# SAFE COMMUNITIES

# Survey123 for ArcGIS® Helps Direct Relief Provide Medical Care to Refugees

## Collecting, Tabulating, and Disseminating Georeferenced Field Observations

Since the Syrian civil war began in March 2011, more than four million Syrian refugees have fled their country, with more than 620,000 seeking safety in neighboring Jordan. This was according to the United Nations High Commissioner for Refugees as of September 2015. Many—especially the estimated 20 percent housed in refugee camps—lack access to basic necessities, such as clean water, food, and shelter.



As of September 2015, more than 620,000 Syrian refugees had fled to Jordan—to refugee camps such as Zaatari, pictured here—since the Syrian civil war began.

Living in extreme and uncertain conditions often precipitates health problems. Even seemingly benign cuts, scrapes, skin cracks, and burns can lead to more serious complications when left untreated.

That is why Direct Relief embarked on a mission in April 2015 to treat and document skin conditions among Syrian refugees in Jordan. Direct Relief is a global nonprofit that works with health care professionals and local organizations to provide emergency medical assistance to populations in need. Working with Esri's Survey123 for ArcGIS® app, the nonprofit organization was able to rapidly diagnose, treat, and collect medical records on more than 1,000 refugees—in just six days.

### Navigating Offline

Each team spent about three minutes with a patient from start to finish. The doctor first examined the patient and made a verbal assessment of symptoms and diagnosis. The doctor then told the translator the patient's condition and the recommended treatment, and the translator relayed the information to the patient.

Throughout this process, the scribe used an Android tablet while disconnected to record everything in Survey123. This created medical records for patients on the spot, complete with information about who they were, where they were from, what symptoms they had, and any recommended treatments.

## Getting Survey123 for ArcGIS Up and Running

Survey123 for ArcGIS is a data collection app designed to meet the unique challenges its users face in demanding field situations. Surveys can be prepared ahead of time, completed offline, uploaded to ArcGIS℠ Online to analyze patterns, and shared with an array of interested partners.



With Survey123 for ArcGIS, surveys can be prepared ahead of time, completed offline, and then uploaded to ArcGIS Online.

"We want doctors in the field to take and rapidly add photos to a medical record, even when working offline, so we know exactly what kinds of conditions were seen," said Andrew Schroeder, director of research and analysis at Direct Relief.

After the six-day mission, Direct Relief was able to share the survey data with local partners so they could conduct follow-ups with patients. This was made possible by having the scribes save each survey directly to their Android tablet and then, once they had Internet access, upload the surveys to ArcGIS Online, where Direct Relief could do analysis and share the datasets with others.

## Additional Benefits

To provide emergency medical assistance, Direct Relief relies on material and financial contributions from medical equipment manufacturers, pharmaceutical companies, and private donors. As such, it is imperative that the organization allocate its resources based on reliable data.

Direct Relief is now looking to use the data collected with Survey123 for ArcGIS to build web applications and story maps, leveraging ArcGIS Online to share the results of its work even more widely so that additional organizations can use it to plan other, longer-term relief efforts.

"In the future, we foresee that tools like Survey123 for ArcGIS will be incredibly useful for disaster response situations—or anything time sensitive that requires us to collect and share data extremely quickly from offline environments," said Schroeder.

## For More information, visit survey123.arcgis.com.

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