WASH in rural health care facilities

Proceedings of an SNV Sustainable Sanitation and Hygiene for All (SSH4A) learning event

Punakha, Bhutan
6-9 May 2019

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This report documents the activities from the *learning event* organised by SNV Netherlands Development Organisation in collaboration with the Royal Government of Bhutan's Ministry of Health in Punakha, Bhutan, from 6 to 9 May 2019. It was facilitated as part of the Knowledge and Learning component of the *Sustainable Sanitation for All – Rural* programme with support from the Australian Government's Water for Women Fund, the Department of International Development of the United Kingdom (DFID), the United States Agency for International Development (USAID), and the Dutch Government's Ministry of Foreign Affairs and Trade (DGIS). The event was attended by 47 participants (17 female, 30 male) from 11 countries.

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The following text is the unedited proceedings of the May 2019 Bhutan learning event, WASH in Health Care Facilities. For more information, contact Gabrielle Halcrow, Multi-country programme manager of the DFAT-supported Beyond the Finish Line programme, ghalcrow@snv.org.

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Abbreviations and definitions

AMR	Anti-Microbial Resistance
BCC	Behaviour Change Communication
DHIS	District Health Information System *(of Bhutan)*
HAI	Hospital Acquired Infection
HCF	Health Care Facilities
HCW	Health Care Waste
HCWM	Health Care Waste Management
HFOMC	Health Facility Operation and Management Committee
HFQIC	Health Facility Quality Improvement Committee
HMIS	Health Management Information System
HR	Human Resources
LG	Local Government
MHM	Menstrual Hygiene Management
MoH	Ministry of Health
MoWHS	Ministry of Works and Human Settlement
OD	Open Defecation *(practice of people defecating outside and in a place not designated as a toilet)*
ODF	Open Defecation Free *(is when all people in an area use a toilet for defecating)*
O&M	Operations and Management
PHED	Public Health Engineering Division, Department of Public Health *(of Bhutan)*
POC	Point of Care
RGoB	Royal Government of Bhutan
RMQAWC	Rural Municipality Quality Assurance Working Committee
RSHAP	Rural Sanitation and Hygiene Programme *(programme of the RGoB)*
SSH4A	Sustainable Sanitation and Hygiene for All *(rural sanitation progamme of SNV)*
SNV	SNV Netherlands Development Organisation
WASH	Water, Sanitation and Hygiene

Introduction

Background

The learning event was conducted as part of SNV's Sustainable Sanitation and Hygiene for All (SSH4A) sanitation programme in rural areas, which aims to reach all. Developed since 2008 in Asia, SNV's integrated rural sanitation approach strengthens the capacity of local authorities in developing and enforcing area-wide sanitation service delivery models for their jurisdictions. Placing users at the centre of our efforts: households, schools, health facilities and public places, SSH4A has been contributing to WASH systems change. Over the past five years (2014-2018), SNV's integrated rural sanitation approach has proven successful in more than 160 districts in 18 countries across Africa, Asia and Latin America.

Figure 1: SSH4A programme components, phase 1
Source: SNV, 2018.

The SSH4A programme has five components; the four depicted in figure 1 above, and a fifth component on '**Improving learning, documentation and sharing of best practices'** – namely, analysis, dissemination and learning of best WASH practices both within SNV, with clients, regionally and through networks. The objective is not only to improve SNV's own rural sanitation practice, but also the practices of others in the sector, and to influence an enabling environment for sustainable rural sanitation. This workshop is part of the fifth component.

Learning event attendees: The 2019 learning event in Bhutan was attended by 47 participants (17 female, 30 male) from 11 countries where the SSH4A rural sanitation programme is being implemented.

Preparatory E-group discussion: An E-group discussion was held in April to May 2019 in preparation for the learning event in Bhutan (6-9 May), on the same theme. A summary of the E-group discussion is available on the SNV website: http://www.snv.org/public/cms/sites/default/files/explore/download/2019-ssh4a-washihcfs-e-group-summary.pdf.

Summary of event opening, structure and participant expectations

Introduction to the learning event, Antoinette Kome, Global Sector Coordinator of SNV WASH and learning event facilitator

During her presentation, Antoinette Kome explained that the intention of the learning activity was to exchange ideas and deepen our understanding of the opportunities and priorities for **improving WASH in HCFs**, and the different roles of stakeholders within this. The learning activity composed of the following activities:

- Preparatory E-group discussion (with over 400 people in the E-group)
- Face-to-face learning event
- In-country follow-up (depending on country priorities)

Not limited to the SNV programmes, the learning event was intended to promote discussion about good practices among partners and staff.

Why should we care about WASH in HCFs?

1. *Human rights of WASH and health*: access to water and sanitation is a human right, including in HCFs. Health (and health care) is also a human right, which cannot be realised without WASH.
2. *Associated health risks to enable infection prevention and control*: Poor WASH in some HCFs puts parents, particularly new-borns and their mothers, at risk, as well as the surrounding communities. Another health risk is anti-microbial resistance (AMR) through the increased use of anti-biotics because of increased infections due to poor WASH.
3. *Credibility of public health programmes*: HCFs need to have access to (at least) basic WASH, and promote key hygiene behaviours to realise total sanitation districts.

How do all these come together?

In terms of WASH services for villages, schools and HCFs, each of these sectors are slightly separated, making their own plans (which is important). But only having plans may not get us to scale. Area-wide WASH programming does not include HCFs beyond a plan, and quality improvement in the health sector does not include WASH beyond infrastructure.

How is area-wide sanitation programming embedded into governance structures?

Area-wide sanitation programming has been taken up by different levels of government, with the health care sector engaged in outreach to communities. However a focus on the HCF itself is not visible. The health sector's focus on other quality improvements has limited engagement with the WASH sector. Greater coordination and collaboration between the WASH and health sectors is needed, with leadership by local bodies.

A range of diagnostic and planning tools have emerged in the sector including WASH FIT from the WHO, Facility Evaluation Tool for WASH in Institutions (FACET) from Eawag, and the MCSP/Save the Children Clean Clinic Approach. The learning event did not have the intention to provide specific training on any of these tools, but rather to develop a more comprehensive vision on WASH in HCFs, including a vision of scale, and the entry points to realise these in participants' respective countries.

Objectives of the workshop included:

- Exchange ideas and deepen understanding of the opportunities and priorities to improve WASH in Health Care Facilities from intermediate levels, and the different roles of stakeholders within it.
- Learn from the different health care and WASH sector structures, and on-going initiatives.
- Reflect on entry points for change in participants' context.

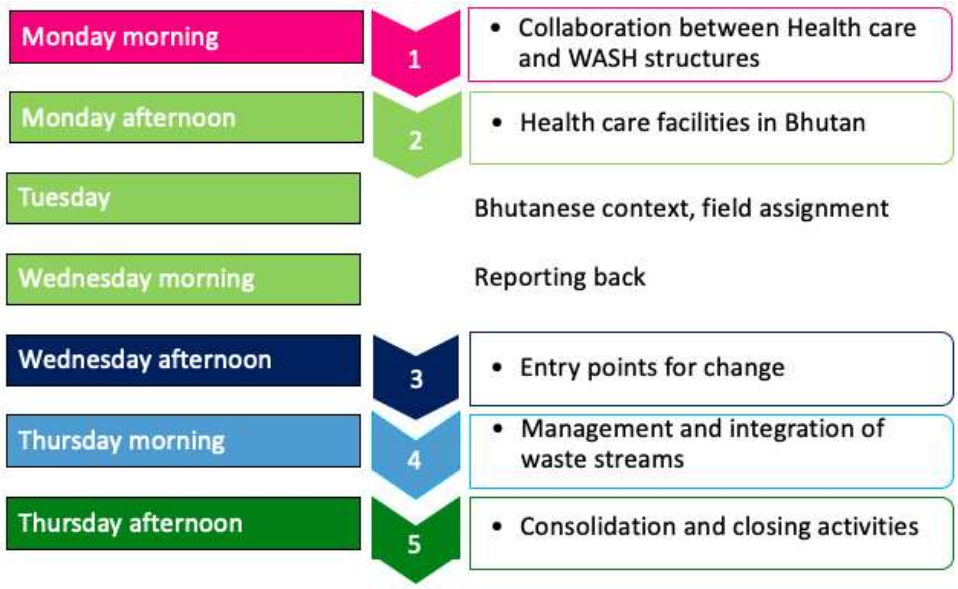


Figure 2: Five learning blocks during the learning event in Bhutan, May 2019

Official opening

The learning event was officially opened with a *Marchang* ceremony, which is a traditional Bhutanese offering ceremony to wish for the success of the learning event and well-being of all participants. Tshering Choden, SNV Bhutan advisor, explained the significance of the *Marchang* ceremony and welcomed the honourable guests to the learning event, including those from Bhutan and the seven SNV country teams, hailing from 17 different countries.

Official opening Marchang Ceremony, Photo by SNV Bhutan

Welcome note by Mr. Rinchen Wangdi, Chief Engineer, PHED, DoPH, Ministry of Health
Rinchen Wangdi expressed his gratitude at being able to welcome everyone to the four-day global learning event and thanked the Hon'ble Secretary of the MoH Dasho Dr. Ugen Dophu for his attendance; signifying that WASH in HCFs is an MoH priority. He explained that the *Marchang* Ceremony is a spiritual offering to remove all obstacles to the learning event. Rinchen also thanked SNV for choosing Bhutan as this learning event's host country; the last learning event hosted by Bhutan being in 2015. He also gave recognition to SNV's 10-year partnership with the Royal Government of Bhutan (RGoB) in rural sanitation, which was celebrated in 2018.

Opening remarks by Dasho Dr. Ugen Dophu, Hon'ble Secretary, Ministry of Health
The Hon'ble Secretary Dasho Dr. Ugen Dophu thanked SNV for choosing Bhutan to host the learning event and extended a warm welcome, on behalf of the MoH. He stated that in health, everyone knows that safe drinking water supply, sanitation and educating people on proper sanitation and hygiene, are the most cost-efficient and effective ways to maintain good health. However, countries across the globe hesitate to invest in WASH. According to him, if safe drinking water, basic or improved sanitation and educating public on hygiene practices were ensured, mortality and morbidity in Bhutan would be reduced by 50%.

In Bhutan, the Hon'ble Secretary explained that earlier focus was on rural water supply and sanitation in communities, however more attention is now needed for WASH in HCFs. Globally, 1 in 4 HCFs, lack basic water supply facilities, and 1 in 5 have no sanitation facilities. In Bhutan, areas of particular weakness include WASH services for menstrual hygiene management (MHM) and people with disabilities. WASH in HCFs is particularly important, he expressed, to provide quality and universal health coverage, good infection control and waste management practices, patient safety, and good mother and child health.

According to the Hon'ble Secretary, ultimately the support of politicians is needed to prioritise WASH in HCFs. As such, the Secretary General of the United Nations issued a global call to action to raise the importance of WASH in both government and private HCFs. He ended his talk by thanking SNV for their ongoing partnership with the MoH on sanitation since 2008, especially on rural sanitation and hygiene, and expressed that Bhutan had achieved a lot with the support of SNV.

SNV token of appreciation to PHED/MoH
Antoinette Kome thanked the PHED/MoH for 10 years of partnership in developing the Rural Sanitation and Hygiene Programme (RSAHP), by presenting a plaque as a token of appreciation. SNV started working in Bhutan in 1988, focused on supporting access to rural water services and working side by side with the MoH. While sanitation coverage was relatively high in Bhutan, the partnership saw that disease incidences were high. So, in

2008 a new approach to sanitation with the RSAHP was developed on the request of MoH. The success of the programme has been a collaborative effort, with the PHED/MoH taking the lead, and partners such as UNICEF providing support. A short video produced by SNV and PHED/MoH was shown: http://www.snv.org/update/getting-100-access-improved-sanitation-hygiene-bhutan.

Gabrielle Halcrow also thanked and welcomed all participants. Special thanks were offered to the *Llamas* (monks) for their welcome through the *Marchang* ceremony, the Hon'ble Secretary of the MoH, as well as the chief engineer from PHED, Mr. Rinchen Wangdi. Thanks was also extended to the whole team from PHED, the district of Punakha, the RSAHP partners and the government partners from the various SNV countries.

Expectations of participants by country

Participants from each country shared their expectations of the learning vent, as summarised below.

Country	Expectations
Bhutan	• Expectation to learn the strategies from other countries on WASH in HCFs • Learn how to scale up WASH action plan • Learn how to build capacity of local government officials in implementing effective WASH in HCFs • Exchange of experience, knowledge and practices of what is happening in various countries • Learning best practices • Strengthen multi-sectoral coordination, collaboration and consolidation, in line with Bhutan's 12-year plan
Ethiopia	• Learn challenges and successes on WASH in HCFs in other countries, so that we can contextualise it in our context • Learn from community and HCFs on WASH practice in Bhutan
Indonesia	• Learn from other countries about their approach to WASH in HCFs, especially from Bhutan with their significant sanitation improvement
Kenya and Mozambique	• Appropriate management model for waste in HCFs • Area wide planning: prioritisation and budgeting
Lao PDR	• WASH in HCFs is new in Lao PDR; currently working with government to understand the situation • Learn from other countries; like to see how we can develop an overall framework for WASH in HCFs for SSH4A • Learn the secret to happiness from Bhutan
Nepal	• Learn from other countries, improve 24/7 supply of safe water; major government objective in Nepal • Learn how to mobilise local leaders and community members for WASH in HCFs
Rwanda	• Learn from other countries how WASH in rural HCFs has been improved. From e-group discussion, have learnt a little but want to extend this knowledge • Learn/ understand how hazardous waste is managed in rural HCFs
Tanzania	• Learn from other countries on collaboration for WASH in HCFs • Learn about M&E systems, so we can improve further • Learn how others have been successful, and what challenges they have faced in managing WASH in HCFs • Learn about best practice and applicable approaches for Tanzania • Expect to share Tanzania's WASH in HCFs experiences, particularly on guideline, financing mechanism and NSMIS development • Plan next steps for WASH in HCFs in Tanzania
Uganda	• Technical aspects: adopt a systemic approach, not see HCFs as isolated problem, more context of professional service provision • Expect to have fun and to connect with the entire group
Zambia	• Learn from others on how they are managing WASH in HCFs • Gain insight into a standardised approach for WASH in HCFs; currently HCFs have WASH activities, but not standardised, want a standardised WASH activity for every HCF
WaterAid	• Learn more about how different countries are tackling WASH in HCFs • What are the major challenges, and how can we strategise to address these issues
LSHTM	• Learn more and contribute to behaviour change priorities for WASH in HCFs • Learn about WASH in HCFs situation in other countries and learn from them
SNV HQ Human Resources	• Get to know the SNV team • Learn more about WASH: first time working in this sector, so want to learn more about the WASH activities in countries represented and WASH contexts

Block 1: Collaboration between health care and WASH structures

Overview (blocks 1 and 2)

Why is this relevant?

Collaboration between health care and WASH structures is important for three reasons, including: (i) the human rights of WASH and Health; ii) associated health risks, to enable infection prevention and control; and (iii) credibility of public health programmes. Area-wide sanitation programming has been taken up by different levels of government, with the health care sector engaged in outreach to communities, however a focus on the HCF itself is not visible. The health sector has focused on other quality improvements, which have resulted in limited engagement with the WASH sector. Greater coordination and collaboration between the WASH and health sectors is needed, with leadership by local bodies.

What were the knowledge and learning outcomes intended from this block?

- To develop a holistic understanding of WASH in health care facilities within an area, the roles and responsibilities at different levels, and identify opportunities and entry points for change at scale.
- Learn from the different health care and WASH sector structures, and on-going initiatives taking place in various countries.

What was the process?

- Introductory presentation on Block 1, including the outcomes of the E-group discussion
- Sharing and presentation of country posters, including the Strengths, Weaknesses, Opportunities and Threats (SWOT) for WASH in rural HCFs in each country context
- Presentation by Mr. Rinchen Wangdi on the Bhutanese experience related to WASH in HCFs as part of the introduction to Block 2
- Preparation for fieldwork assignment in four different locations
  Group A: Thimphu, Ministry of Health, Jigme Dorji Wangchuk National Referral Hospital (JDWNRH)
  Group B: Punakha district, District Hospital
  Group C: Shengana-Bjemi sub-district in Punakha district, Shengana Basic Health Unit Grade II
  Group D: Phobjikha district, Esa basic Health Unit (BHU) Grade I
- Sharing and feedback from the field visits, including reflection on what lessons learnt and best practice are useful for the different countries.

1.1 Introductory presentation

In Antoinette Kome's introductory presentation, she outlined three reasons why WASH in HCFs was important, which included: (i) the human rights of WASH and Health; ii) associated health risks, to enable infection prevention and control; and (iii) credibility of public health programmes. The current global situation of WASH in HCFs was then presented based on the JMP's first-ever report on WASH in HCFs, "WASH in health care facilities: Global Baseline Report 2019", which introduces new services ladders for basic services. These include: no service, limited service, and basic service (more details in Figure 3).

Figure 2: JMP service ladders for monitoring basic WASH services in health care facilities
Source: WHO/ UNICEF, 2019, p.2.

However, few countries have basic estimates to calculate global coverage of basic sanitation, hand hygiene, waste management or cleanliness of services in HCFs. Lack of available data for waste management and cleanliness meant that there are no global coverage estimates; even for "no service". From the E-group discussion, an overview of the availability of data on WASH in HCFs was presented by Antoinette. From the discussion and presentation, it was clear that **improving data is a priority**. Currently more data exists on water supply and toilets, with less data available on hand hygiene, health care waste, and environmental cleaning in HCFs. No data on safely managed sanitation, functionality of water supply, or accessibility of WASH services for people with limited mobility was available. From the E-group discussion, participants also noted that it was not possible to disaggregate data into different types of health facilities, nor for rural and urban settings.

Considering the significant gaps in data, the question of **what do we know** was posed. In 2018, SNV conducted an urban baseline survey on WASH in HCFs using the JMP service ladder definitions to review water supply, sanitation, hygiene, and waste management in HCFs for 16 cities in five countries. Although data are not representative of rural HCFs in the countries present during the learning event, they serve insights for reflection.

Figure 4 presents the results for **water supply and sanitation**[1], which show that almost all HCFs in the countries studied have *limited service* for sanitation. Taking the JMP definition of basic service for sanitation as *"improved sanitation facilities are usable, with at least one toilet dedicated for staff, at least one sex-separated toilet with menstrual hygiene facilities, and at least one toilet accessible for people with limited mobility"*, the greatest issue in those HCFs surveyed was that toilets were not suitable for people with limited mobility.

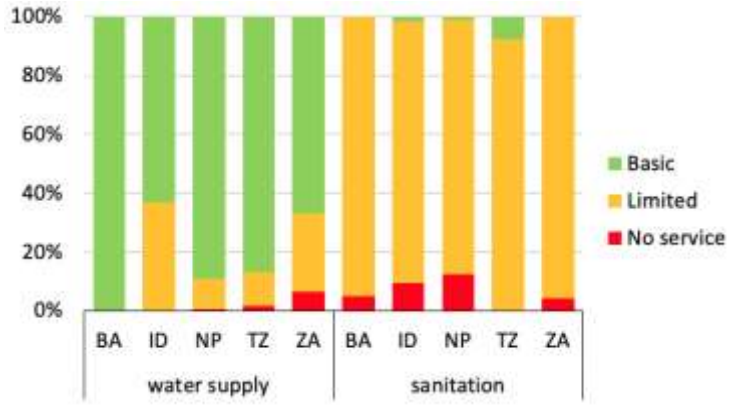


Figure 3: Comparison of water supply and sanitation (16 countries)
Source: SNV, 2018. *Unpublished.*

From the E-group discussion, existing knowledge on water and sanitation was presented. Management was a concern for both water and sanitation, particularly in relation to the governance of use, cleaning, repair and replacement of services. Functionality, reliability and continuity of water supply was also an issue; with only 50% of HCFs in Zambia, for example, having access to basic rural water supply. Sanitation service faced design issues with regards to sex-segregation, and access for people with limited mobility.

From the 2018 SNV urban baseline, a mixed picture for **hand hygiene** was found, as presented in Figure 5. It was also noted that handwashing with soap after defecation and at points of care was a proxy indicator, as the presence of a handwashing station or an alcohol rub does not necessarily mean the people are using them. From the E-group discussion, 53% of HCFs did not have handwashing facilities at points of care in Nepal. In Indonesia, 72% of HCFs lacked handwashing facilities with soap in all three locations (general consulting room, immunisation room, and delivery room). In Mali, 75% of HCFs did have handwashing facilities, but a quarter of these did not have soap and/ or water.

[1] BA= Bangladesh, ID=Indonesia, NP=Nepal, TZ= Tanzania and ZA=Zambia

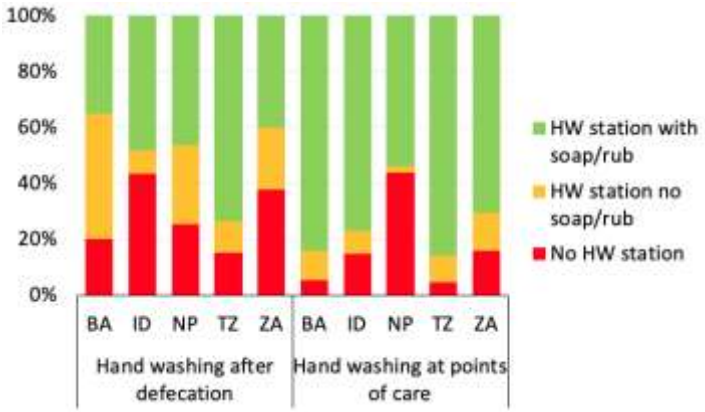


Figure 5: Comparison of hand hygiene practice (16 countries)
Source: Ibid.

As shown in Figure 6, there was no **safe treatment and disposal of health case waste** in any of the HCFs surveyed for the SNV urban sanitation baseline study. This was mostly because general solid waste was being mixed with health care waste, a lack of adherence to the three-bin segregation system, and the absence of treatment and final disposal (lots of open burning was occurring). From the E-group, critical areas of improvement were noted including the need to segregate hazardous and non-hazardous wastes into separate bins, as well as the safe treatment and disposal of sharps and infectious waste (including burying in a lined pit or incineration, but not open burning). It was noted that it was not simply a matter of supplying an incinerator, but rather, improvements related to the management, process and protocols was needed.

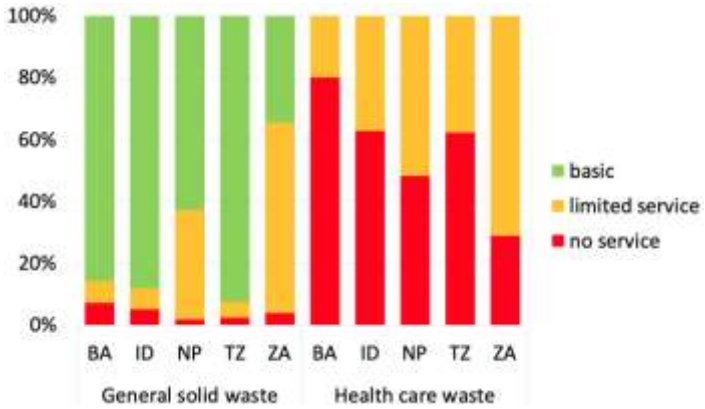


Figure 6: Comparison of waste management practice (16 countries)
Source: Ibid.

From the E-group discussion, the **roles and responsibilities** related to WASH in HCFs was discussed. In Bhutan, Lao PDR, Cambodia and Nepal facility level staff and (untrained) care takers were responsible, with a WASH focal point sometimes involved, as exemplified in Uganda. In some HCFs, communities provide WASH support as was seen in Mali; a community health association supports the HCF through a mutual assistance agreement. The **role of local bodies** was also discussed, which varied based on HCF water supply arrangements: HCFs with their own water supply, or HCFs drawing water from a community water supply system. However, in most cases, the district engineering division of the local government constructed the water supply, while sanitation and Operations and Management (O&M) were in the remit of HCFs. Theoretically the district health office should oversee sanitation and O&M within HCFs, but limited human resources and capacity often hindered this, as exemplified in Lao PDR. Other district government roles included monitoring, enforcement of standards, and budgeting.

Within the E-group discussion, **opportunities for improvement** were raised. The suggestions included:
- Proper protocol around coordination between health and engineering divisions at the local level
- Mainstreaming WASH in existing quality improvement initiatives of the health sector
- Improving leadership at all levels
- Capacity building of health care workers, cleaners and district staff

- Engagement of communities
- Including responsibility for WASH in HCF personnel roles and dutiesNo need for a change in structure, but make the structure functional

1.2 Sharing country posters, analysis and SWOT

During this session, each of the seven SNV country teams presented their country posters, which they had prepared in advance of the learning event. The objective of the poster presentation was to convey WASH in HCF in their country context. Presentations covered; i) the governance structure of health and WASH, ii) the current status of WASH in rural HCFs; and iii) a summary of current initiatives. In addition to this, the country teams were asked to conduct a SWOT analysis on the quality of WASH in HCFs in rural areas.

1.2.1 Mozambique

The SNV country representative from Mozambique presented their poster first. Additional discussion points raised during the presentation included the many gaps that exist in the JMP data with only limited service available for water supply and sanitation and no available data on hygiene, waste management and cleanliness. During a field visit to HCFs the poor condition of the facilities was observed with no reliable water supply in bathrooms, a lack of overall cleanliness, and issues with hygiene. While the HCFs have been constructed according to international standards by the MoH Infrastructure Division, a lack of maintenance has led to issues with the facilities.

MOZAMBIQUE	
Strengths • National working group recently established, led by UNICEF and MoH, which is focused on rehabilitation and construction of WASH infrastructure in rural HCFs • Existence of a Design unit at the MoH • Existing interventions that can be built on	**Weaknesses** • Problem with O&M; staff may not be fully familiar with essential elements of WASH services, even when it may be one of their many responsibilities they have; no donor funding for O&M • Design unit at MoH needs support, focussing on ongoing service and quality, rather than just building infrastructure and moving on • Motivations? Behaviour change to provide a clean service; need to think more in an area-wide approach
Opportunities • External funding available (but focus on infrastructure) • Natural disasters that have occurred can trigger donor support	**Threats** • Natural disasters (but can trigger support from donors) • Agenda-driven standards and dependency

Q: How can recent natural disasters (and donor support in response to these) be viewed an opportunity?	A: Currently there is not a lot of interest for WASH in HCFs in rural settings, and financial support to improve this is needed. The recent natural disasters could be used as an opportunity to raise the profile and importance of WASH in HCFs to advocate for continuous support of these services.
Q: Is WASH not part of the HCF planning and budgeting processes?	A: Most of the planning occurs at district level; the HCF informs the district of their needs and more focus is usually given to infrastructure, rather than O&M and process related matters.

1.2.2 Ethiopia

The Ethiopia country team presented their poster and outlined the current WASH in HCFs situation in Ethiopia. Basic sanitation coverage was higher at hospitals with rural health posts experiencing the lowest sanitation coverage service level. Safe disposal of waste was 52%, however coverage was lower once again in the health posts. It was reported that the government is committed to improving the WASH in HCFs situation, and Ethiopia's MoH plans to match funds committed to this through the One WASH Program (OWNP). The government's Clean and Safe Health Facilities (CASH) programme also manifests the political commitment to strengthen WASH in HCFs.

ETHIOPIA	
Strengths • Leadership and political commitment for WASH in HCFs initiatives/ guidelines • Capacity building for health workers on WASH through CASH programme • Availability of data collection tools and indicators (DHIS, SARA) • Have a structure at MoH level responsible for looking at WASH in HCFs	**Weaknesses** • High turnover of skilled staff at HCFs • Attitude related issues of health workers regarding waste management • Design problems of WASH facilities (not inclusive) • Maintenance of WASH facilities; focus is more on infrastructure development
Opportunities • WASH structure that exists in government • Policy focus on preventing disease and promoting health: guideline and policy which promotes WASH in HCFs • Donors and partners supporting MoH to strengthen WASH initiatives in HCFs	**Threats** • Less priority; decreased budget allocation from donor/ government

Q: A focus on infrastructure was mentioned, what other areas of focus are needed?	A: A focus on waste management, ensuring a reliable water supply for HCFs, and placenta incinerators are needed. Currently waste management is the biggest challenge. The Minister of Health has recently allocated budget specifically for waste management in HCFs.
Q: It was shown that 61% HCFs have access to basic sanitation, is this using the recent JMP definition (including access for people with limited mobility) or an earlier definition?	A: The percentage given is based on the earlier definition used by JMP during the MDGs.

1.2.3 Tanzania

The Tanzania country team presented the WASH in HCF overview in their country. At the national level, a technical working group for sanitation and hygiene and committee exists to champion WASH in HCF matters. A number of ongoing initiatives were presented including the National Guidelines for WASH in HCFs, which was launched in 2017. The guidelines is an effort to streamline WASH in HCFs for all actors involved in the sector. Since 2016, HCFs have also been receiving direct financing from the national government (rather than financing being sent through district governments) in an attempt to localise management and planning practices, as HCFs are best placed to know their issues and respond accordingly.

TANZANIA	
Strengths • Clear structure on how WASH is dealt with in country • Clear guidelines and policy for WASH in HCFs • Direct HCF financing → budget comes directly from national government to HCFs; HCFs have better understanding of their needs • National sanitation campaign	**Weaknesses** • Planning, budgeting and management capacity in HCFs is limited • Low prioritisation of WASH/ negligence (e.g., purchasing medication is prioritised over WASH)
Opportunities • Existence of NSMIS → integrating WASH in HCFs data management systems	**Threats** • High donor dependency • Few private sector actors in rural areas with WASH expertise/ services • High cost of certain WASH solutions (e.g., incinerators)

Q: Proper health care waste management by HCFs is at 74%, which is very good. How is the final treatment/ management of hazardous waste (highly infectious) dealt with?	A: Highly infectious waste is incinerated. For HCFs that don't have incinerators, they are transported to HCFs that do; waste is incinerated at 800-degree temperature.

1.2.4 Zambia

The Zambia country team presented the situation of WASH in HCFs and explained that the government had only recently prioritised WASH in HCFs. Currently the government is looking to have a comprehensive assessment of the current situation in Zambia soon. In terms of the structure in the country, the public health facility director is linked to the local government (LG) at both the district and provincial levels. Ongoing initiatives in Zambia include the integration of WASH indicators in the HMIS and DHIS, the establishment of a WASH in HCF coordination committees.

ZAMBIA	
Strengths • Governance structure in place for WASH in HCFs at all levels - structure is comprehensive • HR in place at all levels • High level of government leadership on WASH in HCFs • Existence of performance monitoring system for HCFs and health workers • Existence of National Health Strategic Plan + National HCWM plan (priority setting for Zambia)	**Weaknesses** • Initial design of HCFs did not prioritise water on site (sometimes came as an afterthought) • Political will for WASH within HCFs lacking • Agreed and harmonised indicators for routine management at all levels lacking • Bias towards medical care rather than prevention and basic infrastructure (policy makers are medically oriented, so prevention is not prioritised as much and more money goes towards medical equipment, medication, etc.) • Priority setting and implementation of national policies difficult because of politics
Opportunities • Increased partner engagement in WASH in HCFs: WB, academia, NGOs, MoH, private sector, other ministries (greater coordination is needed) • JMP tracking WASH in HCF globally is an opportunity to use the tool as an advocacy platform to ensure WASH in HCFs is prioritised • Political support for health (linked to WASH) exists	**Threats** • Volatile economic situation (currency instability) • Shifts in political will; priority setting shifts • Disease outbreaks, i.e., ebola, which means funding gets prioritised there

Q: Increased partner engagement with external stakeholders is an opportunity but can also be a weakness if country becomes overly reliant on external support.	A: Yes, this is true. As such, it is necessary to work with external partners while it is possible but then development at the local level needs to be triggered to ensure that local institutions take up programming approaches. We need to get this out of the donor programme mode. The Ministry of National Planning has a central role to play here, and the hope is that they will develop development policies and guidelines to support institutions with these transitions.
Q: Can you provide more detail on the strengths of government leadership related to WASH in HCFs?	A: Political will and government leadership can assist in prioritising WASH in HCFs on the development agenda. Currently, the President of Zambia is championing WASH and health prevention, which helps to focus attention on WASH in HCFs.

1.2.5 Nepal

The Nepal country team presented the WASH in HCF situation, outlining the roles and responsibilities at the national, provincial and rural governance levels. At the grassroots level, Health Facility Operation and Management Committees are involved in planning, budgeting and quality monitoring of HCFs. A number of ongoing initiatives to support WASH in HCFs exist, including capacity building programmes on HCWM, and infection prevention in the remote areas of Nepal. A number of projects supporting the upgrade of WASH in HCFs are also ongoing, including with USAID/ Swachchhata, WaterAid, ACF and UNICEF.

NEPAL	
Strengths • Policies, directives and guidelines in place to support WASH in HCFs • Role and responsibilities of LG is clear • WASH in HCFs is a priority of the government	**Weaknesses** • Unclear role on sanitation and hygiene at provincial level • Inadequate resource allocation • Limited capacity to mobilise available resources from existing funds
Opportunities • Increased demand from LG (sensitised towards importance of WASH) • Multi-stakeholder collaboration and partnerships (resource sharing, capacity building, infrastructure development)	**Threats** • Natural disasters (especially floods, landslides etc.); climate change is also affecting water sources • Donor dependency; most WASH in HCF initiatives are donor driven

Q: Policies related to WASH in HCFs were identified as strengths, but also a weakness at the provincial level where roles are not clear. What are the opportunities now to ensure the roles on sanitation and hygiene are clear?	A: There used to be different kinds of committees connecting different levels of governments. Clear governance structures, including roles and responsibilities at national, provincial and rural municipalities existed. However, with the recent move towards decentralisation in Nepal, allowing for greater autonomy at the municipality level, many of these connecting committees have been disbanded and many questions as to the exact role and responsibility of the provincial level remain. At this stage, no specific agency has taken ownership of this process of clarification. Considering this current gap, it could present as an opportunity to direct the discussion and decision-making process.
Q: How does the Health Facility Operation and Management Committees ensure quality standards are met?	A: Minimum services standards set by the government exist and the committee must follow these.
Q: Policies in place to support WASH in HCFs was mentioned as a strength, can you provide more detail?	A: Policies have been developed by the national government related to what the Nepalese water sector should look like, as well as how WASH in HCFs should look. Having these policies in place is a strength as it allows for strong building blocks for programmes to progress from.
Q: One threat listed was donor dependency, why is this a threat?	A: Funding reaching rural HCFs is very low from national level, so most of the activities at this level are provided by donors (UNICEF, WHO, etc). This is a threat and weakness as it shows that the government is not allocating adequate resources, and donor funding streams are not sustainable in the long term.

1.2.6 Bhutan

A detailed presentation of the WASH in HCF in Bhutan is presented in section 2.1. Below is an overview of the country's own SWOT analysis.

BHUTAN	
Strengths • Roles and responsibilities for different sector in place • Baseline for WASH in HCFs exists • Political commitment exists; current MoH is supportive • Dedicated health workers/ facilities	**Weaknesses** • No central coordinating agency or standard reporting system • No appropriate design for HCFs → not user friendly/ accessible for all • Insufficient O&M budget for WASH in rural HCFs • No national standards for WASH in HCFs

Opportunities • Coordination amongst sectors and partners (within in Bhutan and regionally) • Situation of HCF in B-WASH cluster meetings discussions taking place • BCC/ Advocacy/ Awareness • WASH in HCFs in policies, acts, strategy; Gross National Happiness Commission has approved the policy, just needs to pass through Cabinet	**Threats** • Climate change; in rural communities, many of the rural water sources are drying up (spring water source) • Natural disasters; prone to earthquakes • Competing priorities

1.2.7 Lao PDR

The Lao PDR team presented the situation of WASH in HCFs. HCFs receive minimal funding from the government for WASH improvements, which is insufficient for O&M. A lack of WASH infrastructure and staff capacity to manage the various WASH services was also made apparent. A number of ongoing initiatives to improve this situation exist, including training on WASH for HCFs for health workers and HCF staff, as well as the finalisation of locally designed incinerators, which are ready to be rolled out.

LAO PDR	
Strengths • Clearly defined roles and responsibilities as part of the new strategy and policy documentation on WASH in HCFs	**Weaknesses** • Limited resources, including staff capacity and resources to carry out national programme • No programme data for WASH in HCFs • Weak M&E; data information is limited • Lack of inclusive WASH facilities • Handwashing behaviour at point of care is weak
Opportunities • Support from WHO, UNICEF, SNV • Government awareness on the importance of WASH in HCFs, and willingness to look for solutions is increasing	**Threats** • Natural disasters vs. waste management vs. disease outbreaks

Q: Share more about the local waste water treatment that is being implemented?	A: biosan filter system, waste water leaches to the stream in some HCFs
Q: In your SWOT analysis, a lack of inclusive WASH facilities was identified, how accessible are the existing WASH facilities in HCFs?	A: Numerous HCFs have put accessibility measures in place, such as ramps to access the facility itself. For some toilets, these have been made accessible for people with limited mobility, however the quality of these facilities need to be improved. Accessibility in terms of MHM also needs to be improved.

1.3 Overall reflections: SWOT

Robert Dreibelbis and Allison Macintyre provided a summary of common themes emerging from the poster presentations and SWOT analysis across the seven countries.

Strengths

- Engaged leadership, national structures, new guidelines and human resources are in place to support WASH in HCFs. Clear roles and responsibilities across national structures are also apparent.
- For some countries strong monitoring systems are assisting WASH in HCFs. At global level, monitoring systems, such as the new JMP baseline data, are assisting with advocacy. In Tanzania, national level monitoring systems looking at WASH in HCFs exist, and in Zambia, facility level monitoring systems are in place. These developments highlight the importance of thinking about monitoring at multiples levels

Weaknesses

- Different priorities amongst different actors; links to lack of harmonisation for monitoring. Some say water is a priority, others say sanitation.
- Only one country mentioned the role of handwashing facilities, however this is very critical when considering WASH in HCFs.
- Waste management is a common weakness across the country presentations. Struggles include poor management and adherence to protocols, lack of capacity and human resource availability, and/ or poor resource allocation.
- Staffing at HCFs is a commonly identified issue. It was not simply just an issue of not having enough staff, but high rates of staff turnover, various attitudes (non-adherence to guidelines, protocols), and lack of staff capacity (mostly linked to budgeting and planning).
- Maintenance and upkeep of HCFs: complex technical specifications were sometimes not fit for purpose, or not inclusive (need to rethink design of infrastructure).
- Weakness across multiple countries was that HCFs tend to focus primarily on treatment, rather than prevention.

Opportunities

- Disease-focussed programme initiatives as opportunities to increase WASH in HCFs. How can these be mobilised so that WASH is positioned as part of treatment, and not external to this. For example, strengthening linkages with programmes that focus on quality improvements of maternal and child health.
- Engagement from local partners and governments is considered an opportunity to advocate for WASH in HCFs.
- Complex issues: high level of donor engagement and interest in WASH in HCFS is an opportunity, but also a threat.

Threats

- Donor dependency is perceived as a real threat.
- Cost of facilities, capital improvements, and large-scale infrastructure improvements are considered barriers to prioritising WASH in HCFs.
- Political will: may be a national priority now, but no guarantee of its continuation.
- Natural disasters and climate change threats.

What wasn't mentioned?

- Cleaning aspect: environmental hygiene, where does this fit? Is this because this is something new? We need to get excited about mops as well, not just "shit".
- Mind shift to the health focus. For example,. in Ethiopia WASH is being prioritised as it is seen as assisting with the prevention of communicable diseases. A focus on maternal health for example is also an health opportunity where we could gain political will to focus on WASH in HCFs in order to improve maternal and child health outcomes.

Block 2: Health care facilities in Bhutan

2.1 Introductory presentation by Bhutan

In this presentation, Mr. Rinchen Wangdi provided an overview of the status of WASH in HCFs in Bhutan. Bhutan's development policies and programmes are guided by its philosophy of Gross National Happiness (GNH), including water, sanitation and hygiene, which fall within the domain of two of the four GNH pillars: "conservation of environment" and "socio-economic development". At the national level, the Gross National Happiness Commission is responsible for WASH; in rural areas, WASH is the responsibility of the PHED; in urban settings, it is the responsibility of the Ministry of Works and Human Settlement (MoWHS).

Bhutan's first dedicated RSAHP was initiated in 2008 and was piloted in four sub-districts representing the different cultural and geographic regions of the country. Based on the initial success of the pilot phase, the RSAHP approach was rolled out by PHED-SNV in the first district-wide approach in 2010, supported by the the Australian government's Civil Society WASH Fund. As an integrated approach, the district-wide approach was based on SNV's Sustainable Sanitation and Hygiene All model, developed for both rural and urban settings in Bhutan. Currently, two districts have achieved 100% toilet coverage, and 80 sub-districts have achieved 100% coverage.

The state provides free health care through basic public health services, and modern and traditional medicines. Bhutan has a three-tiered health system structure, with hierarchy ascending from:

- Out Reach Clinic to Basic Health Units (Grade I & II) at primary level
- District Hospitals at secondary level
- Regional Referral Hospitals to National Referral Hospitals at tertiary level

In 2019, Bhutan recently conducted a WASH in HCFs baseline survey as there was no reliable information for sanitation and hygiene for rural households and HCFs. In total, 218 HCFs were sampled as part of the baseline, for which the results are forthcoming. For water supply in HCFs, the following were found:

- 94% of HCFs have access to a piped water supply (reported improved water sources).
- Water shortages are common in Bhutan, especially during the dry season, but also during the rainy season as water sources get destroyed due to flooding.
- No treatment systems for HCF water sources – primarily spring sources of water: E.coli contamination was detected in 7% of water sources.
- Water supplier: more than half of water supply for HCFs is shared with the community.

In terms of the findings for sanitation in HCFs:

- Majority of toilets in HCFs are pour flush toilets.
- MHM urgent needs – only 12% have a semblance of MHM facilities.
- Designated toilet for staff in HCFs is 60%.
- Toilets designed for people with disabilities or limited mobility in HCFs is only 30%, health workers try to make toilets more accessible.

In terms of the findings for hygiene and health care waste:

- 82% of HCFs have handwashing stations, with soap availability.
- 82% of HCFs safely segregated waste, making use of at least three labelled and separate bins.
- Treatment of infectious wastes and sharps is not included in the data.

Conclusion from baseline survey:

- Infection control and hand hygiene at the POC was not included in this report as yet.
- Adequacy of water supply is an issue in most of the HCFs studied.
- Quality of water, though not reported, is a major issue. Almost all rural HCFs do not have any treatment system.
- Only 26% of toilets is connected to a septic tank, and no soak pit exists.
- Limited knowledge on history of pit emptying practices.
- Though majority of HCFs have sufficient numbers of toilets, they are not gender segregated, nor are they accessible.
- An assessment of larger HCFs (tertiary) is not included since JMP's core questionnaire is unable to cover larger referral hospitals.

2.2 Explanation of the field assignment

In this presentation, Antoinette Kome explained that the objective of the field assignment was to develop a holistic understanding of WASH in HCFs within a geographic location, the roles and responsibilities at different levels, and to identify opportunities and entry points for change at scale. The participants were divided in four groups, each travelling to a different location to visit different types of HCFs and health institutions. The four groups were divided as follows:

- Group A: Thimphu, Ministry of Health, Jigme Dorji Wangchuk National Referral Hospital (JDWNRH) *(content focus on health care waste management)*
- Group B: Punakha district, District Hospital *(content focus on accessibility)*
- Group C: Shengana-Bjemi subdistrict in Punakha district, Shengana Basic Health Unit Grade II *(content focus on accessibility)*
- Group D: Phobjikha district, Esa basic Health Unit (BHU) Grade I *(content focus on cleanliness)*

2.3 Presentation of findings from field assignment to Bhutanese representatives

During this session, each group presented their photo diary, PowerPoint presentation, testimonial and case study based on their field assignment; the case study and testimonial prepared by each team, as well as the Q&A session which followed, are presented below.

Group A case study (content focus on waste management)

Thimphu, Ministry of Health, Jigme Dorji Wangchuk National Referral Hospital (JDWNRH)

Overview
Jigme Dorji Wangchuk is the only national referral hospital in Bhutan's capital. It is located in a town that is rapidly becoming surrounded by new housing developments and roads. The hospital provides multi-complex health services, from maternal and reproductive care to oncology, management of chronic health issues, psychiatric services and intensive care. It has over 1,000 staff, most of who are housed in nearby residences to the hospital. The hospital has multi-story buildings in proximity and has limited land for expansion; as housing develops around the hospital premises and demand for health services increases. Over the recent years, the hospital has seen a shift in the majority of health concerns: from infectious disease to a rise in chronic diseases, such as those caused by alcohol use and lifestyles.

Clinical load and staffing
Overall, the hospital is designed to have 350 beds. But 382 beds are currently in use, with approximately 85% occupancy rate. Overcrowding is a major concern. To exacerbate the implications of high patient load, under-staffing across all cadres of healthcare workers is also an issue. There is no specialist trained IPC focal point, rather the nursing manager assumes this role alongside other duties. Despite limited staffing, the hospital believes it can deliver to service demands, and the most recent patient satisfaction surveys reveal that 94% of patients are satisfied with their health care services.

Infection prevention concerns
During 2018, the hospital experienced an outbreak in the neonatal intensive care unit (NICU) that resulted in 11 neonatal deaths and over 30 newborns infected. Investigations revealed that the source of the outbreak was contaminated water, with newborns being infected through poorly sterilised feeding equipment. The tragic event drove rapid changes in the hospital's management of IPC and water quality. There is now a sophisticated water treatment system and monthly micro-biological testing of water across nine points in the hospital. Furthermore, there is an isolation unit in the NICU. However, there are no other isolation units in the hospital to respond to growing resistant infections and to isolate patients infected with HAI. Plans to address IPC concerns in the future include: routine surveillance; monitoring compliance of IPC behaviours; isolation units across all necessary wards; and, a specialist trained focal point for IPC and waste management.

WASH services and practices
While national guidelines for WASH do not yet exist, the hospital felt that there are adequate IPC guidelines and SOPs in place to support good WASH and IPC. While staff are trained annually, including support staff responsible for waste and cleaning, compliance to behaviours are limited. For example, while alcohol-based hand-rub was observed in almost every ward, hand hygiene compliance was limited. To note, sinks and soap for handwashing are limited and often located away from patient care. Similarly, while support staff are trained and SOPs are in place, compliance for using Personal Protective Equipment and undertaking tasks according to guidelines require improvement.

JMP
The hospital meets basic JMP service levels for all indicators, except for sanitation. However, basic service levels are not sufficient for WASH requirements for tertiary level care. Advanced service level indicators will need to be developed to adequately track progress on JMP for this facility. Additionally, with multiple wards, toilet facilities and hand hygiene points, agreeing to a proxy for measuring JMP was complicated. Are indicators not met if one toilet facility does not have soap? If one hand hygiene station does not have running water? Such considerations must be made when measuring service levels, according to the JMP, in higher level facilities.

Indicator	Service level	Notes
Water	Basic	More advanced indicator needed
Sanitation	Limited	No toilet met needs of people with limited mobility No toilet had MHM facilities
Hand hygiene	Basic **	Soap and water not available at ALL sanitation facilities ABHR not in ALL wards
Waste management	Basic *	Final disposal of waste off-site was delayed
Cleaning	Basic	More advanced indicator needed

Health care waste management
A health care waste management system exists at the hospital. The system segregates waste using colour coded bins and bin liners. General and treated infectious waste is collected by the municipal solid waste system for final disposal at the land fill. The health facility treats waste using a 100kg capacity autoclave, and the waste is shredded before it can go in the municipal waste stream.

Additionally, there is some level of recycling, reuse and reduction of waste practised. The hospital composts bio-degradable waste for hospital gardens.

Daily infectious waste generation is 100kg on average, and the treatment equipment is adequate. Basic access to health care waste management is met. However, the transportation of waste remains a challenge and will need stakeholder involvement. Liquid waste is not treated before discharge to the municipal sewerage system. It was observed that waste handling is still a challenge as one sharp container was overfilled, posing a risk to staff and patients.

Recommendations
1. Management to ensure required materials for WASH are in place, including bin liners for waste segregation, alcohol-based hand rub and soap for sanitation facilities.
2. Strengthen mentorship and training for WASH, particularly innovative methods for coaching to incentivise behaviour change and compliance with guidelines.
3. Provide WASH access to people with limited mobility, and to meet the needs of women.
4. Improve management of WASH facilities in the OPD.
5. Increase support staff levels.
6. Establish a unit to address WASH.
7. Strengthen Monitoring and Evaluation.
8. Consider treatment of liquid waste.

Q: What type of infectious waste is being autoclaved?	A: Pathological waste, any possible infectious waste including fluids is autoclaved before going to the municipal waste area. The hospital does not have an incinerator.
Q: Is the type of accessibility inclusion that is needed to meet the JMP standards for basic services fair in the context of Bhutan and other countries we are working in? Is it reasonable to expect that all HCFs need a ramp, accessible toilets, etc.?	A: We need to think about the fact that if people are coming to HCFs, they are often people who are in a poor state of health and are not fully mobile. In the JMP definition, it is made clear that accessible toilets are needed not just for people with permanent disability, but also with limited mobility. For example, a woman who has just had a caesarean would not be able to use a squat toilet and may need to use a wheelchair for a short duration. So, the JMP services standards are more stringent for these reasons.

Testimony

Manju Rai: Female; mother of four

- Worked for six years in the hospital, starting from 2013, currently works in the inpatient ward (36 beds)
- It was her decision to join the hospitals as result her parents are not happy
- Trained on IPC/ WM, and PPE: gloves, masks and caps are provided (but the purchase of boots is her responsibility)
- She works 7 hours/ day; leaving her children at home
- The work is tedious and tiresome for her
- '*It has been six years I have been working in this hospital but I got capacity building only three times*''.
- The hospital's management promised to provide boots, but this has yet to materialise
- She lives outside of the hospital campus
- She recommends that PPE and capacity buildings should be provided regularly

Comment from Rinchen Wangdi: *"The head of waste management and nursing at the hospital, who the team met with, actually requested for the group's recommendations to be shared back with the hospital so they can improve their practice. This is very positive. It is important that these recommendations are communicated back to the hospital."*

Rinchen felt that the recommendations from four groups are achievable, and it is important for these to be compiled and shared.

Group B case study (content focus on accessibility)

Punakha district, District Hospital

Introduction

In the frame of this year's global learning event about Water, Sanitation and Hygiene (WASH) in Health Care Facilities in Bhutan, "group B" visited Punakha Hospital. This document summarises the results.

Background
The district has a total population of 28,740 inhabitants and is located in the western part of Bhutan. Administratively, the district is further sub divided in eleven sub-districts (*gewogs*). The WASH status is characterised by 99.5% water access and 100% sanitation access (any type of latrine, including pit latrines).

Phunaka Hospital was built in 1996 with German support and according to the standards that time. It is a secondary hospital and referral point for 8 Basic Health Units (BHUs). It is worth noting that services provided integrate traditional medicine.

Emergency services in Bhutan include a toll-free line 112 as well as ambulance and helicopter services coordinated from Thimphu.

Characteristics:

- 95 staff, thereof 4 doctors
- Open around the clock
- 4 ambulances
- 40 beds, thereof 6 maternity beds
- Up to 300 outpatients daily in summer, 50% less in winter
- Up to 30 inpatients in summer, less in winter
- Occupancy rate around 60%

Methodology
The findings presented herein are based on the background material provided, observations, and discussions during the visit. An accessibility audit checklist for public latrines was also utilised.

Findings
Preamble: The standards found at Punakha hospital were generally very high, as compared to some of the countries of origin of participants. The hospital is clean, there aren´t any odours, and patients´ feedback are good. The hospital undertakes customer satisfaction surveys monthly and has a suggestion box.

Funding

Health services are for **free** in Bhutan. Government allocates funding in line with a 5 year overall plan. The 5y plan is broken down into an annual workplan and budget that has to fit within the available ceiling. Once approved release is guaranteed!	**Minister of Health taking unconventional measures to increase funding levels for health – the story of the Bhutanese Health Fund** The Health Trust Fund was established in 1999 by the then Minister of Health who undertook a fundraising walk. The fund is resourced from local, development partners and donor contributions and seeks to ensure sustainability of service provision in Bhutan.

Joint Monitoring Programme (JMP) ranking

Area	Ranking	Reason
Water	Basic	From piped water supply system, available in premises
Sanitation	Limited	Access wanting
Handwashing	Basic	Absence of soap
Health care waste	Basic	Waste management system in place
Environmental cleaning	Basic	Protocols exist, and staff are trained

Accessibility (focus of visit)
Accessibility was assessed using a "what if you were in a wheel chair here?" approach. The assessment led to many 'Nos' since the facility isn´t consistently friendly for people with disability and patients with limited mobility. For instance, although there is a ramp at the main entrance, there is no railing. Out-patient toilets are not barrier free. Main challenges include accessibility of the building, e.g., width of doors, space in toilet, availability of handles in toilets, height of handwashing facilities, marks for visual impairment and insufficient lightning.

Water supply
The hospital is connected to the municipal's piped water supply system. The system is functions well, water is available throughout, and regular water quality tests are done. Drinking water is filtered, though some of the filtration units weren´t functional at the time of spot check. The district has plans to improve surface water intake, which is 19 km away from Punakha.

Handwashing
Most points of care in the old building have handwashing facilities. Where there is no running water, buckets or alcohol rub were in place. Interestingly, the new building (2003) is not as well equipped with handwashing points. Areas with no adequately equipped handwashing facility are explained by theft of buckets and soap.

Sanitation, menstrual hygiene and cleanliness
There are four outdoor, and seven indoor pour flush toilets connected to septic tanks. The municipality provides emptying and treatment services. There is gender separation of toilets, and between patients and staff. The adequacy of the number of facilities couldn't been assessed against size and capacity of the hospital.

Sanitary pad disposal bins are available in the maternity ward. Similar bins in other toilets for women were, reportedly, often stolen. Generally, bins are not covered and are not well labelled. Plastic lining for the bins is colour coded, but the waste is still mixed. The bins are regularly emptied, and waste is disinfected before disposal. Cleanliness is overall okay; on occasion, toilets were reported to not be clean.

Waste management
A waste management process is in place. Separation of waste, as well as disinfection before disposal (autoclave) is practised. Staff handling waste possess protective gear and equipment. Sharps are collected in a sharps box,

and autoclaved. Disposal of infectious waste and sharps is done in a deep pit within the compound. One of two pits are in use, the other being on standby. Both are were well secured and locked. They are 5m deep. Other safe autoclaved waste is transported to the municipal waste site. There is no incinerator.

Challenges observed involve four main areas as summarised below:

Segregation	Collection and treatment point	Treatment and disposal on site	Infecting prevention
- mixed waste inside some bins - segregation systems at ward level not properly maintained and executed - only one transporting trolley used to carry all types of waste - separation is done only at the collection point - some bins without lids	- collection and autoclaving point too close to public toilet, - general and autoclaved waste is contained but not well covered	- no indication stripes on waste bags are in use to determine whether it has been autoclaved properly - disposal of sharps needs to be improved since they are only deep buried yet metal is not biodegradable	- protective gear for staff handling waste not up to standards (coverage and material)

Capacity development: A three-day refresher course is offered to hospital staff every year. The content includes infection prevention and waste management, in line with the existing guideline. The quality assurance team oversees implementation.

Facility design
Designs are centrally done. There are a number of initiatives to develop more inclusive designs, and it was acknowledged that improvements can be implemented at district level.

Recommendations
1. Adopt standard designs in new 2016 guideline ("Guideline for Differently Abled Friendly Construction, Ministry of Works and Human Settlement (MoWHS)) and raise awareness of district engineers.
2. Comprehensive assessment, prioritise, budget and plan for comprehensive accessibility improvements.
3. Add more handwashing points for staff and inpatients.
4. Review adequacy of number of toilets and add facilities if needed.
5. Review messages and means of Behaviour Change Communication (BCC).

Quick wins
1. Operationalise quality assurance good waste management practices, knowledge is there!
2. Improve signage throughout, especially labelling of toilets (words and visuals).
3. Minor improvements in the facility should include better lighting in rooms and corridors, as well as ventilation, for instance, in the delivery room.
4. Monitor
   a. application of training content; and
   b. handwashing and infection prevention control practice (in line with guideline and checklist).

Q: Do you have any information to share regarding the roles and responsibilities at district level?	A: Throughout the meeting with the governor of the district, we learnt about the Health Trust Fund which was initiated in 2003 and plays a role in ensuring quality control of HCFs. This Trust Fund is still in operation today and the district has an important role in operationalising this system. In general, we found that the governance system, as well as the roles and responsibilities assigned to different levels within the health system, are functioning.

Service user testimony (Punakha district hospital)

My name is Jangchub Choden. I am a 26-year-old female, married with three children. I brought my husband to the hospital because of a leg injury. Our residence is a 30-min drive from the hospital. My previous visits to the hospital were for ante-natal care with my now 6-month-old baby.

The only time I had to drink water at the hospital is when I came in for an ultra-sound during my pregnancy. There was a water dispenser in the chamber room. I have also used the toilets in both the outpatient (OPD) and ante-natal care (ANC) departments. The toilet in the OPD is very clean. Perhaps because there are many doctors and hospital staff around there.

The toilet in the ANC is not very clean, probably because there are many more users around that area. They are not cleaned very well. In general, soap is lacking in all these places.

I have not received any behaviour-related messages at a personal level, but I see many posters in and around the hospital that tell me about the different types of diseases, and a few that give information on how to prevent diseases. The one that I recall the most was on how to clean and maintain my baby's hygiene. It appealed to me the most because I want my baby to be healthy.

If I was the hospital staff in charge for the day, my priority would be to keep the place clean!

Group C case study (content focus on accessibility)

Shengana-Bjemi sub-district in Punakha district, Shengana Basic Health Unit Grade II

Aum Daw Zam's level of happiness with the services provided by the Shengana BHU

Background

The Shengana Basic Health Unit (BHU) is located in Shengana-Bjemi gewog (sub-district) in Punakha District. Established in 1997, the BHU is a grade II BHU, with two health assistants (female and male). Provided services by the BHU include basic health services to the population of the *gewog* such as MCH, immunisation, temporary family planning measures, etc. The BHU offers mainly out-patient services and has four beds for emergencies. The patients who need referral are referred to Punakha district hospital. The BHU caters to 238 households in the *gewog* and Mrs Aum Daw Zam from Bjemi village is one of its service users.

Mrs Aum Daw Zam is 53 years old and lives in a household of seven people that includes her husband, her daughter, her son-in-law and her granddaughter of 14 months. Two of her children are studying outside the *gewog*.

Some of the questions we asked Mrs Aum Daw Zam include:

- Advocacy on the importance and need for sanitation and hygiene facilities as a service from the BHU, to which she said yes. She showed us her toilet, which was about 30 meters away from her house. Additionally, she mentioned about the role of health assistants in raising awareness on the importance of having a toilet closer to her house. She informed us that she decided to construct an her own toilet, and already identified two possible locations for this. Mrs Aum Daw Zam is well informed about who to go to for technical guidance on the construction, saying: there is a BHU caretaker who is also a trained mason, and another works at a nearby school.
- Discussions on accessibility revealed that she and other members of her household experience difficulty using their own toilet, which is located about 30 m away from her house; especially at night and during rainy days.
- Regarding convenience of toilets use at the BHU, she shared that they are user-friendly (clean and well maintained), always available for use, and not locked. However, she revealed that women from the community encounter difficulties changing their pads in BHU toilets, which do not have a menstrual waste bin. 'Women', she said '*we are too shy to change sanitary pads and throw them in the open bin outside the BHU where everyone could see us doing it*.' Therefore, they either do not change their pads while at the BHU or bring them home for disposal.

Aum Daw Zam expressed her gratitude to the BHU and its staff for taking good care of the community members and said "*the Health Assistants care about us and our health problems more than our own family members, for example, they call to remind us if we forget to immunise our children. In my case, my 14 month old*

granddaughter's mother has health issues, the BHU wants to ensure that the child does not miss her immunisation."

Opportunities for overcoming the menstrual hygiene problem faced by women visiting the BHU:

- Having a female HA would enable women to talk about their issues openly, and putting a bin in the toilets for women to change their pads with privacy and comfort is recommended.
- Having permanent water in the toilets at the BHU gives ample opportunity to facilitate hygienic practice, including menstrual hygiene.


Case study interview by Group C, Shengana.

Accessibility audit findings

- The path to the facility has no ramp; steps hinder people with limited mobility to enter the BHU.
- Inside the facility, the floor is not slippery, clean and with enough light.
- Squatting has no portable seat. There is also no guide for persons with visual impairment.
- Anal cleaning materials are available and easily accessible.
- There is an agreed female sanitary products disposal system.
- Handwashing facilities with soap are available and accessible to people with disabilities

Recommendations

- Continue and build on the existing great collaboration between the gewog and the district assembly.
- Avail of an incinerator for hazardous waste and a placenta pit.
- Slight difference between the reported cases of people with disabilities at BHU and the real actual numbers from preliminary finding of the survey by ABS: need to reconcile those numbers when survey findings are finalised.
- During renovation, also plan to build a ramp and make the BHU easily accessible for people with disabilities.
- Include accessibility in the design standards for health facilities.
- Include WASH services in HCFs in regular/ frequent reporting.

Q: It was mentioned that this HCF does not offer permanent family planning (FP) services, only temporary, why?	A: The lower level HCFs do not have the capacity to offer permanent FP, people must travel to a hospital (either Punakha or Thimphu) to obtain these services.
Q: It was noted that the HCF segregates their waste, what about treatment and final disposal?	A: This was an entry point for change that we recognised as currently, waste is being burnt in an open pit and not treated according to standards. For infectious waste, they have an autoclave system whereby they sterilise waste before putting it in the pit.
Q: In the presentation, you said that the HCF is very clean, however this is only based on a visual interpretation. Could you provide more detail about the routine cleaning and protocols in place?	A: We saw that mops were present and cleaning materials, including hand sanitiser; you could also smell that it was clean. However, we did not ask specific questions about what the cleaning protocols were; we didn't do this as well as it wasn't the objective of our visit, we were focused on the accessibility audit.
Q: What sort of support is needed at this HCF? Is it related to planning, budgets, or is it linked to the collaboration between the district and sub-district?	A: There appeared to be great collaboration between the HCF and sub-district LG officials (3-4-minute walking distance between the HCF and sub-district office). We would encourage this collaboration to continue.

	However, some confusion existed with the reporting lines, the district received centrally allocated budget for the HCF, but administratively the HCF was working closely with the sub-district → who should they report to? The HCF is seeking some clarity on this.
Q: In the health assistance opinion, what were the burning issues related to WASH in their HCF that needed to be addressed?	A: The health assistance made it clear that their HCF has accessibility issues. Construction was in 1997 and the designs did not take people with limited mobility into consideration. Now, there are guidelines on the design of accessible HCFs. Currently they do not even have a ramp for a wheelchair to access and would like to discuss this with the LG officials. Furthermore, they have limited staff, with only two health assistants working at the HCF. The staff are unable to visit as many households in their outreach activities as they would like. Finally, the HCF does not have disposal bins for menstrual hygiene products; this needs to be rectified.

Testimony

Kencho Dorji is 83 years old with difficulty in hearing and walking. He now spends his time turning pray wheels. He was born in Shengana and has been living in the community throughout his life. Kencho lives with his wife and son. He has not been feeling well for a long time. In the past, whenever he would get sick, he sought medical treatment in Punakha or Thimphu; where his other son lives. This was before the Basic Health Unit (BHU) in Shengana was constructed. In the past 4-5 years, Kencho has been using a walking stick.

When Kencho gets sick, he asks his wife or son to call the Health Assistant for health service support. At Shengana BHU, the Health Assistant normally helps him to climb steps. He never used the BHU's toilet, but finds it comfortable to use its handwashing facilities, also with soap. He finds BHU staff to be supportive.

Last year, Kencho had a big sore on his abdomen. He was rushed to the Punakha district hospital by ambulance. He reported that the hospital and BHU are good and useful to him; otherwise he would have died a long time ago.

"I'm fortunate and proud to be Bhutanese because I have heard in other countries that people are paying for health services and I'm not paying for it. I am thankful to my government for providing free health services".

Group D case study (content focus on cleanliness)

Phobjikha district, Esa Basic Health Unit (BHU) Grade I

Background and health care facility characteristics

The Phobjika Basic Health Unit 1 (BHU 1) is located in Wangduephorang district, in Phobjika sub-district. It falls under the administrative responsibility of the *Dzongda* (district administrator), with the District Health Officer (DHO) and District Engineer supporting the BHU 1 directly. The Phobjika BHU 1 services two sub-districts; Phobjika and Gangtey. It caters to the health service needs of people residing in 29 *chiwogs* (villages). Each *Gewog* has a *Gup* (sub-district leader) who oversees the BHU 2 level and is not officially involved in the administrative governance of BHU 1. However, HCF officials of BHU 1 and *Geog* are involved in participatory budget and agenda setting for the Health Care Facility (HCF). These participatory processes flow upwards towards the district and the Ministry of Health (MoH).

Phobjika rural health care facility surroundings taken by Group D.

The Phobjika BHU 1 has 24 staff, headed by a medical officer (doctor) and assisted by seven nurses, two health assistants, one dental hygienist, two traditional doctors (dungtsho), two pharmacy technicians, as well as one cleaner, one caretaker and other support staff. The BHU 1 offers both basic inpatient (10 beds) and outpatient services. The inpatient ward is mixed, which includes the maternal ward; as the male ward is being used for storage due to limited inpatient numbers. The BHU 1 offers a number of services including: pharmacy; dental surgery; indigenous unit, as well as outreach services and clinics through the two Health Assistants. However, full diagnostic services are absent (Radiology/ X-ray and ultrasound machines are not available).

The status of WASH and cleanliness at the facility

The BHU has a dedicated cleaner and caretaker who takes care of cleaning. There are clear protocols for cleaning and disinfection of medical equipment and cleaning materials are present. As well, written protocols are displayed on the walls in key locations. In addition to these, all health staff conduct a thorough cleaning of the facility and compound every Saturday, on an informal basis. At the time of visit, the facility was observed to be visually clean.

Water supply at the facility is not reliable. As a result, the handwashing and toilet facilities are not used as intended. It was noted that since the toilets are all pour flush, they are not used when there is no water. The patients and some staff would then resort to open defecation on occasion, which is a health risk at the facility. Out-patient and visitor toilets are not gender segregated and do not have reliable water or a functional handwashing facility.

Similarly, handwashing facilities were not in use in most facility rooms because there was no water. For example, there was a handwashing facility in the dental room, but it had no water; the dental technician therefore had to rely on hand sanitiser.

Medical waste is separated at the facility and is kept separate until disposal. The facility does not have an incinerator but burns waste in a designated, partially contained area. Ash is buried after burning.

Challenges relating to WASH at the facility

Dr Dawa Gyelsthen is the only doctor in the facility and is also its manager. He was candid and open about the challenges that he and the BHU face. He is kept very busy by being responsible for all areas:

1. Administration of the facility, including budget, cleaning, waste disposal and related services
2. Provision of curative care
3. Delivery and provision of preventative care or public health

Construction standards: the BHU was not constructed and commissioned to the quality and standards that enable the staff to deliver a good service. Dr Dawa mentioned that the facility was "designed and constructed by someone who had never been in a health facility". There were challenges with the dimensions of rooms, and the fact that the water supply was unreliable.

Water supply: the facility has no reliable water supply in the winter, the facility has its own piped water supply that does not run in the winter, and staff have to arrange the transport of water in the ambulance and their vehicles during winter months.

Resources: the BHU submits a budget each year and does not receive all the funds and resources it needs. Dr Dawa mentioned that only 10% of what is requested is received, and there is no specific budget for facility maintenance, nor WASH.

Administrative staff and prioritisation: the administration assistant had resigned; cleaning/ caretaking staff are illiterate. Prioritisation of administration staff and resourcing are low within the BHU structure.

Opportunities and entry points
There are several opportunities and entry points for addressing challenges and improving services for the rural health care facility in Phobjikha.

Decentralisation: the ongoing decentralisation of budgets and increasing role of the district in decision making presents an opportunity for operational accounts to address minor and emergent WASH needs at the facility, as well as improve participatory decision making at the BHU level.

Standards and guidelines: current health care facility design standards can be improved to better consider accessibility and WASH services, and specific guidelines for WASH in HCFs can be developed.

WASH focal points: formalising focal points for WASH at each facility, similar to the model used in schools in Bhutan, could help raise the priority of WASH and provide clear responsibility for WASH.

Leverage of the Health Assistant role: the two health assistants are engaged in delivering and promoting sanitation and hygiene services for rural households served by the BHU. They could bring the BHU within the rural sanitation and hygiene programme.

Facility cleaning: formal training on facility cleaning that targets low-literacy workers could be provided. Linked to this, when establishing operational account lines for WASH, ensure that sufficient budgets are allocated for cleaning supplies and materials.

Q: It was mentioned that a ramp was built at the entry to the HCF (and is also visible in the photo). Was this part of the original design?	A: No, even though the HCF was built five years ago the ramp was not part of the design. It was the HCF staff and community members who mobilised the resources required. They built the ramp themselves. They did not receive resources from the LG but used community funding instead.
Q: It was mentioned that the 2004, rather than the 2008 cleaning guidelines and protocols are in use, why?	On visual inspection it appeared that the 2004 guidelines were more used, this could be because it had more pictures (not suggesting people are illiterate, but visual representations are often easier to review). It also seemed that BHU1 staff were more familiar with the protocols and guidelines; so perhaps they did not need to refer to the 2008 guidelines.

Testimony

My name is Leilamaya Ghally, and this is my husband Ashman Ghally. I work as a janitor and my husband works as a care taker. We have been working for the last 16 years in this BHU. Our main roles also include cleaning and burning of infectious wastes.

Water is the main challenge here. We need to draw 20 litres from downhill when there is water shortage. During such days, the BHU toilets are locked. Often people defecate behind bushes. We haven't received any training on infection prevention and control, apart from the advice we've received from health staff and through our own experiences. Waste segregation is arranged according to non-medical and medical wastes; medical wastes are collected, burned and buried (pathological, blood and fluid wastes).

Despite these challenges, we are happy with our current jobs and we plan to continue with the BHU. We have two children, the elder one is in college and the youngest completed 12th grade.

Block 3: Entry points for change

Why is this relevant?

The health sector is an established system with working routines, relations, procedures, legislation, etc.; from a WASH perspective, where does one begin? There is no one single method to facilitate improved WASH services for HCFs. But, there is a need to start by looking for an entry point for change, and by focusing on specific issues which will inevitably be linked to several other issues. It is important to not do everything at once. Rather, make the chosen approach focussed and targeted; look for the opportunity for change. Within the development sector, there is heavy reliance on tools and tool boxes. While it is important to be aware of the various tools at our disposal, and to use them when it makes sense, critical thinking and ingenuity to seize the right opportunity are key.

What were the knowledge and learning outcomes intended from this block?

Reflect on the entry points for change in participants' contexts by learning from the different structures of the health care and WASH sectors, on-going initiatives, and expert sector advisors working in each space.

What was the process?

- Introductory presentation by Antoinette Kome about Block 3
- Presentation by Alison Macintyre (WaterAid) on driving change through the health system: a snapshot of WaterAid's WASH in HCF approach and activities
- Presentation by Biplav Kaple (SNV in Nepal) on institutionalising processes for quality service delivery in Rural HCFs in Nepal
- Presentation by Robert Dreibelbis (LSHTM) on BCC in WASH in HCFs
- Debating game

3.1 Introduction to block 3

In this introductory presentation to Block 3, Antoinette Kome asked why it is important to focus on **entry points for change**. The health sector is an established system with working routines, relations, procedures, legislation etc; from a WASH perspective, where does one begin? There is no one single method to facilitate improved WASH services for HCFs. But there is a need to start by looking for an entry point for change and by focussing on specific issues which will inevitably be linked to several other issues. It is important to not do everything at once but make approaches focused and targeted.

In the development sector, there is a heavy reliance on tools and tool boxes, however **toolification cannot replace strategic thinking**. It is important to be aware of the various tools at our disposal and to use them when it makes sense. Critical thinking and ingenuity to seize the right opportunity are key.
The WHO recently published their eight entry points for change, which can be considered when starting to work in the WASH in HCF space.

Figure 7: WHO eight entry points for change within the health system
Source: WHO and UNICEF, p. ix.

3.2 Presentation by Alison Macintyre, WaterAid and Q&A

In this presentation, Alison Macintyre presented a snapshot of WaterAid's WASH in HCF approach and activities, which focused on driving change through the health system. Some of the things that are causing poor WASH in HCFs include insufficient budget, limited skills/ human resources, unclear roles and responsibilities, a lack of leadership or political will, poor accountability, limited training, social norms and more. In any attempt to improve WASH in HCFs, the **determinants of WASH conditions** need to be established. The SoapBox Collaborative have developed a conceptual framework to understand these determinants and what is driving inadequate WASH service.

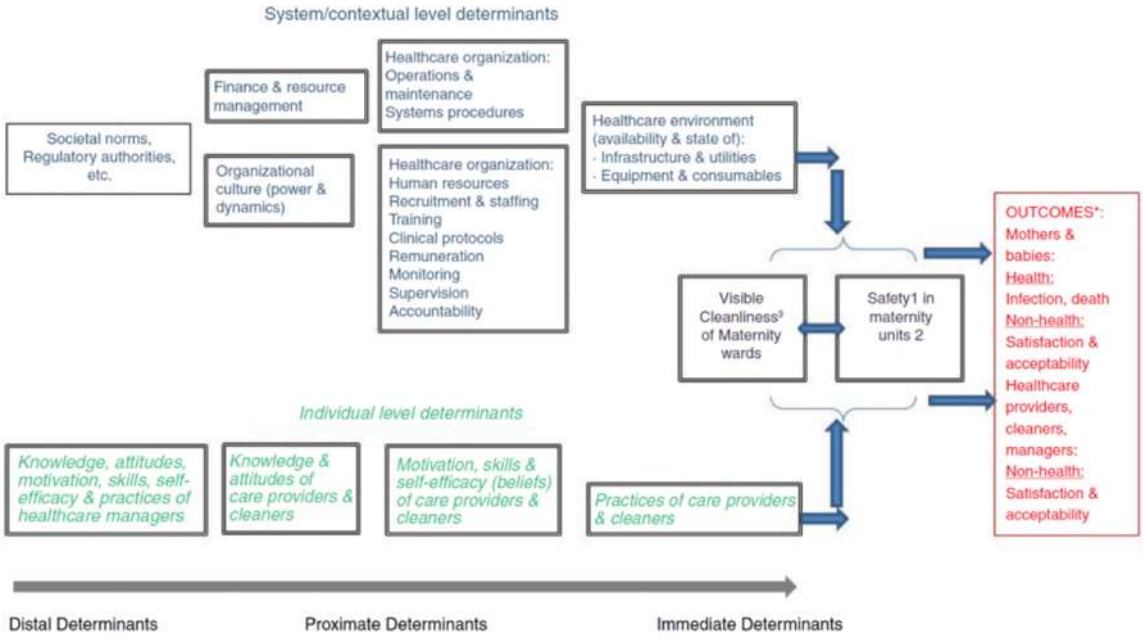


Figure 8: Determinants, what is driving inadequate WASH services from the SoapBox Collaborative's Conceptual Framework
Source: Cross, et al., 2016.

The health sector does not operate with a WASH mindset, rather it focuses on quality of care, which is linked to the provision of care and experience of care. Considering this, WASH needs to be applied at this level (quality of care) to gain an entry point for change and to be innovative in its approach. So, in every country context, what does WaterAid do? As a first step, we step back to conduct a **health system scoping and analysis** to understand the country context we are working in (service delivery model, priorities and policy environment, key actors and their roles, health priorities, political economy and policy milestones). In analysing the health system, it was important to consider the position of WASH in HCFs by examining its representation in policy, strategy and guidelines, roles and responsibilities of government, existing assessment and monitoring mechanisms, bottlenecks and opportunities, and overall positioning in the health system. **Establishing stakeholder groups and coordination mechanisms**, ideally led by the MoH, also proved to be an integral part of getting the necessary buy-in to prioritise WASH in HCFs, alignment of partners with MoH plans, and then take the appropriate action to drive sustainable change.

One of the countries where WaterAid applied this approach was Cambodia. In the past three decades, there has been a constant process of reform within the Cambodian health sector, with a continued focus on quality of care and the application of sophisticated health financing mechanisms (including Performance Based Financing). From the WaterAid **needs and situation assessment** it was found that the financing system could be leveraged for WASH; this was taken as their entry point for change. A national approach was adopted to ensure that WASH becomes a core aspect of the health system, primarily the quality of care mechanism. Key outcomes from this approach included the MoH now fully engaged on and leading WASH in HCFs. As driver of the initiative, the MoH applies a systemic approach. Another key outcome was the contextualisation of the WASH FIT tool to the Cambodian situation; a process that seeks alignment across partners, with the roll out currently underway to support WASH improvements as part of the national quality of care mechanism.

WaterAid is also currently working in Myanmar and within the health sector, the government has focused on increasing institutional deliveries and meeting the basic standards of maternal and child health. Having undertaken a health system scoping and analysis, WaterAid chose to focus its approach in Myanmar on WASH-related maternal health outcomes and supporting safe births. In this project, it was important for WaterAid to

partner with other institutions who brought expertise that WaterAid did not have, such as Jhpiego from Johns Hopkins who have the necessary reproductive health and quality care expertise, and the Soapbox Collaborative whose expertise is in safe births and cleaning practices in HCFs. This example highlights the importance of collaborative approaches in which each partner brings their own expertise.

In Malawi, WaterAid has been working on WASH in HCF which has included a focus on community engagement and empowerment in order to create citizen-led accountability. Through working with patients and communities to strengthen their understanding of their rights, citizens' capacity to hold duty bearers accountable for WASH access has improved resulting in: increase in investment in upgrades; improved accountability and quality of WASH services; and change at the national level to address WASH issues at HCFs.

The **key lessons learnt** by WaterAid from these experiences are as follows:
1. Building **strong relationships** and coordinating processes across sectors are crucial.
2. **Embedding WASH within existing health priorities** is essential to ensuring the sustainability of improvements.
3. We need to **strengthen the monitoring of WASH** within existing health monitoring mechanisms.
4. **Operational research** must be designed so we can inform effective practice.
5. It is essential to have the right mix and number of **adequately trained staff** across all levels of the health workforce.
6. We must prioritise community engagement and empowerment in order to **create citizen-led accountability.**

What works?
- Government as the lead
- Forging new collaboration
- Building on partners' strengths
- Combining advocacy and technical support efforts
- Trade off (speed vs. support/ strengthen systems)
- Flexible funding to address determinants, not infrastructure only
- Develop and expand local initiatives

Challenges
- Maintain, expand and strengthen coordination
- Distil knowledge and embed learning into practice quickly
- Determine costing and adequate domestic resource allocation
- Private sector engagement, regulation and accountability
- Maintain and expand leadership at all levels
- Continue to influence other actors and their engagement (e.g., AMR)
- WASH-Health joint system strengthening

3.3 Presentation by Biplav Kafle- SNV in Nepal and Q&A

In this presentation, Biplav Kafle presented lessons from the USAID-funded Swachchhata Project (Health and Hygiene Activity) on institutionalising processes for quality service delivery in rural HCFs. In the past, the Nepal health sector focussed on expanding its outreach of health services, especially in remote areas. The current strategy focusses on **improving the quality of services** provided by these facilities. This includes improving WASH and electricity infrastructure, as well as infection prevention and hygiene practices. This is taking place within the recent shift in Nepal from a centralised governance system to federalism (three autonomous levels of government) and ensuring that delivery of basic services (such as WASH and health) becomes the role of the local government, i.e., rural municipality. However, the system is not fully functional yet. The governance structures are not fully set up, local government is overwhelmed with their increased responsibilities, human resources are insufficient, or capacity is weak, and processes/ ways of working have been disrupted.

The Swachchhata project is implemented by SNV and PSI, with the objective to improve community health status, through improved integration of hygiene in health service delivery. The project is operating in five districts, and relevant results shared include functioning water, toilets, HCWM and solar infrastructure in 80 HCFs, as well as infection prevention processes are now in place in all 147 HCFs (since inception). Biplav shared **four key lessons** based on three years of project learning:

1. **Basic infrastructure and equipment** (WASH, electricity, etc.) support infection prevention and quality of services, and require multi-sector collaboration. In Nepal, rural municipalities have overall responsibility, with support from the WASH sector, health sector and energy sector; in the form of funding, technical support, equipment or provision of guidelines.
2. Infrastructure **operations and management systems must be in place to sustain services**. This requires capacity building of all stakeholders as per their roles. In Nepal, each HCF has a Health Facility

Operation and Management Committee (HFOMC) with seven members including the Ward Chairperson, HCF in charge, and representatives from the community responsible for the operation and management of the HCF infrastructure. The HFOMC currently coordinates with the rural municipality office, but it has no reporting line. It was recommended that there should be a reporting line for accountability.

3. **Capacity building** for infection prevention (including hygiene, HCWM) should engage multiple levels of health sector staff, so they can provide long-term oversight, on-site HCF training, and they become jointly responsible for improving practice.
4. **Implementation** of improved infection prevention practices is supported by an active Health Facility Quality Improvement Committee (HFQIC) that monitors practice, applies clear mechanisms for quality oversight, streamlines supply chains, and puts BCC and protocols in place.

In terms of the **monitoring of infection prevention**, Biplav shared that infection prevention practices that have improved include waste segregation, preparation of chlorine solutions for decontamination of used utensils, autoclaving of used utensils, and wiping of surfaces for decontamination. Continuing infection prevention challenges that were observed include waste disposal, lack of basic equipment and supplies, insufficient water in HCFs, and inconsistent handwashing behaviours.

Further focus areas for the project moving forward include:

- HFQIC strengthening, including effective monitoring, action planning and follow up.
- Channelling issues of HCF equipment and supplies through both the Rural Municipality Quality Assurance Working Committee (RMQAWC) and HFOMC, to push for rural municipalities to resolve issues.
- Recognising and appreciating good practice to support improvement.
- Focussing on safe waste management: waste segregation at point of source, and autoclaving to minimise contamination before disposal.

Q: The HFOMC appears to have a central role in the O&M of the HCF. What is the role of the HCF then?	A: The head of the HCF is one of the seven members of the HFOMC and plays a key role in representing the interests of the HCF. The national government provides funding to the rural municipality and they organise themselves (budget and planning); which depends on locally elected leader. The rural municipality is the most powerful entity; however, all budgeting and planning are done with the HFOMC.
Q: Who are the members of the HFOMC?	A: The HFOMC is a seven-member committee made up of the HCF in charge, Ward Chairperson, school teachers, and women representative from elected bodies. The rural municipality has one health focal person; currently a nominated position by the rural municipality, and is linked to the national government. However, it is unclear whether this arrangement will stay the same moving forward.
Q: What is the role of the Water User Committee?	A: Water supply for HCF comes from either two sources: own source supply or from community water supply. The Water User Committee is responsible for any repairs and maintenance when it is the community water supply that the HCF uses.
Q: The project funds are from USAID. Does this raise any sustainability issues and need for the government to be in the driving seat?	A: All project activities are owned and implemented by the government; USAID is just providing funding for those capacity building needs and supporting them. The project was approved by the government of Nepal. All training programme materials, quality control guidelines, and protocols have been co-developed with government (and existing government standards have been maintained).

3.4 Presentation by Robert Dreibelbis, LSHTM and Q&A

Robert Dreibelbis presented on **hygiene and behaviour change in HCFs**. He explained that hygiene in health care settings is more comprehensive than just handwashing with soap at hand washing facilities or at point of care. It also includes the provision of personal protective equipment (gloves, gowns), proper cleaning of medical equipment, disinfecting surface and floors, and proper disinfection of bedding and clothing. All of these actions are **critical for infection prevention and control**. Hospital Acquired Infection (HAI) is an increasing area of concern with much higher rates in low- and middle-income countries; it escalates the threat of Anti-Microbial Resistance (AMR). Infections are responsible for 10% of maternal mortality, and 15-25% of neonatal deaths, with most infection acquired during birth and in the immediate post-birth period.

However, **infections are preventable** through improved hygiene and infection prevention and control during the perinatal period. The current best practice for infection prevention during labour and delivery is the "WHO 6 Cleans", complemented by pre- and post-natal care including clean birthing kits, improved hand hygiene among mothers and care takers, and clean cord care.

Key findings from a WASH for infection prevention project in Nigeria, which was part of a larger quality of care improvement programme funded by USAID in partnership with Save the Children, was shared. In this project, the LSHTM investigated current hygiene/ IPC practices during labour, delivery and transition to the home in order to identify opportunities for and barriers to improved practices. The project steps are outlined in Figure 9. Key findings from the literature showed that hygiene and IPC include a range of specific behaviours with the drivers behind these behaviours varying. However, more empirical research is needed to fully understand the drivers of behaviour and much is not known. Key findings from the **empirical research on the IPC guidelines** include:

- Infrastructure was available in most labour wards (i.e., functioning handwashing facility), but limited availability in other parts of the HCF, such as the maternity ward. This was important, as infection especially occurs when a new born is being touched. So, it is important to ask "where is the contact happening"?
- In the Nigerian health system, 'step down' trainings to reach all health system staff on hygiene and IPC were conducted. However, it was found that full participation of HCF staff (including auxiliary workers) was a challenge and that the trainings were too short and limited to announcements. Training and BCC based primarily on knowledge and education. However, knowledge and education have been shown to have limited impact on hygiene behaviours in community settings.

Figure 9: Overview of project steps, Nigeria
Source: MCSP, no date.

Hand hygiene during procedures that require aseptic technique	All procedures	
	n	%
Proper hygiene protocol	7	3%
HWWS	7	3%
Hands gloved, not washed	60	27%
Hygiene risk	172	66%
Total	256	

Figure 10: Results of observation of hand hygiene practice during labour and delivery
Source: Buxton, et al., 2019.

During the research project, 30 births were observed for hygiene practices during delivery. There were limited methods for assessing hygiene practices during labour and delivery, with the primary focus on whether the attendant washed hands with soap prior to birth assistance. However, labour and delivery are not a single event; it has multiple opportunities for recontamination of hands. It was found that when hygiene was assessed continuously during delivery, very low rates of compliance were observed. Gloves were often used as a substitute to handwashing. An overview of the results is presented in Figure 9. More information about the project can be found at www.mcsprogram.org.

BCC as an entry point for change was discussed. Currently, BCC does not fit easily in the WHO Health System model. There are few proven interventions for improving hygiene in HCFs for resource-constrained settings that are effective and appropriate. Further, the lack of infrastructure is a real barrier to improved behaviours. Improving hygiene and IPC cannot be separated from larger quality of care improvements. But, it required dedicated attention. While changing hygiene behaviours required changes at both the health system and individual level.

Currently, the LSHTM has begun a new two-year research project through the Water for Women research component funding in Cambodia. It will explore whether a theoretically informed hygiene prevention strategy, delivered through existing HCFs, can improve hygiene behaviours, specifically handwashing with soap. It will also examine how it will impact infections during labour, delivery, and post-natal care; improve maternal satisfaction with health care services; improve the hygiene of maternal and neonatal care practice in the home; and empower women to ensure quality and hygienic care in HCFs and the home.

Q: Can BCC be effective in changing handwashing behaviour?	A: It does take time to change handwashing behaviour. And it is also necessary to maintain the environment where behaviour is taking place. If you don't have water and soap, the message fall in deaf ears. There is a need to maintain the environment as well.
Q: In Bhutan, HCFs are reasonably functional with room for improvement. Do you see an entry point for BCC in Bhutan?	A: There may not be one specific entry point for all HCFs in Bhutan, but different entry points across different HCF levels. In BHU1 for example, there may be an infrastructure issue with no water available. However, there will be different issues in other levels, such as a hospital. Issues of waste disposal and management though may translate across all levels. There is a need to understand the challenges and opportunities at each level, and within each HCF.
Q: From your presentation, you mentioned a risk in the over-reliance on alcohol rubs, hand sanitisers and gloves. Most common deterrent for this is the use of posters explaining handwashing steps and why it's important in addition to gloves, etc. Are there any examples of HCFs that have moved beyond the poster system?	A: Some examples of this, which focus on, for example, is leveraging the provision of the best care possible, i.e., health care providers don't want to put patients at risk. Effectiveness of those strategies are not known, nor have they been rigorously tested. Alcohol rub, in general, is an effective way to kill bacteria, but it is not good at washing *things* off your hands, i.e., blood, waste, faeces. So, it should not be a replacement for handwashing, e.g., rapid decontamination of hands after small operation.
Q: Can you provide some more details about the continuum of care and considerations of hand hygiene?	A: The first 72 hours after birth are critical and infection risk is at its highest. This includes the transition from the healthcare setting to home environment. In the Nigeria research project, we looked at the first 6 hours after getting home → up to 127 unique visitors touched the baby during this time period. Sometimes care transitions to other people in the family (grandmother, etc.). In HCFs, it would be more limited; but still many actors do touch the baby. This is very dangerous.
Q: Limitation of cascade training, method often used, or Trainer of Trainers (ToT)- what are the things we need to really be aware of if we want this approach to be successful?	A: Fanuel gave the example of providing TOTs for demand creation (5 days training), monitoring which messages are being transferred as a quality check and come-back and review. Robert felt that if you train someone, do it yourself, don't do a ToT. Not embracing technologies i.e. smart phones, technology etc – how can we integrate more innovative approach to training that are currently out there?
Q: Health workers almost have all the necessary knowledge on handwashing, but what triggers them to encourage/ motivate them to wash hands themselves?	A: Based on a large-scale systematic literature review, motivation factors are largely absent from the literature, and have not been documented in studies. Intrinsic motivation is under researched. Understanding this better could provide a lot of potential gain to the sector.

3.5 Debating game

In this session, a debating game was facilitated on the topic of "To ensure quality health care (including WASH) in rural HCFs, budget should be sent directly from national level to the facility". The participants were divided into two groups with one team in favour of the statement, and the other group against.

Debating topic: To ensure quality health care (including WASH) in rural HCFs, budget should be sent directly from national level to the facility
Arguments from affirmative side
• Provides the opportunity to deliver quality of care at HCF; puts responsibility in the hands of health care workers who are best placed to make necessary changes at the HCF. • Based on bottom-up planning: much more cost effective and efficient. • Allows for a decentralised budgeting system and moves away from paternalistic top-down systems. • Issues of scale not an issue. • Avoids top-down corruption issues in which necessary funding does not reach HCFs. • Decentralisation allows costs to be cut and performance-based financing can be prioritised. • Direct funding incentivises the HCF to build the capacity of the staff and employ extra staff (such as procurement officers), with the extra funding HCFs receive. • Allows for needs-based procurement, as the HCF has better understanding of their needs (rather than at the national level).
Arguments from negative side
• HCFs lack the required human resource capacity and managerial skills to effectively implement decentralised budgets. HCFs are unable to handle the additional funds. • HCF staff are already overstretched with their curative care responsibilities. Adding financial management is irresponsible and not feasible. There is a need to allow HCFs to focus on their health care work. • Decentralisation leads to loss of economies of scale. • Lack of accountability; unable to effectively monitor how HCFs use budget. • Development partners are operating at the national level, not local: so only able to avail resources at the national level. Moving to a decentralised model could lead to loss of potential funding streams for HCFs and the health system nationally.

Block 4: Management and integration of waste streams

Why is this relevant?

It is important to think about the management and integration of waste streams along the entire waste management chain because it is not just about the toilet. The same is true in HCF waste management. It's not just about having three coloured bins: it's about how we manage that whole stream. Thinking from a sanitation perspective, often treatment on-site is considered the only option. However HCFs can be connected to external services. For HCFs HCW, there are a range of management options including on-site, clustered and centralised treatment

What were the knowledge and learning outcomes intended from this block?

- Exchange ideas and deepen understanding of the opportunities and priorities (based on case examples, country experiences and knowledge shared throughout the four-day learning event) for improving the management and integration of waste streams in participants' contexts.
- Generate key problem areas, take-aways and recommendations for country participant's contexts related to WASH in HCFs. In doing this, key entry points for change will be identified.

What was the process?

- Introductory presentation to Block 4 and feedback from E-group discussion.
- Basics about HCWM quiz.
- Presentation from Shrijana Shrestha (Department of Health Service, Nepal) on HCWM in Nepal.
- Group work and sharing of the mapping exercise on waste activity.
- World café on relevant advice and presentation of country shopping bags (what's useful for my country?).
- Evaluation and closure.

4.1 Introduction to block 4

In her presentation, Antoinette Kome explained that 85% of health care waste (HCW) produced by HCFs is general waste, with infectious and chemical/ radioactive hazardous health care waste only making up 10% and 5% of all waste, respectively. Regarding **management chains of HCW** and sanitation, it is important to think about waste management along the entire chain because it is not just about the toilet. The same is true for HCW: it's not just about having the three coloured bins. It's about how we manage that whole stream along the chain. Thinking from a sanitation perspective, often, treatment on-site is considered the only option; however HCFs can be connected to external services. For HCF HCW, there are diverse management options, including on-site, clustered and centralised treatment. There are pros and cons to each management option in relation to transport needs and risks, management, skills, costs, HR requirements, quality of treatment. When considering on-site treatment, for example, it is necessary to evaluate whether the required capacity, resources and equipment are in place to ensure that the system works.

HCWM is an area with strong knowledge management and many useful tools, including management plans at national HCF level. However, parts of solid waste such as menstrual pads, chemicals and unused drugs end up in toilet pits at HCFs. What is going wrong? Is it behaviour management? From the **E-group discussion**, it was shared that often, there are excellent actions plans. But the challenge remains in implementing HCW management plans, and without the required resources for equipment, effective HCWM remains a "pie in the sky". Participants from the E-group outlined that the ideal for HCFs is to connect to water and sanitation services, as that is not their core business. In practice, sanitation and treatment of waste is often managed on-site, or only sharps are transported. Grey water and effluent from septic tanks are neglected and potentially contaminating surrounding areas. Left-over reagents and other chemicals are normally diluted with water and disposed of into storm water drains. And, while staff knowledge of correct treatment procedures is high, adherence to SOPs is low.

During the E-group discussion, participants also discussed the treatment of segregated waste, and noted that while on-site incineration was the most common method of final disposal, several challenges have been observed. Often, incinerators were not in use due to maintenance issues or lack of operational budget. In other contexts, poor incineration was taking place with burning occurring at low temperatures, and single chamber or open burning were often employed. Ash is not being adequately disposed of. In terms of governance, planning and management of HCW, E-group participants discussed the existence of an enabling environment at national and HCF levels, but noted a lack of targets, clarity and regulations regarding WASH in HCFs at the sub-national

and provincial level. Limited available budget at district levels have also often resulted in certain HCFs being left behind.

Opportunities for improvement highlighted during the E-group discussion included:

- the need to adjust the organisational structure of waste streams and investments;
- rigorous supervision of HCW treatment and disposal by line managers;
- setting up waste management areas with an incinerator, waste pit, transit storage area or placenta pit fenced inside the HCF;
- possibility to generate biogas from kitchen and human waste;
- using disinfectants for non-sharp infectious wastes; and
- broadening the scope for reducing and recycling of hazardous waste (continues to be limited, but there exists good opportunities for general waste including paper, metal and plastics).

4.2 Presentation on health care waste management from the Ministry of Health and Population (MOHP) of Nepal

Shrijana Shrestha (Senior Public Health Administrator from the Department of Health Service, MoHP) outlined the **experience in solid waste management in HCFs in Nepal**, including current practices and techniques being used. Since 2014, Nepal has been implementing its national Health Care Waste Management Guidelines and has been promoting HCWM as a cost-effective approach for infection prevention. In terms of waste generated by HCFs, 75-90% is non-hazardous waste and 10-25% is hazardous waste. Segregation of waste has been observed at the middle level (e.g., hospital ward level) but not at the source of waste generation point or final disposal; so improvements were implemented such as trolleys with bins. Another risk observed was the placement of infectious waste containers in areas accessible to the public. This had been rectified by removing bins from public areas.

Nepal's experience with incinerators was shared with the group and it was explained that they were either not being used properly, too complex to operate, or they were polluting the environment and producing carcinogens. Considering all these factors, the MoHP of Nepal decided to focus on **non-burn technology for waste management to mitigate the risks**. The MoHP began supporting this and rolled out a programme to assist HCFs with autoclaving waste before disposal, increasing the practice of recycling waste (including the sale of plastic waste) and using composting and biogas digesters for biodegradable waste. The use of autoclaves was found to be environmentally and human health friendly, as well as cost effective. From the Nepal example, the message was that even with limited resources and technologies, there are practical actions that work, e.g., shifting the focus to non-burn options and ensuring separation at the source (example through using trolleys with bins). All these have assisted in improving Nepal's HCWM. Further information on the Nepal approach is accessible through the Health Care Waste Management Guidelines 2014 (MOHP Nepal).

Q: Concerning the types of lids for bins – what works?	A: Bin with flat lid is used. Swing lids are also popular in HCFs.
Q: Is there a recommendation for how many bins workers can handle, and the standard colour for bin liners?	A: No, they don't recommend specific numbers – its more that you do it at every facility. Health care facilities follow the MOHP's Health Care Waste Management Guidelines 2014. This includes colour coding, as per MOHP HCW Management Guideline.
Q: For the biogas solution, is this functioning well in Nepal?	A: Currently there are only a few health care facilities employing this method and they are only putting food items. Some hospitals are adding some risk HC waste (e.g., placenta); however, this is a different design which is costly.
Q: Are there risks of recycled materials being reused in some facilities? e.g., gloves.	A: They are very careful. They are autoclaving. Things cannot be reused (e.g., syringes). Sterilised syringes, etc. are being recycled.
Q: With these changes, what have been the operational costs for HCFs?	A: Costs are dependent on the situation. Some are using low-cost options whilst others have more options to use higher quality technology, which is costlier. Approximately US$ 1,000 is spent for the autoclave and basic setup in a small health care facility; so it's not too expensive to start.

Q: How are women's request to take home placenta – for cultural reasons – managed?	A: Most women do not take the placenta home. Often, it is put in a deep burial pit or placenta pit.

Comment from Lobzang Dorji, WHO Bhutan: There has been learning in Bhutan from Nepal. For example we have a model of waste management in hospitals, which had adopted lots of ideas from Nepal to reduce waste. On non-burning technology, Bhutan also discourages burning of waste due to the health risk of cancer and encourages autoclaving. Liquid waste is a challenge though. In Nepal, they focussed first on solid waste and are now drafting a liquid waste management guideline. Some hospitals have already started.

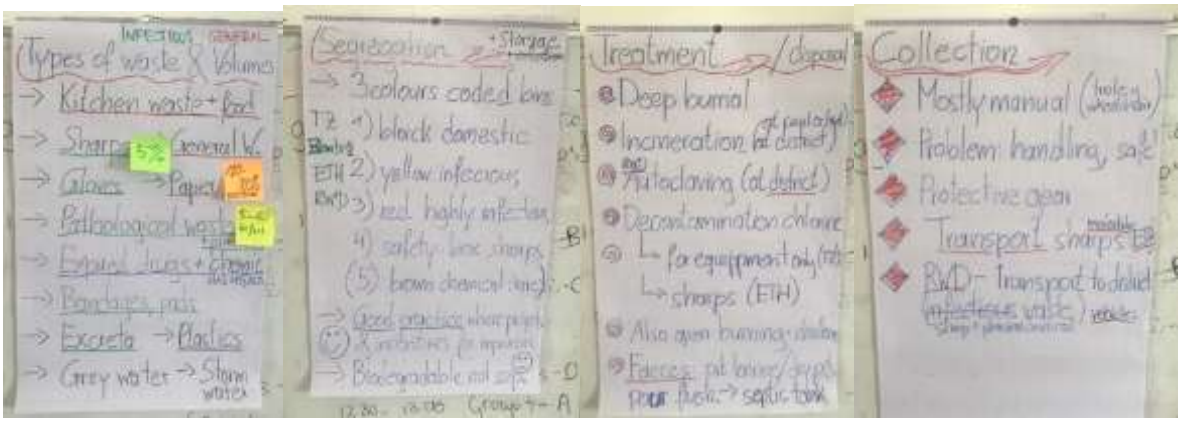
4.3 Group work on rural HCF waste management

For this session, participants were split into two regional groups, Africa and Asia, to discuss HCW, toilet (including grey water) across their region. The following three points were tackled:

1. Types of waste and volumes in your country.
2. HCW management chain (segregation already covered), so focus was more on collection/storage, transport and treatment/ disposal.
3. Potential improvements.

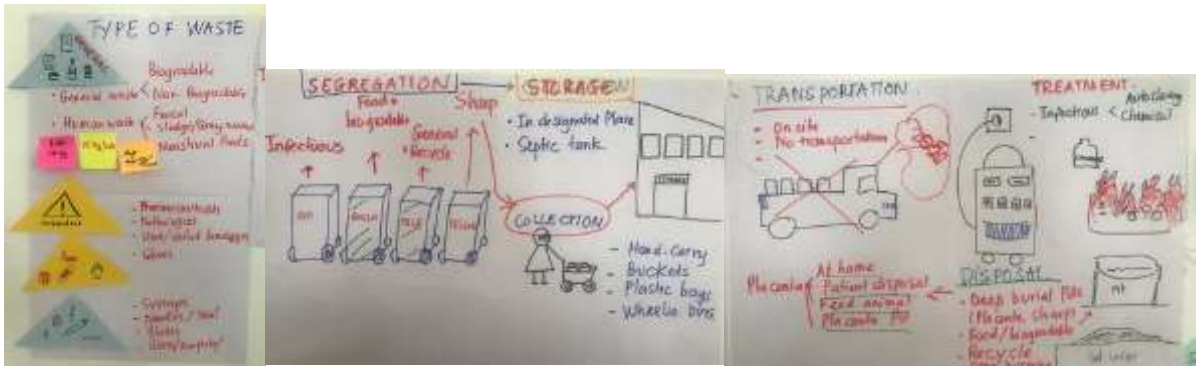
Africa

Question	Response/ notes
Types of waste and volumes	• General waste, including kitchen waste and food; paper; plastic (which can also sometimes be infectious waste); grey water which goes to the storm water drain. • Infectious waste including sharps; gloves; pathological waste and placenta; bandages and pads; excreta and plastics. • Hazardous wastes including expired drugs and chemicals.
HCWM segregation/ storage	• Three colour-coded bins are used (black for domestic waste; yellow for infectious waste; red to highlight infectious waste; brown for chemical waste [this is rarely seen]; and safety box for sharps). • Good practice is observed where there are projects and incentives. • Biodegradable waste is not commonly separated.
HCWM collection	• Mostly manual. • Problem of safe handling. • Protective gear used. • Transport – sharps (Tanzania typically on motorbikes). • Rwanda – Transport to different places for safe disposal. • Treatment and disposal.
HCWM treatment/ disposal	• Deep burial. • Incineration – mostly at district level. • Rwanda – autoclaving typically at district level. • Decontamination chlorine – in Tanzania they are used for equipment, Ethiopia for sharps. • Open burning – challenges. • Faeces – pit design/ dry pits; pour flush to septic tank. • Grey water – infiltrated or poured out. • Start new pit when full.
Potential improvement	• Designs – include solid waste, final safe disposal. • Reuse/ recycle – minimalist thinking and practices have yet to be embraced. • Capacity building, protective gear. • Centralise treatment and proper incineration. • Uplift services – deal with water committee, electricity (is needed for example for autoclaving). • Transport – build capacity, private sector. • Waste generation – document, data segregation, regular assessments, monitoring. • Improve technology – simple, adequate, cost effective.



Asia

Question	Response/ notes
Types of waste and volumes	• General waste includes both biodegradable and non-biodegradable waste, as well as human waste (faecal, sludge/ grey water, menstrual pads). • Hazardous waste includes pharmaceuticals, pathological, used/ soiled bandages, gloves. • Sharps waste include syringes, needles/ nail, blades and glass.
HCWM segregation/ storage	• Four colour-coded bin system: red for infectious waste, green for food and biodegradable waste, blue for general/ recyclable waste and yellow for sharps. • Septic tanks used for human waste.
HCWM collection	• All waste collected on-site in Asia, no transport of waste. • Collection of waste is done by hand in buckets, plastic bags and wheelie bins.
HCWM treatment/ disposal	• Treatment of infectious waste includes the use of autoclaving and chemicals, as well as burning. • Disposal in deep burial pits (placenta, sharps), food is biodegradable, recycle, open burning (most common). • Placenta – take home, patient disposal, feed animals, placenta.
Potential improvement	• Reinforcement of guidelines. • Strong leadership and management. • Reuse and recycle. • Safety and protective gear for liquid/ toilet waste. • Money. • Supportive participatory training and involvement of support staff. • M&E systems and R&R. • Autoclaves need to be supplied, plus needles and cutters. • Awareness training for health workers and caretakers. • Infrastructure development – incorporate in designs. • Encourage local low-cost innovations, improvise with existing infrastructure.
Discussion	• What are the differences across Asia? → Transport is quite common in South East Asia compared to South Asia. Chemical treatment is quite rare. • Is biodegradable waste actually used? → Some countries (Lao PDR) it's aspirational, some use for food for animals, Thimphu does a compost from hospital – need enough for volume, some just dispose to pits.



Block 5: Consolidation and closing activities

5.1 World Café Activity

During the World Café activity teams of consultants rotated to country tables prescribing solutions to the WASH in HCF problems the country had. Extensive lists of problems and recommendations were generated for each of the participating countries, as follows:

Country topic	Recommendations
Mozambique, Kenya and Uganda Q1. Identifying traditional and non-traditional funding sources for WASH in HCF facilities	Identify ongoing campaigns to tap into e.g., "move for health" in Bhutan. Well-coordinated Zakat fund under religious sector in Indonesia.
Q2 Intersectionality between water and Health sectors	Formulation of WASH Cluster (e.g., Bhutan) as coordination mechanism at the highest level. Establish more ad-hoc committees to coordinate with; involve high-level politicians.
Q3 BCC improvements in lower levels of health facilities	Posters on do it yourself steps, pictures, visual aids. Checklist to tick off when finishing job, self-reporting tool. Capacity building tailored to the level of the target audience.
Rwanda Q1 FSM in HCFs	Using DWATS, twin tanks/ vaults, Mokan Joka concept from Japan, ecosan, double leach pits.
Q2 Infections waste management in rural HCFs	Use US$ 100 autoclaves, decontaminate, deep burial.
Q3 Private sector engagement in HCWM	Create a PPP and provide incentives (low-interest rates loans). Access free land to private sector. Emptying price (US$ 100 – overflow, US$ 10 emptying).
Zambia Q1 How to enhance implementation capacity of national policies and guidelines especially in HCW management?	Support peer review (e.g., HCF by HCF). Establish TOTs in each district. Training of all staff. Develop training models that are suitable for various categories of staff (e.g., cleaners). Support trained staff through regular on-site coaching. Provide resources for buying equipment and supplies including PPE. Provide motivation/ incentive/ recognition to well-performing staff and institutions. Learning and exchange visits.
Ethiopia Q1 Quantification of waste	Assessment. Segregation. Scheduled waste collection. Provide supplies, equipment. Having indicators in HMIS and monitoring. Share experiences from other countries.
Q2 Infections waste treatment options that are environmentally friendly?	Do segregation. Capacity building. Autoclaving. Using incinerator with solar system.
Q3 How to avoid transport of waste from health post to centre?	On-site treatment. Decontamination. Use mini autoclaves which works with kerosene or firewood.
Bhutan Q1 Water- Low cost treatment?	Proper design. Source protection. Water testing kits in place. Low-cost chlorine dosing kits. Explore SAWER system.

Q2 Hygiene: How to go beyond knowledge?	Accessibility and availability of facilities. Appointing champions in each HCF. Understand motives. Balance between carrot and stick. Spot check. On-the-job training.
Q3 Sanitation: quick fixes on accessibility?	Consider if the doors are big enough. Grab bars inside the toilets. Toilet seats for people with special needs. Temporary wooden ramps.
Q4 Waste: Incinerator pros and cons	Pros Reliable electricity. Treatment and disposal of hazardous waste. Onsite solution. Cons Pollution. Technical and expensive. Management challenges. Open burning instead of incinerators. Recommendation NO incinerators. Proceed with caution.
<u>Nepal</u> Q1 How to improve hand hygiene practices in rural HCFs?	Formative research to find motivational factors. Develop BCC materials on when to wash hands that are illustrative and easily understood. Spot and surprise monitoring system from upper authority. Monitoring through community. Regular awareness to health workers.
Q2 How to improve water quality 24/ 7 at HCFs?	Regular water quality testing. Use local level filtration technology (e.g., bio sand filters) to improve intake. Use of multi-stage filter after storage tanks.
Q3 How to manage non-biodegradable waste in rural HCFS?	Develop cluster-level collection centre and link with vendor. Regular training on waste management. Identify new business model to engage private sector for waste collection and transport to recycle centre.
<u>Lao PDR</u> Q1 Issue staff at HC who are already too busy with the patient?	In terms of capacity building and infrastructure (on WASH) of HCF and health core staff should add in the guidelines and standards.
Q2 No specific standard and guidelines for WASH in HCF?	Revise and adapt the guidelines we have with involvement of multiple stakeholders.
<u>Tanzania</u> Q1 What low-cost technologies can you recommend for treatment of Health Care Waste for rural Health Care Facilities?	Suggest to centralise treatment options for HC waste rather than having this installed in each HCF: more cost effective, even taking into consideration transport costs.
Q2 What solutions are there for Operation & Maintenance for incinerators/ autoclaves?	A low-cost incinerator option used in Ethiopia is made of simple bricks so cheap to construct and no O&M concerns – however not sure of the hazards regarding gas emissions from these incinerators.
Q3 What solutions for sanitation facilities for Health Centres in rural areas where water is scarce?	Consider eco-san and off-set dual pits in HCFs where water is scarce to avoid emptying needs in remote rural areas yet providing the option of emptying pathogen-free waste collected as fertilizer.

	Consider use of vermiculture in dry pits to reduce rate at which pits are filled up. Proposal to have a mobile incinerator at district level that would travel to each HCF for burning hazardous waste.

5.2 Shopping bags

The learning event concluded with country teams asked to reflect on what their take-aways were from the four days. Each country's take-aways are presented below.

Country	Expectations
Bhutan	• Some insights into quick fixes on accessibility. • Incinerators – proceed with caution. • Hygiene – BCC beyond knowledge. • HCF Technical working group. • Need to engage ICP programme, QASD, HMIS. • Engagement of local government at all levels including budget. • JMP indicators implement in HCF reporting systems.
Ethiopia	• Regular recording of HCW. • Autoclaving infectious waste before disposal. • Using environmental tests/ sampling of microbial cleanliness. • Accessibility audit. • Hand sanitiser in the absence of water. • Integrating traditional medicine with modern medicine in health services.
Indonesia	• Inspiration of Nepal and Bhutan – below is a roadmap for wash in HCFs. • National policy and strategy. • Specific regulation in WASH in HCF. • Updated national standard in line with JMP and SDGs. • Updated indicators for accreditation. • Strengthening at sub-national level. • Capacity improvements for rural HCF staff (Water supply and WQM, HCWM). • GESI aspects.
Kenya	• Opportunity - Build capacity of HCF staff to effectively address WASH needs. What we will do? • Conduct a rapid assessment at facility level using tools and approaches shared in event. • Conduct a status update with Ministry of Health and Healthcare Waste Management Technical working group at national level. • Organise a stakeholder meeting to discuss the findings and explore formation of a WASH in HCF TWG (gap). • Develop a concept note.
Mozambique *Compared against the SWOT- O&M was not a focus in SWOT*	• WASH Fit tool, Soap Box training, tools to contextualise. • Environmental setting for hygiene, guidelines, SOPs and BCC. • Waste stream segregation and management. • WASH in HFC national level guidelines development and start the conversation with the Ministry of Health infrastructure unit. • Support the unit set standards – enabling O&M, accessibility audits, issues with incinerators are not easy, climate resilience standards. National working group • Share key lessons from learning event. • Advocacy with partners to influence the MoH decision makers and donors. • BCC for hand hygiene strategy for HCF discussion.
Lao PDR	• Need clear specific standard guidelines for WASH in HCFs. • Need to strengthen the awareness and capacity of health care staff on WASH. • More priority and stronger enforcement on hand hygiene and safe health care waste management.
Nepal	• BCC in hand hygiene – when and how frequently, to wash hands with soap whilst providing health services. • Reporting system by HCFs to sub-district authority (rural municipality). • Accessibility audits at all level of facilities.
Rwanda	• Health care waste management practices (from Nepal) – composting and recycling.

	• Diagnostics and planning tools for (WASH Fit, FACET, SOAP Box and others). • Accessibility audit checklist for public latrines. • Hygiene and behavior change in HCFs of health care workers.
Tanzania	• Strengthening operation and maintenance of health facility curative team. • Improving planning for WASH in HCFs (Health facilities governing committees and health staff). • Assessment of current WASH status in HCFs in pilot areas. • Sharing of lessons learned from event to national WASH stakeholders (MHM day 28 May).
Uganda	• Knowledge – WASH in HCF and integrating with WASH projects, collaboration with partners with interest (e.g., UNICEF). • Funding and finance modality ideas – Bhutan Health Trust Fund, financing in Indonesia context. • SNV – contacts, personal relations, how SNV collaborates with different actors.
Zambia	• Undertake assessment of WASH in HCF. • Enhance collaboration between government (local) and health. • Strengthen leadership to prioritise wash in HCF including MoH to enhance inclusive designs for health facilities. • Develop standards (national for WASH in HCF). • Understand key behaviors before undertaking BCC programmes. • Understand and implement interventions across the health care waste management chain and not confine to waste segregation.
WaterAid	Sector collaborations – local, national, global • Connecting with global knowledge and learning platforms. • Engage/ encourage national engagement. • Regional/ country champions for global action and change.
LSHTM	• Need for better innovative BC programmes and models for HWWs, IPC, WM, cleaning that can extend or complement existing training models. • Share results from Cambodia and Nigeria. • Engage and support research and learning opportunities.

A closing cultural dinner was hosted by colleagues from Bhutan, with the attendance of the Dzongda of Punakha. There was much dancing, merrymaking and appreciation of the efforts of the Bhutan team for the memorable evening!