

Ebola 2013-2016: The Enduring Agony in Sierra Leone & Liberia

and

The Joy of Helping Patients Survive in Liberia 2014

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Law Center O'Neill Institute

School of Foreign Service

The 28th Annual Dolan Lecture: Nov 12, 2015

Dr. Martin Salia: 1 of > 880 Health Workers in W. Africa Infected with Ebola 2014-15

- This Presentation is Dedicated to Dr. Martin Salia and Colleagues in West Africa
- *One of > 511 health workers in West Africa who have died due to the Ebola virus in 2014-15 so far.*

**Celebrating the
Life and Legacy of
Dr. Martin Salia**



1970 - 2014

**Monday December 8, 2014
1:00pm - 2:00pm
McShain Lounge in McCarthy Hall
Georgetown University**

***Dr. Salia was a beloved colleague
of the Georgetown Global
Health Program in Cameroon***

From AIDS 1982 to Ebola 2016: A Career

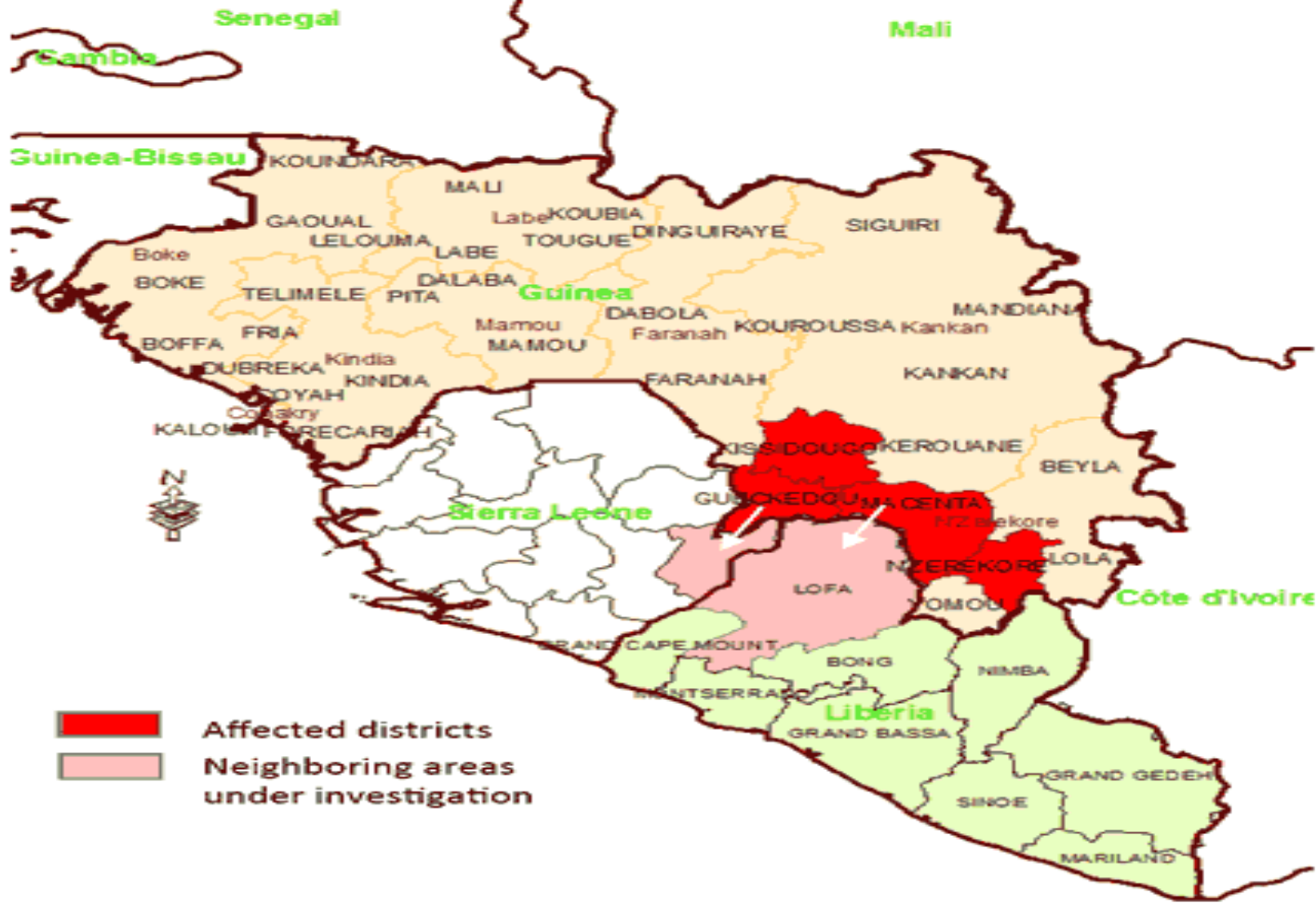
“What is Past is Prologue” (US Nat’l Archives)

- AIDS 1982-2002: UCSF, Harvard, DoD, USPHS-NIH/FDA, DC
- Anthrax 2001: DC
- Smallpox: 2002: DC

- SARS 2003: Hong Kong, Toronto, Guangzhou
- Avian Flu H5N1 2004-Now: Vietnam, Indonesia, Egypt
- Pandemic flu H1N1 2009-2010 USA, Egypt

- MERS: 2012-2016: Qatar, Jordan, UAE, Egypt, Bahrain
- Avian Flu H7N9 2013-2016: China
- Ebola 2013-2016-?ENDEMIC : Guinea
- What’s Next in 2015-2016-2017? See Smithsonian Exhibit 2018

23 March 2014: 1st WHO Report of Outbreak starting in Guinea on Border with Liberia & Sierra Leone. By April 7 Spread to Capital Cities for 1st Time



RED FLAG!: Ebola in Conakry, Guinea: 3 April

The 1st time Ebola Emerged in a Capital City (1976-2014)

Ebola virus disease: background and summary

Disease Outbreak News

3 APRIL 2014 - WHO is supporting the national authorities in the response to an outbreak of Ebola virus disease (EVD; formerly known as Ebola haemorrhagic fever). The outbreak is now confirmed to be caused by a strain of ebolavirus with very close homology (98%) to the Zaire ebolavirus. This is the first time the disease has been detected in West Africa.

Cases were first reported from forested areas in south-eastern Guinea. The outbreak has rapidly evolved and several districts and Conakry have reported cases and deaths caused by EVD. A small number of suspected cases and deaths has also been reported from neighbouring countries with all of them having crossed from Guinea. Confirmed cases have been reported from Guinea and Liberia.

12 Ebola FAQs written by Lucey, Hanfling, & Hick 8 April 2014: Sent via HHS Hospital Preparedness Program (HPP) by 15 April *URBAN Ebola in West African Capital of Conakry*

8 April 2014

Frequently Asked Questions (FAQs) for Health Care Providers about Ebola Virus Disease

1. Why is Ebola Virus Disease so concerning?

Ebola is a filovirus that can be transmitted by contact with infected body fluids, has no recognized treatment other than supportive care, and has a very high mortality rate (60-90%). Of note, less than 50% of patients have hemorrhage, especially early in the illness. Healthcare providers in Africa sometimes become infected because of exposure to the patient prior to diagnosis, or the inability to protect themselves through appropriate policies and personal protective equipment.

2. How extensive is the Ebola outbreak in Guinea and Liberia?

Compared with the other Ebola outbreaks in Africa since 1976, this outbreak is more geographically widespread involving 6 districts (five rural) and 20 patients in one major city (Conakry, the capital of Guinea). See color map of outbreak zones at: <http://www.afro.who.int/en/clusters-a-programmes/dpc/epidemic-a-pandemic-alert-and-response/outbreak-news/4087-ebola-virus-disease-west-africa-7-april-2014.html>. As of 7 April, a cumulative total of 151 clinically compatible cases, including 95 deaths had officially been reported from Guinea. 14 of the cases including 8 deaths are health workers (11 are laboratory confirmed cases). Medical observation is continuing for 535 contacts. Liberia has reported a cumulative total of 5 laboratory confirmed cases and 16 suspected and probable cases

August 8, 2014: WHO Declares Ebola Epidemic “Public Health Emergency International Concern (PHEIC)”*

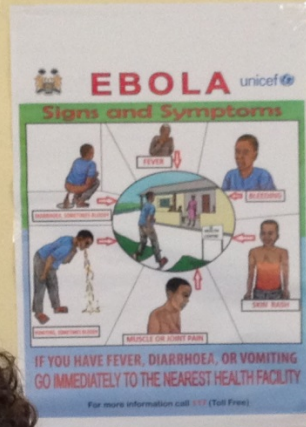
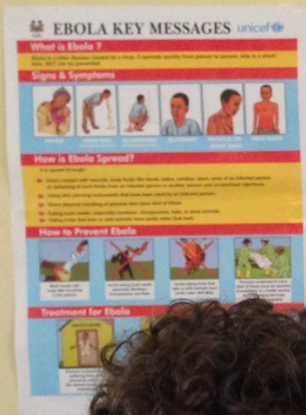
Why was there no earlier meeting of this Advisory Committee, despite WHO report in early April of Ebola in two capital cities for the first time ever?

Ebola control measures of **isolation, quarantine, and contact tracing** never tested to see if they work in a capital city as they had in rural areas.

*JAMA Aug 11, 2014 online: Gostin L., Lucey D., Phelan A.

August 10-31: Freetown, Sierra Leone
Ministry of Health PPE Training & Connaught Hospital







**Personal Protective Equipment (PPE) Training to
Saves Lives of Health Worker & their Patients**

**Working with the Ministry of Health to Train > 120
Persons in August in Freetown, Sierra Leone**



Sierra Leone Agony-in-August 2014

Major Risk: Infecting Persons who enter unit with malaria, typhoid but NOT Ebola

18 Solutions to 18 Common Problems in Freetown's Connaught Hospital Ebola "Isolation" Unit Aug 29, 2014

29 August 2014

Essential Improvements ASAP in Freetown's Largest Ebola TESTING and Isolation Centre

PROBLEM(S)

SOLUTION(S)

Personal Protective Equipment (PPE)

Better PPE (*surgical gloves, face shields...*) & training

Delay in drawing blood for Ebola Test

Incentive for on-time; penalty for delay (incl. supervisor)

Blood sample not transported to Lakka Lab

Incentive or penalty for driver of vehicle *with petrol*

2-4 day delay in Lab results

Fixed by new Laboratory in Lakka (rather than Kenema)

Power outages & others... in Lakka Lab

New and/or better generators

Mid-August: Freetown, Sierra Leone vs Monrovia, Liberia

Hospitals CLOSED...An Epidemic of Deaths due to *non-Ebola diseases*

- No Ebola diagnostic laboratory testing available in Freetown.
- And NO Ebola Treatment Units in Freetown...

- All Ebola diagnostic tests AND all lab-confirmed patients had to go to Kenema ~ 5 hours to the east (“Baby Moses basket”).

- Yet the **AGONY** in Monrovia, Liberia was much worse in Aug, so everyone said: “We cannot let Freetown become Monrovia”

CLOSED due to Fear of Ebola Aug 2014:
The only large Pediatric Hospital in Sierra Leone



Sierra Leone Minister of Health (red) & MSF Country Director (white) & WHO (blue) in Aug



Sept 2014 Media Interest High: 'Why West Africa Matters?'

The Agony, Suffering, & Death... & Someone w/Ebola will fly to the USA...

Note: Zero US military or CDC direct care for any Ebola Patients in W. Africa)



NY Times (Sept 20), Wash Post, USA Today, Bloomberg, Al-Jazeera, AP, CCTV...But 'Freetown became Monrovia' Nov-Dec

New York Times

SATURDAY, SEPTEMBER 20, 2014

New England Edition

Today, sun with some clouds, turning warmer, high 70. Tonight, partly cloudy, low 62. Tomorrow, periodic clouds and sun, showers at night, high 78. Weather map, Page B14.

\$2.50



LOCKDOWN BEGINS IN SIERRA LEONE TO BATTLE EBOLA

AMBITIOUS 3-DAY EFFORT

Campaign to Curb the
Virus Is Limited by a
Lack of Resources

By ADAM NOSSITER

FREETOWN, Sierra Leone —
The most ambitious and aggressive government campaign against the Ebola epidemic grip-

October 3-Nov 14, 2014: Monrovia, **Liberia**
MSF Ebola Hospital & Ministry of Health work

Ethical Dilemma: Who to Admit & Who to Turn Away? MSF Ebola Unit in Monrovia in Aug open **only 30 Mins/24 hours...**



Monrovia, Liberia. An MSF medical team speaking with the sick queuing outside the gates of ELWA 3 management centre. The team is assessing who can be admitted to the triage for possible admission to the centre.

Oct 3-Nov 14: Monrovia, Liberia's MSF-Ebola Unit:
World's largest Ebola Unit: Oct 3rd: 3MDs to Rx 136 Patients



Working All-Night: Burning Waste in the Ebola Patient Treatment “Hot-Zone” 24/7... Rain or Not



MSF Ebola management centre, Conakry, Guinea. Each night all the waste from the high-risk zone that cannot be chlorinated must be burnt on site.

“From the very outset, this epidemic has been defined by its unpredictability, reach and speed,” says Karline Kleijer, MSF emergency coordinator. “If the pri-

Oct 2014: With > 600 courageous Liberian Ebola Health Care Workers in Monrovia's "ELWA-3" MSF Unit:
"Your Safety is my Safety is OUR safety"



PBS Ebola Documentary May 5, 2015 including inside ELWA-3 Sept 2014

- PBS Frontline “OUTBREAK” May 5, 2015 documentary on this Ebola Epidemic December 2013 in Guinea to Sierra Leone to Liberia including inside MSF ELWA-3 September 2014.
<http://www.pbs.org/wgbh/pages/frontline/outbreak/>

4 STEPS TO HELP OUR PATIENTS SURVIVE EBOLA

- **INSIDE the TENT (too hot)**

Step 1: CANNOT SIT UP IN BED. CANNOT DRINK & EAT

TREATMENT: MUST HAVE HELP TO DRINK & EAT

MUST CONTROL VOMITING & DIARRHEA



Step 2: CAN SIT UP IN BED. CAN DRINK & EAT (a little)

TREATMENT: STILL MUST HAVE HELP TO DRINK & EAT

MUST CONTROL VOMITING & DIARRHEA



- **OUTSIDE the TENT (less hot)**

STEP 3: CAN SIT IN CHAIR. CAN DRINK & EAT (some)

TREATMENT: GIVE ENCOURAGEMENT TO DRINK & EAT



STEP 4: CAN WALK WELL. CAN DRINK & EAT (well).

TREATMENT: MONITOR FOR 3 DAYS: IF NO FEVER, VOMITING OR DIARRHEA, RETEST BLOOD. IF

NEGATIVE, THEN A **SURVIVOR!**



11 Oct 2014: “4 Steps to Help our Patients Survive Ebola”

Color drawings by Liberian artist hired by MSF Ms. Ella-Watson-Stryker

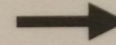
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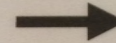
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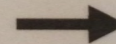
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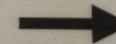
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New Policy: The Stronger Patients Help the Weaker Patients So more Patients Survive Ebola & Return Home

STEPS TO HELP OUR PATIENTS SURVIVE EBOLA

- INSIDE the TENT (too hot)**
 - Step 1:** CANNOT SIT UP IN BED. CANNOT DRINK & EAT
TREATMENT: MUST HAVE HELP TO DRINK & EAT
MUST CONTROL VOMITING & DIARRHEA → 
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11 October 2014 Dr. Dan Lucey ELWA-3 Ebola Tents C3-4

OCTOBER 2014

MSF ELWA -3

WHERE THE STRONGER PATIENTS
HELP THE WEAKER PATIENTS.
SO MORE PATIENTS
BECOME SURVIVORS OF
EBOLA!



MEDECINS SANS FRONTIERES

ARBEIDEN TONDER GRENZEN

To Survive Everyone Must Be Out of the Searing Hot Tents by
~10am to Decrease Deadly Fluid Loss by Sweating



Stronger Patients (“Pre-Survivors”) Outside the Tents (Where Weaker Patients are still Unable to Drink, Eat, or Walk)



8 Simple Innovations to Improve Survival of Our Patients (In the Absence of IV Rx or Lab Tests): # 1-4

- Stop vomiting with anti-emetics: Give all medications as “Directly Observed Therapy-Ebola (DOT-E)”
- If no IV, maximize Oral Rehydration Solution (ORS) as primary *life-saving treatment* : 70+ survivors in 5 weeks
- Kneel or bend over to help every patient too weak to leave the tent by themselves to sit up & drink ORS.
- Label ORS bottles w/Color to distinguish from water bottles.

#4-8 Simple Innovations to Improve Survival of Our Patients (In the Absence of IV Rx or Lab Tests)

- Prioritize 45+ minutes in PPE with patients in the tents
- Help all patients leave tents by 10am as tents' searing heat worsens dehydration-shock. Lay outside in shade
- Ask “Stronger Patients to help Weaker Patients” 24/7
- Talk with stronger patients (pre-survivors) across orange safety barrier fence, so no time in PPE needed

Daily Updated List of the Ebola Survivors from Our Tents 1-4

- Names, age, gender, date of discharge for 70 patients October 8-November 13, 2014.
- Four more patients discharged after Nov 13.

The First Panel of the Ebola Survivors' Wall at MSF-ELWA-3 Hospital early Oct. 2014



Placing a Hand in the Color-You-Choose for Your Handprint on the Survivors' Wall



“Hands-On” at the Ebola Survivors’ Wall



The Ebola Ward: Children Helping Children



Children Who Survive Ebola: Help from “Pre-Survivors” & Other Children



Returning Survivors Add their Names to the Wall & Some Survivors Volunteer to Return as Workers



Survivors and Nurses at the Wall



Survivors exiting the shower area On another very hot day in Liberia



Congratulating Survivors: MSF Workers from Liberia, Europe, Uganda, S. Africa, Australia, USA



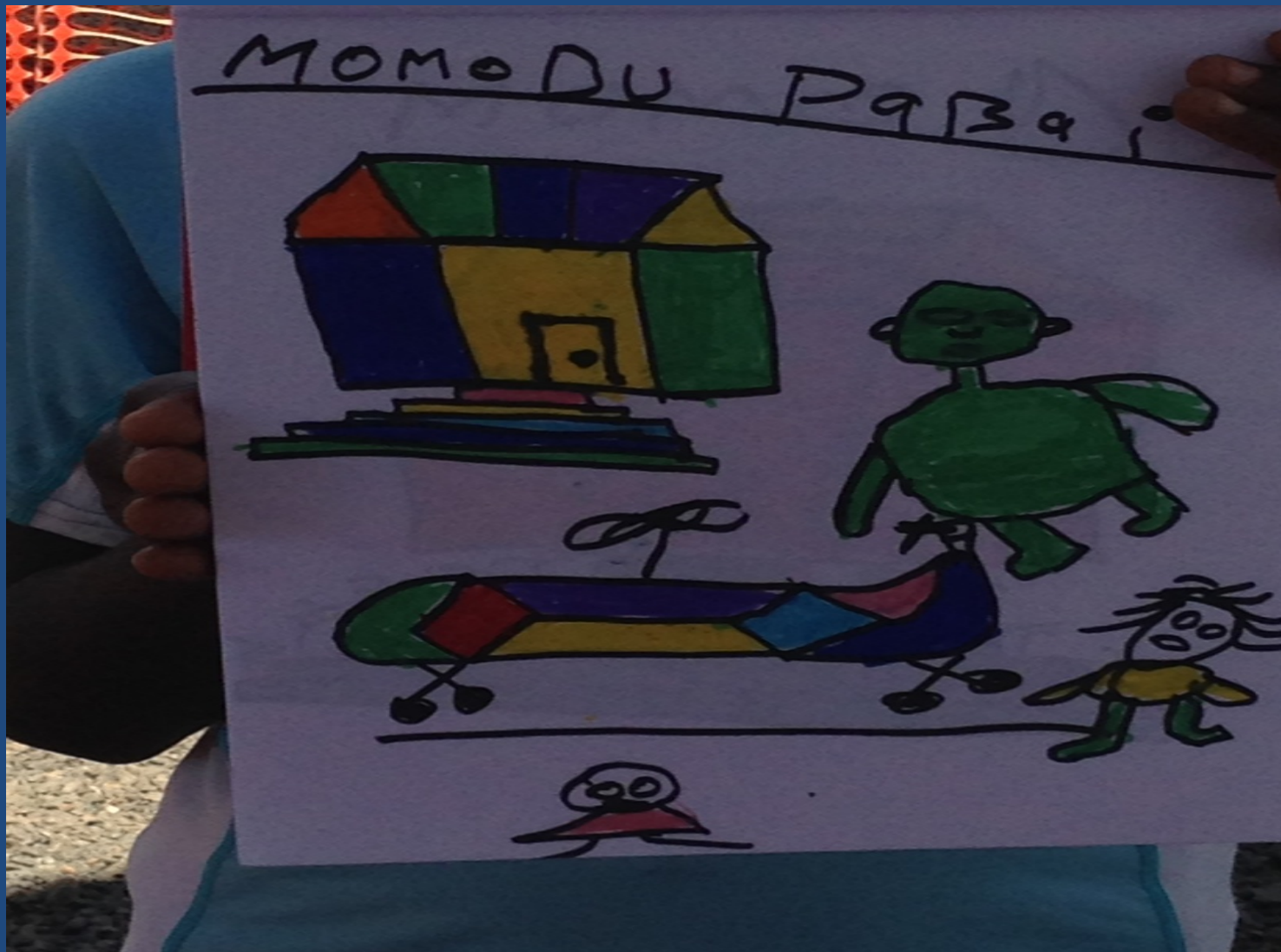
The Psychosocial Team Is Essential to Surviving Ebola & Returning Home Despite Stigmatization Threat



10 year-old Artist "M": An Ebola Survivor



A Portrait of An Artist as a Young Man:
MSF Ebola Hospital “ELWA-3” Oct. 2014



A Joyful Day: Surviving Ebola



Children Need Much Help to Survive Ebola...& Beyond



Baby Ben: An Ebola Survivor Embrace Survivors Give Resilience to Health Workers



From 1 to 4 Panels on the Ebola Survivors' Wall: Some Survivors, like Salome Karwah, Return to Help Patients



DOUBLE ISSUE

DEC. 22 / DEC. 29, 2014

PERSON OF THE YEAR

TIME

THE EBOLA FIGHTERS

Salome Karwah

An Ebola survivor, 26, she lost both her parents to the disease and now counsels patients in Liberia



POEM BY KENNEDY

WHO AM I???

WHO AM I?

THEY HAD A FENCE BUILD FAR ABOVE ME
THE PEOPLE I SAW AROUND ME WERE UGLY
THEY LOOKED YELLOW
THEY USE TO WALKED LIKE ANIMALS,
MY PEOPLE WHO AM I??

I WAS IN ANOTHER LAND

FAR FROM LIFE

STRANGERS WERE ALL AROUND ME
THEY WERE HAPPY, BUT I WAS NOT
THEIR HANDS WERE YELLOW AND GREEN
THEY LOOK WARM AND ATTRACTIVE

BUT I WAS NOT

MY PEOPLE WHO AM I??

THEY GIVE ME STRANGE, SMILE AND HOPE
AND NOW I AM BACK IN MY COMMUNITY WITH SMILE
CAN SOMEONE TELL ME WHO AM I

Liberian MOH in Monrovia



Liberian Ministry of Health Multi-NGO Meeting to Standardize Clinical & Research Guidelines Nov 2015



Returning to Liberia: March 11, 2015
National Holiday: "Decoration Day" (e.g., Flowers on Graves)
By Family, Friends, Survivors, Health Workers



Ebola and Remembrance:

Co-workers Back at ELWA-3 in Liberia March 11, 2015



Liberian Health Workers (Jackson & Chris) Helping Children
Return to School Near End of the Epidemic 2015

CONFIDENCE DAY CARE, ELEM & JR HIGH SCHOOL
COOPER'S FARM FENDELL COMMUNITY MONTSERRADO COUNTY
MOTTO: *Accepting Discipline For Knowledge*





Students Affected by the Ebola Epidemic Able to Return to School in Monrovia 2015



What's Next 2015-2016?

Ebola, MERS, InfluenzaS, or a “New” Disease?

- Note: Ebola is still here in West Africa
- Will Ebola become endemic in West Africa?
- When will we know? What will we do?
- There are no “Lessons Learned” without...
Proof-by-Actions Taken