Refugee Women’s Health: Understanding Geospatial Barriers
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BACKGROUND
A workshop for Congolese female refugees was held to explore how the community defined “health” in the broadest possible sense. In coordinating transportation to and from the workshop, facilitators made the following observations:

• Most women could not drive.
• Transportation by non-family members was associated with the cultural expectation of sex as payment.
• Many participants did not know their address and could not provide verbal directions to their home.
• Many women were not familiar with city landmarks and could not use these as references in navigation.

These observations are consistent with previous research that found:

• Low income and recent migration status, both characteristics of a majority of refugees, are correlated with the perception of one’s neighborhood as a particularly small geographic area.1
• Refugees face significant barriers to accessing healthcare, even when public transportation is available and convenient.2,3

Because refugee women may have a particularly limited sense of neighborhood and face significant difficulty in navigating outside neighborhood boundaries, it is essential that critical health-related resources are located within these boundaries.

The goal of this research is to establish the basic spatial distribution of health-related resources in relation to refugee residences and to assess the adequacy of these resources in refugees’ immediate neighborhoods.

MAP CREATION
ArcGIS v. 10.2 was used to map the location of the following elements:

• Apartment complexes with refugee residents
  - Identified by refugee resettlement agency personnel.
• Grocery stores
  - Addresses for 6 grocery chains (Dan’s, Fresh Market, Harmon’s, Ream’s, Smith’s, Wal-mart) obtained from corporate websites.
  - Halal Markets identified by a Somali refugee.
• Healthcare facilities
  - Shapefile obtained from Utah Automated Geographic Reference Center (AGRC).
  - Only hospitals, emergency rooms, urgent care facilities, and primary care clinics were mapped.
• Public libraries
  - Shapefile obtained from Utah AGRC.
  - Important source of health information and internet access.
• Public transit routes
  - Shapefiles obtained from the Utah AGRC.
  - Grouped by route type: runs every 15 minutes, runs every 30 minutes, and flex (route deviations of up to½ mile can be requested).

REFERENCES

DISCUSSION
1. Spatial location prevents the establishment of a refugee support network.
   • Refugee housing is dispersed across a large geographic area (approximately 42 square miles) with substantial internal boundaries (e.g. I-15).
   • Refugees are not housed by community of origin. Members of one community could be housed up to 13 miles apart.
   • Many refugees do not speak English well enough to establish networks outside their community of origin.
2. Median distances suggest resources are often too far away to regularly reach by walking.
   • Grocery store: 1.05 miles
   • Halal market: 2.90 miles
   • Clinic: 1.00 miles
   • Hospital: 2.20 miles
   • Library: 1.50 miles
3. Many refugees reside in “resource deserts.”
   • Four of the 12 residences had no resources within one mile.

NEXT STEPS
• Establish perceived neighborhood boundaries and navigation techniques among refugees of various communities of origin.
• Explore differences in how refugee women and men navigate to resources across the city.

DISTANCES AND TRAVEL TIMES
Distances were calculated as the shortest route by road. Travel times were calculated using the public transportation feature of Google Maps. The shortest travel time between 12 pm and 1 pm was recorded.