The CDC and the Nation’s Health

LCDR Neelam D. Ghiya, CDC
Public Health Services Officer
United States Public Health Service

Outline

- CDC History, Mission & Stats
- CDC Scientists
- Prevention & Public Health
- Emergency Operations & Ebola Outbreak Response
- United States Public Health Service
- Continuing Health Education
- Questions
History of the CDC

- Began in 1946 as the Malaria Control in War Areas program
- Originally CDC stood for Communicable Disease Center
- Current CDC director is Dr. Thomas Frieden
- CDC employees work with/in state & local health depts.

CDC’s Mission

Collaborating to create the expertise, information, and tools that people and communities need to protect their health – through health promotion, prevention of disease, injury and disability, and preparedness for new health threats

http://www.cdc.gov/about/organization/mission.htm
About 400 Assignees in 55 Countries and 1,500 Locally Employed Staff

CDC Global Footprint

CDC Presence in the United States
CDC is the Reference Unit for the Country and the World

- **Infectious diseases** (reference, diagnosis, science)
- **Environmental health** (genetics, nutrition, chemicals, toxins)
- **Preparedness and response** (bioterrorism, outbreaks, disasters)
- **Occupational safety and health** (workplace safety)
- **Laboratory standards and science** (quality and laboratory standardization)
- **Global health** (HIV, malaria, TB, emerging diseases)
CDC Scientists

- Monitor the health of communities and nation
- Investigate disease outbreaks
- Develop diagnostic tools
- Help develop vaccines
- Identify biosecurity threats
- Screen for genetic and other health risk factors
- Protect safety of U.S. blood supply
- Identify toxic threats in environment

CDC Science in Numbers

- 1,200 studies involving human subjects
  - 7 Institutional Review Boards
- 170 studies involving animals
  - 3 Institutional Animal Care and Use Committees
- >3,000 peer-reviewed publications/year
Sharing Knowledge and Credible Info

- **MMWR: 3 publications**
  - MMWR Weekly
  - MMWR Recommendations and Reports
  - MMWR Surveillance Summaries
  - [www.cdc.gov/mmwr](http://www.cdc.gov/mmwr)

- **Emerging Infectious Diseases**
  - Monthly journal
  - [www.cdc.gov/eid](http://www.cdc.gov/eid)

- **Preventing Chronic Disease**
  - Quarterly journal
  - [http://www.cdc.gov/pcd/](http://www.cdc.gov/pcd/)

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Sharing Knowledge and Credible Info

- **Vital Signs**
  - Monthly report on critical health topics

- **Science Clips**
  - Weekly highlights of scientific publications

- **Public Health Grand Rounds**
  - Monthly webcast on presentations and discussions of important public health topics

[www.cdc.gov/about/grand-rounds](http://www.cdc.gov/about/grand-rounds)
Key Winnable Battles for Public Health

Tobacco
Nutrition, Physical Activity, Obesity and Food Safety
Healthcare-Associated Infections
Motor Vehicle Injuries
Teen Pregnancy
HIV

Providers have an important part to play in winnable battles

<table>
<thead>
<tr>
<th></th>
<th>Tobacco prevention</th>
<th>Nutrition, physical activity, obesity, and food safety</th>
<th>Healthcare-associated infections</th>
<th>Motor vehicle injury prevention</th>
<th>Teen pregnancy prevention</th>
<th>HIV prevention</th>
</tr>
</thead>
<tbody>
<tr>
<td>Question patients</td>
<td>Question patients</td>
<td>Screen patients for obesity, diabetes, high blood</td>
<td>Implement and track prevention</td>
<td>Alcohol brief intervention;</td>
<td>Offer/refer counseling</td>
<td>Implement routine</td>
</tr>
<tr>
<td>about use; offer/refer counseling and cessation; advocate for tobacco control</td>
<td>about use; offer/refer counseling and cessation; advocate for tobacco control</td>
<td>pressure, cholesterol and offer/refer counseling, interventions</td>
<td>guidelines</td>
<td>seat belt use counseling</td>
<td>counseling and family planning services</td>
<td>HIV testing (ages 13-64); prevention with positives; partner services</td>
</tr>
</tbody>
</table>
Behind the Scenes

- Tapings in house CDC Studio
- Media Calls to field questions
  - CNN: Sanjay Gupta
  - Chief Medical Experts such as Richard Besser and Nancy Snyderman

CDC Emergency Operations Center (EOC)
CDC Response to Emergencies at Home and Abroad

- **Emergency Operations Center open 24/7**
  - Monitors and responds to public health threats around world

- **Strategic National Stockpile (SNS)**
  - Provides antibiotics, vaccines, and other supplies within hours

- **CDC-INFO hotline**
  - ~350,000 calls and 75,000 emails every year and more

- **Twitter account for health emergencies: 1.3M followers**
CDC’s Disease Detectives: Epidemic Intelligence Service

- **Training**
  - 2-year, postdoctoral program of service and on-the-job training for health professionals
  - >150 EIS officers trained every year

- **Activities**
  - 70–80 people/year assigned to CDC or state/local health departments
  - Conduct epidemiologic investigations, research, and public health surveillance nationally and internationally

- **Post-training**
  - 75% of graduates stay in public health at CDC or state/local health departments

**www.cdc.gov/Fellowships/**

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**CDC Response in Haiti**
Detection of Cholera

- **October 19, 2010: Ministry of Health Alert**
  - Increases in cases of acute watery diarrhea
  - Sever dehydration and death among all age groups

- **October 20: Positive rapid tests**
  - National laboratory receives specimens
  - 8 positive for *Vibrio cholerae* O1 by rapid test

- **October 21: Culture confirmation**
  - National laboratory isolates *V. cholerae* serogroup O1, serotype Ogawa, biotype El Tor

- **October 22: CDC activates the Emergency Operations Center (EOC)**
  - CDC sends first team to Haiti to develop surveillance and track cases

The Global Polio Eradication Initiative (GPEI)

- **World Health Assembly Polio Eradication Resolution in 1988**
- **GPEI is a public-private partnership led by**
  - World Health Organization (WHO)
  - Rotary International
  - Centers for Disease Control and Prevention
  - United Nations Children’s Fund (UNICEF)
The Global Polio Eradication Initiative
4 Key Strategies

- Strengthen routine childhood immunization
- Conduct intensive house-to-house targeted "mop-up" campaigns
- Conduct Supplementary Immunization Activities (SIAs)
- Conduct surveillance for wild poliovirus

Wild Poliovirus in 2011

Data in WHO HQ as of 19 Jul 2011

Excludes viruses detected from environmental surveillance and vaccine derived polioviruses.
The 2014 Ebola epidemic is the largest in history, affecting multiple counties in West Africa. Although the risk of an Ebola outbreak in the U.S. is very low, CDC & partners are taking precautions to prevent this from happening. One travel-associated case was diagnosed in the United States on September 30, 2014. On October 12, 2014, a healthcare worker at Texas Presbyterian Hospital who provided care for the index patient has tested positive for Ebola. CDC confirms that the healthcare worker is positive for Ebola. For more information see: http://www.cdc.gov/vhf/ebola/outbreaks/2014-west-africa/united-states-imported-case.html

CDC recognizes that even a single case of Ebola diagnosed in the United States seems threatening. Knowing the possibility exists, medical and public health professionals have been preparing to respond. CDC and public health officials are taking precautions to identify people who have had close personal contact with the ill person, and health care professionals have been reminded to use meticulous infection control at all times.

We do know how to stop Ebola’s further spread: painstaking case finding; isolation of ill people; contacting people exposed to the ill person; and further isolation of contacts if they develop symptoms too. The US public health and medical systems have had prior experience with sporadic cases of diseases like Ebola. In the last decade, the United States had 5 imported cases of viral hemorrhagic fever (VHF) diseases like Ebola (1 Marburg, 4 Lassa). Each time, the US public health system identified them and prevented anyone else from becoming ill.
The data health officials have seen in the past few decades since Ebola was discovered indicate that it is not spread through casual contact or through the air. Ebola is spread through direct contact with bodily fluids of a sick person or exposure to objects such as needles that have been contaminated.

The illness has an average 8–10 day incubation period (although it ranges from 2 to 21 days), so CDC recommends monitoring exposed people for symptoms a complete 21 days. People are not contagious during that incubation period unless they develop symptoms.

**Symptoms of Ebola**

- Fever (greater than 38.6°C or 101.5°F)
- Severe headache
- Muscle pain
- Weakness
- Diarrhea
- Vomiting
- Abdominal (stomach) pain
- Unexplained hemorrhage (bleeding or bruising)
- Symptoms may appear anywhere from 2 to 21 days after exposure to Ebola, but the average is 8 to 10 days.
- Recovery from Ebola depends on good supportive clinical care and the patient’s immune response. People who recover from Ebola infection develop antibodies that last for at least 10 years.
Facts about Ebola

Ebola virus is not spread through:
- Casual contact
- Air
- Water
- Food grown or locally purchased in the U.S.

How do you get the Ebola virus?
Direct contact with:
1. Body fluids of a person who is sick with or has died from Ebola
   (blood, vomit, stool, semen, saliva, etc.)
2. Objects contaminated with the virus (needles, medical equipment)
3. Indirect contact (fly contact with blood or fluids or infected meat)

Early Symptoms
Ebola can only be spread to others after symptoms begin. Symptoms can appear from 2 to 21 days after exposure.
- Fever
- Headache
- Vomiting or nausea
- Dizziness
- Muscle pain

When is someone able to spread the disease to others?
Ebola only spreads when people are sick. A patient must have symptoms to spread.

You cannot get Ebola from:
- Touching the blood or body fluids of a person who is sick with or has died from Ebola
- Touching contaminated objects, like needles,
- Touching infected animals, their blood or other body fluids, or their meat

Ebola poses no significant risk to the United States.
## 2014 Ebola Response Meetings
**Tuesday, October 14, 2014**

<table>
<thead>
<tr>
<th>Time</th>
<th>Activity</th>
<th>POC</th>
</tr>
</thead>
<tbody>
<tr>
<td>0830</td>
<td>HHS SA Unit RFI/RFA Review</td>
<td>OPS Team Room</td>
</tr>
<tr>
<td>1000</td>
<td>Call with Public Health England</td>
<td>SRS Bidg. 24, RM 3106</td>
</tr>
<tr>
<td>1000</td>
<td>SITREP Input Due To HHS</td>
<td>OPS N/A</td>
</tr>
<tr>
<td>1100</td>
<td>IM Update</td>
<td>IM Bidg. 21, ECR</td>
</tr>
<tr>
<td>1200</td>
<td>Pre-Deployment Briefing</td>
<td>EPSS Bidg. 24, RM 01103B</td>
</tr>
<tr>
<td>1200</td>
<td>IM Leadership Meeting</td>
<td>IM Bidg. 21, ECR</td>
</tr>
<tr>
<td>1200</td>
<td>Check-in with senior staff at ASTHO, NACCHO, CSTE, APHL, AHA, NASEMSO</td>
<td>SCTF Bidg. 21, RM 5116</td>
</tr>
<tr>
<td>1230</td>
<td>JIC ALL Meeting</td>
<td>JIC JIC Team Room</td>
</tr>
<tr>
<td>1300</td>
<td>Epi and Less-affected/Unaffected Countries Team Discussion</td>
<td>EPI SLDG 19, RM 248</td>
</tr>
<tr>
<td>1400</td>
<td>Epi and Less-Affected/Unaffected Countries Team Update</td>
<td>EPI SLDG 19, Aud B</td>
</tr>
<tr>
<td>1400</td>
<td>COCA Conference Call</td>
<td>JIC Conference Call Only</td>
</tr>
<tr>
<td>1400</td>
<td>Staff Synchronization Meeting</td>
<td>EPSS Bidg. 24, RM 12130</td>
</tr>
<tr>
<td>1430</td>
<td>Resiliency and Lessons Learned Debriefs</td>
<td>Plans Bidg. 19, RM 117</td>
</tr>
<tr>
<td>1430</td>
<td>CDC Country Call – Sierra Leone</td>
<td>SRS Bidg. 21, ECR</td>
</tr>
</tbody>
</table>

## 2014 Ebola Response
**Tuesday, October 14, 2014**

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<tr>
<td>1430</td>
<td>Chief of Staff Meeting</td>
<td>CoS Plans Team Room</td>
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<tr>
<td>1500</td>
<td>CDC Country Call – Liberia</td>
<td>SRS Bidg. 21, ECR</td>
</tr>
<tr>
<td>1530</td>
<td>CDC Country Call – Guinea</td>
<td>SRS Bidg. 21, ECR</td>
</tr>
<tr>
<td>1600</td>
<td>International Task Force, Less Affected/Unaffected Country Team and Lab Team Meeting</td>
<td>SRS Bidg. 16, RM 247</td>
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USPHS Mission

The mission of the U.S. Public Health Service Commissioned Corps is to protect, promote, and advance the health and safety of our Nation. As America's uniformed service of public health professionals, the Commissioned Corps achieves its mission through:

- Fast response to public health needs
- Leadership & excellence in public health practices
- Advancement of public health science

Brief History of the PHS and its Role at CDC

- One of seven U.S. uniformed services
- Traces historical origins back to 1798
- Approximately 6,500 uniformed officers
- 11 professional categories including medical officers
- Led by the U.S. Surgeon General VADM Regina Benjamin
- Officers may be assigned to CDC, another federal agency, or may serve with other uniformed services
- Officers subject to deployments
Plagues and Politics Book & USPHS Uniforms

U.S. Surgeon General (SG) VADM Vivek Murthy

http://www.surgeongeneral.gov/about/biographies/biosg.html
Volunteering

Executive Committee (EC)
http://www.atlantacoa.com/
Public Health Mentoring

- Science and art of protecting & improving community:
  - Health Education
  - Promotion of healthy lifestyles
  - Research for disease and injury prevention

Disease Detective Camp

http://www.cdc.gov/museum/camp/detective/

CDC Disease Detective Camp (DDC) is an educational program. It is a mechanism for developing a public health camp curriculum for state and county health departments.
When in HOTLANTA Please Visit: The David J. Sencer CDC Museum
http://www.cdc.gov/museum/

Saving lives, protecting people, saving money through prevention

- Public health is ready 24 hours a day, 7 days a week
- CDC’s Epi’s investigate & respond to health threats
- We help improve health and lower health costs
- CDC is the nation’s public health agency.
Thank You… Q & A?!

www.cdc.gov