
Open Health Networks

IMPLEMENTATION GUIDE V.1

Written and designed by:

Michael Kahane and Paweena Prachanronarong

Parsons The New School for Design, School of Art, Media
and Technology, Design and Technology Program and Open
Society Foundations (OSF), Public Health Program, Health
Media Initiative

Supported by a grant from the Open Society Foundations.

**Sharing is
Caring.**





Women carrying food to the ferry in Lake Atitlán, Guatemala.



The Artisan Market in Antigua, Guatemala



Saleswoman in Chichicastenango, Guatemala

Table of Contents

① Introduction

Who This Guide is For

How You Can Use This Guide

② Our Story

OSF/Parsons/CEGSS Partnership

Identifying the Problem

The Design Process

User Scenario

Reporting Booklet

Ushahidi and the Plugin

③ Your Story

Create Your Story

Setting up Ushahidi

Plugin Installation

SMSSync

How to Use Ushahidi's Homepage

Submitting Reports via SMS

Downloading the Report

① Introduction

Who This Guide is For

This guide could be for you if you or your organization is looking for a way to send reports via coded text messages along with Ushahidi, a web content management system used for crisis reporting.

The plugin we developed allows users to send coded text messages which report the lack of an item within health clinics in Guatemala (e.g. medication, equipment and other concerns). The plugin can be used to report in any other scenario as well. The reports are then mapped on Ushahidi, enabling the public to visualize areas of need.

Features of the plugin include bulk automation generation of reports based on codes sent in a single message, a settings page that allows an administrator to easily add inventory locations and inventory items, and, if used in conjunction with the Actionable plugin, a way to indicate whether reports are awaiting action or are resolved. There is also a way to display only reports that are awaiting action on the main map.

How You Can Use This Guide

This guide provides step-by-step instructions on how to install and implement the plugin we created for our own purposes.

The guide will also take you through our case study to visualize how this plugin has been used in real-life.

② Our story

OSF/Parsons/CEGSS Partnership

The Open Society Foundations (OSF) works to build vibrant and tolerant democracies whose governments are accountable to their citizens. To achieve its mission, OSF seeks to shape public policies that assure greater fairness in political, legal, and economic systems and safeguard fundamental rights. The Open Society Foundations' Public Health Program aims to advance the health and human rights of marginalized persons. Strategies include building the capacity of civil society leaders and organizations, and advocating for accountability and a strong civil society role in health policy and practice.

In an effort to strengthen advocacy on health and human rights issues, the Health Media Initiative of the Public Health Program and Parsons The New School for Design developed "Field Internships in Information Design."

More commonly known as the Parsons Fellowship, this gives NGOs the opportunity to host a graduate student Fellow from the MFA Design and Technology (DT) program. The need for such a program arose in response to how digital technology has revolutionized access to information and communication. By taking advantage of digital technology, NGOs can increase the effectiveness of their advocacy campaigns. The Parsons Fellowship allows DT graduate students to support NGOs in developing effective media and communication strategies by sharing their expertise in information design and media production.

In June 2012, OSF and Parsons partnered with Centro de Estudios para la Equidad y Gobernanza en los Sistemas de Salud (CEGSS). CEGSS is an organization that works with indigenous communities throughout Guatemala in health and human rights, social participation, accountability, and participatory monitoring of public policies and services. CEGSS runs a plethora of monthly workshops throughout the country, teaching community leaders about their laws and their rights to public health.



Community leaders at a workshop in Santa María Chiquimula, Guatemala.

Identifying the Problem

Guatemala has public health care, which means that every citizen should be guaranteed access to the medicine and care that they need to maintain a healthy lifestyle. Unfortunately, the quality of health care may vary due to a number of factors, especially in the rural indigenous communities. About 40% of Guatemala's population is indigenous, and about half of these individuals are unable to read. There are many different Mayan languages, so much of the indigenous population does not speak Spanish. Because of these factors, the indigenous population faces social segregation based on location and language. This has led to governmental neglect, and they face many preventable diseases. Besides issues of discrimination, there is a clear lack of communication between the health facilities in these communities and the government .

CEGSS helps indigenous communities report lack of essential medication and equipment to the government. Previously, the only way to get information from the health facilities to CEGSS was through paper forms. Because of the cost (monetary and time), the forms could only be filled out four times per year, and a community representative would often need to travel as much as eight hours to deliver the report to CEGSS. With this method, there was no feedback for the community, and the process replenishing medication and equipment was no efficient.

The Design Process

The team attended many workshops with CEGSS and interviewed community leaders about their biggest concerns in their role, daily activities and technology usage.

Some communication and understanding issues include:

- discrimination
- illiteracy

Some access issues include:

- lack of transportation
- lack of medicine
- lack of medical equipment
- lack of health facilities
- lack of doctors

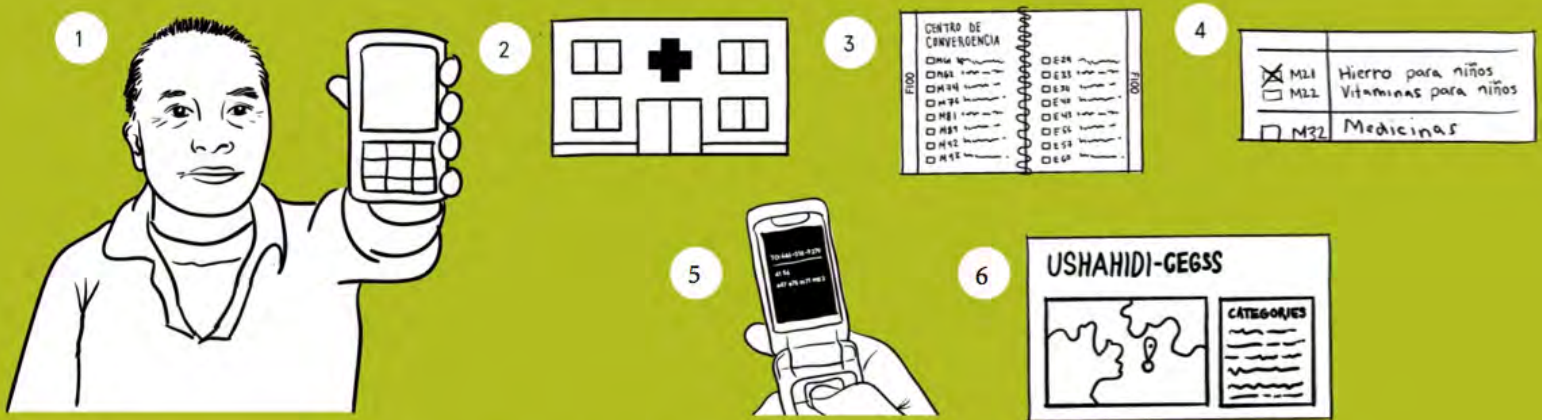
The team uncovered actions/needs in which the communities should take in order to resolve these issues:

- self-advocacy
- increased community participation
- information sharing
- facilitating making complaints

Using the information gathered in Guatemala, the team returned to the United States and worked with other students from the Parsons MFA Design and Technology program to develop a reporting platform, allowing users to send coded text messages which report the lack of medication, equipment, and other concerns, with the goal of increasing individual health care rights and citizen empowerment. These messages are then mapped on Ushahidi, a web content management system used for crisis reporting.

User Scenario

In order to better understand our users, we created a user scenario for the project.



1. Filipe receives a reporting kit from CEGSS with a phone, reporting folder, and instructions.
2. He goes to a health facility.
3. He finds the form that corresponds with the type of health facility.
4. Filipe checks off medical items on the reporting form if there is less than a one month supply available.
5. He sends the codes that correspond to each item in an SMS message
6. The missing items are marked on a map, where CEGSS has the ability to indicate if something is being done to replenish the facility

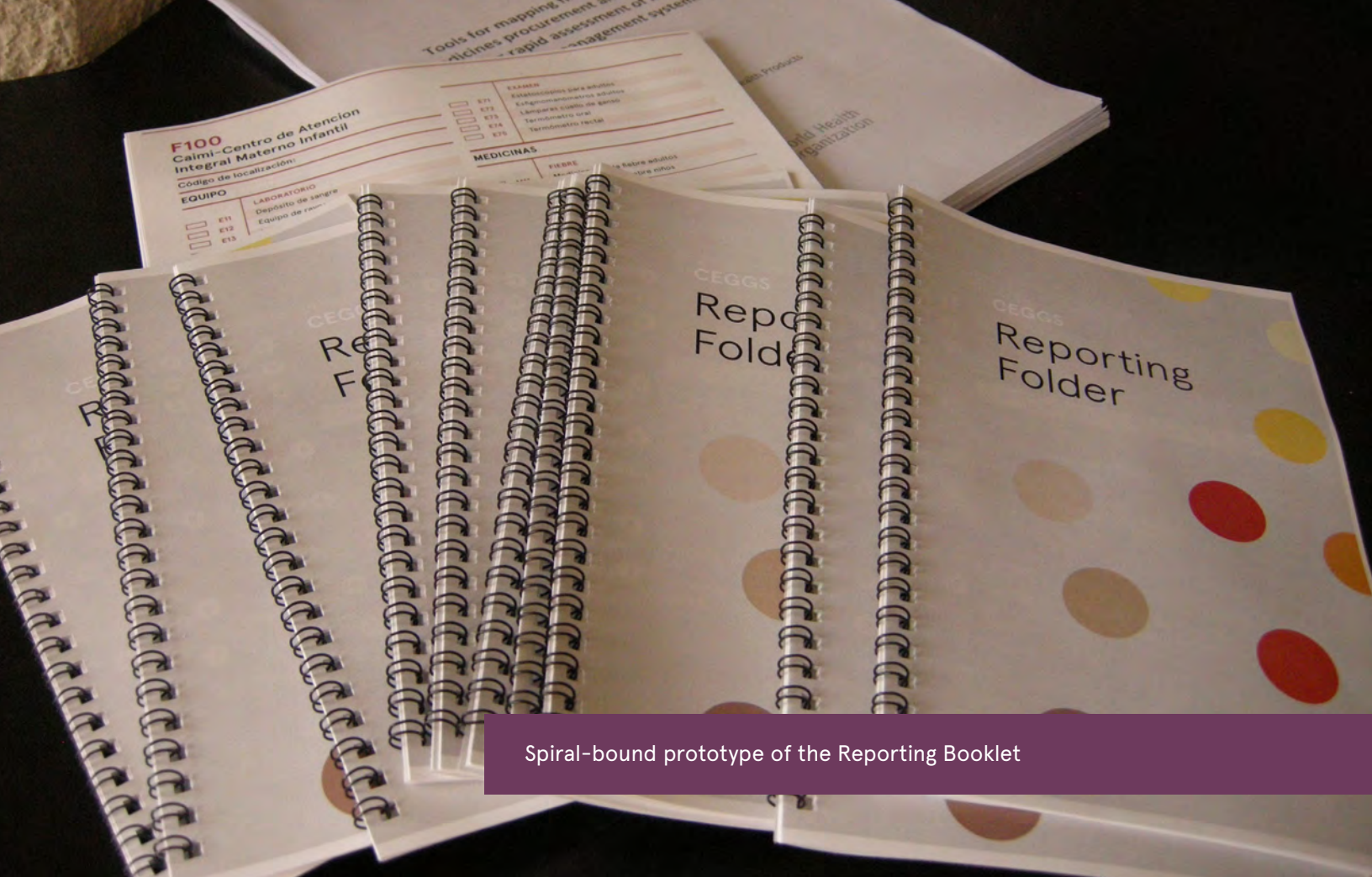
Reporting Booklet

We made and tested several iterations of the reporting booklet and improved the booklet based on user feedback. The reporting booklet features a code for each medication and equipment listed on the original CEGSS paper form. The first character would be either “M” or “E” to signify whether the item is medicine or equipment, and the second and third characters are numbers that divide the items into subgroups by making the first digit of each number unique to each subgroup. We added check boxes to the form pages, so that the reporter can send the message after taking inventory, rather than while he or she is conducting the interview with the health facility. We made 8.5”x11” pads of paper for each form so the reporter could tear it off and keep the record after he or she sends the report to the Ushahidi server. Examples of the reporting booklet are displayed on the next page.

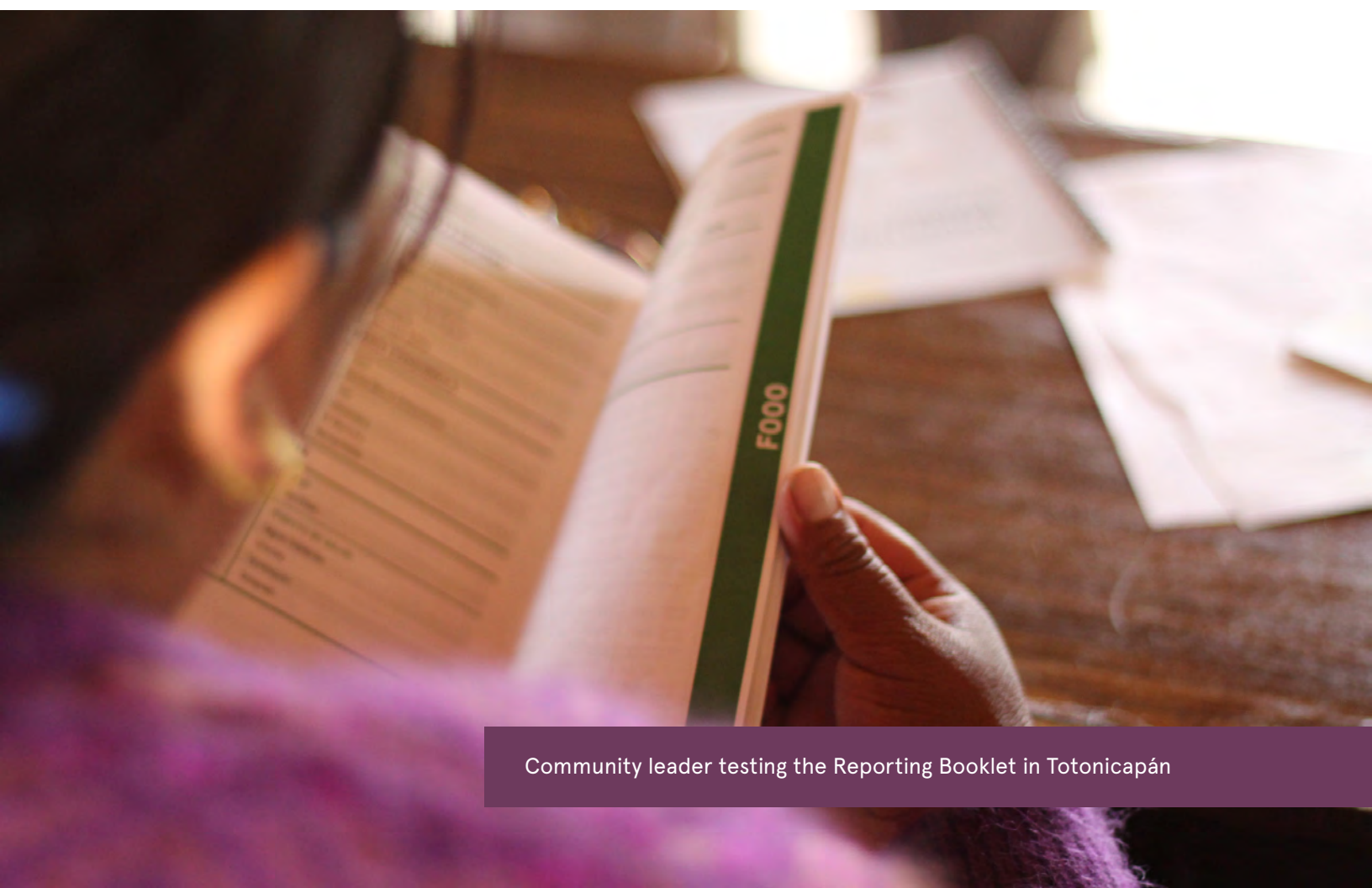
Ushahidi and the Plugin

Ushahidi is a content management software that that allows for information collection, visualization, and interactive mapping. Ushahidi increases transparency, decreases the barriers for individuals to share their stories, and allows us to report on a map which medical supplies are missing at each health facility.

Because Ushahidi was not designed to parse an SMS message and create a new report based on each recognized code, we had to develop a plugin. Our plugin, called Inventory by SMS, uses the first code in the SMS to collect location info, and the rest of the codes correspond to missing items. Locations and items are added through a user interface in the Ushahidi dashboard. The plugin has the ability to interact with another plugin called Actionable, which keeps track of report status, by prefacing a code with an asterisk to mark the report as resolved. It will also send an SMS response containing error messages and/or instructions for sending a report. Additionally, we modified the Actionable plugin to only show unresolved reports on the main map to make sure the map shows a current reflection of what is missing.



Spiral-bound prototype of the Reporting Booklet



Community leader testing the Reporting Booklet in Totonicapán

③ Your Story

Create Your Story

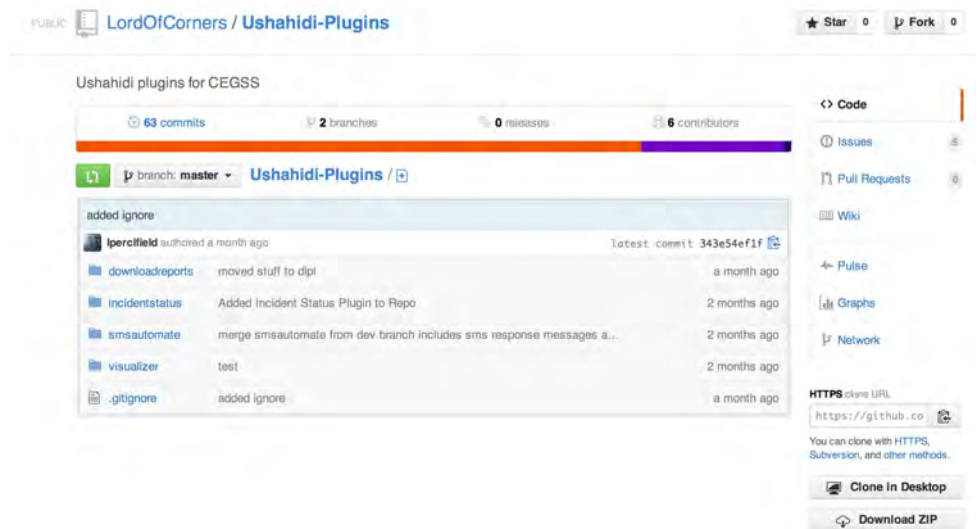
Now that we've shared our story, we hope our guide will help you create your own story. The rest of the guide details step-by-step instructions on how to utilize the plugin we developed for Open Health Networks.

Setting up Ushahidi

To install Ushahidi, please visit the Ushahidi documentation site:
<https://wiki.ushahidi.com/display/WIKI/Ushahidi+Installation+guide>.

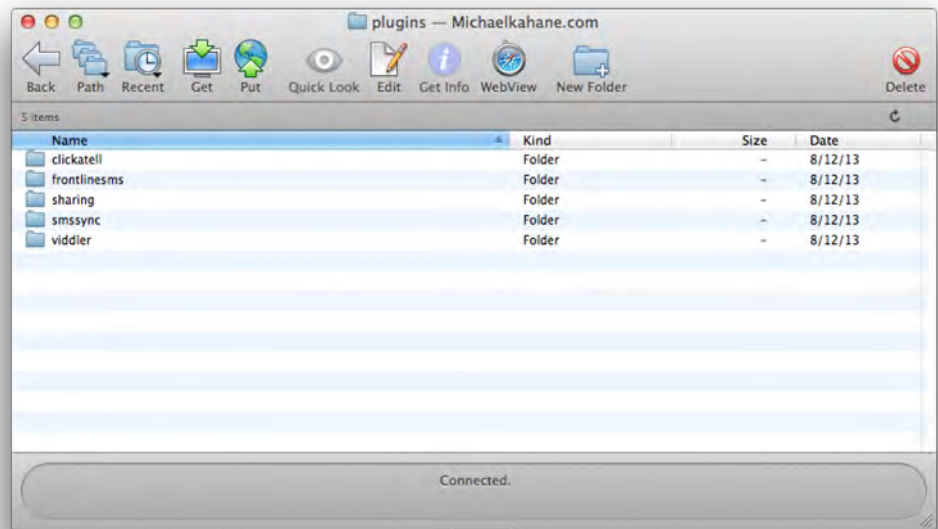
Plugin Installation

- 1 Download our plugin on our github page by clicking "Download ZIP":
<https://github.com/LordOfCorners/Ushahidi-Plugins>.

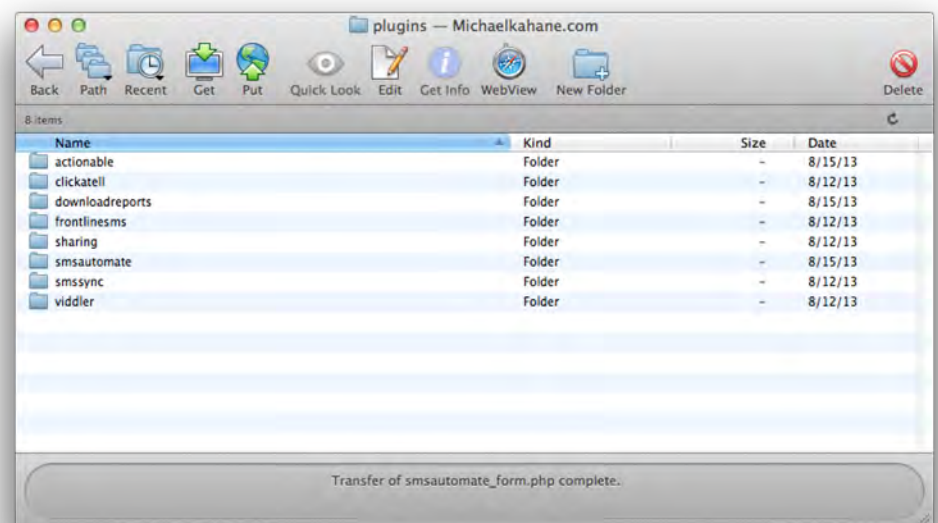


③ YOUR STORY

- ② Open up your preferred FTP software (such as Fetch or Filezilla) and connect to your server. Navigate to the Ushahidi plugins folder, which is inside of the main Ushahidi folder.



- ③ Drag the downloaded plugin (Inventory by SMS) into this folder. If you will also be using the Actionable plugin to keep track of the status of reported items, or if you will be using the Download Reports plugin to download KML or CSV files of reports, drag those plugins into your Plugins folder as well.



3 YOUR STORY

- 4 Navigate to the addons page in Ushahidi by clicking on: **Admin > Your Dashboard** followed by **Addons**. Click “activate” on the plugins you wish to activate.



- 5 Find the categories page in Ushahidi by following the path **Admin > Your Dashboard > Manage > Categories**. Fill out a “category” for each item you want to keep inventory on. You will need to choose a color for this category. Should you choose to put these categories under parent categories, make the parent category first (for example, medicine) and then choose the parent category when making categories for specific items.

A screenshot of the Ushahidi Categories management page. It shows a form to add or edit a category. The form includes fields for Category Name (Advil), Description (For pain relief), Color (5100ff), Parent Category (Top Level Category), and Image/Icon (Choose File). There is a 'SAVE' button at the bottom.

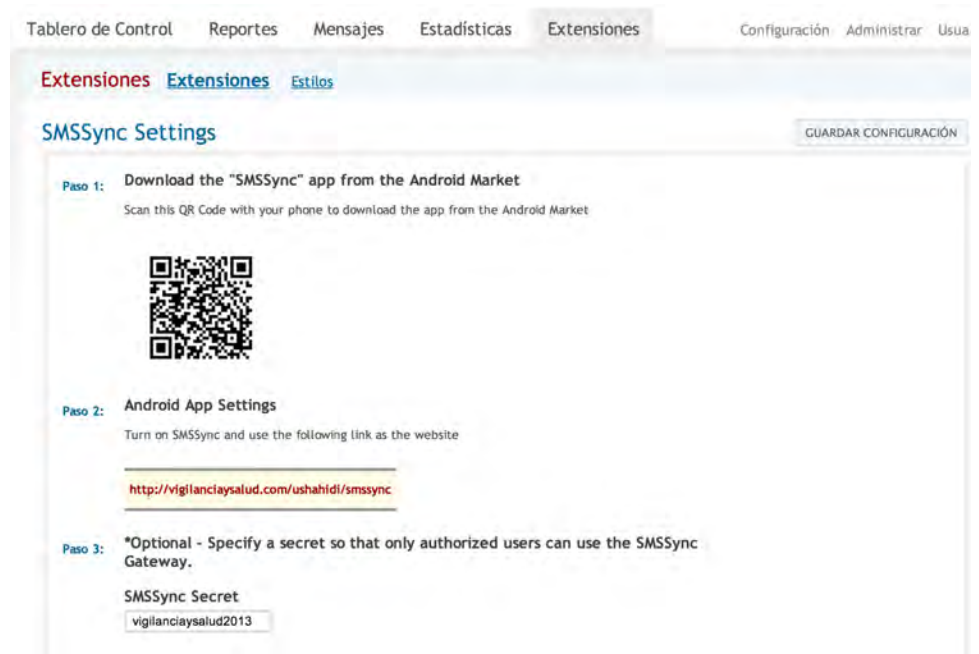
- 6 Fill out the forms with your location information and item information.

A screenshot of the Ushahidi location and item management pages. The top section is titled 'Enter your first location' and shows a table with columns for Code, Location Name, Latitude, Longitude, and a Delete button. The bottom section is titled 'Enter an Item' and shows a table with columns for Code, Item Description, Item Category, and a Delete button. Both sections have 'Add new location' and 'Add new item' buttons at the bottom.

SMSSync

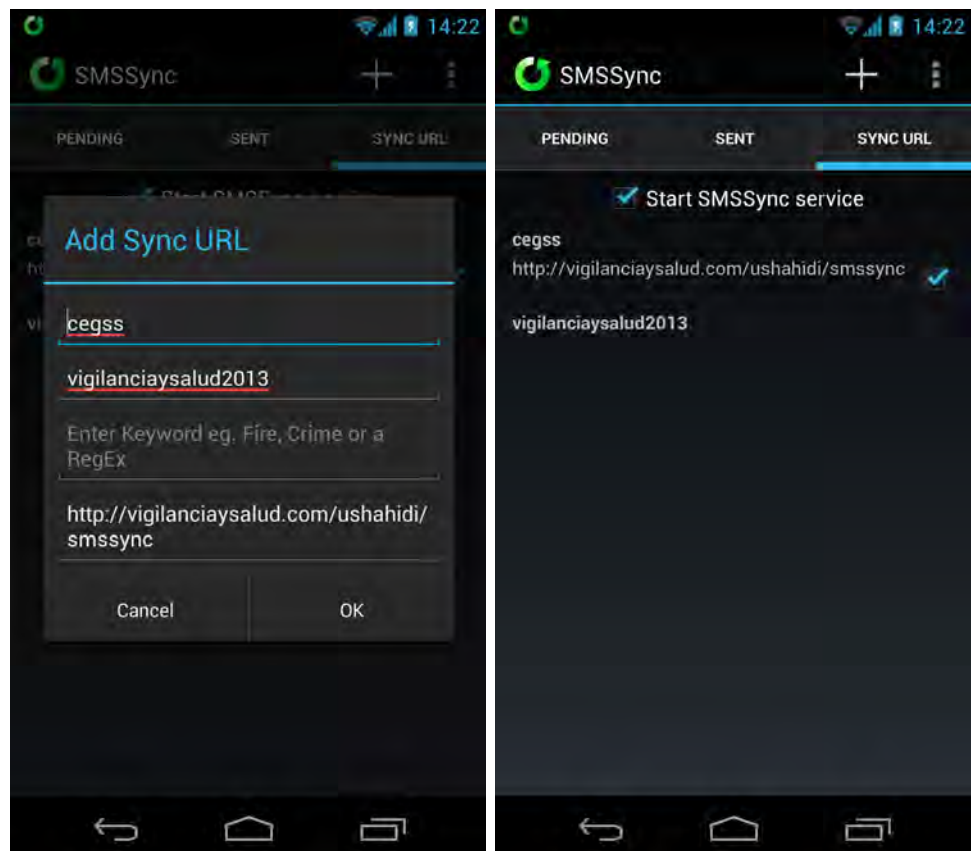
SMSSync turns an android phone into an SMS gateway in order to forward received messages to Ushahidi. You can also use frontlineSMS if you don't have access to an Android phone, but you will need a USB GSM modem instead, and we have found the Frontline SMS setup to be quite complicated.

- ① To access the information you need to set up SMSSync, log in to Ushahidi, navigate to **"Tablero de control,"** click on **"Extensiones,"** then find the SMSSync plugin and click on **"Configuración."**



- ② In the image above, you see the URL and the SMSSync Secret. If you change the secret, click **"Save"** when you are done.
- ③ The pictures on the next page are of SMSSync on the android phone. Press **"Sync URL"** and then press the **"+"** to get to the Add Sync URL. Enter a name (whatever you want), enter the Secret, and finally, the URL.

③ YOUR STORY



- ④ At all times, make sure the two check boxes in the above right image are marked. They need to be marked in order for the phone to send messages to Ushahidi.

How to Use The Ushahidi Homepage

This is the map where you will see all the active reports.

- 1 This is a group of reports, which means that there have been 26 reports near this location. If more than one health center is in close proximity, this group may include those as well. If you click one of these markers, you can see a list of all reports for that location.



- 2 This is the zoom button. Zooming increases the accuracy of the markers on the map, and will help ensure that you are looking at reports of a single location.

- 3 The filter button allows you to filter by category, media type (photos, videos, news, etc.), or the status of the report (if the problem persists or if it has been resolved).



3 YOUR STORY

- 4 If you click on the reports tab, you will see a list of all reports, with more comprehensive filtering options.

Showing Reports From Jun 10, 2013 to Jul 03, 2013 [Cambiar rango de fechas](#)

[Lista](#) [Mapa](#) 1 2 3 4 1-50 of 153 Reports [←](#) [→](#)

Acido fólico para embarazadas [i](#) 20:35 Jul 03, 2013

Xejuyup CAP (Centro de Atencion Permanente) tiene suplementos para menos de un mes de Acido fólico para embarazadas

Medicina para el dolor para adultos [i](#) 20:35 Jul 03, 2013

Xejuyup CAP (Centro de Atencion Permanente) tiene suplementos para menos de un mes de Medicina para el dolor para adultos

Medicina para el dolor niños [i](#) 20:35 Jul 03, 2013

Xejuyup CAP (Centro de Atencion Permanente) tiene suplementos para menos de un mes de Medicina para el dolor niños

Depósito de sangre [i](#) 16:11 Jul 03, 2013

Acal P/S (Puesto de Salud) tiene suplementos para menos de un mes de Depósito de sangre

Hilos de sutura [i](#) 14:24 Jul 03, 2013

Nahuala CAP (Centro de Atencion Permanente) tiene suplementos para menos de un mes de Hilos de sutura

Lámparas cuello de ganso [i](#) 14:24 Jul 03, 2013

Nahuala CAP (Centro de Atencion Permanente) tiene suplementos para menos de un mes de Lámparas cuello de ganso

Filtros Disponibles

Categoría [Quitar](#)

- Todas las Categorías 153
- EQUIPO ESENCIAL 73
 - Cinta de castilla o ciamps 4
 - Esfigmomanómetros adultos 0
 - Termómetro oral 1
 - Termómetro rectal 1
 - Pinzas de anillos 0
 - Bandejas 1
 - Tijeras 2
 - Equipo de Venoclisis 2

Ubicación [Quitar](#)

Tipo [Quitar](#)

Fotos y Videos [Quitar](#)

Verificados [Quitar](#)

Campos Adicionales [Quitar](#)

[Desactivar filtros](#) [FILTRAR REPORTES](#)

- 5 You can use the filters for a more specific search. Click “Filter Reports” when you have finished making your selections.

Filtros Disponibles

Categoría [Quitar](#)

Ubicación [Quitar](#)

Tipo [Quitar](#)

Fotos y Videos [Quitar](#)

Verificados [Quitar](#)

Campos Adicionales [Quitar](#)

Facility Name

---No Seleccionado---

Municipality

---No Seleccionado---

DMS (Distrito Municipal de Salud)

---No Seleccionado---

Department

---No Seleccionado---

DAS (Dirección de Área de Salud)

---No Seleccionado---

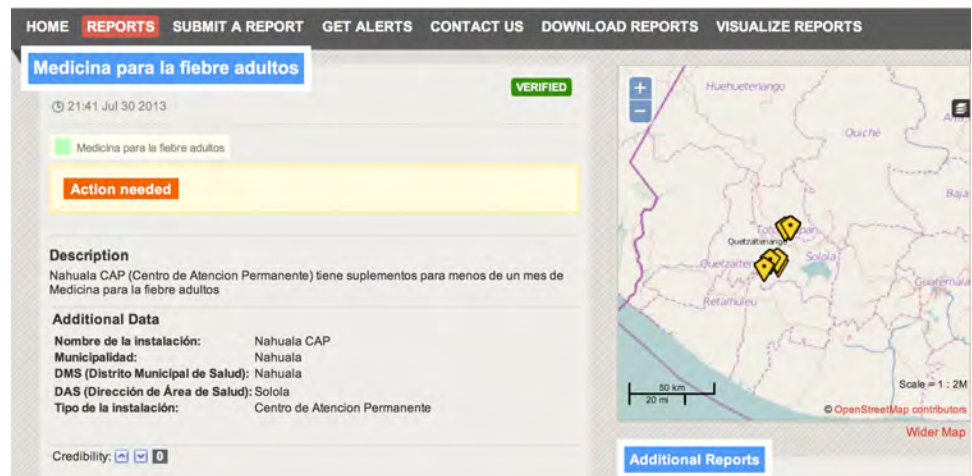
Facility Type

---No Seleccionado---

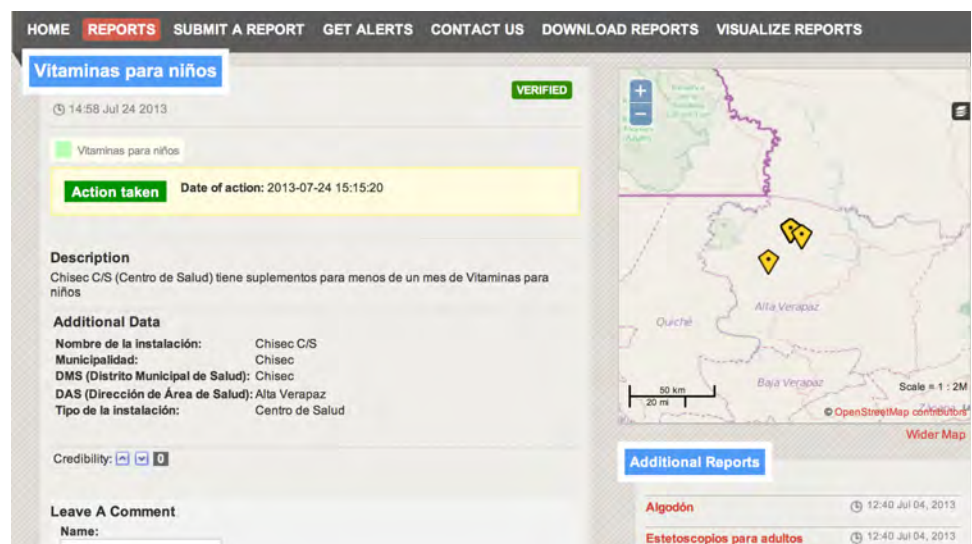
[Desactivar filtros](#) [FILTRAR REPORTES](#)

3 YOUR STORY

⑥ This is the report page.



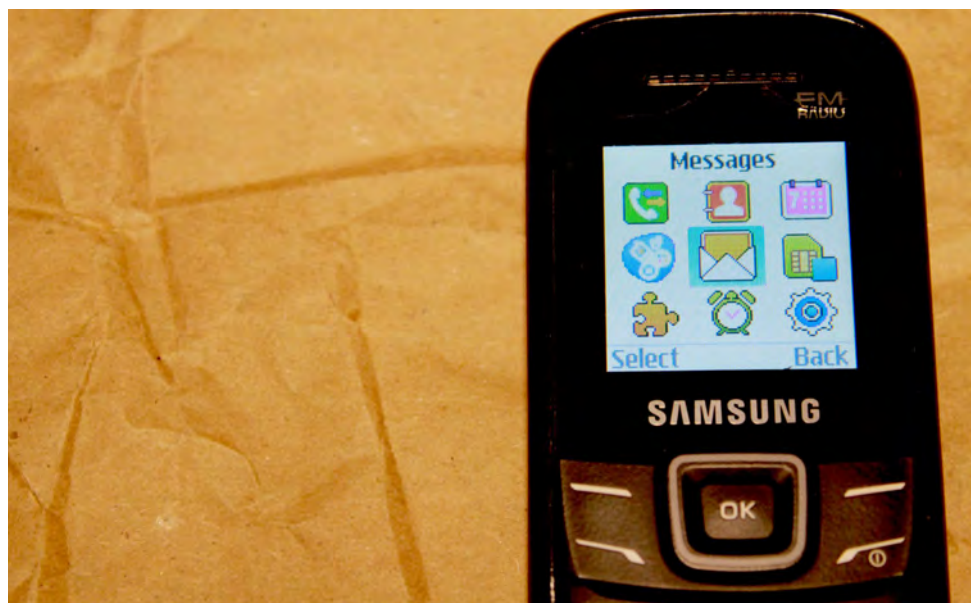
⑦ Here, you can see the individual report title, description, custom fields, location, and perhaps most importantly (if you are using the Actionable plugin), the status of the problem. If the status is changed to resolved, it will look something like this, and will display the day and time that the report was changed to resolved.



Submitting Reports via SMS

See video. Make sure reports fit into one SMS. Send 2 (location code at the beginning of each if it is too long.

- ① Find the message “**new message**” option on your mobile phone.
- ② Choose the option “**compose new message.**”

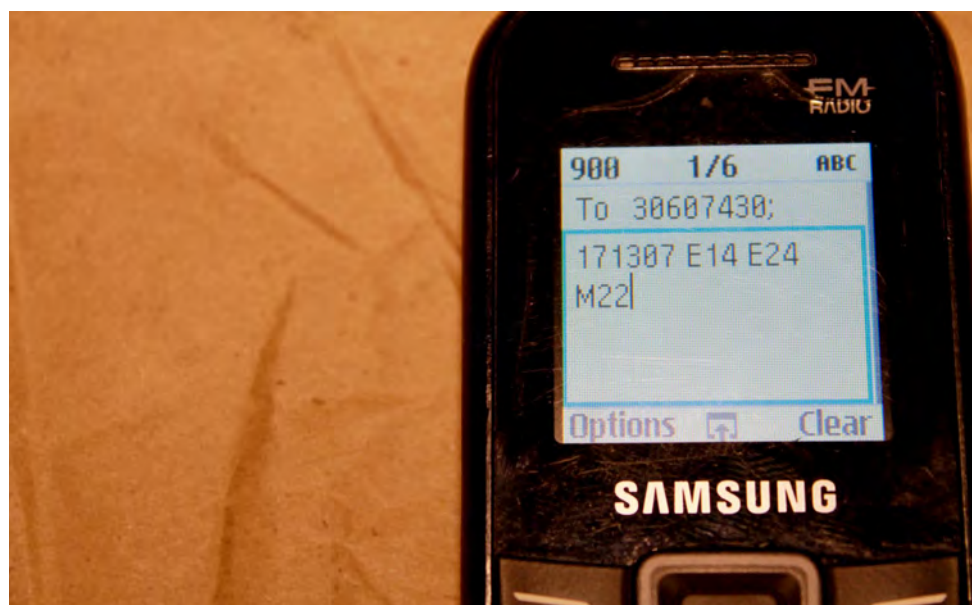


③ YOUR STORY

- ③ Enter the phone number of that is used to send reports to Ushahidi.
- ④ Look in the location codes booklet to find the corresponding code for the location that you wish to create a report for. Enter this number in the SMS message text, followed by a space.



- ⑤ If your location has less than a one month's supply for any particular item, enter the code associated with that item in the message. Separate each item code with a space.

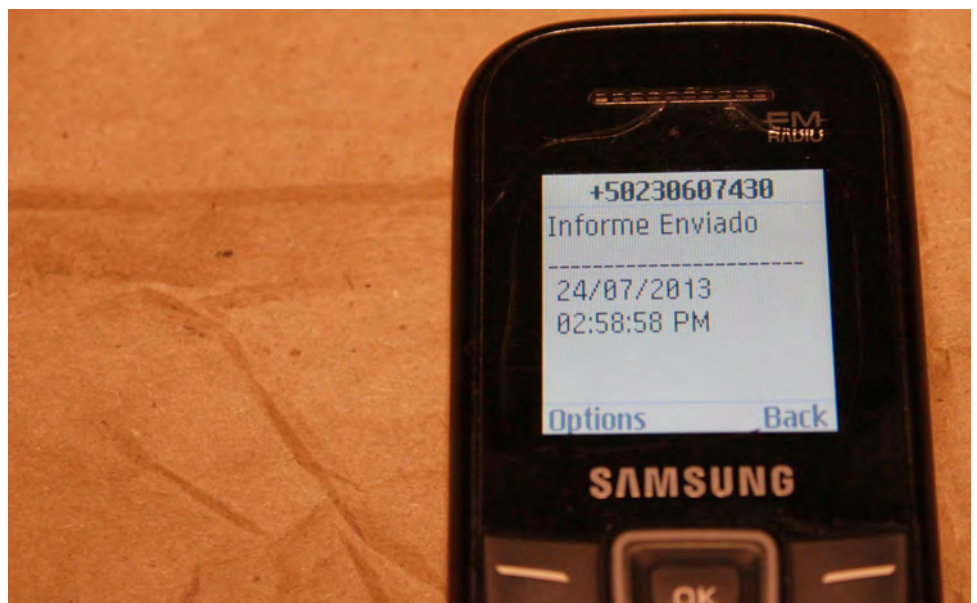


③ YOUR STORY

- ⑥ Once you have written the codes for all items that are missing or almost depleted, press “send.”

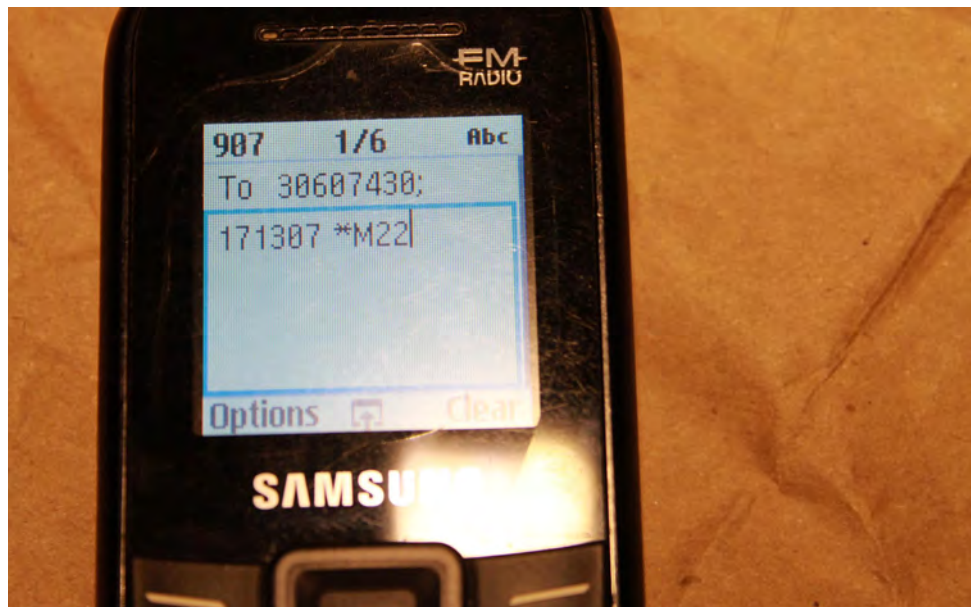


- ⑦ If the message was submitted correctly, you should receive a confirmation message on your phone. If it was not correct, you will receive an error message explaining how you can fix it.



③ YOUR STORY

- ⑧ If you find that an item that was previously reported has been replenished, send in the code for that item with an "*" preceding the code. This will change the Actionable status to **"Resolved."** For example, if the code for bandages is "E12," send a report with the code **"*E12"** to indicate that the location has received bandages.



Download Reports

- ① If you would like to get an Excel spreadsheet or a KML file (for use with Google Earth) or reports, click on the Download Reports tab on the site menu.
- ② Here you may choose any filters, and then download reports based on those filters.

3 YOUR STORY

[INICIO](#) [REPORTES](#) [NUEVO REPORTE](#) [RECIBIR ALERTAS](#) [CONTACTO](#) [DESCARGAR REPORTES](#) [ANALIZAR REPORTES](#)

Descargar Reportes

Categorías
☐ SELECCIONAR TODOS
☐ EQUIPO ESENCIAL
☐ MEDICINAS ESENCIALES
☐ OTROS

☐ Trusted Reports
☒ DISCRIMINACIÓN Y RECLAMOS
☐ ACTAS DE VIGILANCIA CIUDADANA

Verificados
☒ Verificado ☒ No verificado

Date range
De: 06/10/2020
a: 07/24/2020

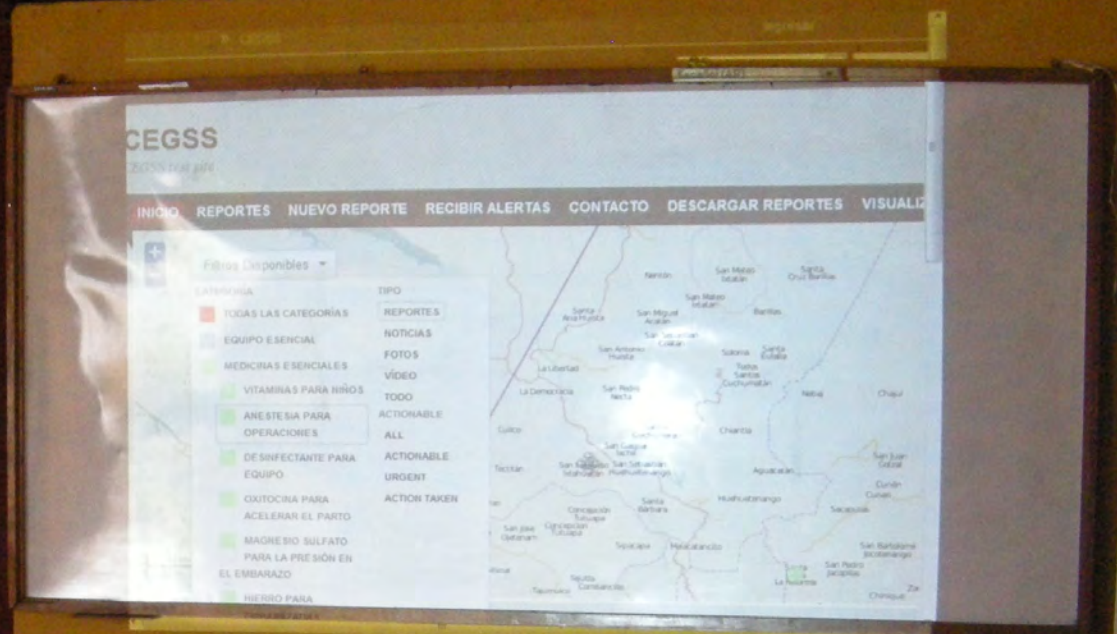
Custom Fields
Nombre de la instalación
----No Seleccionado----
Municipalidad
----No Seleccionado----
DMS (Distrito Municipal de Salud)
----No Seleccionado----
Departamento
----No Seleccionado----
DAS (Dirección de Área de Salud)
----No Seleccionado----
Tipo de la instalación
----No Seleccionado----

Actionable Status
Todo: ☒
Procesable: ☐
Urgente: ☐
Problema Resuelto: ☐
No Procesable: ☐

☒ CSV ☐ KML



Community leader testing the reporting system in Totonicapán, Guatemala



Field staff training in Totonicapán, Guatemala



Community leaders in Tonicapán, Guatemala

Acknowledgments

Thanks to Open Society Foundations (OSF), Parsons The New School for Design and Centro de Estudios para la Equidad y Gobernanza en los Sistemas de Salud (CEGSS).

Thanks to Parsons faculty Claudia Bernett, Michie Pagulayan and Leif Percifield.

Thanks to the team:

Sean Baker
Megan Durlak
Delmo Oliveira
Amira Pettus
Maya Weinstein
Joe Volpe

Special thanks to the communities in Guatemala.

osf.parsons.edu