SCANNING 360
An Interactive Web-Based Platform to Visualize Cancer in Florida

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OBJECTIVE
As part of the University of Miami’s Leonard M. Miller School of Medicine, Sylvester Cancer Center is the only university-based cancer center in south Florida. SCAN 360 is Sylvester’s interactive web-based platform that describes the burden of cancer in its catchment for the years 2010-2014. There are other similar existing disease portals such as AIDSvu, HepVu, and the CDC’s Cancer Statistics Data Visualizations, CDC Wonder, and NCI/CDC State Cancer Profiles. However, the SCAN website provides effective communication of geographical health problems guiding future targeted interventions, and allows users to visually explore local cancer patterns alongside socio-economic factors, health habits, environmental exposures, and health risks through interactive tables and graphics. These measures can be compared against the rest of Florida and the United States.

SYLVESTER’S CATCHMENT
1. Four south Florida counties: Palm Beach, Broward, Miami-Dade, Monroe
   i. Palm Beach: About 1/3 of Florida’s population
   ii. Broward: Miami-Dade county is the 7th most populous US county
   iii. Miami-Dade: About 10,000 mi²
   iv. Monroe: 42% English not their first language
2. Serves more than 6 million people
3. Population demographics:
   i. 50% born outside of the US
   ii. 42% English not their first language
   iii. 33% Hispanic
   iv. 24% Black
4. Determinants of health versus the US:
   i. 13.6% vs 11.5% citizens living in poverty
   ii. 24.1% vs 14.2% uninsured
   iii. 16.8% vs 13.7% over the age of 65
5. Cancer screening rates versus the US:
   i. 79% vs 85% of women have had a pap smear in the past 3 years
   ii. 39% vs 67% of people who have ever had an HIV test
   iii. High prevalence of HIV, HPV, HTLV-1, HBV/HCV

DATA SOURCES & METHODS
1. Florida Cancer Data System (FCDS) 2010 - 2014
2. SEER
3. American Community Survey (ACS) 2010-2014
4. US Census 2000
5. Behavioral Risk Factor Surveillance System (BRFSS) 2013
6. Programming languages:
   i. R:
      a. Tidyverse
      b. Shiny
   2. ACS
   3. ACS

FUTURE DIRECTIONS
1. Visualize catchment areas for other cancer centers
2. Multi-layered maps
3. New statistical/visualization methods
4. Pediatric cancers
5. R package development