The Rapid Deployment of Mobile Technology to Support a Coordinated Response to Hurricane Harvey

Ana Rausch, Senior Research Project Manager, Houston Coalition for the Homeless
Erol Fetahagic, HMIS Administrator, Houston Coalition for the Homeless
Eddie Barber, Lead Developer, Simtech Solutions Inc.
Matt Simmonds, President, Simtech Solutions Inc.

What’s Next: In Data, Leadership, and Community
The Community: Houston, TX

Houston is a large metropolis in Texas, extending to Galveston Bay. It’s closely linked with the Space Center Houston, the coastal visitor center at NASA’s astronaut training and flight control complex. The city’s relatively compact Downtown includes the Theater District, home to the renowned Houston Grand Opera, and the Historic District, with 19th-century architecture and upscale restaurants.

**Elevation:** 80’

**Population:** 2.303 million (2016)
The Homeless Population in Texas

Tool Used: Tableau
Licensing Model: Freemium
Data Set Used: 2016 HUD Point in Time Data
Houston 2017 PIT Summary

2017 Homeless Count

Montgomery County joined The Way Home in 2016, and was included in the 2017 Homeless Count and Survey. For accurate historical comparisons, only 2017 Count data from Houston, Harris County and Fort Bend County will be used. Montgomery County data gathered in 2017 provides a benchmark for measuring homelessness in that area and will be used in future comparisons.

Key Findings:
- in Houston, Harris County and Fort Bend County
- 60% decrease in overall homelessness since 2011.
- 82% decrease in unsheltered chronic homelessness since 2011.
- 39% of unsheltered homeless individuals had a high school diploma or GED. 21% had some college or a college degree or higher.
- 78% of unsheltered homeless individuals became homeless in Houston.
- 25% of unsheltered homeless individuals reported no income, while 20% reported panhandling for income.

Comparing the Counts

Permanent Housing Placements since 2012

- 6,172 Permanent Supportive Housing
- 5,064 Rapid Re-housing

Sponsored by the National Human Services Data Consortium
Hurricane Harvey

Source: NOAA
Tidwell St
Before

Tidwell St
After

Source: TIME
Disaster Response Coordination

- Local government (city, county, state)
- Federal government (FEMA, HUD)
- Continuum of Care (CoC Lead, homeless service providers)
- Non-profits (American Red Cross, local agencies)
- Others (volunteers, local businesses)
Many people affected by the storm were evacuated to two major (and largest) shelters:

- GRB: Operated by the Red Cross & the City of Houston
  - 10K+ evacuees initially
- NRG: Operated by Baker Ripley & Harris County
  - 2K+ evacuees initially

- TX-700 Continuum of Care received Disaster TA from HUD almost immediately
Shelter Resources

Here are the locations in the Houston area to seek shelter:

**HOUSTON**

- NRG Center at Loop 610 & Kirby will open at 10 p.m. Tuesday. Holds 10,000 people.
- Lakewood Church: 3700 Southwest Fwy, Houston, TX 77027
- George R. Brown Convention Center downtown
- Toyota Center downtown
- Alief Taylor High School: 7555 Howell Sugar Land Rd, Houston, TX 77083
- Trini Mendenhall Community Center: 1414 Wri Road Houston, TX 77055
- Christ The Incarnate Word Catholic Church: 8503 S Kirkwood Houston TX 77099
- Calvary Community Church: 7550 Cherry Park Dr, Houston, TX 77095
- Primrose School of Kelliwood: 2402 Westgreen Blvd, Katy, TX 77450 - It is a shelter for families and also a staging place for first responders in the area (Click here for more)
- The MET Church: 13000 Jones Road, Houston TX 77070
- Lien Hoa Temple: 6709 Sugarland Howell Rd, Houston, TX 77083
- Lifepath Church: 17703 W Little York Rd, Houston, TX 77084
- Houston Skyline Junior Volleyball Facility: 10510 Westview Drive Houston TX 77043
- Red Cross Shelter at M.O. Campbell Ed Center: 10655 Aldine Bender Rd, Houston, TX
- Islamic Center/Masjid Al-Mustafa: 17250 Coventry Park Dr, Houston, TX
- Islamic Center/Masjid Al-Sabireen: 610 Brand Lane, Stafford TX
- Islamic Center/Masjid Abu-Bakr: 8530 Old Galveston Rd, Houston TX
- Iglesia Bautista del Redentor: 4218 Lang Road Houston Tx
- A temporary shelter has been set up at the Sagemont Park Community Center at 11507 Hughes Road
- Vietnamese Martyrs Church: 10610 Kingspoin Road, Houston, TX
- St. Maximilian Kolbe Catholic Community 10135 West Rd, Houston, TX 77064
- St. Christopher Catholic Church: 8150 Park Pl Blvd, Houston, TX 77017
- St. Thomas Presbyterian Church: 14100 Memorial Drive, near Memorial and
George R Brown (GRB) Convention Center:
Emergency Response
Hurricane Harvey Response (cont.)

• Homeless response system leadership called to GRB the end of the week of August 31st
  – Shelter census at 2400+

• Task – Develop an exit strategy for all residents at the GRB
  – Call went out to all landlords from President of Texas Apartment Association and the Mayor
    • Almost 3K units volunteered by landlords
  – New Residences on Emancipation opened by New Hope Housing
    • 295 beds in dormitory style living (4 per room)
Hurricane Harvey Response (cont.)

- HMIS Needs
  - Modified version of the CA Assessment to be used as Disaster Assessment
    - Harvey HMIS Assessment revised.pdf
  - Disaster Navigation program created to enroll those ready to be housed
  - Disaster RRH program created for long-term case management after housing
    - This will be through an RFQ process
The Whiteboard

Tools Used: Join.Me for conferencing
Licensing Model: Freemium
The Revised Approach
Disaster Recovery RRH Workflow

1. DR Triage Assessment
2. DR RRH Match
3. Navigator Assignment
4. HMIS Enrollment (Sign Documents and Watch Program Overview Video)
5. Schedule Meeting to Turn in Documents (SAME DAY)
6. Document Collection (Room “E”)
7. Upload Documents to HMIS
8. Unit Selection
9. Bus for Property Tours if Desired
10. Complete Property Application
11. Property Background Check
12. Unit Inspection if the Unit was not Pre-Inspected
13. Sign Lease
14. Submit Signed Lease to the Payment Request Station
15. Upload Lease to HMIS
16. Email Lease to HHA
17. Contract Prepared
18. Contract Returned to Payment Request Station
19. LL Sign Contract
20. Return Signed Contract to HHA
21. Navigator Notified to Pack Belongings
22. Navigator Submit Transportation Request to Transportation Runner
23. Transportation Runner Deliver Request to Transportation Desk
24. Transportation Desk calls for Appropriate Method of Transport
25. Navigator and Client take belongings to Transportation Desk and Pick Up Transportation Voucher
26. Go Out “E” Exit to Pick Up Line
Disaster Relief Housing Navigation Handbook

From an emergency response to permanent housing

Disaster Relief Housing Navigation Handbook
Table of Contents

I. Purpose and Background ................................................................. 4
II. Definitions ......................................................................................... 5
III. Disaster Relief (DR) Housing Navigation Role and Expectations .......... 6
IV. Target Population ........................................................................... 7
V. Disaster Relief (DR) Re-Housing System Overview and Workflow ............ 7
VI. Disaster Relief (DR) Housing Navigation Overview ......................... 8
   1. DR Triage Assessment ................................................................. 8
   2. DR Rapid Re-Housing Match ...................................................... 8
   3. Housing Navigator Assignment ............................................... 9
   4. DR Rapid Re-Housing Program Enrollment ............................... 9
   5. Meeting Scheduling ................................................................. 9
   6. Document Collection .............................................................. 9
   7. Uploading Documents ................................................................ 9
   8. Unit Selection ........................................................................... 9
   9. Property Tours .......................................................................... 10
  10. Unit Application ......................................................................... 10
  11. Property Background Check .................................................... 10
  12. Unit Inspections ....................................................................... 10
  13. Lease Signing ........................................................................... 10
  14. Submitting Lease to Payment Request Station ............................... 10
  15. Upload Lease to HMIS ............................................................... 10
  16. Notifying Houston Housing Authority ....................................... 10
  17. HHA Prepare Contract ............................................................. 10
  18. HHA Emails Contract .............................................................. 10
  19. Landlord Contract Signing ........................................................ 10
  20. Final Contract Submission to HHA ........................................... 10
  21. Packing ..................................................................................... 11
  22. Submitting Transportation Requests ......................................... 11
  23. Transportation Vouchers ......................................................... 11
  24. Departures .............................................................................. 11

VII. HMIS ............................................................................................. 12
VIII. Fair Housing ............................................................................... 12
IX. Appendices ................................................................................... 14

Housing Navigators are responsible for supporting households through the process of securing permanent housing and accessing disaster relief resources....
HMIS Pros

• Existing database with client records
• Customization capability
• Unique HMIS identifiers
• Capturing geodata
• Local control
• No additional cost
HMIS Cons

• No time available for customization & sync
• More complex user training & set up
• New user friendliness issues
• Bad quality data added in HMIS
• Geodata accuracy issues
• No direct geo-mapping capability
Mobile App Pros

• Quick deployment
• App download to many devices
• Quick customizations
• Simple user training & setup
• Real-time geo-mapping
• Available tech support
Mobile App Cons

• Third-party software
• Existing HMIS clients still must be recreated
• Duplication & data quality issues
• Data re-entry in HMIS
• Additional privacy & security issues
• Additional cost?
The Technical Framework

Tools Used: Microsoft Visio
Licensing Model: Licensed (cheap at TechSoup.org for non-profits)
Data Collection via Mobile App

- Gathered info needed for triage & rapid response
- Dashboards provided a high-level recap of the situation
- Integration with HMIS will help us measure the impact on homelessness during the 2018 PIT and beyond

Mobile response allowed multiple staff to quickly and effectively gather information with minimal additional disruption to evacuees, and with minimal effort to deploy.

URL: App Store and Google Play
Licensing Model: Free
## Triage Worker Guidance

### Step 7: Select Survey
Choose the appropriate “Sheltered Survey”, either Individual or Household. If a household, enter the number of people in the household.

### Step 8: Register
Ask “Were you either a homeowner, or on a lease, before the flooding?” If yes, tap “Enter Address” and enter their address information. If no, tap “Next Step”.

### Step 9: Conduct the Survey
Select “Harvey Relief” for the organization, “GRB Convention Ctr” for the Project, enter the legal first and last name, and date of birth and scroll down.

### Step 10: First Time Homeless & Chronic
If the person was in housing before Harvey, enter “Yes” for “Is this the first time you have been homeless?” question. Otherwise, select “No”.

### Step 11: Submit the Survey
After completing the rest of the survey, if the person owned or leased, ask “Have you returned to your house and if so is it damaged?” Enter in either “Yes-Damaged”, “Yes-No Damage”, or “No” in the “Notes”. Tap “Submit Survey”.

---

**Tools Used:** Windows Snipping Tool and MS Word
Command Center to Manage Info

**Harvey 2017**

<table>
<thead>
<tr>
<th>Surveys &amp; Observations</th>
<th>Gender</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Surveys Submitted: 3605</td>
<td></td>
</tr>
<tr>
<td>Total Interviews: 37</td>
<td></td>
</tr>
<tr>
<td>Total Observations: 4</td>
<td></td>
</tr>
</tbody>
</table>

**Users Breakdown**

<table>
<thead>
<tr>
<th>User</th>
<th>#</th>
</tr>
</thead>
<tbody>
<tr>
<td>Adigiu, Agatha</td>
<td>9</td>
</tr>
<tr>
<td>Aitala, Eva</td>
<td>33</td>
</tr>
<tr>
<td>Almaraz, Angelica</td>
<td>23</td>
</tr>
<tr>
<td>Armu, Katie</td>
<td>28</td>
</tr>
<tr>
<td>Arriaga, Belinda</td>
<td>7</td>
</tr>
<tr>
<td>Augustine, Gabrielle</td>
<td>110</td>
</tr>
<tr>
<td>Black, Pepper</td>
<td>28</td>
</tr>
<tr>
<td>Blackman, Gwendolyn</td>
<td>34</td>
</tr>
<tr>
<td>Erpados, Charles</td>
<td>2</td>
</tr>
</tbody>
</table>

**Age**

<table>
<thead>
<tr>
<th>Age</th>
<th>#</th>
</tr>
</thead>
<tbody>
<tr>
<td>unknown</td>
<td>0</td>
</tr>
<tr>
<td>Under 18</td>
<td>777</td>
</tr>
<tr>
<td>18-24</td>
<td>268</td>
</tr>
<tr>
<td>25+</td>
<td>2640</td>
</tr>
</tbody>
</table>

**Race**

<table>
<thead>
<tr>
<th>Race</th>
<th># Surveys</th>
</tr>
</thead>
<tbody>
<tr>
<td>Missing</td>
<td>500</td>
</tr>
<tr>
<td>American Asian</td>
<td>2500</td>
</tr>
<tr>
<td>Black</td>
<td>1250</td>
</tr>
<tr>
<td>White</td>
<td>500</td>
</tr>
</tbody>
</table>

**Vet Status**

<table>
<thead>
<tr>
<th>Vet Status</th>
<th>#</th>
</tr>
</thead>
<tbody>
<tr>
<td>Veteran</td>
<td>214</td>
</tr>
<tr>
<td>Non-Veteran</td>
<td>3471</td>
</tr>
</tbody>
</table>

URL: [https://www.WeCantTellYou.com](https://www.WeCantTellYou.com)

Licensing Model: Proprietary
Command Center to Manage Info

URL: https://www.WeCantTellYou.com
Licensing Model: Proprietary
The details from evacuees can be filtered as needed to support the triage efforts.
Disaster recovery specific fields include FEMA status and barriers.
CoC code is derived from the GPS coordinates.
HMIS ID was sourced through a data match.
Who was Homeless Prior to Harvey?

Matching evacuee info with HMIS for historical and future analysis.

29% of evacuees had a record in HMIS

<table>
<thead>
<tr>
<th>SURVEY_ID</th>
<th>HMIS_ID</th>
</tr>
</thead>
<tbody>
<tr>
<td>1000064042</td>
<td>314187</td>
</tr>
<tr>
<td>1002819622</td>
<td>25839</td>
</tr>
<tr>
<td>1006570224</td>
<td>149419</td>
</tr>
<tr>
<td>1007284426</td>
<td>271361</td>
</tr>
<tr>
<td>1008350688</td>
<td>96275</td>
</tr>
<tr>
<td>1008759320</td>
<td>86772</td>
</tr>
<tr>
<td>1009354077</td>
<td>311313</td>
</tr>
<tr>
<td>1012530426</td>
<td>35197</td>
</tr>
<tr>
<td>1012566483</td>
<td>163613</td>
</tr>
<tr>
<td>1013911844</td>
<td>330091</td>
</tr>
<tr>
<td>1014498073</td>
<td>69651</td>
</tr>
<tr>
<td>1016291691</td>
<td>121073</td>
</tr>
<tr>
<td>1016643252</td>
<td>210010</td>
</tr>
<tr>
<td>1017347985</td>
<td>340477</td>
</tr>
<tr>
<td>1019088980</td>
<td>184531</td>
</tr>
<tr>
<td>1019835423</td>
<td>221431</td>
</tr>
<tr>
<td>1021387470</td>
<td>246091</td>
</tr>
<tr>
<td>1022471790</td>
<td>253506</td>
</tr>
<tr>
<td>1022537753</td>
<td>53280</td>
</tr>
<tr>
<td>1022598449</td>
<td>4997</td>
</tr>
<tr>
<td>1023228662</td>
<td>336987</td>
</tr>
<tr>
<td>1024483143</td>
<td>222804</td>
</tr>
<tr>
<td>1024545784</td>
<td>129618</td>
</tr>
</tbody>
</table>

Tools: Excel, The-Link-King, SQL
Licensing Model: Per-Seat, OpenSource, and Proprietary
Matching Records in Excel

STEP 1 – Copy data from data sets to be merged into two tabs in Excel

STEP 2 – Create Unique Key Fields Using Demographic Info

\[ \text{DataSet1KeyField} = \text{concatenate(lastname,DOB,gender)} \]
\[ \text{DataSet2KeyField} = \text{concatenate(lastname,DOB,gender)} \]

STEP 3 – Match Records from One Tab with Records on the Other

\[ = \text{vlookup(DataSet1KeyField,DataSet2,ColumnNumberOfDataToBeReturned,FALSE)} \]

Tools: Excel
Licensing Model: Proprietary but cheap on TechSoup.org
Using Excel to Pull Data Out of Notes

**STEP 1** – Export data into Excel. (normally in a CSV format)

**STEP 2** – Create a column (B2) next to the notes field (A2) to contain the value you are checking for. For example, “FEMA”.

**STEP 3** – Use the “ISNUMBER” formula in cell C2 to check if the value “FEMA” in cell B2 is contained in the notes field in A2.

```
=ISNUMBER(SEARCH(B2,A2))
```

This will return a value of “TRUE” if the notes text in field A2 contains the string “FEMA” that was written in cell B2.
US Census Data

URL: https://cbb.census.gov
Licensing Model: Free
Project Management

Tools Used: Trello.com
Licensing Model: Freemium
MailChimp is a simple tool to manage email lists and send out blast emails to all participants.

Tool: mailchimp.com, form is at http://eepurl.com/c4uPMr
Licensing Model: Freemium
Tool: EventBrite.com
Licensing Model: Freemium
GIS Mapping

URL: https://QGIS.org
Licensing Model: Open-Source, no hosting required (FREE)
Hurricane Harvey Response (cont.)

• Now:
  – GRB & NRG shelters closed
    • 300 currently in Red Cross HCC
    • 100 currently in Red Cross Shell
    • 400 currently in Red Cross Greenspoint
    • 50 currently in St. Thomas More
  – 230 residents moved into Residences on Emancipation
  – 40 families enrolled into HMIS & moved into apartments
  – Households continue to be assessed & assigned to Navigators to be housed and then connected with long term Disaster Case Management
Preparedness for Future Disasters

- Facilities
- Staff
- Electricity
- Internet
- Database platform
- Pre-planning
Future Technical Considerations

• Disaster-specific data elements in future HMIS Data Standards?
• HUD CSV Export from Mobile App & Import to HMIS?
• Status of Temporary Emergency Shelters re: HUD reports (PIT, HIC, AHAR, SPM)?
Lessons Learned

- People with mental health conditions may not be able to access meds
- Those with severe mental and physical health conditions have more extensive service needs
- Senior citizens also have different care needs
- Hard to match the need for help with the resources
- FEMA, Red Cross, and shelters need to be connected ASAP to ensure an effective workflow
- Need to be careful of survey overload
- The Boy Scout motto rings true
Questions?
Contact Info

• Matt Simmonds – Matt@SimtechSolutions.com
• Eddie Barber – Eddie@SimtechSolutions.com
• Ana Rausch – arausch@homelesshouston.org
• Erol Fetahagic – efetahagic@homelesshouston.org