



NATIONAL QUALITY CENTER



Quality Institute #1: Creating a Culture for Quality Improvement Session 2

Clemens Steinbock

Monday, August 23; 2:30-4pm

Delaware A

RWA-0337

Learning Objectives

- Understand key components of successful quality management programs
- Learn strategies from peers in developing a culture for improvement
- Learn strategies from the field in engaging important stakeholders and those resistant to change
- [Learn about the power of stories...]

Agenda

- Setting the stage
- Post-it notes from audience
- Overview on how to develop a culture for quality improvement in your agency
- ‘Human Diffusion Curve’ exercise
- Panel presentations
- Breakout groups

How is Culture Created? Why Are We Wearing a Tie?

- Big dark room with a single source of light on one end of the room, estimate the distance to the light
- Wide variety by participants; conformity effect when people worked on groups
- Even a year later, the individualized responses were internalized; the ‘tradition’ continued over generations
- Status quo bias: once a practice has become established, it is likely to be perpetuated, even there is no particular basis for it



[Muzafer Sherif, Sociometry, 1, 1937, 90-98]

Reversing the Death of Rural Communities

- Howard in South Dakota, population 3000, had been shrinking for decades
- Howard High Schoolers - 'How can we revitalize the town?' 50% of residents were shopping outside their county
- Discovery - if Howard residents spend 10% of their disposable income at home, \$7 million boost for local economy - 'Keep Miner dollars in Miner County!'
- A year later by the South Dakota Department of Revenue: increase by \$15.6 million



[\[Wall Street Journal, Jonathan Eig, March 27, 2005\]](#)

Reduce Medication Errors

- Situation: on average, 1 medication error per 1,000 medications administered; led to 250 errors annually
- Solution: create a ‘cone of silence’ (Get Smart), introduction of medication vest for 6-month pilot
- Results: errors dropped 47%; adoption by the entire hospital resulted in 20% drop hospitalwide



[Becky Richards, Kaiser South San Francisco Hospital, Beacon Collaborative, April 2008]

Key Questions



How can we generate ideas for improvement that become the new status quo?

How are new ideas adopted in an organization?

How does an organization with a strong culture for quality improvement look like?

What are the key ingredients for creating an agency-wide quality culture?

Audience Participation

- On your chair each participant has post-it note(s)
- Audience I – write down 1-2 suggestions:
 - ‘How does an organization with a strong culture for quality improvement look like?’
- Audience II - write down 1-2 suggestions:
 - ‘In your opinion, what is the most important ingredient to develop an agency-wide culture for quality improvement in your HIV program?’
- Hand them in after 5min

How can we generate ideas for improvement that become the new status quo?

Hand Washing in Pakistan

Introduction of plain soap and hand washing promotion resulted in:

- 53% lower incidence of diarrhea
- 50% lower incidence of pneumonia than controls
- 34% lower incidence of impetigo

Effect of handwashing on child health: a randomised controlled trial

Shafiq P Luby, Malina Ajlouni, Dana W Fekih, John Parter, Ward Hillier, M, Anhad Shah, Juliet M Halliday

Summary

Background More than 3.5 million children aged less than 5 years die from diarrhoea and acute lower respiratory-tract infection every year. We undertook a randomised controlled trial to assess the effect of handwashing promotion with soap on the incidence of acute respiratory infection, impetigo, and diarrhoea.

Method In adjoining squatter settlements in Karachi, Pakistan, we randomly assigned 23 neighbourhoods to handwashing promotion; 11 neighbourhoods (306 households) were randomised as controls. In neighbourhoods with handwashing promotion, 300 households each were assigned to antibacterial soap containing 1.2% triclocarban and to plain soap. Fieldworkers visited households weekly for 1 year to encourage handwashing by residents in soap households and to record symptoms in all households. Primary study outcomes were diarrhoea, impetigo, and acute respiratory-tract infections (ie, the number of new episodes of illness per person-weeks at risk). Pneumonia was defined according to the WHO clinical case definition. Analysis was by intention to treat.

Findings Children younger than 5 years in households that received plain soap and handwashing promotion had a 50% lower incidence of pneumonia than controls (95% CI -65% to -34%). Also compared with controls, children younger than 15 years in households with plain soap had a 53% lower incidence of diarrhoea (-65% to -42%) and a 34% lower incidence of impetigo (-52% to -14%). Incidence of disease did not differ significantly between households given plain soap compared with those given antibacterial soap.

Interpretation Handwashing with soap prevents the two clinical syndromes that cause the largest number of a child's death globally—namely, diarrhoea and acute lower respiratory infections. Handwashing with daily bathing also prevents impetigo.

Introduction

Every year, more than 3.5 million children aged less than 5 years die from diarrhoea and acute lower respiratory-tract infection.¹ These deaths are concentrated in low-income countries in developing countries.^{2,3} Several studies have shown that regular handwashing with soap reduces the incidence of diarrhoea in children younger than 5 years in communities with a high incidence of diarrhoea,^{4,5} although we are unaware of any reports of the effect of handwashing on acute respiratory-tract infections in settings where pneumonia is a leading cause of death.

Impetigo is another condition that is common in low-income countries with high humidity, which affects millions of young children. A previous study⁶ in Karachi, Pakistan, investigated the effect of antibacterial soap on impetigo. Incidence of impetigo in children living in households receiving antibacterial soap (3.10 episodes per 100 person-weeks) was 23% lower than that in households receiving plain soap ($p=0.28$) and was 43% lower than the standard habit and practice controls ($p=0.32$).

In Karachi, more than 4 million low-income residents live in squatter settlements where they do not usually

Lancet 2005; 366: 225-33
See Comment page 221
Division of Bacterial and Mycology Diseases, National Centers for Infectious Diseases, Centers for Disease Control and Prevention, Atlanta, GA 30333, USA (Dr Luby, M, Fekih, W, Hillier, Shah, Halliday), Division of Field Epidemiology, Centers for Disease Control and Prevention, Atlanta, GA 30333, USA (Dr Parter), Health Services Research Division, Karachi, Pakistan (Dr Luby), Community Health Services, Aga Khan University, Karachi, Pakistan (Dr Fekih), and The Prince and Princess Gauri Devi Foundation, Dhaka, Bangladesh (Dr Hillier)
Correspondence: Dr Shafiq P Luby (shafiq@cdc.gov)

[Lancet 2005, Jul 16-22, 366 (9481), 225-33]

Use of Checklists

Landmark study with 108 intensive care units (ICU) in Michigan:

- “The median rate of bloodstream infection per 1000 catheter-days decreased from 2.7 infections to 0 at 3 months after use of checklist.(p0.002)”
- ICUs in the study outperformed 90% of ICUs nationwide and saved an estimated \$175 million and more than 1500 lives

The NEW ENGLAND
JOURNAL of MEDICINE

ESTABLISHED IN 1812 DECEMBER 28, 2006 VOL. 355 NO. 26

An Intervention to Decrease Catheter-Related Bloodstream Infections in the ICU


Peter Pronovost, M.D., Ph.D., Dale Needham, M.D., Ph.D., Sean Berenholtz, M.D., David Sinopoli, M.P.H., M.B.A., Haitao Chu, M.D., Ph.D., Sara Cosgrove, M.D., Bryan Sexton, Ph.D., Robert Hyzy, M.D., Robert Welsh, M.D., Gary Roth, M.D., Joseph Bander, M.D., John Kepros, M.D., and Christine Goeschel, R.N., M.P.A.

ABSTRACT

BACKGROUND
Catheter-related bloodstream infections occurring in the intensive care unit (ICU) are common, costly, and potentially lethal.

METHODS
We conducted a collaborative cohort study predominantly in ICUs in Michigan. An evidence-based intervention was used to reduce the incidence of catheter-related bloodstream infections. Multilevel Poisson regression modeling was used to compare infection rates before, during, and up to 18 months after implementation of the study intervention. Rates of infection per 1000 catheter-days were measured at 3-month intervals, according to the guidelines of the National Nosocomial Infections Surveillance System.

RESULTS
A total of 108 ICUs agreed to participate in the study, and 103 reported data. The analysis included 1981 ICU-months of data and 375,757 catheter-days. The median rate of catheter-related bloodstream infection per 1000 catheter-days decreased from 2.7 infections at baseline to 0 at 3 months after implementation of the study intervention (P<0.002), and the mean rate per 1000 catheter-days decreased from



[New England Journal of Medicine, 2006 Dec, 355 (26), 2725-32]

Non-reusable Syringes

Every year, reuse of syringes kills 1.3 million a year (more than Malaria) and about 230,000 HIV infections

- Development of non-reusable syringe by Mark Koska; made on existing assembly equipment
- Since 2001, 1.8 billion K1 syringes have been sold; 9 million fatal infections have been prevented



[\[www.marckoska.com\]](http://www.marckoska.com)

Lessons Learned – To Get Started...

- You need to have the right idea
- It starts with one person, one patient, one facility
- You need a quality champion
- You need to have the time and commitment

How are new ideas adopted in
an organization?

AIDS Prevention and NBA

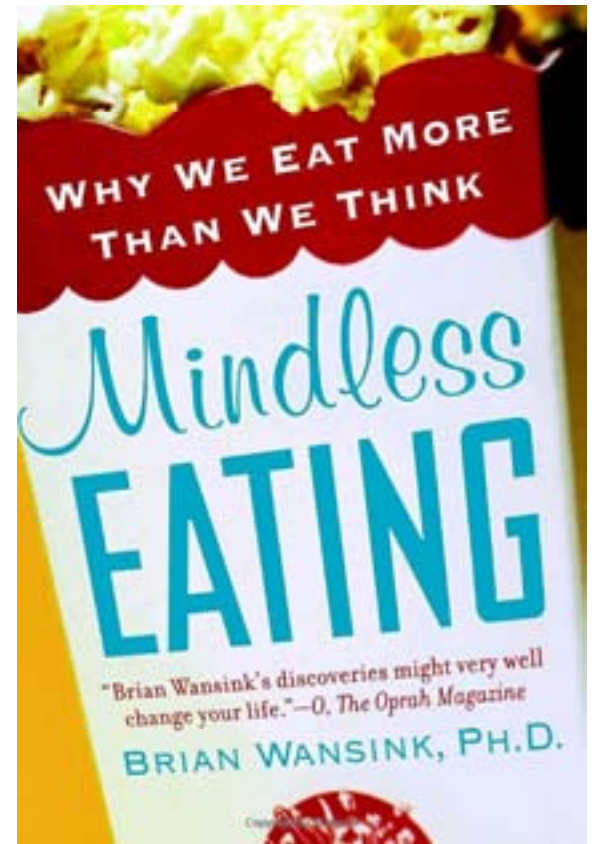
- All NBA rookies are required to meet in Tarrytown, NY for a mandatory orientation session
- Orientation on AIDS and AIDS prevention



[Michelle Kaufman, Miami Harold, Oct 5, 2003]

Change the System

- Moviegoers are offered free soda and popcorns in a large/super-size bucket
- Question: Would somebody with a large inexhaustible supply of popcorn eat more than someone with a smaller inexhaustible supply?
- Result: People with the super-size buckets ate 53% more popcorn than people with the large bucket
- Conclusion: To eat less, reduce the size of serving



[Brian Wandsink, Mindless Eating, Bantam]

Improvements are Contagious

- Study: 12,067 individuals are followed for 32 years to study obesity
- Result: when someone became obese, the odds of that person's close mutual friend becoming obese tripled; closeness to the person did not matter
- Conclusion: obesity 'spread' among friends, even when they are in different parts of the country; obesity is contagious



[New England Journal of Medicine, 2007, 357, 370-379]

Lessons Learned – To Get Ideas Adopted...

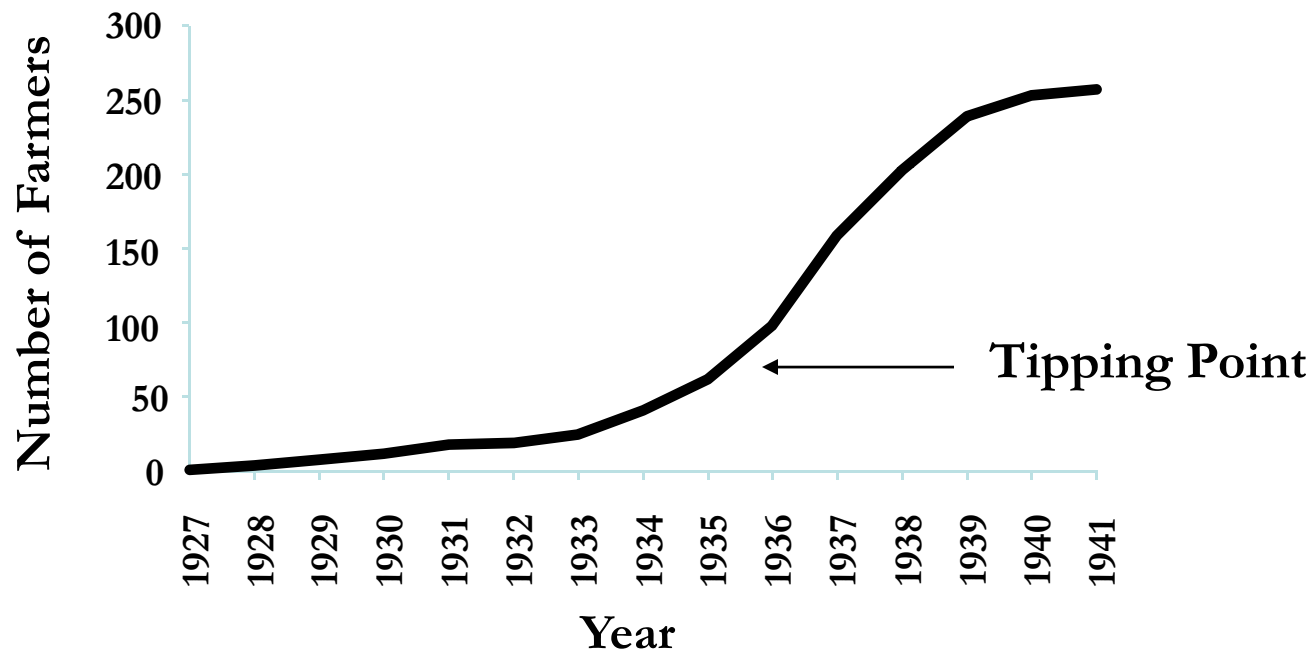
- Understand your audience(s)
- Implement ideas with their needs in mind
- Change the underlying system of care
- Just do it - improvements are contagious

Critical Mass and Momentum

“The part of the diffusion curve from about 10 percent to 20 percent adoption is the heart of the diffusion process. After that point, it is often impossible to stop the further diffusion of a new idea, even if one wished to do so.”

E.M. Rogers, Diffusion of Innovations (1995)

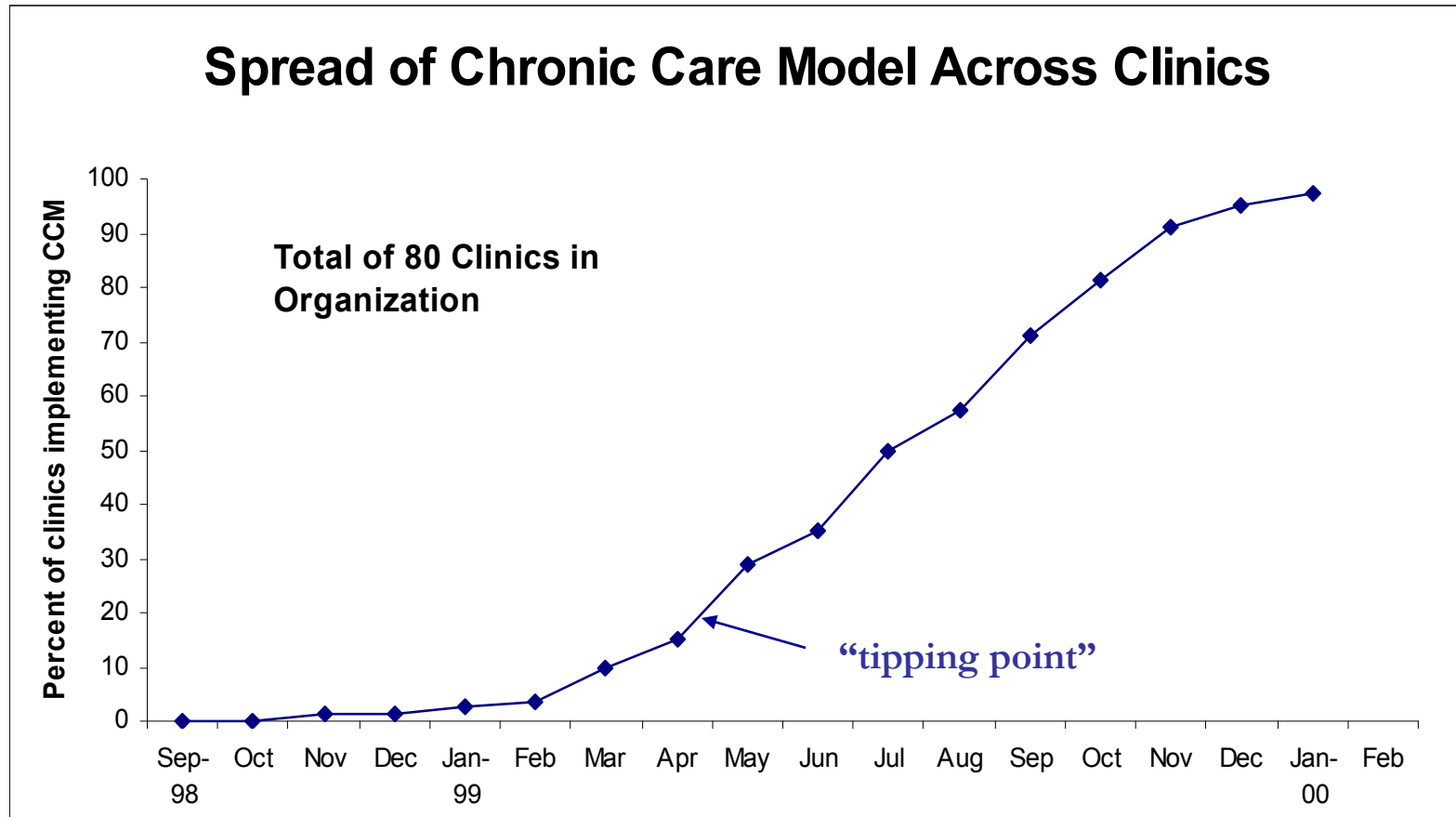
The “Diffusion Curve”: Reaching the Tipping Point



Source: Based on Ryan and Gross (1943)

Number of Adopters of Hybrid Seed Corn in Two Iowa Communities

“Diffusion Curve” in Health Care



Source: Institute for Healthcare Improvement

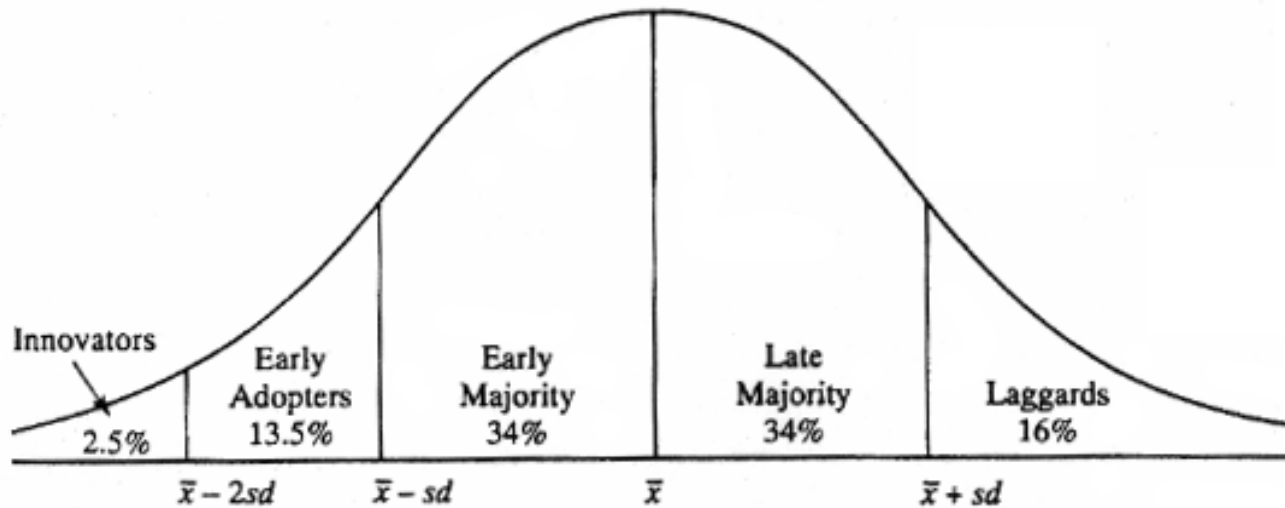
Types of Innovators



- Innovators - Venturesome
- Early Adopters - Respected
- Early Majority - Deliberate
- Late Majority - Skeptical
- Laggards - Traditional

'Diffusion of Innovation'

Adopter Categorization on the Basis of Innovativeness



Source: Ryan and Gross, "Hybrid Seed Among Iowa Farmers," 1940

Human Diffusion Curve Exercise

- 2 Volunteers to sell
- Participants to buy

Let's see what we learn....



Rogers's Five Attributes of Change



- **Relative Advantage** - how much better is the new compared to the old?
- **Compatibility** - how consistent is this idea with current values, experiences, and needs?
- **Complexity** - how difficult is the new idea to understand and use?
- **Trialability** - how easy is it to test the new idea?
- **Observability** - how visible are the results of the new idea?

-- E.M. Rogers, *Diffusion of Innovations* (1995)

Rules of Diffusion (by Donald Berwick)



- Identify changes that are ready to spread
- Find innovators and support them
- Invest in early adopters and allow communication with innovators
- Make early adopters observable
- Allow re-invent innovation
- Trust and enable innovation

How does an organization with a strong culture for quality improvement look like?

Report Back from Audience Suggestions

- What themes of how organizations with a strong culture for quality improvement look like were generated?
- What were the panel most favorite ideas?
- Audience responses

What are the key ingredients for creating an agency-wide quality culture?

Report Back from Audience Suggestions

- What themes of key ingredients for creating an agency-wide quality culture were generated?
- What were the panel most favorite ideas?
- Audience responses

Panel Presentations – 5 min each

- How can we best engage all stakeholders/providers around quality improvement? How can we address issues of resistance? How can each provider/staff do their QI share?
- How can we establish QI aims that spark the interest of all providers/staff? What are the AI goals of interest to all?
- How can we best engage all subcontractors around QI? How can we engage them beyond contract requirements?
- How can you effectively make agency-wide senior leaders part of the ongoing QI work? What can we keep them in the loop?

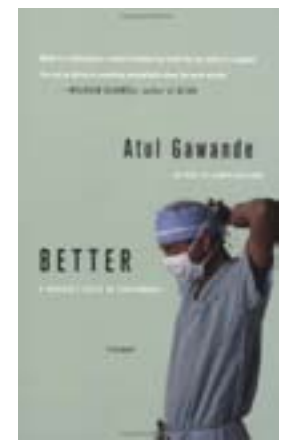
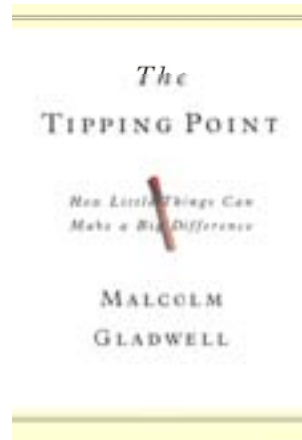
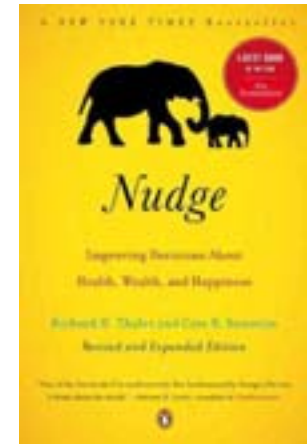
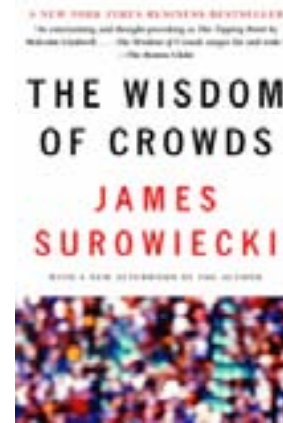
Breakout Groups

- Select one of the following 4 topic areas based on your personal interest
- Move towards the assigned meeting area
- Select a group reporter
- Discuss your topic and report back to the larger group

Topic Areas

- How can we best engage all stakeholders/providers around quality improvement? How can we address issues of resistance? How can each provider/staff do their QI share?
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Additional Resources



Aha Moment and Action Planning

- What have you learned from this workshop?
- What will you do differently in response to this workshop?
- Complete the Action Planning Form on your chair

NQC QI Activities at the AGM 2010

Monday, August 23, 2010

- 11am-12:30pm: Improve Your Care and Services with Consumer Input (RWA-0336), Quality Institute 1
- 2:30-4pm: Creating a Culture for Quality Improvement, (RWA-0337), Quality Institute 1

Tuesday, August 24, 2010

- 8:30-10am: Quality in Hard Times: Using Quality to Help Mitigate the Impact of Budget (RWA-0414), Quality Institute 1

Wednesday, August 25, 2010

- 8:30-10:30am: Quality Improvement 101/HAB Quality Expectations – Building a Sound Quality Management Infrastructure (RWA-0415), Quality Institute 2
- 11am-12:30pm: An Introduction to Performance Measurement for Quality Improvement (RWA-0416), Quality Institute 2
- 3:30-5pm: How to Share Performance Data to Spur Improvement (RWA-0417), Quality Institute 2

Thursday, August 26, 2010

- 8-9:30am: Strategies to Measure and Improve Patient Retention Rates (RWA-0335), Additional Quality Management Related Workshops
- 10-11:30am: Aligning Quality Initiatives across Ryan White Parts: Lessons Learned from Cross Part Collaborative (RWA-0421), Additional Quality Management Related Workshops
- 10-11:30am: Quality Management for Non-Clinical Care (RWA-0419), Additional Quality Management Related Workshops



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