

Mechanics of Improvement

Evans Center for Implementation
& Improvement Sciences

Quality & Patient Safety,
Department of Medicine

2
Tools for
Planning QI &
Implementation



What Are We Talking About?

- Quality Improvement
 - A framework to systematically improve healthcare delivery¹
- Improvement Science
 - Rigorous measurement of outcomes associated with efforts to improve care delivery
- Implementation Science
 - Scientific study of optimal strategies to promote the systematic uptake of research into practice to improve the quality or effectiveness of health services

Improving Healthcare Delivery

Group
Discussion

1. AHRQ. Practice facilitation handbook. <https://www.ahrq.gov/professionals/prevention-chronic-care/improve/system/pfhandbook/mod4.html>

Upcoming Sessions

Applying results

Iterative PDSA cycles – Disseminating Results
Planning for Spread – Scaling Up, Scaling Out
Planning for sustainability – Maintenance
Implications for Future Research

Identifying the potential for improvement

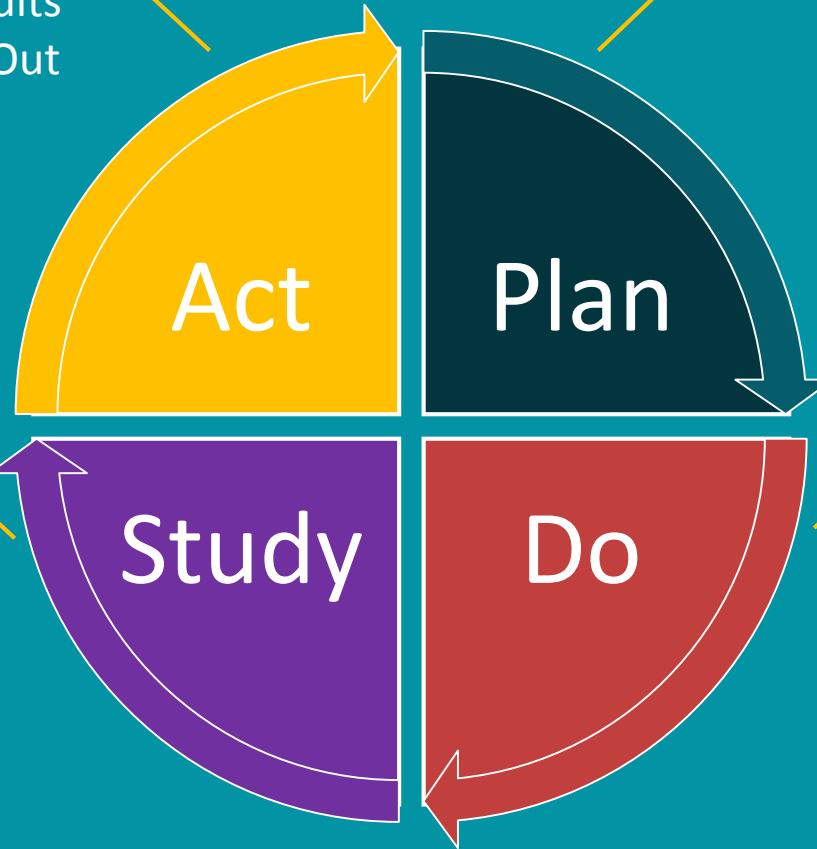
- ✓ Engaging Stakeholders
 - ✓ Aims Statement – Research Objectives
 - ✓ Identifying Best Practices
- Process Mapping – Conceptually Modeling
Measuring Effectiveness & Processes

Measuring results

Data Analysis
Measuring Effectiveness –
Measuring Processes
Lessons Learned – Measuring
Barriers/Facilitators

Effecting change

Designing Small Scale Tests –
Study Designs
Organizing Change –
Implementation Strategies
Data Collection



Recap on Planning:

How do we identify the need and potential for improvement?

Quality Improvement

- Stakeholder analysis
- Aims statement
- Process map, driver diagrams
- Intuitive & evidence-informed practices
- Testing changes
- Outcome measures > process measures
- Plan for iterative changes

Implementation and Improvement Sciences

- Stakeholder analysis
- Research objectives
- Conceptual model
- Evidence-informed or -based interventions
- Testing implementation strategies
- Process measures \geq outcome measures
- Protocol-driven change

Stakeholder Analysis Matrix

Stakeholder Name	Contact Person	Impact	Influence	What is important to the stakeholder?	How could the stakeholder contribute to the project?	How could the stakeholder block the project?	Strategy for engaging the stakeholder
EXAMPLE Nurses & Midwives Union	Carlos Davida cdavida@nu.org 0998 765 287	High	High	Maintaining working conditions for nurses	Agree for union members to implement the new reforms	Going on strike	Monthly round-table discussions

Session 2 Objectives

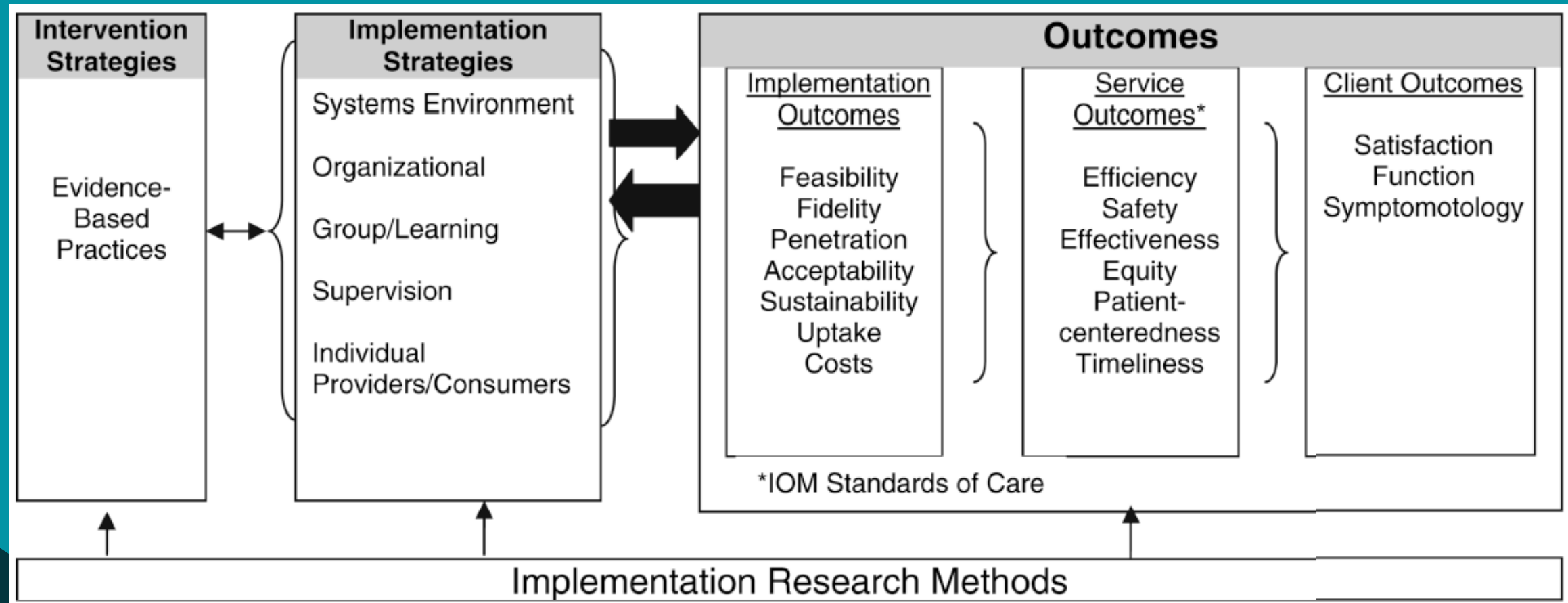
1. Demonstrate how to use conceptual models to map out study variables and outcome measures
2. Use driver diagrams to plan improvement activities, identify workflow changes
3. Discuss how to apply planning tools to your improvement initiatives

Using Conceptual Models

- Conceptual models act as roadmaps for your study
- Clarify relationships between key variables, gap, strategies & outcomes



Proctor Model for Implementation Science



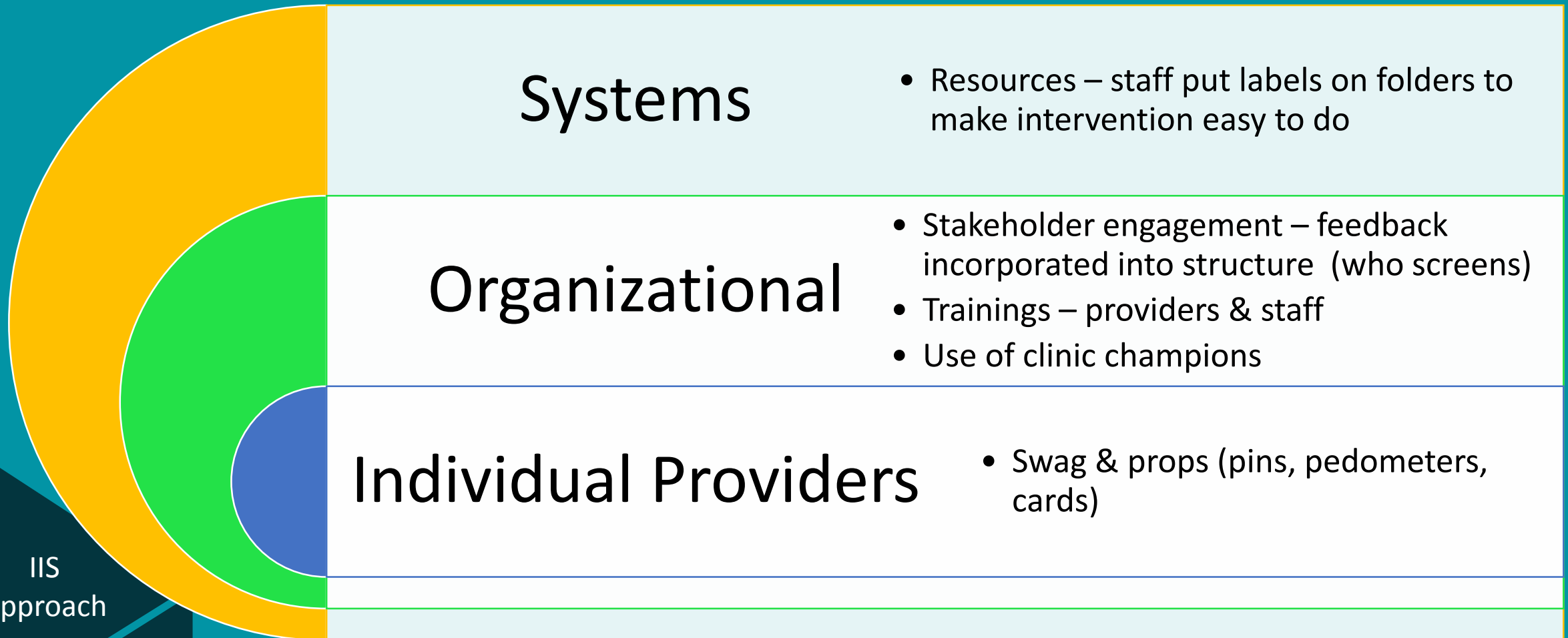
IIS

Approach

The Hepatitis C Testing & Assessment Project (HepCAT)

- Quality gap
 - High rates of HCV in population born 1945-1964
 - No evidence for routine testing for all (as with HIV)
- Research Question:
 - What is the better strategy to improve HCV screening & testing in primary care in settings with a large proportion of high-risk patients?
 - Routine birth cohort testing
 - Enhanced risk screening with targeted testing for all others
- Setting:
 - 3 large CHCs in South Bronx

HepCAT Implementation Strategies



Defining Outcome Measures

Outcome	Definition	Data Source
Implementation Outcomes		
Acceptability	Agreeable, attitudes	Qualitative
Adoption	Willingness to implement	Qualitative
Appropriateness	Perception of fit	Qualitative
Feasibility	Can they do it	Qualitative
Fidelity	Did they do it	Screeners, EMR testing data
Penetration	% eligible that got it	Screeners done, EMR testing data
Sustainability	Does the intervention stick	EMR testing data post-intervention
Client Outcomes		
Symptomatology	% tested who tested positive	EMR testing data

Defining Outcome Measures

Outcome	Definition	Data Source
Service Outcomes		
Efficiency	Did the right people get screened/tested	EMR risk & testing data, screener risk & testing data
Patient centeredness	Patient responses	Qualitative
Timeliness	Getting people to care	EMR referrals, linkage
Equity	Care does not vary by personal characteristics	EMR demographics & testing data

QI Model for Improvement

AIMS



What are we trying to accomplish?

MEASUREMENTS

Outcome, Process, Balancing
metrics

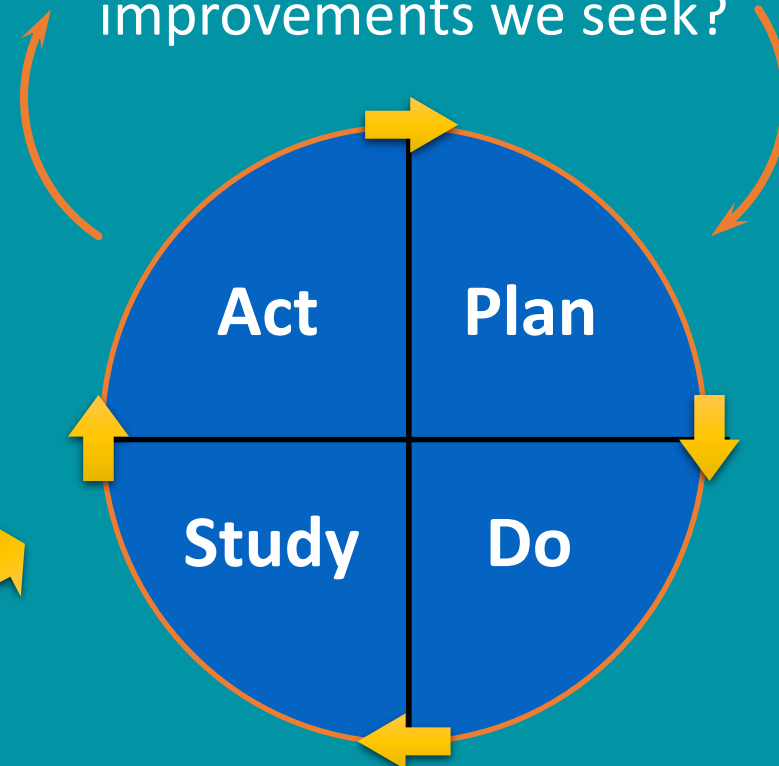


How will we know that change = improvement?

CHANGE IDEAS



What changes can we make that will result in the
improvements we seek?



PDSA Testing Change Ideas

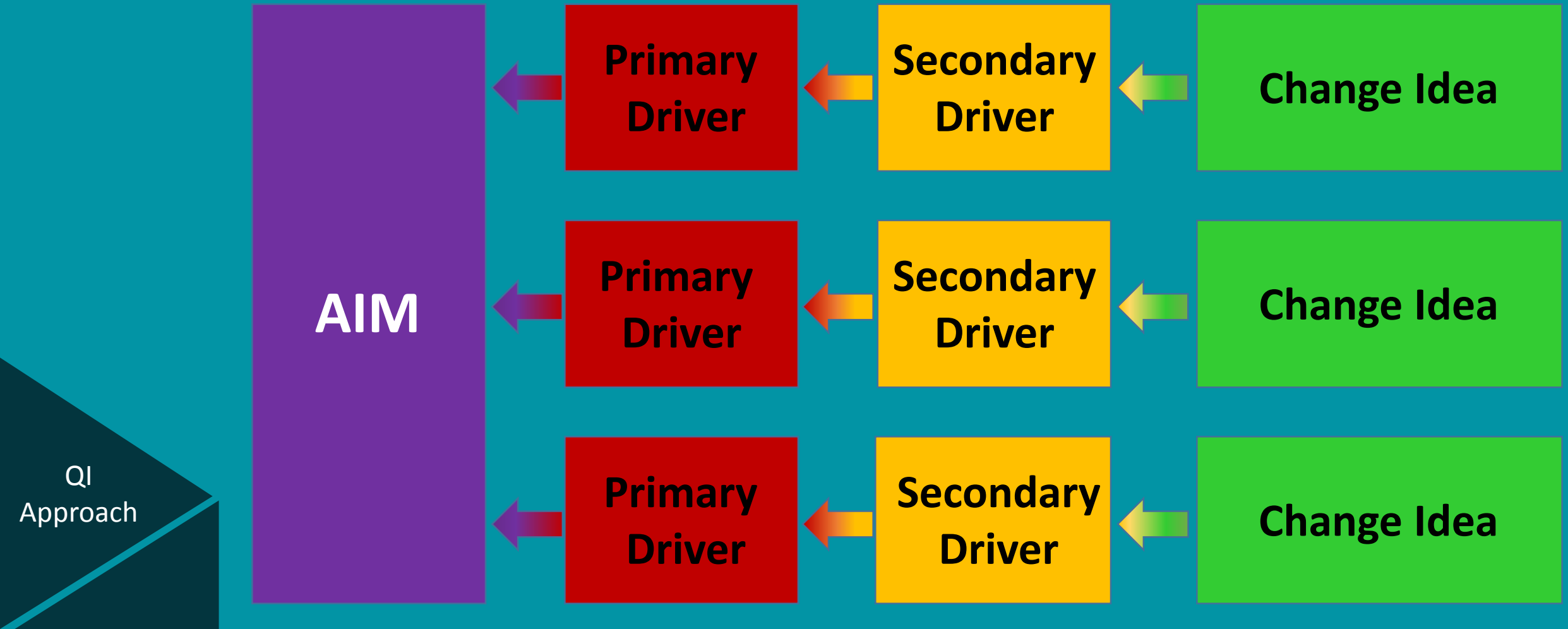


QI

Approach

Visualizing QI's Project Roadmap:

Driver Diagram Template



Driver Diagram

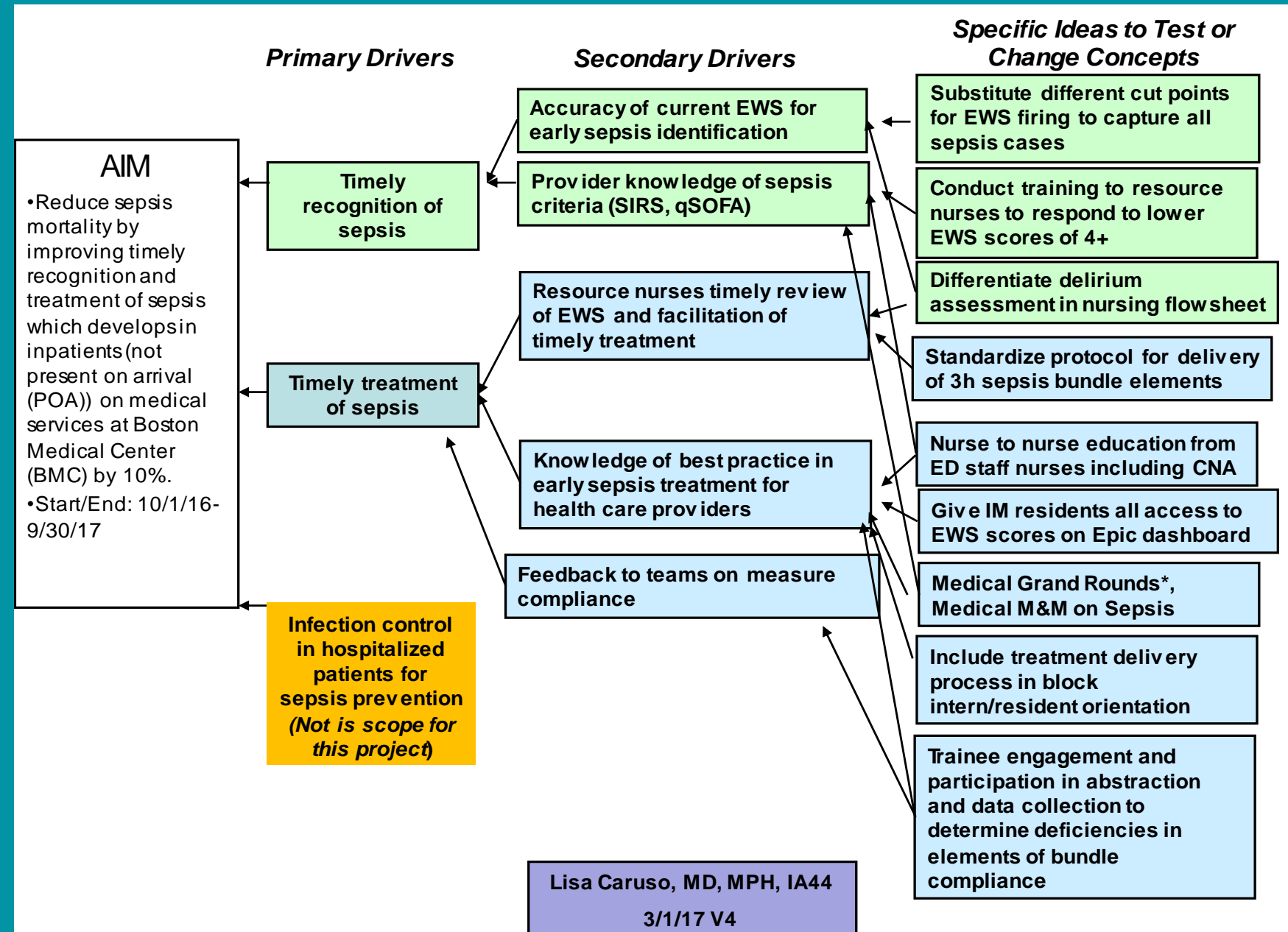
- A tool that systematically lays out all aspects of an improvement project from **AIM** to **CHANGE IDEAS** so that linkages are readily seen
- Designed by stakeholders it illustrates team's current theory of how the system works, the major contributors and sub contributors that are negatively impacting how system is functioning and ideas and hunches that team believes can improve these
- Dynamic tool that will change over time as change ideas are tested and refined thru iterative PDSA Cycles

Components of the Driver Diagram

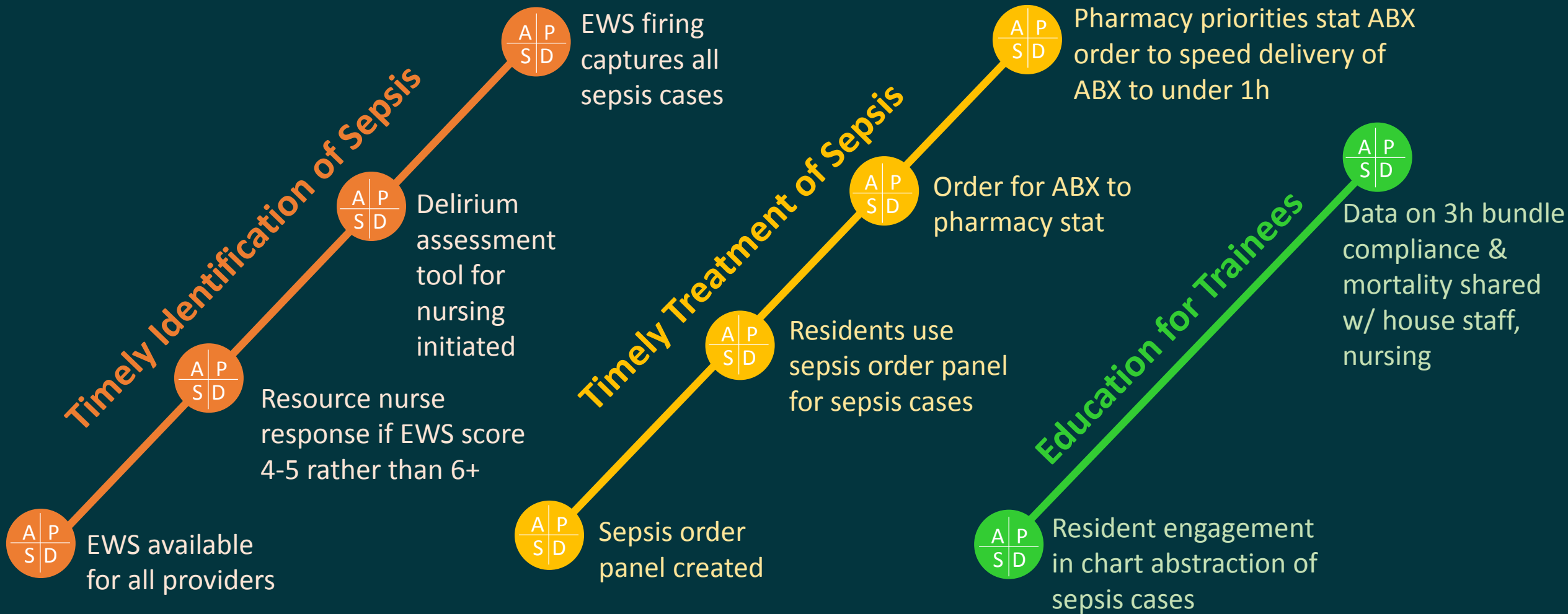
AIM	PRIMARY DRIVERS	SECONDARY DRIVERS	CHANGE IDEAS
What is to be achieved? To what degree? By when?	The big topic areas that need to be addressed for aim to be achieved	The individual components influencing primary driver	Tied to how to improve the secondary drivers
Developed from what baseline project data	Identified through stakeholder brainstorming of most significant influencers of the aim	Brainstorming may show secondary drivers may connect to more than one primary driver	The team's improvement hunches that will be tested through iterative PDSA cycle
Sets the project's outcome measure	Together with secondary drivers sets project's process measures	Together with secondary drivers sets project's process measures	Sets balancing measures to insure other parts of system not negatively impacted by change

Example of a Completed Driver Diagram:

BMC's Driver Diagram for Sepsis Mortality



Driver diagram change ideas evolve as a result of iterative PDSA cycles



Tips and Tricks Using Driver Diagrams

- Driver Diagrams are “Live” tools developed by stakeholders and need to be refined through iterative PDSA cycles
- Making your drivers measurable to create your measurement framework
- Prioritize change ideas by asking stakeholders “which of the changes will have the highest impact on aim and is the easiest to do?” to start your changes

“Driver Diagrams enables group to move from a concept or an idea into starting to execute a programme and delivery very quickly. That has been a major difference to the way we work...”

Your Experience Planning for Improvement

Think of a time you wanted to improve healthcare delivery...

- Did you use a conceptual model or driver diagram?
- Was it helpful?
- Biggest planning challenges?
- What do you wish you knew/did to prepare before you started implementing change?