Improving the Work is the Work

Jack Needleman, PhD FAAN

Professor of Health Policy and Management UCLA Fielding School of Public Health

Presented at CNL Summit/Masters Education Conference February 22, 2018

There is a need for improvement in health care This is reflected in "The Quadruple Aim"

Improving the patient experience of care

- Increasing safety and reliability
- Appropriate care, effectively delivered
- Increase patient-centeredness of care and satisfaction
 - Improve satisfaction and healing environment
 - Empower patient and family to do post-admission care
 - Increase patient participation in care decisions

Reducing the per capita cost of health care

- Reduce time, reduce resources needed
- Reduce rework and correcting errors
- Improving the health of populations
- Improve work environment and work satisfaction of staff
 - Increase effectiveness
 - Reduce turnover

Change in health care is hard Good ideas not necessarily implemented & sustained

- Handwashing
- Medicine reconciliation
- Checklists for CLABSI

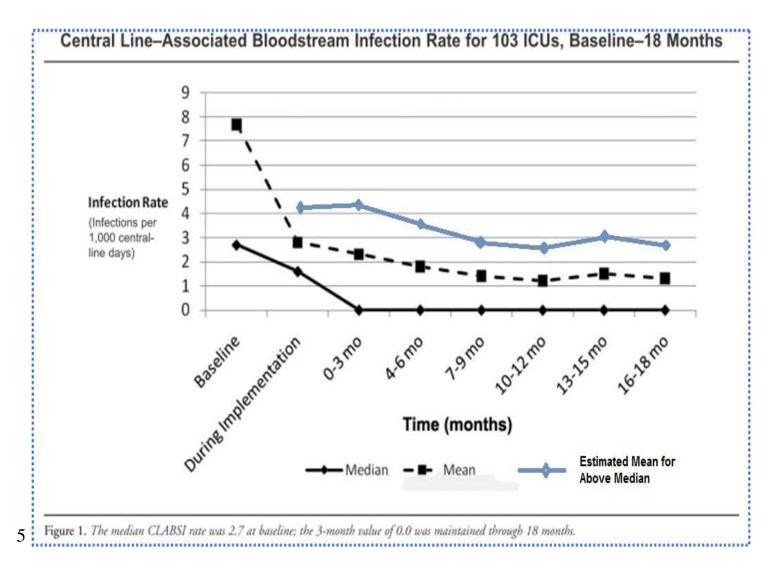
Checklist for CLABSI prevention

Bundle of known, proven effective practices

- Handwashing
- Full barrier precaution during line insertion
- Chlorhexidine cleaning of the skin
- Avoiding the femoral site
- Removing unnecessary catheters
- Education on infection control practices
- Facilitators—central-line carts, checklists, ability to stop the procedure if practices not adhered to

Success to date: Keystone Project

Reductions in Central Line Infections made and sustained



Many hope for magic or a "white knight" to solve the problems in health care



Amazon's Jeff Bezos, Warren Buffett, JPMorgan starting healthcare company

by Kimberly Leonard | Jan 30, 2018, 8:32 AM



Or perhaps this "white knight"



Successful change in health care will come only from a fully engaged front line, supported by those in this room

- Pressure on costs will come from the outside, as payers put on pressure for lower cost care
 - But responding thoughtfully to those pressures by increasing the efficiency of care and reducing rework is the front line's work
- Increasing quality, improving the patient experience, that too is the front line's work

Improvement and implementation science is core to the training of CNLs and other master's prepared nurses

- Improvement science has focused on the evidence
 - Evidence based practice
- Implementation science has focused on the challenges of implementation
- Need to integrate the perspecctives

Limited amount known about how to improve care consistently across a variety of settings

QI initiatives

- Improve care substantially in some settings
- Make only modest or no improvement
- Not all groups perform comparably

Explanation: Contextual factors affect

- Organizational change
- Dissemination
- Innovation
- Implementation
- Knowledge Translation

Goals for Improvement and Implementation Science

- Identify practices that can improve quality & efficiency of care
- Find methods to effectively implement and sustain better practices
 - Integration
- Develop strategies for making organizations more effective at learning and innovating to become high performing institutions
- Turn tacit knowledge of the above into explicit knowledge

Theories of organization and change

- Implementation science not a discipline
 - Disciplines driven by central theoretical constructs
 - Research to validate, refine, replace
 - Focus is on achieving/sustaining improvement
 - Draw on wide range of disciplines and models, e.g.
 - Rogers on innovation
 - Complex adaptive organizations
 - Organizational culture
 - Models of leadership and followership
 - Industrial organization and industrial engineering
 - Challenge is integrating perspectives
 - Need for basic research observing organizations

Balance of presentation

- Reflections on why change is hard to make and sustain
- What staff ask for and need to participate in improvement activities
- Some thoughts on building individual and team capacity

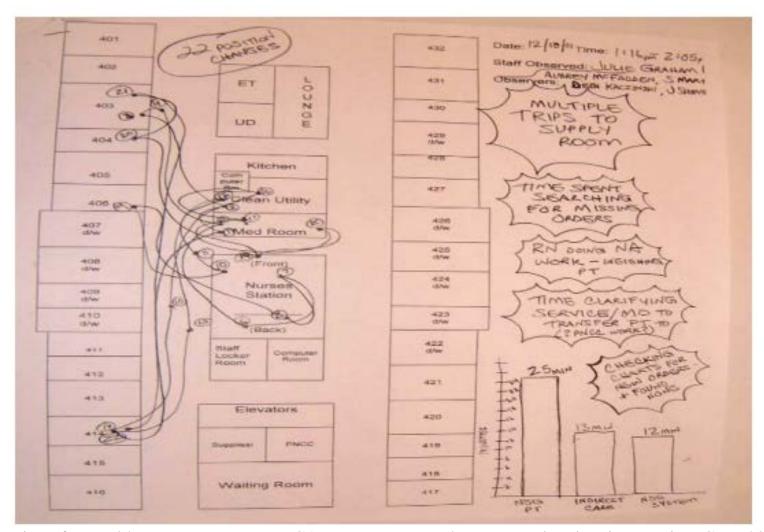
Why implementing & sustaining change is hard: Reflections from implementation science

- Complexity of the work & workload
- Macro-system disincentives
- Time & institutional commitment
- Individual and team capacity

Why implementing & sustaining change is hard: Reflections from implementation science

- Complexity of the work & workload
 - Complexity of clinical care at the unit level
 - Complexity of the organization and meso and macro environment
- Macro-system disincentives
- Time & institutional commitment
- Individual and team capacity

Spaghetti diagram of nurse movement 1:16pm-2:05pm



Source, Institute for Healthcare Improvement, TCAB How-to Manual on Nurse Time in Direct Patient Care, 2008

The complexity of the work and workload imposes particular demands on implementing change

Complexity of the work & workload

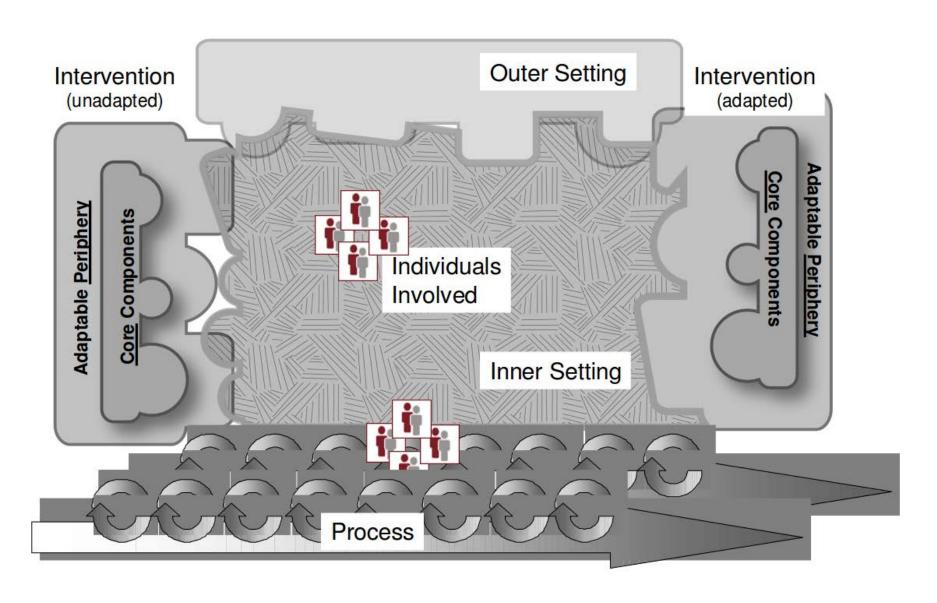
- Ebright "Managing the Stack"
- Processes nonlinear
- Work priorities constantly being revised

Implications

- Fundamental flaw to treat new innovation in isolation or as add on
 - One more job in the stack
 - Evidence that innovations get abandoned because they don't fit the work flow
- Improving care requires integration of practices, not simply adopting "best" practices
 - Front line engagement

Making and sustaining change is complex and requires balancing many dimensions of the organization

Damschroeder 2010 CFIR Model, Implementation Science



Damschroder: constructs in each domain

Damschroder, 2010, CFIR Model, Implementation Science

		Greenhalgh et al. ¹³	Klein, Conn & Sorra 10.47	Pettigrew & Whipp ²⁶	Leeman 44	PARIHS Model 14,15	Ottowa Model ⁵⁰	Simpson Kochoor & Vano 46	Stetler 38	Edmondson et al. ¹⁹	Kilbourne et al.	VanDeusen Lukas e al. [®]	Grol, et al ^{7,106}	Mendel et al.	Fixsen et al ¹⁶	Brach et al. ** Glisson et al. †**	Feldstein & Glasgov	Frambach & Schillewaert ³⁵
	Topic/Description	<u>ช</u> ั	호	<u>8</u>		A	₹ 8	<u> </u>	<u> </u>	<u> </u>	₹	Va al.	<u> </u>	ž	Ē	<u> </u>	<u></u> "	<u></u> ь о
	RVENTION CHARACTERISTICS																	
Α	Intervention Source									√			√					
В	Evidence Strength & Quality				√	√_	√		√,		٧					√	√_	
С	Relative advantage	√				_√			٧.	√			_√	√		√		√
D	Adaptability	√	-√	√					√		٧.		-√_			√	-√	
Е	Trialability	√	√		√	- √			√		٧		√				-√	√
F	Complexity	√	√.					1	/ 1	V			√_	√		√	√	√
G	Design Quality and Packaging		√				√				٧.		√					
Н	Cost						V				V		√ _	√		√	√	
II. OUTI	R SETTING			√					V					√ -	√			
Α	Patient Needs & Resources					√	√				√	√		√		√	√	
В	Cosmopolitanism	√		√			1	/						√		√		√
С	Peer Pressure	√		√							√	√		√			√	√
D	External Policies & Incentives	√		√								√		√		√	√	
III. INNI	ER SETTING			√					V		V			√	√			-
A	Structural Characteristics	√		√										V				$\overline{}$
В	Networks & Communications	V	V	V		V	V 1	/				V		V	١	/ /	V	V
C	Culture	V	V	V		V	V 1	/				V		V		√	V	
D	Implementation Climate			V										V		V		V
		V		V					√		V	√	***		1	/		
- 2	2 Compatibility	V	V				1	/ V	· V	V	,,,,		V	V	١	/	V	V
	Relative Priority		V						V	500			-	V			V	
4			V	V	V						V	V		V			V	
	Goals and Feedback	√		V		√	١	/ V	,		√	√		V			V	
(Learning Climate	√	V			V	1	/				V					√	
D	Readiness for Implementation			V													V	
		√	√	V	√	V	1	/	V	V		V			١	/	V	√
2	Leadership Engagement Available Resources	V	V	V	-	V	1	/	V	V		V		V	1	/	^v 53	
3	Access to knowledge and information	V	\checkmark		V	10 100	V	٧	,		\checkmark		1111		١	/	√	√

Damschroder: constructs in each domain

Damschroder, 2010, CFIR Model, Implementation Science

IV. CHA	RACTERISTICS OF INDIVIDUALS			√		√											
Α	Knowledge & Beliefs about the Intervention	√								√	√	√		$\sqrt{}$		√	
В	Self-efficacy	√	√							√	√	√				√	
С	Individual Stage of Change	√	√								√	√				√	
D	Individual Identification with Organization											√		√ .	✓		
E	Other Personal Attributes									√	√						√
V. PRO	CESS			√	√												
Α	Planning	√		√			√		√		√	√	V	√ ·	√	√	
В	Engaging	√		√			√	√	√	√	√	√	V		√	√	
	1 Opinion Leaders	\checkmark			√			√	√			√		√		\checkmark	\checkmark
2	2 Formally appointed internal implementation			√									_	√ ·	✓	\checkmark	
	leaders																
	3 Champions	√								√				√		\checkmark	
4	4 External Change Agents	√										√		√ ·	✓	\checkmark	
С	Executing	√		√			√		√		√	√				√	
D	Reflecting & Evaluating	√		√			√	√	√		√	√	V	√ ·	✓	√	

Each component has multiple dimensions

Greenhalgh 2004 Millbank Quarterly

THE INNOVATION

Relative advantage Compatibility Low complexity Trialability Observability Potential for reinvention Fuzzy boundaries Risk

Task issues Nature of knowledge required (tacit/explicit) Technical support

COMMUNICATION AND INFLUENCE

DIFFUSION (informal, unplanned)

> Social networks Homophily Peer opinion Marketing Expert opinion Champions Boundary spanners Change agents

DISSEMINATION (formal, planned)

OUTER CONTEXT

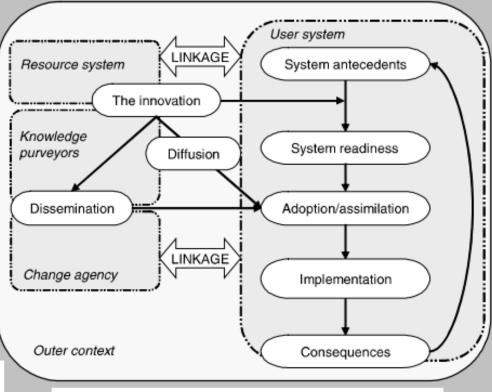
Sociopolitical climate Incentives and mandates Interorganizational norm-setting and networks Environmental stability

SYSTEM ANTECEDENTS FOR INNOVATION

Structure Size/maturity Formalization Differentiation Decentralization

Slack resources

Absorptive capacity for new knowledge Preexisting knowledge/skills base Ability to find, interpret, recodify, and integrate new knowledge Enablement of knowledge sharing via internal and external networks Receptive context for change Leadership and vision Good managerial relations Risk-taking climate Clear goals and priorities High-quality data capture



LINKAGE

Design stage

Shared meanings and mission Effective knowledge transfer User involvement in specification Capture of user-led innovation Implementation stage Communication and information

User orientation Product augmentation, e.g. technical help Project management support

SYSTEM READINESS FOR INNOVATION

Tension for change Innovation-system fit Power balances

(supporters v. opponents) Assessment of implications Dedicated time/resources Monitoring and feedback

ADOPTER

Needs Motivation Values and goals Skills Learning style Social networks

ASSIMILATION

Complex, nonlinear process "Soft periphery" elements

IMPLEMENTATION PROCESS

Decision making devolved to frontline teams Hands-on approach by leaders and managers Human resource issues, especially training Dedicated resources Internal communication External collaboration Reinvention/development Feedback on progress

Why implementing & sustaining change is hard: Reflections from implementation science

- Complexity of the work & workload
- Macro-system disincentives
 - Payment
 - Regulation
 - Reporting
 - All affect institutional commitment, capacity and focus
- Time & institutional commitment
- Individual and team capacity

Macrosystem incentives and disincentives Payment and other controls

- Payment one way to signal but incentives can be very strong
 - Signal direction, with opportunity for over-responding
- Other constraints can provide balance and better achieve goals:
 - Professional standards, licensure and certification, standards and guidelines, public reporting, regulation
 - Each has been used effectively
 - Many issues in designing each mechanism so incentives or constraints are correctly balanced
 - Critical to getting balance right is thinking clearly about who will be acting and how they will respond
- Across all incentives and constraints, tendency to add complexity to assure subtle and balanced responses, but these weaken clarity of incentives

ACO and MIPS as examples

CMS: Accountable Care Organization (ACO) Shared savings program

Accountable Care Organization

- No patient enrollment but patients attributed to ACO based on preponderance of primary care use
- Estimated risk adjusted target or budget compared to actual costs
 - Savings shared
 - Losses also shared and limited
 - Typical sharing is 50/50 but can vary and...

Higher quality increases savings share, reduces loss share

- 33 measures in 4 areas, weighted score
 - Include: getting timely care and appointments, access to specialists, physician communication metrics, vaccinations and immunizations, unplanned admissions or avoidable admissions or readmissions, poor diabetes control, mammography screening, colorectal cancer diagnostics, shared decision making, and patient education.

ACO scoring determines the amount of savings it shares or the amount of losses it owes

2016 Reporting Year: Total Points for Each Domain within the Quality Performance Standard

Domain	Number of Individual Measures	Total Measures for Scoring Purposes	Total Possible Points	Domain Weight
Patient/Caregiver Experience	8	8 individual survey module measures	16	25%
Care Coordination/ Patient Safety	10	10 measures, the EHR measure is double-weighted (4 points)	22	25%
Preventive Health	9	9 measures	18	25%
At-Risk Population	7	5 individual measures and a 2- component diabetes composite measure	12	25%
Total in all Domains	34	33	68	100%

Sliding Scale Measure Scoring Approach

ACO Performance Level	Quality points
90+ percentile benchmark or 90+ percent	2.00 points
80+ percentile benchmark or 80+ percent	1.85 points
70+ percentile benchmark or 70+ percent	1.70 points
60+ percentile benchmark or 60+ percent	1.55 points
50+ percentile benchmark or 50+ percent	1.40 points
40+ percentile benchmark or 40+ percent	1.25 points
30+ percentile benchmark or 30+ percent	1.10 point
<30 percentile benchmark or <30+ percent	No points

25 ditionally, CMS will reward ACOs that demonstrate significant improvement in their quality measure performance by adding up to 4.00 points to each domain score.

PROPOSED RULEMIPS: Performance Category Scoring

Summary of MIPS Performance Categories Performance Category Quality: Clinicians choose six measures to report to CMS that best reflect their practice. One of these measures must be an outcome measure or a high-value measure and one must be a crosscutting measure. Clinicians also can choose to report a specialty measure set.	Maximum Possible Points per Performance Category 80 to 90 points depending on group size	Percentage of Overall MIPS Score (Performance Year 1 - 2017) 50 percent
Advancing Care Information: Clinicians will report key measures of interoperability and information exchange. Clinicians are rewarded for their performance on measures that matter most to them.	100 points	25 percent
Clinical Practice Improvement Activities the activities best suited for their practice; the rule proposes over 90 activities from which to choose. Clinicians participating in medical homes earn "full credit" in this category, and those participating in Advanced APMs will earn at least half credit.	60 points	15 percent
Resource Use: CMS will calculate these measures based on claims and availability of sufficient volume. Clinicians do not need to report anything.	Average score of all cost measures that can be attributed	10 percent

Sometimes the incentives are against improvement: Business case for quality and social case can be at odds

- Leatherman, Berwick et al, Health Affairs, 2003 examine four cases where social value had been previously demonstrated
 - In all four cases, case for service was favorable for patient and society
 - In 3 of 4, business case for provider unfavorable, and mixed for employers and insurers

Avoided Days and Adverse Outcomes Associated with Raising Nurse Staffing to 75th Percentile in US hospitals

Estimates from Needleman/Buerhaus, Health Affairs, 2006

	Raise RN Proportion	Raise Licensed Hours	Do Both
Avoided Days	1,507,493	2,598,339	4,106,315
Avoided Adverse Outcomes			
Cardiac arrest and shock, pneumonia, upper gastrointestinal bleeding, deep vein thrombosis, urinary tract infection	59,938	10,813	70,416
Avoided Deaths	4,997	1,801	6,754

Net Cost of Increasing Nurse Staffing

Estimates from Needleman/Buerhaus, Health Affairs 2006

	Daine DN	Raise	
	Raise RN Proportion	Licensed Hours	Both
Cost of higher nursing	\$ 811 Million	\$ 7.5 Billion	\$ 8.5 Billion
Avoided costs (full cost)	\$ 2.6 Billion	\$ 4.3 Billion	\$ 6.9 Billion
Long term cost increase	(\$ 1.8 Billion)	\$ 3.2 Billion	\$ 1.6 Billion
As % of hospital costs	-0.5%	0.8%	0.4%
Short term cost increase (save 40% of average)	(\$ 2.4 Billion)	\$ 5.8 Billion	\$ 5.7 Billion
As % of hospital costs	-0.1%	1.5%	1.4%
A3 /0 of flospital costs	-0.1 /0	1.5/0	1.7/0

Takeaways:

- 1. Raising RN proportion on RN/LPN mix found to be cost saving
- 2. Raising licensed hours has net cost, although justified by value to patients
- 3. Subsequent work has found adding additional adverse events and nurse turnover costs reduces net cost but does not completely close gap.
- 4. All this contingent on hospital retaining gains, which it does under DRGs but not FFS or per diem 29

Implications of the macro environment for delivery organizations seeking to make and sustain change

- Nurse leaders need to understand incentives, cost and revenue implications
 - "For if the trumpet gives an uncertain sound, who shall prepare himself for the battle?"
 - Core payment and regulatory regime
 - In era of value based bonuses, take these into account
- Nurses need to champion bundled and global payment
 - And then own the efficiency, coordination and quality agendas
- Need to make a conscious organizational decision about the extent to which commitment to improving patient care delivery, safety, reliability and quality are going to be constrained by financial and business case considerations

Implications for practice from implementation science on why implementing & sustaining change is hard

- Macro-system disincentives
- Complexity of the work & workload
- Time & institutional commitment
- Individual and team capacity
 - Both part of what staff ask for and need

The five questions of TCAB staff before committing

- What is this? What do you want us to do?
- What's in this for me and my patients?
- You say we will have ownership & voice. We've heard that before. Why should we believe you this time?
- I haven't the time to do my work now. Where will the time come from?
- I haven't the training or background to do this. What help will you give us?

The five questions of TCAB staff before committing

- What is this? What do you want us to do?
 - Importance of communicating goals and expectations to the front line
 - Translating from the collaborative setting or your education
- What's in this for me and my patients?
 - Patients at center, but not exclusively
 - Three TCAB stories
 - The creation of TCAB as a program to retain and attract nurses
 - MD Anderson nurses and end of shift handoff
 - Quiet time
- You say we will have ownership & voice. We've heard that before. Why should we believe you this time?
 - "Improving the work is the work" vs. project of the month (and on to something else next month, with this forgotten)
- I haven't the time to do my work now. Where will the time come from?
- I haven't the training or background to do this. What help will you give us?

It is possible to build commitment to engagement AONE TCAB experience

Table 4. Proportion of Unit Nurses Unsupportive of Transforming Care at the Bedside (TCAB) Activities, by Unit

Unsupportive		Unsupportive After One Year							
in First Six Months	Total	Almost All	Most	About Half	Some	None			
Almost all	1	0	0	1	0	0			
Most	12	0	1	3	8	0			
About half	21	2	3	3	10	3			
Some	24	0	0	0	18	6			
None	6	0	0	0	1	5			
Total		2	4	7	37	14			

The Total column shows distribution of levels of unsupportiveness in first 6 months; Total row, the distribution of unsupportiveness after 1 year. Staff in units on the unshaded diagonal had the same level of support after Year 1 as in the first 6 months. Staff in units to the right of the diagonal (in the darker shaded cells) were more supportive after 1 year than in the first 6 months. Staff in units to the left of the diagonal (in the light shaded cells) were less supportive after Year 1 than in first 6 months.

Source: Responses from 64 TCAB unit managers on the unit manager survey.

The five questions of TCAB staff before committing

- What is this? What do you want us to do?
- What's in this for me and my patients?
- You say we will have ownership & voice. We've heard that before. Why should we believe you this time?
- I haven't the time to do my work now. Where will the time come from?
- I haven't the training or background to do this. What help will you give us?

TCAB: Where did the time come from

Initially

- Overtime
- Extra shifts

Over time

- Reengineered shift to incorporate improvement work into workflow
- Committee meetings to set agendas
- Improvement team meetings to plan and huddles to keep moving
- Reflection, reporting and recognition

TCAB variations in unit work intensity form Guttman scale

Number of	TCAB Intensity Score	onent Processes			
Units		Data Use	Staff Decision Making	Frequent Team Meetings	Continued Brainstorming
				eego	Dramster ming
3	0	0	0	0	0
4	1	1	0	0	0
1	1	0	1	0	0
1	2	1	1	0	0
1	2	0	1	1	0
4	3	1	1	1	0
3	4	1	1	1	1

TCAB: Intensity influences participation

	80% or more of nurses participating in tests of change in 2nd year?			
TCAB intensity score	No	Yes		
0	2	0		
1	4	1		
2	1	_1_		
3	0	4		
4	1	2		

Creating time and space for staff to reflect on their work and identify ideas for testing



Front-line staff at Seton Northwest Hospital in Austin, Texas, use a decision matrix (far left) to harvest ideas during a TCAB snorkel session.

Some ideas that were implemented following testing



Hospital room closet before.



Closet retrofitted as patient server.





Urology kit Porta-cath
Wound vac Central line
Chest tube insertion
Sterile procedures (masks, gowns, drapes)
Aspiration/Injection tray

The importance of unit ownership TCAB and QI leadership

Innovations per unit

Year 1 TCAB leadership	Tested	Sustained	Spread
QI led	19	12	10
Unit led w/strong QI or equal	31	21	11
Unit led, minimal QI	29	19	9

The five questions of TCAB staff before committing

- What is this? What do you want us to do?
- What's in this for me and my patients?
- You say we will have ownership & voice. We've heard that before. Why should we believe you this time?
- I haven't the time to do my work now. Where will the time come from?
- I haven't the training or background to do this. What help will you give us?

Time and resources are linked to institutional commitment

- Institutional commitment
 - Leadership commitment
 - Alignment of safety & reliability agenda with institutional goals
- We have measures of institutional commitment but these are not yet matched by science of improving institutional commitment
 - We know better how to measure safety culture than improve it.
 - Area for more research to move knowledge from tacit to explicit
 - Critical to incorporate the lessons about how into master's education of nurses

What does institutional commitment and culture look like? Aravind Eye Hosp: How operational excellence is achieved

- Work is designed as a series of ongoing experiments
 - Patient flow All the employees in each area are clear of their responsibilities and their expected work load
- People are taught to be experimentalists
 - Discharging patient directly from wards.
 - IP medication included in the package
- Problems are addressed immediately through rapid experimentation
 - PIC Meeting, SMC meeting, Coordinators Meeting
 - Implication of the changes with the knowledge of concerned staff
- Solutions are disseminated adaptively through collaborative experimentation.
 - Results (Successful Methods) are shared across the system. E.g. Age Group Clinic

Time and institutional commitment: Elements of a culture of improvement

- Leadership engagement and commitment
- Organizational commitment to safety and reliability
 - Alignment of improvement goals and institutional goals
- What help will you give me? Engagement, orientation and training of front line and clinical staff
 - All the above subject of "pre-work" in Michigan Keystone
 - Weakening hierarchical relationships and empowering staff
 - "Respect the local wisdom of frontline providers."
 - Engaging front line staff requires addressing their concerns
 - Five questions staff ask before becoming engaged
 - What is this?
 - What's in it for me and my patients?
 - Why should I trust your commitment to giving the staff voice and power?
 - I haven't the time to do my work now? Where will I find the time to do this?
 - I haven't been trained to do this? What help will you give me?

...continued next slide

Elements of a culture of improvement

- Engage all the staff
 - Part of the CNL orientation
 - A test: Is housekeeping a part of the infection control program
- Commitment and capacity to collect and use data
 - Significant barrier in working with front line staff
- Adoption of methods for designing, testing and adapting innovations
 - Plan-Do-Study-Act popular tool for rapid cycle testing
 - Complements longer and more formal methods of analysis and designing innovation
 - Key challenge is tapping QI expertise and front line knowledge of processes in more formal systems like Lean
- Not just "culture" but institutionalization of improvement work into work week and expectations

Models of engagement

- Models exist for increasing engagement at the leadership and front-line levels and training in process improvement and we have learnt many lessons about implementing and sustaining these models, e.g.
 - Magnet hospitals
 - TeamSTEPPS
 - Transforming Care at the Bedside
- Challenge to transmitting and applying models

Why is implementing & sustaining change hard?

- Macro-system disincentives
- Complexity of the work & workload
- Time & institutional commitment
- Individual and team capacity

The role of training and preparation in making and sustaining change

- Lessons from the Keystone project
- Media coverage emphasized the checklist
 - Medscape Medical News, Feb 8, 2010
 - "Simple Measures to Reduce Bloodstream Infections Successful After 3 Years"
 - Atul Gawande, New York Times, Jan 8, 2010
 - "A Lifesaving Checklist"
 - Recent article on how implementation of surgical check list reduced mortality at one institution by 20%
- BUT:
 - Researchers emphasize culture and organizational preparation:
 - Implemented unit-based safety culture and daily goal sheet—3 months

Lessons learned in Keystone Collaborative How do they apply to your work?

- What made collaborative successful
 - The interventions were driven by evidence
 - Feedback to teams
 - Presented data that was important to them
 - Challenge
 - Efforts were made to improve culture and teamwork
 - Organizational self assessment on safety culture and readiness to change
 - Team checkup tool
 - Need to engage leadership
 - Challenge in reaching all staff
 - Johns Hopkins University collaborative model for transformational change
 - "Four E's" of Engage, Educate, Execute and Evaluate
 - Integrates communication, teamwork and leadership to create and support a "harm free" patient care culture
 - Challenges to hierarchy

Hopkins Comprehensive Unit-based Safety Program Steps

Educate staff on science of safety

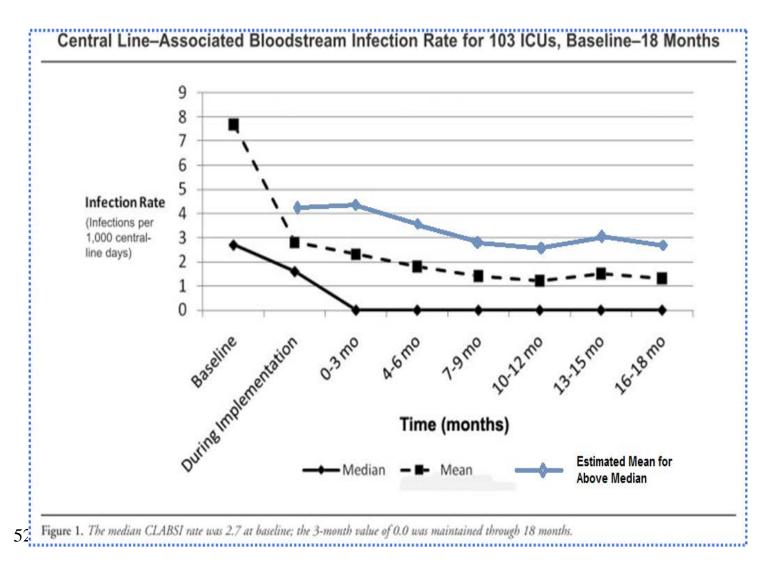
- Understand that safety is a property of the system
- Understand the basic principles of safe design that include: standardize work, create independent checks (checklists) for key processes, and learn from mistakes
- Recognize that the principles of safe design apply to technical as well as team work
- Understand that teams make wise decisions when there is diverse and independent input.

Identify defects

- Assign executive to partner with unit
 - Partners a senior hospital executive with a unit to open lines of communication, improve frontline providers' attitudes about leadership, educate leaders about the clinical issues and safety hazards, provide staff resources to mitigate hazards, and hold staff accountable for reducing patient risks.
- Learn from one defect per month
- 51 Implement teamwork tools

Success to date: Keystone Project

Reductions in Central Line Infections made and sustained



Lack of training and familiarity cited as issue by staff What are your roles as CNL's, nurse educators, administrators?

Cited by TCAB staff and managers, Keystone project, others

Q5: We haven't been trained to do this? How will you help us?

Needs:

- Quantitative and analytic orientation
 - How to use in analyzing and improving processes
- Data interpretation and display
 - E.g., Control chart analysis
- Nuts and bolts of data collection and measurement design

Needed

- in training of front line as well as specialists
- in professional education
- in-service training

Concluding thoughts Improving the work is the work

- Evidence is not enough
 - Integration into current or new processes and work flows
- Four key challenges
 - Complexity of the work & workload
 - Macro-system disincentives
 - Time & institutional commitment.
 - Individual and team capacity
- Your work requires addressing the challenges of implementation and effective strategies to commit the organization to making improvement part of the work
 - Pay attention to alignment with institutional incentives and goals
 - Create and sustain fertile ground
 - Organizational culture that supports and demand engagement of front line staff in improving the work
 - Prepare front line to engage in change
 - Find answers to the questions of trust, time, and support