

Serving Veterans with HIV Using GIS

*To care for him who shall
have borne the battle
and for his widow and his orphan.*

- Abraham Lincoln



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About me



I am not named after the movie but it is a wonderful life.

- Work in research at the Iowa City VA
- Data manager with the VA for 10 years
- Previously worked at ISED Solutions for 9 years
- Experience
 - ▣ Healthcare
 - ▣ Welfare Reform
 - ▣ Refugee Service Programs.

Background-About the VA

- VA Healthcare (VHA) was established in 1865 by President Lincoln.



- VHA operates one of the largest health care systems.
 - ▣ 152 Hospitals and 800 Clinics.

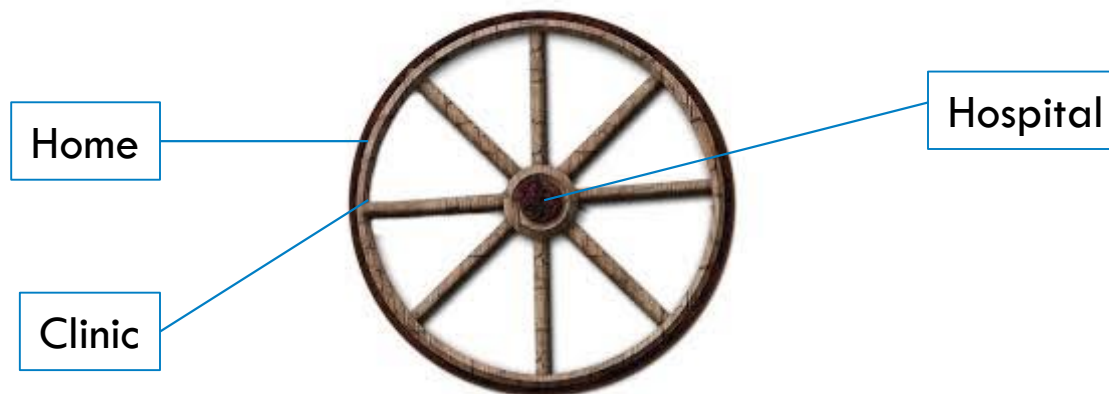
Background-HIV 101

- 1.2 million persons are living with HIV
- VHA is the largest provider of HIV care in the US
 - ▣ approx. 26,000 veterans
- Affects a person's autoimmune system
 - ▣ Chronic condition
 - ▣ No cure
 - ▣ Can be slowed
- Stay connected with their healthcare provider



The Issue

- Historically received care in large VA Hospitals
- Travel burden negatively affects care
 - ▣ Complexity of the disease, Frequent trips.
 - ▣ 21% live >1 hour from a specialty clinic



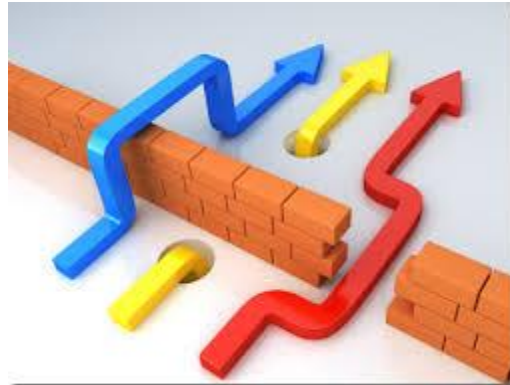
The Idea

- Dr. Michael Ohl and VHA Office of Rural Health
 - ▣ Use Outpatient Clinics
 - ▣ Use telehealth to extend HIV specialty care
 - ▣ Reduce travel burden



Barriers

- Clinics without telehealth services
- Patients will not know what the closest clinic is
- Provide staff the tools to inform the veteran



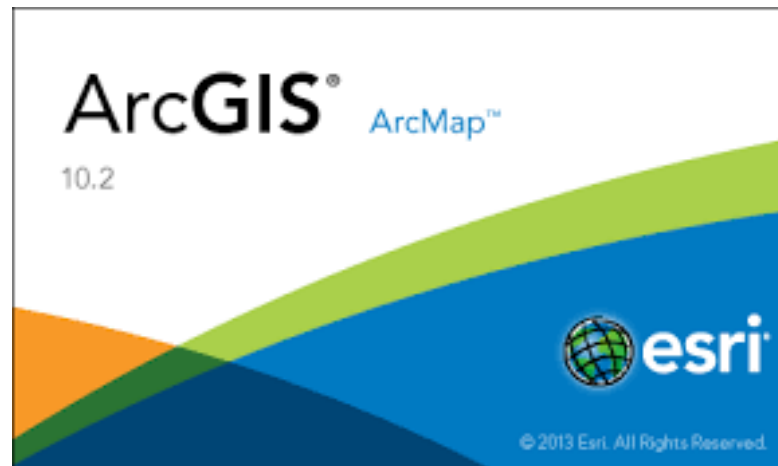
Data Security

- HIPAA and VA Privacy policies
- Prohibit use of Google maps and other services



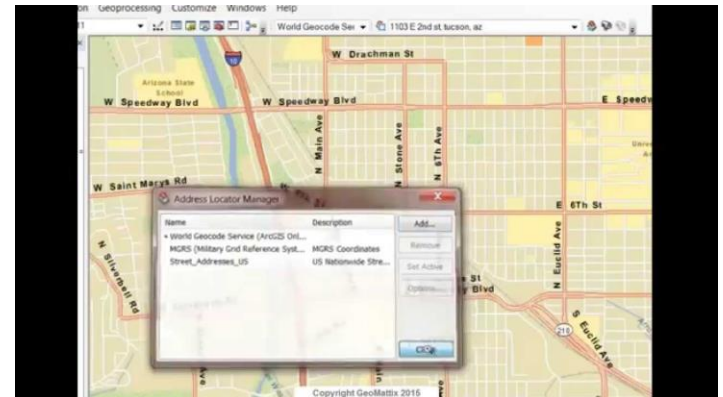
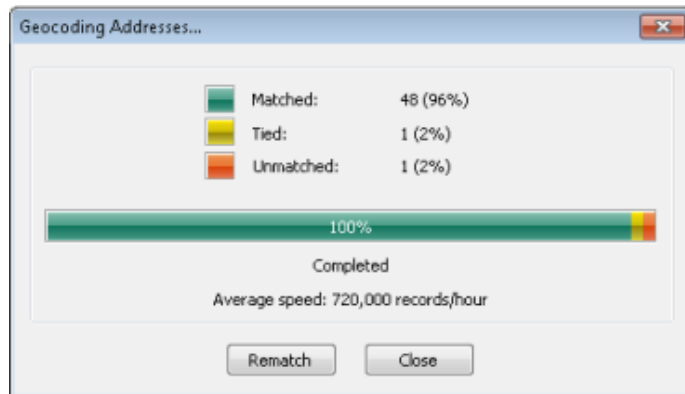
Choosing ArcGIS

- Perfect solution to keep all VA data “in house”
- Used ArcGIS 10 desktop



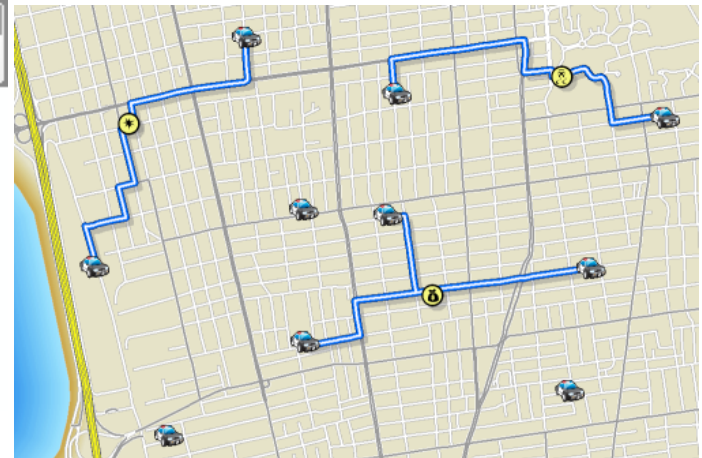
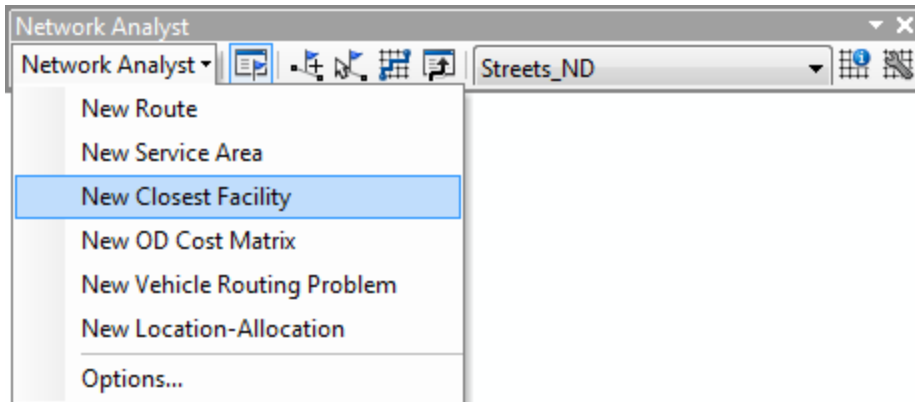
Using ArcGIS

- Identify the closest telehealth site
 - ▣ Notify the veterans
- Geocoded all clinic and patient addresses



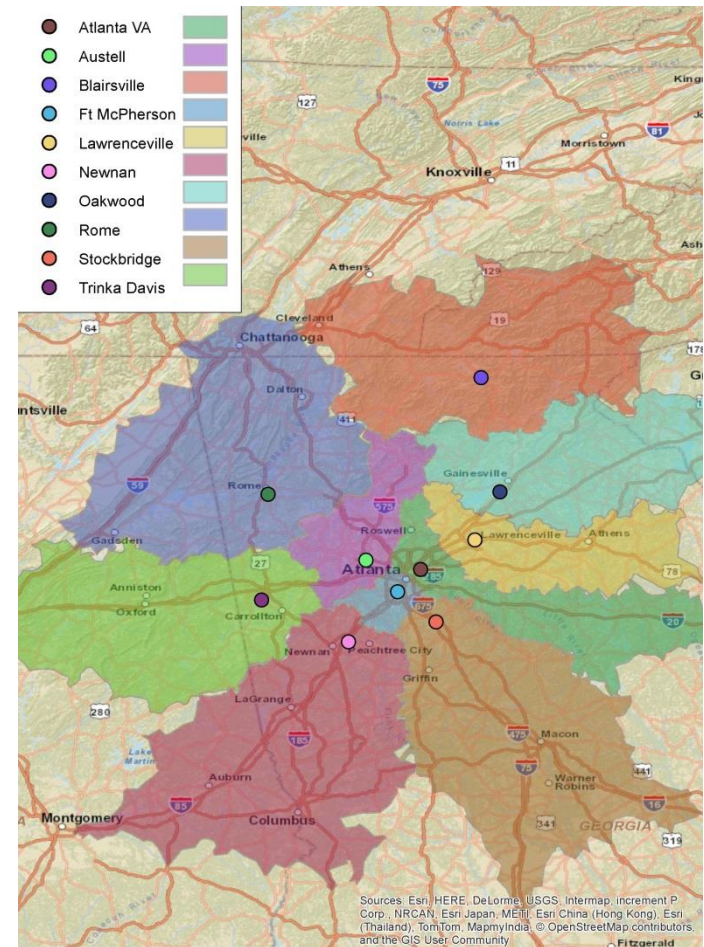
Using Network Analyst

- Closest facility solver to determine the closest clinic.
 - ▣ Requires the StreetMap GeoDatabase
 - ▣ Key output included: Name, FacilityID, Drivetime* and Distance



Using Network Analyst (cont'd)

- Service area analysis to create maps
- Clinical registry
 - ▣ For clinical providers
 - ▣ One-stop shop
 - ▣ Includes clinical and geographic data



Pilot Program

- Began in 2012
- Started with three VA hospitals in Texas
- Initial Results
 - 95% of patients opted to receive care at their local clinics (2283 patients)
 - Significantly decreased travel time
 - High patient satisfaction
 - Decreased travel cost reimbursement
 - Maintained clinical effectiveness

Example of Drive Time Savings-Mr. Z

Before

- 3 hr drive to specialty clinic

After

- 20 min drive to outpatient clinic



Expansion since Pilot

- Five VA hospitals and their clinics
 - ▣ Dallas, San Antonio, Houston, Atlanta and Iowa City
 - ▣ X number of clinics
- Revision and expansion of clinical registry
- Formal evaluation
- Adding more sites is promising

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