

SLOW DEATH

Life and Death in Syrian Communities Under Siege

A SYRIAN AMERICAN MEDICAL SOCIETY REPORT

MARCH 2015



The Syrian American Medical Society (SAMS) is a nonprofit, nonpolitical relief organization that represents thousands of Syrian American healthcare professionals in the United States. Founded in 1998 as a professional society, SAMS has evolved to meet the growing needs and challenges of the medical crisis in Syria. Today, SAMS is on the front lines of crisis relief in Syria and neighboring countries to serve the medical needs of hundreds of thousands of Syrians, support doctors and medical professionals, and rebuild healthcare. From establishing field hospitals and training Syrian doctors to advocating at the highest levels of government, SAMS is working to alleviate suffering and save lives. SAMS has chapters across the U.S. as well as offices in Jordan, Turkey, Lebanon, Washington DC, and Ohio.

For more information, visit www.sams-usa.net.

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Cover photo by Bassam Khabieh.

*“In order to break the siege, you need to first
break the silence surrounding it.” **

- A former resident of Yarmouk

*Source: Mamoon Alabbasi, "Breaking the silence' on Syria's besieged Yarmouk camp," *Middle East Eye*, updated 13 February 2015.

Executive Summary

In Syria, hundreds of thousands of civilians are being intentionally denied basic necessities such as food, water, and medicine as part of a cruel tactic of war. Long-term sieges of populated areas – some of which have been ongoing since 2012 – have had a devastating impact on the people trapped inside. Hundreds of deaths have been recorded from preventable causes such as starvation, dehydration, and a lack of basic medical care. Many of the victims are children.

The international response to the long-term sieges of civilians in Syria has been entirely inadequate. There have been no successful international efforts to end the sieges, and attempts to ameliorate their impact by sending in humanitarian aid have been woefully insufficient since they remain completely dependent on the besieging party for approval.

Slow Death is a report by the Syrian American Medical Society (SAMS) that documents life and death in the besieged areas of Syria and examines the international response. New information presented in this report indicates that the scale of the crisis of civilians under siege in Syria is far greater than current UN OCHA estimates suggest. SAMS estimates that there are more than 640,200 people living under long-term siege in Syria, more than three times the current UN OCHA estimate of 212,000.

This report utilizes SAMS's networks on the ground to give a detailed overview of what life is like in the besieged areas. It describes the strategies that people use to survive under siege, and the ways that they die. Particular attention is paid to the way in which the sieges have caused the complete collapse of local health care systems and forced the remaining doctors to practice in primitive conditions.

This qualitative picture of life under siege is reinforced with a dataset that contains information on 560 civilians who have died prematurely in besieged areas. Analysis of this data confirms that the physical impacts of siege disproportionately impact children and the elderly. Graphing these deaths over time provides a visualization of the course of the sieges, which began to be implemented in a systematic manner in mid-2013. One hundred percent of the recorded deaths under siege were in areas besieged by the Syrian government.

As of February 2015 the UN Secretary-General's reporting officially recognized 11 besieged areas in Syria with a combined estimated population of 212,000. With no independent statistics regularly available, these UN figures have come to play a critical role in framing the international community's understanding of the siege crisis in Syria. The information presented in *Slow Death* indicates that the actual number of people living under siege is more than 640,200. The report also identifies 38 additional communities that meet the definition of *Besieged* but have not been designated as such by UN OCHA in the monthly Secretary-General's reporting.

Gathering this type of ground-level information in Syria is incredibly difficult due to access restrictions, and UN OCHA and other agencies deserve tremendous credit for taking on this task each month. Their important work has continued to highlight the plight of civilians trapped in horrendous conditions across the country. At the same time, SAMS believes that the current UN OCHA estimates are too low and their list of designated *Besieged* communities is incomplete, which means that the UN reporting may inadvertently downplay the magnitude of the crisis.

Slow Death describes how local ceasefire agreements do not always coincide with the end of a siege and presents examples where the UN has either failed to include or prematurely removed an area from its *Besieged* list based on the conclusion of local ceasefire negotiations. Among these examples is the current case of Moadamiya al-Sham in Rural Damascus, which was recently removed from UN OCHA's *Besieged* list despite the fact that the remaining population continues to be deliberately deprived of humanitarian essentials and attacked by the Syrian government.

The information, analysis, and findings in *Slow Death* lead to a number of recommendations for how Syria's sieges are conceptualized and addressed by the international community:

- The UN agencies should immediately revisit their *Besieged* designations to consider inclusion of the additional 38 besieged areas designated by SAMS and to verify their population estimates, which currently understate the magnitude of the crisis.
- The UN agencies' system for identifying and designating Syrian communities as *Besieged* should be revised to clarify ambiguities and inconsistencies in the current classification system.
- Local ceasefires must be directly monitored by the international community to ensure compliance, and any decision to change the *Besieged* status of a community as a result of such an agreement should include a trial period of several months where humanitarian access in all priority sectors is sufficient and consistent before the status is officially changed.
- Members of the UNSC should continue to push for referral to the International Criminal Court for war crimes committed in Syria against besieged populations. With little threat of being held accountable for their crimes, siege perpetrators have become emboldened over time.
- The Security Council should seriously pursue the reform measure put forward by France for the Permanent Five members of the UNSC to regulate their use of the veto in cases of mass atrocity.
- In light of the Security Council's failure thus far to fulfill its responsibilities under the UN Charter to maintain international peace and security, the UN General Assembly should hold an Emergency Special Session under the "Uniting for Peace" procedures, to make recommendations for collective measures to address the ongoing crimes being perpetrated in Syria against innocent civilians.

The long-term sieges of Syrian civilians – largely perpetrated by the government of Syria against its own citizens – have been allowed to metastasize for far too long. UN leadership is needed to bring about an end to these gross violations of international human rights law and humanitarian law and to bring the perpetrators to justice. It is both legally and morally incumbent upon the international community to take immediate action to end the sieges of populated areas in Syria.

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Acronyms

ICC	International Criminal Court
IICISyria	Independent International Commission of Inquiry on the Syrian Arab Republic
MSF	Médecins Sans Frontiers
NGO	Non-Governmental Organization
OCHA	Office for the Coordination of Humanitarian Affairs
OHCHR	Office of the United Nations High Commissioner for Human Rights
OPCW	Organisation for the Prohibition of Chemical Weapons
SAEA	Syrian American Engineers Association
SAMS	Syrian American Medical Society
UNGA	United Nations General Assembly
UNSC	United Nations Security Council
VDC	Violations Documentation Center in Syria
WHO	World Health Organization
WPP	World Population Prospects (<i>a UN data initiative</i>)

Introduction

A ten-year-old girl named Lina was brought into the medical center unconscious. That day during school, she had entered a coma brought on by chronic malnutrition: she was starving to death. The local school notifies parents when their children are sent to the hospital – every week the hospital sees children in similar comas – so Lina's mother was there too. After examining her, a doctor turned to the mother and told her that she needed to feed her daughter before sending her to school in the morning. The mother replied: "I have three daughters and one can eat each day. Today was not her turn to eat." - Dr. Majed, Eastern Ghouta.

In besieged areas of Syria life is precarious, and people are often faced with unimaginable choices. The story above occurred in a besieged town in Eastern Ghouta on outskirts of Damascus, Syria. The pressure, despair, and pain that led to this scenario are difficult to fully grasp for anyone not experiencing them. The international community has allowed the suffering of Syrians living under siege to continue for far too long.

Slow Death documents the impact that sieges have had on the lives, and deaths, of hundreds of thousands of people in Syria. It seeks to reframe the way that the international community thinks about Syria's besieged areas by questioning the accepted UN characterization and statistics. The information, data, and analysis presented in *Slow Death* can enrich the current dialogue surrounding Syria's sieges in the humanitarian community and at the UN.

The report is laid out in four parts:

PART I – Part I presents a qualitative overview of the struggle to survive in the besieged areas of Syria, with special attention to the medical impact. SAMS's network of medical personnel on the ground was leveraged to provide direct input about the situations they face.

PART II – Part II presents analysis and observations based on a newly built dataset that contains information on 560 civilians who have died of non-military causes under siege. The dataset is accompanied by photos of more than half of these victims. The full dataset and accompanying photographs form the electronic annexes to this report and can be viewed at www.SyriaUnderSiege.org.

PART III – Part III of the report examines the UN's classification of the besieged areas and besieged population statistics presented in the monthly Secretary-General's reports and humanitarian response documents. In light of questions regarding the accuracy of the UN characterizations and estimates, *Slow Death* offers an alternative classification structure and new population figures that are more representative of the situation on the ground. Based on conservative figures, SAMS estimates that the actual number of besieged persons in Syria is over 640,200, more than three times the current UN estimate of 212,000. If the partially-besieged area of Eastern Aleppo is added, the estimate jumps to over 1,000,000 people suffering under siege in Syria today.

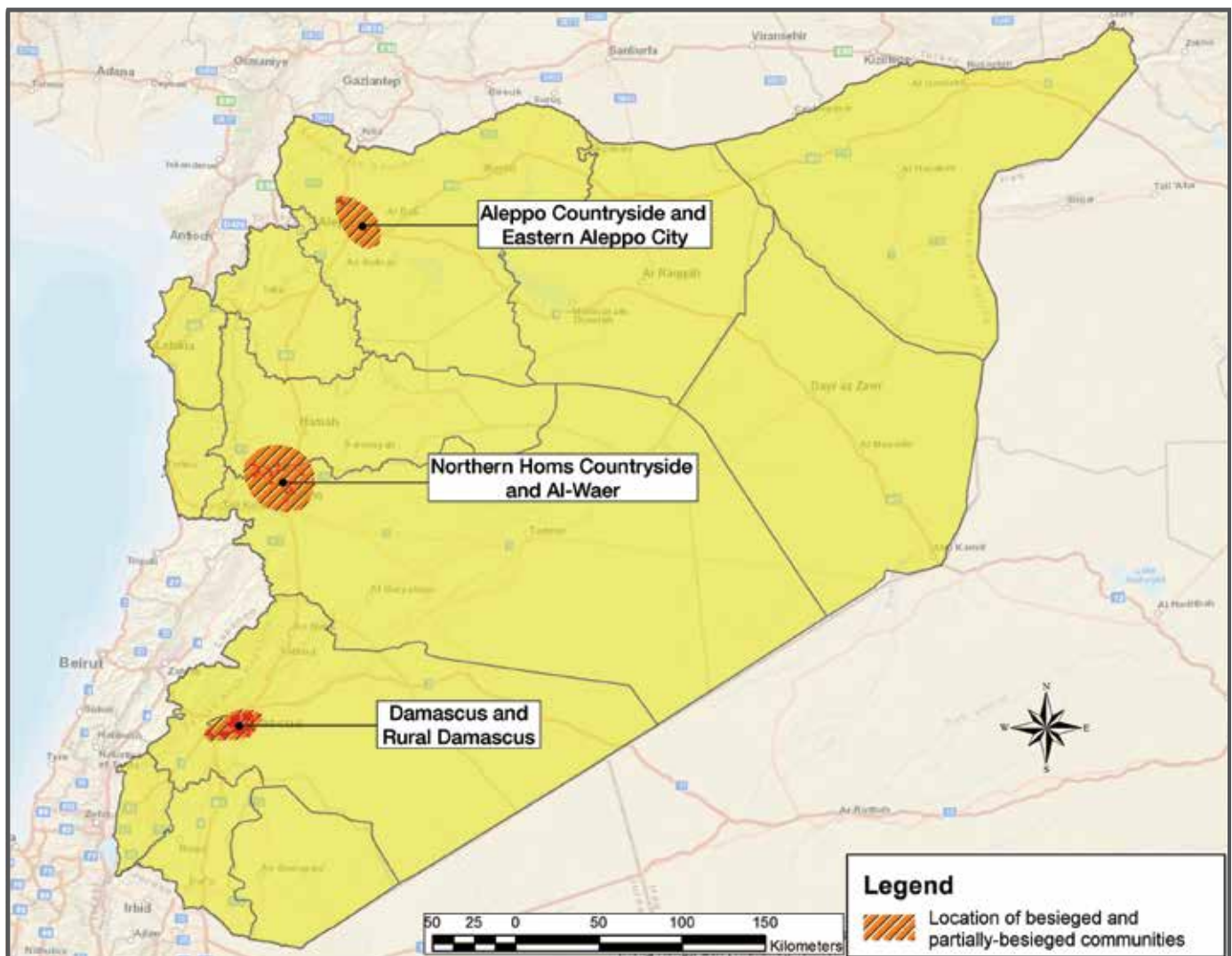
PART IV – The final section of the report summarizes conclusions that follow from the information presented in the previous sections and presents recommendations for the international community.

The information in *Slow Death* was gathered from a variety of sources including interviews and written reports solicited from SAMS field staff and SAMS-affiliated medical professionals inside of Syria, reporting from human rights organizations and UN agencies, and local and international media reports. Most of the names used in the report are pseudonyms in order to protect the person's identity for security reasons.

Background

The Syrian crisis began with a siege. On April 25, 2011 the Syrian army surrounded the southern city of Daraa, after a month of unsuccessfully trying to quell the peaceful protests that erupted after a group of teenage boys were arrested and subsequently tortured for spray painting anti-government slogans inspired by the Arab Spring uprisings on the wall of their school.¹ For at least 11 days, the residents of Daraa were deprived of outside food and water.² Government security forces shot and damaged water tanks, ensuring that needs became acute. Residents were subjected to violence, looting, supply shortages, a strict movement ban, the cutting of electricity and cell phone networks, and a largely indiscriminate arrest campaign.³

Overview Map of Current Long-Term Siege Locations in Syria



¹ Alex Ortiz, "The Syrian teen who helped spark an uprising," CBS News, 16 March 2012, <http://www.cbsnews.com/news/the-syrian-teen-who-helped-spark-an-uprising/>.

² Nour Mala, "Syria Says Military Eases Siege of City," *Wall Street Journal*, updated 6 May 2011, <http://www.wsj.com/articles/SB10001424052748703859304576304612132009264>.

³ Human Rights Watch, " 'We've Never Seen Such Horror': Crimes against Humanity by Syrian Security Forces," 1 June 2011, <http://www.hrw.org/sites/default/files/reports/syria0611webcover.pdf>.

As the opening salvo in what has now become a bloody war, the siege of Daraa was relatively short. Since Daraa, sieges have been systematically imposed with increasing intensity and duration by the Syrian government on communities across the country. According to the UNGA Human Rights Council's Independent International Commission of Inquiry on the Syrian Arab Republic (IICISyria): "The Government employs siege warfare, instrumentalizing basic human needs for water, food, shelter and medical care, as part of its military strategy."⁴

Some of the sieges in Syria began to come into effect at the end of 2012, but by mid-2013 it was clear that government forces and pro-government militias were systematically waging siege warfare on population centers across Syria.⁵ Today, some communities in Syria have been living under intense sieges for more than two years, causing untold suffering on civilians trapped inside.

What is a Siege?

"As part of their strategy aimed at weakening the insurgents and breaking the will of their popular base, government forces besieged several localities, a strategy reinforced by prolonged shelling campaigns. Partial sieges aimed at expelling armed groups turned into tight blockades that prevented the delivery of basic supplies, including food and medicine, as part of a "starvation until submission" campaign..."

– UN Independent International Commission of Inquiry on the Syrian Arab Republic

A siege occurs when armed forces completely surround a populated area, taking control of all roads and passable terrain. Military checkpoints are set up at egress points and passage is either completely or partially restricted for the flow of supplies and people. According to the Office of the United Nations High Commissioner for Human Rights (OHCHR): "maintaining a siege requires a high degree of control over entry and exit points to the area in question, and is primarily enforced by installing checkpoints."⁶ In blatant violation of international law, civilians are generally not allowed to leave the besieged areas and may be killed or arrested for trying to do so.⁷ In rural areas, some form of government-supported local militia such as the "popular committees" may be used to police parts of the siege cordon.

The IICISyria describes Syria's sieges as a tactic of attrition used by the Syrian government against areas considered sympathetic to the opposition or containing armed fighters.⁸ Syria's sieges – which deliberately and disproportionately inflict massive harm on trapped civilians – are a method of collective punishment.

There are many reasons why people die prematurely in besieged areas of Syria. People trapped in besieged areas are deprived of essentials like food, medicine, and fuel. Civilian infrastructure including schools, hospitals, and bakeries as well as local means of production such as crops are often directly targeted in airstrikes or shelling, and utilities like electricity and water are generally cut off.⁹

⁴ UNGA, Human Rights Council, "Report of the independent international commission of inquiry on the Syrian Arab Republic," (A/HRC/25/65) 12 February 2014, p. 19.

⁵ UNGA, Human Rights Council, "Report of the independent international commission of inquiry on the Syrian Arab Republic," (A/HRC/23/58) 18 July 2013, p. 21

⁶ United Nations Office of the High Commissioner for Human Rights, "Living Under Siege, The Syrian Arab Republic," February 2014, p. 4, <http://www.ohchr.org/documents/countries/sy/livingundersiege.pdf>.

⁷ This has been widely reported in UN documentation and by human rights groups and the media. For examples see: A/HRC/25/65 (February 2014); A/HRC/27/60 (August 2014), and A/HRC/28/69 (February 2015).

⁸ UNGA, Human Rights Council, "Report of the independent international commission of inquiry on the Syrian Arab Republic," (A/HRC/23/58) 18 July 2013, p 22.

⁹ This has been widely reported in UN documentation and by human rights groups and the media. For examples see: A/HRC/24/46 (August 2013); A/HRC/25/65 (February 2014); A/HRC/27/60 (August 2014), and A/HRC/28/69 (February 2015).

Access to these areas for humanitarian assistance is limited or nonexistent. In January 2015, only two besieged areas were reached with international assistance and the amount of aid sent in was very small: the combined food, medical aid (insulin), and non-food items to besieged areas was enough for only 0.7% of the UN's estimated 212,000 people living under siege.¹⁰ In instances where international aid convoys have been able to deliver shipments of humanitarian aid to besieged areas, the quantities have been grossly insufficient to meet the needs of the population. Medical supplies are the most challenging type of humanitarian aid to send in since they are often removed from aid convoys by the government security services.¹¹

These long-lasting sieges are "combined with continuous air and ground bombardment."¹² The many horrific tactics of war used in the Syrian conflict all occur within the besieged areas, where their impacts are amplified because people in these areas lack the basic supplies to cope. These tactics include indiscriminate attacks against civilians; intentional targeting of civilian infrastructure including hospitals, schools, and water/power systems; intentional targeting of medical professionals; and "enforced disappearances" and mass arrest campaigns.¹³ The use of conventional weapons, barrel bombs, chemical weapons, and internationally banned weapons such as cluster munitions, have all been recorded in besieged areas.

¹⁰ UNSG, "Implementation of Security Council resolutions 2139 (2014), 2165 (2014) and 2191 (2014): Report of the Secretary-General," (S/2015/124) 19 February 2015, p. 7.

¹¹ This has been widely reported in UN documentation and by human rights groups. For examples see: UNSG, "Implementation of Security Council resolution 2139 (2014): Report of the Secretary-General," (S/2014/295) 23 April 2014.

¹² UNGA, Human Rights Council, "Report of the independent international commission of inquiry on the Syrian Arab Republic," (A/HRC/27/60) 13 August 2014, p. 17.

¹³ This has been widely reported in UN documentation and by human rights groups and the media. For examples see A/HRC/25/65 (February 2014); A/HRC/28/69 (February 2015); or Human Rights Watch, "We've Never Seen Such Horror: Crimes against Humanity by Syrian Security Forces," 1 June 2011.

PART I

Medical Impact

The healthcare situation in the besieged areas of Syria is far worse than in other areas of the country. Where the country's medical infrastructure and services have been badly damaged, in the besieged areas they have completely collapsed. Most besieged areas are experiencing severe health crises due to the malnourished populations, unsanitary conditions, and occurrence of mass-casualty events; but at the same time they lack basic medical supplies and have lost the majority of their medical professionals. Communicable diseases, chronic conditions, and traumatic injuries that can be successfully treated elsewhere often lead to death under siege, where care options are extremely limited.

Practicing Medicine

There are no public hospitals in areas besieged by the Syrian government. Medical care is administered in either existing public or private hospitals that are now run by local medical councils without public support, or field hospitals that are established in safer places such as basements. The medical centers providing care to besieged communities are understaffed, underequipped, and undersupplied.¹⁴ Some have been forced to shut down altogether due to the lack of medical personnel, supplies, and electricity. Medical facilities and professionals are intentionally and systematically targeted by the Syrian government.¹⁵ This has made field hospitals incredibly dangerous places to work and visit, discouraging civilians from using them even when treatment is required. Most have been forced to relocate – sometimes more than once – following targeted attacks by the Syrian government.



SAMS-supported doctors in Eastern Aleppo perform a surgery by flashlight due to the lack of fuel for generators to run the lights.

The majority of the medical professionals in besieged areas of Syria have been killed, arrested, or fled the country. Those who remain live and work in conditions so desperate that they are difficult to fully comprehend.

The lack of healthcare professionals is a tremendous problem for people living under siege. There are approximately 55 specialized physicians remaining in the besieged Eastern Ghouta areas surrounding Damascus, and about 400 total health sector workers including medical students, nurses, lab technicians, emergency medical technicians, janitors, and administrative staff. They serve as many as 500,000 residents. Among the doctors there is only one vascular surgeon, one thoracic surgeon, one plastic and reconstructive surgeon, one neurosurgeon, and one cardiac surgeon.¹⁶

¹⁴ For more information on field hospitals see: Fares Alahdab, Mustafa Haj Omar, Saeed Alsakka, Ahmad Al-Moujahed, Bassel Atassi, "Syrians' alternative to a health care system: 'field hospitals,'" *Avicenna Journal of Medicine*, 2014, 4(3): 51-51. http://www.avicennajmed.com/temp/Avicen_JMed4351-6531656_180836.pdf.

¹⁵ To learn more about the targeting of Syria's medical community see the recent joint report by SAMS and the Center for Public Health and Human Rights at Johns Hopkins' Bloomberg School of Public Health entitled "Syrian Medical Voices from the Ground: The Ordeal of Syria's Healthcare Professionals," February 2015.

¹⁶ Internal report on East Ghouta situation solicited from SAMS field office, 3 February 2015.

Because of the restriction of movement between many of the besieged localities in Eastern Ghouta, victims are often unable to access the specialist they need even if that specialist is still present. In June 2013, medical centers reported that Dr. Ahmad Nawaf al-Hassan, the last remaining surgeon in the besieged Yarmouk camp on the southern border of Damascus city, was killed in a government missile attack.¹⁷

The besieged areas of northern Homs governorate include Talbiseh, Ar-Rastan, Houleh, and the surrounding countryside. In these combined areas there are six surgeons in total: four orthopedic surgeons, one maxillofacial surgeon, and one neurosurgeon (although there are no supplies for him to use). There is also one pediatrician and eight internists, as well as five medical students in their last year of school who act as resident doctors for basic cases and triage.¹⁸ This adds up to a combined total of 20 trained medical professionals if medical students are included. These 20 professionals serve an estimated population of more than 160,000,¹⁹ which equates to a medical worker density of 0.125 per 1,000 people. The physician density in Eastern Ghouta is even lower at 0.11 per 1,000 people. This is a steep decline from the average physician density of 1.5 per 1,000 population that Syria had in 2010, prior to the start of the crisis.²⁰ To put these besieged area physician density figures in perspective, the World Health Organization (WHO) benchmark for providing adequate coverage is 2.3 medical professionals (physicians, nurses, and midwives) per 1,000 population.²¹

As a result of the lack of medical professionals in besieged areas, civilian volunteers from non-medical backgrounds are often called upon to serve as nurses and provide other medical support services. The reliance on unqualified or under-qualified personnel has resulted in increased mortality and morbidity from preventable complications.²²

Treating Chronic and Acute Conditions

Primary care for noncommunicable diseases (NCDs) – also known as chronic diseases – is often neglected or unavailable in the besieged areas. Patients with NCDs such as diabetes, high blood pressure, cancer, asthma, and kidney disease that could be managed successfully elsewhere, frequently die in besieged areas due to the unavailability of necessary treatments. A significant portion of the victims recorded in the siege dataset (presented in Part II) where a specific diagnosis is provided, have a chronic condition listed as the cause of death. Most cancer patients in Eastern Ghouta are managed at a single center and therapy treatments are frequently interrupted or terminated altogether due to the lack of supplies.

Like the shortage of qualified medical professionals, there is also a serious lack of medications, medical supplies, and equipment in the besieged areas. Surgical supplies including anaesthesia drugs, sutures, and blood transfusion materials and are particularly restricted because the Syrian government fears they may be used to treat combatants, but even supplies needed to treat chronic conditions such as asthma are unavailable.

¹⁷ Zakiya Medical Office, Facebook post on 17 June 2013, accessed on 6 February 2015, <https://www.facebook.com/Z.medical.office/posts/138366636366266>.


¹⁸ Skype interview with Dr. Ibrahim, 9 February 2015. Dr. Ibrahim has managed the Ar-Rastan field hospital for three years.

¹⁹ See table on page 47 for a breakdown of this population estimate.

²⁰ World Health Organization, *Global Atlas of the Health Workforce*, accessed on 27 February 2015 from <http://data.worldbank.org/indicator/SH.MED.-PHYS.ZS>.

²¹ World Health Organization, "World Health Indicators 2014 - Indicator compendium," http://www.who.int/gho/publications/world_health_statistics/whs2014_indicatorcompendium.pdf.

²² Fares Alahdab, Mustafa Haj Omar, Saeed Alsakka, Ahmad Al-Moujahed, Bassel Atassi, "Syrians' alternative to a health care system: 'field hospitals,'" *Avicenna Journal of Medicine*, 2014, 4(3): 51-51. http://www.avicennamed.com/temp/AvicennaJMed4351-6531656_180836.pdf.



In the biting gallows humor that Syrians are known for, one field hospital in the formerly besieged Old City of Homs wrote the following post on Facebook, describing what it takes to for a doctor to master the new medical specialization of “Siege Medicine.” According to them, you just have to meet the following qualifications:

1 - You should be familiar with all the medical specialties: orthopedics, Gastroenterology, urology and others. Furthermore, you may need to offer a consultation in gynecology, if necessary!!

2 - You must completely forget about anything related to medical testing, labs or imaging, so that you don't have to answer the question “Doctor, are you dreaming?” As for the use of ventilators, this could absolutely be available... in your dreams, but not in reality.

3 - While examining a patient you should only use half of your brain, since the other half will be busy with thinking if the drug you prescribed is available, and if so is there enough to use in the future for similar cases?

4 - Using modern medical references is prohibited. The only reference books allowed are those by Avicenna, Al-Razi and Aristotle because the limited available resources we have could only be found in the old books of Medicine like the ones of Avicenna, Razi and Aristotle. For more medical information you can also refer to clay tablets of the Stone Age because treatment capabilities does not allow more than is written in these texts.

5 - You should familiarize yourself with the latest in construction, blacksmithing, and carpentry techniques. Often you will use the same tools of these jobs while practicing medicine!

Dear Doctor, if you can meet all of the conditions above, then you know that you are truly a “Specialist in Siege Medicine”!

“Source: Khaldiya Field Hospital – official page, posted to Facebook on 9 April 2013,

Blood transfusions play a central role in a variety of life-saving medical interventions in everything from trauma cases to complications from childbirth and childhood anemia. Unfortunately blood transfusions are especially difficult to give in all of the besieged areas of Syria.

One challenge to providing blood transfusions is the lack of electricity. In a typical transfusion blood would be donated, tested for compatibility and screened for infectious diseases like hepatitis or HIV, an anticoagulant would be added, and the blood would be stored in a refrigerated blood bank unit for transfusion at a later date. However, in besieged and partially-besieged areas in Syria hospitals are reliant on generators for electricity and access to fuel to run the generators is limited, making safe storage of blood plasma impossible. Instead, doctors keep lists of potential blood donors nearby and call them in to donate directly when a transfusion is needed. Sometimes doctors themselves will donate blood in order to save a patient. Due to the shortage of compatibility testing materials, oftentimes only type O blood can be used, reducing the already-short list of potential donors. In many instances donated blood is transfused without testing for infectious diseases, increasing the risk of infection for the recipient.

A 2014 WHO factsheet lists 50 essential items for blood transfusion in an emergency setting,²³ very few of which are available to doctors in areas that have been besieged for years on end. There is a critical lack of blood bags, the most basic supply necessary for transfusions, in areas under siege. In the besieged and embattled Eastern Ghouta city of Douma, the only way to get blood bags is to smuggle them in from government-controlled areas of Damascus city. Men attempt this risky feat at night to lower the risk of sniper attacks, but still they are oftentimes shot or detained. Being caught by government forces holding blood bags or other medical supplies may result in execution on the spot.²⁴

As a result of the lack of blood bags, doctors have been forced to improvise by using plastic bags with heparinized saline solution. Heparin is a blood thinner, so transfusing blood from these bags increases the risk of bleeding in recipients and leads to an increased mortality rate in trauma patients.

In the Ar-Rastan field hospital in northern Homs, at one point there were only 30 (empty) blood bags in the hospital. Whenever a patient needed a transfusion the medical staff would use two bags: one clean, another recycled with some added blood thinner to prevent clotting, even though this is medically risky. As of February 2015 the Ar-Rastan field hospital had approximately 100-120 empty blood bags in stock. Since sometimes a single patient can require up to 20 bags, they need to have 1,000 blood bags and a blood bank in order to meet the demand they face.²⁵

Small amounts of medical supplies are provided by NGOs like SAMS and smuggled into besieged areas at very high costs, but these are admittedly insufficient to meet the needs of the people trapped inside. Out of necessity, single-use materials like suture threads or chest tubes may be resterilized and reused. This is dangerous since the sterilization procedures can damage the materials or be inadequate to ensure that all microorganisms have been killed. For some supplies such as saline solution, field hospitals have tried to produce their own, but the resulting product is of low quality. Oftentimes doctors are simply forced to proceed without the necessary supplies and materials, reducing the practice of medicine to a primitive state. Surgeries, for example, may be performed without anaesthesia.

Malnutrition and Dehydration

Most individuals living under siege are impacted by malnutrition to some extent. This may be from calorie deficiencies, protein deficiencies, or insufficient micronutrients. In besieged towns and villages across Eastern Ghouta people are often forced to rely on diets of just a few ingredients such as barley and plant matter, which can lead to damaging nutritional deficiencies even when the items are available in sufficient quantity. Nutritional deficiencies increase in the winter when certain agricultural items like fruits become unavailable.

Malnutrition impacts every single part of the human body and can damage the functioning of vital organs such as the heart, liver, kidneys, lungs, intestines, and stomach. The various complications of malnutrition can lead to a range of symptoms including fatigue, dizziness, weight loss, oral complications, anemia, extreme weakness, hypotension, and hypoglycemia. Edemas can form in the lower and upper extremities due to protein deficiency and organ dysfunction. Deficiencies in specific vitamins or minerals lead to a host of conditions including anemia (iron), beriberi (thiamine), pellagra (niacin), and scurvy (vitamin C).²⁶ Reports from field staff suggest that most residents of Eastern Ghouta lost between 5-50 kg (11-110 lbs) in 2014.²⁷

²³ World Health Organization, "Essential Items for Blood Transfusion in Emergency Settings," January 2014, http://www.who.int/bloodsafety/transfusion_services/essential-items_bts.pdf.

²⁴ Skype interview with Mohammad Orwani, 11 February 2015.

²⁵ Skype interview with Dr. Ibrahim, 9 February 2015.

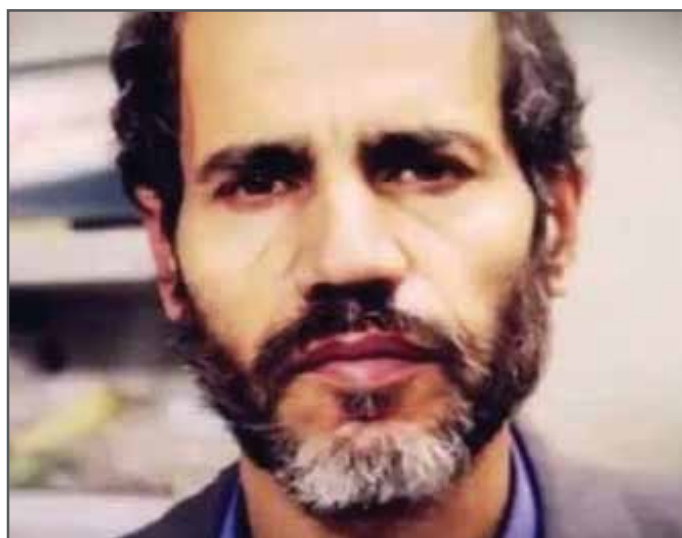
²⁶ Edited by Rebecca J. Stratton, Ceri J. Green, & Marinos Elia, "Disease-related malnutrition: an evidence-based approach to treatment." *CABI Publishing*, 2003.

²⁷ Internal report on East Ghouta situation solicited from SAMS field office, 3 February 2015.

Protein deficits associated with malnutrition impact the immune system, leading to an increased risk of infections such as sepsis, pneumonia, and gastroenteritis. Metabolic systems are also affected and the body's ability to regulate its own temperature may be impaired.

Malnutrition can also impact the function of neurotransmitters in the brain, resulting in neurological deterioration that may present as slowed reaction time, apathy, and irritability. The mental impact of starvation may be more severe in the elderly, who can experience dementia and memory loss.

The term starvation is used to describe the most extreme form of malnutrition. Starvation can lead to muscle loss as the body begins to consume its own tissue once it has depleted fat stores. This process – known as catabolism – is the body's way of keeping vital organs such as the brain and heart functioning for as long as possible when faced with severe deficiencies in caloric intake. During starvation the body's electrolytes become imbalanced and if left untreated, this condition can lead to coma and death.



Before and after photos Khairallah Hassan Mansour, who died of starvation in Yarmouk on January 1, 2014. The after photo shows severe muscle wasting and minimal subcutaneous fat. *Photo source: VDC*

Dehydration also plagues those trapped under siege in Syria. Dehydration can occur as a result of malnutrition as victims of starvation are often too weak to sense thirst, but it is also often caused directly when running water is cut off to besieged areas. Chronic dehydration has a negative impact on bodily organs, particularly the kidneys. In the majority of the victims listed in the siege dataset there is no specific cause of death given beyond starvation, yet several instances do mention kidney failure. Renal (kidney) failure can happen quickly and can lead to death without treatment. Dehydration can also lead to death alone as the blood eventually stops circulating through the body. Both dehydration and malnutrition can cause noticeable effects on the skin, which may become abnormally dry and can crack and break.

Babies and Infants

Nutrition is the most important non-genetic factor in fetal growth and development.²⁸ Maternal malnutrition and anemia can impair embryonic development at all stages of the pregnancy and restrict fetal growth, resulting in low birth weights. Infants may experience pre-natal complications due to the physical stresses experienced by their mothers while living under siege. Maternal starvation and malnutrition can also lead to permanent fetal damage and miscarriage.



Ahmad al-Bash died of starvation in the besieged Eastern Ghouta town of Harasta on October 15, 2014. Ahmad and his family were displaced from another besieged location Al-Bahariya, due to the fighting. The image from just before his death shows typical signs of starvation such as muscle and subcutaneous fat waste and a distended abdomen.

Gynecological care for women in besieged areas during the course of their pregnancies is basically nonexistent. The mental and physical tensions experienced by women living in besieged areas can lead to premature births. Prematurely born babies face life-threatening conditions as medication and equipment required to nurse them through this vulnerable period is often unavailable. For on-time births women generally schedule C-sections because if they were to give birth unexpectedly, the chances that they could get to a medical facility in time are low. Even in medical centers women may be forced to give birth without appropriate pain medication.²⁹

Birth is not the only hurdle for newborns starting life under siege. Severe malnourishment and dehydration may make it difficult for mothers to breastfeed, and infant formula is often unavailable and must be smuggled in at great risk. Babies subjected to malnourishment during fetal development are at a higher risk of neonatal diseases and may have chronic health conditions later in life including mental retardation, blindness, and diabetes as well as metabolic, endocrine, and cardiovascular diseases.³⁰

²⁸ D.I. Phillips, "External influences on the fetus and their long-term consequences," *Lupus*, November 2006, 15(11): 794-800.

²⁹ UNGA, Human Rights Council, "Report of the independent international commission of inquiry on the Syrian Arab Republic," (A/HRC/27/60), 13 August 2014, p.13.

³⁰ Guoyao Wu, Fuller W. Bazer, Timothy A. Cudd, Cynthia J. Meininger, C. J., and Thomas E. Spencer, "Maternal Nutrition and Fetal Development," *The Journal of Nutrition*, September 2004, 134(9): 2169-2172.

Disease

In order to cope with the lack of running water, civilians living under siege turn to untreated water from wells and reservoirs. This water is often contaminated with a variety of different bacteria and parasites. The widespread use of unsafe water and generally unsanitary conditions in besieged areas means that water-borne diseases such as hepatitis A, typhoid, Salmonella, gastroenteritis, and bacillary dysentery have become common.³¹ These diseases cause many symptoms including abdominal pain and fever, but the most serious complications of these gastrointestinal infections is the severe dehydration resulting from vomiting and diarrhea.

Infectious disease outbreaks have become more common as the sieges have dragged on due to the weakening of people's immune systems under sustained physical hardship combined with deteriorating sanitation conditions. In August and September 2014, the southern suburbs of Damascus, including the district of Yarmouk, experienced a severe outbreak of typhoid.³² A typhoid outbreak in the Al-Marj and Douma areas of Eastern Ghouta in the summer of 2014 was believed to be associated with the harvest and consumption of crops that were irrigated with sewage-contaminated water.³³

The winter of 2014/2015 has seen an increase in all forms of tuberculosis in Eastern Ghouta. Other disease outbreaks including scabies, lice, leishmaniasis, and Brucellosis have also been reported.³⁴ The breakdown of health services in besieged areas makes it hard to diagnose, isolate, and treat cases and prevent the spread of outbreaks in a timely manner.

Mental Health

Mental health is a major casualty of war in Syria. Despite high levels of psychological morbidity, mental health services are rarely available. In Syria's besieged areas this problem is compounded many times, as there is not a single person whose life has not been completely upended. Many are displaced from other localities due to fighting or siege, all have experienced hardship and loss, and most have seen or directly experienced extreme violence.

The few doctors who remain in besieged areas experience severe psychological trauma. Not only do they witness the most graphic results of violence and deprivation, but they also live with the burden of deciding who will live and who will die. They must turn away victims who require risky treatments in order to conserve supplies for those with higher chances of success.

“ Dr. Majed, now living in Turkey, described how they were forced to handle mass casualty incidents in the besieged Eastern Ghouta area where he used to work. When a flood of victims would overwhelm the underequipped medical center their triage process involved numbering each patient with a slip of paper. The harder cases were always given higher numbers, with the doctors fully aware that they were handing those people a death sentence. When asked about the single biggest problem that physicians faced in besieged areas Dr. Majed responded: “The responsibility. People consider doctors responsible for their lives.”

³¹ Liberated Homs Medical Office, Facebook post on 20 November 2012, accessed on 26 February 2015, https://www.facebook.com/permalink.php?story_fbid=524728480890577&id=515979081765517.

³² Break Siege Campaign – Syria, Facebook post on 18 September 2014, accessed on 26 November 2015, <https://www.facebook.com/SyriaBreakSiege/photos/pb.219967098127369.-2207520000.1424547604./256557974468281/>; UN OCHA, “2015 Humanitarian Needs Overview: Syrian Arab Republic,” November 2014, p.135; Medical Office of the capital Damascus, “Report on typhoid disease in Babbila in Southern Damascus – Unified Medical Office in Damascus and Qalamoun,” YouTube video posted on 20 August 2014, accessed 26 February 2015, <https://www.youtube.com/watch?v=6QO4fADABlk>.

³³ Syrian Arab Red Crescent, Douma Section, “A report from the Department of Water and Sanitation, Committee of Disasters Management,” 1 August 2014.

³⁴ Internal report on East Ghouta situation solicited from SAMS field office, 3 February 2015; Fares Alahdab, Mustafa Haj Omar, Saeed Alsakka, Ahmad Al-Moujahed, Bassel Atassi, “Syrians' alternative to a health care system: ‘field hospitals’,” *Avicenna Journal of Medicine*, 2014, 4(3): 51-51. http://www.avicennajmed.com/temp/AvicennaJMed4351-6531656_180836.pdf.

SAMS's doctors estimate that most of the Syrian population is suffering from some level of post-traumatic stress disorder, depression, or shock. Traumatized children without access to psychosocial support have reportedly shown physical manifestations such as mutism, lack of urinary control, and stuttering.³⁵ SAMS provided psychosocial support for 3,245 children and teenagers in besieged Eastern Ghouta in 2014.



Mohammad Orwani was a field investigator for the Violations Documentation Center (VDC) in Eastern Ghouta and would visit medical centers to record and verify victim statistics. When asked about whether there was any psychosocial support in the community where he worked in Eastern Ghouta he jokingly replied: "I worked in mental support for kids, but I am damaged too so who was helping who?" Though Mohammad was not a trained mental health professional, he explained that in an effort to bring some relief to the traumatized children around him he searched the internet for things he could do to help. With help from some friends he built a "playground" inside of a basement and would take children down there to play for an hour or so at a time, to try and let them forget the horrors outside and feel safe even for a little bit. "It felt like an accomplishment," he said. "Even though the basement is dark and ugly, with no light, it became like a heaven for all of them." **This is mental health care under siege.**



Bombardment and Attack

This report and the accompanying dataset focus mainly on non-military casualties in besieged areas in order to highlight their prevalence. Victims of sieges who die as a result of the absence of primary care or a lack of heating oil may not be counted in war casualty statistics, but they are certainly victims of the war. Still, any description of Syria's besieged areas would be remiss in not mentioning the violence, since the sieges are part of military strategies and are always accompanied by violent assaults.

Besieged areas have been subjected to indiscriminate aerial attacks from barrel bombs, targeted aerial missile strikes, shelling from tanks and rocket launchers, ground assaults, snipers, ballistic missile strikes, and even chemical attacks. Nubl and Zahraa – villages in northern Aleppo governorate that are besieged by armed opposition groups – have been spared many of these methods since the armed groups besieging them lack some of the military capabilities of the Syrian government, but they are still subjected to sporadic ground assaults, snipers, and indirect fire from tanks and rocket launchers.

Because of the dearth of medical care in besieged areas and the often weakened physical condition of people inside, recovery from an injury can take much longer than usual. In many cases patients with treatable wounds have died from lack of equipment, medical supplies, and qualified health workers. The risk of infection is high for patients with open wounds. Those seeking to leave besieged areas for medical treatment are often turned back at checkpoints. The UN has also documented instances of cruelty and harassment at checkpoints, including execution and arrest.³⁶

Violent attacks increase the already-desperate medical conditions in the besieged areas, overwhelming medical centers and quickly using up what little supplies are available. The director of a hospital run by Médecins Sans Frontiers (MSF) in Eastern Ghouta described how they used up the majority of their medical supplies in a single day in response to airstrikes on a crowded market in Hamouriya. More than half of the 128 patients they treated died. "The medical situation, and the general living conditions," he said, "are beyond any red lines."³⁷

³⁵ Dr. Mohammad Hamza and Dr. Yassar Kanawati, "Evil's Psychopathology: Beyond DSM-5, Clinical Diagnoses, or Published Treatments," presentation at SAMS Fourth Annual National Conference, 15 February 2015.

³⁶ UNGA, Human Rights Council, "Report of the independent international commission of inquiry on the Syrian Arab Republic," (A/HRC/25/65) 12 February 2014, p. 17.

³⁷ Médecins Sans Frontières, "Syria: Doctors strive to cope with shelling in East Ghouta besieged areas," 11 February 2015, <http://www.msf.org/article/syria-doctors-strive-cope-shelling-east-ghouta-besieged-areas>.

The infamous August 21, 2013, chemical weapons attack was directed at 12 besieged suburbs and neighborhoods in the Damascus area. Compounding the problems caused by the insufficient medical supplies and services available to besieged medical centers, healthcare workers responding to the incident were themselves affected by the nerve gas, some even died.³⁸

However this was not the first sarin attack on the besieged areas surrounding Damascus, and since the OPCW-led disarmament process began several incidents of chemical attacks with chlorine and other toxic substances have been reported both in the Damascus suburbs and other areas of Syria.³⁹

The physical impacts of the chemical attacks continue to echo in the Damascus area. Since the August 21 attack, women in Moadamiya who were exposed to sarin during the attack have had high rates of spontaneous miscarriage, premature births, and birth defects.⁴⁰



An emergency medical point in Darayya right after the chemical attack on August 21, 2013.



Mohammad Orwani lived through the August 21, 2013 chemical weapons attack on the Damascus suburbs. He described how the doctors in the besieged areas ran out of human atropine (atropine is an antidote for nerve gases like sarin) rapidly and were forced to turn to a supply of animal atropine even though they were not sure if it was safe for humans. He saw one man holding his daughter who had been exposed to the sarin gas but was not too severely affected, and watched as doctors turned them away to save the limited doses for people who were more severely affected. “At that time,” Mohammad said, **“life hung on the tip of an atropine shot.”**



At the time of writing, Douma – the largest besieged location in the Damascus countryside that has absorbed thousands of civilians displaced from other areas – was under the fiercest attack it has experienced since the beginning of the war.⁴¹ More than 70 civilians were killed and over 1,000 were injured during a five-day period from February 5-10.⁴² Two important medical centers in Douma were destroyed in this offensive.

³⁸ Fares Alahdab, Mustafa Haj Omar, Saeed Alsakka, Ahmad Al-Moujahed, Bassel Atassi, “Syrians’ alternative to a health care system: ‘field hospitals,’” *Avicenna Journal of Medicine*, 2014, 4(3): 51-51. http://www.avicennajmed.com/temp/AvicennaJMed4351-6531656_180836.pdf.

³⁹ “Violation Documentation Center in Syria, “Syrian Regime Brings the Chemical and Poisonous Weapons Back to Its Military Arsenal in 2014,” 24 May 2014, <http://www.vdc-sy.info/index.php/en/reports/1400970048#.VPedtVPF8rl>.

⁴⁰ Omar Hakeem and Sawsan Jabri, “Adverse birth outcomes in women exposed to Syrian chemical attack,” *The Lancet Global Health*, 23 February 2015, [http://www.thelancet.com/journals/langlo/article/PIIS2214-109X\(15\)70077-X/abstract](http://www.thelancet.com/journals/langlo/article/PIIS2214-109X(15)70077-X/abstract); Al Jazeera Channel, “Chemical effects appear in fetuses in #Damascus,” Facebook video posted on 17 January 2015, accessed on 26 February 2015, <https://www.facebook.com/video.php?v=10153092044454893>.

Life Under Siege

This section goes beyond the medical crisis to describe the harsh conditions of life in the besieged areas and the ways people manage to survive.

Meeting Basic Needs

Food

In besieged Eastern Ghouta, most people have been relying on barley from livestock fodder brought in for an agricultural project for food.⁴³ The amount of livestock in Eastern Ghouta has dropped dramatically both because the limited livestock feed is being diverted for human use, and because bombardments by the government have targeted farmland and crops. The bombing of crops to set them on fire occurs systematically in opposition-held areas across the country during or just before the harvest period.⁴⁴

The intentional destruction of crops is devastating for those in the besieged areas, who cannot easily get produce from the outside. Local agricultural production has been the primary mode of survival for many living under siege, particularly in countryside areas such as Eastern Ghouta and the villages of northern Homs governorate. Dr. Majed described agriculture as the "lung from which Al-Ghouta people can breathe."⁴⁵ Accordingly, winters have hit besieged areas the hardest because many fruits and grains become unavailable, leading to increased levels of malnutrition.

Farming produce is less of an option in urban besieged areas like Yarmouk, where people are forced to forage for tree leaves, wild plants, etc. once supplies have run out. In the siege dataset there are a number of victims who died from ingesting something toxic while foraging.

Water

With running water unavailable in besieged areas, people have turned to wells for water. Water is pumped from the wells manually since machine pumping requires fuel, and transported to peoples' homes in buckets and assorted containers. This process exposes the water to a host of contaminants and often it is polluted by sewage. In some areas the water table is too low for hand-dug wells to reach.

In 2014, Syria experienced its worst drought in over 50 years, depleting the supply of water available from wells for drinking and damaging agricultural production as water tables dropped.⁴⁶ This has further exacerbated already dangerous conditions in areas that have few resources remaining.



Children draw water from a rudimentary well by hand in the besieged Eastern Ghouta town of Saqba.
Photo Source: Lens Young Dimashqi.

⁴¹ Syria Direct, " 'Unprecedented' Bombing of Douma as JAI Hits Damascus," 5 February 2015, <http://syriadirect.org/main/30-reports/1836-unprecedented-bombing-of-douma-as-jai-hits-damascus>.

⁴² Violations Documentation Center in Syria, "Flash Report on the Recent Attacks on Douma, Damascus Suburbs: Use of Vacuum Bombs and Deliberate Targeting of Medical Units," February 2015, <http://www.vdcsy.info/index.php/en/reports/1424225651>.

⁴³ Skype interview with Dr. Majed, 20 January 2015.

⁴⁴ The following video playlist shows the targeting and burning of crops during harvest time in opposition-held areas across the country: <https://www.youtube.com/playlist?list=PLtdp-hGXEXwp9N7MfV-I6FCOsNEzgOVH>.

⁴⁵ Skype interview with Dr. Majed, 20 January 2015.

⁴⁶ UN OCHA, "2015 Humanitarian Needs Overview: Syrian Arab Republic," November 2014, p. 133.

Infrastructure and Services

Transportation by personal car is rare in besieged areas since fuel is in such short supply, and public transportation systems such as buses stopped running long ago. As a result people rely on walking, animals, or bicycles to get around.

Mosques, hospitals, schools, and bakeries have all been systematically targeted by the Syrian government and many are destroyed or damaged. In besieged areas the local governing councils are often unable to provide basic services such as trash collection, causing garbage to pile up in the streets or in improvised dumps squeezed in close proximity to residences. The accumulation of garbage exacerbates unsanitary conditions and contributes to the spread of disease. Sewer systems are similarly dysfunctional and add to the environmental hazards by contaminating groundwater.⁴⁷

Fuel

With the shortage of gas available for activities like cooking, boiling water, and heating homes in the winter, people have turned to firewood. One doctor who works in a SAMS-affiliated hospital estimated that roughly 50% of the trees in Eastern Ghouta have been cut down since the siege began.⁴⁸ In besieged urban areas such as Yarmouk, people salvage wooden building materials and furniture from destroyed structures to burn for fuel. Burning wood-fueled fires in poorly ventilated areas can be dangerous, and several entries in the siege database cite smoke inhalation as the cause of death.

In Eastern Ghouta, residents have begun burning assorted plastics to extract the oil derivatives in the material.⁴⁹ In the besieged areas of northern Homs people have also been burning garbage as a source of heat.⁵⁰ Both of these activities present the risk of toxic fume inhalation.

The field hospital in Ar-Rastan remains unheated throughout the cold winter because the generator must be used to keep the lights on and patient care machines functioning.



A local park in the besieged Eastern Ghouta town of Arbin has been turned into a garbage dump.



A man in Eastern Ghouta cuts a plastic child's toy so that it can be burned and fuel derivatives can be extracted.

⁴⁷ Syrian Arab Red Crescent, Douma Section, "A report from the Department of Water and Sanitation, Committee of Disasters Management," 1 August 2014.

⁴⁸ Internal report on East Ghouta situation solicited from SAMS field office, 3 February 2015.

⁴⁹ Jawad Arbini, "Besieged Syrians Extract Fuel from Plastic," 14 August 2014, <https://www.transrerramedia.com/media/42284>.

⁵⁰ Skype interview with Dr. Ibrahim, 9 February 2015.

The Siege Economy

Where there is great need there is great profit to be made, and smugglers affiliated with armed groups have taken full advantage of the siege economy by forming cartels and engaging in price gouging. These “blood traders” have been accused of hoarding quantities of goods to build monopolies while people nearby starve. Since the tightening of the Wafideen Camp checkpoint near the city of Douma in late 2014 when food availability dropped and prices skyrocketed, there have been reports in Eastern Ghouta of hungry people attacking the food stashes of these traders.⁵¹



Dr. Majed relayed one story of a field hospital in Eastern Ghouta that was forced to shut down when it ran out of fuel for the medical equipment and lights. A man who belonged to one of the armed-groups went to Dr. Majed's home and knocked on his door, saying that his infant daughter needed to go to the hospital. Dr. Majed tried to refer the man to another medical center, even though there was no ambulance or car available to transport the patient. The man responded: “Why didn't you tell me you needed fuel? I can provide some for the hospital.” Dr. Majed asked “Didn't you know that the hospital had closed because it had no fuel?” The man had known, it turns out, but it did not seem so urgent until his daughter needed help.



A bribery system has been sporadically in effect at some Eastern Ghouta checkpoints since the spring of 2014, when government forces at the Wafideen Camp crossing began to allow in small amounts of basic foodstuffs for excessive fees. It cost approximately \$2 USD in bribe money to smuggle in 1 kg of food. The table below shows the relative prices of the goods that were allowed in during this time:⁵²

RELATIVE PRICE OF GOODS IN THE DAMASCUS AREA

FOOD ITEM	UNIT	PRICE IN DAMASCUS CITY	PRICES IN E. GHOUTA, WINTER 2013 / 2014	PRICES IN E. GHOUTA AFTER MARCH 2014
Sugar	1 kg	\$0.66	\$19.00	\$3.30
Rice & Cracked Weat	1 kg	\$1.30	\$21.00	\$4.00
Margarine	1 kg	\$1.30	\$11.00	\$5.00
Bread	1 bag	\$0.11	\$11.00	\$5.00
Olive Oil	2 liter	\$2.00	\$15.00	\$8.20
Eggs	1 egg	\$0.13	\$1.50	\$0.50
Beans (fava beans & chickpeas)	1 kg	\$1.00	\$13.00	\$4.00

⁵¹ Zaman Alwsl, “Eastern Ghouta suburbs suffer food monopoly, soaring prices,” 18 November 2014, <https://en.zamanalwsl.net/news/7583.html>; Khaled Atallah, “As Syrian army closes in, Douma residents turn against rebels,” 24 November 2014, <http://www.al-monitor.com/pulse/originals/2014/11/syria-douma-protest-jaish-al-islam.html>.

⁵² Internal report on East Ghouta situation solicited from SAMS field office, 3 February 2015.

The cycle of tightening and relaxing of tolerance for bribes may indicate that it is occurring under the strategic direction of the Syrian government and the bribe money reverts to official coffers.⁵³ At times, security personnel manning the checkpoints have actually sold supplies directly to besieged citizens. Even so, SAMS-supported medical staff in Eastern Ghouta report that the amount of medical supplies that they can smuggle in currently meets less than 5% of the need.

According to the UN, the bribery system was not in effect at the end of 2014 as government security forces once again tightened control of checkpoints.⁵⁴ This near-complete clamp down was synchronized with the onset of winter when agriculture became unavailable, causing maximum harm to the people inside.

Prices of basic goods are high in besieged areas. In Eastern Ghouta, for example, by the winter of 2013/2014 many goods cost 10-15 times their pre-siege prices. In the spring prices fell to 4-5 times their original cost, but going into the winter of 2014/2015 some good prices have been reported to reach 20 times their original cost.⁵⁵ With the breakdown of the economy and few paying jobs in Eastern Ghouta, many people are unable to purchase these smuggled goods even when they are available at markets. Prices are similarly high in other besieged areas. Firewood prices in besieged Homs localities are reportedly 15 times their normal cost.⁵⁶

For a patient with serious medical needs who wanted to leave Eastern Ghouta anecdotal reports suggest that bribes as high as \$1,500 must be paid. This sum is a small fortune in an area where the economy has collapsed and many people have had no income sources for years. A human trafficking industry has also arisen as a result of the sieges. One doctor from besieged Ar-Rastan described the ordeal of escaping to Turkey: one had to walk around 40 kms, bribe security officials at a check point or sneak out at night, and pay a series of guides around \$500.

Creative Coping

The old saying that necessity is the mother of invention certainly holds true in the besieged areas of Syria. This section describes some of the creative methods that civilians have come up with to cope with life under siege.

Food

In rural areas under siege, people have been able to produce some agricultural products that help them withstand the siege, but in urban besieged areas like Yarmouk and the Old City of Homs, residents lack access to arable land. Instead people have created small gardens in spaces like rooftops, courtyards, and alleyways to provide residents with a small alternative food source.⁶⁰ Since these plots were not designed for farming, building and maintaining them can require a significant amount of work. In Hajar al-Aswad in the southern suburbs of Damascus, one resident said that it took months to transfer all of the necessary soil and water to his rooftop by hand, one load at a time.⁵⁷



A rooftop garden in Yelda in the besieged southern suburbs of Damascus. Source: *Lens Young Yeldani*

⁵³ Similarly, the UNGA's Human Rights Council has reported that sieges in Daraa governorate have been periodically tightened and loosened as part of the Syrian government's military strategy. See UNGA, Human Rights Council, "Report of the Independent International Commission of Inquiry on the Syrian Arab Republic," (A/HRC/28/69), 5 February 2015, p. 60.

⁵⁴ UN OCHA, "2015 Humanitarian Needs Overview: Syrian Arab Republic," November 2014, p. 141.⁵⁸ Internal report on East Ghouta situation solicited from SAMS field office, 3 February 2015.

⁵⁵ Maher Radhwan, "Homs: firewood prices soar in rebel held areas," *Zaman Alwsl English*, 13 November 2014, <https://en.zamanalwsl.net/news/7497.html>.

⁵⁶ Syrian Center for Statistics and Research, "Genocidal blockade on the city of Homs," 19 April 2013, p. 12, <http://csrsy.com/?id=570&sons=body&l=1>.

⁵⁷ Abu Abdullah al Hourani, "South of Damascus... farming on the rooftops and alleyways and the way to overcome the blockade," *Zaman Alwsl*, 10 December 2014, <https://www.zamanalwsl.net/news/56085.html>.

Energy

Since fuel is so scarce in the besieged areas, some communities have developed sustainable alternative energy production methods. The local council of Deir Assafir in Eastern Ghouta has established a small solar energy project.⁵⁸ Bicycles have also been used to generate electricity to power small devices such as cell phones.⁵⁹

In Douma, SAMS has partnered with the Syrian American Engineers Association (SAEA) in a renewable energy project using methane gas from animal waste to supply power for some civilian services such as pumping water from wells and powering construction equipment to reinforce the structure of damaged buildings that are still in use.

Health

As described in previous sections, the vast majority of the medical centers in areas besieged by the Syrian government have been targeted in airstrikes or barrel bomb attacks, and many have been destroyed. For this reason they have been forced to move underground into fortified basements or other excavated sites. The entire medical systems in the Damascus countryside and in Eastern Aleppo have been moved underground. Even these locations are not safe from attack, as the weight of a falling building can cave in and destroy a basement facility. The conditions in underground facilities are often much more primitive than in traditional medical centers.

In addition to moving underground, field hospitals in besieged areas are physically separated into different buildings as a form of insurance against complete destruction. This way if one part of the hospital is damaged or destroyed in an attack, the rest of the hospital survives.

The standard field hospital will have three locations: one housing the emergency room, one housing the surgery room, and one housing the intensive care unit. There are some variations in the field hospital components based on available equipment and team specialties – if any specialists exist in the area.



Biogas pit, part of a SAMS/SAEA sustainable energy project, in operation in besieged Douma in Eastern Ghouta.



A SAMS-supported field hospital in Eastern Aleppo that has been set up in a basement. The upper window is reinforced with sandbags to provide further protection from sniper fire and barrel bomb shrapnel.

⁵⁸ Local Council of the town of Deir Assafir, Facebook post on 3 February 2015, accessed 26 February 2015, <https://www.facebook.com/local.council.of.der.alasafer/posts/626387484174822>.

⁵⁹ Orient News, "Using bicycles in the production of electric power," YouTube video posted 1 June 2014, accessed 26 February 2015, <https://www.youtube.com/watch?v=gYTWRyDM7XE>.

SAMS has pioneered the use of telemedicine as an innovative response to the acute needs of besieged areas and lack of specialized physicians. Doctors in besieged areas of Syria can connect with volunteer physicians in the U.S. and other countries to consult on patient diagnoses and treatments. With webcams guided by onsite supervising personnel, SAMS's volunteer doctors can directly monitor vital signs, medication dosages, and even patients themselves in real time from across the globe. Doctors in the U.S. can even guide doctors and nurses in besieged areas through invasive procedures like surgeries. By giving besieged medical staff access to a range of specialists unavailable on the ground this remote support has proven effective in improving patient care and saving lives. Additionally it has had the unintended positive consequence of raising the morale of besieged staff who feel unsupported and disconnected.

Beyond telemedicine, doctors in besieged areas have used the internet to find inspiration to come up with creative solutions to the problems they face. In one instance a 25-year-old man named Hosam arrived at a field hospital in shock with severe injuries from a shell that had pierced his back and exited his stomach. Hosam's intestines were outside of his abdomen and he had extensive lacerations in his abdominal muscles, intestines, and colon and the loss of about 40% of his intestinal wall. Over more than a week the medical team performed three surgeries, but in each case complications from fistulas and dead tissue hampered recovery. After the third surgery Hosam's condition worsened significantly due to malnutrition since the team did not have the materials to administer total parenteral nutrition (TPN), and feed him intravenously. As a last resort the doctors turned to the internet and found a type of experimental anastomosis surgery that had previously only been tried on dogs but that might help the dying injured patient. With no other alternatives, they proceeded with this unconventional surgery. Hosam survived and today is planning his wedding.⁶⁰

⁶⁰ Skype interview with Dr. Majed and medical notes, 20 January 2015.

PART II

Siege Dataset

Annex A of this report contains a dataset of 560 civilians who have died under siege in Syria from non-military causes. Annex B contains accompanying photos for more than half of these victims. Both annexes can be accessed online at www.SyriaUnderSiege.org.

Methodology

This dataset is not intended to be a comprehensive account of all of the individuals who have been killed under siege. As with all attempts to quantify aspects of the Syrian crisis, this dataset and report are constrained by the difficulty of getting information out of the country. There are few international media outlets reporting from inside of Syria, forcing analysts to rely on the admirable work of citizen journalists, which is content-rich but difficult to independently verify. In besieged areas of Syria the difficulty of transmitting information is often further compounded by a lack of access to electricity and the all-consuming focus on basic survival, compared to which reporting and documentation generally fall low on the priority list. As a result, many cases go unreported. Additionally, a conservative approach was applied during data collection process, and some entries that were removed out of caution were likely cases that would have stayed in the dataset if further details could be determined.

The siege casualty dataset entries were compiled from a number of online databases and local reporting organizations. The listings from different sources were cross-checked against one another for consistency. In cases where inconsistencies were present in the details of an entry, special attention was devoted to locating additional sources of information that could help confirm one version of events over the other. In some of these cases, additional sources could not be located or were located but provided no useful information. For cases where the unresolved inconsistencies concerned data such as age, gender, or date, the entries were left in the dataset with a note. For cases where the unresolved inconsistencies concerned the cause of death, the questionable entries were removed from the dataset. Dozens of entries were removed for these reasons.

In many cases one data source would indicate that an individual died from lack of medical care and a second data source would give further detail that the individual required the medical care for a wound received from a bombing or sniping incident. These individuals were removed, even if their age or gender indicated that they were almost certainly civilians.

Entries were also removed from the dataset if it was determined that the location of death was not known to be under siege at the time of death. Members of armed groups were excluded from the dataset from the beginning, and in the handful of cases where an individual was added to the dataset and later determined to be a member of an armed group they were removed regardless of the cause of death.

Observations

At the end of the quality control and review process, the final dataset contained 560 entries.

Consistent with the concept of siege on civilian areas, the first deaths noted in the dataset in a given location after it came under siege were generally from acute conditions such as poisoning from accidental ingestion of a toxin while scavenging for food, or lack of medical care for emergencies such as heart attack or complications during childbirth. Deaths caused by chronic malnutrition and dehydration did not arise in a given area until it had been besieged for many months.

Age

The breakdown of victims by age group is depicted in the table below.

SIEGE VICTIMS BY AGE

AGE CATEGORY	NUMBER	PERCENT OF TOTAL
Fetus	3	0.54%
Infant (<1)	134	23.93%
Child (1-14)	124	22.14%
Adult (15-64)	239	42.68%
Senior (65+)	56	10.00%
Unkown	4	0.71%

When compared to the UN's World Population Prospects (WPP) data, it becomes clear that young people and seniors are overrepresented in the siege dataset. According to the WPP data, in 2010 approximately 35.80% of Syrians were between the ages of 0-14, whereas 46.61% of the casualties in the siege dataset fell into this age group. Similarly, 3.70% of the Syrian population was 65+ in 2010 while 10.00% of the victims in the dataset fell into this age group. Conversely, adults between the ages of 18-64 – the most likely age group to be engaged as armed combatants – are underrepresented in the siege victim dataset at 42.68% compared to their percentage of the population at 60.50%.⁶¹

This overrepresentation of seniors and youth in the data of deaths under siege is consistent with what one would expect to find in this context. Children, infants, and the elderly are the most vulnerable segments of the population – and are less physically equipped to cope with the harmful impacts of chronic malnutrition, dehydration, and extreme cold.

In total, 239 or 42.68% of the entries in the dataset are classified as “adults” between the ages of 15-64, and 66 of these adults are females. This leaves around 30% of the entire siege victim dataset that are males between 15-64, the most likely group to be directly involved in armed conflict, although just because a man falls into this age range does not necessarily mean that he is a combatant.

While the UN WPP data does not provide a separate infant (<1 year) population percentage for comparison, it is safe to assume that at 23.93% of the total victims in the siege dataset, infants are significantly overrepresented.

⁶¹ United Nations, Department of Economic and Social Affairs, “World Population Prospects: The 2012 Revision,” available at: http://esa.un.org/unpd/wpp/unpp/panel_indicators.htm.

Location

The single most striking statistic that can be pulled out of the siege database is the geographic location of the victims. More than 90% of siege-related victims captured in the dataset died in Damascus and its surrounding countryside.

This finding is consistent with reports from the ground that indicate that opposition-controlled parts of the Damascus countryside have endured the harshest and most devastating sieges of the entire Syrian conflict. Over 60% of the 560 victims in the dataset were from just two locations in the Damascus area: Yarmouk, with 173 victims, and Douma with 172. The third highest location total in the entire dataset was Hajar al-Aswad, near Yarmouk in the southern suburbs of Damascus, which has 23 recorded siege victims. Surprisingly, Hajar al-Aswad has not been included on the official UN list of *Besieged* locations.

SIEGE VICTIMS BY GOVERNORATE

GOVERNORATE	NO.	PERCENT OF TOTAL
Damascus (includes Rural Damascus)	506	90.36%
Homs	26	4.64%
Aleppo	22	3.93%
Deir Ezzor	4	0.71%
Hama	2	0.36%

The number of siege-related deaths from non-military causes can be used as an indicator of the intensity of the siege in a given community. The table below ranks the 10 locations in the dataset with the highest number of victims.

COMMUNITIES WITH THE MOST SIEGE-RELATED DEATHS

	COMMUNITY	NO. OF DEATHS IN DATASET
1	Yarmouk, Damascus	173
2	Douma, Rural Damascus	172
3	Hajar al-Aswad, Rural Damascus	23
4	Eastern Aleppo	22
5	Moadamiya, Rural Damascus*	14
6	Arbin, Rural Damascus	14
7	Kafr Batna, Rural Damascus	10
8	Saqba, Rural Damascus	8
9	Al-Waer, Homs	8
10	Babbila, Rural Damascus	7

*Moadamiya was previously on the UN *Besieged* list. Shaded rows indicate areas that the UN does not currently designate as *Besieged*.

Only four of the 11 locations that the UN currently classifies as besieged fall into the top ten sieges in terms of intensity. A fifth location, Moadamiya, was on the UN's *Besieged* list until late 2014. Five of the 10 locations in Syria with the most siege-related deaths have never been officially acknowledged as besieged by UN OCHA.

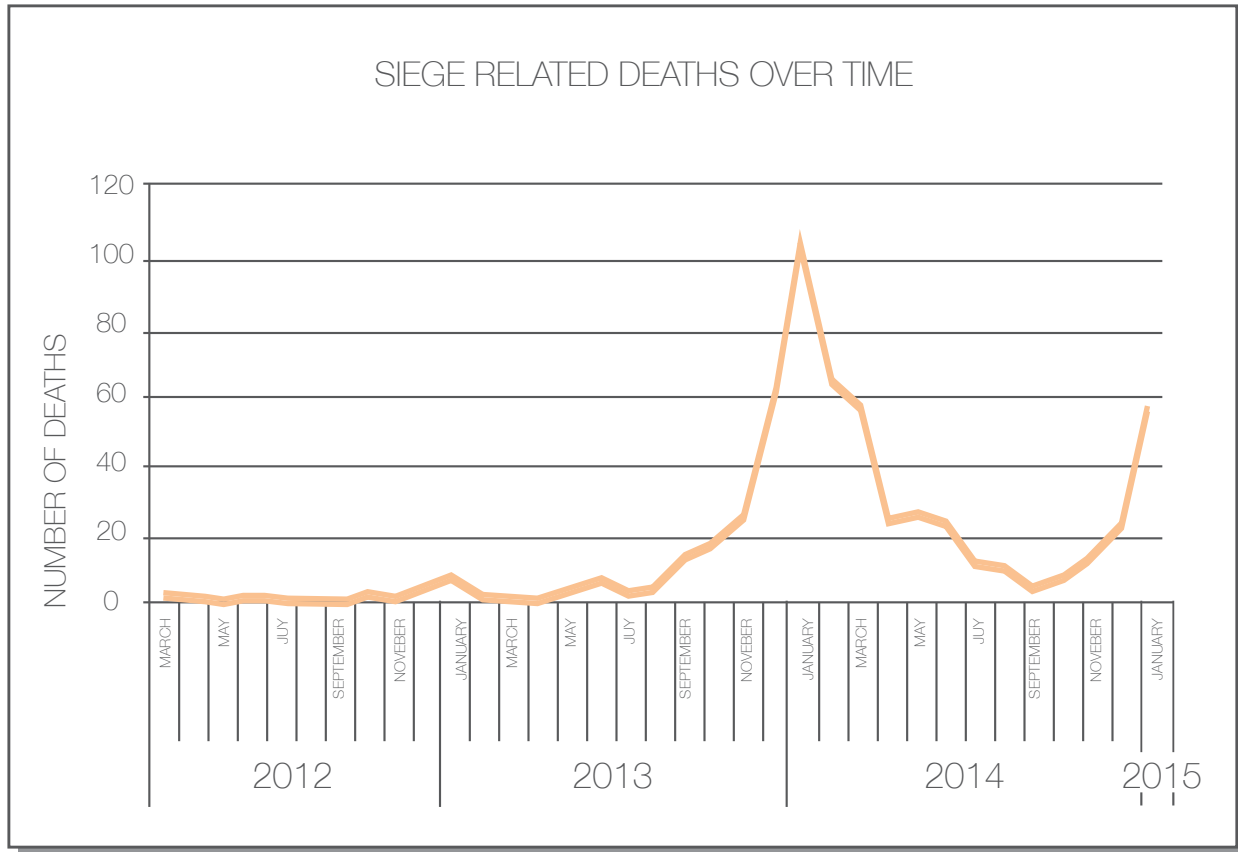
Those familiar with the monthly UN reporting might be surprised to find that none of the victims captured in the dataset were from the villages of Nubl or Zahraa in northern Aleppo governorate, despite the fact that Nubl and Zahraa are the only locations in Aleppo that the UN has ever recognized as *Besieged*. Because of the unique status of Nubl and Zahraa as the only villages where a multi-year siege is being enforced by non-state armed groups as opposed to the Syrian government, special attention was paid to these locations when building the siege dataset. Yet despite the extra time and effort spent in targeted searches, no siege-related deaths could be identified. This suggests that regardless of the UN designation and despite media assertions likening the blockade of Zahraa and Nubl with those imposed on other locations like Yarmouk,⁶² the populations of Zahraa and Nubl have been receiving food and medical supplies sufficient to sustain life throughout the course of the siege.

Though less publicized and generally shorter and less extreme, there have been a number of other sieges throughout Syria since 2011. While these sieges will not be discussed in depth in this report, individuals who died of non-violent causes in lesser sieges were kept in the dataset, accounting for the small number of deaths in Deir Ezzor and Hama.

⁶² Patrick Cockburn, "The politics of starvation: Syria's civilians go hungry after months of sieges," *The Independent*, 29 January 2014, <http://www.independent.co.uk/news/world/middle-east/the-politics-of-starvation-syrias-civilians-go-hungryafter-months-of-sieges-9094281.html>.

Time

The graph below shows the number of siege-related deaths captured in the siege dataset by month from the first dataset entry in March 2012 through the end of January 2015.



The number of siege-related casualties recorded each month closely follows the timeline of the imposition of sieges across Syria. As described in the introduction section of *Slow Death*, by mid-2013 the Syrian government was imposing sieges across Syria in a systematic fashion and tightening its grip on areas that had been partially besieged. The graph above clearly illustrates the impact this strategy had on civilians in these areas, with a dramatic increase in casualties after July 2013, when only two casualties were recorded, to a peak in January 2014 when a record 104 civilian casualties were recorded for the month.

From this peak, the monthly number of siege-related casualties dropped throughout the spring and summer of 2014 to a trough of four recorded deaths in September. This period of falling casualty figures coincides with both the increased agricultural yield available in warmer months and the initiation of a bribery system that allowed small amounts of basic goods into Eastern Ghouta through the Wafideen Camp checkpoint. As described in the "Siege Economy" section of the report, the siege on Eastern Ghouta was once again tightened and bribes become ineffective towards the end of 2014, corresponding with the onset of winter and illustrated by another steep incline on the graph.

Starting with the intensification of sieges in mid-2013, the graph shows that siege-related deaths take on what appears to be a cyclical pattern. This cycle is seasonal, with peaks in winter and troughs in the summer, but the height of the peaks is likely influenced by the deliberate tightening of the Eastern Ghouta siege in winter. Since the majority of the casualties in the dataset are from the Damascus area, changes in the humanitarian situation of the besieged areas around Damascus drives the movement of the graph.

PART III

Towards a Clearer Definition

UN OCHA categorizes high-priority areas for assistance as either *Hard to Reach* or *Besieged*, where *Besieged* is a subset of *Hard to Reach*. Their definitions for these categories are below.⁶³

UN OCHA Definitions

Hard to Reach areas: For the purposes of the Syrian conflict, a 'Hard to Reach area' is an area that is not regularly accessible to humanitarian actors for the purposes of sustained humanitarian programming as a result of denial of access, including the need to negotiate access on an ad hoc basis, or due to restrictions such as active conflict, multiple security checkpoints, or failure of the authorities to provide timely approval.

Besieged locations: For the purposes of the Syrian conflict, a 'besieged area' is an area surrounded by armed actors with the sustained effect that humanitarian assistance cannot regularly enter, and civilians, the sick and wounded cannot regularly exit the area.

From SAMS's perspective as a humanitarian organization, the official *Besieged* designation, and the monthly UN reporting that describes these areas, serves several important purposes. This designation draws global attention to these besieged locations, where the conditions for trapped civilians are often extreme and the need for assistance is urgent. It places them at the top of the aid priority list, and ensures that pressure is placed on the besieging parties to allow in this humanitarian assistance. With the UN OCHA figures indicating that there are an overwhelming 4.8 million people in hundreds of *Hard to Reach* locations across Syria,⁶⁴ the *Besieged* designation is the best way to ensure that besieged areas remain visible to the international community.

Similarly, the *Besieged* designation has perhaps incidentally served to shine an uncomfortable spotlight on the perpetrators of these sieges and remind them that their actions are war crimes possibly rising to the level of crimes against humanity. While there have not yet been any successful International Criminal Court (ICC) referrals for Syrian war criminals, the potential for that outcome may serve to discourage additional sieges and push perpetrators to negotiate aid deliveries.

Because the siege designations do serve such important purposes, it is important that they accurately reflect the situation on the ground to the greatest extent possible. Currently these designations are applied inconsistently and do not include a number of areas that meet the definition of *Besieged*.

Who is Besieged?

SAMS considers an area to be besieged when it is surrounded by armed actors who intentionally block humanitarian access to the civilian population over an extended period of time, resulting in shortages of the basic elements needed for survival such as food, water, and medical supplies. Civilians are not regularly allowed to exit the area, even in medical emergencies.

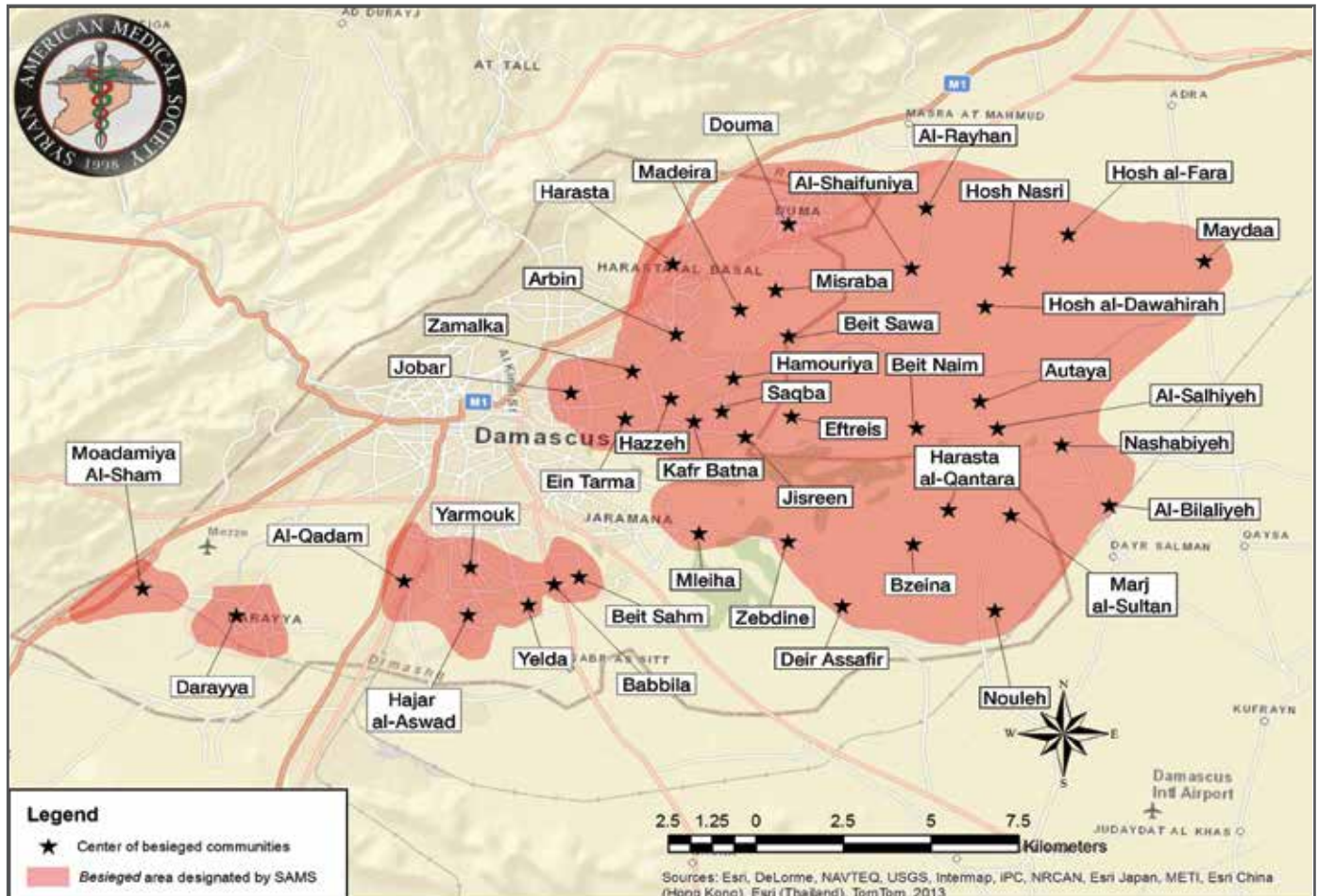
The following sections identify and describe the specific Syrian locations that are currently besieged, including 38 additional communities in the Homs, Damascus, and Rural Damascus governorates that fit both the UN OCHA and SAMS definitions of *Besieged* but are not designated as *Besieged* by UN OCHA or in the monthly Secretary-General's reports.

⁶³ UN OCHA, "2015 Humanitarian Needs Overview: Syrian Arab Republic," November 2014.

⁶⁴ UNSG, "Implementation of Security Council resolutions 2139 (2014), 2165 (2014) and 2191 (2014): Report of the Secretary-General," (S/2015/124) 19 February 2015.

Damascus

Besieged Damascus Area Communities Recognized by SAMS



The countryside surrounding Damascus – also referred to as the Ghouta region – is an agricultural oasis of around 400 km² that cradles the city from the east and south, separating it from the desert beyond. It is also currently a living hell for the estimated 425,000-600,000 people trapped inside.⁶⁵ The siege of the wider Ghouta area was imposed gradually as the Syrian government set up security checkpoints to monitor and limit movement early on in the uprising. By June 2012 there were only two open crossings into Eastern Ghouta: the Wafideen Camp checkpoint near Douma and the Mleiha-Jaramana crossing. In March 2013 movement through these crossings was completely stopped for both people and supplies.⁶⁶ Power blackouts increased in length and duration, and by the end of 2013 Eastern Ghouta was completely cut off from electricity.

Within the Rural Damascus governorate, the UN OCHA estimate only considers a handful of localities to be besieged. The population of these areas adds up to 167,500, or 79% of the total UN OCHA estimate of the besieged population in the entire country.

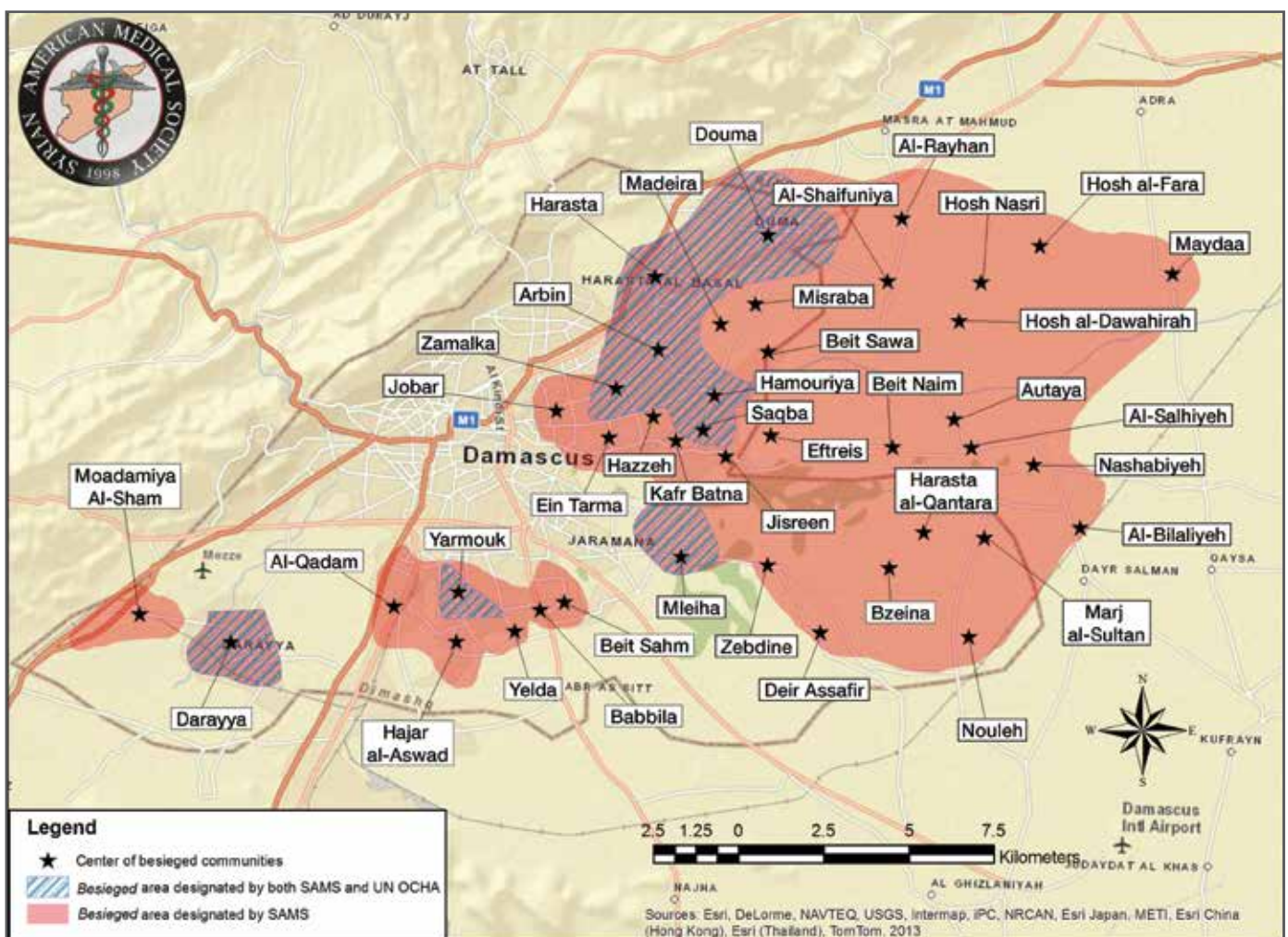
⁶⁵ The 425,000 estimate was provided by UN OCHA during a health sector meeting in southern Turkey in February 2015, and 600,000 is the upper estimate provided by SAMS's field staff and affiliated professionals inside of Syria.

⁶⁶ Internal report on East Ghouta situation solicited from SAMS field office, 3 February 2015; United Nations OHCHR, "Living Under Siege, The Syrian Arab Republic," February 2014, p. 6. <http://www.ohchr.org/documents/countries/sy/livingundersiege.pdf>.

According to SAMS's sources on the ground, the area of siege in fact extends out to the current frontline of fighting in the Rural Damascus governorate, which runs through the Harasta, Douma, Nashabiyeh, Mleiha, Babbila, Hajar al-Aswad, and Markaz Darayya sub-districts. The besieged localities include all communities within the sub-districts of Arbin, Kafr Batna, and Hajar al-Aswad, and Markaz Darayya; most communities within the sub-districts of Douma, Harasta, Nashabiyeh, and Babbila as well as several additional communities within the Mleiha sub-district that UN OCHA does not currently include.

The map below shows the difference between the Damascus area locations that UN OCHA currently designates as *Besieged* and the areas that SAMS considers to be *Besieged*:

Comparison of Besieged Damascus Area Communities Recognized by SAMS and Besieged Damascus Area Communities Recognized by UN OCHA



As the map illustrates, the actual besieged area extends out into the Damascus countryside to the currently frontline of fighting, and includes many additional rural villages and towns within this area. Frontline towns and villages such as Hteit al-Turkman or Tel Kurdi may also fall into the *Besieged* category and should be closely monitored to ensure that the civilians therein are not forgotten.

Within Damascus governorate proper, which covers the city of Damascus, UN OCHA only considers Yarmouk to be *Besieged*, but SAMS believes that two additional communities – Jobar and Al-Qadam – should also receive this designation. In the case of Jobar the rationale for excluding it from the *Besieged* list is possibly that the area has been a deeply embattled frontline for so long that most of the residents have fled. But even in areas like this there are civilians clinging to survival who are unable to leave for financial or health reasons. For example, in early February 2015, Naser Eddin al-Roz (pictured at right) died of starvation in Jobar due to the acute lack of essential humanitarian supplies.⁶⁷



Photo Source: Jobar Media Office, February 2015

People who live alone without families are in the most serious threat of being left behind in uninhabitable besieged areas. Several of the victims identified in the siege dataset who lived alone were not found for several days after their deaths.

Local Ceasefire Agreements in Besieged Areas

A number of besieged communities in the Damascus area have negotiated local ceasefire agreements with the government after being devastated by the impacts of the sieges. Just because a truce has been reached, however, does not necessarily mean that the siege has been lifted from a humanitarian perspective. First of all, civilians might still be restricted from leaving a besieged community even after a local ceasefire has gone into effect. In December 2013 the Syrian government twice opened fire on civilians trying to leave Beit Sahm following what they believed to be successful truce negotiations.⁶⁸

Secondly, the besieging party might still refuse to let in humanitarian aid regardless of the terms of an agreement. For example, despite a local ceasefire agreement in August 2014 for the neighborhoods of Asali, Al-Qadam, and Al-Madaniya in the southern countryside of Damascus, aid was still restricted.⁶⁹ These areas continued to experience deprivation due to supply shortages despite two small UN shipments that were allowed in in late November 2014,⁷⁰ and January 2015.⁷¹ In the nearby communities of Babbila, Yelda, Beit Sahm, and parts of Tadamon, the Syrian government did not allow in any humanitarian aid until January 2015 despite a local “truce” being in effect for 45 days. During that period of time there were reports of 11 siege-related deaths in Babbila alone.⁷²

None of these critically besieged neighborhoods in the southern countryside of Damascus have been designated as *Besieged* by the UN even though they are all surrounded by government forces and deprived of the necessities of life. At the time of writing, these local ceasefires in the southern suburbs of Damascus seemed to have broken down completely and the areas were returning to a state of active warfare.⁷³

⁶⁷ Jobar Revo, “Damascus – Jobar, important 18+: Nasser Eddin al-Roz a martyr from hunger and the blockade 03.02.2015,” YouTube video posted on 3 February 2015, accessed on 26 February 2015, https://www.youtube.com/watch?v=ud_u1fBzDE.

⁶⁸ UNGA, Human Rights Council, “Report of the independent international commission of inquiry on the Syrian Arab Republic,” (A/HRC/27/60) 13 August 2014, p. 31.

⁶⁹ Al Jazeera Arabic, “Tragic conditions experienced by the residents of Southern Damascus despite the truce,” YouTube video posted on 9 December 2014, accessed on 26 February 2015, <https://www.youtube.com/watch?v=oytKAdjz4oM>.

⁷⁰ Reuters, “Truce in Damascus district allows aid in: monitor,” 12 November 2014, <http://www.reuters.com/article/2014/11/12/us-syria-cr-sis-damascus-idUSKCN0IW0QP20141112>; Aks al Ser, “The introduction of food aid into the districts of al-Qadam and al-Asali and al-Yarmouk in Rural Damascus,” 24 November 2014, http://www.aksalser.com/index.php?page=view_news&id=d839aa50222bda1348cb4cec01e6b04e.

⁷¹ Qasion News, “Food trucks enter Al-Qadam sieged neighborhood,” 11 January 2015, <http://qasionnews.com/en/content/food-trucks-enter-al-qadam-sieged-neighborhood>.

⁷² Zaman Alwsl, “Regime forces open Babbila crossing as 11 died of siege,” 29 January 2015, <https://en.zamanalwsl.net/news/8687.html>.

⁷³ Damascus Now, Facebook post on 21 February 2015, accessed on 26 February 2015, <https://www.facebook.com/dimash-q.now/posts/676049952520620>.⁷⁸ Qasion News, “Aid support enter Yelda south of Damascus,” 1 February 2015, <http://qasion-news.com/en/content/aidsupport-enter-yelda-south-damascus>.

Despite being reopened for aid briefly at the beginning of February 2015,⁷⁴ the Sidi Miqdad checkpoint on the main access road leading into the southern suburbs was once again completely closed on February 19, leading to public protests and complete humanitarian siege.⁷⁵ At no point during the multiple months that the ceasefires were in effect was the water supply re-established.⁷⁶ Also, there were intermittent government attacks reported in many of the southern suburbs despite the “ceasefires” throughout the period of their implementation.⁷⁷

A similar scenario is currently playing out in Moadamiya al-Sham in the Western Ghouta countryside of Damascus. At one point it was the longest and harshest siege in Syria, but as of November 2014 UN OCHA removed it from the list of *Besieged* locations following a local ceasefire agreement. As with many of the local ceasefires, the Syrian government has failed to uphold its part of the agreement: the town remains ringed by checkpoints, without water or utilities, and the amount of aid that has been allowed in is not sufficient to support the population.⁷⁸ As of February 17, 2015, reports from Moadamiya indicate that the only opened checkpoint was completely closed and the district had once again been isolated under strict siege.⁷⁹ Egregiously, the government has also resumed bombing the town, following peaceful protests in February to release detainees.⁸⁰

The examples described above demonstrate a key point that the UN OCHA reporting, as reflected in the monthly Secretary-General's reports, does not appear to take into account: **a local ceasefire is not the same thing as the end of a siege**, especially if the Syrian government still controls all access points to the area.⁸¹

⁷⁴ Monds freedom, <https://www.youtube.com/watch?v=nMTNdnqzaWA>, “South of Damascus Yalda the demonstration chanting for Sheikh Saleh al-Khatib and to life the siege,” YouTube video, 19 February 2015, accessed on 26 February 2015, <https://www.youtube.com/watch?v=nMTNdnqzaWA>; Damascus Media Office, Facebook post on 20 February 2015, accessed on 26 February 2015, <https://www.facebook.com/damascus.m.o/photos/a.352406524837888.80272.350628005015740/766302383448298>.

⁷⁵ Syria Press News Agency, Facebook post on 17 February 2015, accessed on 26 February 2015, <https://www.facebook.com/syria-press/posts/935470709810145>.

⁷⁶ Syria Direct, “A Truce, and Mortars, for Two South Damascus Neighborhoods,” 13 November 2014, <http://syriadirect.org/main/37-vid-eos/1677-a-truce-and-mortars-for-two-south-damascus-neighborhoods>.

⁷⁷ Kassem Al-Haj Eid, “I survived a local cease-fire in Syria,” *The Washington Post*, 20 February 2015, http://www.washingtonpost.com/opinions/the-as-sad-regime-does-not-honor-local-cease-fires-insyria/2015/02/20/acbb2c22-b3d2-11e4-886b-c22184f27c35_story.html.

⁷⁸ Orient News, 24 February 2015, “This is how people of Moadamiya built a trap for the regime and its media,” http://orient-news.net/index.php?page=news_show&id=85411.

⁷⁹ Syria Direct, “State TV Puff Piece Goes Awry as Residents Protest for Cameras,” 17 February 2015, <http://www.syriadirect.org/main/37-vid-eos/1859-state-tv-puff-piece-goes-awry-as-residents-protest-for-cameras>.

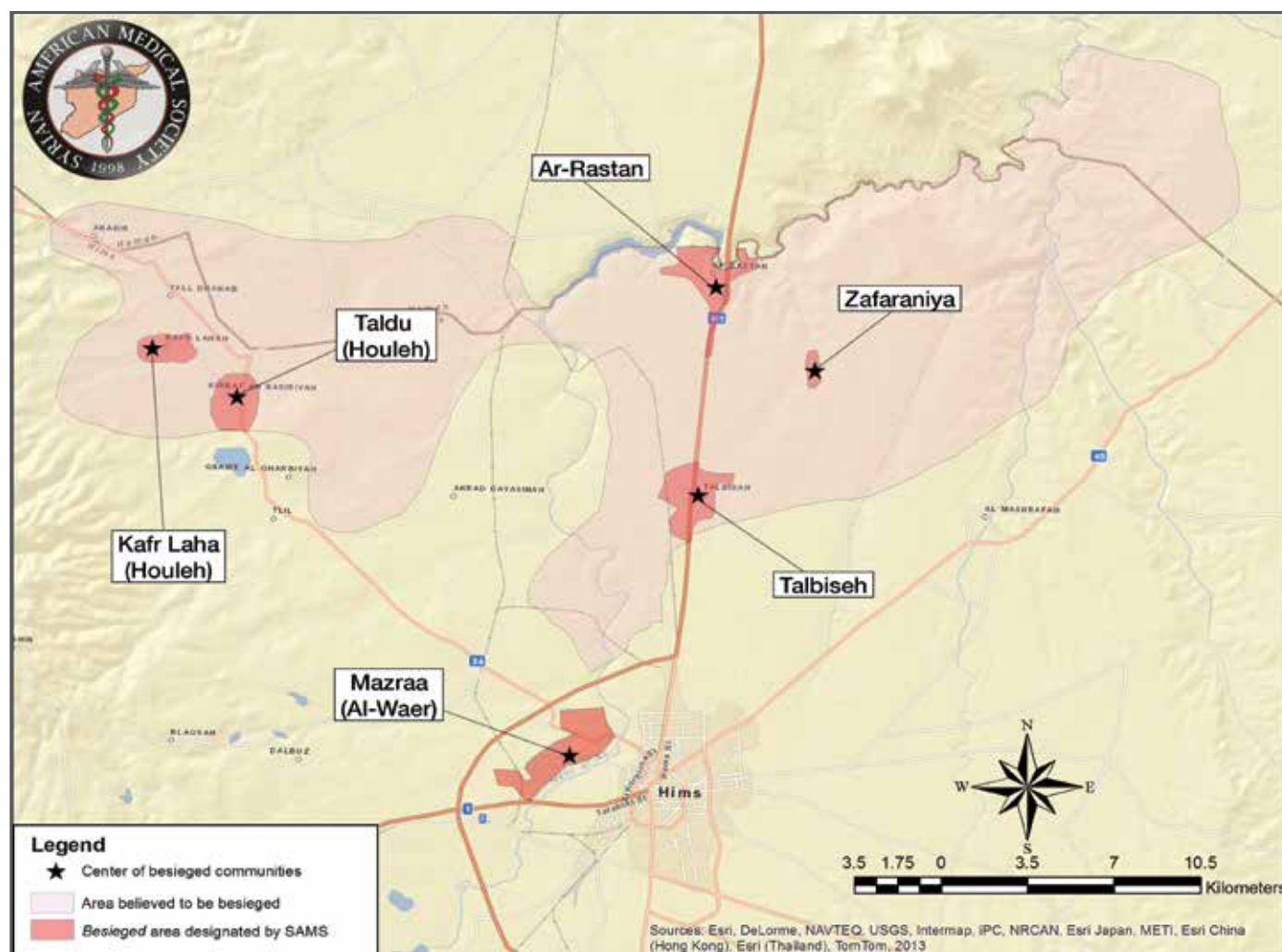
⁸⁰ For additional examples see A/HRC/25/65 (February 2014).

⁸¹ UNGA, Human Rights Council, “Report of the independent international commission of inquiry on the Syrian Arab Republic,” (A/HRC/28/69) 5 February 2015, p. 4.

Homs

In the Homs governorate there are several ongoing sieges, although the Secretary-General's reporting has only ever recognized the siege of the Old City of Homs. The Old City of Homs was under siege for more than two years until it finally capitulated to government forces in May 2014.⁸² It has remained largely empty ever since.

Besieged Homs Locations Recognized by SAMS



SAMS believes that the district of Al-Waer, and the communities of Ar-Rastan, Talbiseh, Kafaraniya, the Houleh region, and the surrounding countryside, all face conditions that merit the classification of *Besieged*. There are also smaller communities within the wider siege area – which covers most of the Ar-Rastan, Talbiseh, and Taldou sub-districts – that are facing the same conditions as the listed locations but have not been specifically named because SAMS does not have detailed information about them at this time. While UN Secretary-General's monthly reports have never acknowledged these sieges and classifies all of these areas as *Hard to Reach*, the more comprehensive IICISyria reporting has referred to these areas as besieged.⁸³

⁸² UNGA, Human Rights Council, "Report of the independent international commission of inquiry on the Syrian Arab Republic," (A/HRC/27/60) 13 August 2014, p. 20.

⁸³ UNGA, Human Rights Council, "Report of the independent international commission of inquiry on the Syrian Arab Republic," (A/HRC/23/58) 18 July 2013, p. 22.

Northern Homs Countryside

The siege imposed on the villages in the northern countryside of Homs is similar to the situation in the Damascus countryside in many ways. Like Eastern Ghouta, the sieges on Ar-Rastan, Talbiseh, and Houleh are broader, encompassing the surrounding rural areas and other small towns within the Ar-Rastan, Talbiseh, and Taldu sub-districts. Rough estimates provided by local medical sources indicate that there are around 70,000 people in the city of Ar-Rastan and its surroundings and fewer in Talbiseh at 50,000 and Houleh at 40,000.⁸⁴

People in these areas are geographically spread out, and have become more so as siege conditions deteriorated and they have moved out of the urban centers and into the agricultural lands. Like Eastern Ghouta, people in the besieged northern Homs countryside rely heavily on agricultural production to survive the restrictive sieges enforced by government forces and pro-government “popular committees.” Here too, small amounts of supplies can often be brought in through smuggling and bribery.⁸⁵ Though the ability of residents of besieged northern Homs to bring in goods by paying bribes at checkpoints seems to have been more consistent over time than in Eastern Ghouta, there are still occasions when the security forces have tightened the siege and restricted all checkpoint smuggling. This occurred in January 2015, causing severe shortages of bread.⁸⁶

The Syrian government has restricted international access to the northern Homs countryside for humanitarian aid deliveries. A UN inter-agency convoy scheduled to reach Talbiseh on February 3, 2015 was not given the necessary facilitation letters or written approval from Damascus despite approval by the governor.⁸⁷ The “Humanitarian Access” sections of the Secretary-General’s monthly reports on the implementations of UNSC resolutions in Syria show a pattern where the Syrian government will approve aid convoys but entangle them in bureaucratic hurdles, or simply not respond to a UN-submitted request, instead of giving an outright denial. For people in need of this aid, the outcome is the same.

Field hospitals and medical centers in the besieged areas of northern Homs governorate face the same challenges as those in other besieged areas: they lack basic medical supplies, depend entirely on generators for electricity, face fuel shortages, use hand-drawn well water, and have been forced underground due to targeted airstrikes or barrel bombs. The largest field hospital in the area, the Ar-Rastan hospital, consists of two big basements with a tunnel in between them. Like in Eastern Ghouta all of the field hospitals here must be split into separate buildings to avoid the complete cessation of medical care if one is targeted.⁸⁸

The fact that the northern Homs siege encompasses wide agricultural areas has ameliorated the impact of the siege to some extent along with the more consistent smuggling system. Accordingly these areas have seen far fewer deaths from malnutrition than the Damascus area. A few, but not all, of the siege-related deaths in the Homs countryside have been captured in the siege dataset. The IICISyria reported that a medical professional from Houleh recorded 13 child deaths from malnutrition or lack of medical care between August 2012 and April 2013, most of which were not captured in the dataset.⁸⁹

⁸⁴ Skype interview with Dr. Ibrahim, 9 February 2015.

⁸⁵ UNGA, Human Rights Council, “Report of the independent international commission of inquiry on the Syrian Arab Republic,” (A/HRC/23/58) 18 July 2013, p. 16.

⁸⁶ Al Jazeera Arabic, “300,000 Syrians in the Countryside of Homs are Without Bread because of the Blockade,” YouTube video, 14 January 2015, accessed on 26 February 2015, https://www.youtube.com/watch?v=fRb_DzL0ASA; Homs Media Center, “Houla 1/25/2015 Houla City experienced a severe crisis because of the blockade imposed upon it,” YouTube video, 24 January 2015, accessed on 26 February 2015, https://www.youtube.com/watch?v=uuS_9gcUjJ.

⁸⁷ UNSG, “Implementation of Security Council resolutions 2139 (2014), 2165 (2014) and 2191 (2014) – Report of the Secretary-General,” (S/2015/124), 19 February 2015.

⁸⁸ Skype interview with Dr. Ibrahim, 9 February 2015.

⁸⁹ UNGA, Human Rights Council, “Report of the independent international commission of inquiry on the Syrian Arab Republic,” (A/HRC/23/58) 18 July 2013, p. 16.

Al-Waer

Al-Waer is a district on the northwestern perimeter of Homs city. It is home to thousands displaced from fighting elsewhere, including from the earlier siege of the Old City of Homs. Since October 2013 Al-Waer has been surrounded by government forces who man checkpoints, severely limiting movement in and out of the area. Through the end of 2014 only two humanitarian aid shipments were allowed to reach the area.⁹⁰ The November aid convoy was stopped by security forces and all medical supplies were removed despite a letter of facilitation from the central government.⁹¹ A UN inter-agency convoy gained access with multisectoral assistance in January 2015, but again the majority of the medical supplies, including reproductive health kits and diarrhea kits, were removed by Syrian government security personnel.⁹²

Currently the Syrian Arab Red Crescent is allowed to bring in limited medical supplies to Al-Waer once a month and small amounts of foodstuffs are allowed through government checkpoints, but at times access is completely off. Only students and government employees have been allowed to leave the area, leaving more than 100,000 people trapped inside. Syrian government bombardments have increased in intensity since truce negotiations broke down in October 2014.⁹³ The amount of aid that is allowed to enter Al-Waer is insufficient to support the population, and access can be completely cut off at any time since the besieging government forces maintain control of the checkpoints. Regardless of the fact that aid convoys manage to get in, as long as a community remains deliberately deprived of food and medicine and surrounded by hostile forces with the ability to close it off on a whim, it should remain on the *Besieged* list. Only in cases where access points are no longer controlled by besieging forces can it be assured that the siege has ended.

Aleppo

Eastern Aleppo

The eastern side of Aleppo City is currently under opposition control and is classified by UN OCHA as *Hard to Reach*. Eastern Aleppo is largely surrounded by government forces, with the Castello Road to the north remaining as only access point not blocked by government checkpoints or forces. Even though there is not a checkpoint on the road it is frequently bombarded by Syrian government forces making passage very dangerous and limiting the amount of humanitarian assistance that can be brought into the city. According to the Humanitarian Needs Overview published in November 2014, 300,000 people in East Aleppo were at risk of being cut off from any assistance should the government forces be able to take over the nearby Handarat hill and effectively cut off this remaining route.⁹⁴

With just one remaining embattled route into the city, humanitarian supplies entered Eastern Aleppo inconsistently in late 2014 and in insufficient quantities to support the population. Doctors describe the challenges of getting emergency medical cases out of the city for treatment in Turkey. Vehicles would leave at night to avoid detection, but would have to make the choice between driving with their lights off and have difficulty seeing the road, or driving with their lights on and risk being bombed. During this period, the winter of 2014/2015, the siege dataset shows a number of deaths in the eastern suburbs of Aleppo due to cold, as heating oil was largely unavailable.

⁹⁰ Human Rights Watch, "Syria: Escalating Assault on Rebel-Held District," 23 December 2014, <http://www.hrw.org/news/2014/12/23/syria-escalating-assault-rebel-held-district>.

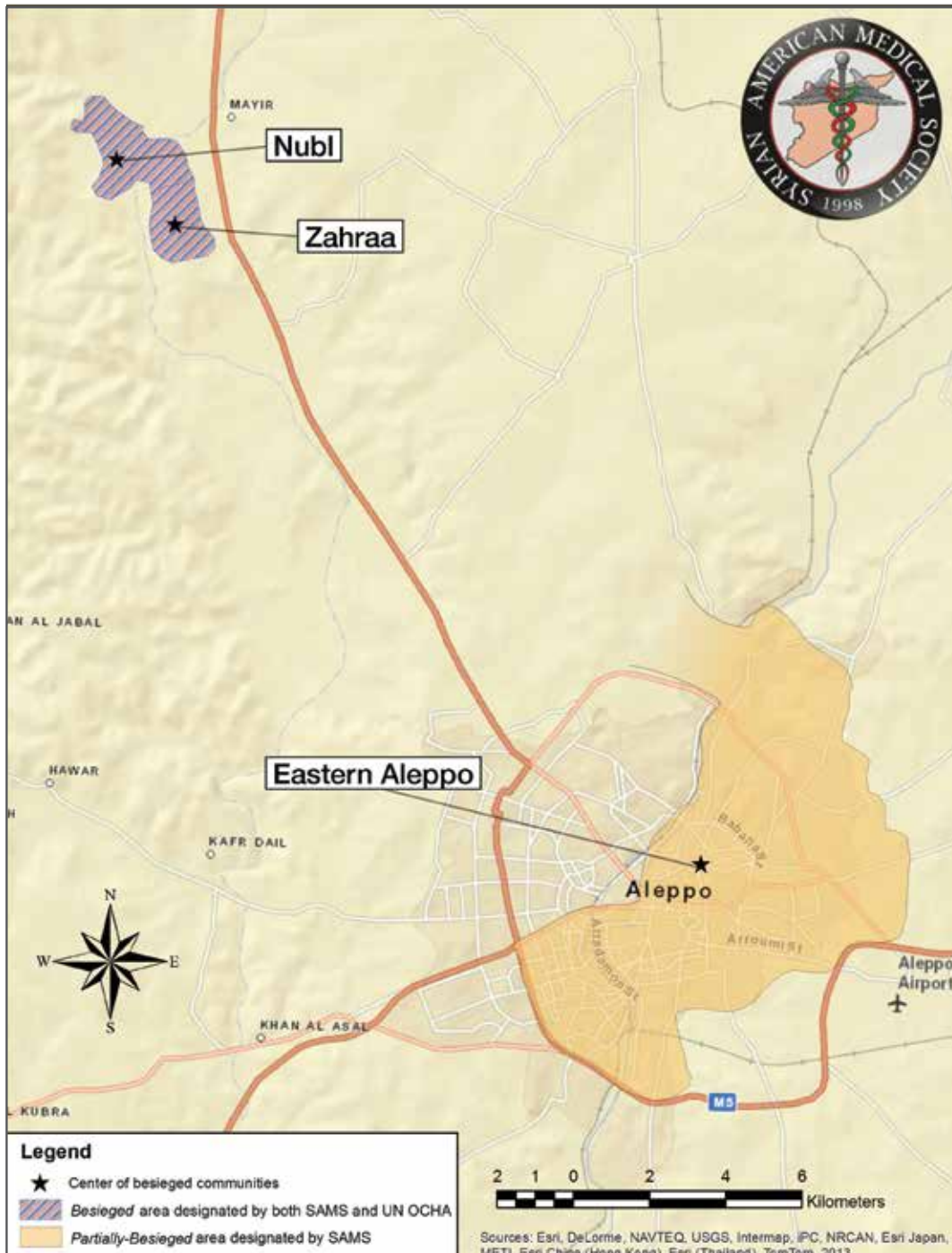
⁹¹ UNSC, "Report of the Secretary-General on the implementation of Security Council resolutions 2139 (2014) and 2165 (2014)," (S/2014/840) 21 November 2014, p. 18.

⁹² UNSG, "Implementation of Security Council resolutions 2139 (2014), 2165 (2014) and 2191 (2014) – Report of the Secretary-General," (S/2015/124), 19 February 2015, p. 5.

⁹³ Human Rights Watch, "Syria: Escalating Assault on Rebel-Held District," 23 December 2014, <http://www.hrw.org/news/2014/12/23/syria-escalating-assault-rebel-held-district>.

⁹⁴ UN OCHA, "2015 Humanitarian Needs Overview: Syrian Arab Republic," November 2014, p. 140.

Aleppo Besieged and Partially-Besieged Locations



In recent months the situation in Eastern Aleppo has improved slightly, and SAMS-affiliated medical professionals estimate that the population had increased to around 400,000 by February 2015. There are several reasons for this improvement, one of which is the fact that humanitarian organizations working in Eastern Aleppo stockpiling supplies sufficient for several months of complete siege, which seemed imminent in late 2014. Bombardment of the Castello Road access route has eased up recently due to bad weather (which prevents airstrikes and barrel bombs), and there has been a partial redirection of the Syrian armed forces' military efforts towards reaching Nubl and Zahraa to the northwest.

This scenario that has been playing out in Eastern Aleppo is distinct from cases where security concerns due to active conflict alone prevent humanitarian aid convoys from entering, and should be recognized as such. Eastern Aleppo has been almost entirely surrounded by government forces since August 2014.⁹⁵ During that time the Syrian government denied or ignored numerous requests from UN agencies to send in life-saving humanitarian supplies.⁹⁶ Though the humanitarian situation has improved slightly, this could change quickly if the Syrian military shifts its primary focus back towards completing the encirclement of Eastern Aleppo.

Since UN OCHA has placed Eastern Aleppo in the same broad *Hard to Reach* category as localities where humanitarian aid delivery is difficult but is not being intentionally blocked, it has not received the level of attention that it deserves and many in the international community remained unaware of the crisis even when the complete encirclement seemed imminent in late 2014. Leaving a partially-besieged location like Eastern Aleppo in the *Hard to Reach* category also creates a sort of loophole in which an armed actor – in this case the Syrian government – can almost entirely encircle a city and restrict humanitarian aid, causing great harm to the encircled civilians, but as long as the besieging actor refrains from placing a checkpoint on one single road, it escapes the more intense international attention and condemnation that a UN *Besieged* designation would incur.

Nubl and Zahraa

Nubl and Zahraa are adjacent villages in the Aleppo countryside to the northwest of Aleppo city. The siege of Nubl and Zahraa by opposition groups began in July 2012 and was tightened in March 2013, after which point humanitarian organizations were no longer allowed to deliver aid. Initially the Syrian government used helicopters to airdrop aid to the trapped people in Nubl and Zahraa, but this method of assistance stopped after a helicopter was attacked in June 2013.⁹⁷

Since Nubl and Zahraa are the only pro-government localities besieged by armed opposition groups, it is not surprising that the Syrian government has approved UN requests to deliver humanitarian assistance to these communities, although agencies have then faced the challenge of negotiating with the besieging opposition groups. In May 2014 one such aid convoy was successfully delivered as part of a trade-off deal to also deliver aid to four nearby *Hard to Reach* locations.⁹⁸

As previously noted in Part II of the report, SAMS was unable to identify any victims of non-military causes such as cold or starvation from Nubl and Zahraa to include in the siege dataset. This lack of siege-related casualties from Nubl and Zahraa does not demonstrate that there is not a siege in place. There is little doubt that these two villages are surrounded by armed groups who have blocked humanitarian access for an extended period of time, and that the civilians trapped in Nubl and Zahraa continue to experience hardships from deprivation in all of its forms, including the cut off of water and electricity. But given the extended length of the siege, the lack of any siege-related casualties does indicate that the populations of Zahraa and Nubl are receiving food and medical supplies sufficient for survival.

According to both the LICISyria and sources from inside of Syria, the smuggling of supplies from the Kurdish town of Afrin allows Nubl and Zahraa to resupply with some regularity. At several points in time the siege by armed groups has been briefly extended to Afrin in an attempt to cut off this lifeline.⁹⁹

⁹⁵ UN OCHA, "2015 Humanitarian Needs Overview: Syrian Arab Republic," November 2014, p. 28.

⁹⁶ UNSC, "Report of the Secretary-General on the implementation of Security Council resolutions 2139 (2014) and 2165 (2014)," (S/2014/840), 21 November 2014, p. 18.

⁹⁷ United Nations Office of the High Commissioner for Human Rights, "Living Under Siege, The Syrian Arab Republic," February 2014, p. 9, <http://www.ohchr.org/documents/countries/sy/livingundersiege.pdf>.

⁹⁸ UNSC, "Report of the Secretary-General on the implementation of Security Council resolution 2139 (2014)," (S/2014/365) 22 May 2014.

⁹⁹ UNGA, Human Rights Council, "Report of the independent international commission of inquiry on the Syrian Arab Republic," (A/HRC/25/65) 12 February 2014, p. 21.

Another possible conclusion that might be drawn from the lack of siege related casualties in Nubl and Zahra compared to areas besieged by government forces for a comparable period of time is that the destruction of infrastructure and civilian facilities caused by aerial assaults – which all government-besieged communities have experienced, but not Nubl and Zahra – has greatly exacerbated the impact of the siege in areas besieged by the Syrian government.

The continued siege of Nubl and Zahra is unacceptable and all efforts must be made to bring it to an end and to ensure that humanitarian aid reaches the thousands of civilians trapped inside. At the same time, in terms of the level of humanitarian catastrophe and urgency of need, Nubl and Zahra are clearly not at the same level as Yarmouk, where hundreds have died of starvation, or Darayya, which has been under siege for more than 800 days and has never been reached by international humanitarian aid.¹⁰⁰ The current UN classification system which puts these different cases in the same category such that they are often held up as comparable situations is misleading, and lends itself to politicization.

Proposed Classification System

As the previous section describes, the situation on the ground is not accurately captured with the current UN OCHA siege classification system. There are several localities in Syria that UN OCHA does not classify as besieged despite the fact that they face situations that are very similar, in some cases identical, to sieges it does recognize. Additionally, in Eastern Aleppo the population has faced siege conditions but the area has not been recognized as *Besieged* due to the existence of one primary access road that – while not blocked with a checkpoint – has been heavily bombed, severely restricting movement.

Accordingly, SAMS proposes a new siege classification system along the following lines:

Sieges should be classified based on two considerations: extent of siege and intensity of siege.

■ Extent of siege:

- *Besieged* – All communities that are surrounded by an armed actor who intentionally prevents food and medical supplies from entering the area and prevents civilians from exiting should be classified as *Besieged*.
- *Partially-Besieged* – Areas that experience all of the conditions of a siege but where the besieging party leaves a limited number of un-blockaded access points that are heavily or systematically attacked to hinder humanitarian aid should receive a distinct *Partially-Besieged* designation.

■ Intensity of siege:

- *Tier 1* – This is the highest level of siege, where very little is able to enter through smuggling or bribery and the UN is able to negotiate few if any aid deliveries and assistance that does enter is insufficient for the population. Residents in these areas are at a high risk of malnutrition/dehydration and denial of medical care. The area is frequently attacked by besieging forces causing medical emergencies.
- *Tier 2* – This is the moderate level of siege. Small amounts of supplies can usually be smuggled in through bribery and supplies can be purchased on the black market at extremely high prices. Vehicle deliveries cannot enter but residents may have access to alternative food sources such as local agriculture. The UN is able to negotiate few if any aid deliveries and assistance that does enter is insufficient for the population. The area is frequently attacked by besieging forces causing medical emergencies. Residents in these areas are at some risk of malnutrition/dehydration and high risk of denial of medical care.

¹⁰⁰ All4Syria, "More than 800 days of siege in Darayya in Rural Damascus!" 2 December 2015, <http://all4syria.info/Archive/192747>.

- *Tier 3* – This is the lowest level of siege, where supplies still must be smuggled in but are done so with regularity and the population has consistent access to alternative food sources such as local agriculture. The UN is able to negotiate few if any aid deliveries and assistance that does enter is insufficient for the population. The area is frequently attacked by besieging forces causing medical emergencies. Residents in these areas are at low risk of malnutrition/dehydration and moderate risk of denial of medical care.

Under this system each *Besieged* area will receive two descriptors. For example Eastern Aleppo would be considered *Partially-Besieged* and *Tier 2*, although the improvement of the humanitarian situation in the past month due to increased access along the Castello route may merit a change in the tier level. Nubl and Zahraa would be considered *Besieged* and *Tier 3*. Yarmouk and Douma in the Damascus area would fall into the highest classification category of *Besieged* and *Tier 1* and require top prioritization in UN negotiation efforts and NGO assistance.

These designations should continue to be reviewed for all *Besieged* and *Partially-Besieged* areas on a monthly basis.

Population Estimates

In February 2015, the UN Secretary-General reported that there were approximately 212,000 Syrians still trapped in 11 besieged areas around the country.¹⁰⁶ This number has not significantly changed from when monthly reporting began under UNSC Resolution 2139 almost a year prior. The table below shows the breakdown of the UN OCHA estimates by community:

UN OCHA BESIEGED POPULATION ESTIMATES

GOVERNORATE	DISTRICT	SUB DISTRICT	COMMUNITY	NEW ESTIMATED PIN*	
Aleppo	A'zaz	Nabul	Nabul	17,500	
Aleppo	A'zaz	Nabul	Zahraa	9,000	
Damascus	Damascus	Damascus	Yarmouk (non-official PR, Besieged)	18,000	
Rural Damascus	Rural Damascus	Arbin	Arbin (E. Gouta)	10,000	
	Darayya	Markaz Darayya	Darayya (E. Gouta)	4,000	
	Duma	Duma	Duma (E. Gouta)	95,000	
	Rural Damascus	Kafr Batna	Hammura (Kafr Batna - E. Gouta)	15,000	
	Duma	Harasta	Harasta (E. Gouta)	17,000	
	Rural Damascus	Rural Damascus	Maliha	Maliha (E. Gouta)	0
			Kafr Batna	Saqba (E. Gouta)	15,000
Arbin			Zamalka (E. Gouta)	11,500	
			TOTAL	212,000	

Source: UN OCHA, "2015 Humanitarian Needs Overview: Syrian Arab Republic," November 2014.

Based on statistics provided by local councils and SAMS-affiliated medical professionals on the ground, SAMS estimates that **the actual number of people living under siege is more than 640,200**. This figure represents a partial estimate due to missing data for several communities, but is still more than triple the UN OCHA estimate.

Some of the discrepancy between the UN OCHA and SAMS estimates comes from differences in the population estimates for the areas that both UN OCHA considers besieged, and the rest is explained by SAMS's inclusion of areas that are not included on the UN OCHA's list. SAMS has included 38 additional besieged communities in the Homs, Damascus, and Rural Damascus governorates that are completely surrounded by Syrian government forces who have intentionally blocked access to a civilian population over an extended period of time, resulting in extreme shortages of the basic elements need for survival such as food, water, and medical supplies.

Challenges

Population figures for the besieged areas are difficult to determine with much certainty. Syria's most recent pre-war census was completed in 2004, so there is no recent baseline information to assist in population estimates. There are many challenges to getting satisfactory population estimates, particularly in the Damascus countryside. Since the start of the war there has been a tremendous amount of displacement inside of Syria. People have fled out of besieged areas or relocated within them, sometimes more than once. The international community has extremely limited direct access to these areas.

While there is some form of local governing council present in most besieged localities, they too are unable to produce firm estimates. For one thing they lack training in methods of producing population assessments. Another and perhaps more challenging issue is the fact that in Eastern Ghouta many people are afraid to give their names and information even to the local council because they are afraid that their information will somehow reach the government and they will be targeted with arrest or “enforced disappearance.”

Medical professionals can sometimes extrapolate population estimates using medical statistics, particularly child vaccination rates. But in the besieged areas there are limited numbers of vaccines available, making any population estimate gleaned from vaccination rates artificially low.

New Population Estimates

With the caveats noted above, SAMS has gathered population estimates from affiliated physicians and through direct outreach to local councils in besieged areas for comparison to the UN OCHA figures. The UN OCHA estimates of populations in besieged areas are arrived at through the triangulation and cross checking of various sources, including during aid deliveries. UN OCHA faces the same challenges as SAMS in gathering this type of data, so the UN figures also come with a high degree of uncertainty. For example, prior to the UN aid delivery to Nubl and Zahraa in May 2014 the estimated population of these two villages was 45,000, but based on data gained during the direct access, UN OCHA dropped its estimate to 26,000.¹⁰¹

SAMS's population estimates for besieged localities in Syria are provided in the table below, alongside the UN OCHA estimates. The 38 additional communities that are not on the UN OCHA *Besieged* list are designated in gray.

Since SAMS's estimates were obtained from multiple sources, in some cases there were two different population estimates for a given locality. In all of these instances the higher estimate was discarded and the lower estimate was incorporated in the table. In three cases (Jobar, Hamouriya, and Saqba) the population estimates SAMS received appeared unreasonably high. For Hamouriya and Saqba these high estimates were discarded and UN OCHA's lower estimates were used. For Jobar where the UN monthly reporting does not provide a current estimate, the table has been left blank. In all but two instances where SAMS and UN OCHA both provided population estimates, the UN OCHA's figures were lower – in some cases significantly. The two exceptions are Harasta, where the SAMS estimate was 6,000 lower than the UN OCHA estimate, and Mleiha, which has been completely emptied due to fighting and its residents displaced (many to nearby Saqba, some have fled the besieged area) so both SAMS and the UN OCHA estimate a population of 0.

In the Damascus area, UN OCHA's total besieged population estimate is 185,500 if Yarmouk and Darayya are included in the sum. SAMS's estimate of the besieged population in the Damascus area comes to more than double that figure at 378,700, despite missing estimates for 20 besieged communities. Approximately half of this large discrepancy comes from differences in population estimates for locations that both SAMS and UN OCHA consider to be besieged and the other half is from the addition of besieged locations that UN OCHA does not acknowledge.

Based on the SAMS estimates, more than 95% of the besieged people in Syria are being besieged by the Syrian government, compared to 87.5% in the current UN OCHA statistics.

¹⁰¹ UN OCHA, “2015 Humanitarian Needs Overview: Syrian Arab Republic,” November 2014, p. 139.

SAMS BESIEGED POPULATION ESTIMATES VS. UN OCHA BESIEGED POPULATION ESTIMATES

GOVERNORATE (Admin 1)	DISCTRICT (Admin 2)	SUB DISTRICT (Admin 3)	COMMUNITY/ NEIGHBORHOOD (Admin 4/5)	UN EST. POPULATION	SAMS EST. POPULATION		
Aleppo	A'zaz	Nubl	Nubl	17,500	<i>17,500</i>		
			Zahraa	9,000	<i>9,000</i>		
Damascus	Damascus	Damascus	Jobar (5)				
			Al-Qadam (5)				
			Yarmouk	18,000	<i>18,000</i>		
Rural Damascus	Rural Damascus	Arbin	Arbin	10,000	<i>25,000</i>		
			Zamalka	11,500	<i>15,000</i>		
			Kafr Batna	Beit Sawa		<i>5,000</i>	
		Eftreis					
		Ein Tarma			<i>32,000</i>		
		Hamouriya (aka Hammura)		15,000	<i>15,000</i>		
		HazzeH			<i>5,000</i>		
		Jisreen			<i>10,000</i>		
		Kafr Batna			<i>26,000</i>		
		Saqba		15,000	<i>15,000</i>		
		Mleiha	Deir Assafir		<i>5,200</i>		
			Mleiha	0	<i>0</i>		
			Zebdine		<i>4,000</i>		
		Babbila	Babbila				
			Belt Sahm				
			Yelda				
			Douma	Douma	Douma	95,000	<i>150,000</i>
					Hosh al-Dawahirah		
					Hosh al-Fara		
		Hosh Nasri					
		Maydaa				<i>0</i>	
		Al-Rayhan					
		Al-Shaifuniya					
		Harasta	Harasta	Harasta	17,000	<i>11,000</i>	
				Madeira		<i>2,500</i>	
				Misraba		<i>20,000</i>	
		Nashabiyeh	Nashabiyeh	Autaya		<i>8,500</i>	
Beit Naim							
Al-Bilaliyeh							
Bzeina							
Harasta al-Qantara							
Marj al-Sultan							
Nashabiyeh				<i>5,500</i>			
Nouleh							
Al-Salhiyeh							
Darayya	Markaz Darayya			Darayya	4,000	<i>6,000</i>	
		Moadamiya al-Sham					
		Hajar al-Aswad					
Homs	Homs	Homs		<i>75,000</i>			
		Taldu		<i>40,000</i>			
		Kafr Laha (Houleh)					
	Ar-Rastan	Ar-Rastan		<i>70,000</i>			
		Talbiseh		<i>50,000</i>			
		Zafaraniya					
TOTAL				212,000	640,200		

Gray shading indicates the 38 additional areas that SAMS considers besieged.
 Italics in the SAMS population estimates indicate that SAMS has used the UN estimate for the community in question.

PART IV

Conclusions

In besieged areas of Syria, hundreds of thousands of people experience unspeakable suffering every single day. The sieges being imposed on civilians in Syria have been allowed to continue and worsen for an excruciatingly long time – some as long as three years – without decisive international action.

The remainder of the report will summarize and expand on the key points made in *Slow Death*, and make recommendations for concrete measures to be taken at the international level.

Besieged Classifications

As described, the current UN OCHA siege classification system needs to be reviewed and reformed in order to more accurately capture the situation on the ground. The monthly Secretary-General's reporting that designates and describes the besieged areas plays an important role in framing the international response. It draws global attention to these locations, places them near the top of the priority list for aid and negotiations, and keeps political pressure on the besieging parties to allow humanitarian assistance in by reminding them of their obligations under international law. However, there are many communities in Syria facing siege or partial-siege conditions that UN OCHA does not recognize as *Besieged*. The revised siege classification system put forth by SAMS in this report addresses these issues.

UN OCHA should be cautious when changing the *Besieged* status of communities once local ceasefire arrangements have been made because oftentimes these agreements do not lead to unfettered humanitarian access. Even if a military ceasefire remains in effect, the besieging actor has frequently failed to uphold its obligations to allow in humanitarian aid or to allow civilians to exit under the terms of the agreement. As long as the besieging actor remains in control of access points, a complete siege can be reimposed at any time and the civilian population remains at high risk. In practice, these local ceasefire arrangements have proven to be highly volatile and in many cases have fallen apart quickly.

This concept that local ceasefires do not always lead to increased humanitarian access or the end to siege-like movement restrictions is relevant in light of the discussion surrounding Special Envoy Staffan de Mistura's "freeze" proposal for the eastern portion of Aleppo city, put forth in late 2014. SAMS-affiliated medical professionals working in Eastern Aleppo have voiced concerns about the freeze proposal because humanitarian access clauses of previous local ceasefire agreements have not been honored by the Syrian government, and they are worried that this might happen again. Without proper international monitoring and enforcement to ensure that all parties comply with the terms of the ceasefires, these agreements run the risk of harming civilians more than helping them.

Population Estimates

The crisis of besieged civilians in Syria is far greater than the UN OCHA figures indicate. SAMS estimates the total population living in besieged areas of Syria to be over 640,200. If the *Partially-Besieged* population of Eastern Aleppo is included, SAMS's total estimate for these high risk categories jumps to over 1,000,000 people. Unfortunately, these much higher estimates are a more accurate reflection of the magnitude of the siege crisis in Syria.

It is important that the population figures presented by UN OCHA and other agencies be as accurate as possible because they are used by the international community to gauge the scale of the atrocity and are frequently cited in media reports and humanitarian and academic assessments. Presenting inaccurately low figures may inadvertently mask the extent of the disaster.

Accountability and the UN Response

The Security Council has failed to act to protect the people of Syria, and millions of innocent civilians continue to pay for this failure in blood. It has been well documented that many armed actors in Syria have committed war crimes possibly amounting to crimes against humanity, with the Syrian government responsible for the vast majority of these crimes. UNSC Resolution 2139 (2014), arguably the strongest-worded Security Council action thus far to address the humanitarian crisis in Syria, called for unhindered humanitarian access, respect for medical neutrality, and an end to indiscriminate attacks.¹⁰² But the resolution lacked enforcement mechanisms and has been ignored by all parties on the ground. With Russia, the primary international backer of the Syrian government, holding a veto on the Security Council, there has been little movement towards any stronger action that might help Syrians living under government-imposed siege.

The situation in Syria has been allowed to metastasize into the biggest humanitarian crisis in the world. The unanimous passage of UNSC Resolution 2165 (2014) authorizing UN agencies to send cross-border aid into Syria without the consent of the Syrian government is a clear acknowledgement that the government has compromised its own sovereignty through such gross violations of human rights and failure to protect its citizens; it is only under such circumstances that the UN Security Council would take this type of action.¹⁰³

UN membership has come to be understood not only in terms of state rights, but also of state responsibilities. According to *The Responsibility to Protect*, the report of a Commission formed by Secretary-General Kofi Annan in 2001 to address international responsibility to prevent mass atrocities. "There is a gap – a responsibility deficit – if the state proves unable or unwilling to protect citizens, or itself becomes the perpetrator of violence against its own citizens."¹⁰⁴ At the 2005 UN World Summit, UN Member States formally confirmed their responsibility to use appropriate diplomatic, humanitarian and other peaceful means, or failing these methods to take stronger collective action under Chapter VII "to protect populations from genocide, war crimes, ethnic cleansing and crimes against humanity."¹⁰⁵ The besieged populations in Syria are currently being subjected to mass atrocities and UN Members States have yet to uphold their duty to protect.

It is vital that parties implementing the egregious sieges in communities across Syria be held accountable for their actions, not only because the Syrian people deserve justice, but because the failure to punish these serious crimes emboldens their perpetrators. In 2014 the UNGA's Independent International Commission of Inquiry on the Syrian Arab Republic described this aspect of the sieges as follows:

More than 250,000 people are besieged in the Syrian Arab Republic and subjected to relentless shelling and bombardment. They are denied humanitarian aid, food and such basic necessities as medical care, and must choose between surrender and starvation. Siege warfare is employed in a context of egregious human rights and international humanitarian law violations. ***The warring parties do not fear being held accountable for their acts.***¹⁰⁶

Several non-state armed groups in Syria have also committed war crimes, including withholding humanitarian supplies from civilians trapped under siege in Nubl and Zahraa. The groups responsible must be held accountable for their actions and prosecuted under international law. While acknowledging this, the international community must be careful not to equate these actions in scale or brutality with the siege-related crimes of the Syrian government.

¹⁰² UNSC, "Resolution 2139 (2014)," 22 February 2014.

¹⁰³ UNSC, "Resolution 2165 (2014)," 14 July 2014.

¹⁰⁴ International Commission on Intervention and State Sovereignty, "The Responsibility to Protect," *International Development Research Centre*, December 2001, p. 49, paragraph 6.11, accessed from: <http://responsibilitytoprotect.org/ICISS%20Report.pdf>.

¹⁰⁵ UNGA, "Resolution adopted by the General Assembly on 16 September 2005," (A/RES/60/1) 24 October 2005, p. 30.

¹⁰⁶ UNGA, Human Rights Council, "Report of the independent international commission of inquiry on the Syrian Arab Republic," (A/HRC/25/65) 12 February 2014. [bold added for emphasis]

The Syrian security forces and affiliated pro-government militias are the only actors in Syria systematically starving innocent civilians to death. The magnitude and depth of the crisis caused by the Syrian government in besieged areas is profound and unparalleled in our time.

Allowing those who flagrantly violate international laws and norms to act with impunity not only leads to growing threats to international security that the world is currently grappling with, but also causes enduring damage to the credibility of the UNSC and undermines the foundations of international law.

Recommendations

Based on the information and discussion presented in *Slow Death*, SAMS recommends the following actions:

Besieged Classification Recommendations

- The UN OCHA definitions for *Besieged* and *Hard to Reach* areas should be revised and clarified to remove ambiguity and present clearer guidelines regarding the level of access and consistency of access required for a particular populated area to be considered besieged. These guidelines should be applied consistently and transparently across the country.
- UN OCHA should adopt a tiered system of siege classification to help stakeholders differentiate between instances of different scope and impact. This revised system is described in more detail on pages 43-44.
- A unique *Partially-Besieged* designation should be added to the UN OCHA siege classification ontology in order to shine appropriate light on serious situations like that of Eastern Aleppo and close the “single road” loophole. The addition of this designation will help prevent besieging parties from manipulating the siege classification system for political purposes.
- UN OCHA should create clear guidelines for when to make changes to an existing siege designation, particularly for when to remove a besieged area from the list.
- Decisions to change the siege designation of a community based on a local ceasefire agreement should include a trial period of several months where humanitarian access is both sufficient and consistent before the area’s status is officially changed. ‘Sufficient access’ means that the amount of humanitarian aid allowed to enter the area meets the needs of all remaining citizens in all four priority sectors: food, WASH, NFIs, and health. This trial period is particularly important in situations where the besieging party remains in control of all access points to the community in question. Only in cases where community access points are no longer controlled by besieging forces can it truly be assured that a siege has ended.
- In late 2014 the UN OCHA designation for Moadamiya al-Sham in the Rural Damascus governorate was changed from *Besieged* to *Hard to Reach* following a local ceasefire agreement. Despite some improvements, the area remains besieged by government forces and humanitarian access continues to be restricted. For this reason the UN OCHA should consider reverting its status to *Besieged*.
- This report has identified 37 communities in addition to Moadamiya that meet the definition of *Besieged* but that UN OCHA and the Secretary-General’s monthly reporting has not designated as such. UN OCHA should immediately consider these cases for *Besieged* designation. A complete list of these besieged areas can be found in table on page 47.
- The United Nations should send in international monitors – or UN peacekeepers if Security Council consent can be obtained – to oversee local ceasefire arrangements and ensure that all parties uphold their commitments not only to cease hostilities, but also to allow access for humanitarian aid.

Population Estimate Recommendations

- *Slow Death* has presented besieged population estimates that are more than three times higher than those officially acknowledged by the UN OCHA. The significant disparity between the UN OCHA and SAMS estimates suggests that the UN OCHA statistics should be reviewed and verified to ensure that the magnitude of the siege crisis is not minimized.
- Similarly UN OCHA should review its methods of arriving at population estimates for besieged areas to determine if any improvements can be made to increase their accuracy in the future.
- Population statistics provided by an agency of the besieging party should not be considered when determining the estimated populations of besieged areas. Besieging parties have a strong incentive to underestimate these figures.
- UN agencies should provide trainings to local authorities in besieged areas on methods of conducting population estimates in crisis situations. Because of the difficulty in providing in-person trainings, training material can be supplied remotely through online modules and guidance documents. This type of training will help improve the accuracy of future population estimates. (*Note: This recommendation came directly from a request from a representative of a local medical council in Eastern Ghouta during the process of gathering information for this report.*)

Accountability and the UN Response

- The United States should take a leadership role on the UN Security Council to end the atrocities being committed against civilians in besieged areas. It has been a year now since UNSC Resolution 2139 was unanimously passed and parties to the conflict have not complied with any of the terms of the resolution. The strong leadership of the U.S. is needed to push forward with "further steps" as written in Resolution 2139.
- In light of the Security Council's failure thus far to fulfill its responsibilities under the UN Charter to maintain international peace and security, SAMS calls upon the UN General Assembly to hold an Emergency Special Session under the "Uniting for Peace" procedures set out in A/RES/377(V) A of 1950.¹⁰⁷ The General Assembly should use this session to make recommendations for collective measures to address the ongoing crimes being perpetrated in Syria against innocent civilians.
- The UN must send the message to all besieging parties in Syria that they cannot continue their actions with impunity and that at some point in the future they will be held accountable for their crimes and tried before an international tribunal. Without the threat of being held accountable, perpetrators will continue their heinous actions.
- Members of the UNSC should continue to push for referral to the ICC for war crimes committed in Syria against besieged populations despite the expected vetoes from P5 members, Russia and China.
- In light of the expectation of continuing vetoes from Russia and China on enforceable actions to address the mass atrocities being committed in Syria, the UN Security Council should seriously pursue the reform measure put forward by France for the P5 to regulate their use of the veto in cases of mass atrocities.¹⁰⁸

¹⁰⁷ UNGA, "377 (V). Uniting for Peace," (A/RES/377 (V) A), 3 November 1950; UNGA, "Emergency Special Sessions," available from: <http://www.un.org/ga/sessions/emergency.shtml>.

¹⁰⁸ French Ministry of Foreign Affairs and International Development, "Why France wishes to regulate use of the veto in the United Nations Security Council," accessed on 12 March 2015, http://www.diplomatie.gouv.fr/en/frenchforeign-policy-1/united-nations/france-and-the-united-nations/article/why-france-wishes-to-regulateuse#_sommaire_2.

It is both legally and morally incumbent upon the international community to take immediate action to end the sieges of populated areas in Syria. As long as these sieges are allowed to fester they will remain a stain on the world's collective conscience. International indifference to the suffering of besieged civilians is outrageous and unacceptable.

SAMS's members are taking action to help civilians in the besieged areas through international advocacy and education, financial and material support, and by risking their lives to provide medical care on the ground. However, SAMS and other NGOs are not equipped to fill the tremendous void left by the inaction of the United Nations Security Council. The silence is deafening. The SAMS community joins their voices with those of the Syrian civilians trapped under siege in calling for international action now.



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