

## Engaging Stakeholders in Data Issues: Creating a Conversation

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AEA/CDC Summer Evaluation Institute

## Session Goals

- Identify common misconceptions about sharing data with stakeholders
- Describe strategies to create a conversation with stakeholders about data
- Describe strategies to engage stakeholders in ensuring that results are used



## Starting the Conversation

Sharing data with stakeholders—"The Good, The Bad, The Ugly"

Introduce yourself to table mate

Chat about your experience with sharing data

What has worked well and what would you never do again?



## Data Discussion Misconceptions

- Stakeholders are not interested in detailed data
- Stakeholders should only see data when it is part of a perfect final report
- Unexpected/negative findings should be minimized
- Any evaluation requires a lengthy report

## Where Do These Misconceptions Come From?

- Urban legend—evaluator tales from the crypt
- Evaluation Approach Philosophy
  - Expertise
  - Consumer
- Other Sources?

## More Recent Approaches

- Active strategies to engage stakeholders
  - Utilization-focused evaluation
  - Participatory evaluation
- Evaluator as facilitator and coach



## Utilization-Focused Evaluation

- What is this? 
- How is it used or how does it work?



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## Participatory Evaluation

- What is this? 
- How is it used or how does it work?



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## Utilization and Participatory Mash UP

- Use a systematic process
- Engage stakeholders
  - Identify questions of interest to be explored in evaluation
  - Conduct evaluations with clear idea of how results will be used
  - How do stakeholders participate?
- Evaluator as coach and facilitator



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## Data Discussions

- Improve data presentation and interpretation
- Increases stakeholder investment in results
- Increases stakeholder interest in using results



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## Exercise!

- Work with your tablemate to identify ways to discuss data with stakeholders
- What kind of stakeholders
  - What principles would you consider to have a productive discussion
  - How would you engineer that discussion



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## Data Conversation Principles

- Set the tone for discussion
  - 2 way conversation rather than 1 way presentation
  - Recognize expertise of all attendees
- Provide “just-in-time” training
  - Data presentation
  - Data analysis (use of statistics)



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## Organizing the Conversation

- Set the agenda
  - Goals
  - Expectations
  - Outcomes
- “Chunk” data into manageable bites
  - By evaluation question
  - By data collection method
  - Divide participants into groups



## Interpreting the Data

- Within data chunks ask participants to:
  - Identify trends
  - Make observations
  - Interpret trends and observations
- Telling the story
  - What story does data tell through tables, trends, observations?

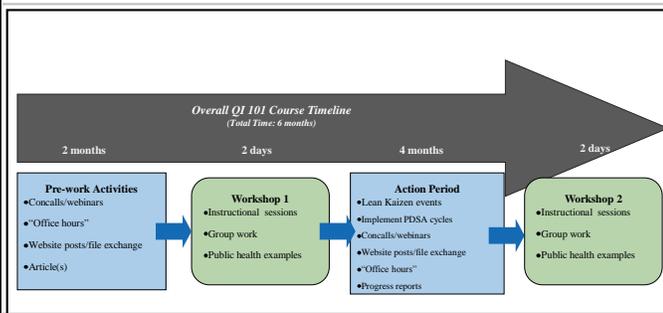


Kylie Hutchinson AEA Webinar [www.wittycomics.com](http://www.wittycomics.com)

## Potentially Difficult Findings

- What kinds of findings might be hard to discuss with stakeholders?
- How would you use a data conversation to discuss these findings?
- How can discussing these findings usefully move the evaluation forward?

## NC Center for Public Health Quality



## Training Evaluation Questions

- To what extent has the CPHQ training been implemented as envisioned?
- How effective is the QI training in increasing the confidence and skill level of LHD staff?
- How effective have LHD teams been in making performance improvements?



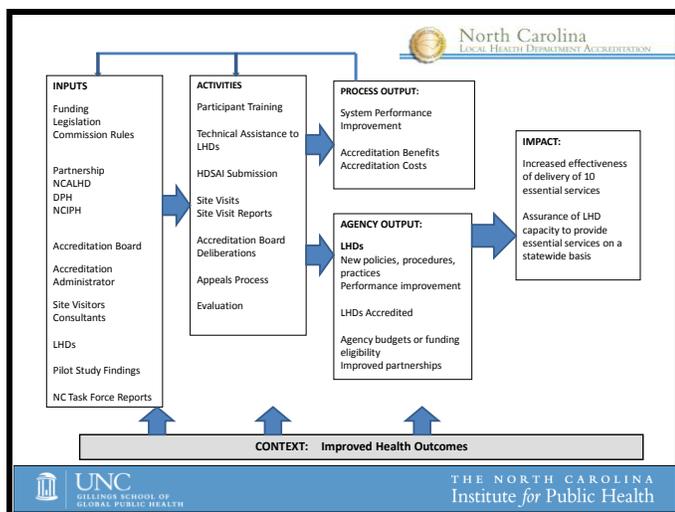
## Methods

- Internal
  - Webinar feedback
  - Workshop evaluation forms
  - Storyboards
- External
  - Pre-post training evaluation forms
  - Review of all data



## Data Meeting Handouts

- Agenda
- Meeting Materials
- Zoom In—Unexpected Finding
  - Table 3, p6, confidence to conduct QI project
  - Page 14, Summary and Limitations



## Accreditation Evaluation

### Purposes

- Is program working as intended?
- Does accreditation improve local health dept capacity to provide/assure services?
- What are preliminary outcomes of the program?

## Evaluation Methods

- Multiple Methods: Pilots and Implementation
  - Surveys
  - Interviews
  - Review of LHD accreditation results
- Multiple Participants
  - LHD employees and directors
  - Site visitors
  - State health department staff
  - Accreditation Administrator staff
  - Accreditation Board

## Data Discussion Evolution

- Pilot tests—no discussion, final report and presentation to Board
- Implementation early years—report writing, discussion of draft report with administrator
- More recent implementation (different administrator)
  - Mid year reporting—email on major trends, meet as needed
  - End of year reporting—data discussion with staff

## Preliminary Evaluation Findings – North Carolina Local Health Department Accreditation (FY 2007-2008)

NCIPH Evaluation Services  
July 8, 2008

## Response Rates

7 agencies participating Oct. 2007 to March 2008

- AAC's – 7 responses from 6 health agencies
- Health Directors – Interviewed all 7
- Site Visitors – 19 out of 23 (83%)
  - First site visit – 32% (n=19)
  - One visit from 10/07 to 3/08 – 83% (n=18)
  - EH – 37%; PHN – 37%; BOH – 21%; HD – 5%
  - EH: 7/7; PHN: 7/7; BOH: 4/5; HD – 1/4
  - Two respondents were lead site visitors



## Changes in HD Practice

Changes in HD practice in preparation for accreditation	AAC n=7	HD n=7
Improved communications (websites, retaining emails)	6	6
Enhanced personnel systems (orientation, electronic policies, tracking licensure)	5	5
Developed/revised a system for policy development	3	6
Revised a strategic plan	3	4
Developed a strategic plan	4	3
Increased interaction with BoH	3	3
Created filing system for P&P	2	3
Created a QI team or system	2	3
Updated licensing	1	2

## SV - Aspects of the Accreditation Process Needing Improvement

Accreditation Process Aspects (n=10 SV's)	n
HDSAI	5
Site Visit	1
Site Visitor Training	6
Accreditation Website	0
Accreditation Board Process	1

## What can AA staff do to improve their services? (n=10 health directors, 3 AAC's, 11 SV's)

- Provide more information (n=5 HD's)
  - List of policies, resource for keeping "on track", conduct staff meetings for accreditation
- Provide more training (n=2 HD's, n=2 AAC's)
- Try not to "overprotect" the SVT (n=1 HD)
- Provide more guidance to SVs (n=2 SVs)
  - Conference calls with SVT, make decisions

## Data Discussion Wrap Up

- Stakeholder Reflections—what does all this data mean?
- Limitations—how far can we go with the story?
  - Methods
  - Findings
- How will we tell the story?
- Confidentiality
- Next steps (take data away)



## Exercise!

Sharing the story—Chat with your table mate about sharing the data story

- How many different methods can you identify to share results with stakeholders?
- Who should tell the story?



## Develop a Communication Plan

Stakeholder	Method	Timing	Budget	Priority
Program Participants	• Large poster in training room	End of study	\$\$	High
Program Staff	• Results-briefings	Interim and end of study	\$	High
Senior Managers	• Two-page summary	End of study	\$	Medium
Funder	• Two-page summary • Presentation	End of study	\$	High
Membership	• Article in donor newsletter	Beginning and end of study	\$	Medium
Community-at-large	• Press release • Community forum	Beginning and end of study	\$ \$\$\$	Medium

Kylie Hutchinson—AEA Coffee Break Webinar

## NC CPHQ

- Created an Executive Summary of data findings
- Presented to Advisory Board
- Prepared journal article with staff



## NC CPHQ Evaluation Wave 1 Results February 2011

Mary Davis, MSPH, DrPH  
Liz Mahanna, MPH

## Wave 1 Evaluation Overview

- Wave 1: launched Feb. 2010; 8 LHDs, 40 staff, 7 consultants
- Webinar evaluations
- Curriculum evaluation
- LHD staff and consultant pre-post survey
- Project aims/results
- Health Director survey
- Advisory Board survey

## Pre-Post Survey – LHD Staff

- Confidence in conducting a QI project

Pre		Post	
Not Confident	Confident	Not Confident	Confident
22	20	9	21
52%	48%	30%	70%

6 point confidence scale. Not confident = 1-4; confident = 5-6

## Post Survey – LHD Staff

### QI Spread

- 87 – 93% used QI tools and data/display
- 80 – 87% shared QI tools and data/display
- 50% used QI methods; 63% shared them

## Summary of LHD data

- Participant confidence to conduct a QI project increased
- High satisfaction with curriculum overall
- Suggestions to improve course
- Revisit aim statement progress in 6 months
- Questions?

## NC Local Health Department Accreditation Program

- Create a 10-15pp Stakeholder Report
  - Web publish
  - Distribute via email
  - Present to Accreditation Board
- Journal Articles
- Case Example in a book
- Presentations within NC, nationally



## North Carolina LOCAL HEALTH DEPARTMENT ACCREDITATION

For Health Departments	Section 6: Program Evaluation
For Site Visitors	
For Board Members	<a href="#">Pilot I Evaluation Report (pdf)</a>
About HCLHDA	<a href="#">Pilot II Evaluation Report (pdf)</a>
Accreditation Process	<a href="#">Evaluation Report 2005-2006 (pdf)</a>
Accreditation Board	<a href="#">Stakeholders' Report 2006-07 (pdf)</a>
Publications	<a href="#">Stakeholders' Report 2007-08 (pdf)</a>
Training and presentations	<a href="#">Stakeholders' Report 2008-09 (pdf)</a>
Calendar	<a href="#">Evaluation Review 2009-10 (pdf)</a>
Accreditation Team	<a href="#">Agency Performance 2005-2009 (pdf)</a>
Resources and Links	<a href="#">Accreditation Outcomes – Getting to the Right Indicators – Research Brief, 2010 (pdf)</a>
Contact Us	
Accreditation Home	

## Exercise!

- What are pre-requisites for strong data discussions?
- Work with your table mate to identify what needs to happen earlier in the evaluation process to set up productive data discussions



## How Much Participatory is Enough?

- Meaningful for stakeholders—
  - conducting evaluation with not “on”
  - at level of detail stakeholders are able to fathom and have interest in
- Provide training as needed
- Consider whether you need to do evaluation capacity building

## Summary

- Data discussions with stakeholders can improve
  - Data display
  - Data interpretation
  - Data sharing
  - Data use



# NC Center for Public Health Quality

## Wave 1 Evaluation Data Meeting

January 7, 2011

### Agenda

1. Meeting Purpose and Ground Rules
2. QI 101 Results
  - a. Participants
    - Webinar Feedback
    - Workshop Feedback
    - Pre/post evaluation data
    - Project AIMS and Results
    - Recommendations for Improvement
    - Improvements Addressed
    - Further Recommendations
  - b. Consultants
  - c. Health Directors
3. Advisory Board Feedback
4. Reporting to Advisory Board
5. Evaluation Report
6. Summary and Next Steps
  - a. Wave 1 Summary
  - b. Suggested Revisions to Evaluation Plan
    - i. Participants
    - ii. Consultants

## NC Center for Public Health Quality

### Wave 1 Evaluation Results

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## QI 101 Participant Data

### Webinar Evaluation

Table 1 shows participant satisfaction ratings with aspects of the 3 webinars. There was a decrease in the number of participants who either participated in the webinars and/or responded to the webinar evaluation over the 3 webinars. Mean participant satisfaction on these measures decreased between Webinars 2 and 3 and increased between Webinars 3 and 4.

**Table 1: Webinar Satisfaction Ratings**

	Webinar 2 (n = 26)	Webinar 3 (n=20)	Webinar 4 (n = 12)
Achieved the stated objectives.	1.96	2.05	1.50
Provided the right amount of information.	2.04	2.65	1.50
Was interactive & helped me feel engaged.	2.08	2.60	1.58
Increased my knowledge of QI tools & methods.	2.08	2.45	1.58
Prepared me to apply QI tools & methods.	2.08	2.40	1.58

Scale 1 = Strongly Agree; 2 = Agree; 3 = Neither; 4 = Disagree; 5 = Strongly Disagree

### *Kudos*

Ability to share and learn from other counties

Interaction opportunities

Developing AIM statements

Use of examples

Discussion and examples about measures

Specific to Webinar: more practical and focused on QI context and relevance

### *Concerns and Areas for Improvement*

First webinars—technology problems

Some confusion on how teams should get started

Slow pace

High agency expectations

Using personal AIM statement as example

Content repetition between webinars (and workshops)

Ability to complete project

Webinar 3 seen as repetitive comments indicate explanations were exhaustive

### **Curriculum Evaluation from Workshop 2**

Table 2 presents data from the Workshop 2 evaluation survey regarding participant satisfaction with the curriculum. Ninety four percent of participants rated their satisfaction with the curriculum as a 5 or 6 with 6 being an excellent rating. Participant satisfaction with specific aspects of the curriculum ranged from 60% to 89% (using the rating of 5 or 6 as high satisfaction).

**Table 2: Satisfaction with the Public Health QI 101 training process.**

<b>Answer Options</b>	<b>Poor 1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>Excellent 6</b>	<b>Response Count</b>	<b>% 5/6</b>
a) The Pre-work phase	1	2	6	5	17	4	35	0.60
b) Workshop 1	0	1	3	4	11	14	33	0.76
c) Action Period (i.e. conference calls, Kaizen Event)	0	3	1	6	10	15	35	0.71
d) Workshop 2	0	1	0	6	11	18	36	0.81
e) Coaching and guidance from PH QI 101 faculty	1	0	1	5	17	11	35	0.80
f) Communications about course activities	0	0	2	2	18	14	36	0.89
g) The overall PH QI 101 course	0	0	0	2	14	20	36	0.94

### *Workshops Kudos*

Opportunities for interaction and teamwork

Explanations

Variety and knowledge of instructors

Pulled information together and gave direction

Practice opportunities

Workshop 2: positive feedback about schedule change to ½ day, full day, ½ day

Great facilities including lodging

### *Areas for Improvement*

Reduce repetition in content between webinars and workshops

Improve agenda management to ensure that full allotted time for breaks and lunches occurs

Decrease breakout sessions

Have teams present projects before entire group

More time on future plans

More time with advisor

### **General Areas for Improvement (Webinar and Workshop)**

Restructure pre program and workshop content—pre program or webinar period was confusing

Provide clearer information about role of faculty and nurse consultants

Do not include tests

### **Improvements Addressed as Reported by Staff**

#### *Webinars*

1. Providing materials prior to calls
2. Instead of 3 slides per page, having 2 slides per page to allow LHDs to better read the slides
3. Using webcams for only presenters vs. all LHD staff
4. Including an additional webinar about Lean to help teams better understand it, etc.)

*General*

- Removing Webinar 1 (targeted at local Health Directors) and making it a half day face to face meeting
- Introducing the concept of measurement during the Workshop 1 vs. webinar
- Removing the homework assignment of doing a personal aim statement
- Changing the technology used to post documents online from our website to an online server—The Dropbox)
- Standardizing and structuring the role of faculty coaches so that each coach is required to check-in with their team at least twice per month (in Wave 1 it wasn't specified and coaches had their own structure)
- Changing the length of the workshop—in Wave 1 it was two full days—now ½ day, a full day, and a ½ day to allow travel for LHD staff

**Pre and Post Evaluation Survey Comparisons**

Table 3. We calculated means and 95% confidence intervals on the key outcome of confidence to conduct a QI project. Post scores are higher, but 95% Confidence Intervals for pre and post overlap—likely due to a relatively small sample size. Also, the pre training mean was quite high—above the median score—thus a potential ceiling effect might be occurring.

**Table 3: Pre/post confidence in conducting a QI project in respondent’s health department**

Variable	Pre			Post		
	N	Mean	95% CL	N	Mean	95% CI
How confident are you in conducting a QI project?	42	4.43	(4.04, 4.81)	30	4.80	(4.53, 5.07)

**Table 3a: Matched pair confidence pre/post curriculum with t-test**

Variable	N	Mean difference (95% CI)	t	p-value
Confidence in conducting a QI project	20	0.50 (-0.14, 1.14)	1.65	0.12

Table 4 is another way to look at the data. We collapsed scores into 2 categories—not confident and confident. Respondents who chose 1-4 were categorized as not confident or minimally confident and respondents who chose a 5 or 6 were categorized as confident. We ran Chi-Squares, but sample sizes were reduced to 20 respondents who answered both the pre and post evaluations and were not significant. The trend, as with the mean scores, is in the expected direction with more respondents rating themselves as confident on the post training evaluation.

**Table 4: Pre/post confidence in conducting a QI project (not confident or = 1-4; confident = 5-6)**

Confidence in conducting a QI project (q1)	Pre (n = 42)		Post (n = 30)	
	Not confident	Confident	Not confident	Confident
	22	20	9	21
	52%	48%	30%	70%

Table 5 presents data on participant ratings on engagement in QI activities by several health department groups. There were no significant differences these ratings between pre and post measurement. In the cases of the management team, frontline program staff, and administrative and finance staff, the mean ratings actually decreased. Also on the post curriculum survey, 12 participants reported that they did not know how engaged Board of Health members are in QI. The differences in these ratings may reflect improved participant understanding of what QI engagement means—pre curriculum ratings may reflect participant overestimation of engagement by these health department groups and more accurate ratings of engagement post curriculum.

**Table 5: Pre/post level of engagement in QI initiatives, by group scale**

Variable	Pre			Post		
	N	Mean	95% CI	N	Mean	95% CI
Board of health	31	3.00	(2.41, 3.58)	17	3.76	(3.17, 4.35)
Health director	40	5.35	(5.04, 5.66)	30	5.53	(5.28, 5.79)
Management team	40	5.43	(5.13, 5.72)	30	5.03	(4.67, 5.39)
Department supervisors	39	4.85	(4.46, 5.24)	29	4.93	(4.55, 5.31)
Front line program staff	38	4.58	(4.19, 4.97)	30	4.27	(3.77, 4.77)
Admin. and finance staff	34	4.24	(3.76, 4.71)	25	4.20	(3.56, 4.84)

Tables 6 and 7 present participant reports of sharing QI methods and tools with co-workers pre and post participation. Pre curriculum, 43% of participants had shared QI methods and tools with coworkers and post curriculum 100% had shared tools. Among those who had shared tools, on average they had shared them with nearly 9 coworkers. Post curriculum, this question was asked differently on the survey. Among those who had shared tools, more than a third had shared them with more than 10 coworkers.

**Table 6: Pre/post sharing of QI methods or tools**

Variable	Pre		Post	
	N	Percent yes	N	Percent yes
Have you shared QI methods or tools with co-workers within the past year?	18	42.9	30	100

**Table 7: Pre/post number of co-workers with which QI methods/ tools were shared in the past year**

Variable	Pre			Post		
	N	Mean	95% CI	Category	N	Percent
With how many co-workers have you shared QI methods/tools in the past year?	18	8.72	(5.38, 12.06)	1-3	3	10.0
				4-6	8	26.67
				7-10	8	26.67
				More than 10	11	36.67

### Pre Course Survey Highlights

Tables 8-10 present data on respondent participation in QI projects prior to participating in the QI 101 course. Twenty six percent of respondents indicated participating in QI projects, the mean number of projects was 2.36 and the number of projects ranged from 1-6. The highest number of respondents indicated that the nature of the QI project was enhancing program services for clients followed by improving clinical services.

**Table 8: Participation in QI projects before CPHQ interaction (n = 42)**

<b>Response</b>	<b>N</b>	<b>Percent</b>
Yes	11	26.19
No	31	73.81

**Table 9: Number of QI projects participated in over the past year**

<b>Variable</b>	<b>N</b>	<b>Mean</b>	<b>Range</b>
# of projects participated in over past year	11	2.36	1-6

**Table 10: Nature of QI projects participated in during the past year (q4)**

<b>Variable</b>	<b>N</b>	<b>Percent</b>
Improving clinical services	7	16.67
Improving business processes	4	9.52
Enhancing program services for clients	9	21.43
Improving population health services	1	2.38

## Post Course Survey Highlights

Tables 11 and 12 provide participant responses to items on the post curriculum survey regarding sharing tools with co workers and types of QI methods used. Eighty seven percent of respondents indicated sharing a variety of QI tools and 80% indicated sharing QI data and display methods with their coworkers. Ninety three percent indicated using data and display methods and 87% indicated using QI tools during the curriculum period.

**Table 11: Sharing QI Tools with Co-workers.**

<b>QI methods/tools SHARED WITH YOUR CO-WORKERS? (select all that apply) (n = 30)</b>	<b>Response Percent</b>	<b>Response Count</b>
QI tools (e.g., Pareto Chart, fishbone diagram, PDSA cycles, process/value stream map, 5 Whys, 5S, Gemba walk, etc.)	<b>86.7%</b>	<b>26</b>
QI methods (e.g., The Model for Improvement, Lean methodology)	50.0%	15
QI data and display (e.g. run charts, client surveys, etc.)	80.0%	24
Other-- Change Managment Training by Steve Hicks & Improvements made through accreditaiton	3.3%	1

**Table 12: QI Methods Used**

<b>QI methods/tools USED since March of this year? (select all that apply) (n = 30)</b>	<b>Response Percent</b>	<b>Response Count</b>
I have not used any quality improvement methods/tools	3.3%	1
QI tools (e.g., Pareto Chart, fishbone diagram, PDSA cycles, process/value stream map, 5 Whys, 5S, Gemba walk, etc.)	86.7%	26
QI methods (e.g., The Model for Improvement, Lean methodology)	63.3%	19
QI data and display (e.g. run charts, client surveys, etc.)	<b>93.3%</b>	<b>28</b>

## Post Evaluation Qualitative Results

### *Most Important Things Learned from Course (22 comments)*

Learning and using specific QI tools (PDSA, Kaizen, Lean methodology, AIM statements); n = 13

Creating climate for change and use of Quality Improvement ; n = 6

Using systematic process to create change; n = 1

Allow time for change; n = 2

Plant and test small; n = 1

Teamwork; n = 2

### *Most Useful Part of the QI 101 Course (22 comments)*

Face to face workshops; n = 14

Coaching; n = 3

Kaizen events; n = 4

Mix of theory and practice (*workshops and then going back to your health dept. and implementing with guidance*); n = 2

All aspects; n = 2

Webinars; n = 1

### *Aspects Needing Improvement (17 comments)*

Reduce repetition; n = 2

Time management (pace too slow); n = 2

More interaction and group work; n = 4

Change initial webinars; n = 2

*The initial webinar and assignments should provide an overview of QI and a really "visible" example of QI in action. This will peak the participants interest faster and get them pointed in the right direction.*

### *Specific content suggestions*

More change management training

More program specific workshops

Additional training on creating charts and graphs. Resources for QI clip art.

*Areas for Additional Assistance*

Continual learning opportunities. Six Sigma Certification - Green belt at least.

We still need to finish our project, just waiting for permission from the county to proceed to our final phase of our project. Need to refresh by maybe doing smaller projects continuing to improve our health department services.

Kaizen

QI methods and tools, working with teams, motivating teams, working with data

Ongoing general support and guidance.

Leadership, Lean events

Financial assistance through grants when available.

Kaizen events

Refresher courses - money

Spread to other departments; long term engagement and commitment when so many other important initiatives take the front seat such as monitoring and accreditation. A big one for us was HIS implementation that crippled us.

Graphs and charts.

Sharing E-learning information would be helpful to sustain QI among staff.

Possibly identifying areas for improvement. Useful timelines for getting the job done...

**Project Aims and Results**

Table 13 presents Aims and Results from each of the participating health department projects. Results indicate that all health departments appear to be working toward achieving the stated aims, but only two clearly achieved stated aims. This may be due to the following factors: 1) there may have been insufficient time between process improvements and improvements in measures, indicating that additional follow up may be needed; and/or 2) data collected may not have been sufficiently specific to those identified in the aim statement, indicating a potential need to improve how faculty coaches work with teams to identify measures.

**Table 13: Health Department Aim statements and Results**

Agency	Project Aim	Results
<i>Ashe</i>	<input type="checkbox"/> Increase the number of patients scheduled for Primary Care Clinic, in order to increase services to Ashe County citizens, and thereby increase revenue for the Primary Care Clinic	<input type="checkbox"/> Increased the number of primary patients paying for services to 100% <input type="checkbox"/> The main provider has been out on medical leave and has slowed progress on increasing number of patients schedule. The team plans to continue to work on this process once the provider returns

<b><i>Cleveland</i></b>	<input type="checkbox"/> Increase the immunization rate and improve timeliness of and patient satisfaction with our immunization process	<input type="checkbox"/> Decreased the number of steps patients take from 662 to 252, which decreased overall wait time for immunizations by one hour
<b><i>Forsyth</i></b>	<input type="checkbox"/> Improve signage both internally and externally at the main health department site and to develop a staff directional guide so 100% of customers/employees can access needed services in a timely, efficient and friendly manner	<input type="checkbox"/> Have tested ways to improve both internal and external signs for clients and are in the process of locating vendors for the signs
<b><i>Iredell</i></b>	<input type="checkbox"/> Increase efficiency and customer satisfaction by 80% within the environmental health division through improved access to installed septic system permits (converting from paper based to electronic system)	<input type="checkbox"/> Converted 8,000 paper permits into digital format <input type="checkbox"/> Reduced average “look-up time” for permits from 30 minutes to less than 2 minutes <input type="checkbox"/> Improved internal staff satisfaction from a 1 to 4 (on a 5 point scale) when trying to locate septic permits
<b><i>Macon</i></b>	<input type="checkbox"/> Reduce the amount of time that patients are here for Child Health Clinic by 15%	<input type="checkbox"/> Reduced clinic cycle time for clients in Child Health by 40% (from 2.5 to 1.5 hours)
<b><i>Orange</i></b>	<input type="checkbox"/> Increase the fee collection rate of the Wastewater Treatment Management Program (WTMP) by 20% over the 2009 rate	<input type="checkbox"/> Increased the number of clients who paid initial invoice on time from 35% to 50% <input type="checkbox"/> Decreased average time interval between date of inspection and mailing report/invoice from 5.6 days to 1.3 days
<b><i>Robeson</i></b>	<input type="checkbox"/> Increase access to our services/building by improving the appearance and placement of interior and exterior signage	<input type="checkbox"/> Decrease misleading external signage from 37% to 25%
<b><i>Wilkes</i></b>	<input type="checkbox"/> Decrease the cycle time for adult health patients receiving a physical exam from 120 minutes to 60 minutes	<input type="checkbox"/> Due to implementation of HIS, the cycle time has increased. However, the team plans to continue to track and make improvements as they implement HIS <input type="checkbox"/> Decreased number of registration forms from 10 to 7 <input type="checkbox"/> Decreased nurse and provider interferences

## Participant Data Summary

1. Participant confidence to conduct a QI project increased from pre to post training. This increase may not have been significant due to a small sample size or a ceiling effect on the pre-course survey.
2. Participants reported high satisfaction with the program overall and provided specific suggestions to improve the curriculum, several of which have already been addressed by program staff. Additional areas for improvement could include minimizing any repetitive material, unless repetition is intended to aid learning, and ensuring that curriculum pace meets participants' needs.
3. Health departments made progress on achieving Aim Statements, but it is not clear if all health departments met these Aim Statements.

**Limitations:** The following are limitations on the pre/post curriculum survey data collection methods used.

1. We used SurveyMonkey panel functions to create individual surveys, allowing for matching individuals and tailored follow up. Several health departments block emails from this generator which resulted in general links being sent leading to a reduced sample size.
2. Participants changed between pre and post curriculum surveys, reducing the matched pool.
3. Pre curriculum ratings on key variables were above the median, suggesting that participants are overestimating perceptions on these variables.

**Suggested Solution:** We recommend that a post curriculum only survey be conducted by NCIPH on key variables (eliminating the pre curriculum survey). This survey will use the retrospective pre/post method on key variables. For example, participants will be asked to rate their perceived ability to conduct a QI project prior to starting the training and current perceived ability to conduct the project. We have used this approach successfully in previous training evaluations. We will use this approach in Wave 2 and this will allow comparisons of pre curriculum data collection and retrospective pre/post method.