Utilizing Public Data to Successfully Target Population for Prevention

Ann K. Peton
Director
National Center for the Analysis of Healthcare Data (NCAHD)
Virginia College of Osteopathic Medicine

March 29, 2012
National Health Trends over the last 20 Years

21.2% improvement in overall health

Data Source: United Health Foundation, American’s Health Rankings
National Health Trends in 2011

- Preventable Chronic Disease on the Rise
- No progress in improving health in 2011 after three years of gains
- Modest decreases in smoking
- Dramatic increases in obesity and diabetes
- For every person that quit smoking was offset by a person becoming obese
- First year in 20 years that no state had an obesity prevalence under 20%

Data Source: United Health Foundation, American’s Health Rankings
How you can target your prevention

• What do I need to build an effective prevention program
  – Using national healthcare ranking data for your state to identify where your efforts will be more effective
  – Knowledge about the populations at risk
  – Identify a geographic target - county, multi-counties, state, etc.

• Learn about existing programs within your community/state
Targeting Areas of Risk

• Depends upon which behavior you want to impact – smoking cessation, healthcare disparities, etc.
• Proximity and willingness of healthcare providers to support the program
  – Engage a team of healthcare providers at the beginning for input and implementation of your program
• Choose data of the same time period and geography
• Be sensitive to the social determinants of the behavior you are trying to prevent
• Using the data to find some positive indicators, too.
America’s Health Ranking

- National Comparison
  23 Measures for Each state over the last 20 years
  - Determinants: Behaviors, Community and Environment, Public and Health Policies and Clinical Care
  - Outcomes: Mortality (e.g. premature death, infant mortality, cancer and cardiovascular mortality) along with life quality measures (e.g. poor mental health and poor physical days)


www.americashealthrankings.com
What Resources are Available

- Complete state profile
- State to state comparisons
- Graphs showing health trends on 23 measures and data

www.americashalthrankings.com
Example of How to Use the Data to target your prevention program – State of Virginia

• Compared to other states
  – Strengths: low violent crime rate, low percentage of children in poverty
  – Challenges: geographic disparity of healthcare services (40th rank), moderate immunization coverage, low public health funding ($69/person 31st rank), **high prevalence of smoking**
  – Changes from 2009: binge drinking increased 13.6 to 15.3%; diabetes increased from 6.9% to 8.7%; obesity increased from 18.2% to 26.4%
Health Measures to Target Prevention in Virginia

Source: 2011 America’s Health Ranking
What’s Next – Refining your Target

• What data is available that will help target areas for more local prevention
  – CDC’s Behavioral Risk Factor Surveillance System (BRFSS)
  – CDC’s Chronic Disease Indicators
  – Population Data (U.S. Census)
  – County health ranking – Robert Wood Johnson Foundation/Univ. of Wisconsin Population Health Institute
  – Food Environment - CARES
  – Healthcare provider data - NCAHD
CDC Behavioral Risk Factor Surveillance System (BRFSS)

• What the data represents
  – Started in 1984, the BRFSS is a state-based systems of health survey of over 350,000 adults tracking health conditions and risk behaviors in US
  – Data on preventable chronic diseases, injuries, and infectious diseases

• Quality
  – Trend data
  – Not all measures are collected or measured the same in each state

• Access
  – Downloadable databases
  – Interactive Mapping tool online

Website: http://www.cdc.gov/brfss/
CDC Chronic Disease Indicators

• What the data represents
  – A state-based system of data on 97 indicators at state and some county and large metropolitan levels

• Quality
  – Trend data
  – Uniform standards used in the collection and reporting conditions and risk factors: physical activity, tobacco and alcohol use, cancer, cardiovascular diseases, diabetes, arthritis

• Access
  – Downloadable databases

Website: http://apps.nccd.cdc.gov/cdi/
Population Data – State Data Centers

• What the data represents
  – Each state has a repository of federal census data and more state-specific population data (e.g. population estimates)
  – 45 components about individuals (e.g. age, poverty, etc.)

• Quality
  – Current and historical census data at county aggregate level

• Access
  – Data can be downloaded in multiple formats, including shapefile (for use in a GIS mapping system)
  – Downloadable databases

Website: www.census.gov/sdc/index.html
County Health Rankings

• What it is?
  – Using the same 23 measures that America’s Health Ranking, data is provided at a county level to provide insight on how these factors impact our health
  – State summary reports, maps, national benchmarks and an interactive county comparison

• Quality
  – For each measure, the data source is provided. All of the data is from national sources

• Access
  – State summary reports, data in spreadsheet format, maps, national benchmarks and an interactive county comparison

Website: www.countyhealthrankings.org
County Health Rankings

Health Outcomes
- Mortality (length of life) 50%
- Morbidity (quality of life) 50%

Health Factors
- Health behaviors (30%)
  - Tobacco use
  - Diet & exercise
  - Alcohol use
  - Unsafe sex
- Clinical care (20%)
  - Access to care
  - Quality of care
- Social and economic factors (40%)
  - Education
  - Employment
  - Income
  - Family & social support
  - Community safety
- Physical environment (10%)
  - Environmental quality
  - Built environment

Programs and Policies

Website: www.countyhealthrankings.org
Food Environment – Access to Food

• What it is?
  – Visualize through an interactive mapping application data on: Food Desert (by Census Tract), Grocery Stores (per 1,000 people), Location of Farmers’ Markets, convenience stores per 1,000, etc.

• Quality
  – County level, current data based on USDA’s Food Environmental Atlas and US Census County Business Patterns

• Access
  – Choose an area of interest and overlay other social determinants, populations, and health indicators at this site

Website: http://cares.missouri.edu
Targeting populations based upon Food Environment
National Center for the Analysis of Healthcare Data (NCAHD)

• What it is?
  – Free internet mapping application of all physicians (MD, DO) and 14 other healthcare providers (2010) that can be viewed, mapped and analyzed with other data interactively.
  – Physician data can be viewed by specialty, including primary care
  – Federal shortage areas (MUA and HPSA)

• Quality
  – Healthcare workforce data from state licensure boards for each state that has been de-duplicated and includes only actively practicing providers
  – Also available upon request is the 2008 and 2009 healthcare workforce data

• Access
  – Zip code, county and state totals for providers can be downloaded for spreadsheet

Website: http://gis.ncahd.org
NCAHD’s Healthcare Workforce Mapping Application

Website:  http://gis.ncahd.org
Examples of how public data can be used to target prevention.
Demographics Impacting Floridians
Rural versus Urban Perspective

Unemployment in Florida (2011)

The 10 Counties with the Highest Unemployment Rates are Identified with their Ranks

Prevalence of Adults over 16 Unemployed but Seeking Work
- Lowest
- Lower
- Higher
- Highest
- Rural Counties

Data Source: Florida County Health Rankings (2011)
Demographics Impacting Floridians
Rural versus Urban Perspective

Education in Florida* (2011)

The 10 Counties with the Lowest Quality of Education are Identified with their Rank

* Quality of Education is determined using a combined analysis of the High School Graduation Rate and the Percent of Adults with some post-secondary education.

Data Source: Florida County Health Rankings (2011)
Impact of Floridians’ Behavior
Rural versus Urban Perspective

Physical Inactivity in Florida (2008)

The 10 Counties with the Lowest Population who Engage in Physical Activity are Identified with their Percentage

% of Population Who Do Not Report Engaging in Regular Physical Activity
- White - 23
- 23 - 27
- 27 - 31
- 31 - 35
- Rural Counties

Data Source: National Center for Chronic Disease Prevention and Health Promotion (2009), Florida County Health Rankings (2011)

Map Created by the National Center for the Analysis of Healthcare Data
November, 2011
Impact Of Floridians’ Behaviors
Rural versus Urban Perspective
Impact of Floridians’ Behaviors
Rural versus Urban Perspective

Florida Obesity Prevalence (2011)

The 10 Counties with the Highest Obesity Rates are Identified with their Rank

Prevalence of Adults that Report a Body Mass Index greater than or equal to 30

- Lowest
- Lower
- Higher
- Highest
- Rural Counties

Data Source: Florida County Health Rankings (2011)
Impact of Floridians’ Behaviors
Rural versus Urban Perspective

Diabetes in Florida (2008)

The 15 Counties with the Highest Diabetes Rates are identified with their Percentage

% of Population with Diabetes

- 8 - 9
- 10
- 11
- 12 - 13
- Rural Counties

Data Source: Centers for Disease Control, Small Area Obesity Estimates (2008), Florida County Health Rankings (2011)
Outcomes of Behaviors and Healthcare system
Rural versus Urban Perspective

Morbidity in Florida* (2011)

* Morbidity Rankings are determined using and analysis of adults reporting fair or poor health, mean physically unhealthy days/months for adults, mean mentally unhealthy days/months for adults and the percent of live births with low birthweights.

Morbidity Rates
- Lowest
- Lower
- Higher
- Highest
- Rural Counties

Data Sources: Florida County Health Rankings (2011)
Outcomes of Behaviors and Healthcare system
Rural versus Urban Perspective

Mortality in Florida (2007)

The 10 Counties with the Highest Mortality Rates are identified with their Rank.

Data Source: National Center for Health Statistics (2007), Florida County Health Rankings (2011)
Where are existing Prevention Programs?

• CDC Program - Communities Putting Prevention to Work Program ($650 Million)
  – Funded through the Recovery Act
  – 50 communities funded to address obesity and tobacco use through environmental change
    • Changes that enable healthier lifestyles
  – Nearly 50 Million people benefit from these programs or one in six Americans
  – Don’t reinvent the wheel - read their community profile reports to learn about what worked and didn’t

Website:
http://www.cdc.gov/CommunitiesPuttingPreventiontoWork/communities/profiles.htm
Communities Putting Prevention to Work

http://www.cdc.gov/CommunitiesPuttingPreventiontoWork/communities/profiles.htm
Prevention and Public Health Fund

- $1.25 Billion in 2010 (ACA) and 2011 (PPACA) distributed to states and communities in four areas:
  - Community Preventions ($298 Million)
  - Clinical Prevention ($182 Million)
  - Public Health Infrastructure ($137 Million)
  - Research and Tracking ($133 Million)
- Each state has a website with information on how these and other prevention funds are being utilized

Prevention and Public Health Fund

Using the Data to Support Medical Education

- Helping students gain access to data that will support a prevention activity
  - E.g. Where are the clusters of population at greatest risks due to prevalence of obesity

- Showing other social determinants that might be barriers to success
  - E.g. Are these areas that have had poor access to primary care, lower education levels or low income
Using the Data to Support Grant Writing and Research

• Accessing multiple national data to derive more insight about the populations to be served through your grant
  – E.g. If you are seeking funds to create a health literacy program on prevention strategies, it is important to better understand the education levels and the type of healthcare providers in the area to support the program
  – E.g. If your health literacy program is internet based, how do you know that the population actually has access to the internet. Poorer areas may not, so you’d need to partner with local healthcare providers and the school systems to disseminate the information

• Being able to visualize the target areas population characterizations (e.g. social determinants, disease prevalence) helps the grant reviewers realize the importance of your work - consider mapping or graphing
Medical Students/Providers Use of the Data

• Learning the current characteristics (e.g. disease prevalence, social determinants) of your patients will help identify barriers and guide your choice on which prevention strategies would work for your patients

• Investigate other prevention programs in your area and if there aren’t any, be a leader and start learning from the data, the types of prevention programs that are most needed
  – Take the time to review similar size communities that participated in the federal Communities Putting Prevention to Work – Don’t Reinvent the Wheel
Questions

Ann K. Peton
NCAHD Director
573-301-9654
apeton@vcom.vt.edu
NCAHD website: www.ncahd.org
Re-Cap of Available Resources

• Data
• Potential funding mechanism
• Other Tools