WASH IN HEALTHCARE FACILITIES

AN OVERVIEW
An action-oriented learning platform that brings together the WASH and health communities to focus on policy, evidence, and practice in WASH in HCF. Through monthly webinars, we hope to:

- **CONNECT** partners
- **SHARE** experiences
- Encourage groups to **ACT**
Objectives of the Overview Webinar

1. Describe the scope of water, sanitation and hygiene (WASH) in healthcare facilities (HCF).
2. Consider why WASH is a crucial component of a HCF.
3. Discuss linkages between WASH in HCF and other health topics.
4. Review WHO/UNICEF’s global action plan to address WASH in HCF.
5. Consider ways to take action to address WASH in HCF.
“Healthcare settings are environments with a high prevalence of infectious disease agents. Patients, staff, carers, and neighbors of the healthcare setting face unacceptable risks of infection if environmental health is inadequate. The healthcare setting might even become the epicenter of outbreaks of certain diseases, such as typhus or diarrhea.”

- World Health Organization (2008)
What is WASH in HCF?

Water, sanitation and hygiene infrastructure, resources, services, and practices in a healthcare setting.
What is WASH in HCF?

What is a “healthcare setting”?
- Anywhere healthcare is provided, including health posts, health centers, clinics, dispensaries and hospitals
- May be publicly or privately managed

What does WASH encompass in a HCF?
- Water: source, access, storage, distribution, quantity, quality
- Sanitation: access, quantity, quality, fecal & healthcare waste management
- Hygiene: hand hygiene, bathing, infection control

What are examples of “infrastructure, resources, services, and practices”? 
- Infrastructure: latrines, sinks, pipes, water treatment systems
- Resources: supplies like chlorine, human resources like maintenance staff
- Services: drinking water availability
- Practices: handwashing, medical equipment processing
SANITATION
HYGIENE
ENVIRONMENTAL CLEANING
WASH in Health Care

Water
- Drinking water
- Hygiene water
- Source water
- Distribution water

Sanitation
- Availability
  - Functioning
  - Proper use
- Infrastructure: sinks
- Hand hygiene
- Soap
- Handrub (alcohol)

Waste
- Medical Apparatus
  - Cleanliness
  - Clean birth kits
- Disinfection and Sterilisation

Vector Control
- Other solid waste
- Waste water
- Clinical Waste (organic, softs, sharps, hazardous)

Environmental cleanliness

Quality of Care

Staff
- Patients

Water for hygiene
- Hygiene products: Clean birth kits

Source: Prof. Paul Hunter, University of East Anglia (2016)
What will the WASH conditions in HCF look like over time?

• Installing a water treatment system or building a toilet does not fully address the gaps in WASH in HCF.

• Ensuring that WASH infrastructure, resources, services and practices are not only introduced but also maintained is an important part of any WASH improvement plan.

• Additionally, by understanding the systemic causes which led to the gaps, it is more likely that the WASH intervention will be sustainable.
In 2015, WHO and UNICEF released a report to raise awareness about the lack of access to WASH in HCF.

The report included data from 54 low- and middle-income countries, including 65,000 HCF.

The report also noted limitations in available WASH data from existing health facility assessments.

Source: WHO/UNICEF 2015
## Coverage Data from 2015 Report

| INDICATOR                                                      | WEIGHTED COVERAGE | NUMBER OF HCF | NUMBER OF COUNTRIES |
|                                                               |                   |               |                     |
| Access to an improved water source within 500 meters          | 61%               | 63,609        | 51                  |
| Access to improved sanitation facilities                       | 82%               | 59,924        | 32                  |
| Access to soap for hand washing                               | 65%               | 38,217        | 32                  |
| Adequate disposal systems for hazardous waste                 | 57%               | 34,112        | 24                  |
| Adequate sterilization equipment for medical equipment         | 55%               | 22,804        | 21                  |

Source: WHO/UNICEF 2015
In 2018, the University of North Carolina at Chapel Hill published an article extending the 2015 Status Report. The article included data from 78 countries, more than 120,000 HCF and 21 indicators.
**UPDATE: Coverage Data from 2018**

<table>
<thead>
<tr>
<th>INDICATOR</th>
<th>WEIGHTED COVERAGE</th>
<th>NUMBER OF HCF</th>
<th>NUMBER OF COUNTRIES</th>
</tr>
</thead>
<tbody>
<tr>
<td>Access to piped water</td>
<td>50%</td>
<td>52,689</td>
<td>26</td>
</tr>
<tr>
<td>Access to improved sanitation facilities</td>
<td><strong>67%</strong></td>
<td>123,695</td>
<td>49</td>
</tr>
<tr>
<td>Access to soap for hand washing</td>
<td>61%</td>
<td>85,742</td>
<td>34</td>
</tr>
<tr>
<td>Safe disposal of sharps</td>
<td>64%</td>
<td>91,382</td>
<td>17</td>
</tr>
<tr>
<td>Appropriate disposal of infectious waste</td>
<td>61%</td>
<td>82,915</td>
<td>14</td>
</tr>
<tr>
<td>Adequate sterilization equipment for medical equipment</td>
<td><strong>27%</strong></td>
<td>71,048</td>
<td>25</td>
</tr>
</tbody>
</table>

The landmark 2015 Status Report laid the foundation for global action, and the 2018 article provided further evidence regarding the lack of basic WASH in HCF.

However, neither report considered issues beyond the coverage of WASH.
Water Shortages
Water Quality
Environmental Hygiene
WASH
Related Behaviors
Beyond Basic Coverage

✓ Functionality of WASH facilities (e.g. broken sinks)
✓ Quantity of WASH facilities (per patient or staff member)
✓ Quality of WASH facilities (e.g. hygienic quality of toilets)
✓ Accessibility of WASH facilities (e.g. disability access, locked facilities)
✓ Accessibility of soap and essential supplies for hygiene
✓ Water shortages
✓ Water quality
✓ Environmental hygiene/cleanliness
✓ WASH-related behaviors (i.e. handwashing, sterilization)
✓ Consistent availability of trained staff for cleaning
Which HCF Activities Need WASH?

- Handwashing
- Cleaning floors and surfaces
- Disinfecting and sterilizing medical equipment
- Cleaning wounds
- Disposing of hazardous waste
- Bathing
- Drinking water (including oral medications)
- Medical devices (e.g. CPAP machine)
- Laboratory
- Using sanitation facilities
### Challenges

- Many vulnerable people, pathogens, hazardous waste and contaminated areas
- Specific requirements due to limited mobility of patients
- Diversity of:
  - Healthcare Facilities (1°, 2°, 3°)
  - Users (patients, staff, visitors)
  - Water uses for different purposes
  - Wastes (biological, chemical, sharps)
- WASH in HCF often falls between health and WASH sectors

### Opportunities

- Health care staff are highly credible, can promote hygiene behavior change
- Health facilities can function as a role model for good hygiene and proper management of waste, water and sanitation

Source: Dr. Rick Johnston, WHO
A Developed World Example

Hospitals tell people to stay away and operations are cancelled after major problems with water supply - LIVE updates

“It’s ridiculous, there is no cleanliness, no hygiene” – hospital patient

• In February 2018, a water main leak caused water to be cut to four major hospitals in Manchester, UK
• As a “precaution”, the hospitals canceled all non-urgent surgeries.
• Bed pans, bottled water, and sanitary towels were provided to inpatients. Staff were unable to sterilize medical equipment.

Source: Manchester Evening News (2018)
Physicians have been calling for improved hygiene as part of the strategy to reduce morbidity and mortality among patients for hundreds of years.

1795: Alexander Gordon asserted that deaths from puerperal fever could be prevented with greater cleanliness and that “nurses and physicians ought carefully to wash themselves” after contact with an infected patient.

1800’s: Ignaz Semmelweis reduced maternal deaths in HCF by requiring doctors to wash their hands in chlorine solution before examining women in labor.

The lack of basic WASH compromises the ability to provide safe health services, such as childbirth and surgery, and to prevent hospital-acquired infections.
Intersection with Health Sector

WASH in HCF intersects with a number of important health sector topics and issues:

- Maternal and Newborn Health (MNH)
- Infection Prevention and Control (IPC)
- Universal Health Coverage (UHC)
- Quality of Care (QoC)
- Antimicrobial Resistance (AMR)
- Hospital-Acquired Infections (HAIs)
- Outbreaks/Emergencies
Universal Health Coverage (UHC)

includes as part of its foundation

Quality of Care

which is defined nationally, based on the following components:

People-Centered -> Safe -> Effective -> Efficient -> Equitable -> Timely -> Integrated

requiring

Infection Prevention and Control (IPC)

which cannot be provided without

WASH in HCF
Increase in Facility-Based Births

Percent of Facility-Based Births by Region, 2011-2016

UNICEF Region

- West & Central Africa
- Eastern & Southern Africa
- South Asia
- Middle East & North Africa
- East Asia & Pacific
- Latin America & Caribbean
- Eastern Europe & Central Asia
- Western Europe

Source: UNICEF (2017)
WASH is **inadequate** in many healthcare facilities in LMICs, including in the labor wards (Steinmann et al., 2015; Huttlinger et al., 2017; Gon et al., 2017).
Rates of hospital-acquired infections (HAI) in newborns are as much as 20 times higher in resource-limited settings compared to developed country context, with inadequate environmental hygiene and low adherence to infection prevention and control cited as potential explanations (Zaidi et al, 2005).
Death due to Infection: Mother & Baby

Unhygienic birth practices are an important risk factor

Maternal deaths: 535,900 per year (in 2005)
Infection-related maternal deaths = maternal sepsis

Neonatal deaths: 3.6 million per year (in 2008)
Infection-related neonatal deaths = neonatal infections (sepsis, pneumonia) and tetanus

Infection 11% of maternal deaths
Infections 26% of neonatal deaths
Neonatal tetanus 2%

59,000 maternal deaths + 972,000 neonatal deaths = Around 1 million deaths may be related to unclean birth

In developing countries, an estimated **one in six patients** (16%) contracts an HAI during their stay at a HCF.

In developed countries, an estimated **one in 15 patients** (7%) contracts an HAI during their stay at a HCF.

Source: WHO (2016)
WASH & IPC are necessary for the provision of safe, effective and efficient healthcare because:

Poor WASH and IPC

- lead to Hospital-Acquired Infections (HAIs)
- exacerbate Outbreaks (e.g. Ebola)

Hospital-Acquired Infections (HAIs)

 Contributing to the high usage of antibiotics and can lead to

- Antimicrobial Resistance (AMR)
- Morbidity and Mortality

Morbidity and Mortality +

- Increased Healthcare-Associated Costs
### Additional Consequences of Poor WASH in HCF

<table>
<thead>
<tr>
<th>Healthcare Facility</th>
<th>Individual</th>
<th>Employer</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Increased healthcare-associated costs</td>
<td>• Reduced school attendance</td>
<td>• Reduced economic productivity</td>
</tr>
<tr>
<td>• Decreased budget for other facility priorities</td>
<td>• Reduced work attendance</td>
<td></td>
</tr>
</tbody>
</table>
| | • Decreased salary | }
Goal 3 (Health & Well Being):
• Decrease the number of deaths and illness attributed to unsafe WASH
• Reduce the global maternal mortality ratio
• End preventable deaths of newborns and children under 5 years of age
• Achieve universal health coverage, including access to quality essential health-care services

Goal 6 (Water & Sanitation):
• Achieve access to safe water, sanitation, and hygiene for all

Source: www.UN.org
“Today, I am using the launch of the Water Action Decade to make a global call to action for water, sanitation and hygiene — or WASH — in all healthcare facilities...We must work to prevent the spread of disease. Improved water, sanitation and hygiene in health facilities is critical to this effort.”

United Nations Secretary-General
António Guterres
March 22, 2018

VISION

Every health facility has the necessary WASH services and practices in order to provide essential, quality health services for everyone, everywhere.

Leadership and Governance
Technical Support
Monitoring and Accountability
Community Engagement and Social and Behavior Change
Evidence and Knowledge

Embedding WASH in key health initiatives and frameworks

Source: WHO 2018
WHO and UNICEF, with input from the global community, have developed ‘metrics for progress’. The metrics provide a roadmap toward achieving the 2030 goal ensuring WASH services and practices in all HCF. These benchmark targets allow for incremental change while creating an enabling environment for the sustainability of WASH services and practices.
Gaps and Challenges

**INADEQUATE POLICIES**

79 countries were asked about their national policies and coverage targets.
- Only 16% had national policies fully implemented and funded for drinking water, sanitation and hygiene in healthcare facilities.
- Only 9 out of 79 countries had coverage targets of 100% for water and sanitation in HCF, while nearly two-thirds of the countries did not provide coverage targets at all.

**INSUFFICIENT BUDGETS**

25 governments provided their WASH budget allocations.
- While all countries had budgeted for drinking-water and sanitation, only five countries had budget allocations specifically for WASH in HCF.
- Similarly, only six countries had budgeted for WASH in Schools, yet the aggregate WASH in Schools budget was nearly 10 times more than the aggregate WASH in HCF budget ($225 million vs. $27 million).

Taking Action to Improve WASH in HCF

- Advocacy
- Assessment & Monitoring
- Infrastructural Improvements
- Behavior Change
- Management & Accountability
- Community Participation
- Sustainability
- Research
- Funding
- Coordination
Advocacy

• Awareness around WASH in HCF is insufficient, both among the development community and within developing countries.
• Advocacy is needed to bring attention to this issue and highlight possible solutions.
• Advocacy must be directed at both the health and WASH sectors.
Assessments & Monitoring

• Baseline assessments are necessary to determine the status of WASH in HCF.
• The baseline data can be used to develop targets and an action plan.
• Routine monitoring is important to ensure actions are underway to meet the targets. It will also help to evaluate the sustainability of interventions.
<table>
<thead>
<tr>
<th>INDICATOR</th>
<th>DEFINITION</th>
</tr>
</thead>
<tbody>
<tr>
<td>Water</td>
<td>Water from an improved source is available on premises.</td>
</tr>
<tr>
<td>Sanitation</td>
<td>Improved sanitation facilities are available and usable, separated for patients and staff, separated for women and allowing menstrual hygiene management, and meeting the needs of people with limited mobility.</td>
</tr>
<tr>
<td>Hand Hygiene</td>
<td>Hand hygiene materials, either a basin with water and soap or alcohol hand rub, are available at points of care and toilets.</td>
</tr>
<tr>
<td>Environmental Cleaning Practices+</td>
<td>Written protocols for cleaning are available, and cleaning staff and healthcare providers have received training on cleaning procedures.</td>
</tr>
<tr>
<td>Health Care Waste</td>
<td>Waste is safely segregated into at least three bins in the consultation area and sharps and infectious wastes are treated and disposed of safely.</td>
</tr>
</tbody>
</table>

*Written for general patient care setting. Delivery room indicators are being finalized (2018)
+Drafted but not yet finalized.
## JMP WASH in HCF Service Ladder

<table>
<thead>
<tr>
<th>Water</th>
<th>Sanitation</th>
<th>Hygiene</th>
<th>Health Care Waste</th>
</tr>
</thead>
</table>
| **Advanced service**  
(to be defined at national level) | **Advanced service**  
(to be defined at national level) | **Advanced service**  
(to be defined at national level) | **Advanced service**  
(to be defined at national level) |
| **Basic service**  
Water from an improved source on site is available at time of survey | **Basic service**  
Improved facilities, separated for patients and staff, for men and women, and useable by those with limited mobility | **Basic service**  
Hand hygiene facilities are available at points of care and toilets | **Basic service**  
Waste is segregated into bins, and sharps and infectious wastes are safely treated and disposed. |
| **Limited service**  
There is an improved source, but off premises or not available at time of survey | **Limited service**  
There are improved facilities, but not usable or do not meet the needs of specific groups | **Limited service**  
Hand hygiene stations at some, but not all, points of care and latrines | **Limited service**  
Waste is segregated but not disposed of safely, or bins are in place but not used effectively |
| **No service**  
No improved water source | **No service**  
No improved toilets or latrines | **No service**  
No hand hygiene stations with soap and water or alcohol based handrub | **No service**  
Waste is not segregated or safely treated and disposed |
Data show major gaps in WASH coverage
At the facility level, this will require improving the physical infrastructure:
  - Water source
  - Storage tanks
  - Pipes
  - Sinks
  - Treatment systems
  - Toilets
  - Incinerators
WASH FIT: Facility Improvement Tool

“A practical guide that provides a risk-based, continuous improvement framework and associated tools for undertaking WASH improvements as part of wider quality improvements in healthcare facilities.”
Behavior Change

WASH behaviors overlap with IPC: hand hygiene, medical equipment processing, environmental cleaning, waste management. To approach behavior change:

1. Increase knowledge and awareness
   - Pre-service training for healthcare workers
   - Job orientation training for cleaners
   - Annual training for facility staff
2. Motivate sustained behavior change
   - Attitude adjustments
   - Monitoring
   - Peer evaluation
   - Competition
Management, Ownership, and Accountability

- Facility management and staff ownership and accountability will have an impact on any WASH intervention.
- Effective management systems are important for maintaining infrastructure and adhering to protocols.
- Gaining the buy-in of staff can build ownership of the WASH intervention.
- Holding staff accountable to one another as well as to a managing body helps to ensure that the WASH intervention is sustainable.
Community Participation

• Engage the community to define dignified and equitable health service delivery and care, including the effective use of improved WASH services in the HCF.

• Support staff to define a safe working environment in compliance with international environmental standards for health facilities.
Sustainability

Examples include:

• Training on the maintenance of infrastructure
• Developing and monitoring of guidelines and protocols
• Encouraging HCF leaders to be WASH champions
• Budgeting for WASH at the HCF-level
• Linking WASH to other health initiatives in which the MOH is already investing resources
• Raising awareness of the issue among policy makers, HCF staff and community members
Research

- Health impact of poor WASH in HCF
- Intervention impact and best practices
- Enabling environments and sustainability
- Factors for success
- Drivers of behavior change
- Cost of WASH interventions
- Economic burden and additional consequences/costs of not improving WASH in HCF
In order to introduce sustainable WASH in HCF, cross-sector coordination with the various stakeholders is necessary:

– Ministry of Health
– Ministry of Water/Environment/Rural Development/etc.
– Ministry of Finance
– NGOs
– UN agencies
– Civil societies and faith-based organizations
– Academia
– External funders
Funding of WASH in HCF Programs

- **WASH Donors:** Include HCF in your community work; reach out to HCF administrators and community leaders. Consider partnering with those already doing work in HCF.

- **Health Donors:** Enact a policy that you will fund work in a HCF only if WASH is include or there’s a clear, funded path toward basic WASH.

- **All Donors:** Sustainability is crucial! Will the project long outlive your presence as a donor? Participate in the cross-sector coordination mechanisms to ensure you are not duplicating the efforts of other funders.
The webinar series is an opportunity to share and discuss experiences, challenges, successes, and lessons learned in WASH in HCF:

- **Policy**: What is a systems approach to WASH in HCF for implementers in country?
- **Evidence**: What are the various assessment tools available for WASH in HCF?
- **Practice**: Examples of programs (Clean Clinics Approach)

Have a topic you would like to discuss and/or present? Let us know!

Email: WinHCFaction@emory.edu
A healthcare facility without WASH is not a quality healthcare facility.
References:
6. Steinmann et al., 2015. “Availability and satisfactoriness of latrines and hand washing stations in health facilities, and role in health seeking behavior of women: evidence from rural Pune district, India.” *J. of Water, Sanitation and Hygiene for Develop*

Photo credits:
Center for Global Safe Water, Sanitation and Hygiene at Emory University; WaterAid / Tom Greenwood; Emory University / Jenny Foster