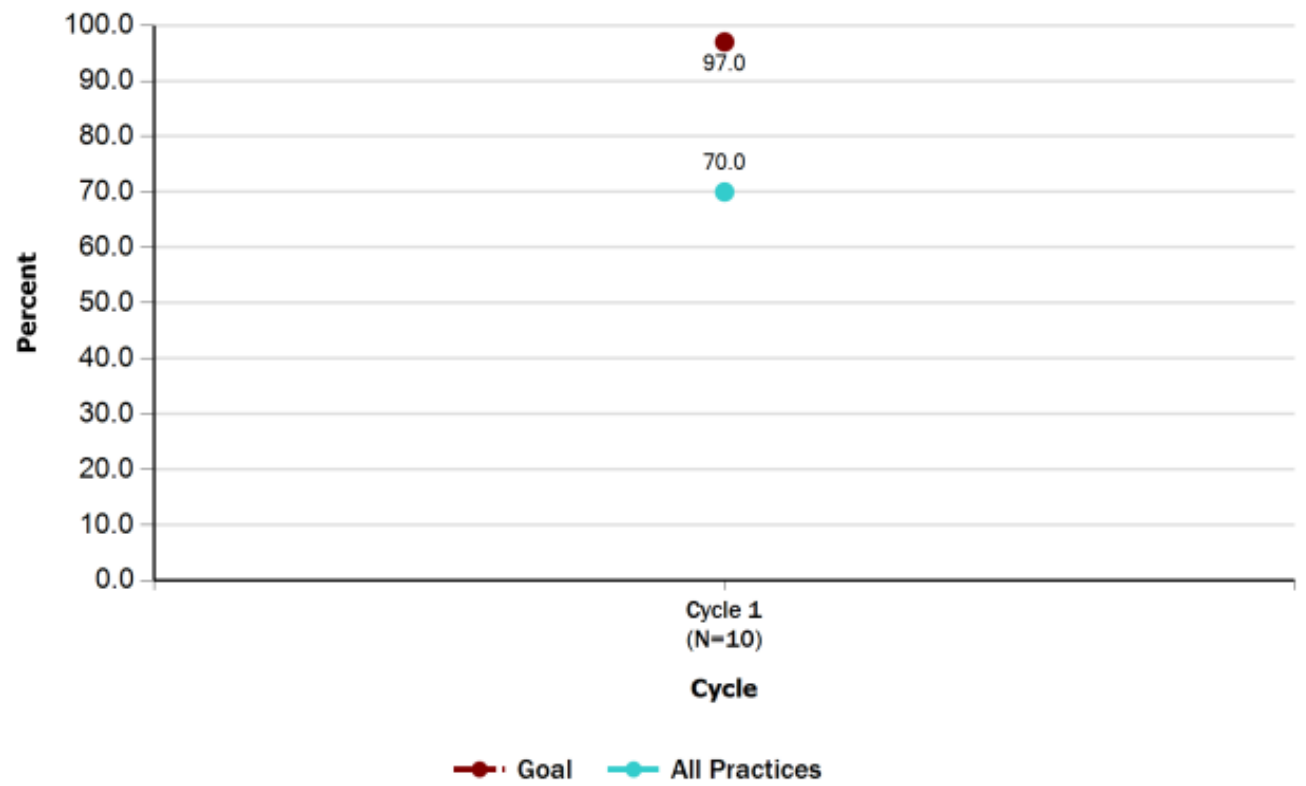


Outpatient Screening & Audiological Exams

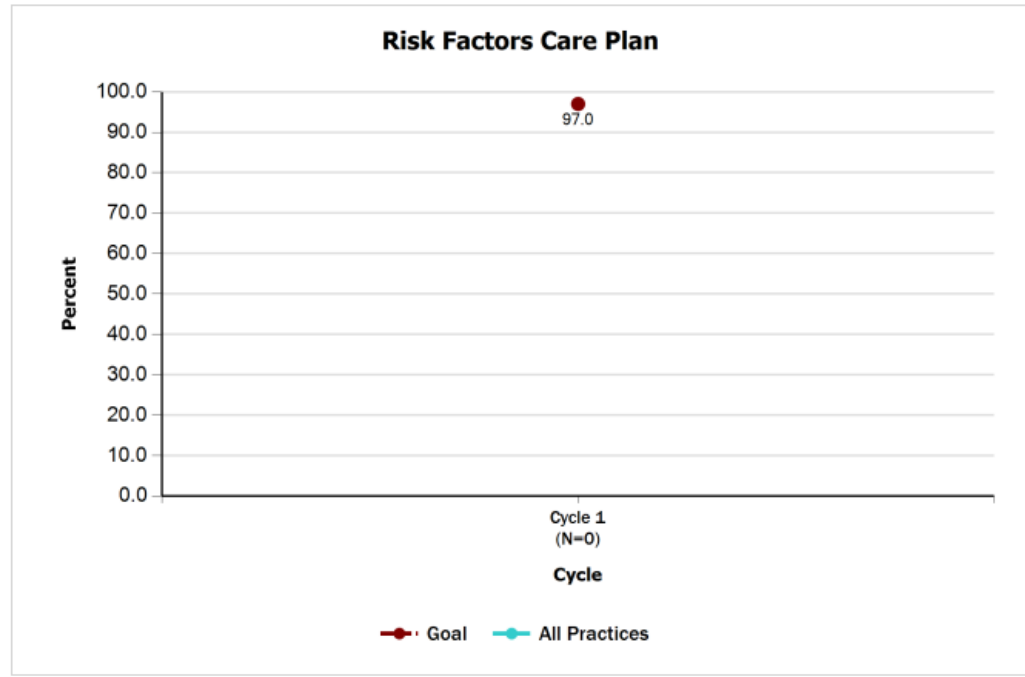
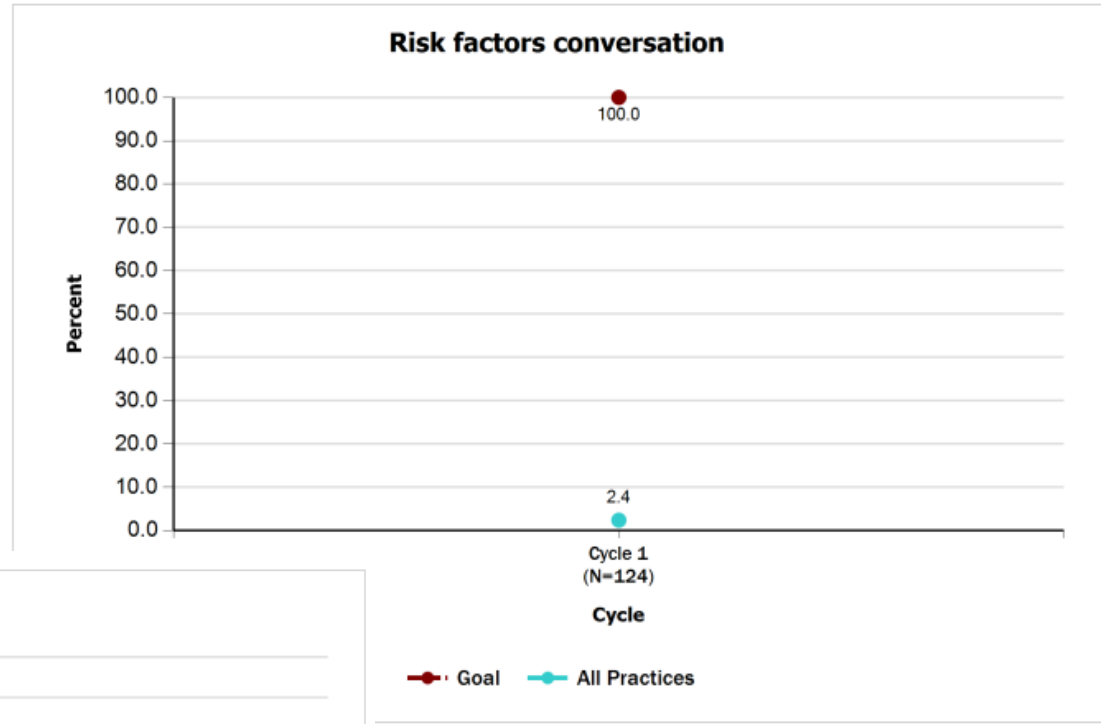
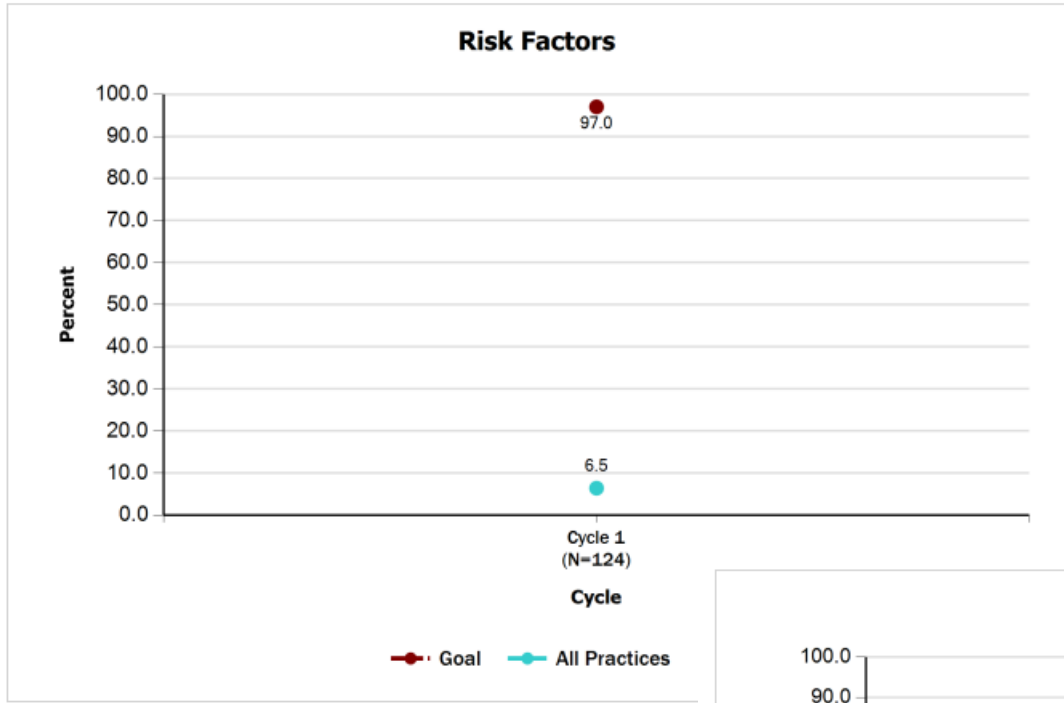
Outpatient Screening Results



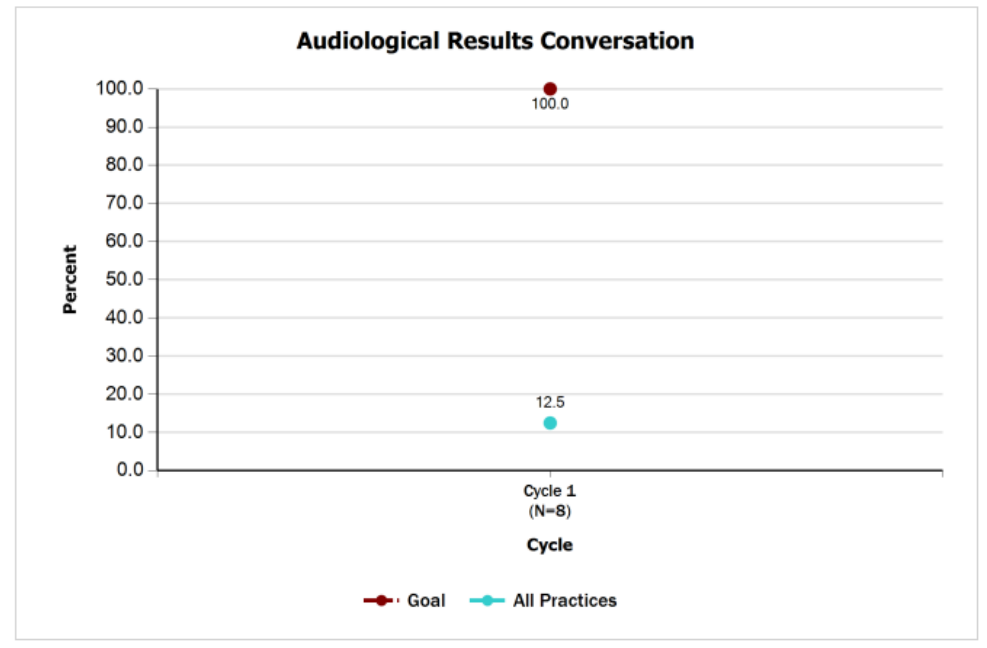
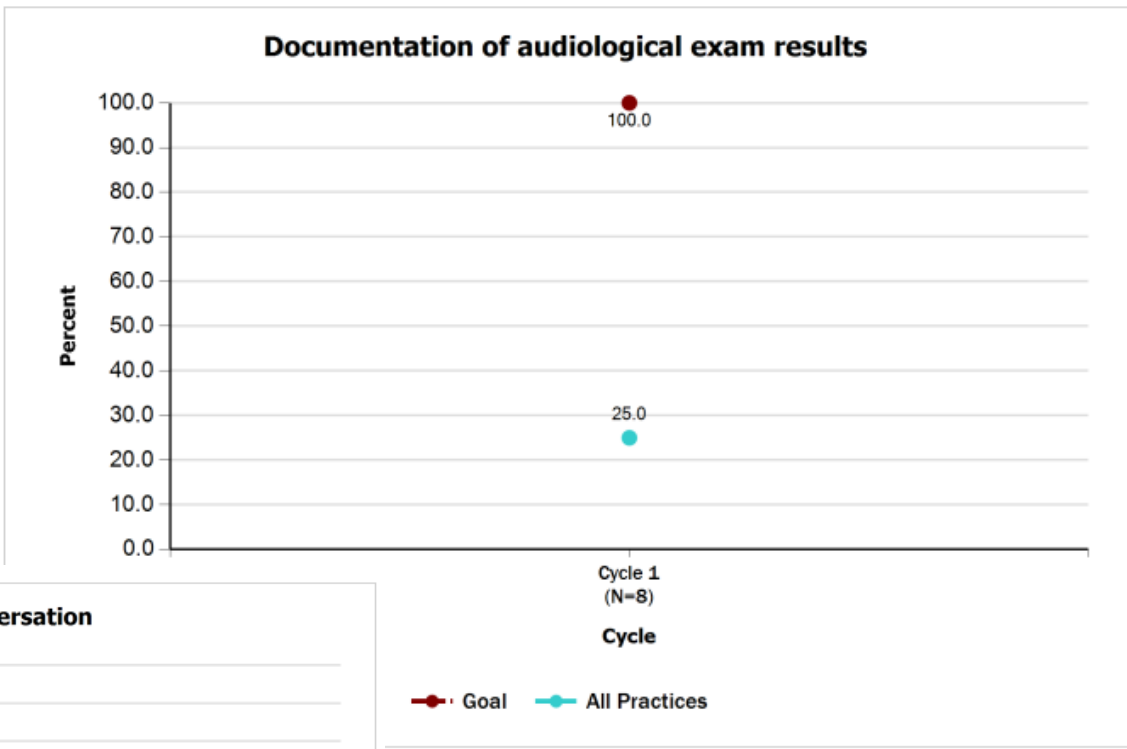
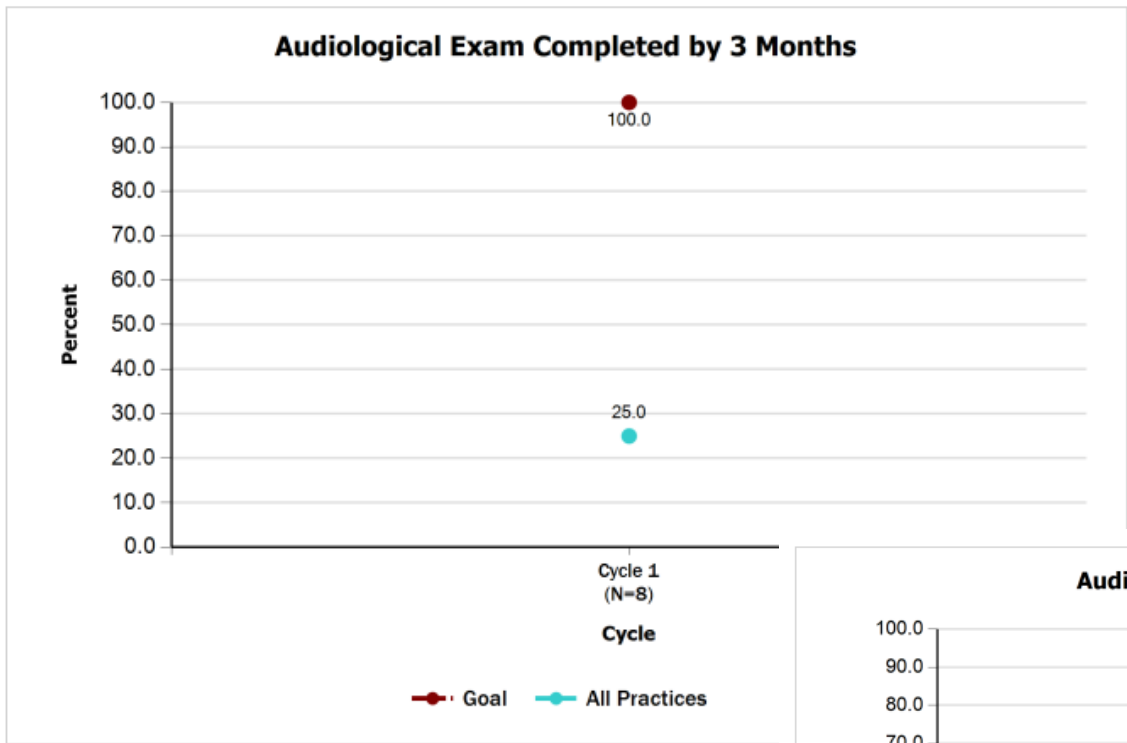
Referral to audiological exam



Risk Factor Assessment



Audiological Exam Follow-up



Moving Forward – Monthly

20 Charts

- 6 weeks
- 4 months

ALL WHO DO NOT PASS

Feedback on data collection

What went well...

Not so well...

What surprised you in your charts...

What questions do you have about the measures...

Planning for Change Using The Model for Improvement

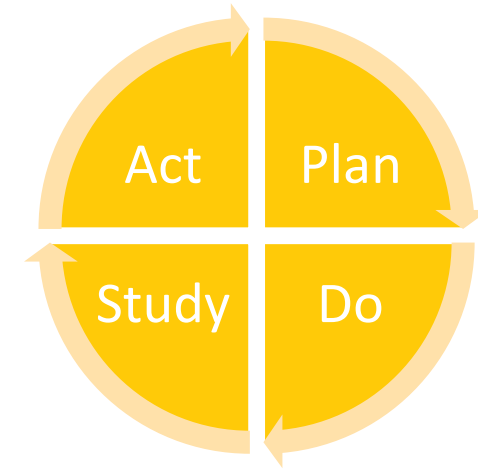
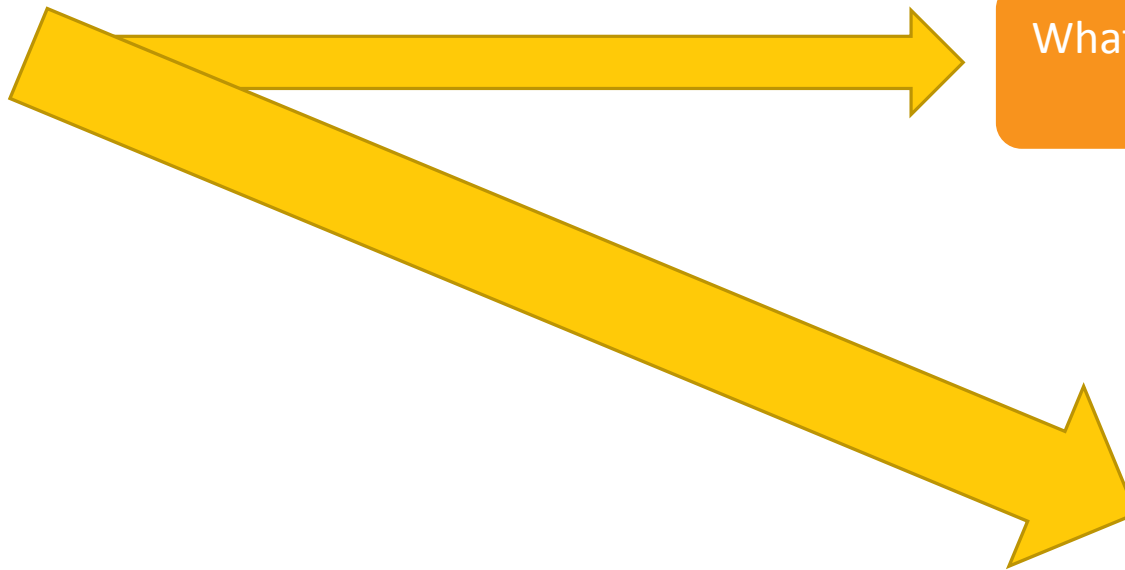
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The Improvement Guide, API, 2009

Where are the opportunities



Driver Diagram

Used to conceptualize an issue

Determine the components of a system that help you move towards a goal

Is the theory behind any project

What is in it

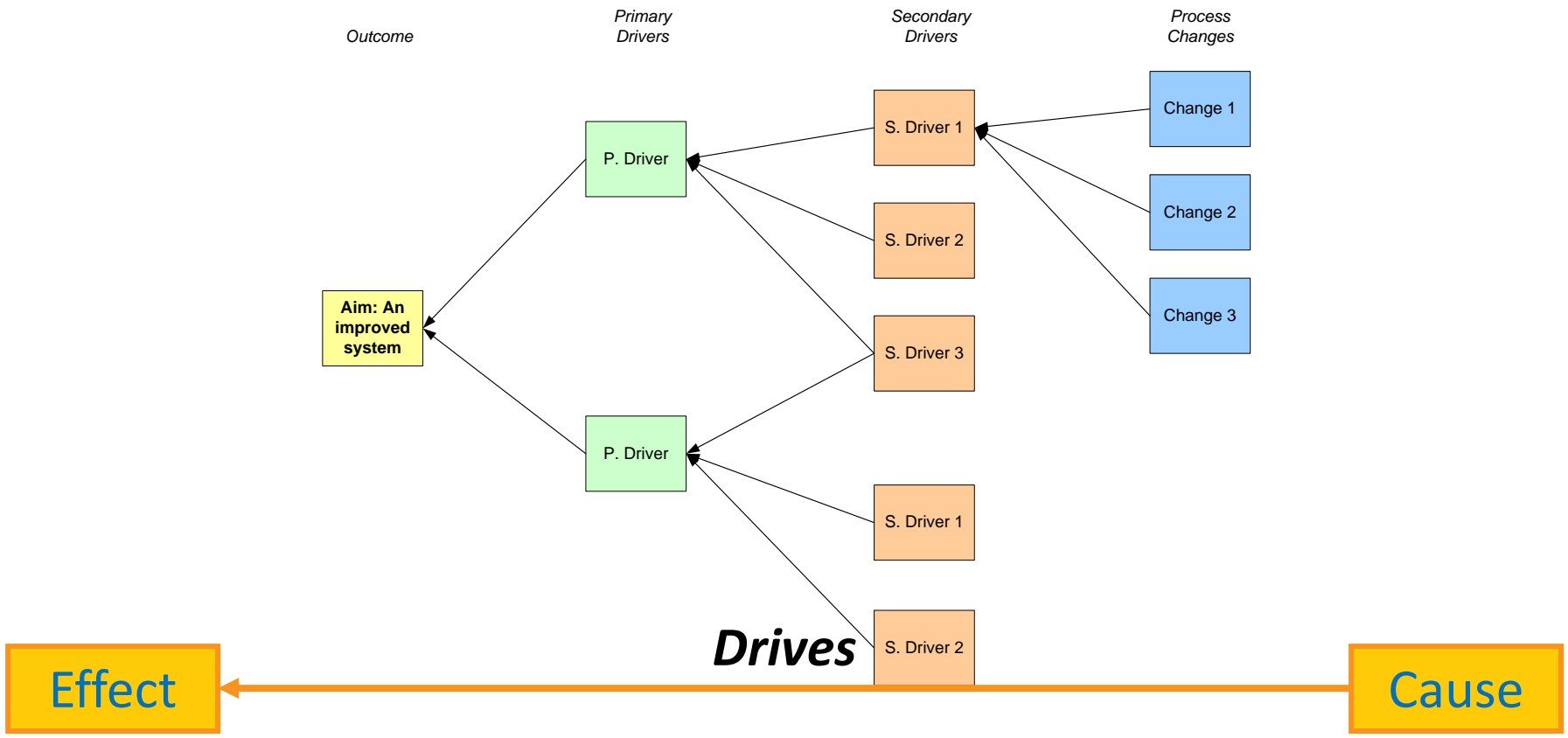
Outcome (aim)

Primary Drivers – Main components which will contribute to achieving the outcome

Secondary Drivers – Interventions, changes, and/or projects that will affect the primary driver

What Changes Can We Make?

Understanding the System



Aim

By July 2017, five pediatric offices will make practice-based improvements that lead to enhanced care across the delivery system and strengthen the role of the medical home within the EHDI system. The participating pediatric practices will make improvements so that:

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Primary Drivers

P1. Newborn hearing screening results are reviewed with all families

P2. Children with risk factors associated with delayed, late-onset, or progressive hearing loss have an individualized care plan to address each risk factor

P3. All children who do not pass their newborn hearing screening receive reliable and timely audiological evaluation and this care is co-managed with the pediatrician

P4. Engage family representation in your practice based Quality Improvement efforts

Secondary Drivers

1. Newborn hearing screening results are shared promptly with the infants primary care provider
2. Families receive standardized and consistent communication about hearing screening results
3. Document conversations with families about hearing screening results in the medical record
4. Families of children who do not pass newborn hearing screening or have risk factors demonstrate engagement in next steps for follow-up

1. All children are assessed for risk factors using a systematic approach
2. Documentation of risk factor assessment and outcomes are easily found with the infants medical record
3. Follow up plan is created for all children with identified risk factors and this plan is communicated with the family

1. Ensure next necessary referrals and medical appointments are made and the family understands next steps
2. Diagnostic audiological evaluation completed no later than 3 months of age
3. Create partnership with diagnostic providers to ensure timely transfer of information

1. Identify family representation to inform your systems of care Quality Improvement efforts
2. Include family representation in key decision processes to improve the system of care
3. Utilize family experience/knowledge to identify improvement opportunities

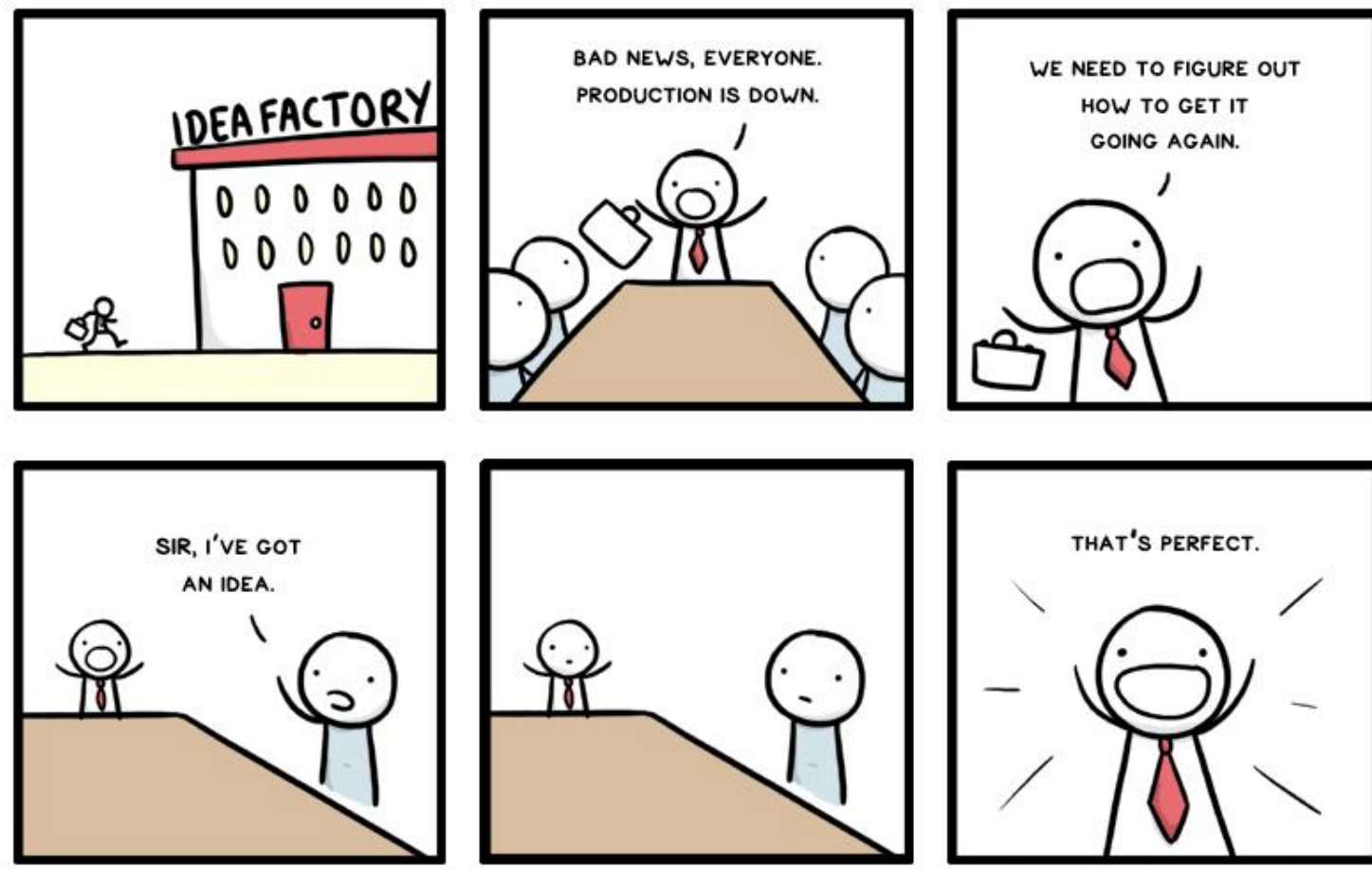
Driver Diagram

Show the relationship of several items to our ability to accomplish the aim

Will relate to each of your systems differently

Leads us to ideas

Ideas



But there is more than one way to...

Bake a cake



Make a bed



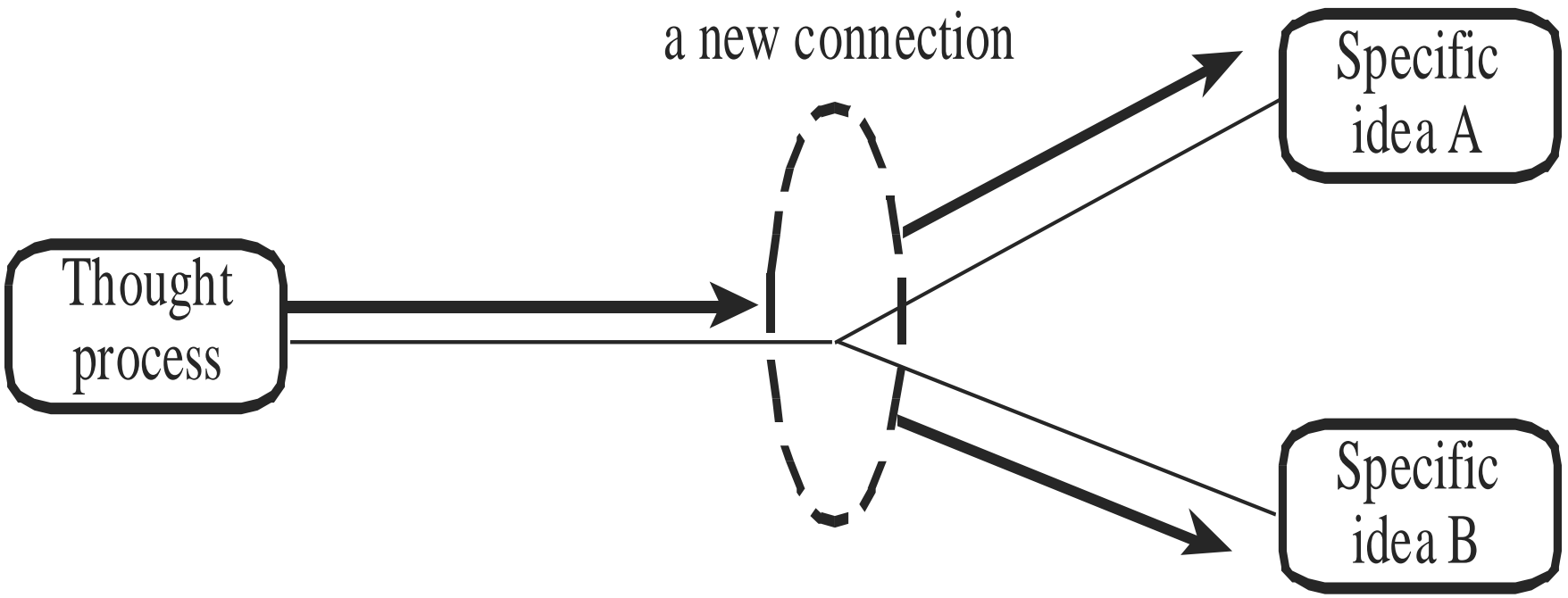
Drive to work



Change Concept: *A general notion or approach to change that has been found to be useful in developing specific ideas for changes that lead to improvement.*

Concept

An opportunity to create
a new connection

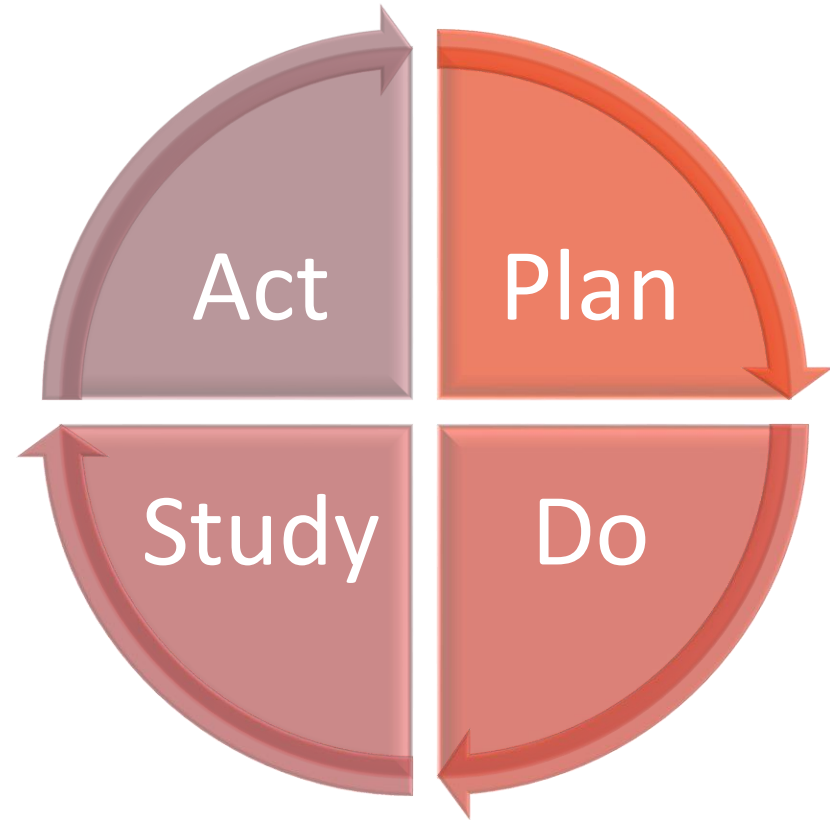


The PDSA Cycle

Four Steps: Plan, Do, Study, Act

Also known as:

- Shewhart Cycle
- Deming Cycle
- Learning and Improvement Cycle



Planning for change: PDSA cycles

SMALL (VERY SMALL) tests of change

1 family, 1 nurse, 1 infant, 1 intervention

Over and over (and over) again – same scenarios, different scenarios

Reflect on each one – adapt / adopt, real time change

Learning with the PDSA cycle: Plan

ACT

Select an action based on the results of the test:

- Adopt
- Adapt
- Abandon

PLAN

Prediction If ____ Then ____

Plan to carry out the test
(who, what, when?)

Plan for data collection

STUDY

Compare to prediction

What did you learn

What was unexpected

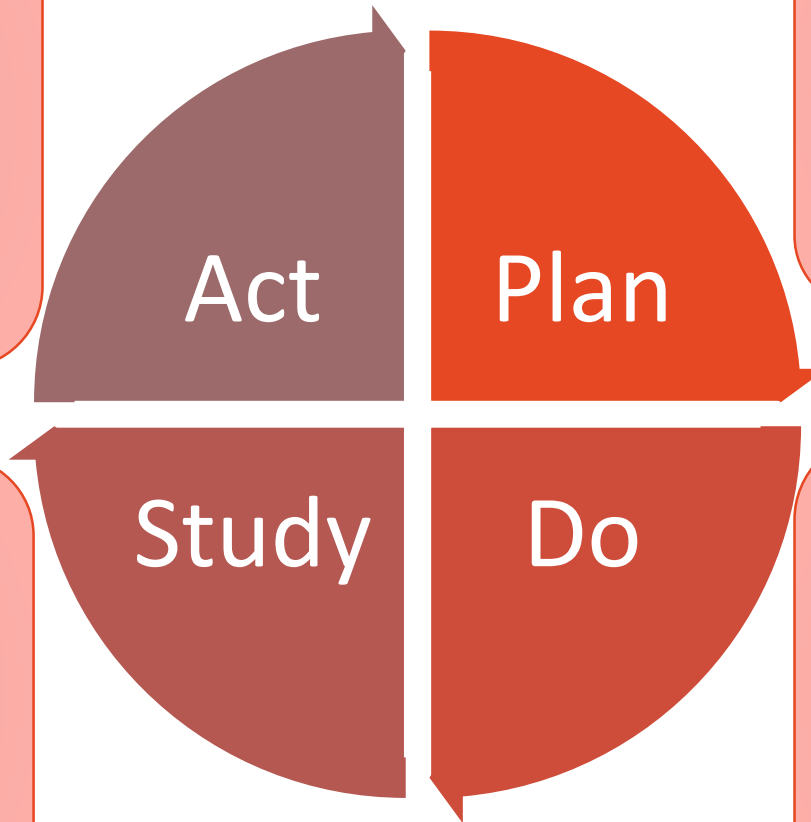
What about the data

DO

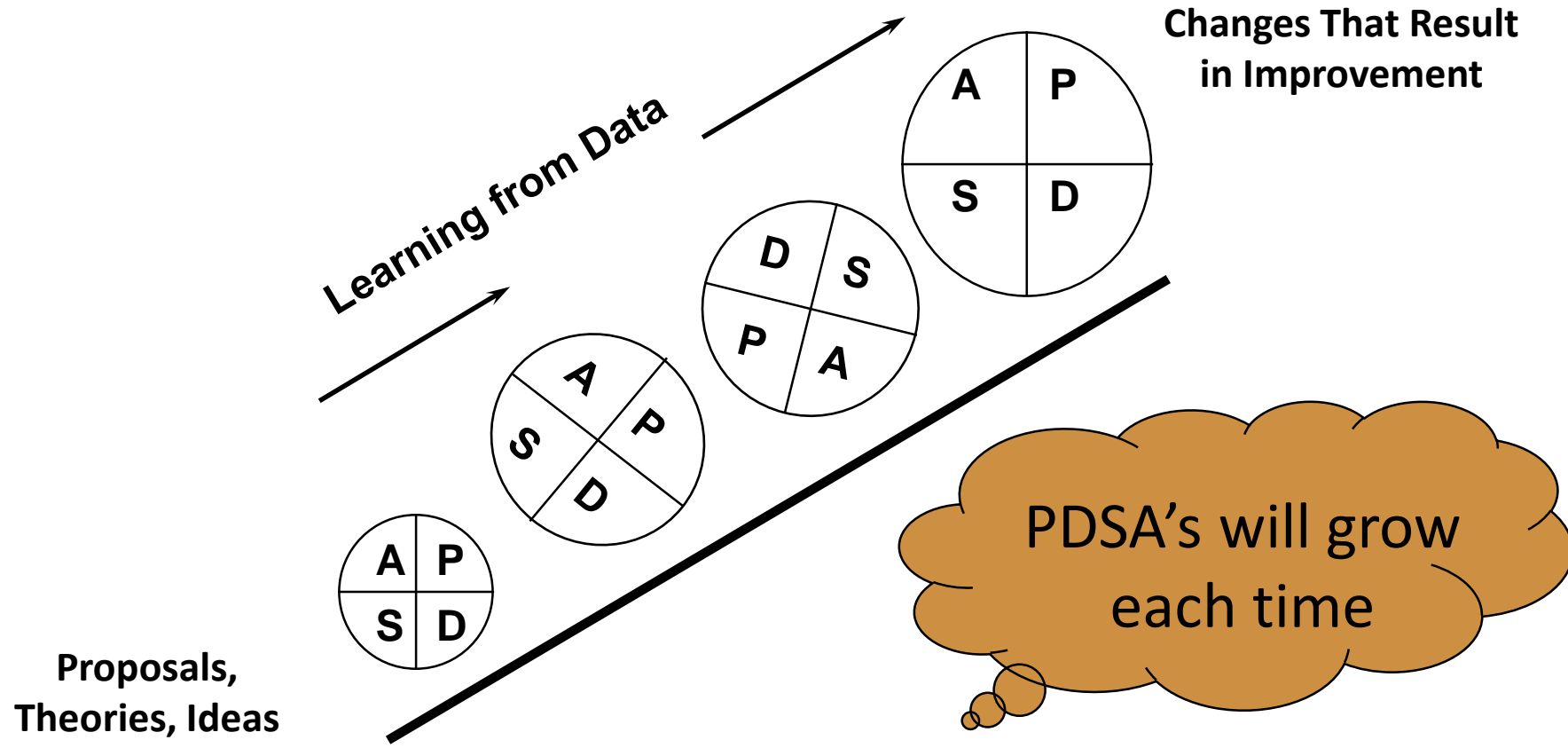
Carry out the plan

Document observations –
successes/unexpected
issues

Begin analysis of data



Use of the PDSA Cycle

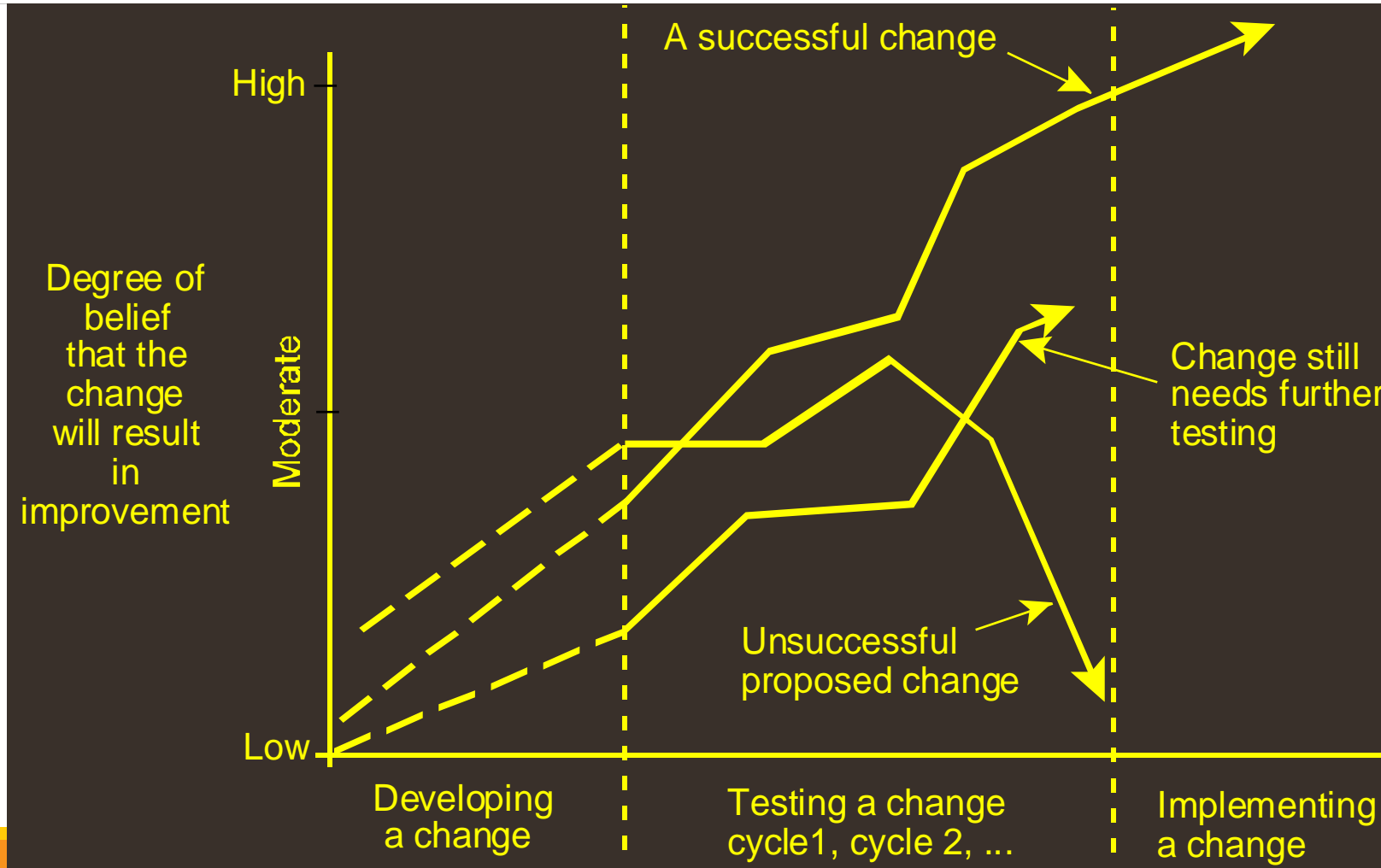




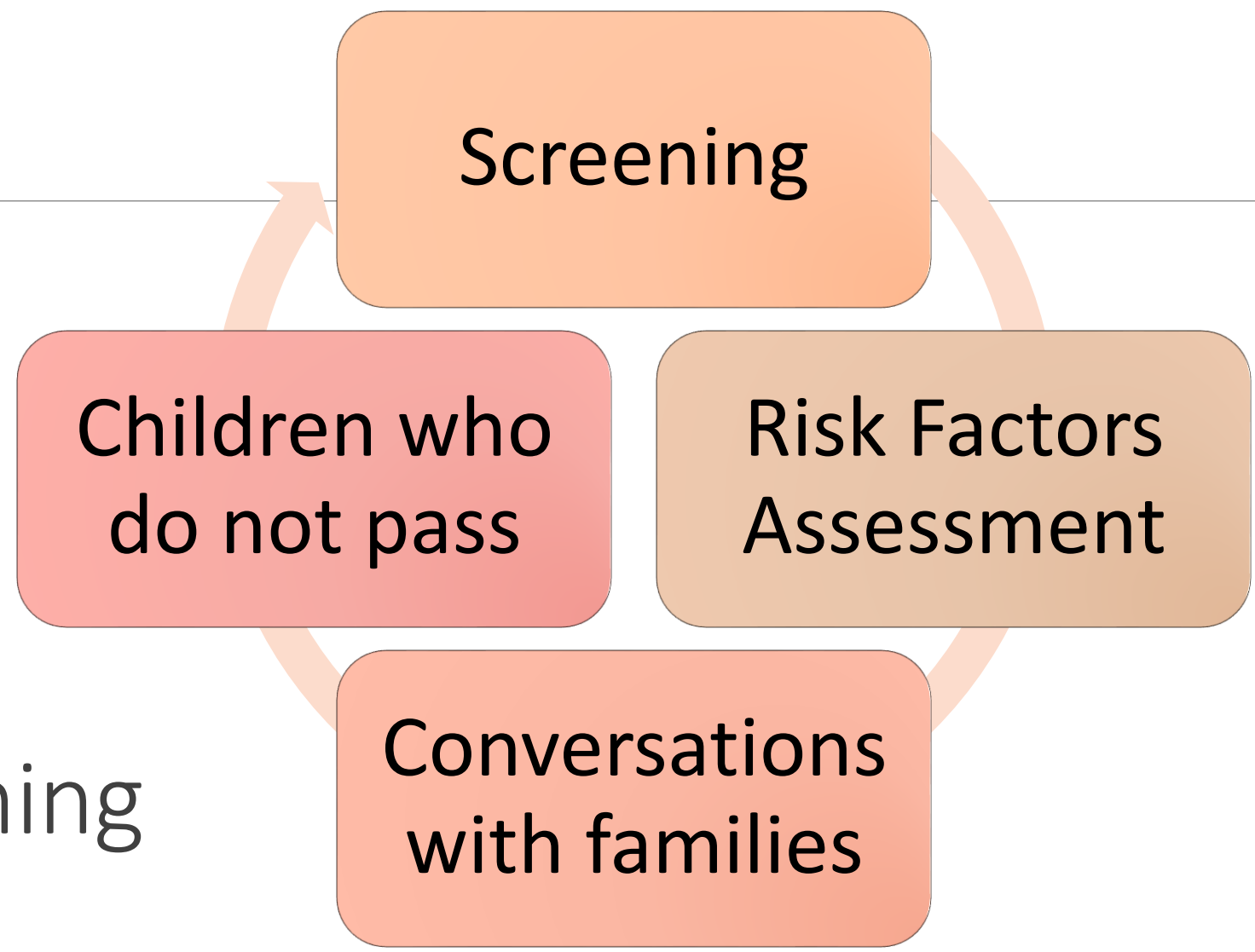
Why Test?

- Increase the belief that the change will result in improvement
- Predict how much improvement can be expected from the change
- Learn how to adapt the change to conditions in the local environment
- Evaluate costs and side-effects of the change
- Minimize resistance upon implementation

Moving from Developing, to Testing, to Implementing a Change



Brainstorming
Ideas



Common Hang Ups

Starting too big

Decision by committee

Implementing too quickly

Decisions without data

Spreading too quickly

Tasking not testing

Talking not doing

Team Time

Choose 1 idea you could try in the next 2 weeks

Create a plan using the PDSA worksheet

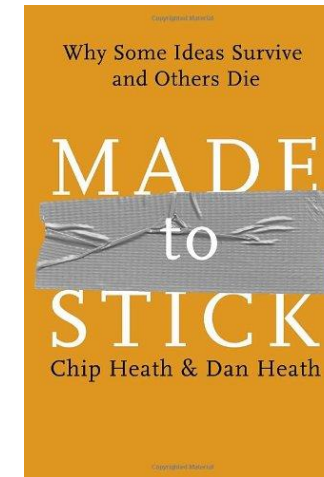
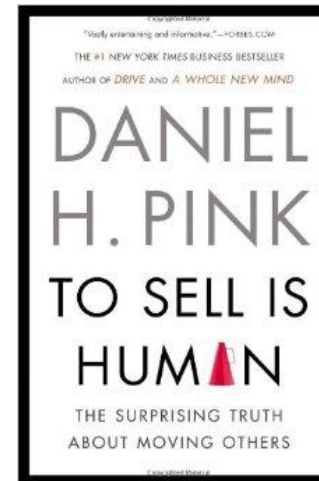
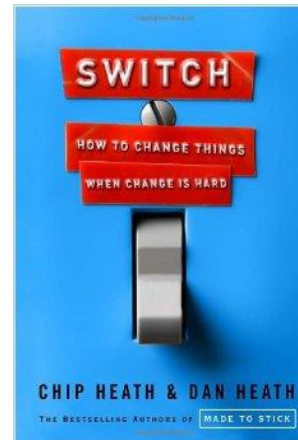
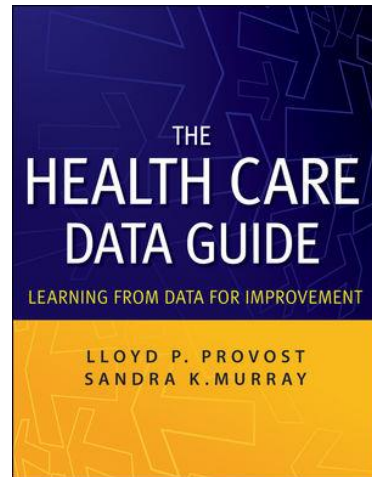
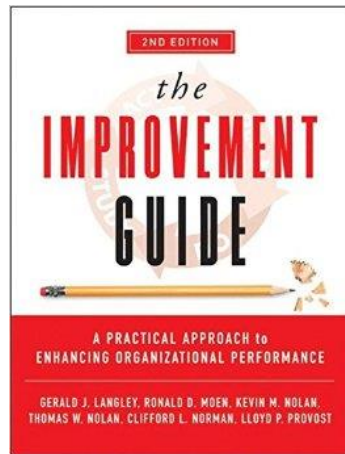
Report Out

Resources

IHI - http://www.ih.org/education/IHIOpenSchool/resources/_layouts/ih/pages/videos/ViewAll.aspx?tc=14896aaa-7504-4ba1-88f6-647b6a096de9&tcOp=Or&ttl=Improvement+Capability&TargetWebPath=/education/ihiopenschool/resources&sort=ModifiedDate%7CDescending&xchildtags=1

NICHQ - http://www.nichq.org/QI_101/story_html5.html?lms=1

Books:



Thank You!

Amanda Norton

altn14@gmail.com

“THE SECRET OF
CHANGE IS TO FOCUS
ALL OF YOUR ENERGY,
NOT ON FIGHTING THE
OLD, BUT ON BUILDING
THE NEW.”

– *SOCRATES*