

# Updates from the Field

Protecting Health and Building Capacity Globally

## Field Epidemiologists from Across Africa Respond to the Ebola Crisis

Submitted by FETP-AFRO Team, CDC: Richard Dicker, MD, MS; Donna Jones, MD, MPH; Augusto Lopez, MPH; and Kenneth Johnson

In March, the Ministry of Health in the West African country of Guinea reported an outbreak of Ebola virus disease to the World Health Organization (WHO). The disease spread rapidly in Guinea and soon cases were reported in the neighboring countries of Liberia and Sierra Leone. Within a few months, the epidemic has reached critical levels and is by far the largest Ebola outbreak the world has ever seen. CDC and other international partners have responded to the crisis, and CDC has supported the deployment of staff from its headquarters in Atlanta and trained medical epidemiologists from multiple African nations to assist their West African neighbors. To date, residents and graduates from the [Field Epidemiology Training Programs \(FETP\)](#) have worked tirelessly to assist in many facets of the public health response. The FETP residents are committed to saving lives as they detect cases of Ebola, support epidemiological investigations, and prevent further spread of disease.

FETPs play a critical role for detecting and responding to public health threats and developing solutions so disease outbreaks can be detected quickly and prevented from spreading. To date, CDC has supported 19 FETPs in Africa that have served 23 countries and graduated more than 800 residents, many of whom now hold leadership positions within ministries of health, WHO and other global health organizations. However, Guinea, Sierra Leone, and Liberia do not currently have an FETP.

In April, a team of two residents and a graduate from the Kenya's Field Epidemiology and Laboratory Training Program (FELTP), worked collaboratively with the Liberia Ministry of Health and subject matter experts from WHO and CDC to support case reporting; conduct contact tracing; develop cross-border surveillance strategies; and train health care workers on proper infection control procedures. Since the initial Kenya FELTP deployment in April, 16 additional Kenya FELTP residents and graduates have volunteered and are awaiting approval to support the mission.

The Morocco FETP has already sent one resident, along with the Resident Advisor, Dr. Biagio Pedilino, to Guinea. A future deployment to Guinea is being planned with an additional 3 Morocco residents.



Clayton Onyango, Deputy Lab Director of U.S. CDC's Global Disease Detection Center in Kenya, working in an Ebola laboratory in Monrovia, Liberia.

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### Seeking Submissions:

If you would like your program to be featured in an upcoming issue of *Updates from the Field*, please send a 200-400 word summary of your program's activities and photos to Ruth Cooke Gibbs at [icn6@cdc.gov](mailto:icn6@cdc.gov).

# Evaluation of Portable Hand Washing Stations for Emergency Settings

Submitted by: Farah Husain, DMD, MPH, Epidemiologist, CDC

**H**and washing with soap is one of the most effective interventions against disease. International humanitarian standards recommend hand washing stations next to or by communal latrines in settlement facilities during acute emergencies. This recommendation facilitates hand washing after latrine use, but does not facilitate hand washing during other critical times. Studies suggest access to a convenient hand washing station is associated with higher rates of hand washing and having access to water and soap at critical times may be the key to increasing hand washing behavior. CDC's Emergency Response and Recovery Branch conducted a longitudinal pilot study to evaluate the acceptability, durability and use of a portable hand washing bag (HWB) at the household level during an emergency among displaced Sudanese in a refugee camp in western Ethiopia.

One HWB with an attached bar of Dettol® soap (Reckitt Benckiser Group plc., Berkshire, UK) was distributed to every household in the Adamazin Transit Center (N=874) at the beginning of the intervention period. The evaluation was composed of four components: **1)** focus group discussions (FGDs) at the start and end of the intervention period; **2)** baseline population-based survey prior to the intervention; **3)** three monthly monitoring visits during the intervention; and **4)** endline population-based survey at the end of the study period.

A total of 211 and 222 randomly selected households were interviewed for the baseline and endline surveys, and 204 of same preselected households were interviewed for the monitoring visits. A total of 84 men and women participated in the FGDs; 51 during



Portable hand washing station, Bambasi Refugee Camp, Ethiopia.  
Photo by: Lemlem Zeleke, IRC., International Rescue Committee (IRC).

the baseline and 43 during the endline. FGD groups were separated based on sex and region of origin (northern/southern Sudan). At the end of the three-month monitoring period, the number of households with the original HWBs decreased to 73.9%. Almost all HWBs were hanging (>95%), but only 66.7% had water in the bag. Less than 10% of households reported leaking HWBs and less than 20% of bags had to be replaced due to defects at any one time during the three monitoring visits.

Based on monitoring visit data, a HWB had a 68% probability to be functional or "survive" after three months (survival analysis calculation), or approximately 2/3 of households should still have a functional HWB at the end of three months. Mean survival time of the HWB was 2.73 months.

During the endline survey (six months post-distribution), 93% of randomly selected households reported owning an original bag and 72% of all bags were observed hanging (a proxy for use). However, only 39.4% of households had water in the bag (proxy for use) at the endline. Although 91% of respondents reported that the primary purpose of the bag was for hand washing, less than 50% reported the bag as their primary hand washing device and 36.4% reported using the bag last time they washed their hands.

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Portable hand washing station, Bambasi Refugee Camp, Ethiopia.  
Photo by: Lemlem Zeleke, IRC.

## Highlights fo Investigations

# The Global Disease Detection Laboratory Team: Building Global Capacity for Laboratory Systems

Submitted by: *Beth Skaggs, PhD and Nicholas Di Meo, MPH, CDC*

**N**ow more than ever before with the increase in emerging and reemerging infectious diseases such as MERS coronavirus and Ebola virus disease, it is critical that every country have a quality laboratory system to rapidly and accurately detect, report, and respond to health threats and ensure global health security. To help address this global challenge, in 2013, CDC established the Global Disease Detection Laboratory Team (GDDLT). Working collaboratively with laboratory systems stakeholders across CDC and external partners, GDDLT's goal is to build laboratory capacity globally. The team includes field-based Laboratory Advisors and Field Epidemiology and Laboratory Training Program (FELTP) Resident Advisors at Global Disease Detection (GDD) Centers in 7 countries, and a host of CDC laboratory systems subject matter experts based in Atlanta. The GDDLT supports global public health programs by identifying and addressing gaps and deficiencies in partner countries' national laboratory systems, and working with Ministries of Health and other partners to fill those gaps in accordance with international laboratory quality guidelines and standards.

Public health laboratory networks are a cornerstone of effective and sustainable national health programs. Laboratories can be organized by service level (national, district, local), function (clinical, public health), and financing (public, private). A functional national laboratory system has a unifying strategy or legal framework which defines the structure of the laboratory network and the roles and responsibilities of the constituent laboratories. It ensures that the right specimens are collected and safely transported to the appropriate laboratory, and provides timely, quality assured testing for results that are accurate and consistent. It also ensures the rapid, secure communication of results to the appropriate clinical and public health stakeholders. The systems which operate both within and across service levels, functions, and financing mechanisms in a network form the foundation upon which diagnostic capacities are anchored. The effective establishment and maintenance of a national laboratory network is what ensures a country can detect, rapidly respond, and report any emerging disease threat in even the most remote location of the country.

In 2014, the Government of Kazakhstan initiated reform of the national laboratory system as part of a broader health sector reform. CDC, in partnership with the Ministry of Health of Kazakhstan, the CDC Foundation, and other partners has supported this effort through technical assistance and oversight for the establishment of a national laboratory strategy, legal framework, and laboratory

quality assurance guidelines to govern the national laboratory network. In February, and then again in June and July, 2014, the GDDLT supported the CDC Central Asia Office in conducting standardized, quantitative assessments of 32 clinical diagnostic and 15 public health laboratories across all service levels. The team also conducted a laboratory system assessment which measures performance of cross-cutting laboratory systems such as policies and governance, specimen referral, standardized testing algorithms, results reporting, workforce development, quality and biosafety standards, and procurement. The team produced a report of the findings with key recommendations for short term (requiring little to no financial investment) and long term (requiring financial investment and policy changes) actions for improvement. From these findings, a national laboratory strategic plan will be developed to guide future technical assistance and capacity building activities.

The expected outcome is a strengthened laboratory network capable of supporting public health programs, detecting public health threats, guiding response and containment efforts, and leading to improved health and safety of people in the community, across the country, and around the world.

For more information, contact: **Beth Skaggs, PhD** at [bgs7@cdc.gov](mailto:bgs7@cdc.gov).

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## Field Epidemiologists ...

In late July, a passenger traveling from Liberia to Lagos, Nigeria collapsed upon arrival and subsequently passed away from Ebola. In swift response, the Nigeria FELTP, based in Abuja, deployed 24 staff and residents to assist with various aspects of the response in Lagos, Enugu, and Abuja. The Nigeria FELTP Resident Advisor, Dr. Patrick Nguku, has supported the Nigeria Ministry of Health since the first case was reported. All activities are coordinated through an emergency operations center in Lagos. The Nigeria FELTP is involved in all response and preparedness activities. Earlier in the year, Nigeria FELTP Laboratory Resident Advisor, Bola Olayinka, deployed to Sierra Leone, as a member of the WHO Global Outbreak Alert and Response Network to support their Ebola outbreak response. This was a valuable experience that she was later able to share with Nigeria FELTP residents.

When outbreaks like this occur in Africa or in any part of the world, FELTP residents are the "boots on the ground" and stand ready to rapidly respond and support Ministries of Health in stopping the spread of deadly infectious disease outbreaks like Ebola. This is what they are trained to do. Their support and the knowledge gained through these real-life field experiences are invaluable.

For more information, contact: **Augusto Lopez, MPH** at [acl9@cdc.gov](mailto:acl9@cdc.gov).



## Highlights fo Investigations

# Two Initiatives Worth Their Salt: Reducing Sodium Intake in Shandong, China and Philadelphia

Submitted by: *Andrea Neiman, PhD, MPH, CDC*

**A**cross the world, deaths due to cardiovascular diseases (CVDs), such as heart disease and stroke, are leading causes of death in adults 25 years of age and older. Studies have shown that excess sodium intake is a key risk factor for hypertension which accounts for almost 50% of CVDs worldwide. As a result, reducing [sodium](#) intake is both a [domestic](#) and [global](#) public health priority.

In China as in the US, average sodium consumption is in excess of [WHO](#) recommendations. Main sources of sodium vary depending on the country; in China the primary source is salt added during cooking; in the US, the primary source of salt intake is through processed and restaurant foods.

Shandong Province, the third most populous province in China, has hypertension rates and salt intake in adults higher than the national average. To reduce the burden of hypertension, in 2011 China's National Health and Family Planning Commission and Shandong provincial government, with technical assistance and guidance provided by US CDC, launched the first comprehensive salt reduction project in China: the [Shandong Province and Ministry of Health Action on Salt and Hypertension](#) (SMASH).

The SMASH initiative works through restaurants to develop sodium standards for Shandong cuisine, develop and conduct chef training and lower salt menus, track salt usage, conduct chef contests for new recipes, and develop complementary communication activities to increase consumer knowledge and awareness. Restaurants that follow the lower salt requirement will be labeled as a Distinguished Restaurant.

Restaurants in the US also benefit from this initiative, as SMASH gains from the experience of local US efforts. After learning about US sodium reduction efforts via [CDC's Salt e-Update](#), a bi-weekly e-newsletter, SMASH officials have been working with Philadelphia's [Healthy Chinese Take-Out](#) Initiative to share information on their respective sodium reduction initiatives. The Philadelphia initiative aims to reduce the sodium content in Chinese take-out dishes by 10–15%.

As part of this information sharing, Shandong provided Philadelphia with [CDC sodium fact sheets](#) translated to Chinese. These materials assisted Philadelphia in communicating health information more effectively with participating restaurant operators who do not speak English. This collaboration has also brought together other opportunities, including a site visit from the Shandong province officials to Philadelphia in 2014.



*On a site visit to Shandong Province in 2013, Dr. Tom Frieden listens to how restaurants are lowering salt in their menu items. Photo by: Cai Ying.*



*Local China CDC promotes low salt cooking through media and communications. Photo by: Cai Ying.*

While the US continues to make substantial progress in achieving national CVD goals, there remains great opportunity to achieve more. Active engagement with global partners provides the unique opportunity to share CDC's expertise and knowledge, and also leverage existing global efforts to enhance learning capacity and improve domestic approaches. SMASH and Philly's Healthy Chinese Take-out Initiative share similar goals and approaches; they are leveraging resources, and experiences to enhance their respective programs.

For more information, contact: **Andrea Neiman** at [aneiman@cdc.gov](mailto:aneiman@cdc.gov).



# Developing the Integrated Disease Surveillance and Response (IDSR) e-Learning Course—Innovative Parallel Field Test Design and Findings

Submitted by IDSR Team: Alyssa Wong, MPH; Monique Tuyisenge-Onyegbula, MA; and Helen Perry, PhD

**T**his article is a follow up report on the development of the IDSR e-Learning course, previously published in the Spring 2014 (Issue 14) Division Newsletter, titled "Improving disease prevention, detection and response capacities through IDSR e-Learning course."

The 60<sup>th</sup> World Health Organization (WHO) African Regional Committee Meeting called for the increased use of e-Health solution to improve national health systems in the African Region. In response the call, the IDSR Team within the Division of Global Health Protection has worked closely with the WHO Regional Office for Africa (AFRO) and instructional designers in the Center for Surveillance, Epidemiology, and Laboratory Services (CSELS) to develop an IDSR e-Learning course targeting district and national surveillance and health officers who are responsible for IDSR core functions. This e-Learning course is based on the IDSR Technical Guidelines and existing paper-based course developed in 2010 which incorporate IHR requirements and other emerging priorities for the African region.

This course is one of the first e-Learning courses in the African region targeting a broad range of health levels and health workers. A field test version of the electronic course was developed and field tested using two methods: an onsite workshop format and a virtual online format. The goal of both field test format was to assess the feasibility of the delivery medium and the relevance, usefulness and the functionality of the course. The onsite field test helped us gather information directly from learners about their online training experience; the virtual field test allowed us to assess learner performance and technology capacity at the actual location where learners would typically access the course. We also were able to gather information about any challenges learners



Onsite field test in Harare, Zimbabwe, where learners were partaking in the IDSR e-Learning course.

## About IDSR:

*IDSR is a strategy adopted in 1998 by the Member States in the World Health Organization's African region. IDSR includes a regional framework for strengthening national public health surveillance and response capabilities at each level of the health system. IDSR guidelines and training materials address the practical, district-focused skills and knowledge for detecting and responding to priority diseases.*

would encounter so we could better accommodate their needs when disseminating the course.

The 3-day onsite field test took place in Harare, Zimbabwe from May 20– 22, 2014. We invited 15 participants from Zimbabwe's district, provincial, and national levels to take the online course during a workshop hosted by the WHO Country Office for Zimbabwe. We provided a guidance document to all participants with detailed instructions on the course registration and review process. Participants then took the course at their own pace over the 3-day period. Facilitators were available to answer any questions or address any technical issues during the workshop. At the end of each day, we facilitated a group discussion for the participants to share their overall impressions of the sections completed that day, and to offer comments and suggestions on specific learning activities. At the end of the workshop, we collected individual comments and awarded participatory certificates.

For the virtual field test, six WHO Country Offices (Malawi, Tanzania, Uganda, Kenya, Nigeria and Ghana) nominated participants from various health levels to partake in the course. On May 13, 2014, we sent all participants an email invitation explaining the purpose and the requirements for the field test. The email included a guidance document similar to the onsite field test outlining the course registration and review process, including ways

# Training and Resources

to provide feedback while taking the course. Participants were given a 2-week window to complete the course, during which time a point of contact was available to answer questions and address technical difficulties by email or phone. At the end of the 2-week period, a total of 49 participants reviewed the course, of which 43 had completed the course and received a certificate. Comments provided by participants were captured electronically through the review site that the learners had used to register for the course.

After the end of the field test period, we sent a post-course survey to all participants who completed the course. Almost all participants responded that they could apply the skills and knowledge obtained from this course to their work. A number of the onsite field test participants stated that the e-Learning format promoted individual learning and encouraged learners to read the content, while in a traditional classroom setting, some group members often dominated the activities and discussions. Furthermore, many participants indicated that the introduction of an e-Learning method can reduce training costs, including the cost of printing training materials. It could also be easily integrated into pre-service training to supply a continuum of health workers who have been trained in IDSR.

We collected a total of 261 comments from the onsite and virtual field tests. All of comments were carefully reviewed by a subject matter expert, and revisions to the course were made based on the feedback.

The English version of the IDSR e-Learning course will be launched in fall 2014 on CDC TRAIN, which is publicly available. French and Portuguese versions of the course will follow in early 2015.

For more information, contact: **Dr. Helen Perry** at [hap5@cdc.gov](mailto:hap5@cdc.gov).

Unit 1	Unit 2	Unit 3	Unit 4	Unit 5	Unit 6	Unit 7
Identify Cases of Priority Diseases, Conditions, and Events	Report Priority Diseases, Conditions, and Events	Analyze and Interpret Data	Investigate and Confirm Suspected Cases, Outbreaks, and Other Events of Public Health Importance	Prepare to Respond to Outbreaks and Other Public Health Events	Monitor, Evaluate, and Improve Surveillance and Response	Supervise and Provide Feedback

*IDSR e-Learning course home screen.*



## Virtual field test countries:

1. Malawi
2. Tanzania
3. Uganda
4. Kenya
5. Nigeria
6. Ghana

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## Evaluation of ...

Approximately one-half of respondents (51.2%) felt the HWB was too small; the volume of water it could hold was insufficient. The majority of respondents (80.9%) stated the instructions on the HWB were clear and easy to follow.

This was the first known acceptability study of a portable hand washing bag at the household level during an active emergency among a recently displaced population. The HWB performed well during the early phases of the emergency when basic services were insufficient, however longer-term results are unclear. Long-term use of the bag declined as indicated by the low proxy indicators (water in the bag, use of the bag for hand washing, hanging bag). It is unknown whether the HWB influenced hand washing behavior among the camp population. Distributing the bag to households, as part of a household arrival package, may initiate early hand washing behavior. The Reckitt-Benckiser bag has the potential to be a good option for a hand washing intervention during the early phases of an emergency; however additional WASH activities such as adequate soap provision and messaging must coincide to enable an environment that promotes hand washing behaviors. Additional evaluations (different population, different emergencies, and disease impact) are needed to further explore this.

For more information, contact: **Julia Smith-Easley** at [jrc2@cdc.gov](mailto:jrc2@cdc.gov).

# Teaching Leadership and Management Skills to FETP Fellows from Thailand and India

Submitted by: CDR Charlene Majersky, PhD, CDC

The Field Epidemiology Training Program (FETP) emphasizes acquiring the hard skills necessary to solve a medical mystery as well as the soft skills to effectively lead outbreak response teams. On April 10, 2014 and May 6, 2014 I had the distinct honor and privilege of teaching a 3-hour leadership and management course that I developed to 12 FETP residents from Thailand and India.

The course focused on qualities of a great leader, common leadership styles, guiding principles of mindful-leadership and mindfulness meditation, the basic pillars of management, and tips for effective and successful management. Using a pragmatic didactic approach: “teach one, see one, do one” with role playing a myriad of scenarios in the workplace, we emphasized problem solving and solutions’ oriented aspects of leadership and management. This type of instruction is designed to enhance knowledge and skills in dealing with administrative, personnel and financial management issues for the FETP residents who often assume leadership roles in Ministries of Health after graduation.

I have a deep passion for teaching, especially to individuals whom are open and receptive to learning. It is a gift and blessing to be able to touch peoples’ lives in a positive way, to connect with trainees, and to inspire knowledge in a meaningful way. Through their engaging interactions, I was reminded about the value of sharing knowledge, the importance of education and training initiatives in the workplace, and the gift of the human spirit. The literature shows the value of education and training initiatives. Not only does training help impart knowledge, but it also effects a change of attitude and behavior at a fundamental level. Specific to the workplace, training presents a pristine opportunity to change the knowledge base of its employees. Furthermore, training provides organizations and its employees with tangible and intangible benefits that make the time spent in training a worthy investment.

Dr. Hirunwut Praekunatham, FETP Fellow from Thailand, who attended the course, shared the following feedback: “Regarding the leadership and management course, personally, I enjoyed it very much.

*I think the content you taught us was informative, concise and very practical for us to apply it to our work. The way that you taught us was not boring. You tried to encourage us to discuss or allow us to think and ask questions. Moreover, I like that you provided your handouts to us.”*

Dr. Tripurari Kumar, EIS Officer in India, who attended the course, also commented on the course: “Thanks a lot for your leadership lecture and your spiritual-based discussion to counter the problems in our fast moving daily lives. In the past, we’ve had very little discussion on the spiritual role in leadership. I feel on a daily basis that spirituality brings back humanity and makes us aware that first we are human. All people are unique. There are many variables (i.e., personal, family, community, social, etc.) that exist in our surroundings; peoples are able to work efficiently when their awareness level of their variables exists. Meditation makes people more aware of their surroundings and also

*helps in prioritizing their activities. I am interested in more learning and discussion on this.”*

The impact of this training was positive and well received. These future leaders and managers now have additional knowledge and tools to perform their roles in an effective and successful manner. Having the knowledge,

skills, and abilities to lead and manage effectively in today’s highly complex and often challenging work environment is a good thing. It’s one thing to have learned something and another to be able to apply that knowledge in the workplace. This will be the next challenge for these fellows, as they embark upon their journey as either leaders or managers within the public health system.

For more information, contact: **Charlene Majersky, PhD** at [iee6@cdc.gov](mailto:iee6@cdc.gov).



FETP Thailand fellows, CDC: Dr. Yihong Xie; Dr. Hirunwut Praekunatham; Dr. Tippavan Nagachinta, FETPB, Medical Officer; CDR Charlene Majersky, PhD; Dr. Phanthane Thitichai; Dr. Pailin Phupat; and Seesai Yeesoonsang. Photo taken April 10, 2014.



FETP India fellows, CDC: Back row (left to right): Dr. Satish Kumar; Dr. Tripurari Kumar; Dr. Rajesh Pandey; Dr. Parvez Pathan; Dr. Kapil Goel; and Dr. Yogita Tulsian. Front row: CDR Charlene Majersky, PhD. Photo by: Dr. Mohan Kumar. Photo taken May 6, 2014.