



**Statement before the**  
**House Foreign Affairs Committee**  
**Subcommittee on Africa, Global Health, Global Human**  
**Rights, and International Organizations**

***“THE GROWING THREAT OF CHOLERA AND OTHER  
DISEASES IN THE MIDDLE EAST”***

A Testimony by:

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**“The Growing Threat of Cholera and Other Diseases in the Middle East”**

Mr. Chairman, Madam Ranking Member and other Members of the Subcommittee, I am grateful and honored to speak here today. Thank you for the opportunity.

I understand that while you have an important specific interest in the recent cholera outbreak in Iraq, you also have a broad interest in the acute health security threat posed by infectious outbreaks across the Middle East.

Before discussing details of the recent cholera outbreak in Iraq and efforts to combat it, I wish first to comment very briefly on how the rising threat of infectious outbreaks in the region -- the most recent cholera outbreak along with outbreaks of measles, polio, tuberculosis and other infectious diseases -- stems from the widening disorder and human crisis that is steadily unfolding in the Middle East and North Africa. I will direct much of my focus on Syria.

That disorder is part of a broader global phenomenon: the advent of a dozen new wars in the past five years, atop several chronic unresolved wars, has generated over 60 million refugees and displaced persons, the highest levels since just after World War II.

The disorder has its roots in the wars that followed 9/11, most notably the 2003 invasion of Iraq, as well as the failed Arab Spring, which saw the dissolution of sovereign states in Syria, Libya, and Yemen. In each, there emerged violent and chaotic fragmentation, a fluid competition among diverse armed non-state groups, and the rise of radical Islamist groups, most notably ISIS's dramatic arrival in Syria, Iraq and Libya in mid-2014. To varying degrees in each, there has been flagrant disregard for the neutrality of humanitarian operations and the deliberate targeting, most egregiously in Syria, of health workers and health infrastructure.

It is critical to give special emphasis to Syria, given the colossal magnitude of the human crisis there, the severity of the worsening health situation, and how woeful health data is, given the breakdown of systems, limited access and rampant insecurity.

Most recent estimates by the Syria Policy Center report that over 470,000 have been killed and 1.9 million wounded in the Syrian conflict. UNHCR estimates there are now over 4.7 million registered refugees, while IDMC reports 7.6 million internally displaced persons within Syria, of whom 4.5 million are very difficult to access and close to 500,000 living in protracted besieged circumstances, cut off from virtually any medical services. An estimated 900,000 Syrian refugees have entered Europe.

Infectious disease outbreaks have proliferated: measles, diarrhea, typhoid, leishmaniasis. 35 cases of polio were reported in 2013, one case in 2014. A WHO polio official reported in January 2015 that at the time of the outbreak, an estimated 500,000 children under five in Syria had not been vaccinated against polio in over two years.

That vulnerability to renewed polio outbreaks persists despite the success of the Global Polio Eradication Initiative (GPEI) in staging a dozen polio immunization campaigns following the 2013 outbreak. This major achievement, effectively curbing up to now further outbreaks and export of polio cases, was a testament to the determined response of WHO, UNICEF, the Syrian

Arab Red Crescent, local health workers, volunteers and civil groups. Concerted pressure upon the Syrian government from Syria's neighbors, major powers and international bodies was essential.

The Syrian American Medical Society estimates that there have been 300,000 deaths from chronic diseases due to a lack of access to basic treatment and drugs. WHO reports that fully half of the public hospitals are either damaged or destroyed, while PHR projects that of Syria's estimated 30,000 medical doctors prior to the civil war, over half have fled the country.

Now is a particularly compelling moment to address the rising health security threats in Syria and the surrounding region.

It comes in the midst of the current urgent focus in U.S. policy on how to achieve a cessation of hostilities and expanded humanitarian access to besieged populations, cut off from relief, basic health services and critically important immunizations.

It comes as the United States presses to accelerate negotiations over a national transition and advance efforts to shore up the borderlands – Turkey, Lebanon and Jordan – and improve the health and well-being of Syrian migrants there.

And it occurs as the United States and others struggle for more humane and feasible means to manage the massive outflow to neighboring states and beyond to Europe of hundreds of thousands of desperate and vulnerable Syrian victims of this exceptionally heinous and vicious war.

All of these factors contributed to the extraordinary outcome of the February 4<sup>th</sup> meeting in London, which recorded \$11 billion in humanitarian pledges towards Syria and the surrounding region, \$6 billion in 2016 alone. These levels are unprecedented. If these pledges are fulfilled, money will not be a major constraint. Political will, health delivery capacity and insecurity will likely be the principal barriers.

In my opinion, a grave health security crisis continues to gather force in Syria and the surrounding region. It will likely worsen before it abates, and it requires higher, concentrated attention by U.S. policymakers and others. At the conclusion of this paper, I offer a few concrete ideas on what more might be done.

### **The 2015 Cholera Outbreak in Iraq**

Between September 2015 and January 2016, a major cholera outbreak occurred in Iraq. Most recent WHO figures report 4,864 confirmed cases of cholera throughout Iraq across 17 governorates.

Cholera is endemic to Iraq, with cholera reservoirs in several locations around the Euphrates and seasonal outbreaks during the summer months occurring as far back as 1966. There have been other recent major outbreaks in 2007 and 2012.

Whereas previously outbreaks have been predominantly in the north, this outbreak occurred in the southern regions of Iraq. South and central Iraq had not previously experienced a cholera outbreak of this scale.

The increased scale of internally displaced persons (IDPs) and refugees contributed substantially to the outbreak. In Iraq, UNHCR reports that more than 3.9 million people have been internally displaced—including over 1 million school aged children—with 87% of IDPs coming from three governorates, Anbar, Ninewa, and Salah al-Din. In addition to IDPs, Iraq also hosts over 220,000 UNHCR-registered Syrian refugees. These populations, highly mobile and difficult often to track, are themselves cholera-vectors who can fuel cholera's spread

Cholera, a bacteria found in contaminated water supplies and spread in places with inadequate water treatment, poor sanitation, and inadequate hygiene, thrives in severely disrupted environments. On June 2, 2015, ISIS closed the gates of a dam in Ramadi, reducing the level of the Euphrates River and causing water shortages and increased salinity downstream as far as Basra Governorate. After reopening the dam, the water supply to southern Iraq was contaminated and of extremely low quality. Further, ISIS has deliberately targeted and destroyed vital civilian infrastructure, including water treatment facilities.

### **The Iraqi Government Response**

The Iraqi Ministry of Health, in conjunction with WHO and UNICEF, undertook a countrywide oral cholera vaccination (OCV) campaign, as well as increased public health education and preparedness activities through a UNICEF-driven WASH (water, sanitation, and hygiene) campaign.

WHO and UNICEF played critical roles in the monitoring, evaluation, and documentation of vaccine distribution, as well as vaccine campaign logistics and preparation.

The immunization campaign was not intended to halt the outbreak per se—the vaccine does not “cure” cholera, it merely confers future immunity to the disease with a 65% efficacy rate. The campaign aimed to mitigate the risk of future outbreaks among highly vulnerable populations.

The vaccination campaign complemented the WASH campaign already underway, which was aimed at increasing access to safe drinking water and promoting proper hygiene.

Two oral cholera vaccine (OCV) immunization campaigns were undertaken—one in November and a second in December—that focused primarily on camps that house Syrian refugees and Iraqi IDPs. All individuals over 1 year of age in these targeted camps received two doses of OCV. In total, the campaign vaccinated approximately 255,000 individuals in 62 camps across 13 governorates.

The vaccination campaign required 510,000 doses of OCV, causing a significant depletion to the global OCV stockpile.<sup>[1]</sup>

In total, 13,000 vaccinators and 650 social mobilizers were participated in the campaigns. The effort was successful, with no reported cases of vaccine refusal and vaccination coverage of over 93% among the target population. On January 8, 2016, WHO declared the end of the Iraq cholera outbreak.

It is important to note that the WASH campaign and the onset of winter season were the most significant factors which stopped the outbreak, and that additional outbreaks are expected when next summer commences.

The WASH campaign consisted of several public health education and preparedness activities, including a nationwide dissemination of information on safe water and good sanitation, distribution of bottled water, water kits, hygiene kits, and chlorine tablets, and conducting targeted sanitation improvements

Fears of a regional cholera epidemic—especially after reported cases of imported cholera in Oman, Iran, and Kuwait—never came to pass. WHO reports that no confirmed cases of cholera were identified in Syria, although large areas of northern Syria are inaccessible to international monitors and aid agencies. Likewise, the December “arbaeen pilgrimage” to Najaf and Karbala, Iraq did not result in any significant uptick in cholera cases.

### **Continued High Concerns over Syria**

Unlike Iraq, cholera is not endemic to Syria and long-standing reservoirs of the bacteria do not exist. Fears of major disease outbreaks persist, however, tied to massive conflict-driven population movements across much of the country, coupled with the degradation or destruction of medical facilities throughout northern Syria.

Data on northern Syria remain elusive, since it is so difficult to conduct proper disease surveillance there, whether the territory is under ISIS, government, or militia control. If there is a cholera, polio, or measles outbreak in northern Syria, mounting a response will be exceedingly difficult. The risk of a regional epidemic remains high.

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<sup>[1]</sup>. The OCV stockpile was created between 2013 and 2014 to help control cholera epidemics, with 3 million doses in storage produced by a single pharmaceutical company, Shantha Biotechnics. It is overseen by the International Coordinating Group, which consists of IFRC, MSF, UNICEF, and WHO. In January, 2016, WHO approved a second OCV manufacturer, EUBiologics, to double the vaccine stockpile to 6 million doses

## **CDC's Contributions to the Iraq Response**

The CDC's technical support in Iraq, through secondments of CDC experts to UNICEF and the World Health Organization, has helped strengthen the outbreak response. This was achieved through several streams of work:

- Improving the analysis and understanding of epidemiological data, including providing spatial and longitudinal analyses of the disease spread
- Assisting with the WASH campaign by visiting highly affected areas, attempting to understand the underlying causes of the outbreak, and helping expand WASH communication efforts
- Assuming a coordinating/mediating role between international actors, particularly between UNICEF, WHO, and the Iraqi government
- Supporting the monitoring and evaluation of the two OCV campaigns
- Encouraging the Iraqi Ministry of Health to be more transparent with their water quality and epidemiological data

## **Looking Ahead**

There continues to be significant vulnerabilities to dangerous infectious outbreaks in Syria, Iraq and the surrounding region.

Rates of diarrheal diseases remain high, which could both contribute to disease outbreaks such as cholera or polio and generate significant malnutrition in the future.

The recent cholera vaccine campaign, although successful, is not a durable solution. Iraq needs significant investments in water and sanitation infrastructure to truly prevent future cholera outbreaks.

The success in launching a dozen polio campaigns inside conflicted areas of Syria proves the important point that with sufficient will, capacity, resources, and local partners, it is possible to navigate much of Syria's dangerous terrain.

There continues to be good reason to be very concerned about northern Syria, and the potential for either a disease outbreak or case importation into that area. Such a scenario could prove very costly for both the immediate region and Europe if cases were to be exported through refugee flows.

The outstanding U.S. policy issue is whether and how to strengthen the U.S. presence and engagement in the region to control outbreaks in Syria, Iraq and the surrounding region.

There are a few options which deserve serious consideration.

First, there could be an expansion of the secondment of US expert personnel to UNICEF and WHO to provide technical support on the ground.

Second, a base of U.S. public health expertise could be established in Jordan that would provide a continuous presence, charged with heightened coordination of U.S. contributions, quick response capacity, and intensified efforts to leverage relationships across the region. This would greatly extend the United States' reach and influence beyond the rotation on short-term assignments of U.S. personnel into the region.

Third, putting expanded U.S. efforts under the Global Health Security Agenda framework matched by additional resources could be very valuable.

We have learned from Ebola in West Africa and now Zika in the Americas that health security threats matter fundamentally to U.S. national interests and that they require a quick, smart response, in league with national governments, international bodies and non-governmental groups. They require resources and a plan of action over several years. We have learned that the Global Health Security Agenda provides a very valuable framework for assessing needs and steering investments in building essential capacities, as well as motivating other partners to join the fight and embedding the agenda into the priority work of the G-7.

## **Closing**

Syria and the surrounding region simply cannot be ignored on health security grounds. It should be a high priority, matched by stepped up U.S. engagement. As dangerous and fluid as the situation is -- far more dangerous, I admit, than West Africa or the Americas -- there is much more the United States can and should do to establish a standing U.S. technical field presence in the region, improve data and surveillance, build capacity in partner states where it is possible, especially in Turkey, Lebanon and Jordan, and be poised to exploit openings as they appear in Syria and Iraq.

Thank you.

Figure 1: UNOCHA: MENA and Afghanistan/Pakistan Overview

**Syria Crisis** 🌪️👤👤👤

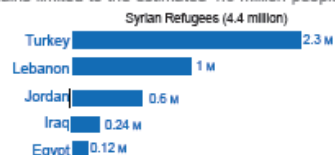
Fighting continues across Syria taking a heavy toll on civilians and increasing displacement and humanitarian needs. As of 30 November, over 1.5 million people have been internally displaced in 2015 alone, many of them having been displaced multiple times, while hundreds of thousands have fled to neighboring countries and beyond. Humanitarian access remains limited to the estimated 4.6 million people in hard to reach and besieged areas.

Key figures (inside Syria)

**13.5 M** people in need

**6.5 M** IDPs

**4.6 M** in hard to reach and besieged areas

**Iraq** 🌪️👤👤👤

Humanitarian organisations are working to address the winterization needs of 585,000 IDPs across Iraq. In addition, 132,000 Syrian refugees in the Kurdistan Region of Iraq (KR-I) will be assisted through the provision of basic domestic items. Colder temperatures (minus 9 to plus 5 degrees Celsius) in KR-I region underscore the urgency of sustained supplies of kerosene for heating and cooking, as well as other essential winterization needs.

**10 M** people in need

**3.2 M** IDPs

**470,000** returnees

**Afghanistan** 🌪️👤👤👤

More than 100,000 people in 15 provinces affected by the 7.5 magnitude earthquake were assisted. Armed conflict between Non-State Armed Groups (NSAGs) and Afghan National Security Forces escalated in Helmand Province in December with NSAGs claiming to have captured some districts. The increasing trend of conflict displacement continued across the Central, Southern, Northern and Eastern regions.

**7.4 M** people in need **271,779** new IDPs in 2015

**236,881** Pakistani refugees (as of 23 December 2015)

**8,346** civilian casualties (1 January to 30 September 2015)

**Libya** 🌪️👤👤👤

Armed conflict and political instability has impacted over 3 million people across Libya. This includes IDPs, the non-displaced conflict-affected population, refugees, asylum-seekers and migrants. The crisis is predominantly urban centered with most of the fighting taking place in major cities such as Benghazi, Tripoli, Misrata, Sirte, Sabha and Derna.

**2.44 M** people in need

**435,000** IDPs

**250,000** refugees, asylum seekers and migrants

**oPt** 🌪️👤👤👤

Since mid September 2015 there has been an escalation in clashes and attacks across the occupied Palestinian territory and Israel, which has resulted in large numbers of civilian casualties and raised serious protection concerns. Palestinians in Gaza, particularly IDPs, continue to bear the consequences of the 2014 hostilities.

**2.3 M** in need across oPt

**95,000** IDPs in Gaza

**Yemen** 🌪️👤👤👤

Conflict continues to devastate the lives of people in Yemen. Eighty-two per cent of Yemen's population requires some form of humanitarian assistance to meet their basic needs or protect their fundamental rights. The severity of needs among the most vulnerable population has deepened and parties to the conflict continue to show disregard for the lives of civilians and civilian infrastructure. Humanitarian organisations continue to deliver much needed assistance across the country.

**5,955** killed; **28,111** injured (as of 20 December, WHO)

**2.5 M** displaced

**Pakistan** 🌪️👤👤👤

IDP returns to the Federally Administered Tribal Areas are ongoing. With no new displacements taking place, the focus of the response is increasingly shifting towards sustainable returns. The Government continues to respond to the needs of people affected by the 7.5 magnitude earthquake in October. Humanitarian partners have also provided bilateral assistance in support of the Government response.

**1.2 M** IDPs

**0.9 M** IDPs expected to return in 2015

**0.7 M** returnees

**1.5 M** Afghan refugees

Creation date: 3 January 2016

Sources: UNCS, OCHA, UN Partners

\*Internally Displaced Persons (IDPs) Feedback: majidi@un.org

www.unocha.org www.reliefweb.int The boundaries and names shown and the designations used on this map do not imply official endorsement or acceptance by the United Nations.

Figure 2: UNOCHA: Hard-to-Reach Populations in Syria

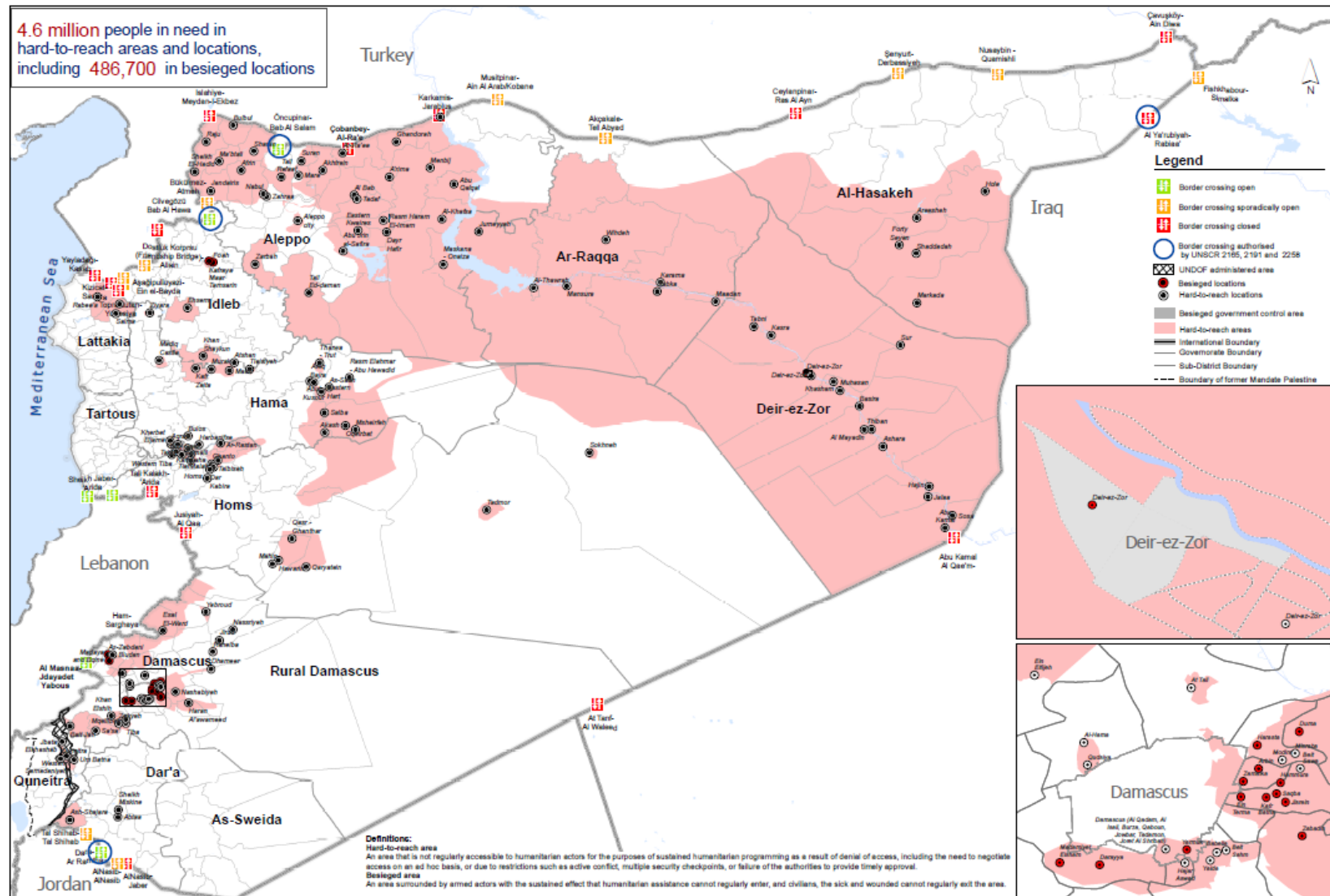


Figure 3: UNOCHA: Syria Refugee and IDP Overview

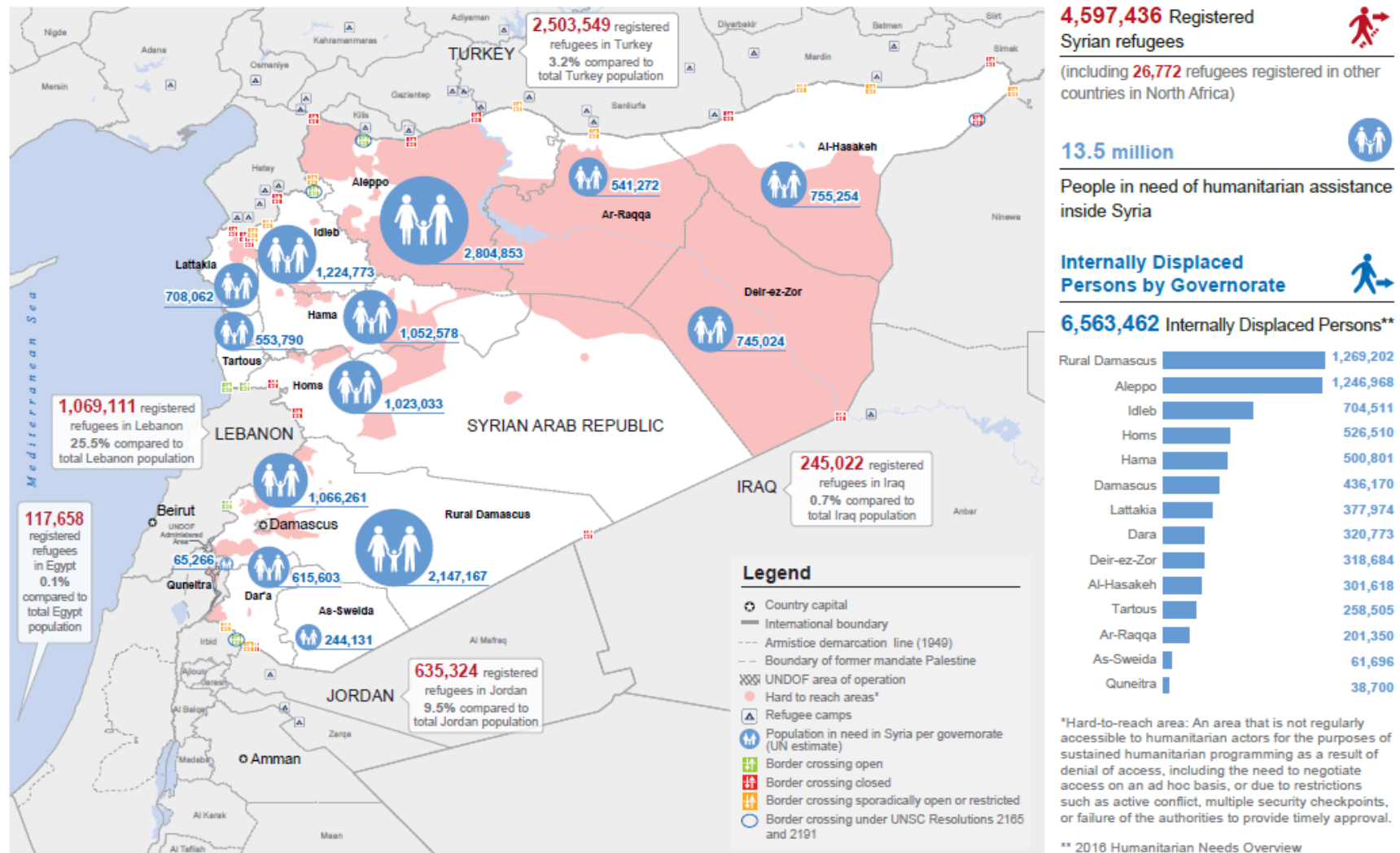


Figure 4: PHR: Attacks on Health Targets in Syria

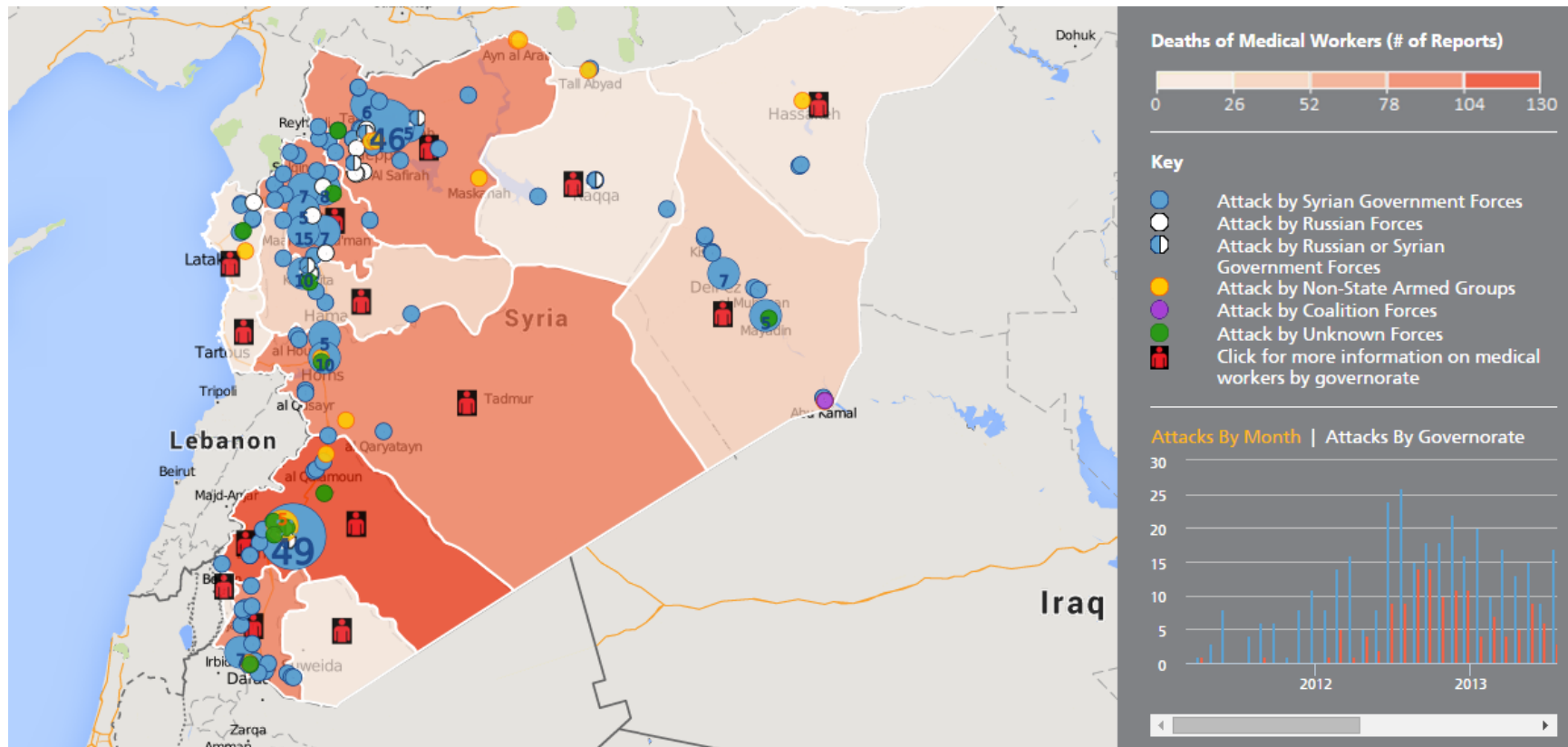


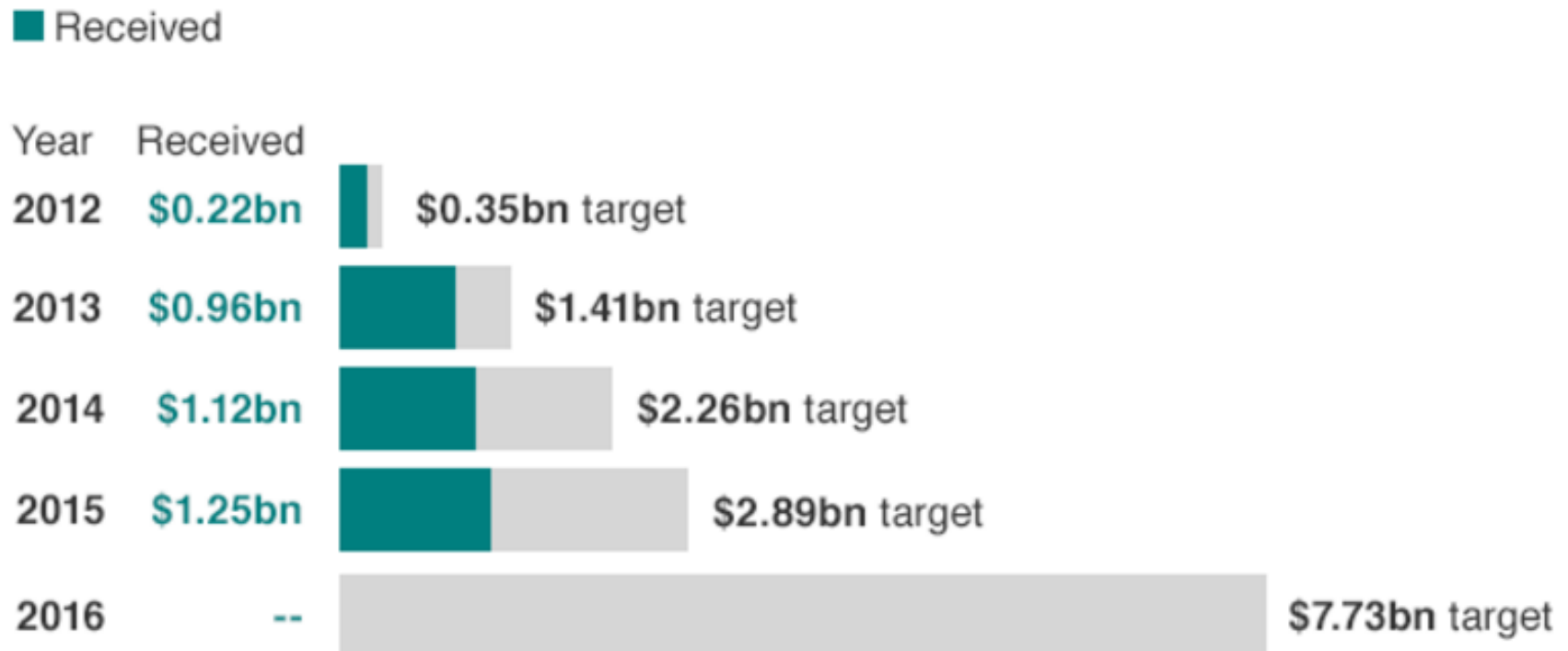
Figure 5: UNOCHA: United Nations Funding Appeals

Figure 6: UNOCHA: February 4<sup>th</sup> London Conference International Pledges

