



## Final report

# Infection Prevention and Control Recovery Plans and Implementation: Guinea, Liberia, and Sierra Leone Inter-country Meeting

**20-22 July 2015, Monrovia, Liberia**

© World Health Organization 2015. All rights reserved.

The designations employed and the presentation of the material in this publication do not imply the expression of any opinion whatsoever on the part of the World Health Organization concerning the legal status of any country, territory, city or area or of its authorities, or concerning the delimitation of its frontiers or boundaries. Dotted and dashed lines on maps represent approximate border lines for which there may not yet be full agreement.

All reasonable precautions have been taken by the World Health Organization to verify the information contained in this publication. However, the published material is being distributed without warranty of any kind, either expressed or implied. The responsibility for the interpretation and use of the material lies with the reader. In no event shall the World Health Organization be liable for damages arising from its use.

# Contents

Summary

Introduction

1. Global view and African perspective on IPC and WASH
  - a. The burden of disease
  - b. Achievements, gaps and perspectives
  - c. The WASH dimension
  - d. Discussion points and concluding remarks
2. IPC achievements in the Ebola response, by country
  - a. Guinea
  - b. Liberia
  - c. Sierra Leone
3. IPC implementation strategies & activities, and monitoring & evaluation indicators and systems, in the context of recovery plans, by country
  - a. Guinea
  - b. Liberia
  - c. Sierra Leone
4. Overview of implementation tools and training packages
5. Working group sessions
6. IPC minimum standards
7. Key monitoring indicators and benchmarking
8. IPC priorities, plans and needs for 2016-17
9. Cross-country collaboration
10. Technical support available from WHO
11. Conclusions and next steps

Annex 1: List of abbreviations

Annex 2: Agenda

Annex 3: List of participants

# Executive Summary

Infection prevention and control (IPC) has played a critical role in controlling the worst ever Ebola outbreak, which has affected West Africa since December 2013. Absence of basic IPC measures and infrastructure in both health care settings and the community was one of the key determinants of the unprecedented magnitude of this Ebola outbreak. Loss of precious health-care workers (HCWs) in all three affected countries was directly linked to IPC gaps and to a suboptimal implementation of standard precautions at the point of care. IPC is further hampered by the lack of access to clean water, sanitation and basic hygiene, which is of great concern in this region, as well as globally.

The first ever inter-country meeting on IPC and water, sanitation and hygiene (WASH) for Ebola-affected countries with widespread and intense transmission, included ministerial representatives, WHO country office, African Regional Office, and HQ teams, and partners from all three most affected countries. The meeting aimed to discuss the lessons learnt and progress achieved on IPC and WASH implementation during the response phase of the outbreak. Sharing, as well as discussing strategic plans and approaches for IPC and WASH improvement and monitoring in the context of early recovery and the journey to functional health systems also took place. In addition, the meeting's aim was to identify unified approaches and mechanisms for cross-country collaboration and knowledge exchange to promote effective sharing of lessons learnt and resources.

The meeting provided an unprecedented opportunity for sharing IPC and WASH experiences and lessons learnt. Dramatic progress, in terms both of IPC and WASH, was achieved during the response phase in all three countries. The meeting started a serious conversation on how best to ensure that these achievements can be consolidated, by moving from a vertical IPC/WASH Ebola approach to an integrated IPC/WASH programme approach for the prevention of all health care-associated infections and patient and HCWs safety, including and beyond Ebola virus disease (EVD). There was strong support for greater advocacy on IPC/WASH and agreement that the two are integrally linked, both being critical to safe health service delivery and requiring continuous major effort, funding and focus. Within the strategic plans for early recovery and the journey to functional health systems presented by the three countries, IPC and patient safety were recognized as the highest priority areas for urgent development. However, some concerns were expressed about the fact that country plans presented could be considered ambitious, and therefore a continuous commitment to establish basic IPC and WASH structures and to ensure sustainable improvement was emphasized. There was also a strong will expressed to shift towards adopting standardized IPC documents, guidelines and training curricula, to achieve consistency within and among countries; the importance of engaging communities was also recognized.

At the meeting conclusion there were a strong degree of agreement on the terrific added value of inter-country collaboration and clear support on the required next steps.

**Key recommendations** were agreed upon for consideration by the different actors involved in the next phase of work.

## Recommendations for the three countries

- To establish common IPC/WASH minimum standards in line with international standards
- To identify an independent regulatory body responsible for the implementation of standards and accountability
- To secure a sustainable budget allocated specifically to IPC & WASH
- To develop a standardized incentive programme
- To develop common key IPC & WASH indicators and related definitions and scoring systems, and integrate these into the national lists of KPIs
- To establish a system for data collection, a platform for data sharing and a mechanism for linking to immediate action plans
- To develop mid- and long-term plans for IPC and WASH recovery and eventual integration into the health system:
  - IPC national and sub-national structure

- IPC/WASH minimum standard implementation packages
- Assessment and quality improvement system
- Training
- To continue to support improvement of IPC in the community including using social mobilization to develop appropriate messages

## Recommendation for all participants

To establish and maintain mechanisms for inter-country meetings and communication, common activities, including areas for research

Immediate priority areas agreed by participants are presented in the box below.

- Develop medium- and long-term IPC and WASH strategic plans and secure specific funding;
- Establish common IPC and WASH minimum standards in line with international standards;
- Develop common IPC and WASH indicators;
- Develop harmonized professional curricula on IPC;
- Organize regular quarterly IPC inter-country meetings and establish an e-platform for inter-country information exchange;
- Define an implementation research agenda and establish a working group

## Introduction

Preventing transmission from affected patients to the community and HCWs through the implementation of IPC standards and best practices has been one of the pillars of the response to the Ebola outbreak in West Africa. Indeed, the lack of adequate IPC and WASH infrastructures and supplies, as well as poor knowledge of the importance of all IPC measures has been recognized as one of the main factors determining the unprecedented magnitude of spread in the affected countries.

Within the strategic recovery plans developed by the governments of the three most affected countries, IPC and patient safety are among the highest priority areas for urgent development. Improving WASH, IPC infrastructure and supplies, and ultimately practices in health-care facilities is crucial, and will require major efforts and focus.

The first ever inter-country meeting on IPC and WASH for Ebola-affected countries was held from 20-22 July 2015 in Monrovia, hosted by the Ministry of Health and Social Welfare of Liberia and facilitated by WHO. It brought together Ministry of Health delegations from Guinea, Liberia and Sierra Leone, WHO experts from Headquarters, the African Regional Office and the three country offices, as well as a number of external partners.

The main aims of the meeting were to share information on IPC and WASH practices during the emergency response phase of the EVD outbreak, as well as to identify best practices, tools and documents to guide next steps towards developing deeply rooted and sustainable IPC systems within the health-care facilities (HCFs) of all three countries.

The meeting objectives for the three countries were as follow:

- Agree on a global understanding of IPC and WASH as a foundation for planning, discuss progress achieved and current status of IPC and WASH
- Discuss the current status of IPC and WASH in health-care facilities in each country describing progress achieved so far during the response and transition phase
- Share the strategic plans for IPC and WASH improvement in the context of health systems recovery, for both the current early phase and the medium/long term
- Define immediate priorities and needs and medium-/long-term objectives

- Discuss plans for implementation and services and resources needed including roles and responsibilities
- Identify successful approaches according to lessons learnt so far including potential unified approaches and mechanisms for cross-country learning and collaboration, within the context of the WHO Ebola Strategy
- Agree on specific monitoring and evaluation strategies and common key performance indicators
- Establish a mechanism for continuous sharing of IPC documents, tools and progress reports
- Discuss mechanisms for routine supportive communication and sharing of lessons learnt
- Agree on a timeframe and coordination framework for next steps in support of national leaders and international partners

The following outputs were expected:

- Comprehensive meeting report on IPC and WASH achievements, strategic plans in the three countries, and next steps
- Common IPC and WASH standards, and indicators for implementation and monitoring in health-care facilities
- Common approaches and mechanisms for cross-country learning and collaboration, sharing of tools, documents and reports
- Concrete inter-country IPC and WASH activities for implementation

### **“Every outbreak brings an opportunity to improve health systems”**

The meeting started with opening remarks provided by the WHO country representative, Dr Alex Gasasira, followed by the Honorable Minister for Health of Liberia, Dr Bernice Dahn. Participants were welcomed to the meeting, and it was noted that it is commonly said that every outbreak brings an opportunity to improve health systems - Ebola is now helping to improve IPC within the health-care delivery systems and thus lay the foundation for quality improvement in the health-care facilities of all three countries. It was noted that gaps in IPC contributed to the devastating Ebola outbreak. The governments of all three countries were commended for adopting strategies to close these gaps and stop transmission of the virus. During the response phase, focal points for IPC and WASH have been rolled out and are now a priority within countries' plans for building resilient health systems. Finally, it was highlighted that this meeting should contribute to learning and ultimately translating IPC technical plans into action beyond Ebola.

### **The urgent need for continued action: the risks of developing HAI are 2-20 times greater in developed versus developing countries**

## **1. Global view and African perspective on IPC and WASH**

The first session of the meeting was opened by Dr Benedetta Allegranzi, lead of the WHO HQ IPC programme, and Dr Margaret Montgomery, responsible for WASH at WHO HQ, who provided an overview on IPC and WASH at the global level; Dr Jean-Bosco Ndiokubwayo and Dr Magaran Bagayoko, from the WHO African Regional Office, followed by focusing on the African context. The scope of IPC challenges was addressed with global data presented on hospital acquired infections (HAI), highlighting the lack of data from the African continent. Achievements by the three countries during the widespread and intense transmission phase were, however, described in detail. This was followed by presentations on gaps and ideas for ways forward, as well as information on available WHO resources for technical support. All of the speakers emphasized that the current timing was crucial for IPC and WASH interventions to improve patient safety beyond Ebola, and that achievements in basic IPC standards had to be maintained and pursued. WHO

offered to provide technical support for capacity-building and strengthening core components of IPC and WASH programmes in the countries, through leveraging the three levels of the Organization and working across different sectors.

## Summary of burden of disease information presented

A number of IPC challenges in low and middle-income countries were described. HAI is a global problem, affecting hundreds of millions of patients every year. Furthermore, the risk of getting infected in HCFs in a developing country is 2 to 20 times higher than in developed countries; for device-associated infection this risk is up to 19 times higher. Further, neonatal infection rates in developing countries are 3-20 times higher as compared to those in developed countries. In Africa, very high rates of surgical site infections (SSI) are observed as compared to other continents, and the overuse of injection along with unsafe injection practices are having a heavy toll on hepatitis B, hepatitis C, and HIV infections burden of disease worldwide.

## Summary of Water, hygiene and sanitation background information presented

WASH is fundamental to IPC activities, to quality of care in HCFs, and to best hygiene practices in communities. Before Ebola, most HCFs and many communities had inadequate WASH services. This situation persists to this day, putting communities at risk of not only Ebola, but a host of other communicable diseases, not to mention the adverse consequences regarding dignity, forgone economic opportunities and inefficiencies in providing health services. Globally, 38% of HCFs have no access to water services, in Sub-Saharan Africa the figure is 42% and the situation is similarly poor in the three Ebola affected countries. When lack of reliability and safety are taken into account, this figure jumps to nearly 60%. Waste management is not available for 40% of HCFs in Africa. Regarding IPC standards, the reuse of gloves, including for surgery, as well as a very low compliance with hand hygiene practices are a big concern.

Understanding the extent of the problem related to the lack of IPC and WASH in the African Region is hampered by inadequate data.

## Summary of background information on IPC in the affected countries presented

During the ongoing EVD outbreak, over 800 HCWs were infected because of serious gaps in IPC at the point of patient care in the three affected countries. Gaps ranged from a lack of infrastructure to support IPC standards (electric power, running water, etc...) in hospitals and other health-care settings, to unsafe IPC practices, such as unsafe injections, poor sterilization of used equipment, inadequate disposal of medical waste, to soiled linen and clothing, and poor hygiene practices such as inadequate decontamination of floors and surfaces, and low compliance with hand hygiene.

## Achievements, gaps and perspectives

The wide range of resources to aid patient and health worker safety developed during the Ebola response was acknowledged. It was highlighted that there is now a need to shift towards adopting or developing standardized IPC documents and guidelines at the national level. Additionally, the importance of achieving consistency within and among agencies with regards to IPC guidance and recommendations was highlighted. Tools and guidelines on injection, blood safety and hand hygiene developed by WHO and partners could be adopted and adapted to the national context for implementation.

Recent achievements in basic IPC standards in the three countries were acknowledged; in particular hand hygiene action, environmental cleanliness, use of reminders and checklists being readily available on the walls of some hospitals. It was mentioned that monthly improvements on average IPC scores have been observed over recent months, and that these recently achieved standards need to be pursued and reinforced in the three countries.



During the emergency response, fear factors lead to mixed messages being put out, such as misplaced focus on IPC and/or to incorrect IPC practices; e.g. the issue around the PPE 'obsession' was mentioned and the importance of how PPE is used rather than the type of PPE being chosen - it was emphasized that international recommendations should be promoted and applied. Another example related to the excessive use of spraying with chlorine and the damage it may have caused to health workers and other carers, visitors, etc.

IPC is a broad concept and the focus should be on embedding standard precautions for all patients at all times, including patient triage and isolation; hand hygiene; environmental cleaning and disinfection; cleaning and disinfection of patient care equipment; waste disposal; injection safety and prevention of sharps injuries; laboratory safety; safe management of dead bodies; and management of exposure risk and accidents. Special emphasis was given to hand hygiene (HH) and related gaps in achieving standards and WHO recommendations, e.g. overuse of chlorine, inappropriate techniques, lack of quality control etc. It was emphasized that in the end, improving standards in HH has proved to be effective and protected HCWs and patients from getting infected by Ebola and other HAI. The local production of alcohol-based handrub in Liberia, achieved during the height of the Ebola outbreak, was then described as an inexpensive and sustainable way to improve HH practices in the region.

WHO's focus will continue over the next two years, on supporting and consolidating HH improvements, including through the SAVE LIVES: Clean Your Hands global annual campaign, and with the support of colleagues in Africa who have started their supporting 'Make Africa Orange' campaign. Two initiatives supporting patient safety in Africa - the African Partnerships for Patient Safety (APPS), and the Inter-country Support Team (IST) based in the Regional Office, have played an important role and the IST could actively support future facilitation in countries. The aim is to move from a vertical IPC Ebola approach to an integrated IPC programme approach for the prevention of all health care infections, which goes beyond Ebola. Additionally, nations have been mobilized and supported through ministerial pledges to reduce HAI (including in Sierra Leone and Liberia), by performing HH campaigns at national or sub-national levels, by sharing experiences and available surveillance data, and by using WHO strategies and guidelines.

Intensive IPC preparedness activities have been focusing on 17 countries considered at high risk for Ebola, using a checklist composed of different elements ranging from coordination, to case management, up to logistics, for assessing the level of implementation. Consolidated preparedness updates are made available through the WHO Ebola Portal via an interactive EVD Preparedness dashboard (<http://apps.who.int/ebola/preparedness/map>).

It was concluded that there is a serious need for reliable data on IPC and HAI in the African Region. This could be achieved through intensified surveillance supported by basic tools and resources, such as evidence-based strategies, strengthened health information and surveillance systems, trained qualified human resources, and the provision of logistical services. It was further emphasized that sensitization on IPC changes at the level of individual health-care workers, organizations, as well as at the level of health-care systems, and communities is needed. Implementation of simple measures such as improvement in hygiene conditions will reduce HAI.

## Emphasis on the WASH dimension

Dr M. Montgomery emphasized that access to safe drinking water, sanitation, and hygiene for all is fundamental to health, well-being, and poverty eradication. Realizing this goal will be fundamental in reaching the Sustainable Development Goals (SDG), in particular goal six which focuses on WASH.

WHO has historical strengths in WASH. Its Guidelines for Drinking-water Quality have typically informed national standard setting in countries around the world. WHO, together with UNICEF, has regularly tracked progress towards achieving the Millennium Development Goals (MDG) targets on WASH. More recently, WHO has focused on the safe management and use of sanitation and waste water, WASH in health facilities, and on preparing countries for the water-related sustainable development goals.

WHO is currently focusing on four dimensions of WASH:

- **strengthening wash monitoring systems** at national levels through the WHO/UNICEF Joint Monitoring Programme (JMP) for Safe Water Supply and Sanitation, UN-Water Global Analysis and Assessment of Sanitation and Drinking Water (GLAAS), tracking of financial information in the WASH sector (TrackFin) initiatives and the Global Expanded Monitoring Initiative (GEMI);

- **supporting the safe management of drinking water** by developing guidelines, including Water Safety Planning, Household water treatment guidelines, and regulations through RegNet;
- **supporting national programming on sanitation** through technical assistance, scaling up Sanitation Safety Planning sanitation and health guidelines, safe use of waste water and recreational water guidelines;
- **mainstreaming wash in health programming, and health-care facilities** including mainstreaming WASH into nutrition, NTDs, maternal, child and newborn health, and WASH and health-care waste in health facilities.

During the Ebola response, WHO has supported technical advice and guidance through two Question & Answer sessions on WASH and health-care waste, which summarized the best available evidence regarding Ebola virus survival in the environment. In short, given its enveloped nature, the virus is not likely to survive long on surfaces (less than 2 days) nor in faecal matter (3 log reduction in 7 days or less). Furthermore, the large majority of infectious and symptomatic patients do not shed the Ebola virus in their stools or urine. Thus, extra measures are not required. Rather, good WASH practices should be adhered to in line with WHO environmental health standards in HCFs (e.g. sufficient supplies of safe water, water storage, safe health-care waste management and destruction, safe management of faecal matter, etc).

WHO and UNICEF have established a global initiative with the goal of providing WASH services in all HCFs in all settings by 2030. Currently, WASH in HCFs in the African Region, with regards to drinking water and sanitation coverage, varies widely from country to country. Coverage for drinking water ranges from 19% - 93%, for sanitation from 70% - 98%, and for hygiene from 73% - 97%.

Current global efforts are focused on advocacy and leadership, monitoring, research and evidence, and facility-based improvements. Again, it was emphasized that WHO is eager to engage with the governments of Ebola-affected countries on longer-term development work to improve WASH in HCFs, as well as on the complementary work on improving WASH in communities. This will necessitate strong partnerships with key organizations such as UNICEF, as well as NGOs, academia and civil society.

The African Region's overview focused on how to further mainstream the WASH dimension in IPC and on how to improve the availability of reliable data. Currently the main sources of quality data are the World Bank Service Delivery Indicators (SDI), the WHO Service Availability and Readiness Assessment (SARA), the USAID Service Provision Assessment (SPA), and the Global Analysis and Assessment of Sanitation and Drinking Water (GLAAS) report. Main indicators include availability of an improved water source, latrines, and soap for hand-washing, sterilization equipment, and adequate disposal systems for hazardous waste, disinfection, and sharps boxes. Furthermore, the need to integrate IPC assessment with WASH activities in existing health system assessments was highlighted; e.g. basic amenities and standard precautions are among IPC components of service readiness included in SARA. Standard precautions require WASH resources in order to meet standards.

The Libreville Declaration signed by both Ministers of Health and of the Environment from all African countries, was recalled as a unique opportunity and policy base for building a strong inter-sectoral collaboration to address environment-related health issues and for building a resilient post-Ebola health system.

Given the very wide range of issues to be tackled, recovery efforts should focus on those areas that offer the greatest opportunity for impacts in the short, medium and long terms.

## Discussion points were as follow:

- Country participants agreed that the availability of water and sanitation in HCFs is a huge challenge. It was proposed that in order for the situation to change at the national level, WASH and IPC priorities needed to be reflected in the health sector budget, to ensure ownership and monitoring in the long term. It was noted that before waiting to get fully piped systems in place, a lot of simple actions could be done which are inexpensive. Building resilience could start with water and sanitation.
- It was noted that in the context of the 'Water for All' declaration, there had been a Water Availability Target set for homes and schools by 2030, with monitoring being provided by WHO and UNICEF. It is left to the countries to adapt the goals and to implement proposed activities. Further, this aspect was also included in the MDGs.



- IPC has been strengthened because of Ebola. At the same time, improving IPC standards has probably averted other outbreaks and endemic issues such as numbers of cholera cases or other diarrhoeal diseases, bringing massive benefit to the communities. Efforts on IPC need to be sustained and strengthened.
- While achievements have occurred in IPC, a lot still needs to be done. Enthusiasm is important, but mentoring, monitoring and resources must be allocated for the long term. Training is important, but supplies must be available, and IPC should be looked at with the seriousness granted to budget lines. This calls for having IPC structures integrated in the Ministry of Health (MOH), along with IPC procedures and WASH components.
- Communities need to engage in infection prevention, in order to complement health system strengthening efforts.

## Concluding remarks from the opening sessions

To conclude, the WHO Director for Service Delivery and Safety joined the meeting via Skype, and presented on the long-term view. He commented on the importance of IPC as part of safe integrated, people centered care -a priority for WHO- and mentioned the current crucial moment for IPC & WASH and how much work must be achieved in the next 3-5 years. Accurate measurement is core to this, using set standards still to be defined by the three countries. This will allow for risk profiling, and to pinpoint areas where there might be problems in the future. Further, risk profiling will guide interventions to avert future serious problems. Universal health coverage means safe, high quality, health coverage, and IPC will contribute to achieving this.

## 2. IPC achievements during the Ebola response, by country

Each of the three countries gave a presentation focusing on progress achieved as a result of IPC and WASH improvement activities and assessments during the outbreak response phase.

All three countries noted that prior to the Ebola outbreak, serious challenges in IPC and WASH structures allowed EVD to spread quickly. When IPC was addressed through a coordinated multidisciplinary approach, transmission of Ebola could be curbed and HCW infections diminished.

During the discussions, it was recognized that each of the countries had achieved a lot, even if more progress still needs to take place and be sustained. IPC needs to be a comprehensive component within the health system reaching across all levels. Commitment from governments, with IPC budget lines included in national budgets is paramount. IPC and WASH are important issues, they reach beyond Ebola and generate huge burden on health-care systems and governments. Interventions can bring about significant change as demonstrated by examples from Senegal and from the Redemption hospital in Monrovia. It was emphasized that the backbones of IPC are water and electricity, and that IPC requires a multidisciplinary approach at all levels.

Summaries of each country's presentation and the discussions which followed are presented below.

### Guinea

Dr Alpha Ahmadou Bah, attaché at the national directorate for care and health care service, gave a presentation on behalf of the Ministry of Health of Guinea. The Ebola outbreak response in Guinea benefitted from international technical and financial resources. The Conakry Declaration signed by the Heads of State of the three countries, in August 2014, provided guidance for subsequent interventions.

As of 15 July 2015, Guinea has recorded a total of 3310 EVD cases, including 207 HCWs (107 confirmed). Physicians (57) and nurses (50) have accounted for 50% of HCW infections, and the case fatality rate

among them was 54%. The highest incidence among HCWs occurred in December 2014 with 46 cases notified.

IPC activities aimed at reducing HCW infections as well as strengthening the health system. IPC implementation started with the setting up of a coordination mechanism in September 2014, which was followed by the establishment of an IPC committee two months later. An accelerated outbreak response plan with a strong IPC component was put in place, and led to the implementation of triage to identify outbreak-prone diseases at the HCF level. Training curricula and Standard Operating Procedures (SOPs) were reviewed, hygiene committees were activated, and health and hygiene infrastructures were reinforced. IPC training of some 12 000 HCWs and waste managers was performed.

Monitoring of IPC performance over a period of four months showed significant improvements in three out of the six HCFs in Conakry.

IPC achievements were challenged by limited human resources and lack of supplies, as well as by limited adherence to basic IPC procedures by HCWs. Further, the lack of water in most HCFs as well as limitations in triage seriously hampered achieving basic IPC standards.

Advocacy for the training of waste managers, improved supervision of HCFs in general, as well as integrating WASH activities in the IPC action plan, were some of the proposed activities to improve basic IPC in Guinea.

Comments from the floor emphasized the need to improve the daily practice of IPC by strengthening hygiene committees and developing professional curricula for IPC. It was also noted that implementation of injection safety and IPC in laboratory services was defective.

## Liberia

Dr Catherine Cooper, Lead of the IPC unit, delivered a presentation on behalf of the Ministry of Health of Liberia.

As of mid-July 2015, a total of 10 673 Ebola cases including 4808 deaths had been registered in Liberia. Among them, 309 cases were HCWs who had contracted the disease at work or while caring for patients in the community. The outbreak had a serious social impact, with changes in social interactions and government restricting its workforce to essential staff.

Early in the outbreak, efforts were poorly coordinated with the response limited to a few counties, inconsistent messaging, absence of a national plan or SOPs, and HCFs lacking basic IPC training and supplies.

In September 2014, an IPC Task Force was established with the purpose of protecting HCWs and of creating an IPC culture within Liberian HCFs to prevent future outbreaks. The logo "IPC has to be everyone's business" was created. SOPs called "Keep Safe, Keep Serving" (KSKS) were developed and are since being used in all HCFs and by all partners. KSKS encompasses a PPE supply coordination and distribution process, a HCW infection and exposure assessment component, and an IPC embedded Technical Assistance project which aims to assess the status of health services and IPC in health facilities. A key component is the coordination and mapping of partners, with regular country coordination meetings aiming at minimizing duplication, and ensuring national coverage of all HCFs for all IPC activities. Some 8000 HCWs have been trained using the KSKS training package methodology with hands-on scenarios. Initially, adherence to IPC practices in HCFs was monitored using a specifically designed audit tool which was later replaced by a comprehensive Minimum Standard Tool for safe care provision by HCFs. Assessment results are reported via a dedicated web-based database. The IPC Ring Approach was developed to concentrate IPC support around areas of active transmission. IPC has also been integrated into other areas of the response, such as the WASH cluster, social mobilization and health promotion, psychological support, and social welfare care centres.

In conclusion, a multimodal and focused approach is being used which builds on many lessons learnt during the early phase of the response, and includes multiple partners, and technical and social science thinking.

During the discussion, the importance of the good collaboration with WASH to enable IPC best practices implementation was emphasized, although many gaps still exist.

Regarding HCW infections, there is a strong perception that most situations of exposure occurred in the community as protective precautions were not taken while providing care in the community and most hospitals were closed.

## Sierra Leone

Ms Nanah Sesay Kamara, IPC Coordinator, gave a presentation on behalf of the Ministry of Health of Sierra Leone.

It was recognized that before the Ebola outbreak, no IPC was practiced in HCFs, standard precautions were poor, and IPC equipment and supplies were limited.

Sierra Leone reported 572 HCW infections of which 335 were confirmed. Transmission occurred while practicing outside HCFs in most cases. There is a clear temporal association between the decrease in HCW infections and the introduction or improvement of IPC activities.

Response activities involved appointing a national IPC coordinator along with hospital IPC focal points, development of IPC Ebola SOPs, massive training of staff, IPC assessments in Ebola facilities and HCFs, and screening and isolation improvements. Ring IPC, a strategy developed to assess and strengthen capacity to screen, isolate and notify suspect Ebola cases in HCFs around areas of ongoing Ebola transmission, has been recently used effectively to control multiple clusters, such as the operation entitled “Northern Push”.

The discussion focused on community involvement which was defined as key during the whole outbreak. The Government, local leaders and radio stations were approached to deliver precise messaging. Further, messages on Ebola have been embedded in other community work e.g. vaccination programmes.

Ongoing challenges in the response were also discussed, ranging from supply shortages, weak screening units, fragile waste management practices, to limited staff adherence to IPC practices. Incorporating IPC into routine activities is key. While expanding training to staff is expected to contribute to improving IPC adherence on a day-to-day basis, it was emphasized that training alone will not change practice – reminders and culture change as well as supervision and monitoring are needed in the long term.

Gaps in IPC need to be closed; this includes continuity in supplies post-Ebola, effective IPC supervision, and private facilities adhering to basic IPC.

## 3. IPC implementation strategies & activities, and monitoring & evaluation indicators and systems, in the context of recovery plans, by country

Each of the three countries provided presentations with comprehensive information on their national action plans, focusing on IPC and WASH, as well as on HCW safety. Elements which had already been or which are in the process of being implemented were highlighted. Immediate priorities and needs, as well as medium- and long-term objectives were also addressed.

It was observed that IPC is about human capacity and incorporating IPC practices in routine activities. Changing behaviour is a huge challenge, particularly when there was no IPC culture before. A culture of safety needs to be fostered across the health system. Planning for recovery is an opportunity for installing an IPC structure. Local leadership was recognized as being important for the sustainability of IPC and WASH.

It was acknowledged that a lot had been achieved and put in place over the past year. Nevertheless, it was also noted that the plans presented were very ambitious, with too many objectives. Furthermore, there seemed to be large gaps between planning and implementation. It was emphasized that countries should be pragmatic and use practical plans concentrating on basic IPC measures as a sound basis for further development and sustainability.

IPC has been recognized as a priority area, and emphasis was put on the fact that IPC needs to be considered as the backbone of any health system, while availability of water and electricity in HCFs are the backbones of IPC. Water and electricity need to be available on a regular basis in any HCF if IPC is to be applied. Further, IPC structures need to be institutionalized by the government in order to sustain an IPC culture in HCFs.

Further, it was emphasized that there is a need to engage communities and empower patients given that care is often sought through traditional medicine and not the health system. It was recognized that traditional healers needed to be part of the process and after the crisis. It was acknowledged that social anthropologists have played a critical role in evaluating these habits in the community and then making recommendations on ways to work more effectively in the communities during the EVD response. Those approaches need to be sustained.

The existence of real technical expertise for training has been challenged and it was mentioned that support in finding the right mechanism for training rollout and supervision is vital. Training must be rolled out in a structured way and must become integrated into the practice of the facility. Further, the important role of including IPC in community education and schools was also emphasized.

Sustaining gains and building on successes cannot be forgotten. Successful strategies that have been established need to extend beyond Ebola e.g. community engagement and widespread hand hygiene improvement in Ebola are good examples. Thinking should go into how to strengthen systems that were developed for Ebola for post-Ebola. Some proposals for sustainability were mentioned as follows: (i) integrate IPC indicators and services into existing routine health services; (ii) establish a new unit in the Ministry of Health; (iii) have IPC plans that are country led, and supported by partners; (iv) look and think beyond Ebola; and (v) bring IPC into schools and universities.

Summaries of each country presentation and related discussion are presented below.

## Guinea National Recovery Plan

Dr Fanta Kaba, Chef de Cabinet, gave the presentation on behalf of the Ministry of Health of Guinea.

Challenges faced during the outbreak response were numerous and it was recognized that rigorous efforts on IPC are paramount.

IPC is now part of the reform of a wider Development Policy in the country. The MO

H established a new National Plan for the Development of the Health System (PNDS 2015-24), which contains a recovery plan. This plan has been approved by the Government, which will ultimately decide how it will be implemented.

IPC occupies a key position within the Health System Recovery Plan, which consists of three priority areas, namely: (i) getting to zero Ebola cases; (ii) improving performance of the district health-care system; and (iii) improving global governance of the health-care system.

IPC priorities include training, setting up triage points, and strengthening hygiene committees, among others.

Roles and responsibilities of key stakeholders and partners at the national and regional level have been defined, as well as a coordination mechanism for IPC interventions. Communities are encouraged to engage in health promotion, health-care providers have to adhere to strict standard precautions, administration is responsible for identifying resources, and partners have been called on to provide financial support.

IPC, as a central component of the health system, will be coordinated through the health system coordination committees (CCSS). Links should be established with WASH coordination committees as well as with civil society NGOs.

A monitoring and evaluation component in the plan will allow the monitoring of achievements, the identifying of gaps, and the supervising of future IPC activities. Key indicators have been defined for national and regional levels (e.g., level of adherence to proper hand hygiene and to basic standards in triage).

During the discussion, it was mentioned that many of the proposed activities have been implemented already, such as basic IPC measures. Site visits assessing IPC performance as well as assessing access to water are being performed regularly. However, serious limitations remain in accessing water and electricity in

HCFs. A WASH recovery plan has recently been established and implementation is in process. There is a concern for the monitoring and evaluation component, as well as for implementing the plan at sub-national level. Furthermore, it was highlighted that the community needs to be involved through education, including traditional healers, and adequate competencies for training and supervision of training should to be developed.

## Liberia IPC Health System Restoration

Dr Catherine Cooper, lead of the IPC unit, made the presentation on behalf of the Ministry of Health of Liberia.

At the beginning of Ebola, there was no organizational unit dedicated to IPC, and the response was provided through multiple structures established on an ad hoc basis.

Since then, Liberia developed a very comprehensive and ambitious six-year IPC Health System Plan, with the aim of building a resilient health system.

An IPC committee was established which developed the National IPC Policy, with core components, an organizational structure, and roles and responsibilities. An IPC programme structure has been proposed at national, county and facility level with the aim to institutionalize IPC within the health system. Technical guidance and human resource development are proposed with the intention of implementing priorities at each level. Integration of IPC supplies into routine medical supply chains, as well as improving HCF infrastructure required for IPC activities such as access to water and electricity are key priorities included in the plan. Use of data to improve IPC practices is also included in the policy, but indicators are still under development. From a longer-term perspective, antimicrobial resistance, occupational safety and health, and IPC research should also be addressed. A comprehensive structure for the national IPC programme with a quality assurance (QA) unit, a national IPC coordinator and advisory committee, a secretariat, and county and hospital IPC focal points was proposed.

The national policy is supplemented by a Strategic Action Plan with activities supporting each core component. Short-term priorities focus on capacity-building with mentorship programmes, and the launch of new IPC training packages (Safe & Quality Health Service - SQS). Medium-term priorities focus on redefining technical guidance for IPC, and harmonizing monitoring and evaluation plans, among others. Finally, long-term priorities should establish a functional water and sanitation system and HAI surveillance, and support IPC research.

During the discussion, it was stressed that the WASH component needs to be more deeply integrated within IPC; supply of water and electricity are a challenge both in urban and rural areas. Furthermore, it was proposed that indicators for monitoring progress need to improve. WASH packages are to be developed for peripheral facilities. Assessments have highlighted the lack of proper waste management, and so a mechanism for the proper disposal of medical waste still needs to be identified.

## Sierra Leone Presidential Recovery Plan

Ms Nanah Sesay Kamara, IPC Coordinator, gave a presentation on behalf of the Ministry of Health of Sierra Leone.

At the beginning of the outbreak, IPC and triage did not exist, and infection among HCWs was common. Up to 30% of cases occurred among HCWs of which 57% were nurses. Out of all infected HCWs, 69% died. This resulted in an interruption of health-care services, and fear and distrust in the health system.

A baseline assessment performed in 21 HCFs identified water shortages over the previous six months in 71% of the facilities, among other challenges in attaining basic IPC and WASH standards.

IPC was recently made a priority and is now an essential component for the Recovery Plan issued by the Ministry of Health and Sanitation (MOHS). Four IPC Presidential priorities and timelines have been proposed as follows:

- Establish an infrastructure for implementing and sustaining IPC. IPC committees have already been established in 23 hospitals, with IPC focal points appointed for each hospital, and meetings occurring



monthly. Specific activities include: (i) Operation Northern Push: aims at building IPC capacities where they are most needed; (ii) Ebola Response Consortium (ERC): is a collective NGO support for all IPC and WASH activities.

- Build capacity of health-care workers to implement IPC policies and practices within HCFs. Activities are as follows: (i) training of IPC focal points over time focusing on the prevention of EVD, monitoring tools, and training/mentoring; (ii) developing unified training packages and guidelines. A working group has been established to work on aligning available tools to standardized WHO/CDC tools; the Chief medical Officer will review all these guidelines and tools. This will be followed by mass training with all hospital focal points and later training will be developed for PHU level.
- Establish systems for conducting ongoing quality assurance and improvement. Activities include (i) develop IPC assessment tools; (ii) conduct IPC review meetings; and (iii) develop template for monthly reporting;
- Provide support for IPC supply chain management, eg estimate monthly PPE requirements and identify source of procurement, and establish an inventory mechanism.

Examples of improvements in IPC & WASH practice have been provided and are encouraging.

The discussion emphasized that there seemed to be a gap between guidelines and implementation. For instance, competencies for delivering training should be developed. A one-week “train-the-trainers” is not sufficient, and finding the right mechanism for training rollout and supervision is vital. Training must be rolled out in a structured way and must become integrated into the practice of the facility. Another point highlighted during the discussion was that government commitment and a dedicated budget are needed for sustainability. For instance, IPC supplies are not for the moment supported by the Government, but are external partner-dependent. Another important point is to ensure that IPC and WASH indicators and practices are integrated into the existing system.

## 4. Overview of implementation tools and training packages

The overview first focused on the available approaches and tools for IPC and WASH that countries could use and adapt to support their recovery plans. Available IPC training packages were described in detail, especially those including comprehensive IPC approaches beyond Ebola, embedded within a vision on improving quality in health care and integrated with other areas of health systems recovery. It was mentioned that the existing gaps in moving from training to implementation and the general lack of awareness about the training materials and tools available was a problem. The need for more training tools in French was also expressed and acknowledged.

### Available approaches and tools for IPC and WASH implementation and assessment in the context of recovery plans

Julie Storr, from the WHO HQ IPC and Early Recovery team, presented the WHO Early Recovery Toolkit. The Toolkit brings together all available technical resources from the multiple technical programs involved in the early recovery phase into a single package. It is intended to provide rapid access to the many available resources and approaches and will over time include short case study examples of application of implementation approaches from across the three countries. Although the focus is on the basic package of essential services, IPC and WASH resources are listed within the Toolkit. The toolkit structure is intended to facilitate easy navigation of the different types of support and resources available.

### Training needs and available packages

Mr Anthony Twyman, WHO IPC team, Liberia, and Dr Joyce Hightower, WHO IPC Lead for Guinea, gave an overview of available training packages in Sierra Leone, Guinea and Liberia. The gaps in moving from



training to implementation and the lack of awareness about available training materials and tools, were highlighted.

It was emphasized that basic IPC is needed to lay the foundation for future quality health care beyond Ebola. Everyone needs to know how to protect themselves, as well as others, from getting infected. There needs to be training, focused on specific roles, e.g. aimed specifically at IPC focal points and then also for HCW cadres, while orientation for new staff, post-training, and post-graduate training should also be provided.

In-depth IPC pathways such as internships, training, and supervision, are also needed to groom IPC experts. Furthermore, continuous training at different levels for all health workers was noted as being pivotal for building competencies.

It was questioned whether such a training system was sustainable, and whether advanced trained staff would be offered any job opportunities.

It was acknowledged that such a training system is available on the African continent through the Infection Control Africa Network (ICAN) with more than 2000 HCWs have been trained in IPC over the recent years. ICAN training courses are all available on-line or face-to-face in English, but not yet in French. WHO HQ is planning to facilitate the expansion to cover French and other languages.

WHO patient safety curricula are embedded in infection control, revision of the course is in process. WHO is available to provide support for country-specific curricula.

## IPC integration and collaborations with other areas of health systems recovery

Dr Rosa Constanza Vallenias, WHO HQ case management team, and Dr April Baller, case management and IPC lead, WCO Liberia, presented the concept of integration and collaboration between different areas of work from the point of view of clinical management. Integration was presented as the seamless coordination between departments/systems or better still as a strengthening of links. It was emphasized to avoid thinking of integration as being synonymous with blending. Specific Ebola-related IPC actions conducted and outcomes achieved by the clinical management team were presented as examples.

The clinical management team has been working for a number of years on supporting countries at high risk of harbouring other emerging dangerous pathogens. Key actions involve collaboration with other areas of the health system in strengthening frontline HCW capacities with regard to standard IPC, reporting to surveillance systems, and diagnosis (laboratory networks), among others.

A successful example of cross-pillar collaboration was highlighted in the EVD response in Liberia. Several products and actions were achieved through a concerted effort among several technical areas, such as (i) the ETU operational manual on how to decommission ETUs; (ii) community EVD blood collection; (iii) HCFs and households under “precautionary observation”; (iv) MOH men’s health screening (semen) programme. Experience on collaboration in the restoration of health systems was also presented. Among them, the Safe & Quality Healthcare Service (SQS) training was mentioned as a good example of integration of IPC, case management, surveillance, psycho-social support, and EVD.

## 5. Working group sessions

Participants split up into four working groups to debate and discuss the following four topics:

- 1. Criteria to define common IPC and WASH minimum standards in health-care facilities.**
- 2. IPC and WASH key monitoring indicators.**
- 3. IPC and WASH priorities, plans and technical support needs for medium-/longer-term recovery (2016-17).**
- 4. Unified approaches and mechanisms for cross-country learning and collaboration, and concrete inter-country IPC activities.**

Sections 6 to 10, below, report on outcomes of the four working groups, also capturing key discussion points from the audience.

## 6. IPC minimum standards

Criteria to define common IPC and WASH minimum standards in health-care facilities were discussed by working group 1. The group was asked to (i) review the minimum standards for IPC and WASH used in HCFs in the three countries; (ii) assess consistency with international standards; and (iii) identify and agree on common criteria for defining IPC and WASH minimum standards, considering possible variability across different types of facilities.

Current IPC and WASH standards, as well as related training and tools, are at different stages of development in each of the three countries. Liberia has several tools, the KSKS- Keep Safe Keep Serving (EVD-focus), SQS - Safe Quality Service (standard precautions-based IPC), and the Minimum Standards Assessment Tool (EVD-focus). Sierra Leone uses ONP - Operation Northern Push (EVD-focus), and Guinea uses IPC for WASH Guidelines/Standards with assessment tools.

Regarding consistency with international standards, the situation is as follows:

- **Guinea** recently developed an IPC checklist (with input from its MOH, CDC, WHO), and with a WASH-focused draft standard document (not comprehensive IPC).
- **Sierra Leone** is in the process of finalizing comprehensive new IPC technical guidelines. In addition, the IPC and the Case Management teams are working together to develop tools to ensure IPC is embedded within essential health services (general wards, screening onwards, maternal/child health, etc.), but still with a focus on EVD.
- **Liberia** is now focusing on IPC standard precautions and WASH standards and has drafted tools and training materials for national roll out, at a date yet to be defined. The IPC policy defining IPC structure within the government and roles/responsibilities at national, county, and facility levels has been drafted. The WASH standards reflecting WHO international standards and drinking water quality guidelines are also being updated.

The main focus of the group work concentrated on the need to identify common criteria for IPC and WASH minimum standards:

- Different standards should apply to different levels (Clinics, community HCFs, hospitals)
- The following elements will be important to develop indicators for:
  - Infrastructure and supplies (WASH, IPC and PPE)
  - Practice, including patient hygiene practices
  - Competency (Training/Qualifications)
  - Periodic assessments & monitoring
  - Accountability/Quality assurance
  - Roles & responsibilities
  - Occupational health/health-care worker safety (infection risk)
  - Indicators to be integrated into different practice setting guidelines (e.g., maternal health, surgery, etc.)

Related Issues and Recommendations:

- Important to start with previously established IPC standards and build from that base (e.g. essential packages, etc) to reach international standards
- Use these newly developed IPC written standards to develop appropriate assessment and monitoring tools (so they will be based on the new standards)

- Independent Regulatory Body with authority (e.g., to hold/revoke facility registration)
- Set and clearly define trigger indicators for
  - immediate action at time of monitoring & assessment
  - corrective action over time
- Develop method for dissemination of IPC standards to facilities (updates, changes) to enable facilities to translate standards into Practice/SOPs/Protocols at facility level (developed at either MOH or facility level)
- Should be applicable at all times, also beyond Ebola
- Consider incentives for meeting/exceeding standards
- Important to consider community hygiene and engagement
- Any entity working in the country should abide by these MOH-set IPC standards
- Government should require donors to require partners to use MOH standards and assessment tools
- Budget for IPC needs to be present at national and county/district/prefecture levels (in addition to HCFs) to support infrastructure and ongoing operation, supplies, training, monitoring, incentives, etc.

## Key points from the plenary discussion:

- Training curricula are not always based on written IPC standards in the countries.
- Minimum standards need to be issued for WASH, along with minimum funding requirements. They have been developed in Guinea but still need validation.
- Emphasis was put on the need for minimum standards/actions to be performed by frontline HCWs, when a patient presents at the HCF. In particular, what are minimum standards with regards to hygiene, waste management, WASH, etc.
- There are SOPs, but they need to be standardized, written down, and readily available for teams to be referred to and used for behavioural change at the point of care.
- The importance of being in line with international standards and to use common standards was highlighted. WHO offered support for country adaptation of international standards. It was concluded that sharing among the three countries would be useful, particularly in order to have a common platform.

## 7. Key monitoring indicators and benchmarking

Working group 2 was asked to: (i) review available tools for IPC and WASH assessments used in HCFs in the three countries; (ii) discuss mechanisms for reporting on EVD in HCFs; (iii) identify common key indicators; (iv) discuss about the systems currently used for data sharing and reporting; and (v) identify suitable systems (possibly common systems across countries) for benchmarking, data-sharing and the development of improvement action plans.

Each of the three countries is using tools, and there are many similarities and few discrepancies among them. Several challenges have been highlighted for all countries as follow:

- Most of the tools are WASH-deficient
- Tools are not standardized within countries
- Weak regulatory frameworks, high paperwork burden, and limited database management do not allow for proper information-sharing and implementation.
- Centralized reporting system and coordination for data-sharing are lacking. Data collection tools need to be scrutinized for consistency and approved by MOH.

- Cross-country coordination, integration of data in the Health Management Information System, offline capability/SMS, connectivity and automatic reporting should facilitate benchmarking and lead to the development of improvement action plans.

The group proposed the initial elements for a framework for IPC and WASH inter-country progress indicators by adapting a draft developed in Sierra Leone. It is meant to be used as a traffic light system for HCF improvements in IPC and WASH. It identifies different categories, such as Administrative, IPC training, Water Supply, Hand Hygiene, Waste Management, PPE supply, etc. A set of indicators, as well as an integrated scoring system, are included to identify gaps and to get data for planning and action. The tool could be adapted to fit the needs of all three countries.

The working group started the identification of the categories and indicators but further work is needed to prioritize and to decide on common key indicators and to liaise to the work on minimum standards so that indicators are clearly defined.

## Key points from the plenary discussion:

- The need to identify indicators reflecting frontline HCW best practices was emphasized (e.g., having a committee in place is one thing, but knowing if this committee is performing well is another dimension which needs to be assessed). This reasoning has to apply for each indicator, and thus it is paramount to add indicators which capture best practices.
- Opportunities exist in countries to integrate key indicators to pre-existing systems, such as HMIS (health management information system) or SARA (service availability and readiness assessment of health-care settings). It was observed that the HMIS system has no IPC indicators and it was proposed to integrate 2-3 feasible key indicators, from input to impact.
- The quality of training has not been standardised and this has created some confusion. There is an obvious link between training and indicators, as indicators are needed to measure progress. It was mentioned that Ebola-specific IPC has been put in place, but more in-depth training is required to ensure that knowledge translates into best practice (e.g. all HCWs wear PPE for EVD, but PPE should be used based on a risk assessment). IPC focal points require several months to get trained, in order to understand what data to collect and how to perform analysis. There is no standard training in the sub-region, and current knowledge should be supplemented via mentorship programmes.

It was proposed that another meeting be organized as soon as possible to compare the existing country monitoring tools, to agree on a set of minimum of key indicators, and to prioritize them. However, questions surrounded how to harmonize these, as different data collection systems are in place in each of the three countries, some collecting data on paper and other via electronic devices. Reference was made to SARA which contains most IPC indicators. Very importantly, it was proposed to ask the HMIS to integrate IPC indicators, rather than creating a duplicate system for data collection specifically for IPC. Finally, it was proposed that a common inter-country data-sharing platform be developed, using available applications.

## 8. IPC priorities, plans and needs for 2016-17

IPC & WASH priorities, plans and technical support needs from medium-/longer-term recovery (2016-17) were discussed by working group 3. The group was asked to (i) discuss current achievements and expected results by the end of 2015; (ii) identify remaining IPC & WASH priorities; (iii) develop plans and strategies to achieve these priorities; and (iv) identify technical support, financial needs, and potential partners.

Current IPC and WASH achievements and work in progress across the three countries were presented in a table. Further, expected results by the close of 2015 were detailed as follows: (i) validated national IPC policies; (ii) national IPC/WASH Units or similar structures created and functioning; (iii) capacity-building (training, mentoring); (iv) national IPC Guidelines; (v) integration/unified structure for IPC and WASH; (vi) trained staff increased by 20%; and (vii) WASH delivery improved by 20%.

The group agreed on five top priorities for the three countries:

- Establish a National IPC Unit or Recognized National IPC Structure

- Create a minimum IPC Package (IPC Working Groups)
- Implement WASH Standard Package (WASH Working Groups; Develop health-care waste management policy)
- Implement IPC & WASH Standard Practices in all HCFs (Create/reinforce IPC supply chain to health facilities)
- Build in-country expertise (pyramid approach): basic training plus additional training for IPC experts.

The three countries are at different stages of national plans and strategies. It was proposed that each of the countries implement routine monitoring and evaluation, as well as data-driven improvements of all activities.

The group identified the need to get financial assistance from partners (USAID, DFID, UN, CDC) for 2-3 years, technical support from WHO and CDC for 3-5 years, and implementation support from NGOs and WHO.

## Key points from the plenary discussion:

- Countries will need to link to IHR, strengthening links with preparedness and response. It was also proposed to have standardized WASH packages for all three countries.
- Building local expertise was recognized as important for sustainability, as well as improving the quality of training the trainers. Intensive 2-3 week courses for IPC focal points should be performed based on the model used in Sierra Leone, where CDC organized basic and comprehensive training on integrated disease surveillance and response (IDSR). It was further proposed to share the approaches used so far in each of the three countries and come up with a standardized training programme for implementation. Guinea reported that they had to redefine the expected qualifications of trainers, as no quality trainers were available to begin with. The term “expert” cannot be readily accepted and it is important to define what minimum requirements are expected from an expert or mentor.
- WHO informed the meeting participants that a proposal to develop an advanced training module to develop higher IPC expertise through IPC Leads via an intercountry sub-regional course has been developed and will hopefully be implemented in 2016. A second in-country in-service training is planned to gradually train frontline staff, including waste managers.
- A caveat was put on the intention to standardize and it was mentioned that standardization needs to be seen in relation to each country’s realities. Different countries have different ways to mentor and implement, and standardization does not mean the same as implementation.

## 9. Cross-country collaboration

Working group 4 deliberated on unified approaches and mechanisms for cross-country learning and collaboration, and concrete inter-country IPC activities. The group was asked to identify: (i) unified approaches and mechanisms for cross-country learning and collaboration; (ii) concrete inter-country IPC & WASH activities; (iii) potential partners to support these activities; (iv) roles and responsibilities; and (v) mechanisms and systems for reporting and continuous sharing of knowledge, lessons learned, IPC & WASH documents and tools.

The group proposed a series of inter-country engagements to be an overall umbrella for each of the three countries. This included field visits to neighbouring countries, regular technical meetings, e-based networking, research, cross-border joint activities, a quarterly newsletter, and identification of regional and national IPC and WASH focal points.

Areas of collaboration were proposed as follow: decommissioning ETUs (WHO, UNICEF); baseline WASH assessments (UNICEF, WB, AU); IPC supplies collaboration & logistics (WHO, WFP, UNICEF, JSI); IPC infrastructural standardization/minimum standards (e.g. triage, isolation); training, with MOH taking the lead, and ICAN involvement (WHO, JPHEIGO, CRS, WAHA) for pre-service, in-service, postgraduate level, as well as standardized IPC specialist training; mentorship and supervision (WHO, UNICEF, JPHEIGO). Other areas of collaboration should include agreeing on common surveillance and M&E mechanisms (including indicators); partner coordination & accountability (WHO, MOH, UNDP, EU); donors coordination (WHO); documenting and sharing of best practices (WHO, WAHO); feeding into evidence-based protocol and



guideline development and standardization; and, implementation research and publication (WHO, NIH, CDC, ICAN).

## Key points from the plenary discussion:

- The need for the countries to meet on a regular basis was emphasized by the whole group, since getting feedback from other groups was felt to be particularly useful. Using new technologies such as e-platforms will facilitate communication and will contribute to avoiding excessive travel.
- WHO proposed that while common minimum standards, common indicators, and common curricula are being developed and agreed upon, adaptations to country-specific contexts and needs can still occur.
- Planning for how to move from here started. It was proposed that each country delegation will decide on a focal point for inter-country collaboration; WHO teams will go back to the WRs for further decision after consultation with technical groups and AFRO.
- Research was felt to be a critical issue to be addressed. Experience gained over time needs to be captured, and research gaps need to be identified. Research topics should be identified by a working group and be proposed to the wider group at the next technical meeting. Proposed topics related to operational research and behaviour change and practice.
- A high priority should be put on documenting best practices, this should link to research, in order to assess why and what is best practice. Experience needs to be shared with a wider audience.

## 10. Technical support available from WHO

Before concluding, Dr Allegranzi provided a summary of what technical supports and tools are currently available across the three levels of the Organization (including AFRO, African Partnerships for Patient Safety, and the Inter-country Support Team) and in particular from the WHO global IPC programme, and invited colleagues from WASH and CDC to contribute.

A new global IPC Unit is in the process of being established at WHO, which will continue to focus on implementation strategies and tools on a number of IPC topics, and on IPC and Ebola response, recovery and preparedness. Core components of IPC, burden of HAI worldwide, prevention of SSI, sterilization and safe processing of medical devices, prevention of sepsis and catheter-related bloodstream infection, injection safety, and antimicrobial resistance (AMR) prevention and control will be addressed. One of the key priorities of the new unit is to strengthen collaboration with AFRO and all countries.

The IPC unit will support countries in the development of IPC curricula by using the WHO Patient Safety Curriculum Guide. Another idea is the creation of a WHO consortium of technical institutions with the aim to set up an advanced IPC Training. Furthermore, the development of an IPC and WASH self-assessment framework with a scoring and grading system is envisaged.

A series of WHO guidance and assessment documents on IPC and WASH are available from the WHO website. Additionally, an Ebola preparedness checklist, and guidance and support on surveillance and IPC strategies for combating AMR will be available. WASH specific documents, such as the WASH Safety Plans, the Joint Monitoring Plan with a new section on WASH in HCFs, containing a set of core indicators also relevant to IPC, guidelines for water quality, and water safety plans are also available. Guidelines for sanitation will soon be issued.

During the discussion partners proposed their support as follows:

- CDC informed us that they are in process of opening country offices in the three countries with activities focusing on IPC, surveillance, laboratory capacities and workforce, subjects which are all interrelated. The CDC Field Epidemiological Training program has already been used in Sierra Leone and is also available for other countries. CDC is working very collaboratively with WHO.
- UNICEF is working hand in hand with WHO in the WASH sector.
- Sierra Leone proposed to address local health training institutions, and integrate IPC modules in their curricula.



- ERC working in Sierra Leone explained their role on training, mentorship and evaluation of IPC implementation at facility level.
- IPC should be very much at the front of triage and case management, in order to minimize the risk of HCW infections and to improve patient safety in all countries.

## 11. Conclusions and next steps

The last plenary section was crucial to gather the participants' full consensus, to agree upon the key messages and formal recommendations from the meeting and to identify actions needed to move forward. A summary of these was presented by April Baller, Anthony Twyman and Benedetta Allegranzi and the session was chaired by Dr Jean-Bosco Ndiokubwayo.

There was full consensus on the fact that the meeting was a great opportunity for sharing IPC and WASH experiences and best practices for all participants and in particular for the three country delegations.

### The following key messages from the meeting were agreed upon:

- Participants acknowledged that the meeting had been a great opportunity for sharing IPC and WASH experiences and best practices, for all three countries
- Political acknowledgment of the central role of IPC in HS recovery has been clearly shown throughout the meeting
- IPC was recognized as the foundation for quality improvement in health-care facilities
- Clear examples of successful implementation and improvements during the response were achieved rapidly despite initial major gaps and challenges
- Need to carry on using these examples in the continuity and to strengthen the successes. Must not stop doing the good things put in place, as soon as Ebola outbreak ends
- Awareness that IPC during the outbreak was narrow and it is now acknowledged that a more comprehensive approach is needed
- WASH improvements to achieve min standards for HCF and the community are essential to enable both higher safety and IPC implementation
- Need for better coordination between WASH and IPC, including on indicators
- IPC and safety culture need to be strengthened and sustained at both
  - community level
  - health system level
- Need to translate national recovery plans into implementation with clear and feasible activities and timelines
- Following plans development, the governments also need to make concrete political commitments, including resource allocation
- Need to improve systems for patient and health worker safety, where standards are truly achieved
- Assessments and improvements are also urgently needed in private healthcare facilities
- Accountability needed at different levels
  - Government/National
  - County
  - Facilities
  - All healthcare workers
- Need advocacy and extensive support to urgently ensure availability of water and electricity, which are the backbone of IPC at the facility level

- Need solutions to the common and major challenges to IPC implementation: coordination (at national, district, facility levels), procurement/supply and supervision/mentorship
- Need to establish the IPC structure within the health system delivery unit (as proposed by Liberia)
- Leadership is key for sustaining the momentum in IPC from response to recovery and long-term HSS
- Important for sustainability to integrate IPC best practices into existing and routine health services
- Need for real in-country IPC/WASH expertise to be developed
- Leveraging neighboring countries' experience can help more rapid implementation
- Importance of working with in-country NGOs for practical implementation of IPC/WASH

The following recommendations were developed and agreed upon by all participants:

### TO THE THREE COUNTRIES

1. To establish common IPC/WASH minimum standards in line with international standards
2. To identify an independent regulatory body responsible for the implementation of standards and accountability
3. To secure a sustainable budget allocated specifically to IPC & WASH
4. To develop a standardized incentive programme
5. To develop common key IPC & WASH indicators and related definitions and scoring systems, and integrate these into the national lists of KPIs
6. To establish a system for data collection, a platform for data sharing and a mechanism for linking to immediate action plans
7. To develop mid- and long-term plans for IPC and WASH recovery and eventual integration into the health system:
  - a. IPC national and sub-national structure
  - b. IPC/WASH minimum standard implementation packages
  - c. Assessment and quality improvement system
  - d. Training
8. To continue to support improvement of IPC in the community including using social mobilization to develop appropriate messages

### TO ALL PARTICIPANTS

To establish and maintain mechanisms for inter-country meetings and communications, and common activities, including areas for research

The following key actions were identified:

1. Each country develops mid- and long-term IPC & WASH strategic plans by 1st October 2015
2. Identify one inter-country collaboration focal point per country
3. Organize regular (every 4 months) update IPC meetings\* coordinated by WHO and led by MOHs

#### Immediate focus to develop COMMON:

- a. Minimum standards
- b. Key indicators
- c. Curricula

\* Funds to be identified

4. Establish e-based networking through IST (e-mail listing, webpage, Dropbox, Teleconferences)

5. Define an implementation research agenda and establish a working group
6. Produce a full meeting report (WHO)

## Concluding remarks

Country representatives, Dr A. Gasasira, and Dr B. Allegranzi provided brief concluding remarks to the meeting.

It was noted that huge progress, both in terms of IPC & WASH, was achieved during the emergency response phase in all three countries. Consolidating these achievements, by shifting from a vertical IPC Ebola response approach to an integrated IPC programme approach, as part of a safe, integrated, people-centered health-care system, was recognized as the highest priority for urgent development.

Furthermore, improving WASH and ensuring IPC infrastructure, supplies, and ultimately safe practices in health-care facilities were noted as requiring continuous major efforts and focus. It was also felt that it was time to shift towards adopting standardized IPC documents, guidelines and training curricula, to achieve consistency within and among countries, while the importance of engaging communities was also recognized.

It was unanimously acknowledged that the meeting provided an unprecedented opportunity for sharing IPC and WASH experiences and lessons learnt. All authorities agreed strongly on the terrific added value of inter-country collaboration and engaged to provide support on the required next steps. In particular, WHO committed to facilitate inter-country communications and follow-up of actions to implement the meeting's recommendations.

# Annex 1

## List of Abbreviations

AMR	Antimicrobial resistance
CTE	Centre de traitement Ebola
DC	Developing countries
DERCs	District Ebola response centres
ERC	Ebola response consortium
ETC	Ebola treatment centre
ETU	Ebola treatment unit
EVD	Ebola Virus Disease
FP	Focal point
GEMI	Global Expanded Monitoring Initiative
GLAAS	UN-Water Global Analysis and Assessment of Sanitation and Drinking Water
HAI	Health care-associated infection
HCF	Health-care facility
HCW	Health-care worker
HMIS	Health Management and Information system
HSS	Health system strengthening
ICAN	Infection Control Africa Network
ICC	Interim care centres
IPC	Infection prevention and control (measures)
IST	Intercountry support team
JMP	WHO/UNICEF Joint Monitoring Programme for Safe Water Supply and Sanitation
KSKS	Keep Safe, Keep Serving
MOH	Ministry of Health
MOHS	Ministry of Health and Sanitation
MP	Member of Parliament
MSWGCA	Ministry of Social Welfare, Gender and Children's Affairs
MVE	Maladie à virus Ebola
NERC	National Ebola Response Centre
NGO	Non-governmental organization
NTD	Neglected tropical diseases
PPE	Personal protective equipment
RMNCH	Reproductive Maternal Newborn and Child Health
RITE	Respond Isolation and Treat Ebola
SARA	WHO Service Availability and Readiness Assessment
SDI	World Bank Service Delivery Indicators
SOP	Standard operating procedures
SPA	USAID Service Provision Assessment
SQS	Safe & Quality Health Service
SSI	Surgical site infection
TA	Technical assistance
TrackFin	Tracking of financial information in the WASH sector
WASH	Water, Sanitation and Hygiene

# Annex 2

## Agenda

### IPC recovery plans and implementation: Guinea, Liberia, and Sierra Leone inter-country meeting

#### Monrovia, Liberia, 20-22 July 2015 Meeting Agenda

##### Opening Ceremony - Day 1 afternoon

13:30 Introductions of participants

14:00 Words of welcome (Alex Gasasira, WR Liberia)

14:05 Opening remarks (Dierdre Kiernan, UNICEF Liberia)

14:10 Opening and welcome remarks (Bernice Dahn, Minister of Health & Social Welfare, Liberia)

14:30 Group photograph

##### **Session 1. Objectives of the meeting and overviews from WHO HQ and AFRO (Chair, Moses Massaquoi, MOH Liberia)**

14:45 Administrative and security announcements and objectives of the meeting (Benedetta Allegranzi, WHO HQ)

15:00 Global view on IPC and WASH (Ed Kelley, Benedetta Allegranzi and Margaret Montgomery, WHO HQ)

15:30 Overview of IPC in the African Region (Jean Bosco Ndiokubwayo and Magaran Bagayoko, WHO AFRO)

16:00 BREAK

##### **Session 2. Country presentations on IPC achievements in the Ebola response (Chair, Fanta Kaba, MOH Guinea)**

**16:15-18:00** Country presentations (MOH representatives, WHO, partners) and discussion with focus on progress achieved on IPC as result of activities and assessments during the response phase

16:15 Guinea (Alpha Ahmadou Bah, MOH Guinea)

16:45 Liberia (Catherine Cooper, MOH Liberia)

17:15 Sierra Leone (Nanah Sesay Kamara, MOHS Sierra Leone)

17:45 Plenary discussion

18:00 Closure of the day (Catherine Cooper, MOH Liberia)

19:00 Reception and dinner – culture group from Kendeja

##### Day 2 morning

8:30 Review of previous day and agenda (Francis Ojok, MOH Liberia)

##### **Session 3. Country presentations on IPC implementation strategies and activities, and monitoring and evaluation indicators and systems, in the context of recovery plans (Chair, Nanah Sesay Kamara, MOH Sierra Leone)**

**9:00-12:30** Country presentations (MOH representatives, WHO, partners) and discussion on recovery strategic plans with focus on:

- National recovery strategic plans with focus on IPC (including patient and healthcare workers' safety and WASH) - Immediate priorities and needs and medium-/long-term objectives
- IPC implementation strategies and current activities, and monitoring and evaluation indicators and systems, including roles and responsibilities, partners/WHO/MOH collaborations to support the country plans.

09:00 Guinea (Fanta Kaba, MOH Guinea)

10:00 Liberia (Catherine Cooper, MOH Liberia)

11:00 BREAK

11:30 Sierra Leone (Hossinatu Mary Kanu, MOHS Sierra Leone)

12:30-13:30 LUNCH

## **Day 2 afternoon**

### ***Session 4. Overviews on implementation tools and training packages (Chair, Joyce Hightower, WHO Guinea)***

13:30 Overview of available approaches and tools for IPC and WASH implementation and assessment in the context of recovery plans (Julie Storr, WHO HQ)

14:00 Focus on training needs and available packages in the 3 countries (Anthony Twyman, WHO Liberia, and Joyce Hightower, WHO Guinea)

14:20 Focus on IPC integration and collaborations with other areas of health systems recovery (Rosa Constanza Vallenias, WHO HQ, and April Baller, WCO Liberia)

14:40 Discussion

### ***Session 5. Working groups (introduced by Nana Mensah Abrampah, WHO HQ)***

#### **15:15-17:30 Working groups:**

1. Criteria to define common IPC and WASH minimum standards in health-care facilities (Facilitators, Sara Philips, International Medical Corps [IMC], Liberia, and Margaret Montgomery, WHO HQ)
2. IPC and WASH key monitoring indicators and systems for benchmarking, data sharing and development of improvement action plans (Facilitator, Julie Storr, WHO HQ, and Anthony Twyman, WHO Liberia)
3. IPC and WASH priorities, plans and technical support needs from medium-/longer-term recovery (2016-17) (Facilitators, Catherine Cooper, MOH Liberia, and Patrick Sijenyi, UNICEF Liberia)
4. Unified approaches and mechanisms for cross-country learning and collaboration, and concrete inter-country IPC activities (Facilitators, Omar Sam and Jean Bosco Ndiokubwayo, WHO AFRO)

17:30-18:30 Meeting of the WHO HQ, AFRO and country teams

## **Day 3 morning**

8:30 Review of previous day and agenda (Faith Kamara, MOH Liberia)

### ***Session 6. Reporting from the working groups***

08:50 Reporting from working group 1

09:15 Final discussion on IPC minimum standards (facilitated by Sara Philips, IMC, Liberia)

09:45 Reporting from working group 2

10:10 Final discussion on key monitoring indicators and benchmarking (facilitated by Julie Storr, WHO HQ,)

10:40 BREAK

11:00 Reporting from working group 3



11:25 Final discussion on IPC priorities, plans and needs for 2016-17 (facilitated by Catherine Cooper, MOH Liberia)

11:55 Reporting from working group 4

12:20 Final discussion proposed unified approaches and activities for cross-country collaboration (facilitated by Omar Sam, WHO AFRO)

13:00 LUNCH

### **Day 3 afternoon**

#### ***Session 7. Next steps and meeting conclusions (Chair, Jean Bosco Ndiokubwayo, WHO AFRO)***

14:00 WHO's available support (Benedetta Allegranzi, WHO HQ)

14:30 Summary of meeting outcomes, key recommendations and follow up actions (April Baller/Anthony Twyman/B. Allegranzi)

15:30 BREAK

16:00 Closing Ceremony (MOH, WR Liberia, other MOH delegations)

17:00-18:30 Meetings of the country representatives with WHO and partners

## Annex 3

### List of Participants

#### GUINEA

Alpha Ahmadou Bah  
National Directorate for Care and Health Care  
Service  
Ministère de la Santé  
Conakry

Martine Chase  
Centers for Disease Control and Prevention  
(CDC)  
Conakry

Yolande Hyjazi  
Johns Hopkins Program for International  
Education in Gynecology and Obstetrics  
(JHPIEGO)

Fanta Kaba  
Chef de cabinet, Chargée de la Supervision des  
structures de soins  
Ministère de la Santé  
Conakry

Enogou Koivogui  
Direction nationale de la Santé communautaire  
Ministère de la Santé  
Conakry

Boh Kourouma  
Direction nationale de l'Hygiène publique  
Ministère de la Santé  
Conakry

Stephine Lessieur  
United Nations Children's Fund (UNICEF)  
Conakry

Bah Ayha Mimada  
Ministère de la Santé  
Conakry

Boubacar Sall,  
Directeur, Adjoint du Bureau stratégique et de  
développement  
Ministère de la Santé  
Conakry

Evan Shuvan  
Centres for Disease Control and Prevention  
(CDC)  
Conakry

Taylor Warren  
Catholic Relief Services

#### WHO Country Office-Guinea

René Adzodo  
Health Systems Recovery

Fode Ousmane Bangoura  
Water, Sanitation & Hygiene (WASH)

Joyce Hightower  
Lead  
Infection Prevention and Control

Biennvenu Houndjo  
Infection Prevention and Control

Gilbert Kayoko  
Clinical Management

#### LIBERIA

Catherine Cooper  
National IPC Coordinator  
Ministry of Health and Social Welfare

Bernice Dahn  
Minister  
Ministry of Health and Social Welfare

Michael Forson  
United Nations Children's Fund (UNICEF)

John Geedeh  
County Health Team – Grand Bassa

Victoria Gherarm  
Médecins Sans Frontières (MSF) - France

Carissa Guild  
Médecins Sans Frontières (MSF)

Neil Gupta  
Centers for Disease Control and Prevention  
(CDC)

Mildred B. Harris  
John Snow Inc. (JSI)

Kumblytee Johnson  
County Health Team- Margibi

Yvonne Kodl  
John Snow Inc. (JSI)

Hawa Kromah  
County Health Team – Grand Cape Mount

Gabriel E. Moore  
County Health Team - Bomi

Tolbert Nyensah  
Deputy Minister  
Ministry of Health and Social Welfare

Francis Ojok  
International Organization for Migration (IOM)

Young A Paegar  
County Health Team - Bong

Rachel Patterson  
Ministry of Health and Social Welfare

Sara Philips  
International Medical Corps

Rufus Saye  
County Health Team – Nimba

Marion Subah  
Johns Hopkins Program for International  
Education in Gynecology and Obstetrics  
(JHPIEGO)

Margaret T. Togba  
County Health Team – Montserrado

Kanagasabai (Shankar) Udhayashankar  
Academic Consortium to Combat Ebola in Liberia

### **WHO Country Office-Liberia**

April Baller  
Lead  
Infection Prevention and Control

Aniroda Broomand  
Infection Prevention and Control

Olivia Dennis  
Infection Prevention and Control

Bente Faugli  
Infection Prevention and Control

Alex Gasasira  
Country Representative

Nuha Hamid  
Ebola Technical Lead

Francis Ndivoh  
Water, Sanitation and Hygiene (WASH)

Anthony Twyman  
Infection Prevention and Control

### **SIERRA LEONE**

Megan Klinger  
Center for Disease Control and Prevention (CDC)

Stacey Mearns  
Center for Disease Control and Prevention (CDC)

Nanah Sesay Kamara  
IPC National Coordinator  
Ministry of Health and Sanitation

Hossinatu Mary Kanu  
Chief Nursing Officer  
Ministry of Health and Sanitation  
Freetown

Alie H. Wurie  
Clinical Management  
Ministry of Health and Sanitation

### **WHO Country Office- Sierra Leone**

Anne Tilston-Eastaway  
Lead  
Infection Prevention and Control

Nonhlanhla Ngwabi  
Infection, Prevention and Control District (Kambia)

Buyiswa Lizzie Sithole  
Adviser to the Ministry of Health and Sanitation  
Infection, Prevention and Control A

### **WHO SECRETARIAT**

#### **WHO/HQ**

Nana Mensah Abrampah  
Technical Officer  
Service Delivery and Safety  
Health Systems and Innovation

Benedetta Allegranzi  
Lead  
Clean Care is Safer Care and Infection Prevention  
and Control programme  
Service Delivery and Safety  
Health Systems and Innovation

Christopher Bailey  
Coordinator  
Communications

Claire Lise Chaignat  
Medical Officer  
Service Delivery and Safety  
Health Systems and Innovation

Dirk Horemans  
Programme Officer  
Service Delivery and Safety  
Health Systems and Innovation

Claire Kilpatrick  
Service Delivery and Safety  
Health Systems and Innovation

Margaret Montgomery  
Technical Officer  
Water, Sanitation, Hygiene and Health

Stephane Saporito  
Videographer  
Communications

Julie Storr  
Service Delivery and Safety  
Health Systems and Innovation

Rosa Vallenias Bejar de Villar  
Medical Officer  
Pandemic and Epidemic Diseases

#### **AFRO**

Magaran Monzon Bagayoko  
Regional Adviser  
Protection of Human Environment

Françoise Bigirimana  
Inter-country Support Team (IST)-West Africa  
Ouagadougou

Jean-Basco Ndiokubwayo

Regional Adviser  
Blood Safety, Laboratories and Health  
Technology

Sam Omar  
Inter-country Support Team (IST)-West Africa,  
Ouagadougou

#### **OBSERVERS**

Shaheen Mehtar  
Director  
Infection Control Africa Network

Babacar Ndoye  
Independent consultant

#### **MEDIA – LIBERIA**

James H. Giahyue  
Stringer Media House

Laurina Honore  
Light TV

Mulbah Reeves  
ELBS/LNTV

Roland Tuley  
Light TV

Jerrerson Tweh  
Inquirer

Richard Wleh  
Joy.com

David A. Yates  
Daily Observer