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Self-Assessments of US Healthcare Facilities Participating in the World Health Organization's "SAVE LIVES: Clean Your Hands" Campaign - 2011

Laurie Conway, RN, MS, CIC[1] Benedetta Allegranzi, MD[2] Katherine Ellingson, PhD[3] Elaine Larson, RN, PhD, CIC, FIDSA, FSHE[1] Didier Pittet, MD, MS[4]

[1]Columbia University School of Nursing, New York, NY; [2]Patient Safety Programme, World Health Organization, Geneva, Switzerland;
[3]Centers for Disease Control and Prevention Division of Healthcare Quality Promotion; [4]Infection Control Program, University of Geneva Hospitals, Geneva, Switzerland

Laurie J Conway RN, MS, CIC
Columbia University School of Nursing
630 W. 168th Street
New York, NY 10032
ljc2145@columbia.edu

Background

- A causal link between hand hygiene and rates of infectious illness has been well-established.[1]
- The Centers for Disease Control and Prevention (CDC) and the World Health Organization (WHO) have published guidelines with recommendations for appropriate hand hygiene practices in healthcare settings, yet adherence to recommended practices is low.[2,3,4]
- To assist facilities to increase hand hygiene adherence, the WHO initiated the global "SAVE LIVES: Clean Your Hands" campaign and released a Multimodal Hand Hygiene Improvement Strategy (MHHIS) with tools and practical implementation guidance.[5]
- The WHO Hand Hygiene Self-Assessment Framework[6,7] is a reliable tool that aims to:
  - Provide a systematic situation analysis of hand hygiene structures, resources, promotion and practices within a health-care facility
  - Facilitate development of an action plan for strengthening the facility's hand hygiene improvement program
  - Document progress over time through repeated use
- The Framework is a questionnaire comprised of 27 indicators that reflect the 5 components of the MHHIS.
- Components are scored to a possible 100 points, for a maximum total score of 500 points.

Objectives

- Assess the degree of implementation of the WHO MHHIS by US healthcare facilities
- Examine predictors of successful implementation of the MHHIS
- Suggest achievable benchmarks for implementation of hand hygiene improvement programs

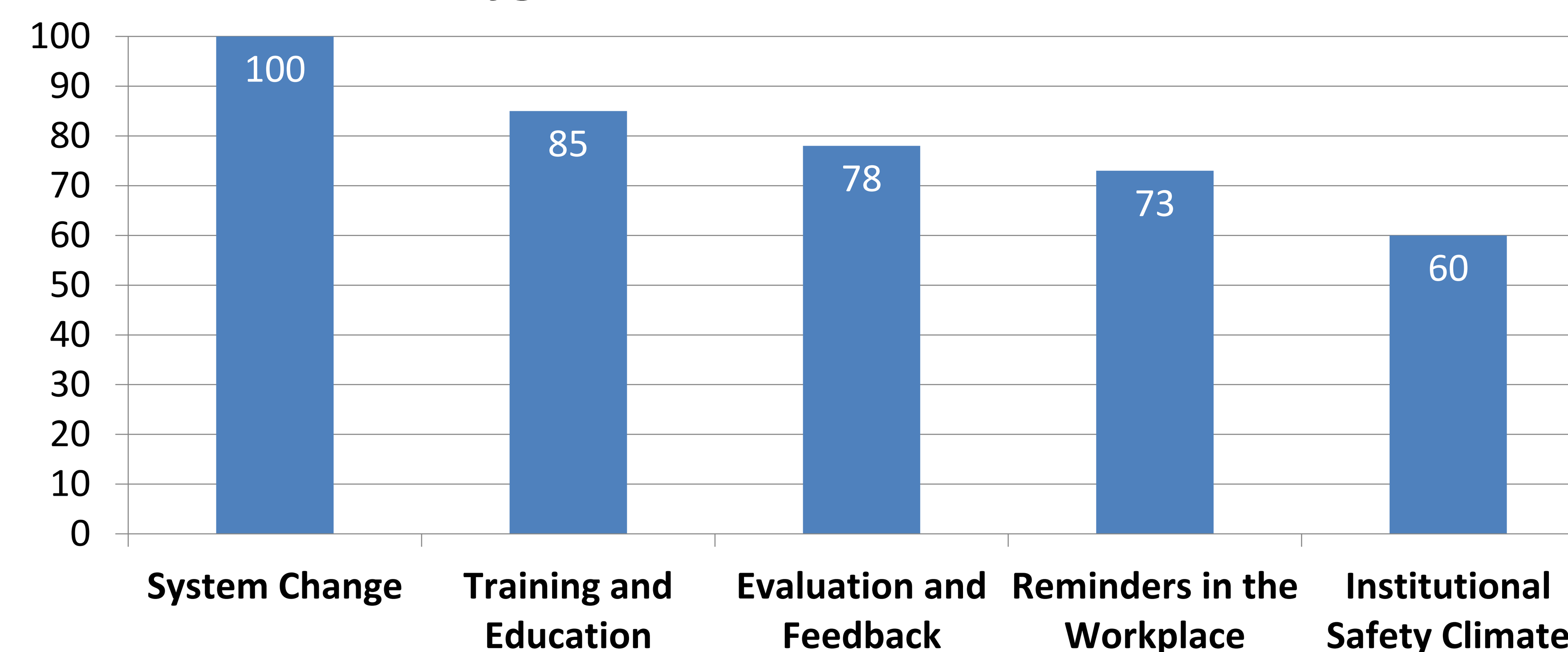
Methods

- In Fall 2011 all US healthcare facilities registered for SAVE LIVES: Clean Your Hands (n=2238) were invited via email to submit their Framework results online.
- Invitations to participate in the campaign and the study were also posted on the CDC website and announced in the electronic newsletter of the Association for Professionals in Infection Control and Epidemiology.
- The identity of participating facilities was kept strictly confidential.
- Logistic and ordinary least squares regression were used to assess multiple predictors.

1. Aiello AE, Larson EL. What is the evidence for a causal link between hygiene and infection? Lancet Infect Dis 2002;2:103-10.
2. Boyce JM et al. Guideline for Hand Hygiene in Health-Care Settings. MMWR 2002;51(No. RR-16):1-56.
3. World Health Organization. WHO guidelines on hand hygiene in health care. Geneva: WHO; 2009.
4. Erasmus V et al. Systematic Review of Studies on Compliance with Hand Hygiene Guidelines in Hospital Care. ICHE 2010; 31:283-294
5. WHO Multimodal Hand Hygiene Improvement Strategy. http://whqlibdoc.who.int/hq/2009/WHO_IER_PSP_2009.02_eng.pdf
6. WHO Hand Hygiene Self-Assessment Framework. http://www.who.int/gpsc/country_work/hhsa_framework.pdf
7. Stewardson AJ et al. Testing of the WHO hand hygiene self-assessment framework for usability and reliability. J Hosp Infect 2012, *in press*

Participating Facility Characteristics	N (%)
Inpatient Beds <200	68 (61.8)
≥200	42 (38.2)
Public Sector	73 (56.6)
Private	56 (43.4)
Teaching	25 (19.4)
Acute Care	95 (73.6)
Long Term Care	21 (16.3)
Ambulatory Care Only	17 (13.2)
Infection Preventionist Staffing >0.75 per 100 Beds	57 (52.8)
Hospital Epidemiologist on Staff	51 (39.5)
Registered for Save Lives Campaign	113 (87.6)
Registered for a National or Subnational Hand Hygiene Campaign	59 (45.7)

Median Component Scores for US Facilities (N=129) Using the World Health Organization Hand Hygiene Self-Assessment Framework



Results

- 129 of 2238 facilities participated (response rate=5.8 %)
- Mean total Framework score was 373 (SD 71, range 178-500)
- Hand Hygiene Level was Advanced in 49% of facilities , Intermediate in 45% and Basic in 6%
- Total Framework score was 36 points higher on average for facilities with Infection Preventionist (IP) staffing >0.75 per 100 beds, than for those with lower IP staffing, controlling for facility size, teaching status, and participation in hand hygiene campaigns (p=0.01).
- Total Framework score was 41 points higher on average for facilities that participated in hand hygiene campaigns than for those that did not, controlling for facility size, teaching status, and IP staffing (p=0.002).

Predictors of High Component Scores		
Component	Education & Training score >85	Institutional Climate score >60
	OR (CI)	OR (CI)
Infection Preventionist Staffing >0.75 per 100 Beds	**3.35 (1.36 – 8.26)**	**3.05 (1.22 – 7.60)**
Registered for Hand Hygiene Campaign	**2.48 (1.09 – 5.66)**	**2.59 (1.13 – 5.94)**
Inpatient Beds <200	0.66 (0.25 – 1.76)	1.23 (0.44 – 3.44)
Teaching	0.66 (0.23 – 1.87)	0.46 (0.17 – 1.24)

Conclusions

- The response rate was low; facilities with more IPs or a focus on hand hygiene may have been more likely to respond, possibly biasing results toward high self-assessments.
- On average, US facilities report intermediate levels of hand hygiene promotion. An achievable benchmark may be a total score >375, considered an Advanced Level, where hand hygiene promotion and optimal hand hygiene practices have been sustained and/or improved, helping to embed a culture of safety in the health-care setting.
- Given the importance of unit and institutional culture and leadership on hand hygiene performance, the low Institutional Safety Climate scores reported in this survey highlight factors that need attention even in the best hospitals.

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