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Better Hand Hygiene:
What Works

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Outbreak of NIH 'superbug' provides valuable lessons

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CRE at NIH

- 18 patients affected, **7 died**
- Genome sequencing needed to determine epidemiology
- Linked by shared location, shared equipment, or shared healthcare providers.
- Cohorting, new plumbing, and hydrogen peroxide sterilization of affected rooms were not effective.
- Active surveillance with **24/7 room monitors mandating compliance with HH and contact precautions** ultimately stopped the outbreak.

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Aggregate Monitoring: GOJO Smartlink System

| Dispenser Module installed in Purell and Soap Dispensers | Activity Counter counts each Entry and Exit in Patient Rooms | Repeater / Gateway sends the information to Data Repository | Feedback Monitor on Nursing Unit provides compliance rates |

Electronic Monitoring now in all IP areas at UCM

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UCM Method for Validation

1. Calibration & Structural Assessment

2. Planned Path Validation

3. Behavioral Validation

Figure 1a. Planned Path
*A planned path should ensure entry/exit into every monitored room and actuation of each soap and alcohol-based hand rub (ABHR) dispenser.

Figure 1b. Real world behaviors rarely follow a planned path and require another level of assessment for HHMT accuracy.

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Landon E. *et al.* Infect Control Hosp Epidemiol. *2015*

The magnitude of hand hygiene....

More than 100,000 hand hygiene
opportunities every day in our
700 bed hospital.

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**Great. Now we can measure
behavior. But how do we
change it?**

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Change is Hard

"There's no hope; we can't improve!"

"The dispensers are not convenient!"

Acceptance

Depression

Bargaining

Anger

"But I didn't touch anything!"

Denial

"I don't believe these numbers!"

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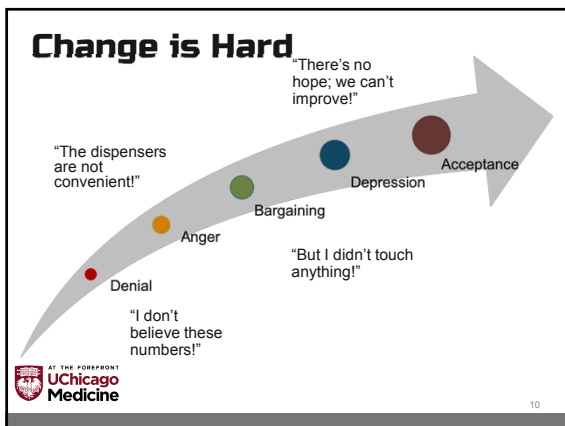
Culture eats strategy for lunch (and probably dinner too).

So how do we change the culture?

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Understanding the nature of behavior in context.

To understand the context of HH on any unit or in any area, we must ask two important questions over and over again:

1. **Why is hand hygiene compliance at its current level?**
2. **What needs to change in order for hand hygiene compliance to improve?**

*** Please note that the answers to these questions have little to do with automated monitoring. The numbers are useless without answering and intervening on these questions. We can only use the numbers to help us understand the results of interventions so any monitoring method will work.***

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The elephant in the room.
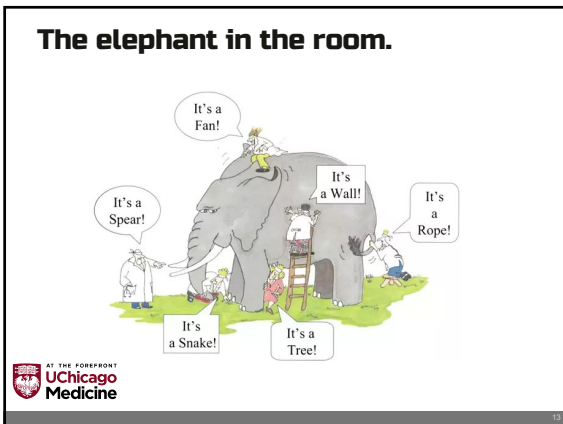
Front Line Ownership

- Culture change driven by the people *in* the culture you want to change
- "Positive Deviance" & "Liberating Structures"
- Simple overarching rules, local variability
- Focus on coaching, go slow but review frequently.
- Can lead to better sustainability & more innovative and successful solutions.

Gardam M. Healthcare Papers 2017

FLO at UCM

- Nursing leaders from "teams" of units join 15 min call weekly to discuss hh
  - Report current and 7 day rates for each unit
  - 1-2 units report on their initiatives and what is working/not working, next steps
  - Report any other new initiatives
  - Ask for reports of barriers or problems
  - Send minutes with rates & action items to call participants and their leadership

Minutes sent to leaders and their bosses…

Timeframe	4W (CIS/THU/LNG (IAS)	8W (ORT/PLA/URO/GYN/GOC)	8E (Neuro)	8S (Specialty)	9W (Gen Med)	9E (Gen Med)	10W (HON, Hosp, Solid Tumor)
Current	68.9	59.2	66.7	61.5	66.5	97.0	72.6
7 day	53.6	54.8	54.2	60.5	54.4	59.6	63.1
Last week's 7 day	50.8	54.4	50.9	65.5	55.1	61.3	63.0
FY19 Goal	60%	52%	54%	63%	63%	63%	65%

9E: We continue to use the GOJO audits every week to ensure that our Purell dispensers are working properly. Also, we discuss HH at huddle daily, as it is one of the metrics we track.

8S: Nothing Reported.

8E: Nothing Reported.

8W: Currently, our monitors are working properly. The staff is happy that our numbers have been going up and everyone seems to be more engaged. More individuals are speaking up when they notice a problem, which enables the issue to be solved more quickly. Even our secretaries have been involved and are keeping everyone informed about HH.

10W: Nothing Reported.

4W: Lately, our monitors have been working. However, we have been struggling with our 7 day consistently going down. I am going to change the signs to the scary-eye signs and talk about this issue at huddles.

9W: Not much has been new in our department. Our numbers are slowly climbing back up. We continue to keep HH a priority and remind the nurses, and PSCs, to remind others about proper HH.

Emily's Thoughts: GOJO has a graphic for visitors that is in the process of being finalized. It is a representation of how you can be a superhero for your loved one by Purelling your hands. This hopefully will empower visitors to be a partner in care and take responsibility for HH. These signs will be placed in elevators, visitor areas, and bathrooms. I would like all of you to think about what could make these calls more productive for you. Also, take a look at the video to see if it could be a useful tool for your teams. Maybe consider giving out rewards to the team members who watch the video. Talk to your colleagues who are missing; it is always more helpful when more people are on the call. Thank you everyone for participating and keep up the good work!

https://youtu.be/wJdJmDdzPZo

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These calls really work!

ICU A

Why should nurses lead hand hygiene?

- **Nurses do >70% of the entries & exits.**
- **Nurses are present on the unit all the time.**
- **The "others" are visitors to the *nursing unit***
- **Teaching nurses to help the "others" empowers nurses as patient advocates**
- **Partnering with leadership of "other" teams improves interdisciplinary relationships with nurses.**

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What does the call leader do?

Our clinical leaders drive hand hygiene behavior and culture change on their own teams through regular, brief virtual huddles that

1. **REINFORCE** hh policy, biology, and the use of our monitoring technology

2. Ensure consistent **ACTION** toward improved hh through iterative improvement

3. **COACH** through challenging behavior change process

4. Encourage **REFLECTION** on leadership, culture, and behavior

5. **FOLLOW UP** on last week's commitments.

Require THOUGHTFULLNESS from everyone ALL THE TIME.

Always ask "why" or "how".

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Trial and error is an important method

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But you have to be patient.

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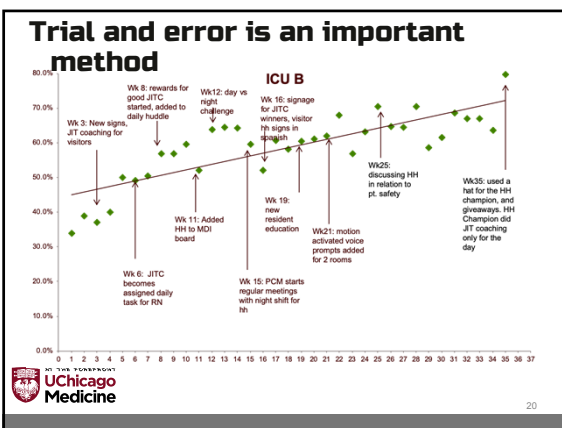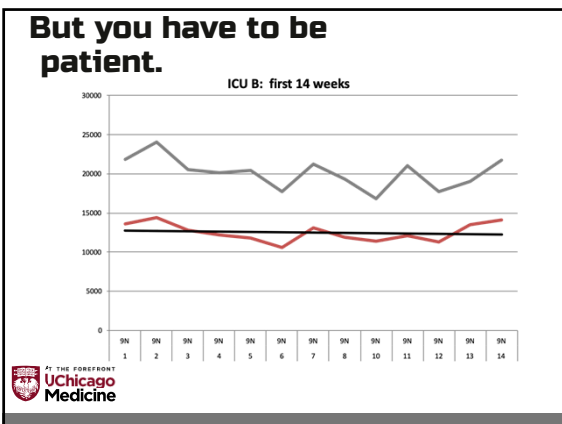
Quick wins help begin shifting culture

- Necessary when there is low morale or poor engagement
- Focus on positive deviance
- Helps leaders build trust and learn culture change skills
- Requires follow-through and is leader-effort intensive, not sustainable
- Ex: Contests, hh days, parties, signs

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Just-in-time coaching

- Nurses remind each other and professional visitors whenever they "forget" hh.
- Begins the culture change process
- Needs to be **organized, acknowledged, and systematic**
- Must have consistent leadership monitoring and feedback
- Ex: HH champions or sheriffs on each shift, ticketing

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Involve other team members

- Secretaries, nursing assistants, volunteers, etc
- Needs to be **organized, acknowledged, and systematic**
- Must have consistent leadership monitoring and feedback
- Ex: Page outs when numbers drop below goal rate

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One attending can make a difference.

Night Shift

Batching tasks is essential.
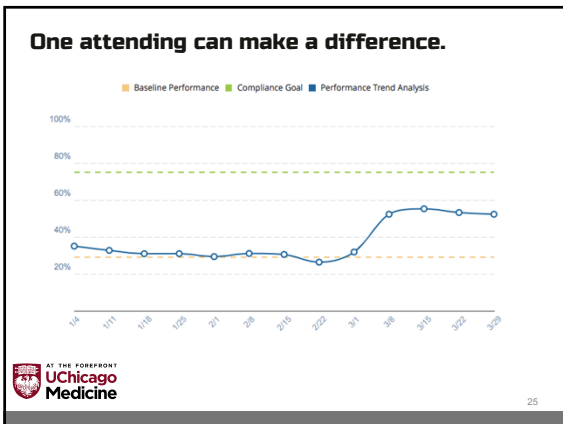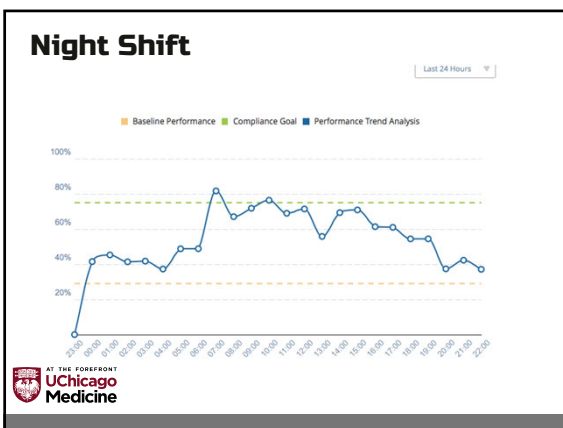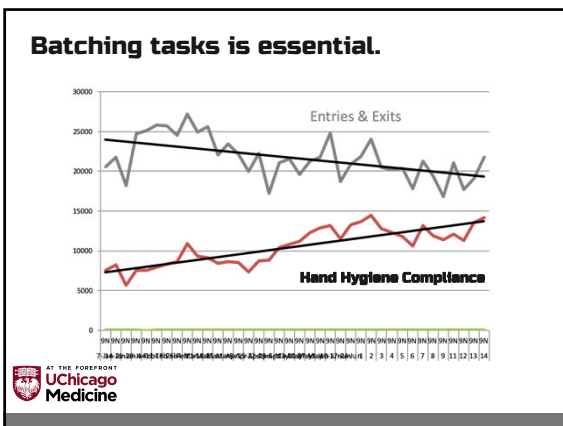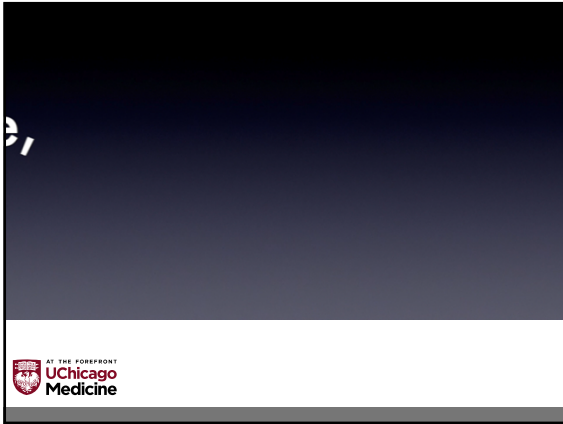
Over an 18 month study period....

Every 1% increase in Hand Hygiene Compliance

Resulted in 4.4% decrease in new MRSA infections.

Hand Hygiene Performance at UCM
February 2015 - February 2019
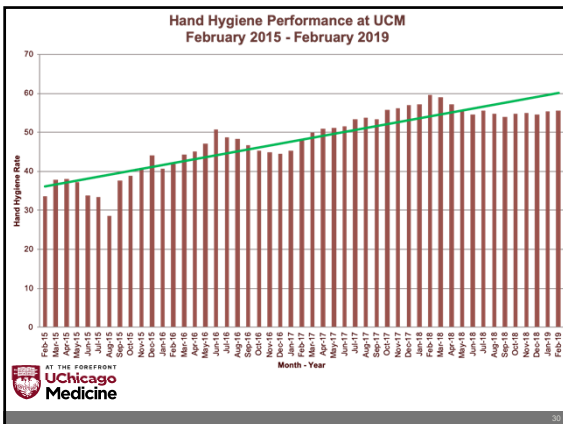
Thank You!

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Checklist for Call Leaders

- If the trend is **downward** or rates are too low…
  Promote coaching (e.g. champions, bottom threshold page-outs), team-building (e.g. branding exercises) or increasing visibility (e.g. change signs, talk more at huddles)

- If the trend is **upward** or rates are great…
  Praise coaching, team-building, and visibility initiatives.
  Encourage managers to praise their teams as well
  Encourage reflection on why things are better

- If the trend is **flat** or they have a plateau…
  Encourage observation on the floor, closer look at hour-by-hour rates or day-by-day rates to identify new opportunities
  Follow up on the next call

- **Outlier weeks**
  Ask what was different and how to either avoid it or encourage it in the future.
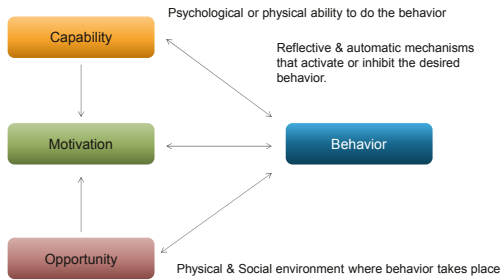 Help them focus on what they learned.

The COM-B System for understanding behavior

Psychological or physical ability to do the behavior

Capability

Reflective & automatic mechanisms that activate or inhibit the desired behavior.

Motivation → Behavior

Opportunity

Physical & Social environment where behavior takes place

Adapted from Michie et al 2011 *Implementation Science*

Barriers come in many different shapes & sizes

- Capability
  - Psychological barriers: not knowing when to clean hands, not remembering hh
  - Physical barriers: cannot use hand sanitizer or cannot use soap & water
- Opportunity
  - Physical barriers: not enough full & functioning dispensers in the right locations
  - Social barriers: other people are not cleaning their hands or do not support reminders for cleaning hands
- Motivation
  - Automatic Behavior Barriers: lack of mindfullness about behavior, no emotional ties to complying, lack of timely feedback on performance (reminders)
  - Reflective Barriers:
    - don't understand expectations about hh or the expectations are not reinforced
    - don't believe it's possible to clean their hands as much as is expected
    - don't believe hh is necessary or important to protect patients
    - do not personally intend to comply 100%
    - believe goals are unrealistic

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