

The Ongoing Syrian Arab Republic Health Care Crisis

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ABSTRACT

Prior to the Syrian civil war, access and delivery of health care and health care information over the past 4 decades had steadily improved. The life expectancy of the average Syrian in 2012 was 75.7 years, compared to 56 years in 1970. As a result of the civil war, this trend has reversed, with the life expectancy reduced by 20 years from the 2012 level. The Syrian government and its allies have specifically targeted the health care infrastructure not under government control. (*Disaster Med Public Health Preparedness*. 2018;12:23-25)

Key Words: health care facilities, manpower, and services, emergency service, hospital, wounds and injuries

A country's optimal health care infrastructure comprises state-of-the-art facilities staffed by well-trained providers with access to authoritative and current health science information.¹ Prior to the civil war, the Syrian Arab Republic had 5 functioning medical schools, a National Health and Medication Plan, and 37 medical libraries.

For decades preceding the Syrian civil war, access and delivery of health care and health care information had steadily improved.^{2,3} According to the World Health Organization, the life expectancy of the average Syrian in 2012 was 75.7 years, compared to 56 years in 1970. As a result of the civil war, this trend has reversed, with life expectancy now reduced by 20 years from the 2012 level.^{4,5} The United Nations estimates that approximately 13 million Syrians now require urgent humanitarian assistance, and that almost half of them are children.^{6,7}

Throughout the history of modern conflicts, medical personnel and medical facilities have generally been considered noncombatants and spared from attack. The Geneva Convention explicitly states that both military and civilian personnel exclusively assigned to medical duties must be respected and protected in all circumstances. Intentionally directing attacks against identifiable medical personnel, and facilities, constitutes a war crime.⁸

My personal experience in Vietnam supports the Geneva Convention rules. The Viet Cong and North Vietnamese regulars avoided attacking adequately identified medical facilities, probably because US military hospitals routinely treated wounded enemy combatants. In 1968, while serving with the 101st Airborne, my medics and I were delivering a medical civic action program (MEDCAP) in a remote village. As dusk approached, the village chief told me a Viet

Cong platoon was approaching and requested us to leave immediately as they did not want to harm a MEDCAP team. Though fearful of being ambushed, we left unharmed. On another occasion my medical platoon was assigned to help reopen the civilian hospital devastated by the Tet offensive in Hue City. We treated the general civilian population, which, I have no doubt, included many enemy and enemy sympathizers. Because we were properly identified, we were never harmed or even threatened during that 3-month assignment.

Noteworthy, and in stark contrast to other modern conflicts, the Syrian health care system, its public health infrastructure, and its health information resources, especially in rebel-held areas, has been devastated by this ongoing civil war. Health care personnel, health care facilities, ambulances, manufacturers and suppliers of medical equipment and pharmaceuticals, including nongovernmental humanitarian agencies (NGOs) such as Doctors Without Borders, have been purposely and aggressively targeted for destruction.

The Syrian government, who controls the skies, has been the main perpetrator of these attacks. There have been more than 250 deliberate or indiscriminate attacks on 185 medical facilities. The Syrian government is responsible for 88% of the recorded hospital attacks and 97% of medical personnel killed, with 139 deaths directly attributed to torture or execution. Rebel forces and ISIL have also been accused of targeting the health sector.

The bombings of hospitals and clinics have dramatically increased since Russia entered the air campaign. In October 2015, 12 medical facilities were purposely targeted and bombed. Early in 2016, 3 hospitals became targets of Russian bombs, killing many

and depriving thousands of Syrians access to care. In Aleppo the humanitarian crisis continues to worsen as the regime has essentially destroyed the entire health care infrastructure.

According to the World Health Organization, approximately two-thirds of Syrian hospitals and clinics have been rendered useless or destroyed by the war. The remaining medical facilities are understaffed, poorly equipped, undersupplied, and overwhelmed with trauma care. Restrictions to travel and sanctions have further affected care, resulting in shortages of drugs, medical supplies, and spare parts for equipment.

Approximately 700 health care workers have been killed or injured, and half of the nation's physicians have fled the country for their own safety. More than 1 million Syrians have been wounded or killed, leaving hundreds of thousands with poorly managed, lifelong disabilities and a tragic lack of basic medical services. Deaths from untreated diseases and wounds have skyrocketed. Treatments for chronic diseases such as cancer, cardiovascular disease, renal disease, diabetes, and nonurgent routine medical interventions are severely interrupted. "Elective" follow-up care for wounds, amputee prosthetics, and infections can no longer be a priority and are rarely attended to.

The large-scale displacement of the Syrian population, unsanitary conditions, and the contaminated water supply has fuelled a resurgence of once extinct communicable diseases such as polio, cholera, typhoid, hepatitis, and parasitic infections.⁹ The mental trauma inflicted by this nearly 6-year-long civil war on the civilian population is incalculable.

The Syrian American Medical Society has been actively facilitating the rotation of health care volunteers in Syria. A must read is the commentary by Dr. Samer Attar, a volunteer from the Syrian American Medical Society, who paints a chilling picture of "The Hell of Syria's Field Hospitals," which was published in the June 9, 2016, issue of the *New England Journal of Medicine*.¹⁰

Leonard Rubinstein,¹¹ Director at the Bloomberg Center for Public Health and Human Rights at Johns Hopkins University in Maryland, noted that the situation in Syria "is the worst concerted attack on healthcare in living memory, and in the decades I've been studying this issue in places like Bosnia, Chechnya, Afghanistan and the Gaza Strip, there has been nothing like what has happened in Syria."

The US Department of State recently stated that the Syrian conflict is the largest and most complex humanitarian emergency of our time. The United States has provided more than \$6.5 billion in humanitarian aid since the start of the

crisis. This financial effort supports the operations of the United Nations and NGOs to provide emergency relief to Syria and their neighbors. Countries adjacent to Syria have been overwhelmed with refugee assistance and have periodically closed their borders owing to terrorist attacks. Closed borders prevent international medical humanitarian organizations like Doctors Without Borders from treating war-wounded Syrians. Although unconfirmed, it was reported that the Israeli army has set up a field hospital along the Syrian border on the Golan Heights to treat Syrian wounded.

Although it is obvious that the Syrian crisis¹² will not end soon, when it does, it will require a major international effort to rebuild the country's public health and health care infrastructure. The Syrian medical community and supporting NGOs will have to move from a crisis response mode to a strategic planning and recovery mode. The health sector that will be assembled to support this effort will require strong command and control to coordinate their efforts, prioritize their activities, and develop communication protocols, common language, reporting forms, etc. Critically important to this effort is real-time, open and free access to health information provided by the US National Library of Medicine's Disaster Information Management Research Center.¹³

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REFERENCES

1. Powles J, Comim F. 6. Public Health Infrastructure and Knowledge. Trade, foreign policy, diplomacy and health. World Health Organization website. http://www.who.int/trade/distance_learning/gpgh/gpgh6/en/index7.html. Accessed July 10, 2017.
2. Syrian Arab Republic: WHO statistical profile. World Health Organization website. <http://www.who.int/countries/syr/en/>. Accessed July 10, 2017.
3. Health in Syria. Wikipedia website. https://en.wikipedia.org/wiki/Health_in_Syria. Accessed July 10, 2017.
4. Devi S. Syria's health crisis: 5 years on. *Lancet*. 2016;387:1042-1043.
5. Kherallah M, Alahfez T, Sahloul Z, et al. Health care in Syria before and during the crisis. *Avicenna J Med*. 2012;2(3):51-53. doi: 10.4103/2231-0770.102275.
6. Guha-Sapir D, Rodriguez-Llanes J, Hicks M, et al. Civilian deaths from weapons used in the Syrian conflict. *BMJ*. 2015;351:h4736. doi: 10.1136/bmj.h4736.
7. de Mistura S. Syria death toll: UN envoy estimates 400,000 killed. Al Jazeera. <http://www.aljazeera.com/news/2016/04/staffan-de-mistura-400000-killed-syria-civil-war-160423055735629.html>. Published April 23, 2016. Accessed July 10, 2017.

8. International Humanitarian Law - First 1949 Geneva Convention. International Committee of the Red Cross website. <https://www.icrc.org/>. Accessed December 13, 2010.
9. Doocy S, Lyles E, Delbiso T, Robinson C; IOCC/GOPA Study Team. Internal displacement and the Syrian crisis: an analysis of trends from 2011-2014. *Confl Health*. 2015;9:33. doi: 10.1186/s13031-015-0060-7.
10. Attar S. The hell of Syria's field hospitals. *N Engl J Med*. 2016;374:2205-2207.
11. Leonar D. Rubenstein, JD. Johns Hopkins Bloomberg School of Public Health website. <http://www.jhsph.edu/faculty/directory/profile/2432/leonard-s-rubenstein>. Accessed July 10, 2017.
12. Phillips S. Syria's Compounding Health Care Crisis. The Washington Institute. <http://www.washingtoninstitute.org/fikraforum/view/syrias-compounding-healthcare-crisis>. Accessed July 10, 2017.
13. Disaster Information Management Research Center. US Department of Health and Human Services website. <https://disaster.nlm.nih.gov/>. Last updated June 21, 2017. Accessed July 10, 2017.