

Hand Hygiene as a quality indicator for Patient Safety

Ossama Rsslan



- IC professionals have pioneered real-time methods to detect the occurrence of HCAI and monitor compliance with IC standards.
- Nonetheless, compliance with HH– the pillar of IC – remains woeful in the vast majority of health-care settings.
- The current emphasis on HH reflects the slow progress in meeting even modest performance standards.

- Donabedian's quality paradigm of structure, process and outcome provides a useful framework for considering efforts to improve HH compliance.
- If sinks and alcohol dispensers are not accessible (faulty structure) and if HH is not performed (inadequate process), the risk of infection, morbidity, mortality, and cost (outcomes) will increase.
- Quality indicators can be developed according to this framework.

- Hazard analysis critical control point (HACCP) is a valuable method to examine the system of patient care as it relates to HH.
- In brief, this method identifies error-prone aspects of systems (critical control points), evaluates the risk they pose, and designs them out.
- Failure mode and effects analysis (FMEA) is closely related to HACCP and is being exploited increasingly in PS.

- A desirable feature of both HACCP and FMEA is their emphasis on system errors and their consequences.
- An empty alcohol dispenser and failure to educate staff in proper HH technique are serious failures at key points in the patient-care system.
- In evaluating a system for HH, we are not only identifying error-prone aspects and barriers to compliance, but also identifying aspects that are most critical to improve .
- Identifying key quality indicators vastly improves the indicators' credibility and relevance, and provides a guide to improvement and auditing efforts.

- Failures at critical control points in the HH system can be seen as problems in the reliability of the system.
- The concept of reliability is the bedrock of modern manufacturing (e.g., automobile production), but has been applied to health care only recently.
- Reliability looks at the defect or failure rate in key aspects of production (i.e. patient care).

- High degree of reliability seems impossible, many institutions have HH defect rates of six per ten opportunities or greater.
- Defect-free care of a central venous catheter (as an example) would require selection of optimal insertion site, perfect HH, maximal barrier precautions, correct skin preparation, and removal of the catheter as soon as possible.
- Failure at any one of these steps means “no credit”.
- Current defect rates in the HH are no longer tolerable.
- Even in a setting with severely constrained resources, HH can and should be performed very reliably with a defect rate of less than 5–10%.

- It should be relatively easy for HCP and Managers to start evaluating, improving, and monitoring the reliability of the HH infrastructure and practice immediately.
- The following table provides a variety of structure process and outcome quality indicators.
- HCP and multidisciplinary teams may want to begin by considering some of these indicators.
- Emphasis is on structure and process because the ultimate outcomes – e.g. reduced infection rates – are closely linked with improvements in structure and process, and are more time-consuming to measure.

**Safety
Starts
Here.**



Indicators*	Measure option**	Measure option**	Suggested frequency**
Structure			
HH policies located near the point of care			
HH education and training program, including behaviour change strategies, at least annually			
Functioning sinks with clean, running water available in clinical rooms/wards/treatment areas for H washing	One per ward	Sink to bed ratio	Annual or more frequent depending on results and action
Sinks equipped with liquid soap in clinical areas	100% to zero		Monthly/weekly/daily
Sinks equipped with bar soap/soap flakes in clinical areas¹ (Where liquid soap not available)	100% to zero		Monthly/weekly/daily

Bar soap on a dish that drains excess liquid			
Sinks equipped with single use/ disposable towels in clinical areas² (If not available, measure availability of freshly laundered dry cloth towels)	100% through none		Monthly/weekly/daily
Liquid soap dispensers in working order	100% through none		Monthly/weekly/daily
Beds with alcohol-based handrub dispensers within arm's reach, e.g. affixed to bed	100% through none		
Alcohol-based handrub pocket	all staff through 75%, 50%, 25%, zero		Monthly/weekly/daily

Alcohol-based handrub bottle affixed to trolleys for use in clinical areas	100% through zero	Bottle to trolley ratio	Monthly/weekly/daily
Alcohol-based handrub bottle affixed to wall in rooms / cubicles/treatment rooms	100% through zero	Bottle to room ratio	Monthly/weekly/daily
Alcohol-based handrub dispensers in working order	100% through zero		Monthly/weekly/daily
Supply of alcohol-based handrub pocket bottles available in clinical areas			
Hand care lotion bottles in rooms/ cubicles/treatment rooms	100% through zero	Bottle to room ratio	Monthly/weekly/daily

Posters (5 Moments) in rooms/cubicles/treatment rooms	100% through zero	Poster to room ratio	Monthly/weekly/daily
Posters How to rub/rinse in rooms/cubicles/treatment rooms	100% through zero	in rooms/cubicles/treatment rooms	Monthly/weekly/daily
Glove boxes in patient rooms/cubicles/treatment rooms	100% through zero	Bottle to room ratio	Monthly/weekly/daily
Clean gloves in a range of sizes available for use at the point of care/each bed space	100% through zero	Glove stock to bed ratio	Monthly/weekly/daily
HH monitoring and feedback (at least monthly) showing adherence data of staff and leadership, including prominent display of clear graphs presenting trends over time			

Process			
Correct answers by staff to a complete, standard list of knowledge questions on HH	100% through zero	random choice of x staff, overall and individual % of knowledge	Bi-annually
Staff fully in compliance with institutional HH policy			
Healthcare workers do not wear artificial finger nails or extenders	100% through zero	random choice of x staff, % of staff wearing or not wearing	Quarterly/weekly
Healthcare workers perform all three key HH procedures (hand washing, handrub, glove removal) correctly			
Healthcare worker HH compliance with Five Moments	100% through zero	% by ward/department	Depends on score, aim annual or more frequently

Healthcare worker performance in relation to correct technique for HH	100% through zero	% by ward/department	Depends on score
Volume of product usage (soap and alcohol-based handrub)		Mls per bed day	Need to set benchmarks. Measure monthly
Soap and alcohol-based handrubs are not used concomitantly		random choice of x staff, % times used or not used concomitantly	Quarterly/weekly
Where alcohol-based handrubs are available antimicrobial soap is not in use	100% through zero	% by ward/department	Quarterly/weekly
Multimodal strategy implemented			Annual

Outcome			
Infection rates monitored			Monthly/quarterly, if surveillance in place
Transmission rates for epidemiological pathogens (including antibiotic resistant pathogens) monitored	As above		Monthly/quarterly if surveillance in place
Product tolerance and acceptability analysis			Annual
Product cost /benefit analysis			Annual

**Wash before entry into
patient care area**



Wash In



Wash Out

**Wash after patient contact or
exit from patient care area**

African Partnership for Patient Safety (APPS)

Helping you get started

To help you get started, the key documents you need to establish a partnership and begin to plan patient safety activity:

- APPS Preparation Package
- Improving Patient Safety: First Steps,
- APPS Situational Analysis

For more information and detailed resources four areas are outlined in the following diagram :

- Partnership Planning Series
- Patient Safety Improvement Series
- Approach Series
- Communications series

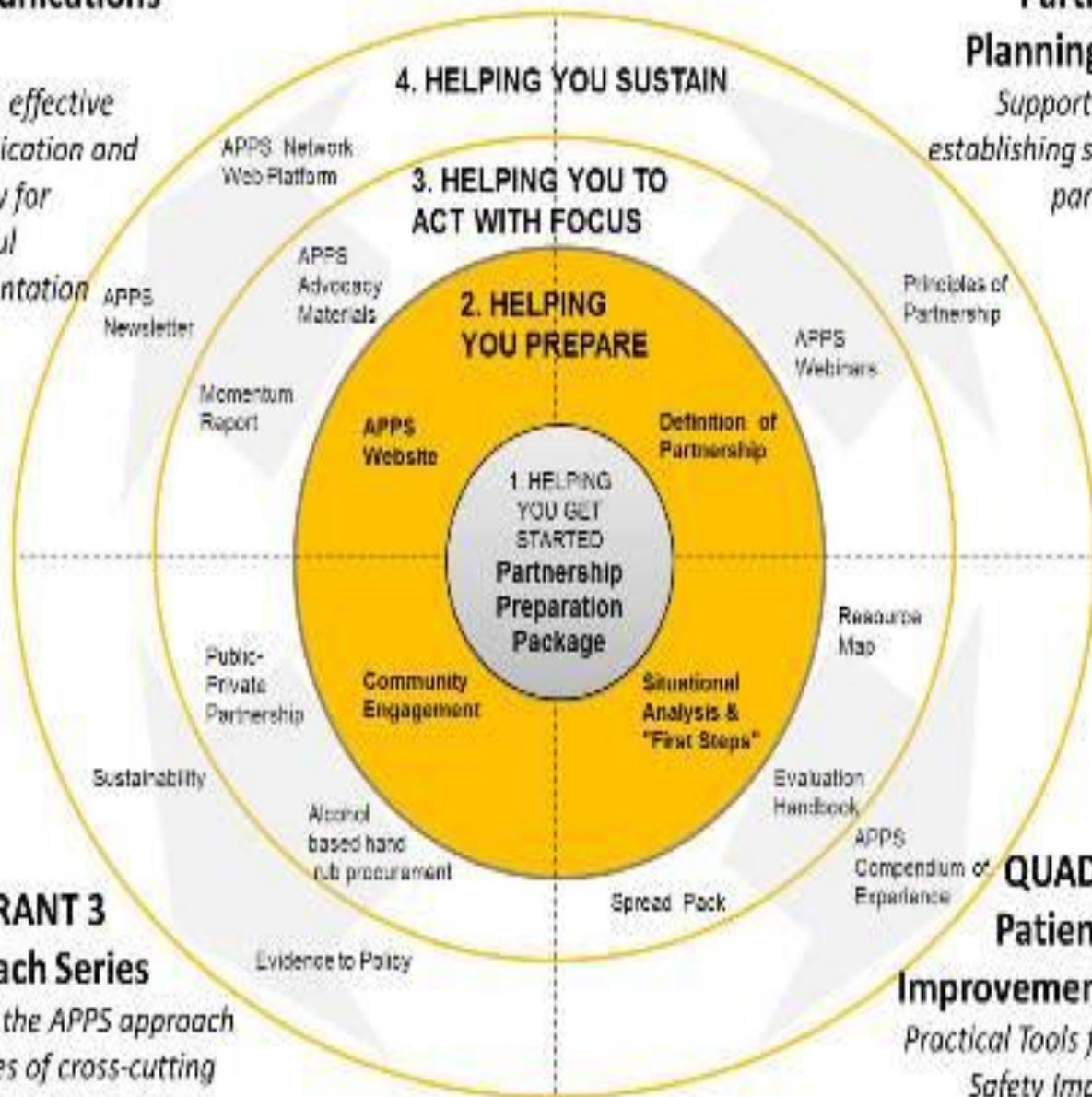
APPS Tools and Resources

QUADRANT 4 Communications Series

Supports effective communication and advocacy for successful implementation

QUADRANT 1 Partnership Planning Series

Supports steps in establishing successful partnerships



QUADRANT 3 Approach Series

Outlines the APPS approach to a series of cross-cutting themes to support patient safety activity

QUADRANT 2 Patient Safety Improvement Series

Practical Tools for Patient Safety Improvement in a hospital setting

Many of the tools and resources have applicability and utility for any health care setting. It is the African Region's intention to perform safety improvement activity.



Thank you