

CDC's Ebola Response in Liberian Counties: Oct 15 – Nov 14, 2014

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January 22, 2015

National Center for Health Statistics

National Health and Nutrition Examination Surveys



Mission

- ❑ “Provide technical assistance in epidemiology and surveillance”
- ❑ Five tenants: **Do not ever**
 - 1) Enter an Ebola Treatment Unit (ETU)
 - 2) Provide patient care
 - 3) Collect specimens yourself
 - 4) Enter the home of a contact or
 - 5) Interview cases or contacts within 3 feet



**“Don’t enter any room if you don’t know what’s on the other side.”
– Greg Thorne, CDC**





County Response

Surveillance
and County
Reporting

Laboratory
and Linkage

Health
Promotion
& Social
Mobilization

Dead Body
Mgmt.

Infection
Prevention and
Control &
CCC support

Operational
Studies



Guinea-Bissau

Mali

Guinea

Sierra Leone

Côte d'Ivoire

Nimba

Liberia

Sinoe

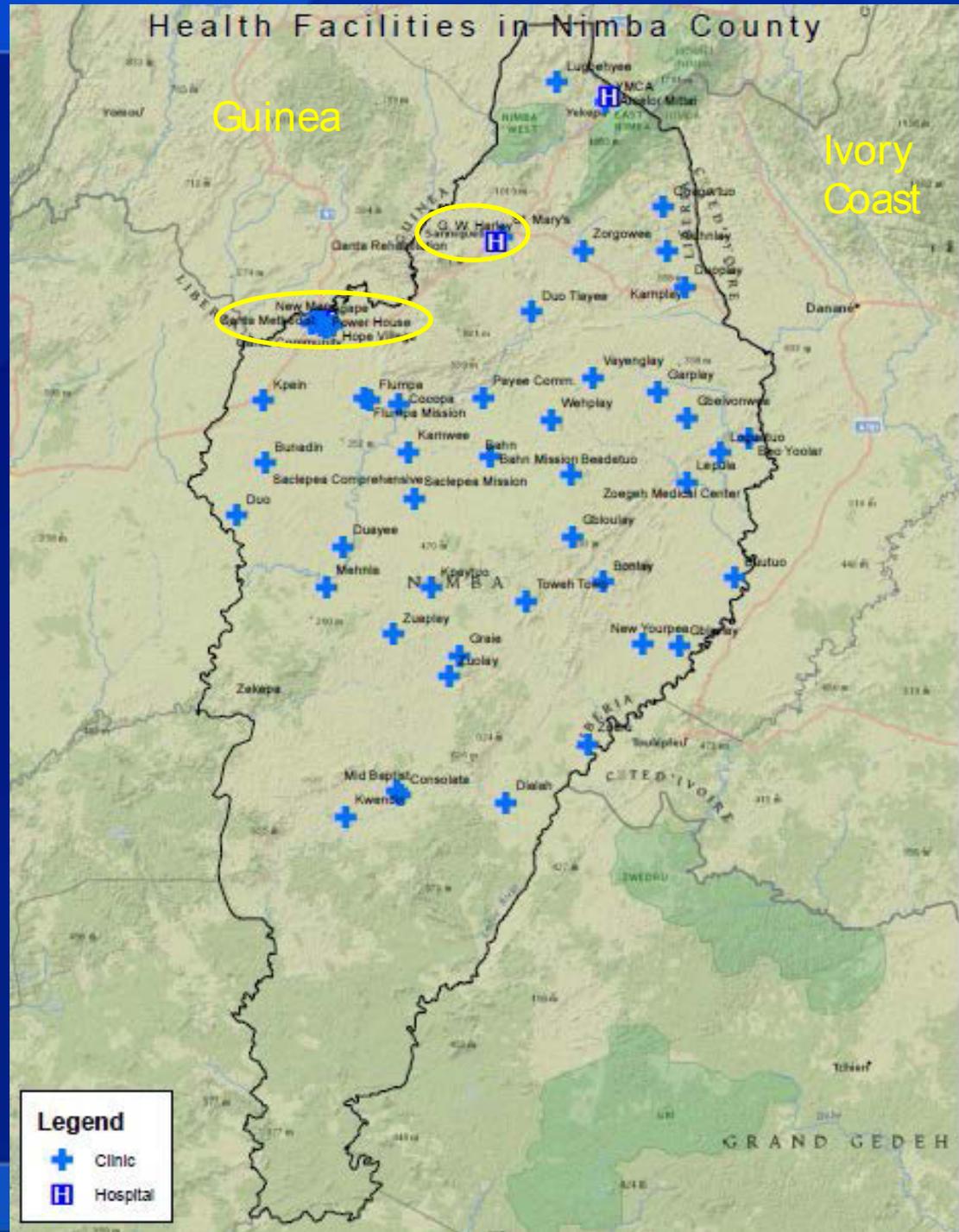
Nimba County

Population ~ 400,000

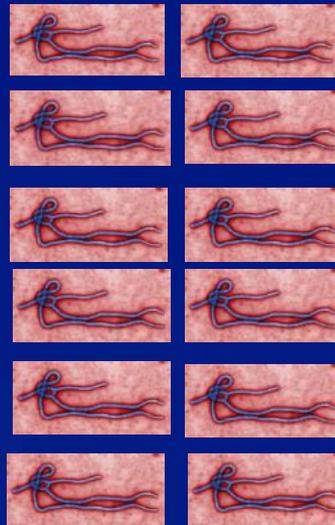
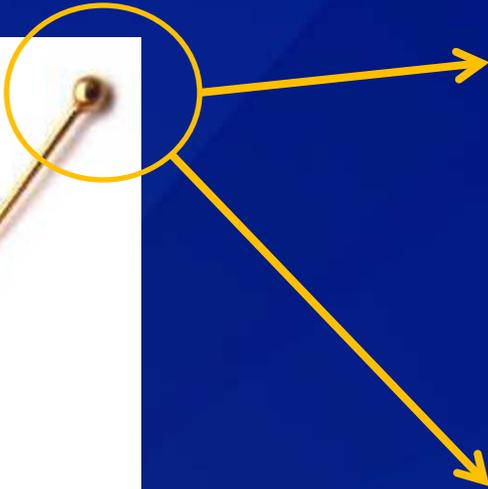
Borders Guinea and Ivory Coast.

65 healthcare facilities:

- All functional
- 3 hospitals
- 280 C/S/P Ebola cases on arrival
- 1 ETU in Ganta as of Oct 11th



Ebola Training



**20 Million
Ebola Viruses**

**EBOLA IS REAL. TOGETHER WE CAN STOP THE SPREAD!
YOU CAN SURVIVE EBOLA!**



TELL YOUR COMMUNITY LEADER



Call 4455 quick-quick! It is FREE!



DO NOT RUN AWAY OR HIDE
SICK PEOPLE

KNOW THE SIGNS AND SYMPTOMS

IF YOU GET A FEVER THAT STARTS QUICK-QUICK,
AND ANY OF THESE OTHER SIGNS, CALL 4455

Other signs:



WEAKNESS, PAIN IN
THE BODY, HEADACHE,
OR SORE THROAT



RUNNING STOMACH



VOMITING



RASH OR BUMPS ON THE SKIN



RED EYES OR BLEEDING
FROM THE NOSE OR MOUTH

Together we can stop the spread



We Can Prevent Infection of Healthcare Workers

- Screen EVERY patient for symptoms of Ebola
- Immediately isolate patients suspected of having Ebola
- Assume every patient is infectious
- Put on appropriate level of PPE when seeing patients
 - Change gloves and other soiled PPE between every patient
- Put on, wear, and take off PPE properly
- Wash your hands before and after taking off PPE





Part of the Process



Molars Intact?



Ambulance Chaser

[video]



Social Mobilization

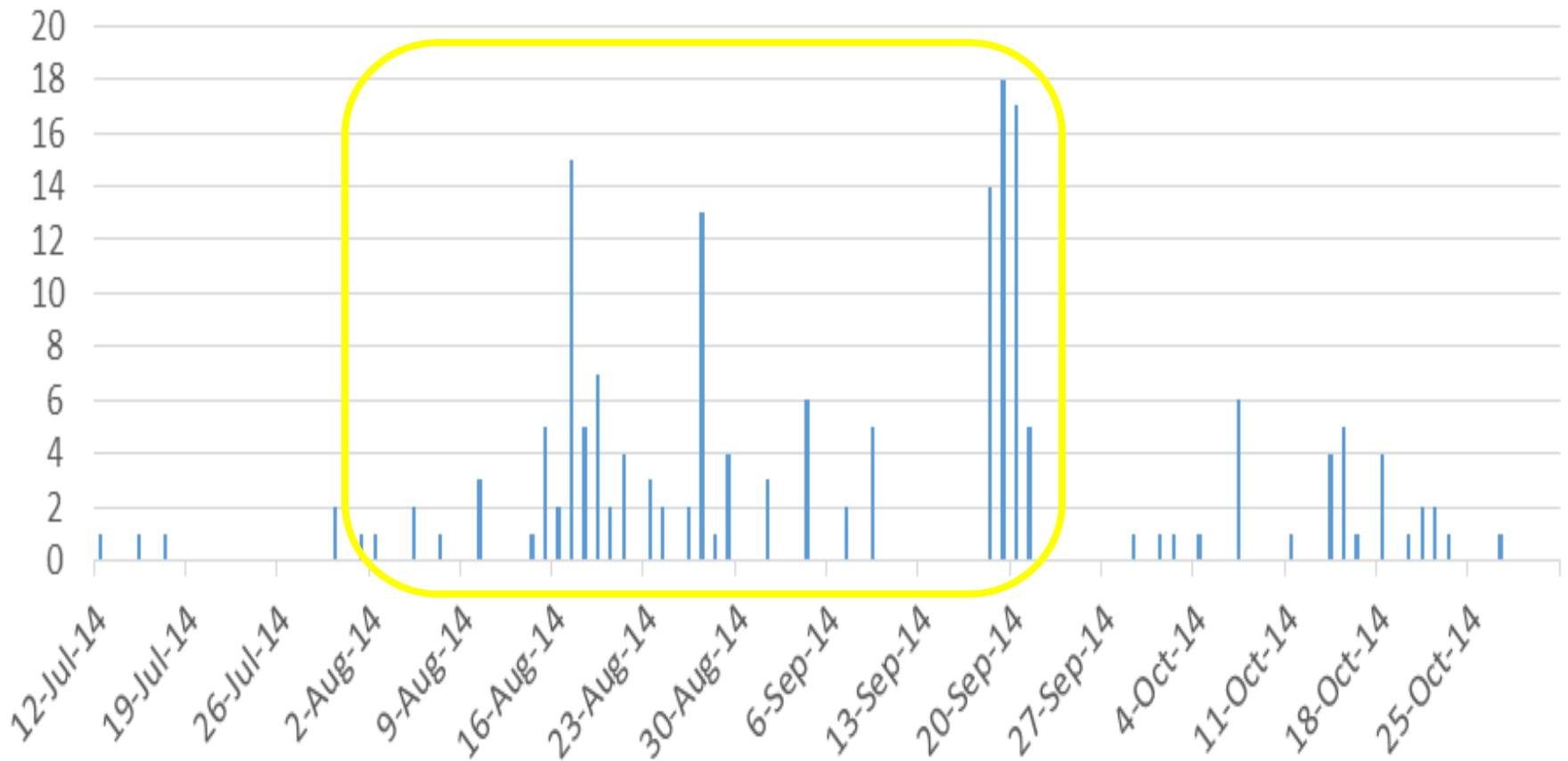


Community Care Center Placement



Surveillance

Nimba EVD Epidemic curve, July-Oct 2014



Nimba Case Series (retrospective)

45 year old
index case

Grandmother and 6
y/o granddaughter

- 6 relatives and 3 neighbors care for grandmother
- Traditional funeral
- 6 bodies in 12 days after funeral
- 34 confirmed and suspected cases

Mother and
1 y/o son

- 8 family members and relatives die from EVD
- 3 neighbors exposed, 2 survive

Traditional healer

- Returns home and 4 family members die, 2 survive
- 9 neighbors die, 3 survive

65 total cases from 3 villages
- Case fatality rate 72% (47 of 65)



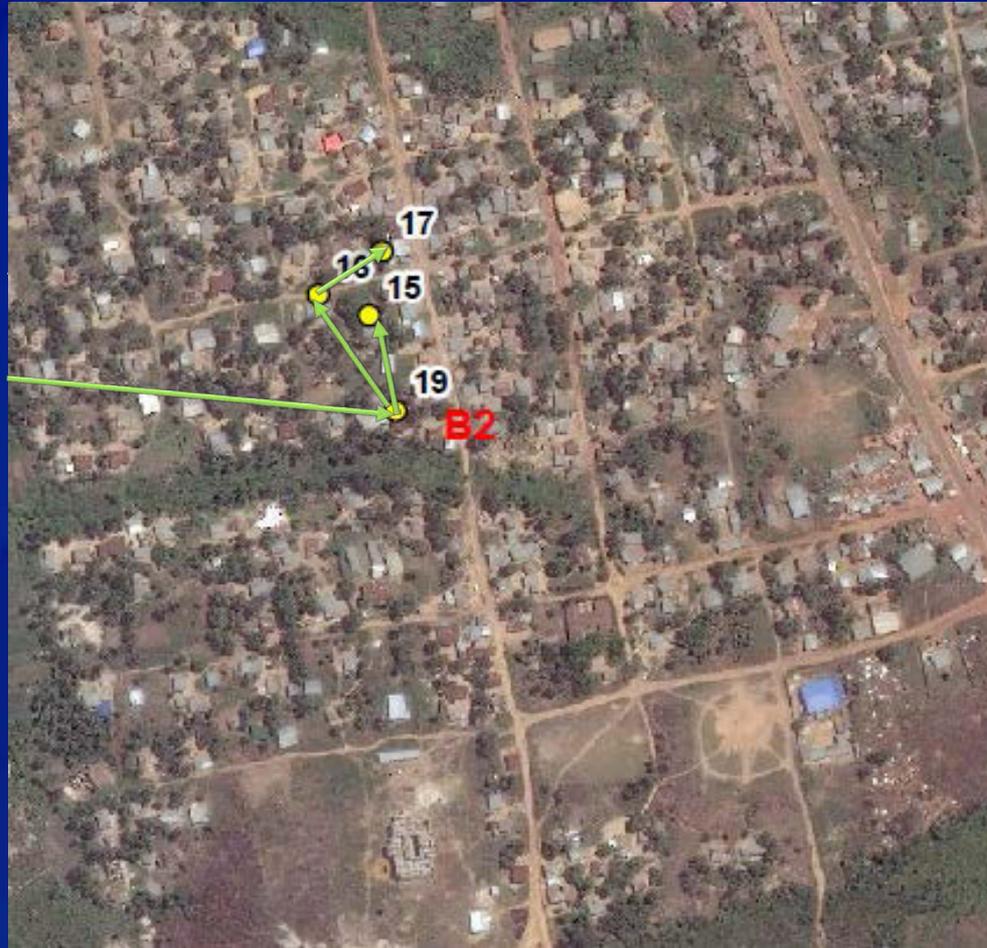
Nimba Case Series

□ Take home points

- Lack of EVD awareness
- Denial of symptoms and exposure history
- Traditional funerals -> high risk
- Notify healthcare workers promptly
 - Contact tracing, isolation of sick and exposed and social mobilization
- Early treatment improves survivability
- Work with tribal elders -> high impact



Nimba Project



Bahn Refugee Center (prospective)

- ❑ **Overseen by the United Nations High Commissioner for Refugees (UNHCR)**
 - Originally established in 2011
 - 3,500 refugees mostly from Ivory Coast

- ❑ **Index case arrived at Bahn health clinic on Oct 15**
 - Attended traditional funeral
 - 5 days of symptoms before ETU admission
 - Initial contact investigation revealed 28 contacts
 - Home quarantine for contacts for 21 days
 - Additional cases identified → 58 contacts (4 homes)
 - No secondary cases!



Calculating Risk





Sinoe County

- ❑ Population ~ 104,000
- ❑ 34 Healthcare facilities
 - All open and functional
 - 3 hospitals
 - 25 C/S/P Ebola cases on arrival
- ❑ 1 Mini-ETU/Holding Center in Greenville
 - Bed capacity = 4
 - No separation of confirmed cases
 - Max patients at one time = 6
- ❑ Prior CDC team left early









2014/11/10

Government Camp

- ❑ **Rebels from Liberian civil war who became illicit gold miners**
 - 6,200 migrant workers from all Liberian tribes and Ivory Coast
 - Young workers wanting fast money (no village elders)
 - Community resistance and distrust
- ❑ **Investigate possible “hot spot”**
 - Sinoe County Health, CDC, WHO, UNICEF, eHealth, African Union and Medical Team International staff members meeting
 - Placement of a Clinical Care Center







CDC identified at least 32 contacts that were lost to follow up.

Patient #1 funeral
Deceased 10/13/2014

Patient # 2
Deceased 10/31/2014

Boyfriend
(Missing)

Daughter
(Missing)

Brother
(Missing)

House #1
(3 individuals)

House # 2
(5 individuals)

Patient # 3
Admitted to ETU
10/27/2014

Girlfriend
(Missing)

Patient # 4
Admitted to ETU
10/27/2014

Girlfriend
(Missing)

19 other contacts in
Community

???

Issues Abroad and Upon Return

- ❑ **Asymptomatic quarantine of healthcare workers**
 - DoD – mandatory 21 days of isolation
 - Kaci Hickox and NJ Governor

- ❑ **Exposure risk to family and coworkers upon return**
 - “See you in 21 days”
 - Active monitoring - head cold

- ❑ **4 week deployment vs. national healthcare workers**
 - PPE availability
 - Risk of ongoing Ebola exposure
 - Injuries at Government Camp

Questions?

