

# Efforts to Build Infection Control Capacity in Liberia, Guinea, and Sierra Leone During the Ongoing Ebola Outbreak

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# Overview of IPC Efforts

- Response
  - Coordination of partners
  - Development of guidelines
  - Massive training efforts
  - Facility assessments and improvements
- Recovery
  - National policies and SOPs
  - IPC specialists at major facilities and district/ national levels
  - Reporting and accountability

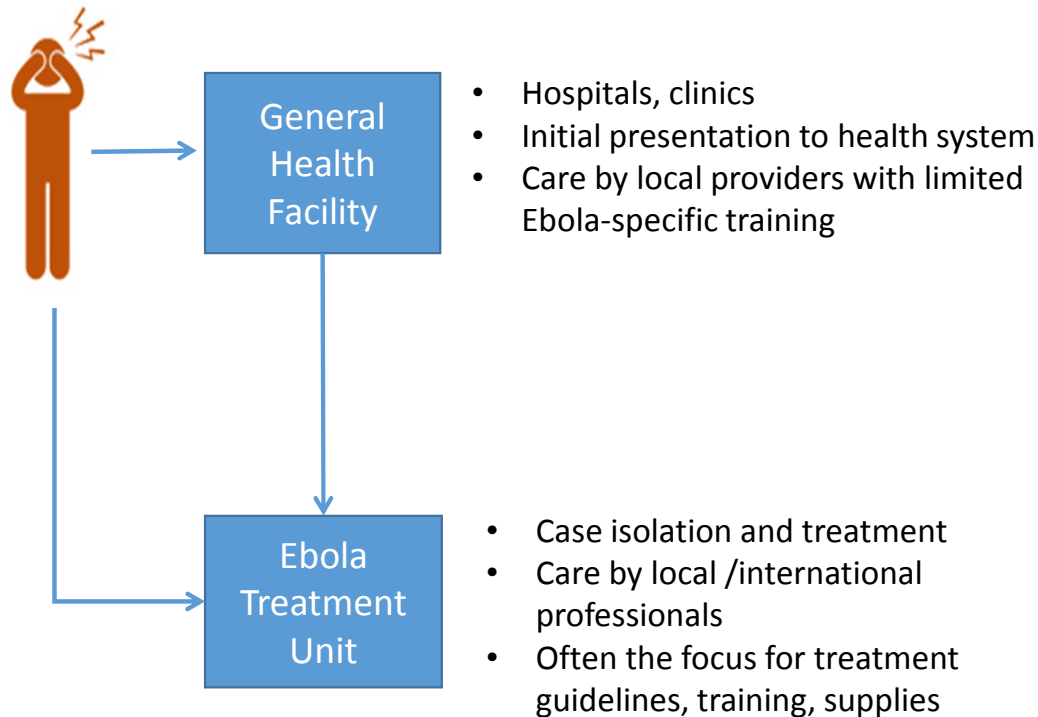


# “Keep Safe, Keep Serving”

Ebola IPC response efforts in Liberia



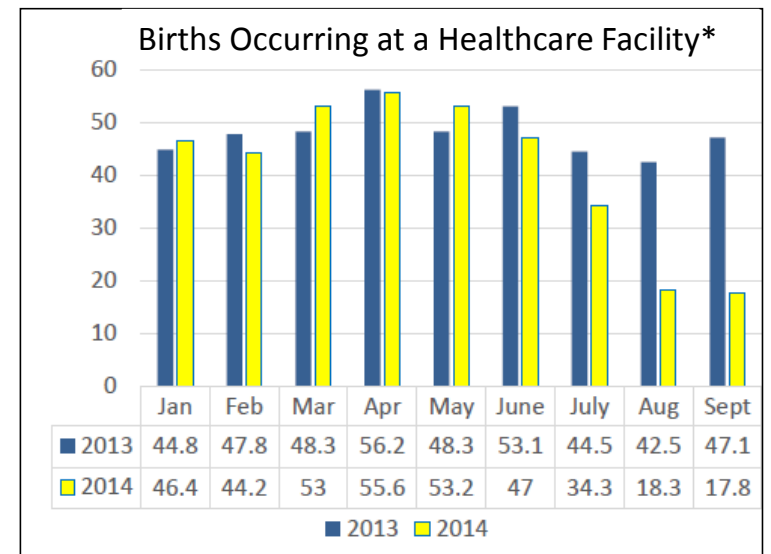
# Overview of Health Facilities during the Ebola Outbreak



All are potential sites for transmission of Ebola if adequate training, quality assurance, and PPE are not available

# Transmission of Ebola in Healthcare Facilities

- Early in outbreak, several clusters of Ebola virus disease in healthcare facilities were described
- Often due to poor knowledge / adherence to IPC practices
- Resulted in:
  - Facility/ community transmission
  - Loss of healthcare worker lives
  - Interruption of health services
  - Fear and distrust in health system



# Coordination



# IPC Early in the Outbreak

- Several IPC partners
- No coordination
- Lack of national coverage
- Inconsistent messaging
- Lack of PPE / supplies
- No national plan or standard operating procedures




# The National IPC Taskforce

- Created in September 2014 to support IPC response activities in Liberia: “Keep Safe, Keep Serving” (KSKS)
- Chaired by MOH; supported by bilateral and NGO partners
- Key activities:
  - Provide IPC technical assistance to MOHSW
  - Develop an IPC curriculum and train master trainers
  - Perform healthcare facility assessments of IPC practices
  - Conduct healthcare worker EVD investigations
  - Estimate PPE needs and facilitate distribution
  - Coordinate / provide technical oversight of partners





# KSKS Standard Operating Procedures




**Departure Checklist**

Brief the team leader to ensure an understanding of all the materials and the training flows (see IPC training narrative).

For teams leaving Monrovia ensure you have the following materials:

Here is what we recommend for each team travelling for 3-4 days.

- Departure checklist (1 set)
- Day 1 IPC training Narrative (4 sets)
- Day 1 Creating Ebola Care Centers
- Day 1 TOR for IPC focal point (30 s)
- Day 2a combined essentials sessio
- Day 2b Healthcare Providers (150
- Day 2b Ancillary Staff (100 sets)
- Day 2b Waste management, clean
- Day 2c Audit Tool (200)
- Day 2c Daily check list (50 sets)
- Posters (50 each) in A3
  - ✓ Basic PPE on/off
  - ✓ Chlorine solutions and uses
  - ✓ Enhanced PPE on
  - ✓ Enhanced PPE off
  - ✓ Gloves on\_off
  - ✓ Hand rub
  - ✓ Hand washing
  - ✓ Making chlorine water from
  - ✓ Preparation of chlorine
  - ✓ Triage flow
  - ✓ Waste disposal



**Keep Safe - Keep Serving**

Roll out of IPC Precautions in HCFs

**County Visit Program**

1. Meet with County Authorities, HCF Managers, and Community Leaders
2. Health Center and Hospital training & on-site orientation
3. Health Clinic training & on-site orientation

Target Duration: 3-4 days

**I - Meeting with County Authorities, HCF Managers, and Community Leaders**

1. Greet local authorities
2. Introduction of National/International Facilitators. It is essential that facilitation teams have expertise in local patient care practices, IPC, and Water and Sanitation.

Audience for Day 1:

- Local health authorities
- Director and designated IPC Focal Point from each health center (HC) and Hospital (2ps)
- Officer in Charge (OIC) from each clinic (1p)
- Community leaders

3. Presentation of what's planned for the country, and specifically for the county in terms of the IPC package. Package is comprised of a three pronged-approach:
  - Training
  - Supplies
  - M&E
4. Presentation on main things all should know about Ebola and describe the content of training materials and tools
5. Training on how to establish Ebola Care centres

- S.O.P.s for different areas:
  - Household
  - Community Leaders
  - Community Educators/Agents
  - Community Care Centers
  - **Health Centers and Hospitals**
  - **Health Clinics**
  - Transportation
  - Interim care centers
  
- Training curriculum based on SOPs



# Training



# IPC Training Courses

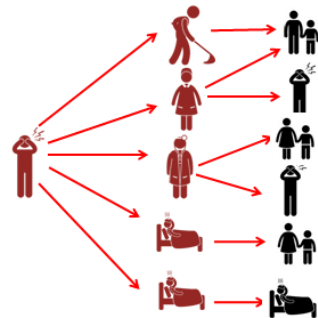
## □ Frontline HCWs

- 2-3 day course
- Focus on IPC recommendations
- Hands-on scenarios

## □ IPC specialists

- Staff who oversee IPC
- 4-5 day course
- Not only recommendations
- Underlying principles
- Supervision skills
- Quality assurance and improvement

One person can make many people sick

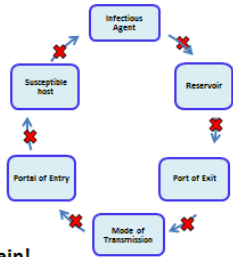


Who is at risk of infection in the facility?  
Everyone.

Chain of Disease Transmission

- For infection to spread, all the steps must be connected
- Disrupting this chain will stop the transmission of infection!

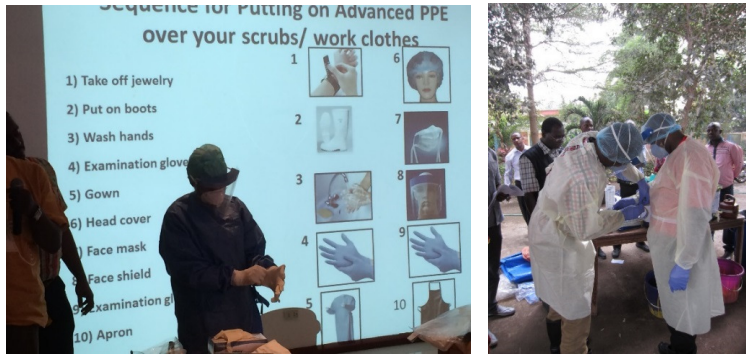
What is your role in preventing disease transmission?



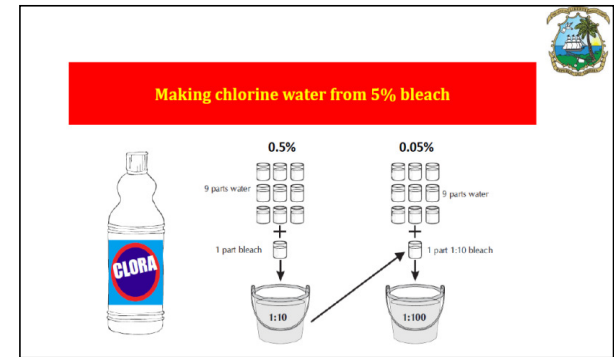
Breaking the links of the chain!

Slides from IPC specialist training

# Examples from KSKS Training Program



Interactive exercises for appropriate PPE use



Environmental cleaning/ disinfection



Hand Hygiene training



Needle safety

# Trained HCWs

Metric	Guinea	Liberia	Sierra Leone	Total
Master trainers (train frontline HCW)	201	200	364	765
HCWs trained in IPC	8,890	8,238	7,487	24,615

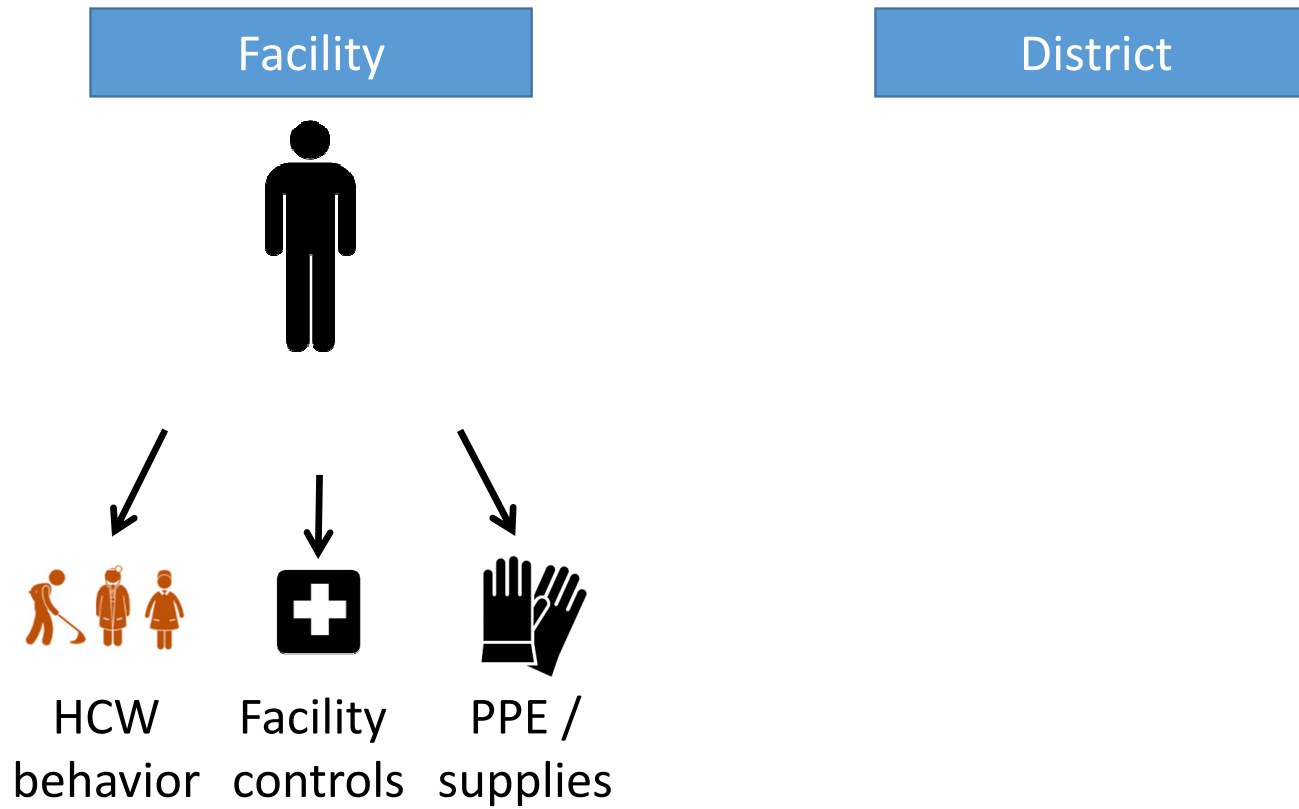
As of April 16, 2015



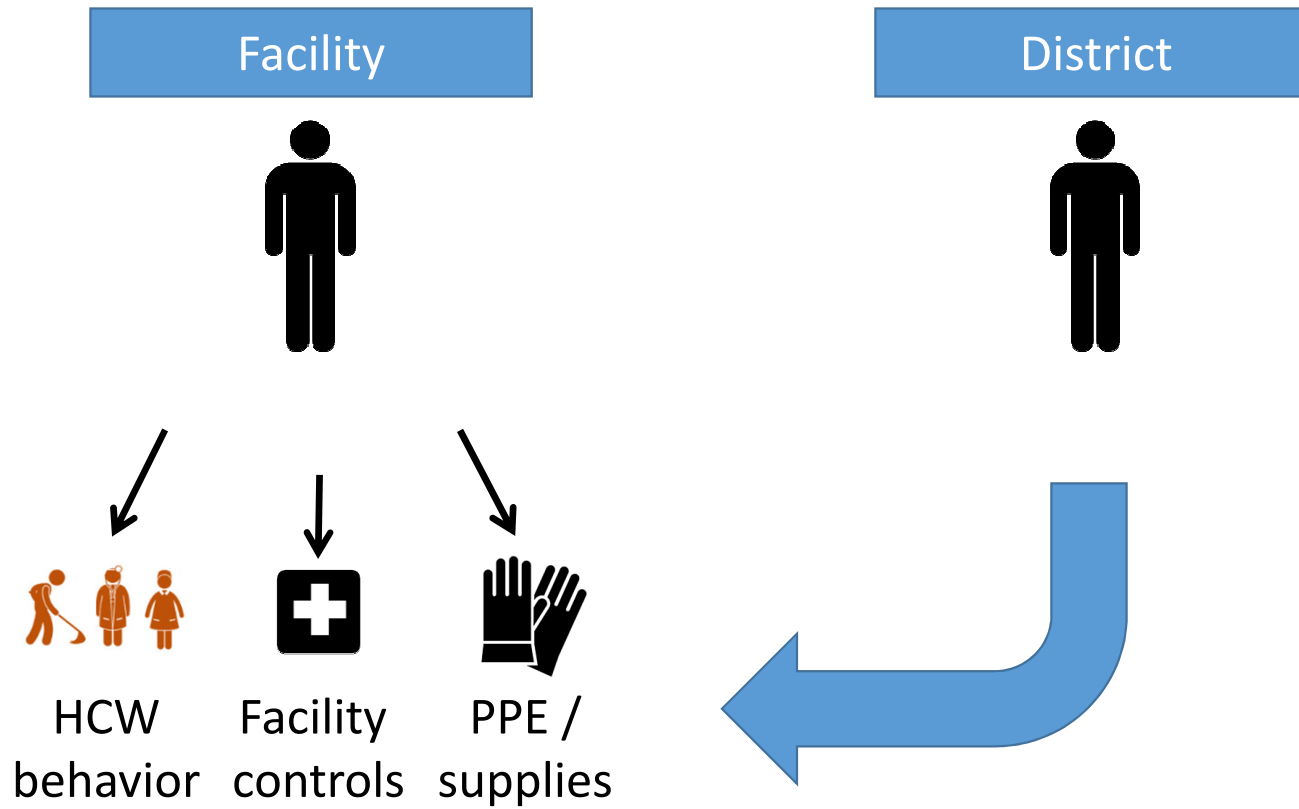
# Facility Assessments and Improvements



# Roles of IPC Specialists



# Roles of IPC Specialists





# “Embedded TA” Program: Liberia

- 20 doctors trained to support county health teams as embedded technical assistants
- 1-2 TAs (depending on the size of the county) were sent to each county for a period of two weeks week
- Terms of Reference:
  - Facilitate implementation of IPC
  - Provide and coordinate HCW training
  - Assess IPC practices and facility safety using a standardized audit form



# Preliminary Findings from Embedded TA Program

Selected Facility Characteristic	November (n=79)	December (n=96)	Change
Patients screened according to MoHSW protocol	42%	80%	+38%
Staff use basic PPE for low risk activities	46%	78%	+32%
Staff use extended PPE for high risk activities	67%	91%	+24%
Standard IPC guidelines in place or posted	64%	90%	+26%
Has a designated isolation area	42%	52%	+10%



# Impact of IPC Efforts in Liberia: ACCEL



Building chlorine mixing stations and shelving for PPE storage on the wards

# Impact of IPC Efforts in Liberia: ACCEL

*“Before”*



*“After”*



Informal waste collection area replaced with burn pit

# Impact of IPC Efforts in Liberia: Redemption Hospital, Monrovia

*“Before”*



Before implementation of IPC program

*“After”*



Newly formed IPC committee

# Impact of Response Efforts

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- ❑ **Improved IPC practices documented in non-ETU facilities**
- ❑ **Overall, HCW infections have declined since summer/fall 2014**
  - Percentage of HCW cases has fluctuated but also declined
  - Early in outbreak up to 30-40% of infections were among HCWs
- ❑ **Difficult to directly attribute declines to CDC and partner efforts**
  - Numerous anecdotes of IPC interventions leading to Ebola prevention

# Recovery: National IPC Program Sierra Leone



**MINISTRY OF HEALTH  
AND SANITATION**  
THE REPUBLIC OF SIERRA LEONE

# Recovery: Sustainable IPC Improvements

- Establishment of National IPC Unit
- Appointment of IPC Focal Persons at District Hospitals
- Development of IPC Guidelines and SOPs





# Establishment of National IPC Unit

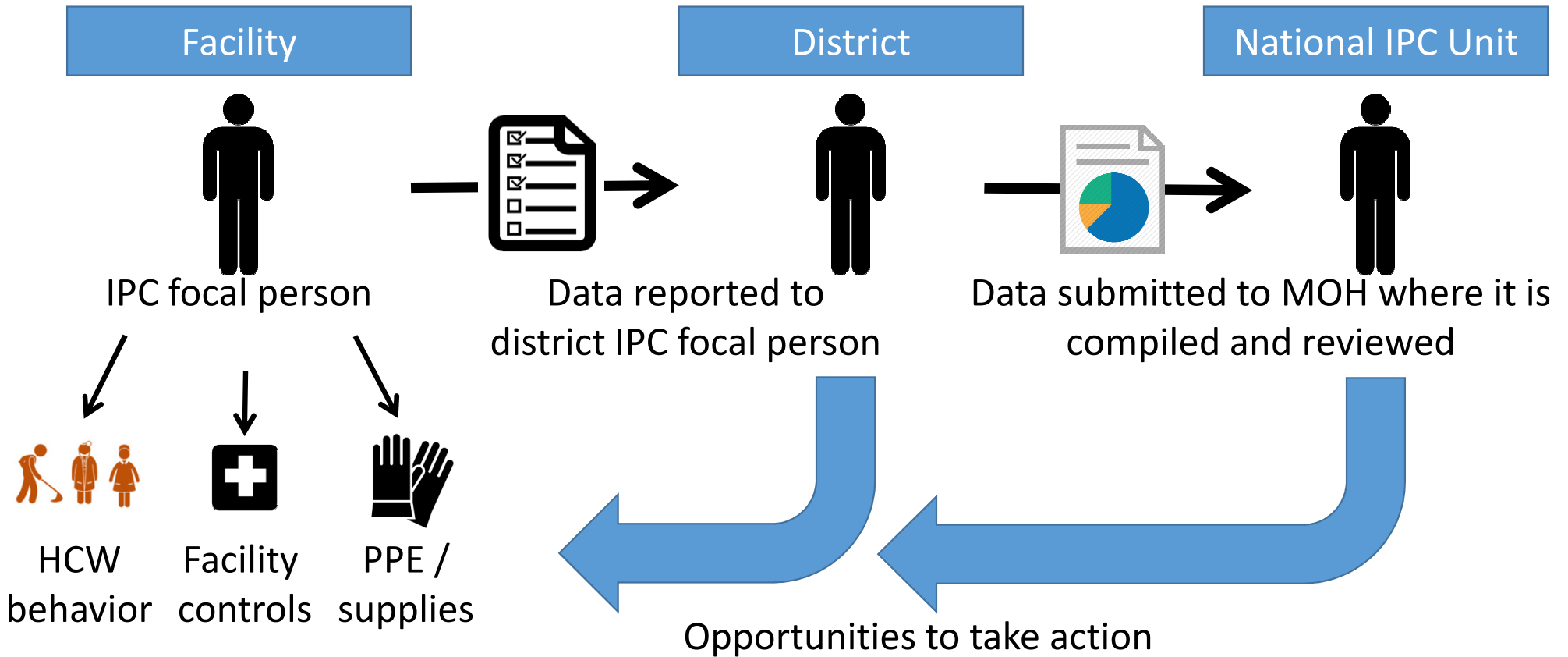
- National IPC Coordinator appointed February, 2015
- Responsible for coordination and leadership of National IPC Program activities
- Reports directly to Chief Medical Officer
- IPC is priority area in Presidential Recovery Plan



US Ambassador John Hoover and IPC Coordinator Nanah Sesay Kamara



# New IPC Framework: Sierra Leone



# Activities of the Facility IPC Focal Person

- Develop IPC skills
  - Attend Advanced Training by CDC/NGOs
  - Receive mentoring by NGOs
- Improve safety at home facilities
  - Baseline assessment of facilities
  - Development of action plans
  - IPC training of HCWs at their facilities
  - Implement screening/triage
  - Monitoring on wards



# IPC Focal Person Training

- February, 2015
  - 2 week training facilitated by CDC and Infection Control African Network (ICAN)
  - Focus on prevention of EVD transmission within hospital (e.g. screening/triage, appropriate use of PPE, monitoring on wards)
- May, 2015
  - Training on monitoring tools
- August, 2015
  - Focus on training/mentoring skills
- October, 2015
  - 2 week training facilitated by CDC/ICAN
  - Introduction of National IPC guidelines



Kick-off of IPC focal person training, February 2015



# Sierra Leone Times

First online newspaper in Sierra Leone

Sierra Leone Times <http://www.sierraleonetimes.com> 2:15 PM Tuesday 16 June 2015 Volume 016

Sierra Leone News Breaking Business News Breaking International News Liberia News Aging News Media News  
Africa News Natural Health News Parenting News Sierra Leone News Space Science News Arts News

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## Sierra Leone News: Nurses nationwide engaged on Infection, Prevention Control

Awoko Thursday 5th March, 2015

The rapid spread of the deadly Ebola Virus in the country, which has already claimed the lives of health practitioners in Sierra Leone may not be unconnected with the lack of proper Infection, Prevention Control (IPC) mechanisms in the country's respective health units.

As a result not only was the effect evident on health workers who control health units across the country but thousands of innocent Sierra Leoneans who died in ceaseless streams within the period.

In a bid to prevent future health calamity, and as part of preparations for post-Ebola plans, the Ministry of Health and Sanitation in collaboration with the World Health Organization, (WHO) United States Centre for Disease Control and the International Rescue Committee (IRC), has organized a two week's IPC training workshop at the Hill Valley Hotel for twenty-five nurses and other IPC focal persons nationwide.

Making a statement before the commencement of the training, the Deputy Chief Medical Officer for the Ministry of Health and Sanitation, Dr. Saran Kamara explained that following the Ebola outbreak, it was found out by health experts that the Ministry lacks a lot on IPC in the respective healthcare delivery units in the country.

As a result of this deficiency, thousands of deaths, mostly among health workers, occurred. In a rough statistics, she listed that about 296 health personnel became infected out of which 221 died.

The Deputy CMO noted that such huge deaths on the country's...

New Message

To

Subject

### Latest Sierra Leone Times news

#### Guinean Nabbed For Duping Auto Companies

<br>A 26-year-old Guinean has been arrested by the police for posing as a bank official to ...

#### Ebola survivor Nancy Writebol is returning to Liberia

The American missionary who contracted Ebola and brought attention to the outbreak in West Africa ...

#### Britain to crack down on travel for FGM

...

Government of Sierra Leone (Freetown) »

3 MARCH 2015

### Sierra Leone: MOHS Collaborates With IRC and Partners to Build Capacity On Infection Prevention Control

Freetown — The Deputy Chief Medical Officer, Ministry of Health and Sanitation, Dr. Saran Kamara, has reiterated the need for sustainable training on Infection Prevention Control ahead of the Post Ebola era.

She was addressing 25 health care providers drawn from District Hospitals across the country at the opening ceremony of a two-week Infection Prevention Control (IPC) organized by the Ministry of Health in collaboration with the International Rescue Committee (IRC) at Hill Valley Hotel in Freetown on Monday March 2, 2015.

Dr. Kamara reminded her audience about the status of the country's health system on the impact of the Ebola outbreak and death toll of health workers that were providing services to save lives. The standard operating procedures on IPC was necessary at the early stage but the management of the disease on Infection Prevention Control was critical and still crucial for the Ebola epidemic, and beyond Ebola. "We are looking at other diseases like Cholera, Lassa Fever among others within the Ministry's Post Ebola Recovery Plan as IPC is key for Health Care Workers", opined Dr. Saran Kamara.

The World Health Organization (WHO) IPC Lead, Julie Storr described the training as extremely important for health care providers and expressed appreciation for the interest demonstrated by participants.

"Infection Prevention Control makes work safe and health care safe", Julie Storr told participants.

News / Africa

### Sierra Leone Launches New Initiative to Stop Ebola Spread

Print Comment Share



Healthcare workers in a training session for the IPC (Infection Prevention Control) in Freetown, Sierra Leone, March 3, 2015. (Nina deVries/VOA)

Nina de Vries

March 05, 2015 8:20 AM

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Sierra Leone VP Quarantines Self After Bodyguard Dies of Ebola

W. African Nations Hit by Ebola Seek More Aid From EU

Report: 30 Countries Highly Vulnerable to Ebola-like Epidemics

Seventy-five healthcare workers from across the country are taking part in the two week training, which includes classroom theory and hands on training.

They are learning more about IPC which includes good hand washing practices and wearing proper PPE - personal protective equipment - when coming in contact with a suspected Ebola patient.

### Sierra Leone News: Nurses nationwide engaged on Infection, Prevention Control

The rapid spread of the deadly Ebola Virus in the country, which has already claimed the lives of health practitioners in Sierra Leone may not be unconnected with the lack of proper Infection, Prevention Control (IPC) mechanisms in the country's respective health units. As a result not only was the effect evident on health workers who control health units across the country but thousands of innocent Sierra Leoneans who died in ceaseless streams within the period.

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As a result of this deficiency, thousands of deaths, mostly among health workers, occurred. In a rough statistics, she listed that about 296 health personnel became infected out of which 221 died.

The Deputy CMO noted that such huge deaths on the country's already crumbled human resource capacity has had a long term adverse effect in providing health care for the people. She mentioned that 11 doctors out of 300 specialized medical doctors have died, and that so many nurses and other cadres of personnel also became victims of the troubled disease.

She said the cause of these untold deaths is clear, the absence of proper and adequate IPC systems in all health units in the country. This, she maintained, explains the reason why the conduct of such training on IPC for nurses in all health units was deemed important, so that they, while discharging their duties, will be aware of the need for IPC procedures.

For this course, Madam Saran Kamara said that they have appointed national focal points in all the district hospitals, as a training of trainers' session, so that they as first contacts for patients will be able to prevent themselves from infectious diseases of all sorts.

The IPC Coordinator at the Ministry of Health, Nana Sesay Kamara buttressed that 57% of health facilities nationwide do not have adequate water facilities, despite the fact that water plays a pivotal role in ensuring hygiene and IPC procedures in general.

She noted that the outcome of the workshop will produce guidelines for standard operating procedures, that will be developed possibly as school curriculum in a bid to emphasize the essence of maintaining basic hygiene practice.

Nana said that the launching of the IPC unit and the training of the 25 focal people to represent each district hospital in Sierra Leone is a worthy venture that will salvage the situation that led to the invasion of Ebola and other diseases that have occurred over the years.

Health Coordinator for International Rescue Committee Dr. Stacey Means explained that as implementing partners, they are directly supporting Bo, Kenema and Kono hospitals. She mentioned that considering the critical situation that prevailed following the Ebola outbreak, such training on IPC is important, especially when IPC was lacking before the dreadful disease. Therefore, she said, they will be following up three more trainings in the course of this year in a bid to strengthen the venture.

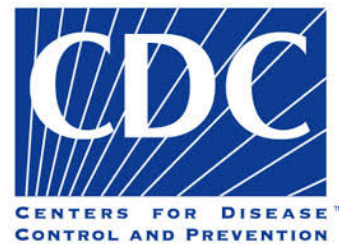
A member of the US Centre for Disease Control (CDC) team, Amy Kolwaite said that the training is not only meant for nurses but cleaners and other hospital support staff so that they too would be able to protect themselves while serving in hospitals. Therefore, she said, together with the WHO, CDC will be rendering technical assistance in drafting guidelines, standard operating procedures and other approaches needed in pushing forward the IPC drive.

By Poindexter Sama  
Wednesday March 04, 2015



# NGO Mentoring Program

- NGO-support at 22/25 district hospitals
- Consortium of 8 NGOs
- IPC Mentor for MoHS IPC Focal Person
  - Assist with trainings of HCWs
  - Support data collection for National IPC Unit
  - Procure necessary supplies and equipment



# Decongestion of Wards



Before IPC Focal Person



After IPC Focal Person

# Sharps Safety- Before





# Sharps Safety



# Waste Management- Before



# Waste Management- After





National Infection Prevention and Control  
Interim Guidelines for Hand Hygiene

Sierra Leone

Ministry of Health and Sanitation

Version 1

Approved by: **Dr. Brima Kargbo, MD MPH**

Chief Medical Officer, Ministry of Health and Sanitation

DATE APPROVED: May 1, 2015



# Lessons Learned



# Some Lessons Learned: Response

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- ❑ **Infection control is about human capacity, not just PPE/ supplies**
- ❑ **Extremely challenging to rapidly create IPC where there previously was none**
  - International staff (CDC, WHO, NGOs) can help
  - National staff focusing on IPC are critical
    - Competing priorities for limited resource
- ❑ **A culture of safety needs to be fostered across healthcare system**
  - Can only be accomplished through long-term IPC presence

# Getting to (and Staying at) Zero: IPC Perspective

- Ensuring consistent adherence to recommended IPC practices
  - Addressing healthcare worker complacency
  - Role for IPC specialists and supportive supervision
- Reaching all corners of healthcare:
  - Non-ministry facilities and traditional healers
- Maintaining access to critical supplies



# Long-Term IPC Implementation

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## ❑ Invest in IPC infrastructure and capacity

- Relevant not only for Ebola, but for other health security issues
- Integrate with core public health capacity building efforts, including health reconstruction

## ❑ Prioritize IPC on the global health agenda

- Ministries
- WHO
- International partners and donors
- Private industry



# Acknowledgements

Clinicians and healthcare staff in Guinea,  
Sierra Leone, Liberia  
Ministries of Health  
CDC-HQ  
CDC country offices  
WHO  
NGOs  
Clinicians and staff from around the world



Connaught Hospital, Freetown, Sierra Leone

