Centers for Disease Control and Prevention

Technical Appendix

**Technical Appendix Table.** Select Centers for Disease Control and Prevention Emergency Response and Recovery Branch humanitarian emergency responses conducted, by year, type of emergency, activity, and partner, 2007–2016*

<table>
<thead>
<tr>
<th>Year</th>
<th>Type</th>
<th>Country or region, nature of emergency</th>
<th>Description of activities</th>
<th>Partners for activities</th>
</tr>
</thead>
</table>
| 2007 | CE   | Sudan (Darfur, southern Sudan) displacement crises of refugees and IDPs | 1. Supported USAID’s OFDA DART  
2. Conducted emergency food security and nutrition assessment  
3. Assessed clinical care access among returning refugees  
4. Provided technical assistance for WASH interventions for hepatitis E outbreak | 1. USAID/OFDA  
2. World Food Programme, UNICEF  
3. Southern Sudan Ministry of Health, UNHCR  
4. Southern Sudan Ministry of Health, WHO |
| 2008 | CE   | Zimbabwe political instability and cholera outbreak | 1. Supported DART on WASH activities for cholera response  
2. Evaluated cholera WASH response activities  
3. Investigation of high rates of community-based cholera deaths (1) | 1. USAID/OFDA  
2. UNICEF  
2. Consortium of Humanitarian Agencies, Antares Foundation |
| 2010 | ND and CE | Haiti earthquake and cholera outbreak | 1. Established sentinel site surveillance systems (4,5)  
2. Conducted nutrition assessment and provided technical assistance for supplemental immunization activities  
3. Conducted rapid assessments of water access and quality in IDP camps and cholera-affected areas  
4. Provided technical assistance with maternal surveillance  
5. Supported UN coordination of response | 1. PAHO, Haiti MSPP  
2. UNICEF, MSPP  
3. Haiti DINEPA  
4. UNFPA, PAHO  
5. PAHO, MSPP |
| 2010 | ND   | Pakistan floods | 1. Expanded and strengthened EWARN (6)  
2. Conducted emergency nutrition surveys in flood-affected areas  
2. UNICEF  
3. WHO, Pakistan Ministry of Health |
<table>
<thead>
<tr>
<th>Year</th>
<th>Type</th>
<th>Country or region, nature of emergency</th>
<th>Description of activities</th>
<th>Partners for activities</th>
</tr>
</thead>
</table>
| 2011–2014 | CE   | Horn of Africa famine and displacement crisis | 1. Strengthened UNHCR Health Information System surveillance  
2. Strengthened WASH preparedness in refugee camps, trained healthcare workers on cholera management  
3. Described measles outbreaks in 2 refugee camps in Kenya and Ethiopia (7)  
4. Assisted in coordination of measles vaccination campaign in Somalia  
5. Investigated mortality rates among refugees (8)  
6. Conducted prospective cohort study to assess impact of blanket supplementary feeding in nutritional emergencies (9)  
7. Conducted expert review of nutrition quality and mortality data from affected areas in Somalia for possible famine declaration (10)  
8. Identified gaps in emergency obstetric care  
9. Planned and implemented measles vaccination campaign in Somalia  
10. Supported Health Coordinator in refugee camp in Ethiopia  
11. Supported OFDA DART  
12. Supported Somali communicable disease reporting system improvement (11) | 1–3. UNHCR  
4. UNICEF  
5. UNHCR, Kenya Medical Research Institute, Food Security and Nutrition Analysis Unit Somalia  
7. FAO/Food Security and Nutrition Analysis Unit Somalia  
8. UNFPA  
9. UNICEF  
10. UNHCR, Ethiopia Ministry of Health  
11. USAID/OFDA  
12. WHO Somalia |
| 2012–2016 | CE   | South Sudan displacement crisis of refugees and IDPs | 1. Evaluated EWARN  
2. Conducted hepatitis E outbreak investigation and response  
3. Conducted nodding syndrome investigation  
4. Assessed mortality rate among refugees  
5. Initiated community-based pregnancy surveillance  
6. Provided technical assistance for managing acute malnutrition programs in emergencies, reviewed and validated all nutrition and mortality surveys (12) | 1. WHO, South Sudan Ministry of Health  
2. UNHCR, Medecins Sans Frontieres  
3. Ministry of Health, South Sudan  
4. UNHCR  
5. International Rescue Committee  
6. Ministry of Health, South Sudan, UNICEF |
| 2012–2016 | CE   | Syria displacement crisis | 1. Implemented Health Information Systems in Jordan refugee camp  
2. Coordinated mass measles vaccination campaign in Jordan  
3. Trained staff, implemented EWARN in northern Syria with subsequent evaluation  
4. Conducted EWARN training in Jordan for EWARN surveillance officers in Syria  
5. Conducted training on infant and young child feeding in Jordan  
6. Developed and evaluated tuberculosis screening and treatment strategy among refugees in Jordan  
7. Assisted in evaluating mental health programs among refugees in Jordan (13)  
8. Conducted nutrition surveys in Syrian refugee camps and among Syrian refugees living in host community in Jordan (14)  
9. Assisted in planning, design, and implementation of nutrition surveys in opposition-controlled areas of northern Syria  
10. Supported OFDA Response Management Team in Washington and the DART on polio response in Jordan  
11. Supported oral polio vaccination campaign in northern Syria from Turkey  
12. Provided infant and young child feeding support to refugees in Croatia  
13. Evaluated minimum initial services package for reproductive health in refugee sites in Jordan (15)  
14. Performed rapid health needs assessments in Syrian refugee camps in Greece | 1. UNHCR  
2. UNICEF  
3. USAID/OFDA, Assistance Coordination Unit  
4. WHO, Assistance Coordination Unit  
5. UNICEF  
6. UNHCR, Jordan Ministry of Health, International Organization for Migration, WHO  
7. International Medical Corps  
8. UNICEF, UNHCR  
9. UNICEF  
10. USAID/OFDA  
11. UNICEF  
12. UNICEF  
13. UNHCR, Women’s Refugee Commission, Boston University School of Public Health, UNFPA, International Rescue Committee  
<table>
<thead>
<tr>
<th>Year</th>
<th>Type</th>
<th>Country or region, nature of emergency</th>
<th>Description of activities</th>
<th>Partners for activities</th>
</tr>
</thead>
<tbody>
<tr>
<td>2013</td>
<td>ND</td>
<td>Philippines typhoon</td>
<td>1. Strengthened EWARN</td>
<td>1. WHO, Philippines</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>2. Contributed to restoration of vaccine services, assisted with measles vaccination campaign</td>
<td>Department of Health</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>3. Developed cholera preparedness plan</td>
<td>2. UNICEF, Philippines</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>4. Coordinated nutrition sector humanitarian response</td>
<td>Department of Health</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>5. Conducted health and nutritional assessment of older adults residing in conflict areas</td>
<td>3. UNICEF, Philippines</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>6. Assessed infant and young child feeding practices among displaced population</td>
<td>Department of Health</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>7. Established and evaluated anemia surveillance</td>
<td>1–4. UNICEF, Ukraine Ministry of Health</td>
</tr>
</tbody>
</table>

**2014 CE Ukraine displacement crisis**
1. Coordinated nutrition sector humanitarian response
2. Conducted health and nutritional assessment of older adults residing in conflict areas
3. Assessed infant and young child feeding practices among displaced population
4. Established and evaluated anemia surveillance

**2014–2016 CE Iraq displacement crisis**
1. Analyzed injury surveillance data (16)
2. Provided technical assistance to support WASH and outbreak control response to cholera outbreak
3. Provided technical assistance to implement and evaluate oral cholera vaccination campaign (17)
4. Evaluated EWARN

**2016 CE Nigeria displacement crisis**
1. Conducted survey to estimate acute malnutrition and infectious diseases rates
2. Conducted expert review on nutrition quality and mortality rate data in affected areas for possible famine declaration

**2016 ND Haiti hurricane**
1. Evaluated cholera treatment protocol and surveillance system
2. Provided technical assistance to improve WASH interventions for cholera prevention
3. Assessed access to HIV and tuberculosis clinical care

---

**References**


