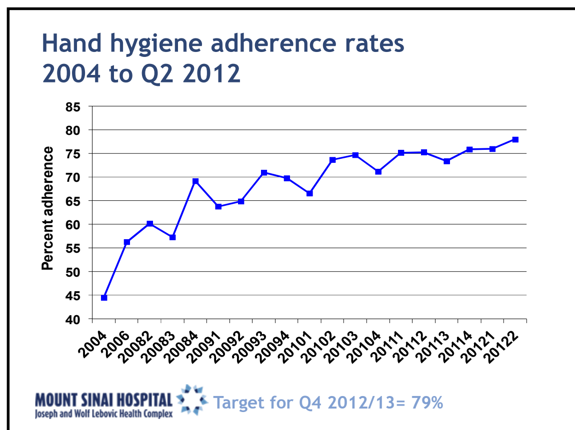


Hand Hygiene Scorecard (Q1 2015/16)

Hand hygiene adherence is critical to protect our patients, our colleagues, and ourselves from infection. Mount Sinai Hospital tracks this metric through quarterly auditing and feedback. Current directly observed hand hygiene adherence results can be found below. For more information, please contact Infection Control at Ext. 3118.

	Directly Observed Hand Hygiene Adherence (%)						
Target: 87%	2014/15		2015/16				
Unit	Fiscal	Q4	Q1	Q2	Q3	Q4	YTD
14S	90	93	94 ⇧				94
10N	85	93	94 ⇧				94
11N	90	86	93 ⇧				93
11S	86	87	92 ⇧				92
L&D	64	87	89 ⇧				89
NICU	80	84	89 ⇧				89
10S/MHAU	88	88	86 ⇩				86
ICU	79	85	86 ⇧				86
12S	91	92	85 ⇩				85
14N/SD	88	85	84 ⇩				84
15 MUR	86	84	83 ⇩				83
MBU	76	80	78 ⇩				78
16N/CCU	79	76	78 ⇧				78
ED	74	70	76 ⇧				76
Centres of Excellence							
Surgery / Oncology	90	88	92 ⇧				92
Urgent and Critical Care	84	85	86 ⇧				86
Women's and Infants' Health	78	84	85 ⇧				85
OVERALL	84	85	87 ⇧				87

Please note that unit-by-unit adherence rates include all 4 Moments of hand hygiene.

How were we actually doing?

Unit	Pre		Post	
	Observational audit	Electronic monitoring	Observational Audit	Electronic monitoring
A	83%	21%	86%	30%
B	88%	21%	86%	36%
C	90%	39%	90%	48%

SHS, unpublished data

Hawthorne effect in observational auditing

		Observed	Covert/Unobserved
Kohli	ICP vs. new student	65%	58%
Werzen	Overt vs. covert	89%	69%
Wu	Overt vs. covert	78%	55%
Kovacs-Litman	Overt vs. covert	84%	50%
El-Saed	Overt vs. covert	87%	44%
Pan	Overt vs. covert	94%	44%
Cheng	Overt vs. electronic	96%	35%
Brotfain	Overt vs. closed circuit TV	35%/38%	24%/23%
Srigley	Overt vs. electronic	3.75 dispenses/hr	1.48 dispenses/hr
Hagel	Overt vs. electronic	21 HHE/hr	8 HHE/hr

Brotfain AJIC 2014; Cheng, BMCID 2011; El-Saed AJIC 2018; Hagel ICHE 2015; Kohli ICHE 2009; Kovacs-Litman JHM 2016; Pan PlosOne 2013; Srigley BMJQS2014; Werzen AJIC 2019; Wu BMCID 2018 ;

Where do you go from here?

Options for Consideration

1. Continue the program as currently structured, with a renewed focus on auditing by unit-based hand hygiene champions and on achieving behavior change by on-going education
    - peer auditing cost ~ $3500/unit/year for 100 opps/qtr
    - central auditing/admin cost ~$25,000/yr
2. Reduce the Hawthorne effect by implementing a "secret shopper" hand hygiene auditing program
3. Adopt a program of hand hygiene auditing by managers/senior staff on units other than their own
4. Implement an electronic monitoring system to provide on-going continuous assessment of hand hygiene adherence
5. Start a patient hand hygiene program
6. Focus on technique, or in ambulatory care

Why electronic monitoring?

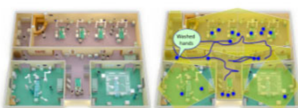
- **HAND HYGIENE ADHERENCE PREVENTS INFECTION**
- "You can't improve what you can't measure"
    - You definitely can't improve something when your current measurement says it doesn't need improving
- The resources required for maintaining covert monitoring (recruitment,organization, training) are substantial
    - Even with a substantial investment, not that many HCWs and HHOs will be observed

Considerations

- Just installing e-monitoring doesn't work (even if you report)
    - With group e-monitoring, improvement isn't really easier
    - Individual level monitoring with badges may be different
- You don't want to give up observational auditing
- There are choices, and uncertainties about which is best
    - Group e-monitoring (dispenser activation)
    - Badge systems/individual-level monitorng
    - Video-monitoring

Video-monitoring

- Pros:
  - Can be real-time
- Cons
  - Room-in and out only
  - Captures only use of dispenser immediately outside room
- The future:
  - AI



Group e-monitoring

- Dispenses of alcohol hand rub and/or soap counted, generally ward based

- Denominators – based on either:
  - hand hygiene opportunites/hr and patient/hrs,
  - room entries/exits
- Adherence provided daily or by shift

Individual and group e-monitoring

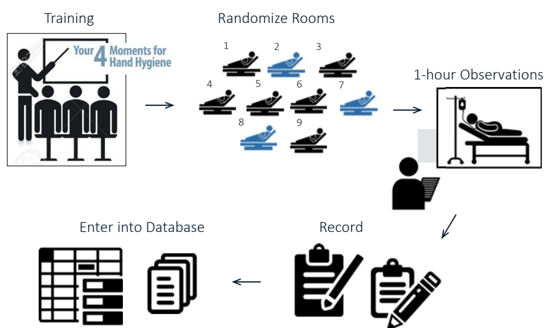
- Individuals wear badges (or bracelets)
- Rooms/bedspaces and handrub dispensers "marked" with infrared
- Crossing into or leaving bedspace recorded as is whether dispenser activation occurs
  - Individual level warning (buzz, light, beep) possible
  - Bracelets can give some indication of technique
- Reports can be individual or group

A word about denominators

"Room-in/Room-out"

- All rooms/bedspaces need to be mapped
  - Can add clean utility, etc.
- In small, multi-bedded areas, some challenges with accurately defining space
- No validated comparison to 4 or 5 moments
  - BUT, at least on medical/surgical units
    - About 10-20% of room entries do not require hand hygiene
    - About 10-20% of hand hygiene moments are moments 2&3
- With badges, feedback is different from teaching
  - Some systems have embedded programming

Methods



Hand hygiene opportunites/patient-hr

MEDICAL/SURGICAL WARD		Indications	Day	Night	Overall
Steed/ Diller	US Tertiary hospital	5 moments			3.0
Azim	Australia, 2013 Tertiary hospital	5 moments			3.2
Goodliffe/ Han	Toronto, 2012-15 Tertiary hospital	4 moments	4.4	1.8	3.2
Nayyar	Ontario, 2017 4 hospitals	4 moments	4.9	2.1	3.5

ICU		Indications	Overall
Steed/ Diller	US, 2010 Tertiary hospital	5 moments	7.5
Stahmeyer	Germany Med and Surg ICU	5 moments	9.0, 11.3
Goodliffe/ Han	Toronto, 2012-15 MS ICU	4 moments	12.4

Group vs individual e-monitoring

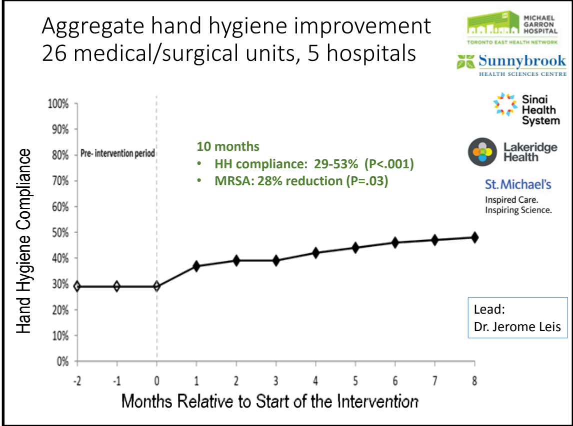
GROUP
- Less expensive
- Less maintenance
- Includes everyone
- Team accountability
- Can use 4 Moments

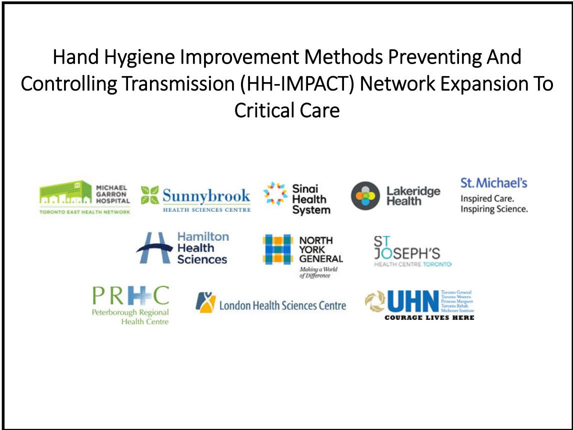
INDIVIDUAL
- Can get group data
- Works on (almost) all units
- Immediate feedback
- Individual feedback
- Feedback to departments working multiple wards

BOTH
- Quality of reporting
- Technical support
- Maintenance systems

How did we get e-monitoring implemented?

- Socialize the need and the opportunity
  - Celebrate the improvements that are driving the need
  - Find champions in management, do covert observations
- Start small
  - 3 month pilot, 4 units
  - Expansion tied to success
- Manage the disappointment of lower numbers
- Collaborate





HH-IMPACT

Vision
- HH-IMPACT network is a group of academic and community hospitals seeking to prevent infections transmitted via the hands of healthcare providers through improvement in HH performance
- Goals:
  - To accurately measure hand hygiene performance
  - To identify and spread the most effective hand hygiene improvement strategies
  - To assess the impact of hand hygiene improvement on patient safety
  - To support hospitals in improving hand hygiene performance

Expectations
- Ability to implement electronic monitoring and/or other novel technologies to accurately measure hand hygiene performance
- Commitment to attending weekly teleconference
- Sharing of improvement strategies
- Provision of outcome data
- Minimum of 2 year time commitment

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In Sum

- *We have come a long way*
- Our path forward to best hand hygiene practice will require:
  - Electronic monitoring to measure adherence
  - Continuing to learn about most effective quality improvement
  - Implementing patient hand hygiene programs
  - A LOT OF HARD WORK

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Questions

- How do you develop the most effective way of improving hand hygiene adherence?
- What is the “right” volume of alcohol handrub?
- How do we best assess adherence in the ED? L&D? out-patient areas? Rehab?
- Which approach to e-monitoring is best?
  - How does room-in/room-out counting compare to 4 or 5 moments?
  - Is the added cost of badge systems worth it?
- Are moments 2 and 3 more important than moments 1 and 4?
- How important is patient hand hygiene?
- If hand hygiene adherence is high enough, can we stop using additional precautions for MRSA?