



THE COMMUNITY VITAL SIGNS API

A Novel Tool for Addressing
Social Determinants of Health

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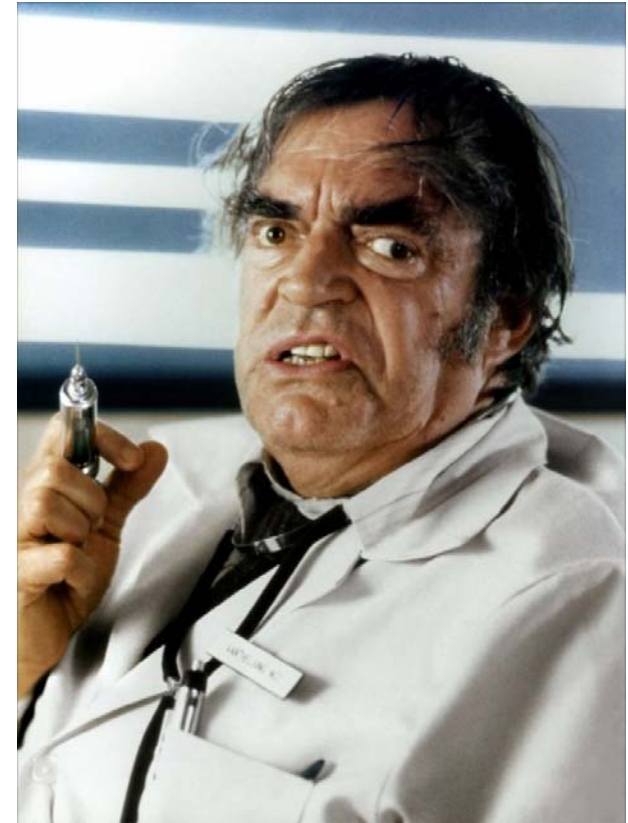
Physical Vital Signs

- A Brief History
 - Stephen Hale & Blood Pressure
- Clinical Practice
 - Observation
 - Temperature
 - Respiratory rate
 - Pulse
 - Blood Pressure
 - Oxygen Saturation



Visiting Your Doctor

- Registration
- Nurse
 - Weight
 - Blood Pressure & Pulse
 - Temperature
- Physician
 - Lab Tests
 - Action Plan
- 525,960 minutes in a year (more or less)
 - Maybe 10 minutes spent with your doctor
- The remainder are spent “in your community”
 - Where are the **Community Vital Signs?**



Selecting Community Vital Signs

- Capturing Social and Behavioral Domains in Electronic Health Records: Phase 1
- Capturing Social and Behavioral Domains and Measures in Electronic Health Records: Phase 2
- “Community Vital Signs”: Incorporating geocoded social determinants into electronic records to promote patient and population health. Andrew W Bazemore, Erika K Cottrell, Rachel Gold, Lauren S Hughes, Robert L Phillips, Heather Angier, Timothy E Burdick, Mark A Carrozza, Jennifer E DeVoe. JAMIA July 2015

Community Vital Signs Measures

Domain	Example of types of data	Geography
Neighborhood Socioeconomic Composition	Income, Poverty, Unemployment	County, ZCTA, census tract
Neighborhood Race/ Ethnic Composition	Black, White, Hispanic	County, ZCTA, census tract
Neighborhood Economic Conditions	Inequality, Uninsured	County, ZCTA, census tract
Environmental Exposures	Air pollution, water quality	County
Built Environment	Land use	County
	Population density	Census tract
Neighborhood resources	Access to parks, recreational facilities	County
	Access to healthy foods	Census tract

DaaS Solution

The screenshot shows the HealthLandscape Geocoding API web interface. The page title is "HealthLandscape Geocoding API" and it is associated with the American Academy of Family Physicians. The interface includes a navigation menu with links for "GET /geocode" and "GET /pointEnrich". A main section titled "Welcome to the HealthLandscape Geocoding API" provides an overview of the service and a form for entering a street address, city, state, and zip code. A "Submit Query" button is located below the form. Below the form, there is a section titled "Geocode Address" which explains the geocoding process and provides a link to a "Geocoding example request (Python)". At the bottom, there is a code block showing a Python request example.

```
#!/usr/bin/python
import requests

api_parameters['address'] = '1901 Fort Place SE'
```

Ubuntu Linux, Nginx web server,
Python/Gunicorn WSGI server @ Amazon
AWS

```
"enrichment_info": {
  "HRR": {
    "HRR_CITY": "DC- WASHINGTON",
    "HRR_NUM": 113
  },
  "PCSA": {
    "PCSA": "11001009504",
    "PCSANAME": "DC01_WASHINGTON",
    "PCSA_ST": "DC"
  },
  "US_CD113": {
    "DISTRICTID": "1198",
    "FIPS_113": "98",
    "LASTNAME": "Norton",
    "NAME": "Eleanor Holmes Norton",
    "PARTY": "Democrat"
  },
  "blockgroup_2010": {
    "blockgroup_2010": "1",
    "fips": "110010074071"
  },
  "county": {
    "CHARITER": 0.000,
    "CNTY_ACS_PopDens_20082012": 8869.090,
    "CNTY_SQMI": 68.300,
    "COMPONENT": 0.000,
    "Cnty_ACS_DpndRtoOLD_20082012": 15.350,
    "Cnty_ACS_DpndRtoTOTAL_20082012": 34.690,
    "Cnty_ACS_DpndRtoYOUNG_20082012": 19.340,
    "Cnty_ACS_GINI_20082012": 0.531,
    "Cnty_ACS_MedHHIncome_20082012": 64267.000,
    "Cnty_ACS_NumAmerInd_20082012": 2143.000,
    "Cnty_ACS_NumAsians_20082012": 21440.000,
    "Cnty_ACS_NumBlackAlone_20082012": 309263.000,
    "Cnty_ACS_NumCollegeGrad_20082012": 213749.000,
    "Cnty_ACS_NumHispanic_20082012": 56259.000,
    "Cnty_ACS_NumMngrPrfsnl_20082012": 73890.000,
    "Cnty_ACS_NumNHOP1_20082012": 312.000,
    "Cnty_ACS_NumNonWhite_20082012": 366346.000,
    "Cnty_ACS_NumWhiteAlone_20082012": 239413.000,
    "Cnty_ACS_PctMngrPrfsnl_20082012": 23.940,
    "Cnty_ACS_TOTPOP_20082012": 605759.000,
    "Cnty_ACS_Unemployment_20082012": 10.510,
    "Cnty_ACS_completeplumb_20082012": 0.510,
    "Cnty_ACS_medagestrct_20082012": 64.000,
    "Cnty_ACS_pctAmerInd_20082012": 0.350,
    "Cnty_ACS_pctAsians_20082012": 3.540,
    "Cnty_ACS_pctBlackAlone_20082012": 51.050.
```

What's Next?

Community Viewer Summary Table

	Neighborhood	County	US	
1. Poverty	16	16	16	View Map

Food Desert

2. Access to I

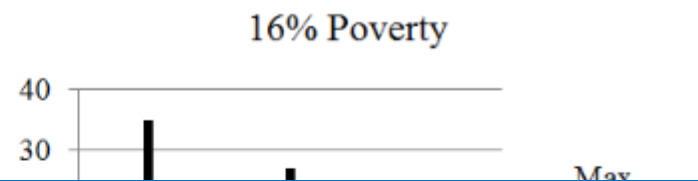
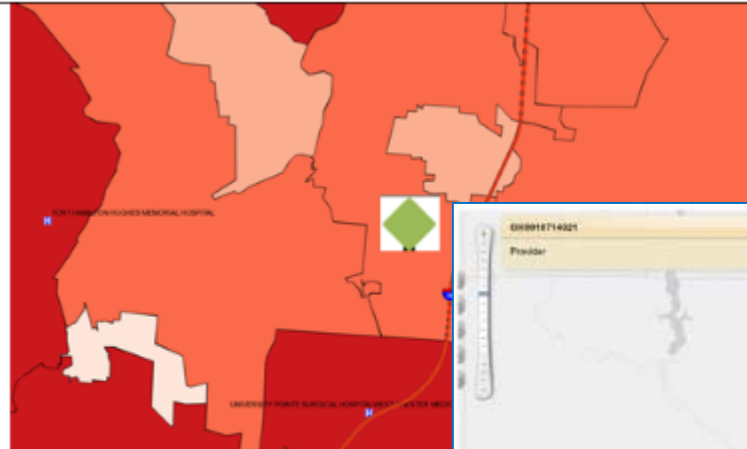
3. Measure

4. Measure

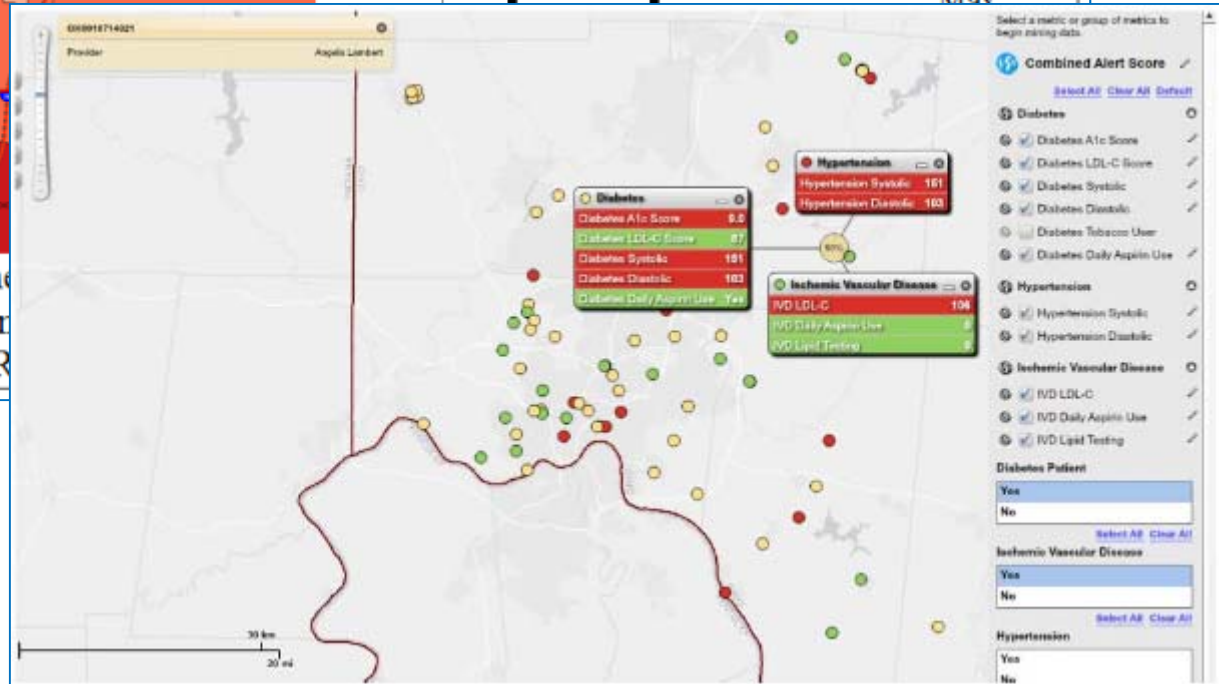
5. Measure

6. Measure

7. Measure



Brief narrative explaining the evidence connecting POVERTY to health outcomes.



What's Next?

Health Risk	H			
	M			
	L			
		L	M	H
Neighborhood/Community Risk				

Health Risk	H			
	M			
	L			
		L	M	H
Neighborhood/Community Risk				

Health Risk	H			
	M			
	L			
		L	M	H
Neighborhood/Community Risk				

Health Risk	H			
	M			
	L			
		L	M	H
Neighborhood/Community Risk				

How to Measure Health Risk? How to Measure Community Risk? How does the “**Risk Factor Assessment Box**” function by age, gender, and race/ethnicity of the patient? How do results differ by chronic condition (diabetes, asthma, hypertension)?

What's Next

- Where do “Community Vital Signs” matter most?
 - Registration
 - Nurse
 - Physician
 - Care Teams



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