QI Toolbox: *Radar Chart & Control and Influence Matrix*

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Presentation by:

Ibtisam Khoury-Sirhan, Nutrition

Lisa Montgomery, Organizational Development & Training

Janette Thompson, Environmental Health

Radar Chart &
Control and Influence Matrix

- What are they? When to use them?
- Where do they fit in the PI Process
- Examples
- How do you construct and analyze them?
- Group activity practice

❖ Storyboard
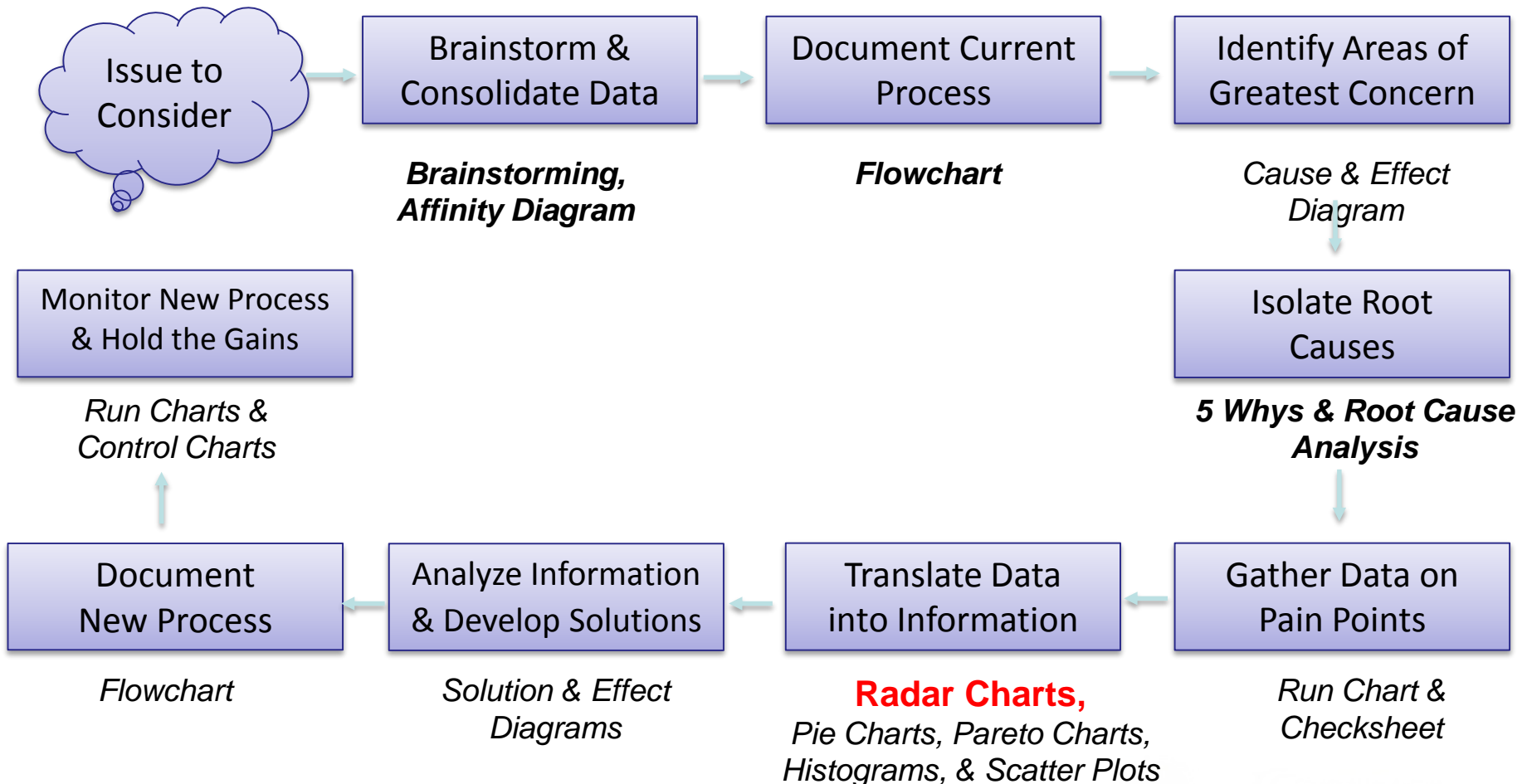
What is a Radar Chart?

- It displays important categories of performance, and define full performance for each category

- It shows gaps between current and future (ideal) performance

- It captures a range of perceptions from a team

- It provides data to support priorities for improving performance

Minnesota Dept. of Health. MDH IQ Toolbox. Radar Chart. www.health.state.mn.us/qi

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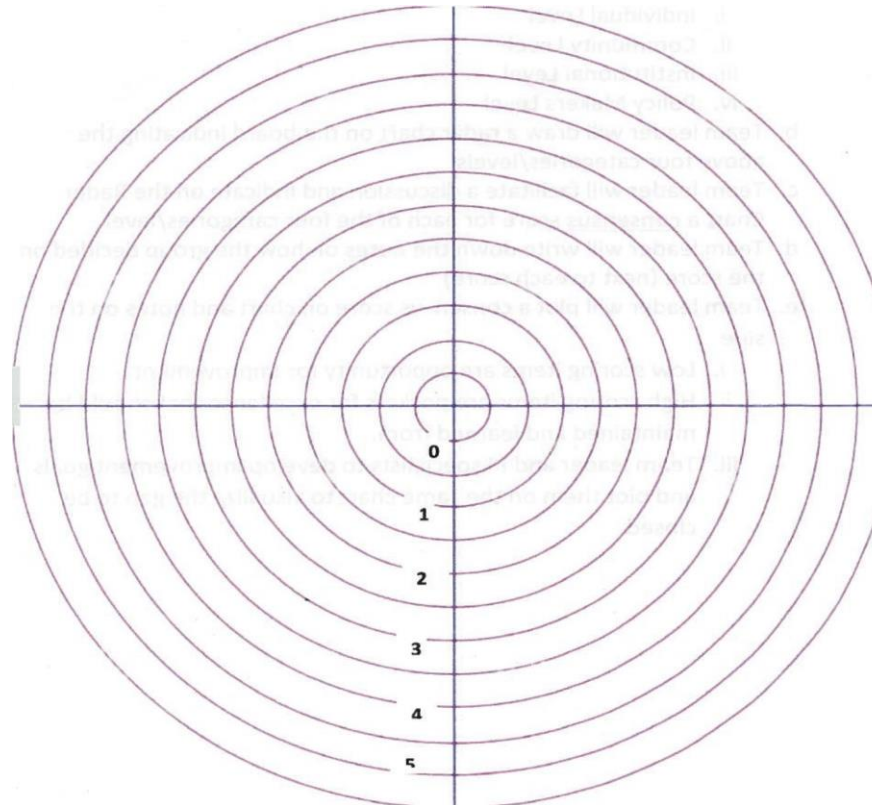# When To Use A Radar Chart

- To understand team perceptions about a problem they are investigating

- To display performance metrics of an ongoing program and compare for improvement

- To display multivariate observations with number of variables

Where Do Radar Charts Fit in the QI Process?

Issue to Consider → **Brainstorm & Consolidate Data** → **Document Current Process** → **Identify Areas of Greatest Concern**

Brainstorming, Affinity Diagram — *Flowchart* — *Cause & Effect Diagram*

Isolate Root Causes

5 Whys & Root Cause Analysis

Monitor New Process & Hold the Gains

Run Charts & Control Charts

Document New Process ← **Analyze Information & Develop Solutions** ← **Translate Data into Information** ← **Gather Data on Pain Points**

Flowchart — *Solution & Effect Diagrams* — **Radar Charts,** *Pie Charts, Pareto Charts, Histograms, & Scatter Plots* — *Run Chart & Checksheet*

Radar Chart Example

How to Construct a Radar Chart

1. Assemble a team and identify a team leader.

2. Select and define categories to investigate.

   – Draft large, circular chart with as many spokes as defined categories.

3. Each team member individually rates each category.

4. Average the team's rating for each category, plot on the chart, and connect the points.

Example Data for Radar Chart

MEETING number	Commitment (rating 0-5)	Clear Goals (rating 0-5)	Communication (rating 0-5)	Participation (rating 0-5)	Effectiveness (rating 0-5)	Value (rating 0-5)
1	4	3.5	3.5	3	3.5	3
2	4.5	4.5	5	4.5	5	5

"Improving Community Engagement" Comanche County Health Department (Oklahoma).

Radar Chart Example
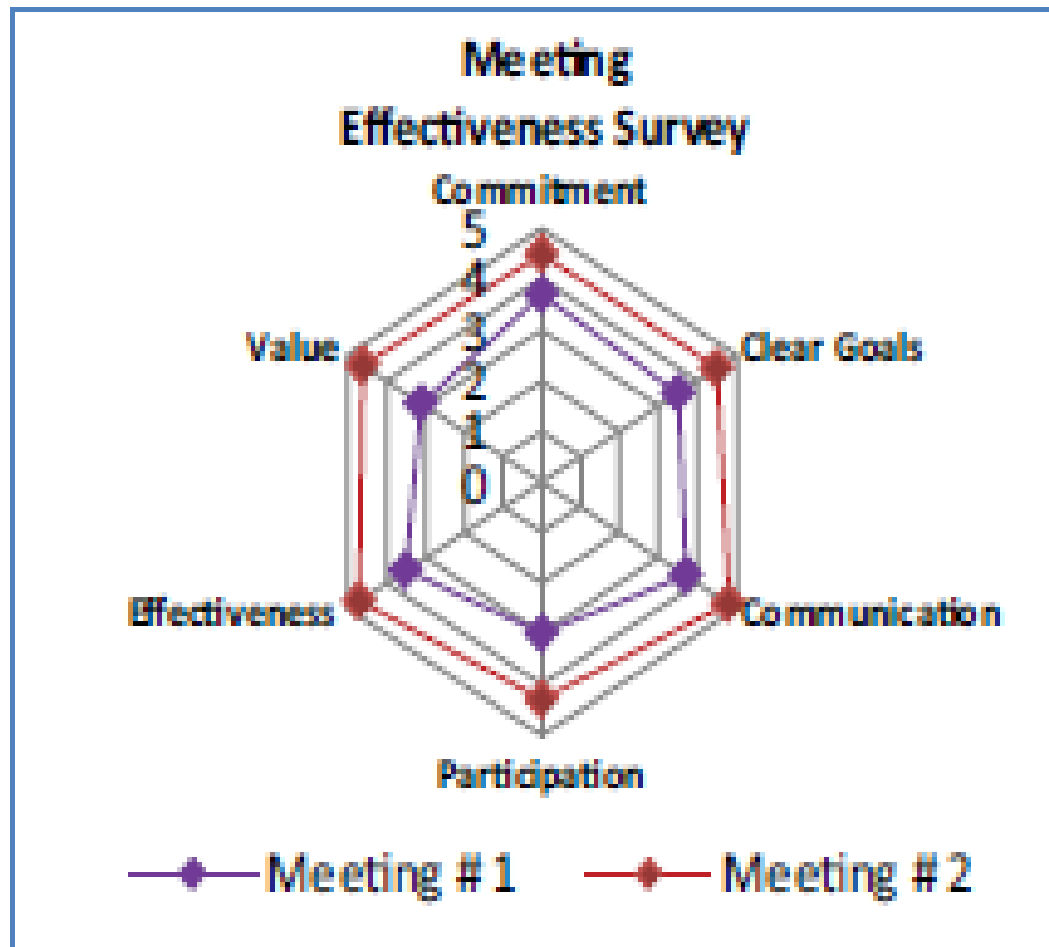
How to Analyze a Radar Chart

- Use the chart to view the biggest gaps between current and ideal performance

- Focus on improving the largest gap in the most critical category

- If looking at a single set of data, the chart can help to quickly identify the area(s) most in need of improvement

Group Activities: Chart and Matrix

Aim Statement: Challenges of PI data collection

Topic: Investigate various PH Programs challenges to PI data collection

Categories:

1. Time Consuming
2. Data not available
3. Lack of cooperation
4. PI data collection tool used

Challenges of PI Data Collection
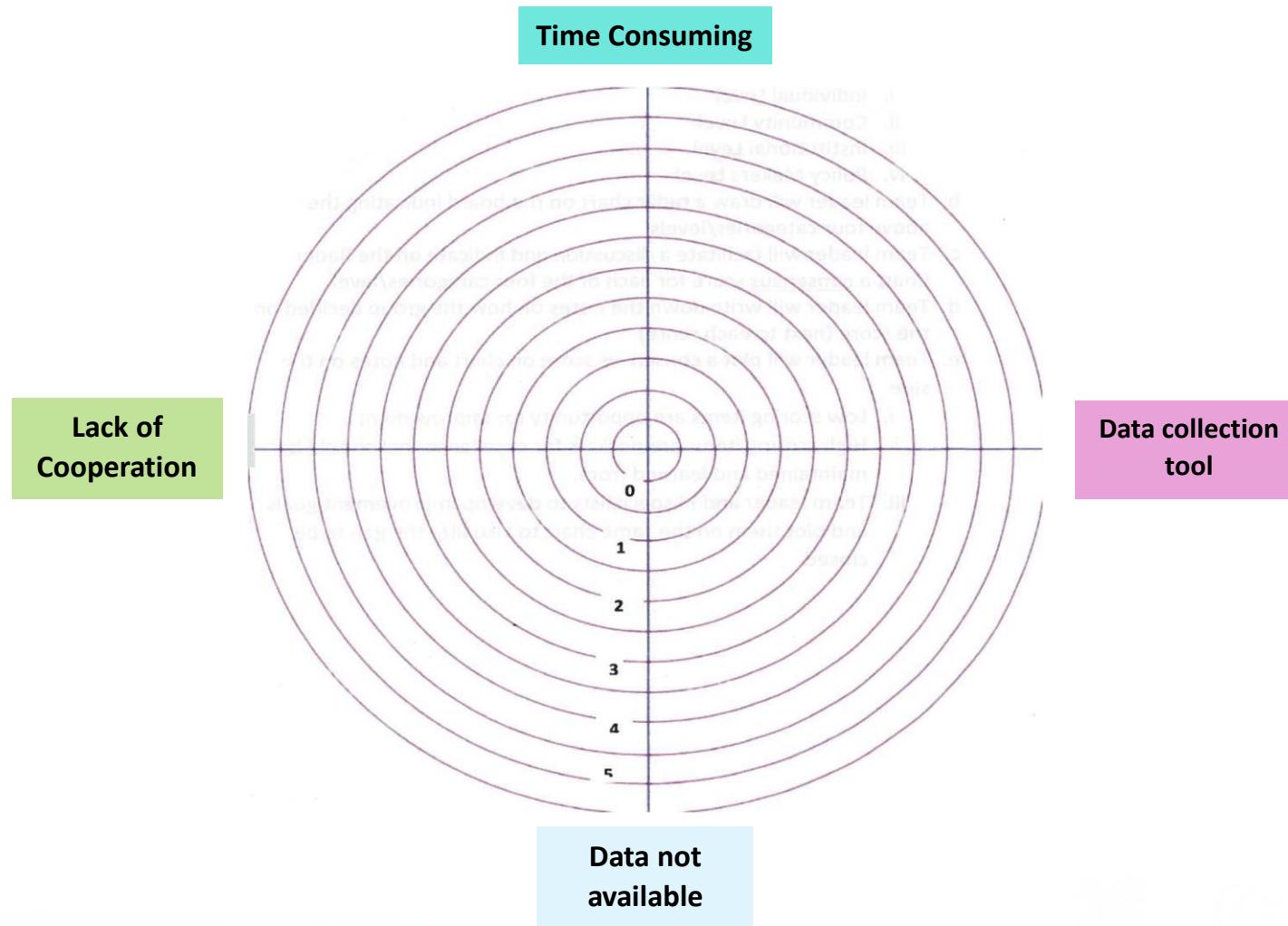
Group Activity
Radar Chart

Group Activity: Using a Radar Chart

Instructions:

1. Form teams of 4-5 people and choose a team leader.
2. Individually, on your radar chart handout, rate each of the four categories on a 0-5 scale, plot your results and connect the points.
3. As a team using the cardboard radar chart, average the teams' category ratings, plot the averages and connect the points.
4. Team leaders will report out for their team.

Radar Charts

Debrief discussion and questions

What is a Control & Influence Matrix?

- A conceptual tool to give guidance on a focus area for improvement

- Helps a team focus resources on area where they can make an impact quickly

- In public health we may work more in the influence part of the matrix

When to use a **Control and Influence Matrix**

- To understand:
    - the boundaries of a problem
    - areas to focus resources and areas to avoid
    - where assistance or outside expertise is needed
- With a new team, use the matrix to:
    - learn the team members' knowledge and experience
    - Understand or anticipate potential barriers and roadblocks

Where Does the Control and Influence Matrix Fit in the QI Process?

Large Issue, Problem, Sensitive Situation

Brainstorming & Affinity Diagram

Explore

Inter-relationship Diagraph & Prioritization Matrix

Sort & Prioritize

*SWOT Analysis ***

Understand & Baseline

Develop Actions & Steps

Tree Diagram

Prioritize Actions & Tasks

***Control and Influence Matrix,** Prioritization Matrix*

Develop Project Plans

***Gantt Chart** & Critical Path Analysis*

Problem Prevention

Process Decision & Program Chart

Monitor

SMART Chart

Public Health Quality Improvement Encyclopedia (2012). Public Health Foundation.
(From 9/24/2015 DPH PI Team Presentation)

Control & Influence Matrix Example

	Control	No Control
Influence	Areas we can address our **primary focus**	Areas we can **influence** but not control
No Influence	Areas we can **control** but not influence	Areas we should <u>not</u> address

How to Construct a Control and Influence Matrix

1. Decide on the issue to be addressed.

2. Draw a 2x2 L-Shaped Matrix.

3. Label columns as *Control* and *No Control*.

4. Label rows as *Influence* and *No Influence*.

5. As a team, identify the areas that fit into each quadrant.

How to Analyze a Control & Influence Matrix

Control and Influence: **area of primary focus**

Control, No Influence: expertise and assistance

No Control, Influence: provide recommendations

No Control, No Influence: not address

PI Data Collection Areas to Focus

	Control	No Control
Influence		
No Influence		

Group Activity
Control and Influence Matrix

Group Activity: Using a Control and Influence Matrix

Instructions:

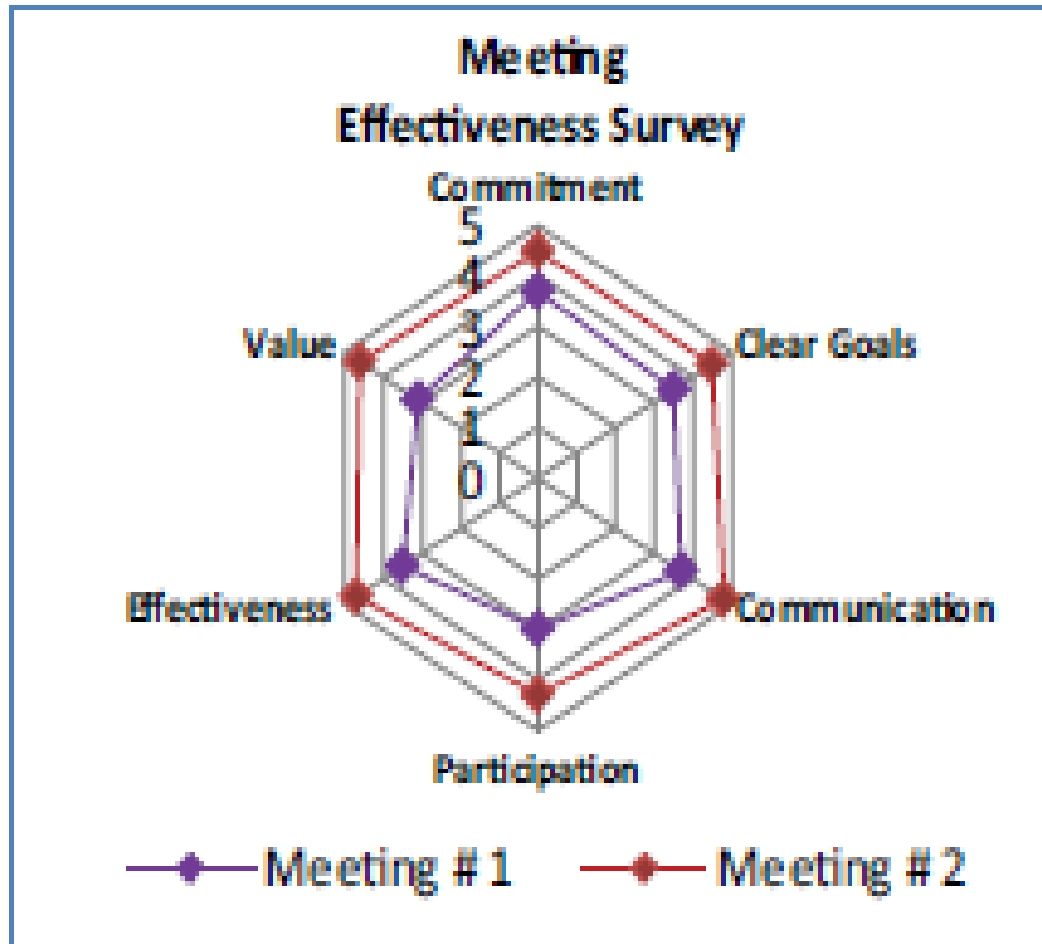1. In your same teams, brainstorm strategies for an assigned category and write them in the appropriate quadrants on the team's cardboard matrix.
2. Team leader write **one** strategy on a sticky note that falls under the control and influence.
3. Leaders will place their team's note on the poster board matrix when called upon.

Control and Influence Matrix

Debrief Discussion and Questions

Storyboard

IMPROVING COMMUNITY ENGAGEMENT
COMANCHE COUNTY HEALTH DEPARTMENT (OKLAHOMA)
FTES: 58/POPULATION SERVED: 112,000

PLAN
Identify an opportunity and Plan for Improvement

1. Getting Started
Following a brainstorming session, the team met and determined that a Prioritization Matrix would help narrow the identified "problem" areas that were inhibiting development of a Community Health Improvement Plan (CHIP).
The following areas were identified: improvement in available data, improving community engagement, and community assessment.

	Improve Avail Data	Improve Comm. Engage	Comm Asses	Row Total
Improvement in Available Data		1	1	2
Improving Community Engagement	10		5	15
Community Assessment	1	5		6

2. Assemble the Team
1. Keith Reed, Administrator, Comanche CHD
2. Johnetta Miller, Admin. Asst., CCHD
3. Brandie O'Connor, Turning Pt Reg Mgr, OSDH
4. Janette New, Health Educator, CCHD
5. Kyle Rogers, Health Educator, CCHD

3. Examine the Current Approach
The Team began with a root-cause analysis to determine factors that affected meeting participation seen on the fishbone diagram below.

4. Identify Potential Solutions
CCHD believed that community engagement could be improved by implementing the following steps into engagement efforts.
- Ensure clear and concise meeting agendas are prepared, with relevant objectives.
- Add an RSVP requirement to all meeting invitations, allowing an assessment of the level of engagement and identification of missing partners/sectors.
- Make a concerted effort to engage missing, key partners /sectors through personal contact via a phone call or face to face visit.

- Draft agendas will be sent out at least four weeks in advance providing sector partners an opportunity to provide input.
- Meeting request will have a clear, concise goal and beginning and end time.
- Each meeting will conclude with a meeting effectiveness survey.
- Meeting minutes will be taken and circulated in a timely manner.
- Adjustments will be made based on survey results and partner input.

5. Develop an Improvement Theory
If LHD demonstrates respect for partner time by: providing draft agendas in advance, offering clear and concise goals with beginning and ending meeting times, requesting RSVPs for meeting participation, and offering feedback via meeting minutes, then the number of community sectors represented and the score on the Meeting Effective Survey will be increased.

Original Aim: By December 2010, the Comanche County Health Department will improve community engagement as evidenced by: 60% of invited partners will attend meetings; an average score of 4 on the Meeting Effectiveness Survey.

DO
Test the Theory for Improvement

6. Test the Theory
- Launch a series of meetings
- Administer meeting effectiveness survey, at each meeting.
- Distribute agenda prior to meeting.
- Identify representation from each sector.

1. Health	6. Youth
2. School/Education	7. Parents
3. Law Enforcement/Fire	8. Faith
4. Government	9. Civic
5. Business	10. Media

CHECK
Use Data to Study Results of the Test

7. Check the Results
The results of the Meeting Effectiveness Survey went from an average of 3.4 to 4.6 as seen on the radar chart below.

The chart below shows an increase in sector representation from 40 to 70 percent with a goal of 60 percent.

ACT
Standardize the Improvement and Establish Future Plans

8. Standardize the Improvement or Develop New Theory

Revised Aim Statement: By December 2010, the Comanche County Health Department will improve community engagement as evidenced by: 60% of invited **sectors** will attend meetings; an average score of 4 on the Meeting Effectiveness Survey.

9. Establish Future Plans
- Expand Coalition participants to include all sectors.
- Expand approach to all community engagements.

"Improving Community Engagement" Comanche County Health Department (Oklahoma).

Radar Chart from Storyboard

We Thank You!

Any questions or comments?