RUTGERS
THE STATE UNIVERSITY OF NEW JERSEY

Crossing the Quality Chasm in : Bringing Concepts and Tools of Continuous Quality Improvement to Your Pediatric Practice

Presenter:
Thomas I. Mackie, PhD, MPH
Assistant Professor, Department of Health Systems & Policy, SPH
Core Faculty, Institute for Health, Health Care Policy, and Aging Research
Rutgers: The State University of New Jersey

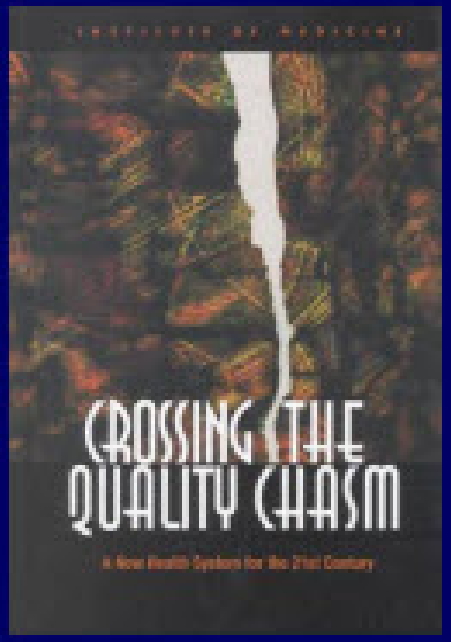
Objectives

By the end of this session, you will be able to:

- Describe the role and opportunities for quality improvement in pediatric behavioral healthcare systems
- Understand the Quality Improvement processes
- Describe the use of specific Quality Improvement tools

Crossing the Quality Chasm - 2001

Crossing the Quality Chasm

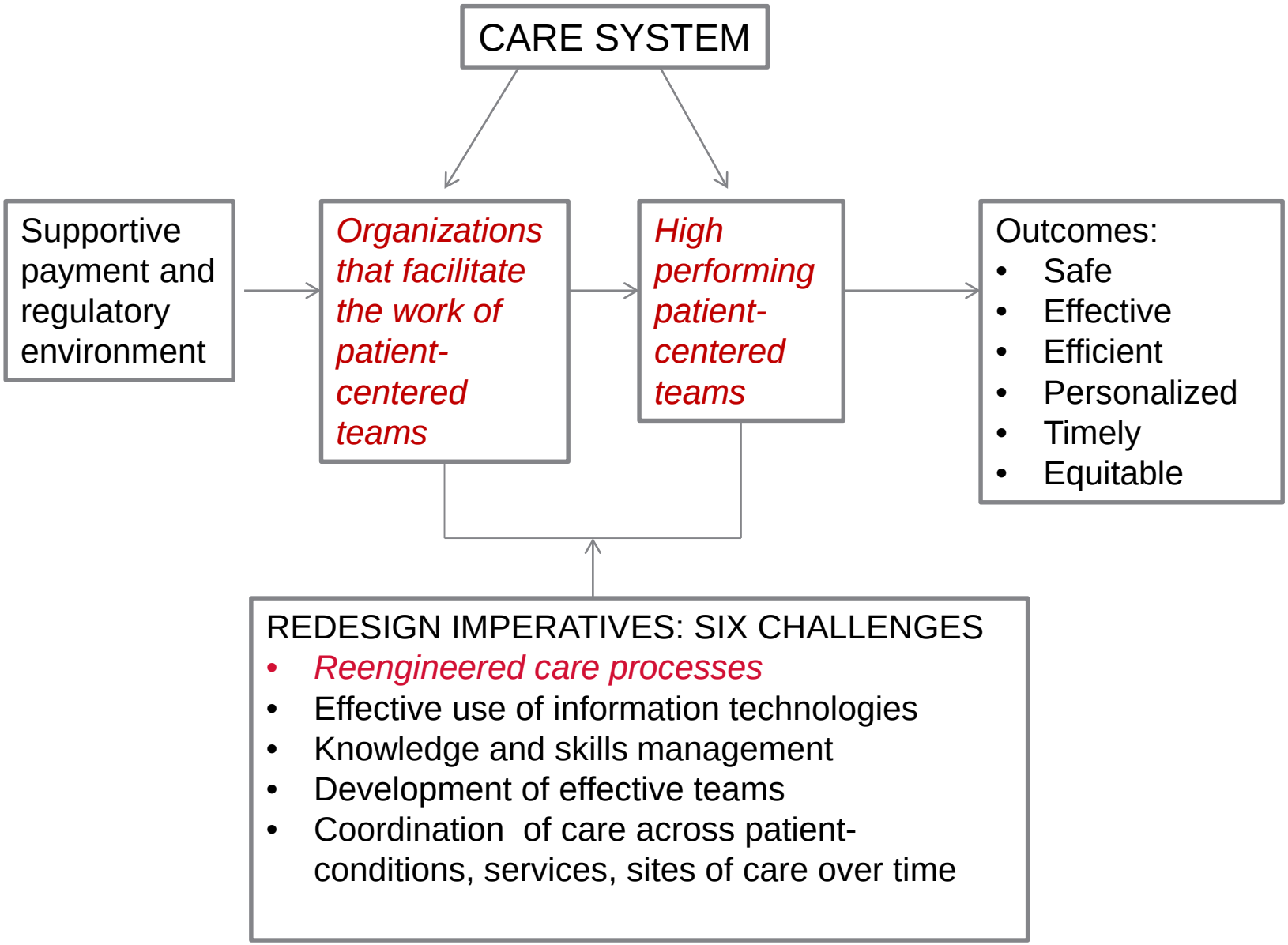


"Quality problems occur typically not because of failure of goodwill, knowledge, effort or resources devoted to health care, but because of fundamental shortcomings in the ways care is organized"

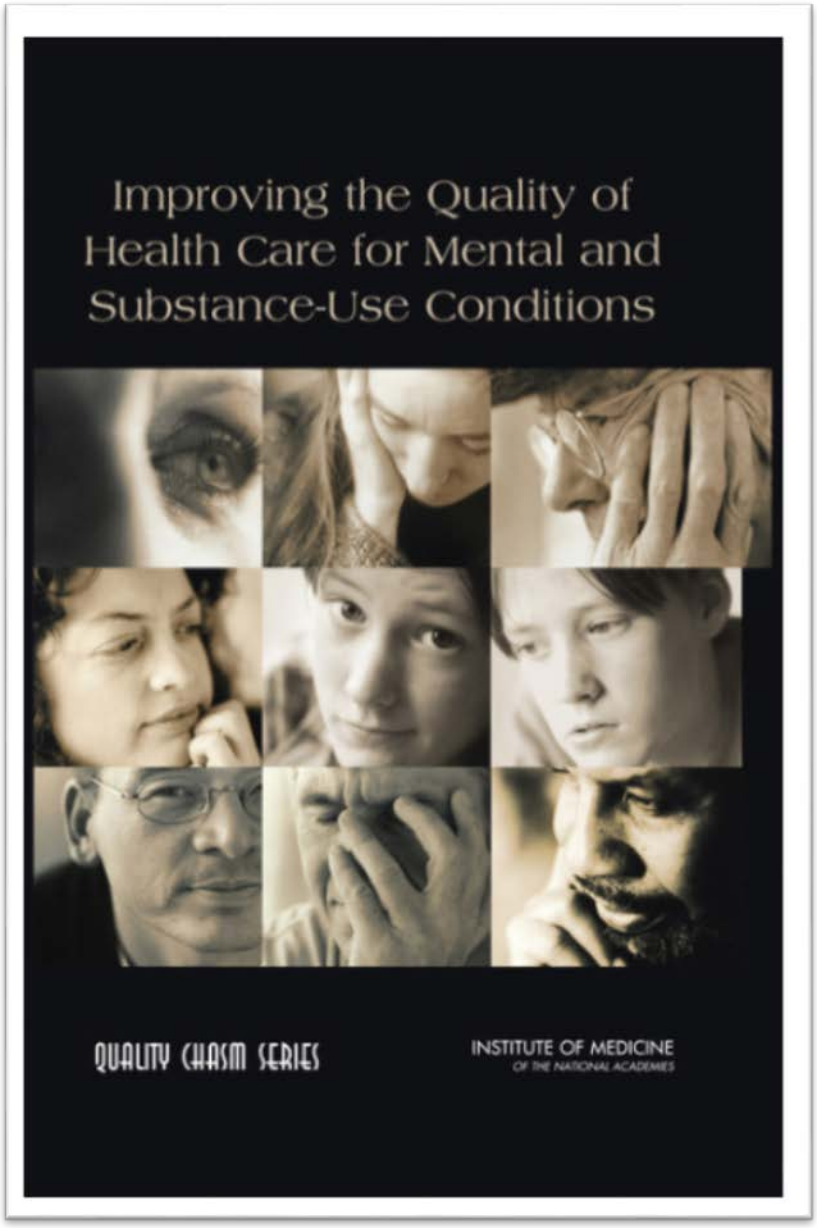
The American health care delivery system is in need of fundamental change. The current care systems cannot do the job.

Trying harder will not work:

Changing systems of care will!



IOM Crossing the Quality Chasm Report Brief – March 2001



- Children and adolescents in out-of-home treatment centers: 42.9 percent were receiving antipsychotic medications without having any history of or current psychosis [4-state study]
- Reliance on seclusion and restraint in out-of-home treatment settings, despite substantial psychological and physical harm to patients and an estimated 100-150 deaths in the United States annually.[2,3]

1. Rawal PH, Lyons JS, MacIntyre JC II, Hunter JC. Regional variation and clinical indicators of antipsychotic use in residential treatment: A four state comparison. Journal of Behavioral Health Services and Research. 2004;31(2):178–188.
2. GAO (Government Accountability Office). Mental Health: Improper Restraint or Seclusion Use Places People at Risk. Washington, DC: GAO; 1999. [accessed September 2, 2005]. GAO/HEHS-99-176. [Online]. Available:http://www.gao.gov/archive/1999/he99176.pdf.
3. Substance Abuse and Mental Health Services Administration (SAMHSA). (2010). Promoting Alternatives to the Use of Seclusion and Restraint—Issue brief #1: A National Strategy to Prevent Seclusion and Restraint in Behavioral Health Services. Rockville, MD: U.S. Department of Health and Human Services.

IHI Triple Aim

Adaptation of the Institute for Healthcare Improvement's Triple Aim

- Improving the patient and provider experience of care.
- Improving the health of populations.
- Reducing the per capita cost of health care.

Quality improvement in Healthcare

"Quality improvement in healthcare is the direct correlation between the level of improved health services and the desired health outcomes of individuals and populations."

-Institute of Medicine

IOM Crossing the Quality Chasm Report Brief – March 2001

Why respond to quality chasm with QI?

- QI focuses on **improving outcomes; it can be applied to almost any topic**.

- QI stresses first experimenting with small changes, where **financial and motivational risks are minimized**, and then spreading to a larger population once tested.

- QI framework **provides opportunity to use 'trial and learn' to optimize services to complex systems**.

Continuous Quality Improvement

- Opportunity for improvement exists in every process on every occasion
- Focuses on the system and not the person in improving health care
- Requires commitment to:
  - improve operations, processes, and activities
  - meet community needs in an efficient, consistent and cost-effective manner

Quality Improvement vs. Quality Assurance

Quality Improvement	Quality Assurance
Raises quality	Guarantees quality
Emphasizes prevention	Relies on inspection
Uses a proactive approach	Uses a reactive approach
Requires continuous efforts	Looks at compliance with standards
Relies on teamwork	Requires a specific fix
Examines process or outcomes	Relies on individuals
Asks, “How can we provide better services?”	Asks, “Do we provide good services?”

Project-level [“qi”] vs. Organization-wide QI [“QI”]

Topic	“Small qi”	“Big QI”
Improvement	Program or unit level	Organization wide with a system focus
Quality improvement planning	Program or unit level	Organization-wide and often tied to the strategic plan
Evaluation of quality	Performance of a process capacity over time	Organization-wide processes that cut across all program and activities
Quality improvement goals	Delivery of program or unit-level service	Organization’s strategic plans
Utilization of QI	Individual program or unit level plans	Entire organization
Benefit of high quality	Improving the efficiency and effectiveness of programs and process in public health department leading to improved community health	Improving the efficiency and effectiveness of public health department management system organization wide to improve community health

Tools and Methods of Improvement: Examples

Domain of interest	Helpful tools and methods
Healthcare as processes within systems	Diagrams that illustrate flow and cause-effect, narrative descriptions, case examples
Variation and measurement	Data recorded over time and analyzed on run and control charts
Customer/beneficiary knowledge	Measurements of illness burden, functional status, quality of life
Leading, following, and making changes	Leadership training programs, Reflective action
Collaboration	Conflict resolution, acquiring specific communication skills (e.g., SBAR), group learning
Social context and accountability	Documenting unwanted and unnecessary variation, public reporting
Developing new locally useful knowledge	Develop new, locally useful knowledge (PDSA cycles)

Batalden, P. B., & Davidoff, F. (2007). What is “quality improvement” and how can it transform healthcare?. *Quality and safety in health care*, *16*(1), 2-3.

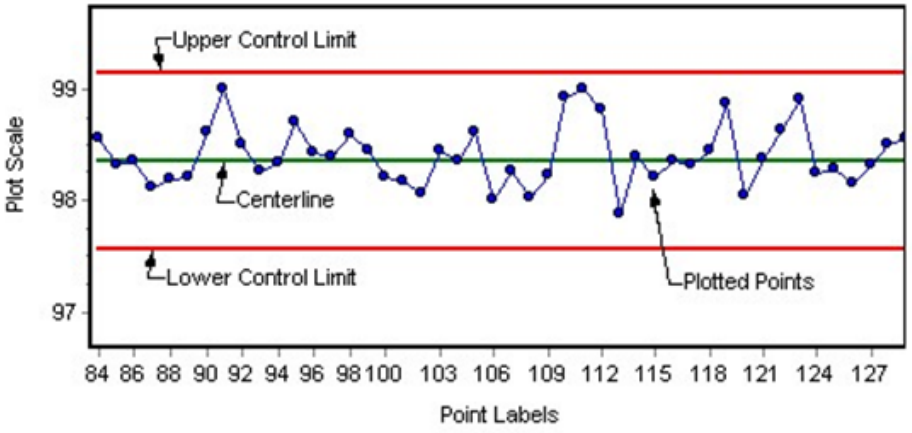
Quality Improvement Tools

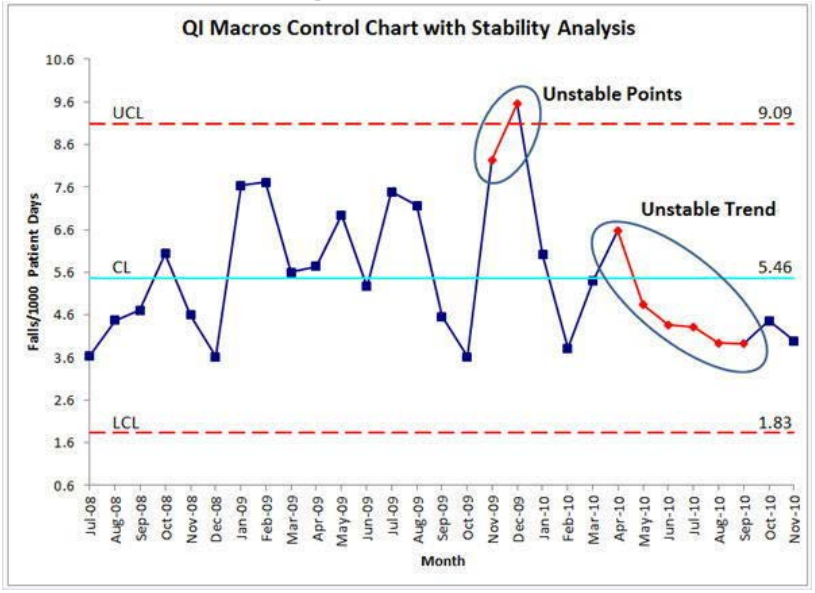
- **Six-sigma methodology**
- **Lean methodologies**
- **Plan Do Study Act (PDSA)**: more to come….

Quality Improvement Tools: Six Sigma

Six-sigma-methodology: Relies on statistical measurement to reduce cost, decrease process variation, and eliminate defects.

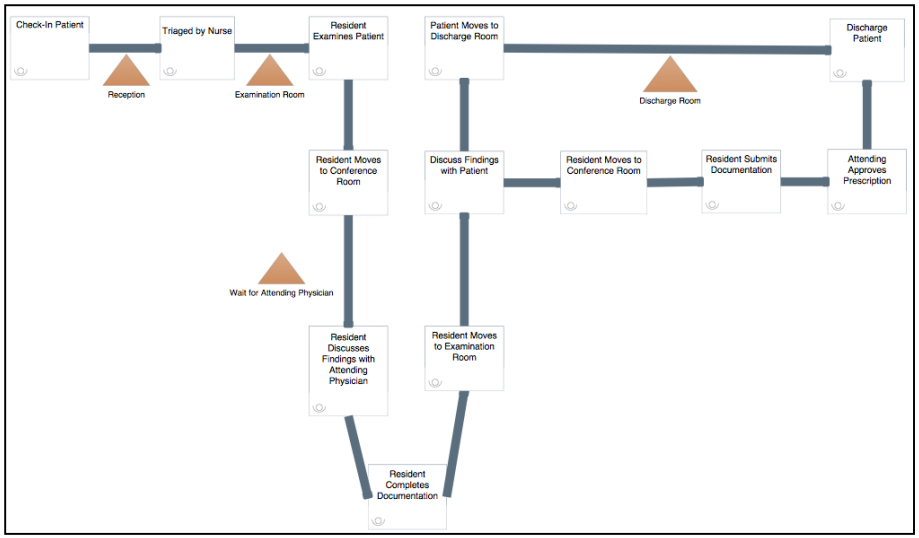
- 4 steps: Define, measurement, analysis, improvement, control

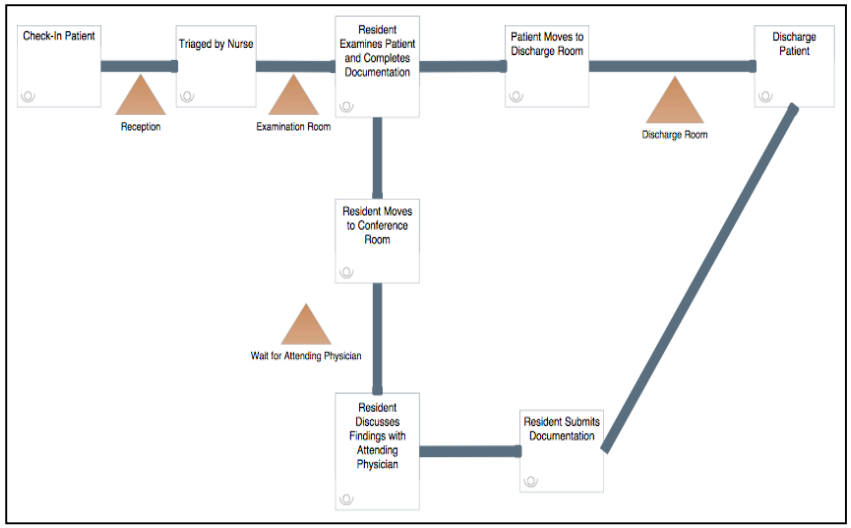




Quality Improvement Tools: Lean

- Driven by customer's needs and aims to improve processes by removing non-value-added activities.
  - *Value stream mapping*-graphically display process of services or product and opportunities for improvement highlighted.

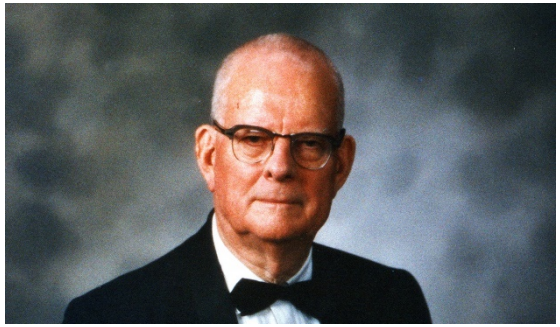




Quality Improvement Tools: Plan-Do-Study-Act (PDSA)

- Four-stage problem-solving model for improving process or carrying out change
  - Approximates scientific method
    - Plan: Hypothesize
    - Do: Experiment
    - Study: Evaluate
    - Act: Translate (when evidence-based)
  - Characteristics:
    - Iterative and continuous process-not one time pursuit
    - Rapid cycles
    - “Trial and learning”
- QI Project Workbook, Modified from Leslie et al, 2017; From another context but applicable to clinical practice.

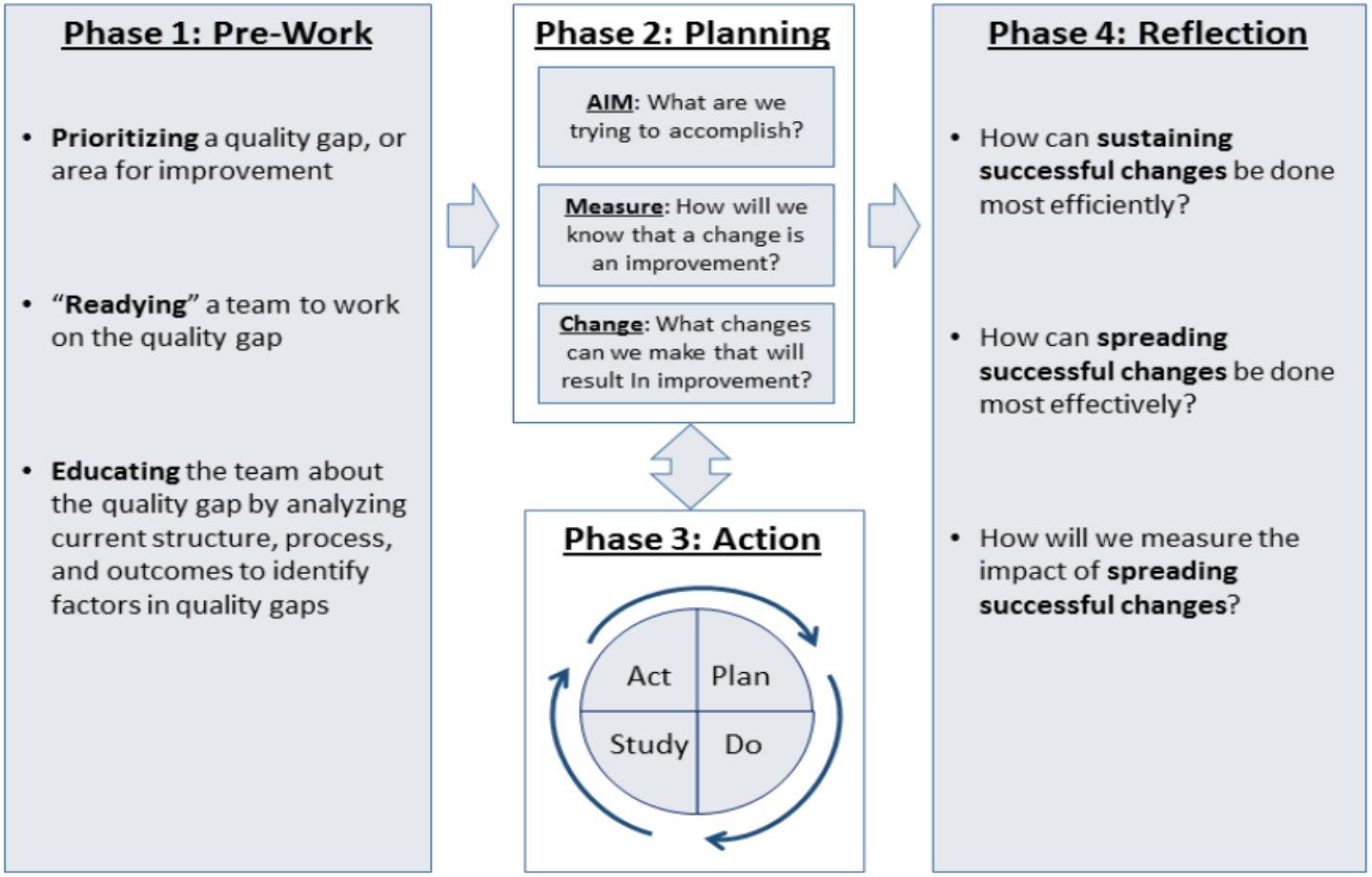
Plan-Do-Study-Act: A brief history



- Dr. Edwards Deming-adapted from work of Walter Shewart.
  - Quality as primary driver for industrial success
  - Applied to automobile industry
  - Adapted from an process in industrial engineering
    - Identifying customer needs
    - Reducing variations in processes
    - Minimizing inspections

- Post-World War II Japanese Quality Revolution in automobile and electronic industries; process referred to as the "Deming cycle"

Modified IHI Model of Improvement



Modified from: [Institute for Healthcare Improvement: www.ihi.org](www.ihi.org)

Phase 1. PRE-Work:

- **P**rioritizing a quality gap, or area for improvement
- "**R**eadying" a team to work on the quality gap
- **E**ducating yourselves, as the team, about the quality gap by analyzing current structure, process, and outcomes to identify factors that may provide an opportunity to improve the quality gap

Phase 1: Pre-Work, Prioritizing a Quality Gap

- Prioritize a quality gap.
- Things to consider include:
  - *Relevance*
  - *Importance*
  - *Incidence and prevalence of concern*
  - *Severity*
  - *Feasibility for redress (within your locus of control)*

What are potential areas for improvement in your work?

- Consider the following factors and identify one that best meets the following criteria
  - *Relevance*
  - *Importance*
  - *Severity*
  - *Feasibility for redress (within your locus of control)*

Phase 1: Pre-Work, “Readying” a Team

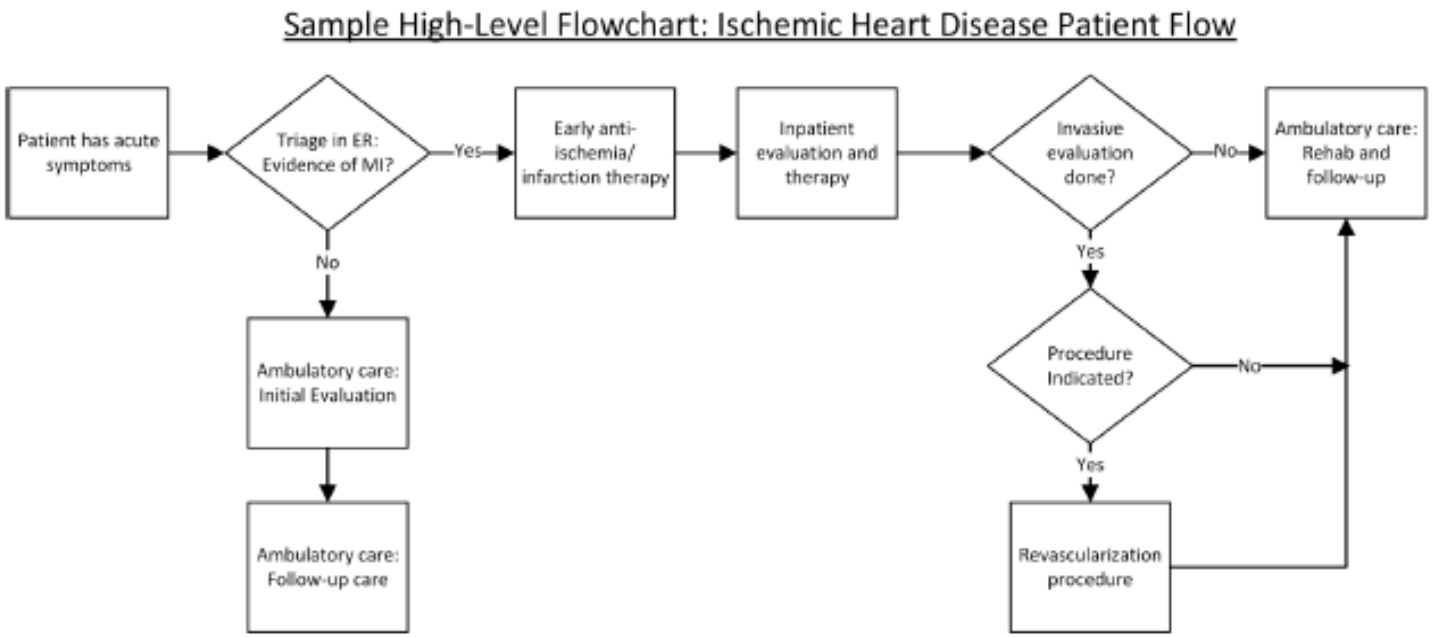
- Identify team members, typically includes:
  - Day-to-day leaders, management sponsor, technical expert, stakeholders (internal and external)

- Craft *operating agreement* to govern how you will work collaboratively, typically includes:
  - Ground rules
  - Roles/responsibilities
  - Governance approach
  - Timeline

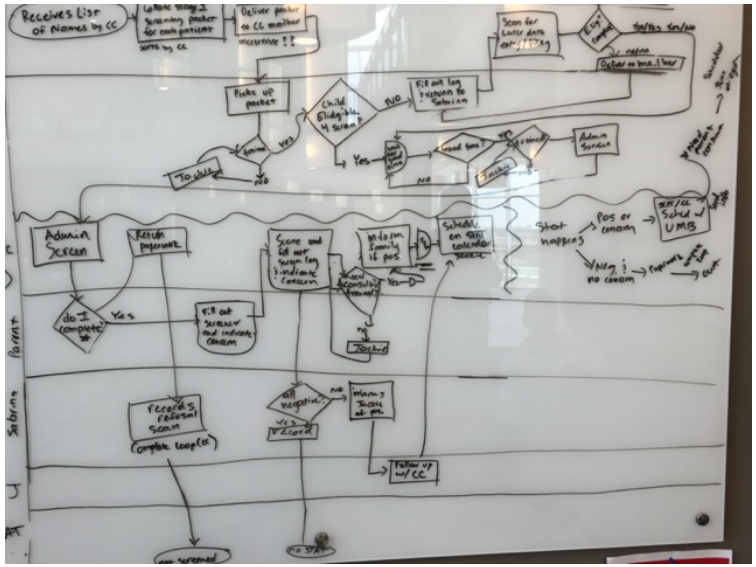
Phase 1: Pre-Work, "Educating" the Team

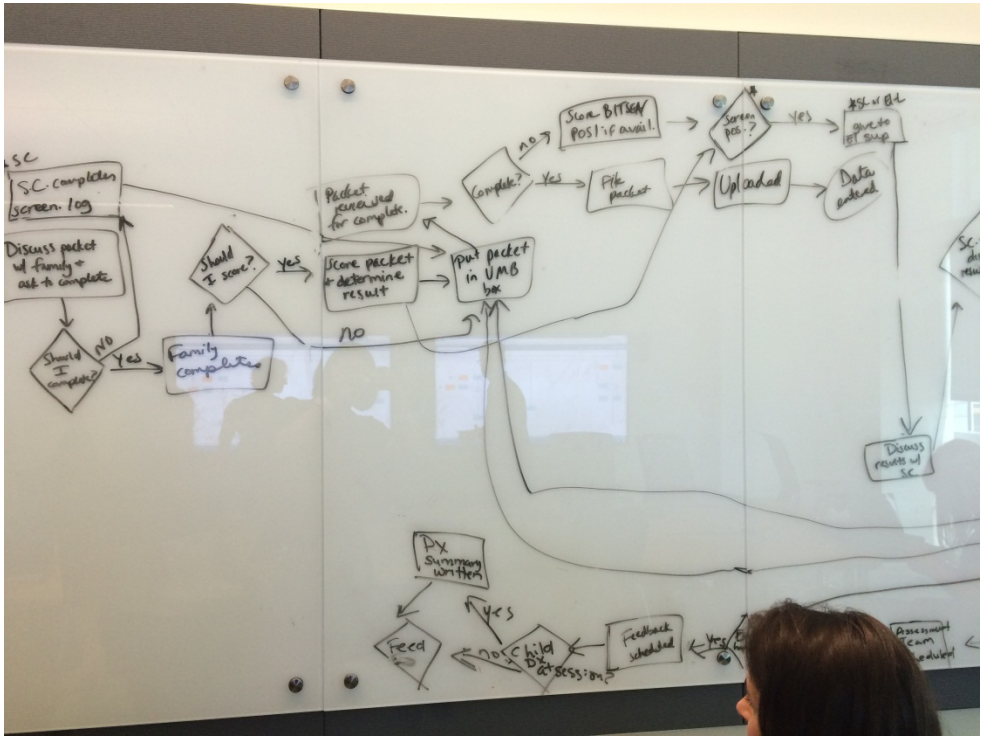
- There are a number of QI tools that teams may use to portray any information when educating themselves about a quality gap. Some examples include:
  - *Flowcharts* and *process maps* that capture processes, refer to 18 of handout.
  - *Cause-and-effect (fishbone)* diagrams that categorize issues, refer to 20 of handout.
  - *Graphs* (bar graphs, pie charts, histograms, Pareto charts) that display data
  - *Spaghetti diagrams* that map processes on a physical floorplan

Flowchart (pages 18 in worksheet)

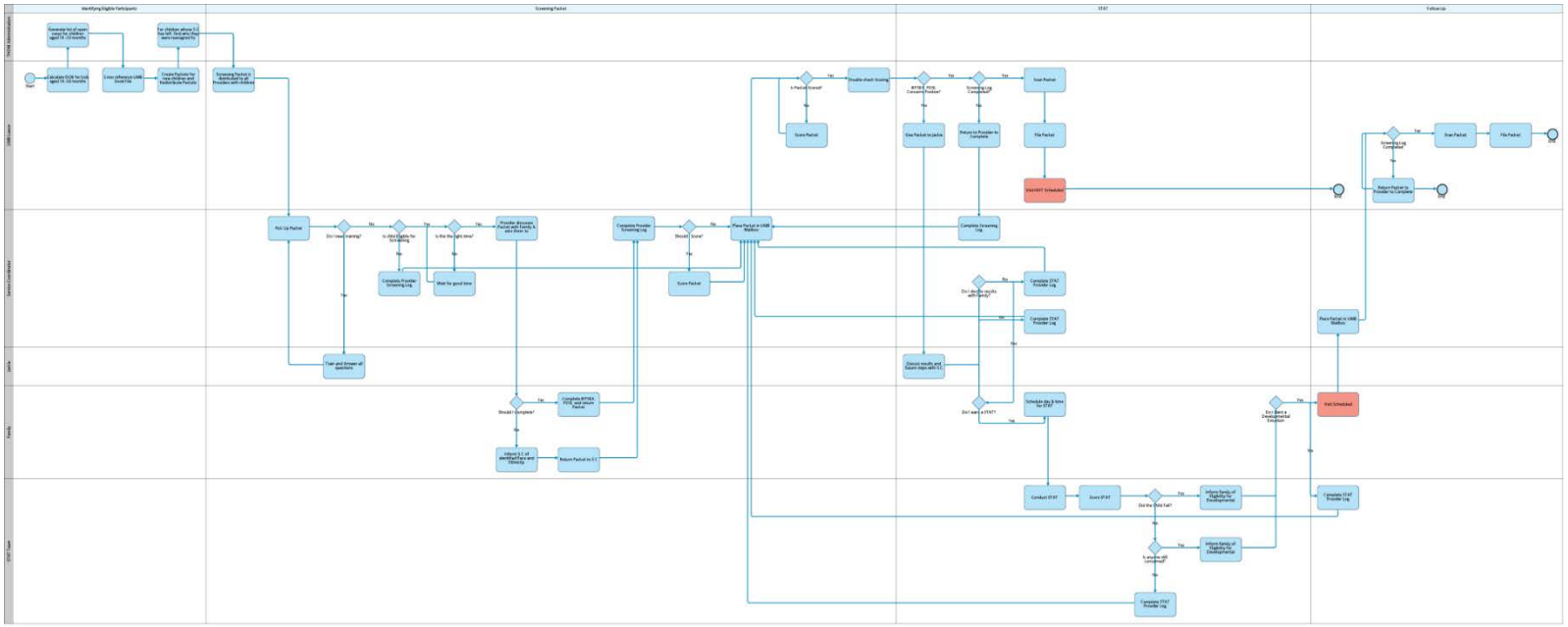


Case Example: Process Maps

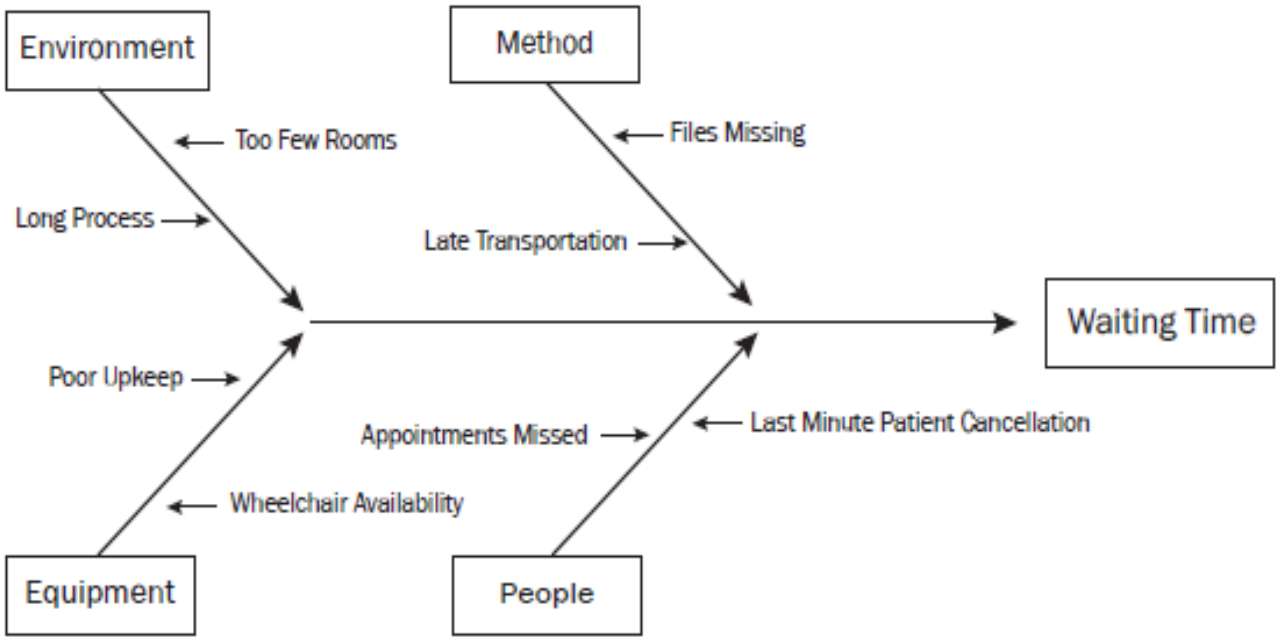




Case Example: Process Maps



Cause-and-effect Diagrams (see pg 20)



See pages 15-16 of worksheet.

Phase 2. Planning

1. **Aim.** What is the problem you are trying to address?

   [Consider relevance, importance, prevalence, severity, and is it in your locus of control.]

2. **Measure.** How will know that a change is an improvement?

   [Consider optimal measures to ascertain intended and potential unintended consequences.]

3. **Change.** What changes can we make that will result in improvement?

   [Consider feasibility, existing evidence base, ethical, and culturally appropriate.]

Phase 2.1: Aim. What is the problem you are trying to address?

1. **Aim.** What is the problem you are trying to address?

   [Consider relevance, importance, prevalence, severity, and is it in your locus of control.]

Phase 2.1: Aims Statement.

- Aims statement should be SMART
  - **S**pecific
  - **M**easurable
  - **A**ttainable
  - **R**ealistic
  - **T**imely

Tufts Medical Center, HEALERS case example:

- By January 1, 2016, 95% of surveyed parents and caregivers of children at FHC will report having received the “teach back” during their clinical visits.

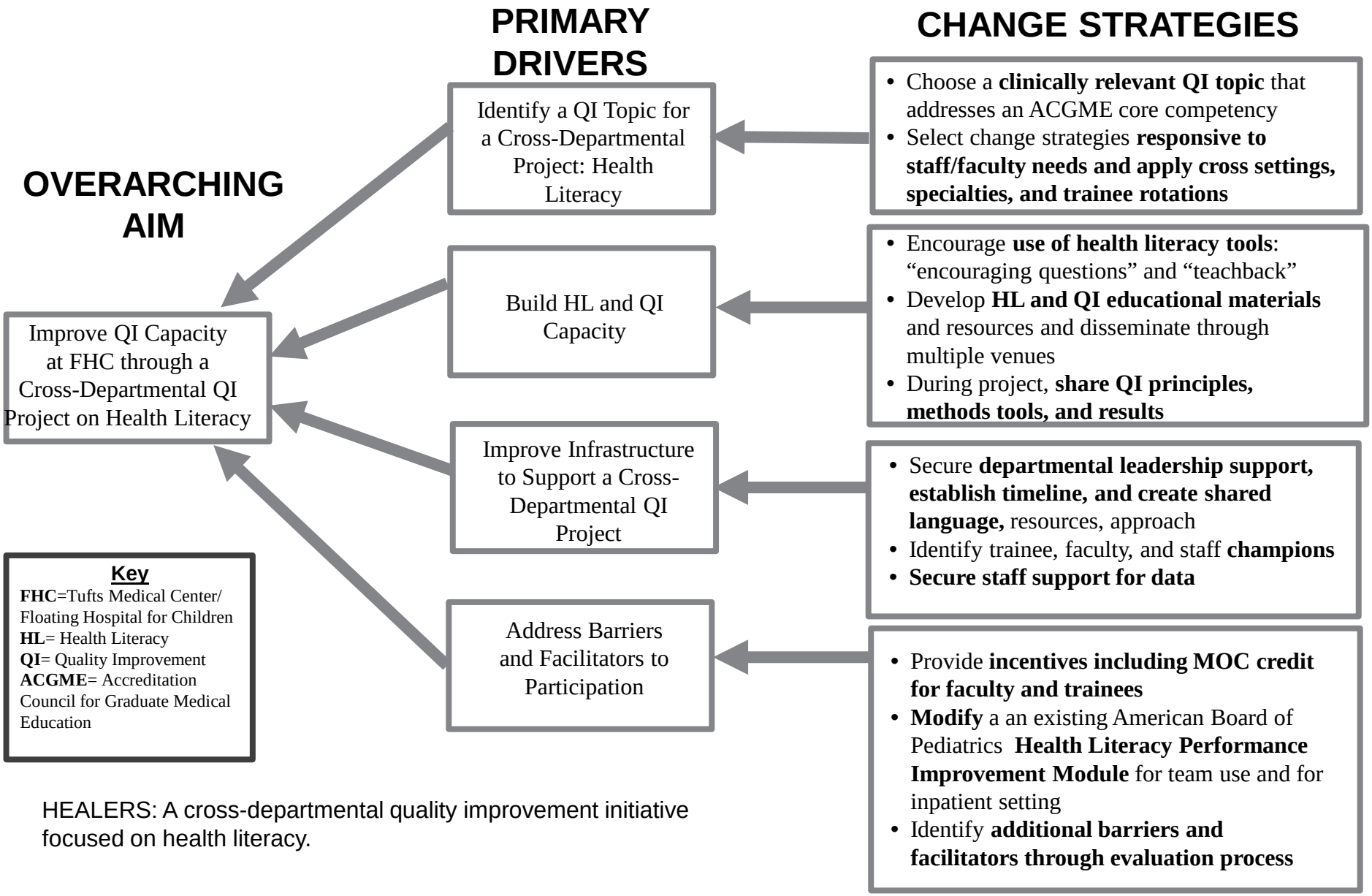
Phase 2.2. Measure. How will we know that a change is an improvement?

Consider measures of structure, process, and outcome, documented in charter and consult measures form in worksheet for specific considerations.

Phase 2.3. Change. What changes can we make that will result in improvement?

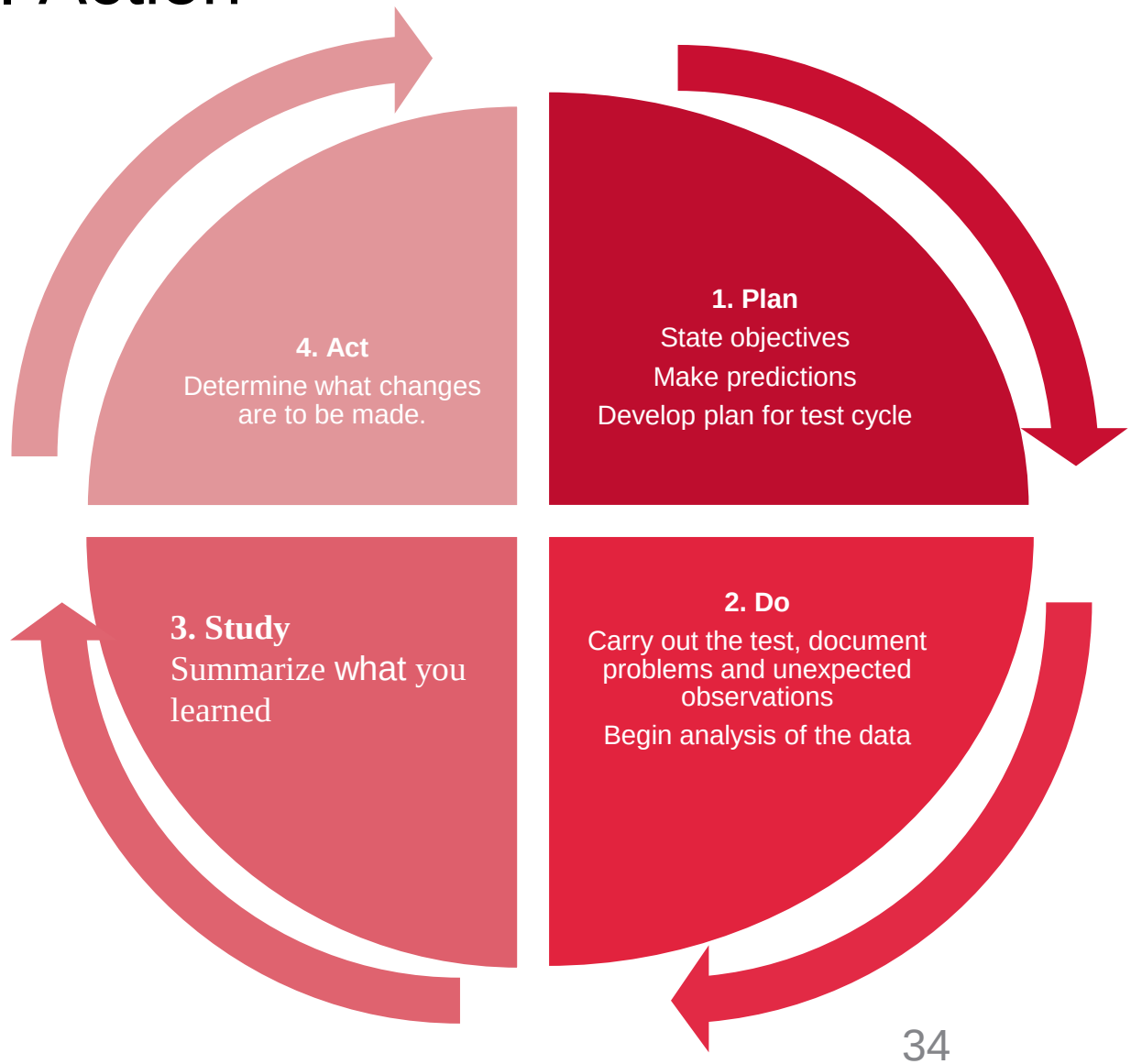
Review the flow chart/cause-and-effect diagrams and charter to inform key driver diagram (18-19); consult change strategies form in worksheet.

EXAMPLE: Key Driver Diagram from TMC Floating Hospital , HEALERS Project

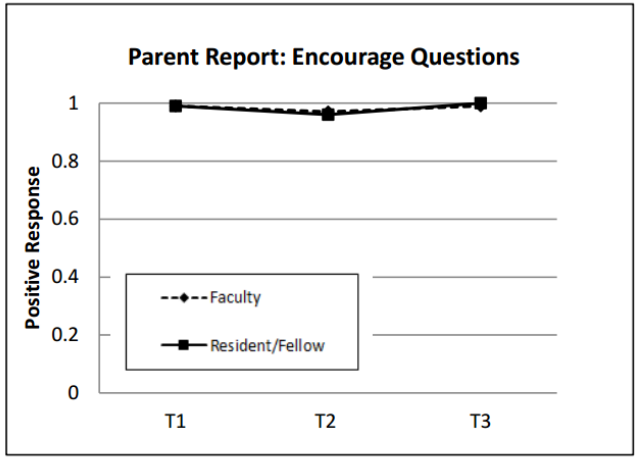


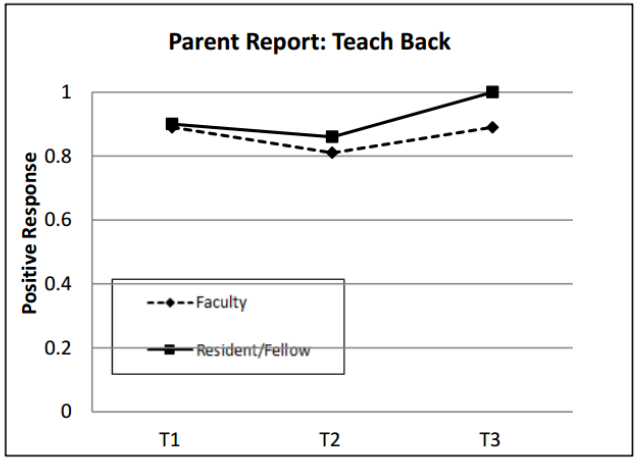
HEALERS: A cross-departmental quality improvement initiative focused on health literacy.

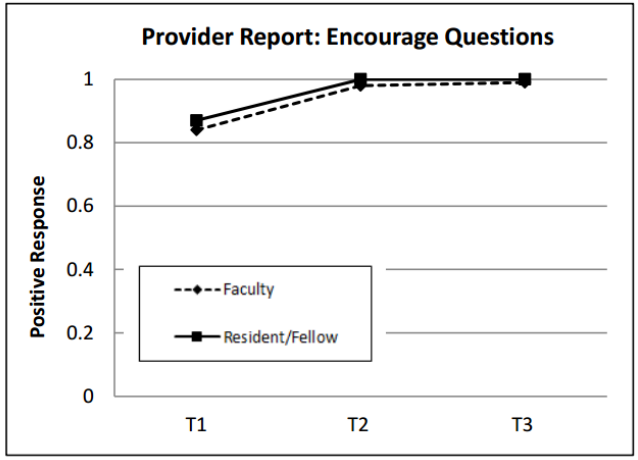
Phase 3. Action

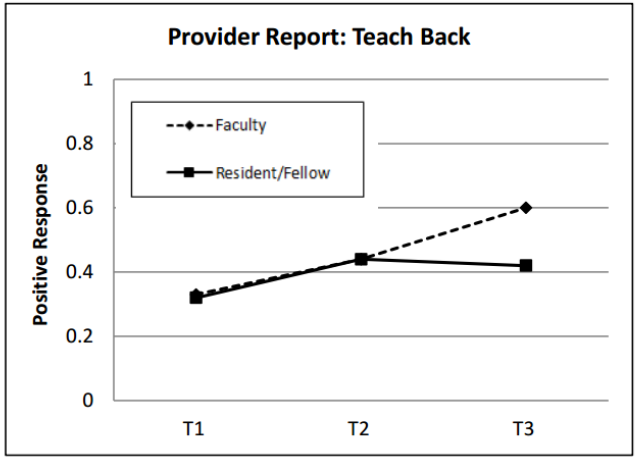


Example, Run Chart







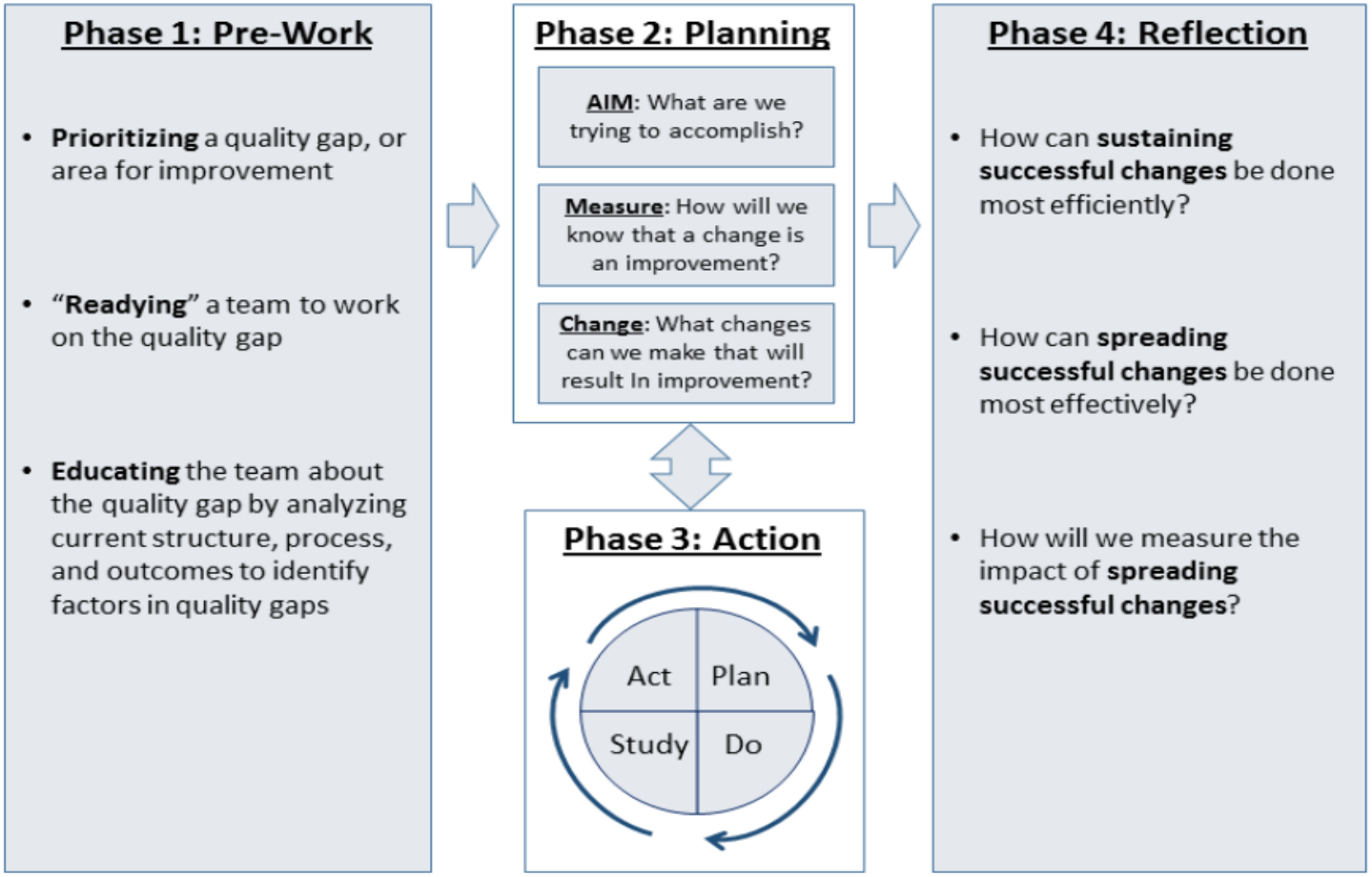


Findings (Qualitative)

Phase 4. Reflection

- Sustaining successful change most efficiently;
- Spreading successful change most effectively; and
- Measure impact of spreading successful change

Modified IHI Model of Improvement



Modified from: [Institute for Healthcare Improvement: www.ihi.org](www.ihi.org)

Phase 4. Reflection

- Sustaining successful change most efficiently;
- Spreading successful change most effectively; and
- Measure impact of spreading successful change

HEALERS Case Study

- Generated publication (currently under review)
- Provide recommendations to American Board of Pediatrics in improvement areas based on local adaptations made

Objectives revisited

By the end of this session, you will be able to:

- Describe the role and responsibility of quality improvement in public health
- Understand the Quality Improvement processes
- Describe the use of specific Quality Improvement tools

Quality Improvement in Pediatrics: Stand on the shoulders of giants…

- AAP: https://www.aap.org/en-us/about-the-aap/Committees-Councils-Sections/coqips/Pages/Implementation-Guide.aspx
- AHRQ: http://www.ahrq.gov/professionals/quality-patient-safety/index.html
- Additional resources listed in handout.

Additional Resources for Web-based Training

On-Line Training

- IHI Open School: http://www.ihi.org/education/ihiopenschool/Pages/default.aspx
- Lean Enterprise Institute: www.lean.org

Thank you!

- Any Questions?
- Tom Mackie, PhD, MPH
  tim18@sph.rutgers.edu