

Appendix 17

APEC-GHSA Framework for Strengthening the Infection Prevention and Control Infrastructure in the Asia-Pacific Region

Representatives of APEC Member Economies, GHSA Member Countries, international organizations, civil society, and the private sector convened in Seoul, Republic of Korea on 7-8 September 2015 for the *APEC-GHSA Policy Forum on Infection Prevention and Control (IPC) Infrastructure*.

Participants recognized that the serious Ebola and MERS-CoV outbreaks during the past year elevated the need to work together to strengthen the IPC infrastructure and to be better prepared to address future outbreaks. Participants further agreed that APEC Economies should engage in partnerships among and with other governments, international organizations, academia, civil society, and the private sector to share best practices and innovative strategies in order to strengthen the IPC infrastructure in the Asia-Pacific region.

Participants endorsed the *APEC-GHSA Framework for Strengthening the Infection Prevention and Control Infrastructure* as well as the *APEC-GHSA Support Package on Hand Hygiene*. Additional Support Packages on Standard Precautions, Workforce Knowledge and Skills; Microbiology Laboratory Capacity; HAI Surveillance and Public Reporting will be developed over the next year. These action-oriented documents covering key areas of the healthcare infrastructure identify actions and recommendations for governments and healthcare facilities.

Standard Precautions and Hand Hygiene

APEC Economies should promote the importance of consistent application of IPC practices and the respective roles of organizations and healthcare workers to identify and promote IPC practices and precautions for preventing the transmission of infection.

Participants agreed that APEC Economies are encouraged to enhance efforts to promote hand hygiene compliance within all healthcare facilities. Hand hygiene is considered the cornerstone of IPC and is the single most effective measure to reduce healthcare-associated infections (HAIs), particularly in low-resource settings.

Furthermore, it was agreed that APEC Economies and healthcare facilities should seek to ensure that hand hygiene infrastructure includes the facilities, equipment, and products required to achieve optimal hand hygiene practices within the facility as detailed in the *WHO Guidelines on Hand Hygiene in Health Care*, including alcohol based handrub at all points of care; a continuous supply of clean, running water; a sink:bed ratio of at least 1:10; soap; and single-use paper towels at each sink.

Hand hygiene needs to be a priority of all health facility personnel including those who may not be involved in the actual patient care. This will include (but is not limited to) the hospital administration, personnel, engineers, cashiers, janitors, guards etc.

APEC Economies should encourage and introduce a culture change where proper hand washing becomes a daily habit for everyone in the healthcare facility and proper hand washing is done whether or not somebody is watching. APEC Economies discussed how professional organizations, academic institutions, and the private sector can offer a great deal of expertise in innovative strategies for changing hygiene behavior. APEC Economies should leverage public-private collaboration to drive compliance with hand hygiene through hand washing, hand drying, and facilities maintenance.

Workforce Knowledge and Skills

Organisms are easily transmitted from patient to patient when healthcare professionals do not comply with IPC measures or when the environment is not properly disinfected. In many developing economies where established IPC programs and properly trained staff are absent, healthcare workers have little means of developing an awareness of the infection risk they pose to patients or the value of complying with even the most basic IPC measures, such as hand-hygiene and standard precautions. Participants agreed that governments and key stakeholders should enhance efforts to ensure all healthcare facilities in the Asia-Pacific region are equipped with healthcare workers properly trained in basic IPC Knowledge and Skills.

Efforts should seek to sustain and strengthen healthcare workers' expertise and practice and to advance workforce development and training, ensuring that core capacities are not eroded due to economic or other constraints. An important component of these activities is documenting and communicating the value, effectiveness, and impact of core IPC knowledge and skills. Participants also promoted participation of the IPC workforce in international and regional professional societies.

Furthermore, a multiplier effect for workforce basic IPC knowledge and skills should be encouraged. Basic IPC orientation and training should be made available to every batch of new healthcare employees, student nurses and medical students who train in the health facility. The training should include a demonstration of basic techniques or skills (such as proper hand hygiene, proper donning and doffing of personal protective equipment, proper handling of sharps, proper waste disposal). Training assessments should also be carried out to ensure the techniques or skills were learned and are applied in practice.

Microbiology Laboratory Capacity

Diagnostic testing to detect and characterize infectious pathogens is an integral component of day-to-day responsibilities at clinical laboratories and the essential means of identifying HAIs. When those agents are rare or unknown, localities work with national and global infectious disease laboratories, which serve as diagnostic reference centers for all infectious disease threats.

APEC Economies are encouraged to work together to ensure that every healthcare facility has access to a microbiology laboratory that can generate quality data and follow standard protocols. Within the laboratory, quality standards and performance should be maintained at the highest levels possible. The collaboration among infection control staff, the laboratory, and clinical units will facilitate an exchange of information and improve data collection.

A responsible laboratory representative, among others, should be a member of the Infection Control Committee (ICC) within a health facility to facilitate and strengthen interdepartmental partnership of the ICC with the Laboratory Department.

Academic institutions and the private sector also have significant expertise in developing and implementing diagnostic and laboratory tools. APEC Economies are encouraged to form additional partnerships to train microbiologists and laboratory managers.

HAI Surveillance and Public Reporting

Surveillance is essential to IPC. The collection, analysis, and dissemination of surveillance data have been shown to be the most important factor in the prevention of HAIs. A surveillance program should include standardized definitions for infections; a defined population under surveillance; identification of data source; selection of a method for surveillance with good sensitivity; and distribution of reports and feedback.

The true magnitude of the global HAI problem is not known because surveillance and reporting are inadequate in many countries. The WHO has referred to HAIs as a "hidden, cross-cutting problem," and has concluded that there is a lack of quality studies on the issue and an insufficient number of functional surveillance systems.

Participants agreed that hospitals and other healthcare facilities should be required to monitor infection rates. They also should be required to report their HAI rates to a credible public entity and the data should be publicly available. This enhances accountability and provides patients and policymakers with access to individual healthcare facility quality measures.

Policymakers should establish measurable HAI reduction targets that are to be achieved over a defined period of time. Baseline HAI rates should be established in each hospital so that individual hospitals can be measured in their progress in reducing HAIs.

Public-Private Partnerships

The fulfillment of the GHSA's vision of a world safe and secure from infectious disease threats requires the sustained, coordinated, and complementary efforts of many individuals and groups. The *APEC-GHSA Framework for Infection Prevention and Control Infrastructure* is designed to advance these efforts, optimally used in multiple capacities such as:

- Working with national and local Ministries of Health to sustain and upgrade IPC fundamentals.
- Providing assistance to healthcare partners in their efforts to eliminate HAIs in hospitals and other healthcare venues.
- Collaborating with partner organizations to increase action and advance policies that improve IPC.
- Educating populations about the interconnected efforts to needed to prevent and control healthcare-associate infections, empowering them to improve and protect their health and that of their families.
- Encouraging partnerships with academia, especially medical and nursing schools, to educate students on the importance of infection control and prevention, AMR, HAIs and the impact of emerging and re-emerging infections on global health safety and security.

Public Policy Frameworks and Incentives

Many HAIs can be prevented when public policy requires and incentivizes healthcare facilities to implement comprehensive IPC practices.

Participants agreed that public policy can improve the IPC infrastructure by:

- Linking adherence to IPC guidelines with financial incentives. Positive incentives that include an appropriate financial reward (increase in payment, insurance credits, etc) can help drive action at the healthcare institution level.
- Developing public networks that enable healthcare facilities and Ministries of Health to monitor HAIs and track successes and areas for improvement.
- Promoting work with hospital associations and quality-improvement organizations to expand the roles in HAI Prevention. The domestic and/or international step-wise accreditation of public and private healthcare facilities within APEC Economies can help drive improvements in the IPC infrastructure.
- Developing strategies for sustaining and expanding public/private collaborations to improve healthcare quality.

Activities to modernize IPC capacities within APEC economies also support ongoing efforts to improve performance of local health agencies (e.g, national voluntary accreditation activities); to install a culture of continuous program improvement across all activities; and to help build staff capacity for implementing, monitoring, and evaluating IPC programs.

Next Steps

Participants agreed to convene in 2016 to assess progress on the implementation of the *APEC-GHSA Framework and Infection Control Support Packages*.

APEC-GHSA INFECTION PREVENTION AND CONTROL SUPPORT PACKAGE:
HAND HYGIENE

Supports the following GHSA Action Packages: Workforce Development; Antimicrobial Resistance.

Optimal hand hygiene behavior is considered the cornerstone of infection prevention.¹ Hand hygiene is the single most effective measure to reduce healthcare-associated infections (HAIs), particularly in low-resource settings. Estimates suggest that 20-30% of HAIs could be prevented through good hand hygiene. Despite being a simple action, there is a severe lack of hand hygiene compliance in the Asia-Pacific region and globally. Many APEC economies lack the necessary resources to effectively promote good hand hygiene compliance to prevent the transmission of pathogens along with meeting other important core components of an infection prevention program.²

Research has shown that when implemented, hand hygiene programs significantly increase compliance amongst health care workers and reduce the prevalence of HAIs and other bloodstream, drug-resistant and intensive care infections.³ Hand hygiene programs are cost-effective and result in sizeable net cost savings as compared to the costs required to prevent one episode of HAI from a healthcare perspective. Researchers in one 4 year hospital-wide hand hygiene program found the net benefit of the program to exceed \$5.2 million.⁴

Building an effective infection prevention and control infrastructure in the Asia-Pacific region requires a commitment from APEC Economies and healthcare facilities to promote good hand hygiene and to fund and implement improvements in the hand hygiene infrastructure and in hand hygiene interventions.

The hand hygiene infrastructure includes the facilities, equipment, training, and products required to achieve optimal hand hygiene practices within the facility as detailed in the *WHO Guidelines on Hand Hygiene in Health Care*. The hand hygiene infrastructure is not complex. According to the WHO, it requires the following: availability of alcohol based handrub at all points of care; a continuous supply of clean, running water; a sink:bed ratio of at least 1:10; soap; and single-use paper towels at each sink.⁵

Hand hygiene interventions include both single and multi-level interventions that include staff and/or patient education and involvement, feedback initiatives, cultural change, organizational change, social marketing, additional sinks and alcohol dispensers, or a combination of the above. Advocates of hand hygiene improvement interventions recommend that multimodal interventions are needed to induce sustained hand hygiene practice improvements and should be based on theories of behavior change.⁶

APEC Economies, healthcare facilities, and key stakeholders should work together to achieve good hand hygiene compliance through the following actions:

I. ¹ Role of hand hygiene in healthcare-associated infection prevention <http://www.journalofhospitalinfection.com/article/S0195-6701%2809%2900186-8/fulltext>

II. ² Promoting hand hygiene in the Asia Pacific region <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3239484/>

³ Chen Y-C, Sheng W-H, Wang J-T, Chang S-C, Lin H-C, Tien K-L, et al. (2011) Effectiveness and Limitations of Hand Hygiene Promotion on Decreasing Healthcare-Associated Infections. *PLoS ONE* 6 (11): e27163. doi: 10.1371/journal.pone.0027163.

⁴ Ibid.

⁵ WHO Hand Hygiene Self-Assessment Framework 2010 http://www.who.int/gpsc/country_work/hhsa_framework_October_2010.pdf

⁶ Making Health Care Safer II: An Updated Critical Analysis of the Evidence for patient Safety Practices. 2013 Agency for Healthcare Research and Quality. No. 211

For APEC Economies:

- APEC Economies should make improved hand hygiene adherence a domestic priority and consider provision of a government-funded, coordinated implementation program while ensuring monitoring and long-term sustainability.
- APEC Economies should promote hand hygiene at the community level to strengthen both self-protection and the protection of others.
- APEC Economies should encourage healthcare settings to use hand hygiene as a quality indicator.
- APEC Economies should adopt and ensure the universal implementation of the WHO Guidelines on Hand Hygiene in Health Care.
- APEC Economies should also promote the use of the internationally-recognized self-assessment tools, such as the *WHO Hand Hygiene Self-Assessment Framework*, to obtain a situation analysis of hand hygiene promotion and practices within an individual health-care facility.
- APEC Economies should sign-on to and implement the *WHO Clean Care is Safer Care* to ensure that infection control is acknowledged universally as a solid and essential basis towards patient safety and supports the reduction of health care-associated infections and their consequences.

For healthcare administrators

- Ensure that conditions are conducive to the promotion of a multifaceted, multimodal hand hygiene strategy and promote a patient safety culture.
- Make improved hand hygiene adherence (compliance) an institutional priority and provide appropriate leadership, administrative support, and financial resources.
- In the budget development process, Healthcare administrators should recognize the return on investment in hand hygiene programs. Hand hygiene programs are cost-effective and result in sizeable net cost savings as compared to the costs required to prevent one episode of HAI from a healthcare perspective.⁷
- Ensure that healthcare workers have a role in decisions made related to the facilities, equipment, and product concerning hygiene. Ensuring optimal hygiene should be the first priority of healthcare workers, environmental stewards, as well as facilities and building managers.
- Provide healthcare workers with an appropriate number of sinks as well as a continuous supply of clean, running water and soap. Healthcare workers must wash hands with soap and water when they are visibly dirty or when exposure to potential spore-forming organisms is strongly suspected or proven. The WHO recommends five key moments when health care workers should practice hand hygiene: before patient contact, before an aseptic task, after bodily fluid exposure, after patient contact, and after contact with patient surroundings.
- Provide healthcare workers, patients, and visitors with access to single-use paper towels. According to the WHO, drying hands thoroughly with single use paper towels helps prevent cross contamination from wet hands, into the air and onto the rest of the body.⁸ Studies show that many people do not wash their hands properly,⁹ and therefore microbes remain on hands after washing and are more easily transferred if hands are not properly dried. Damp hands transmit 500 times more bacteria than dry hands. Drying hands with a single use paper towel reduces microbe count by 76%.¹⁰

⁷ Chen Y-C, Sheng W-H, Wang J-T, Chang S-C, Lin H-C, Tien K-L, et al. (2011) Effectiveness and Limitations of Hand Hygiene Promotion on Decreasing Healthcare-Associated Infections. *PLoS ONE* 6 (11): e27163. doi: 10.1371/journal.pone.0027163.

⁸ Parts 1.2 and 1.3 of the *WHO Guidelines on Hand Hygiene in Health Care 2009*.

⁹ Borchgrevink, C, et al. (2013) *Journal of Environmental Health*.

¹⁰ Parts 1.2 and 1.3 of the *WHO Guidelines on Hand Hygiene in Health Care 2009*.

- Healthcare administrators should ensure the availability of alcohol-based handrubs at all points of care. Alcohol-based handrubs with optimal antimicrobial efficacy usually contain 75 to 85% ethanol, isopropanol, or n-propanol, or a combination of these products. The WHO-recommended formulations contain either 75% v/v isopropanol, or 80% v/v ethanol.¹¹ Alcohol based handrubs render the hands safe in terms of transmission of pathogens, and can be used at the very place where pathogens are transmitted. Alcohol-based handrubs are considered by the WHO to fulfil the highest standards of safety in relation to the prevention of cross-infection. However, if exposure to potential spore-forming pathogens is strongly suspected or proven, including outbreaks of *Clostridium difficile*, hand washing with soap and water is the preferred means.
- Healthcare administrators should ensure that the water supply is physically separated from drainage and sewerage within the health-care setting and provide routine system monitoring and management.

¹¹ WHO Hand Hygiene Technical Reference Manual http://www.who.int/gpsc/5may/tools/training_education/en/index.htm