DCPC: Reflections, Priorities, and A Look at the Road Ahead

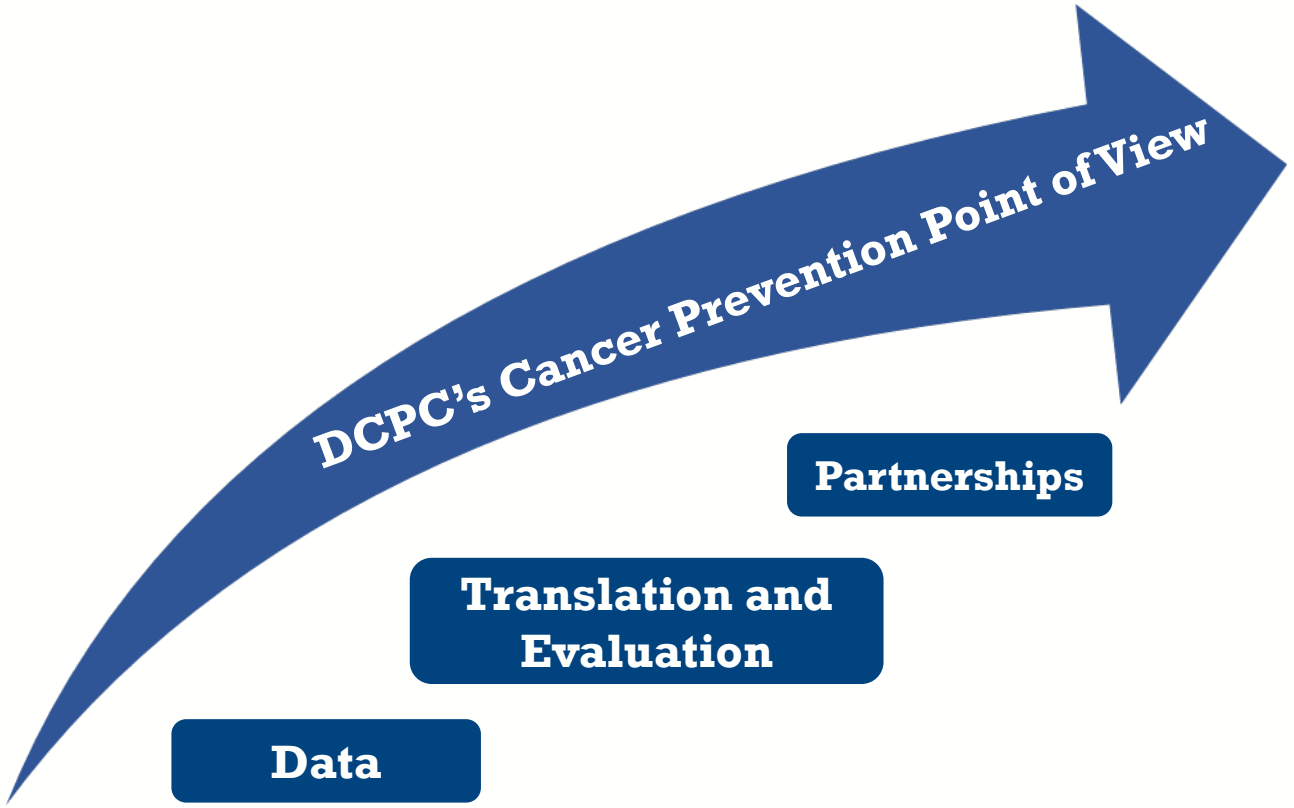
Lisa C. Richardson, MD, MPH
Division Director

CPCRN Annual Spring Meeting

May 23, 2017


GOOOOD MORNING EVERYBODY!

Why CDC for Cancer Prevention and Control?



Uniquely Positioned to Drive Outcomes

Our Guiding Principles

Address Health Disparities

Consider populations facing health inequities and how to reach them and improve their outcomes. Who might get left out of a program? How do we address and overcome barriers?

Define Expected Outcomes Upfront

Consider the purpose and expected outcomes during the initial planning phases. How will you know when you've been successful? What data do we need and how will we get it?

Collaborate

Consider each partner's strengths, capabilities, and assets as they relate to the strategic priorities. How might they add value to the work? How might they derive value from it?

Communicate: Tailor to a Specific Audience

Consider who is the recipient of the work and who is impacted by the messaging. What do they value? How do they receive and use information?

What We Will Achieve

All People Free of Cancer

Aspirations

- Elimination of preventable cancers
- All people get the right screening, at the right time
- People have the best possible cancer care and outcomes
- Cancer survivors live longer, healthier lives

Strategic Priorities

- Reduce incidence of vaccine-preventable cancers

- Increase the impact and scaling of best practices of the screening continuum

- Improve the integration and use of data platform to support data-driven decisions

- Improve health outcomes for cancer survivors

Our Key Strengths

Data	*Translation & Evaluation*	*Partners*

People have the best possible cancer care and outcomes

Increasing Data Accessibility and Usability

Cancer Burden: North Carolina

Rate of new cancers, All Types of Cancer, 2013

[North Carolina Central Cancer Registry](#)

State Center for Health Statistics

Chronic Disease and Injury, Division of Public Health

North Carolina Department of Health and Human Services

1908 Mail Service Center

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Top 10 Cancers in North Carolina by Rates of new cancers

Rate per 100,000 people

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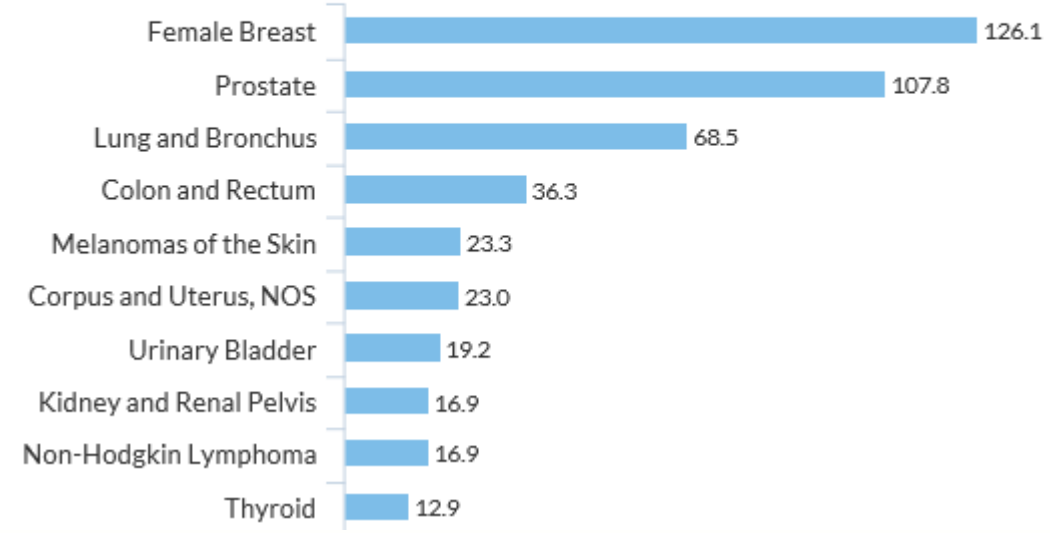

In **North Carolina**, in **2013,** there were **49,970 new cases of cancer.** For every 100,000 people, **445.4** were diagnosed with **cancer.**

The same year, there were **18,589 people who died of cancer.** For every 100,000 people in **North Carolina, 167.7 died of cancer.**

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Rate of new cancer cases by Sex, All Races/Ethnicities

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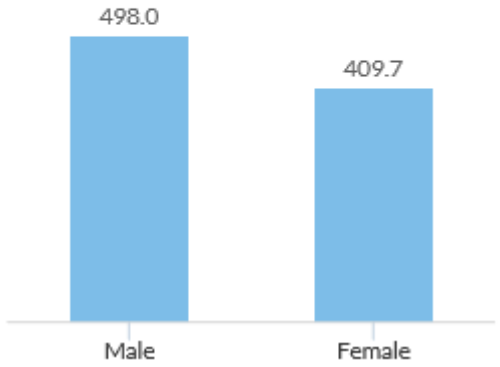

Rate of new cancer cases by Race/Ethnicity, Both Sexes

Rate per 100,000 people

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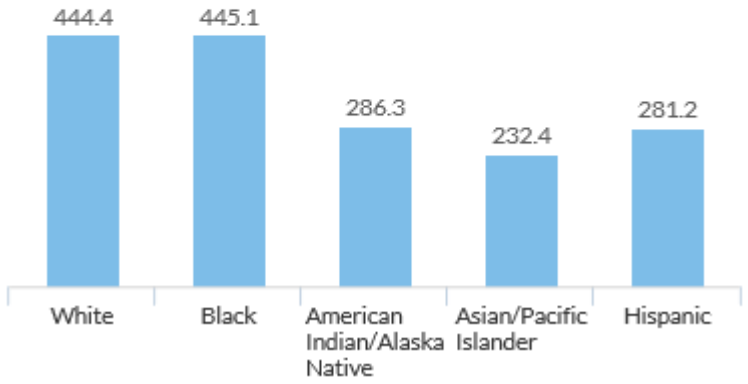

Rate of new cancer cases by Sex and Race/Ethnicity

Rate per 100,000 people

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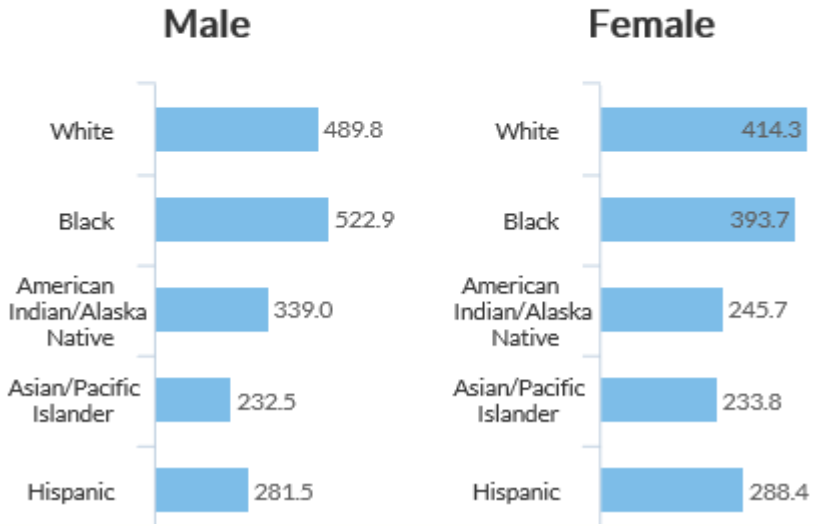
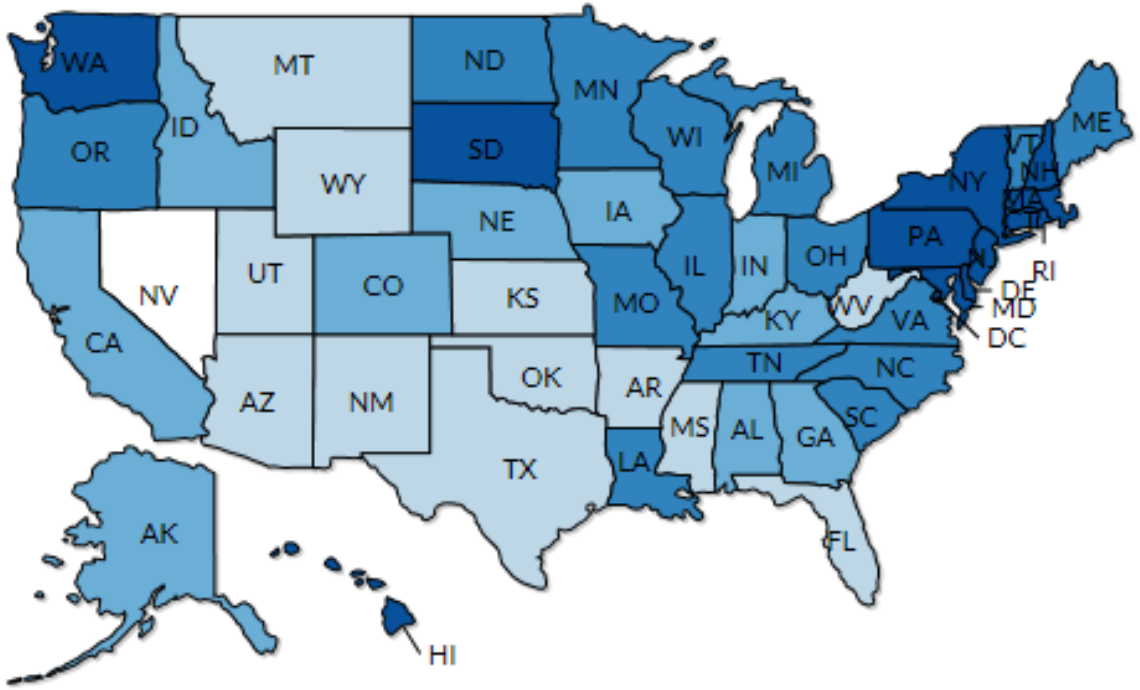


Rate of new cancers, Breast (female), Female, 2013

Rate of new cancers by State, Female Breast



Rate per 100,000 women

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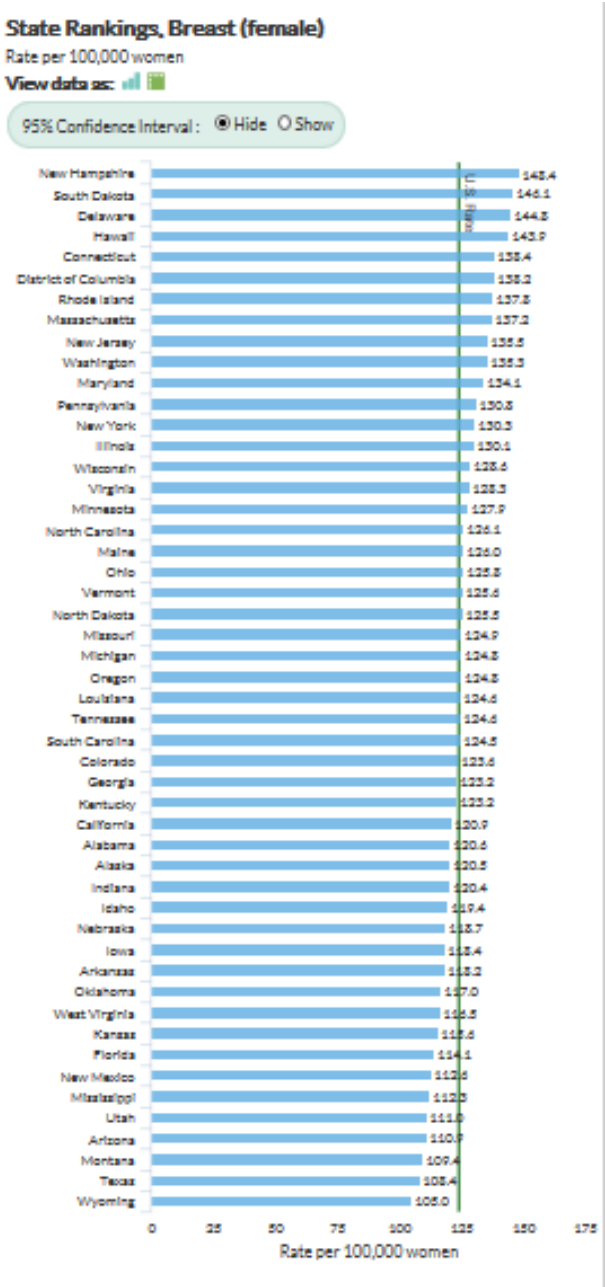
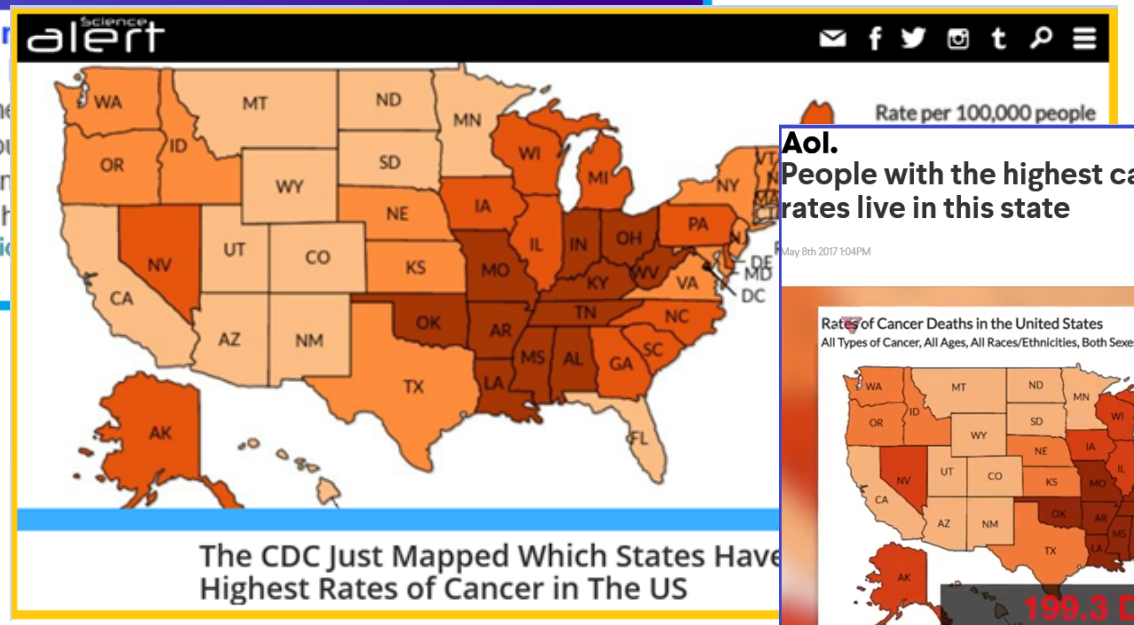
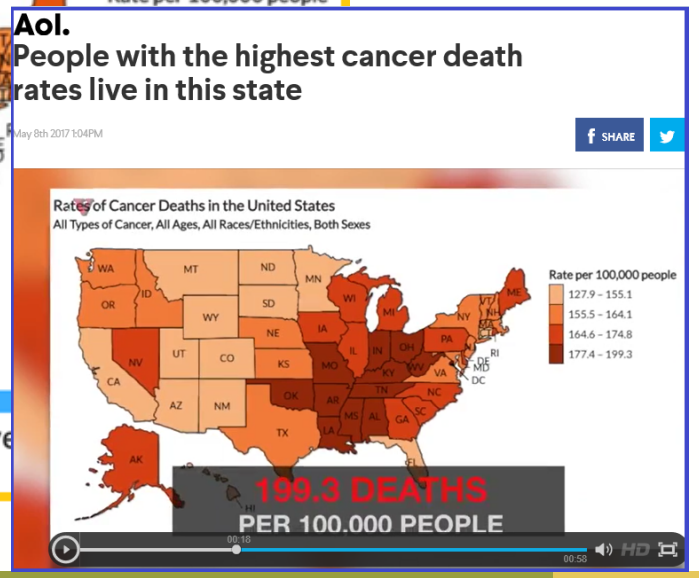
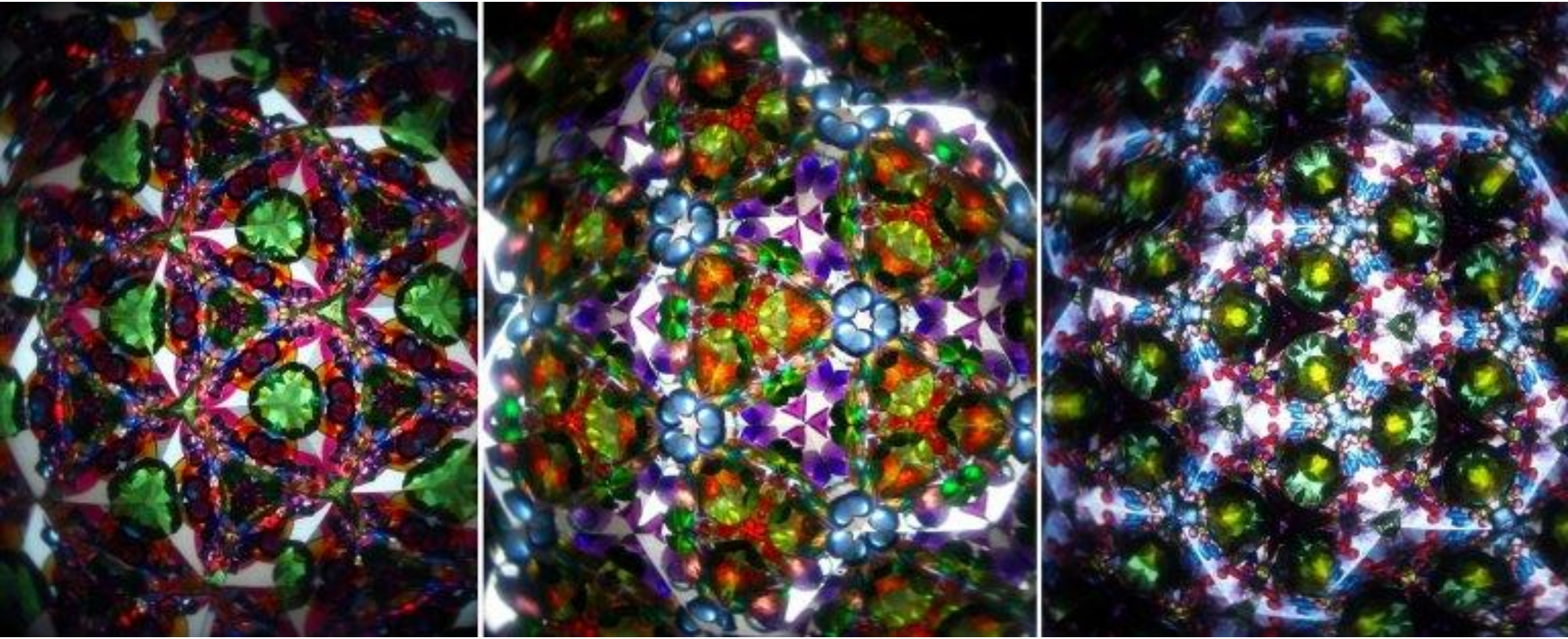


Media Coverage





How do we evaluate our work?



Follow DCPC Online!

@CDC_Cancer

CDC Breast Cancer

Go to the official source of cancer prevention information: www.cdc.gov/cancer.

The findings and conclusions in this report are those of the authors and do not necessarily represent the official position of the Centers for Disease Control and Prevention.

Looking Forward:
Where We Want to Get to – *A Stronger Place*

- **Greater impact** (focused programs that deliver)
- **More relevance** (to all Americans)
- **Greater efficiency** (more manageable workload)
- **More cohesion** (working and fitting together well)


Action is the foundational key to all success.
Imperfect Action is Better than Perfect Inaction
Success consists of going from failure to failure without loss of enthusiasm

Elimination of Preventable Cancers

HPV & COMPREHENSIVE CANCER CONTROL

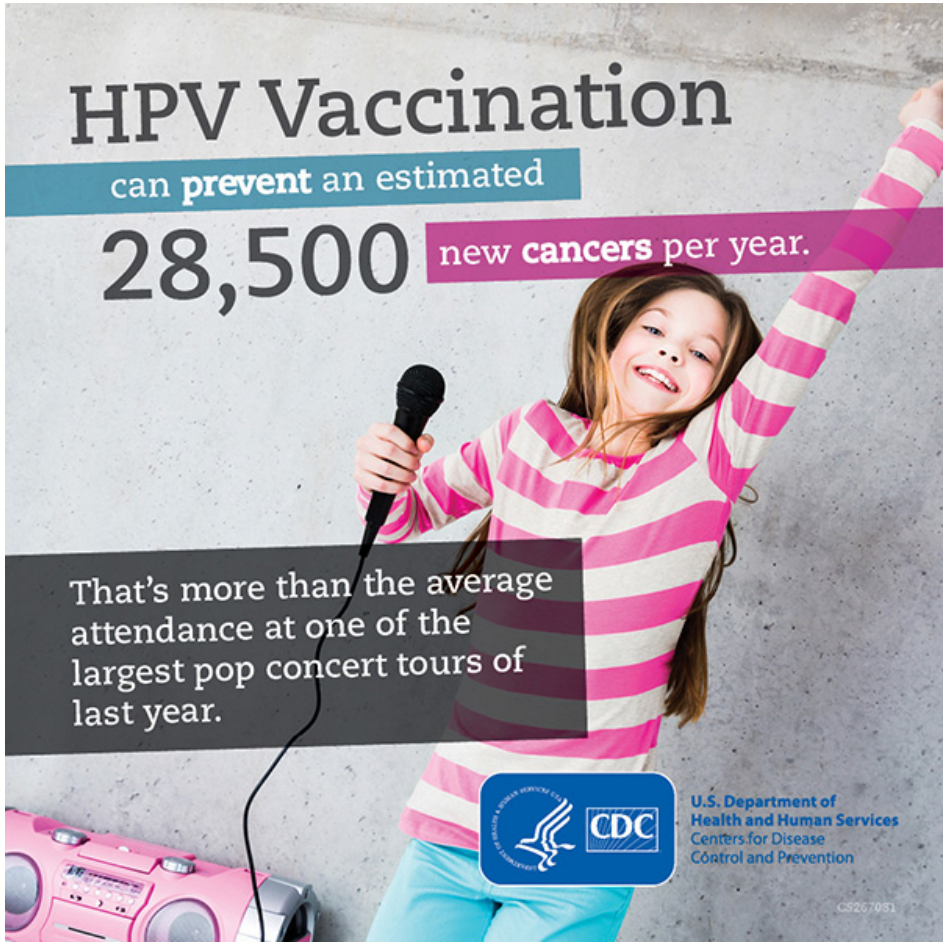
DCPC-NCIRD CoAg

Improving HPV Vaccination Rates Together (HPV Roundtable)

HPV Action Planning

11 states participated in a technical assistance workshop in May 2016

Prevention and Diagnosis Work Group Priorities: HPV Vaccination



Strategy: **Promote HPV as Cancer Prevention**

- National HPV Vaccination Roundtable
  - American Cancer Society, CDC (DCPC and NCIRD), and other partners
- Expand reach of current CDC Immunization and Comprehensive Cancer Control programs
- Establish HPV Vaccination State Affinity Groups (CMS, CDC, and HRSA)

All people get the right screening at the right time

The Colorectal Cancer Control Program (CRCCP) is relatively new, but has evolved over time.

2005 -2009

CRCCP Demonstration Project

- **5 grantees**
  (state, county, city, and university)
- **Focus:**
  Delivery of colorectal cancer (CRC) screening and diagnostic services
- **Results:**
  Viable strategy[1]

2009-2015

CRCCP DP09-903 & 14-1414

- **29 grantees**
  (states, tribes, and territories)
- **Focus:**
  1. Delivery of CRC screening and diagnostic services
  2. CRC screening promotion for underserved populations
- **Results:**
  Limited reach[2]

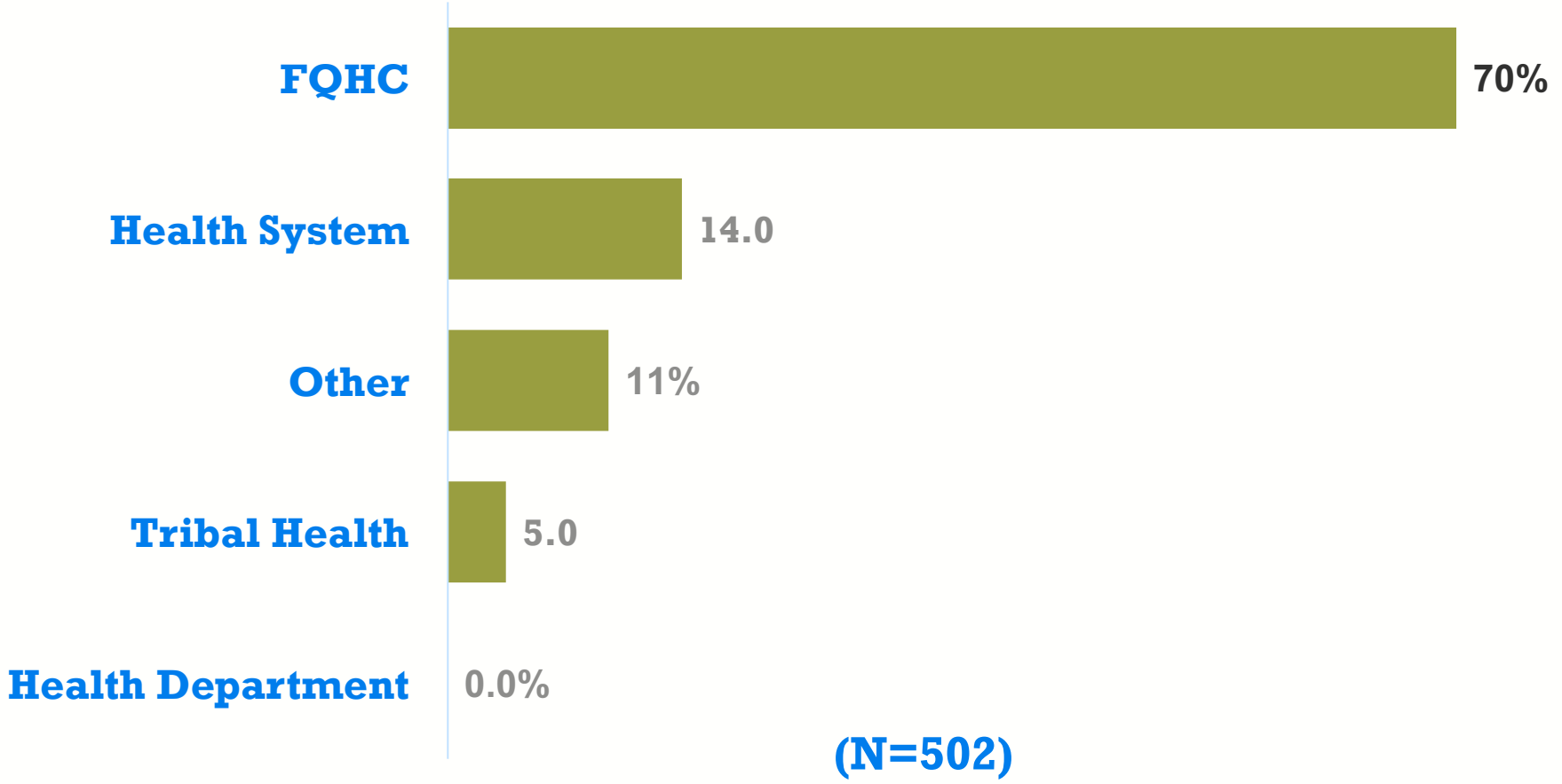
2015-2020

CRCCP DP15-1502

- **30 grantees**
  (states, universities, and tribe)
- **Focus:**
  1. Health systems change[3]
  2. Delivery of CRC screening and diagnostic services (6 grantees only)

[1] *Cancer*, Supplement 119(15), August 1, 2013; [2]Monograph in development; [3]Satsangi A, **DeGroff A.** Planning a National-level Outcome Evaluation of the Colorectal Cancer Control Program. *J Ga Public Health Assoc* 2016: Supplement to Vol 6(2). https://doi.org/10.21633/jgpha.6.2s16

Grantees are working primarily with FQHCs



Source: Clinic data submission, Component 1 only, all 30 reporting, thru 1/27/17

By the end of Program Year 1, the reach of the CRCCP grantees was significant

Thru 6/30/16

140
Health systems

413
Clinics

3,438
Providers

706,128
Patients aged 50-75

Source: Clinic data submission, Component 1 only, all 30 reporting, January 2017

And that reach is steadily increasing

	Health systems	Clinics	Providers	Patients aged 50-75
Thru 1/27/17	164	485	4,146	843,724
Thru 6/30/16	140	413	3,438	706,128

Source: Clinic data submission, Component 1 only, all 30 reporting, January 2017

At baseline, clinic screening rates were low

	Chart Review (n=74)	EHR (n=444)
Clinic Average	36%	33%
Median	33%	31%
Range	2% - 80%	0.1% - 80%

(Total N=485)

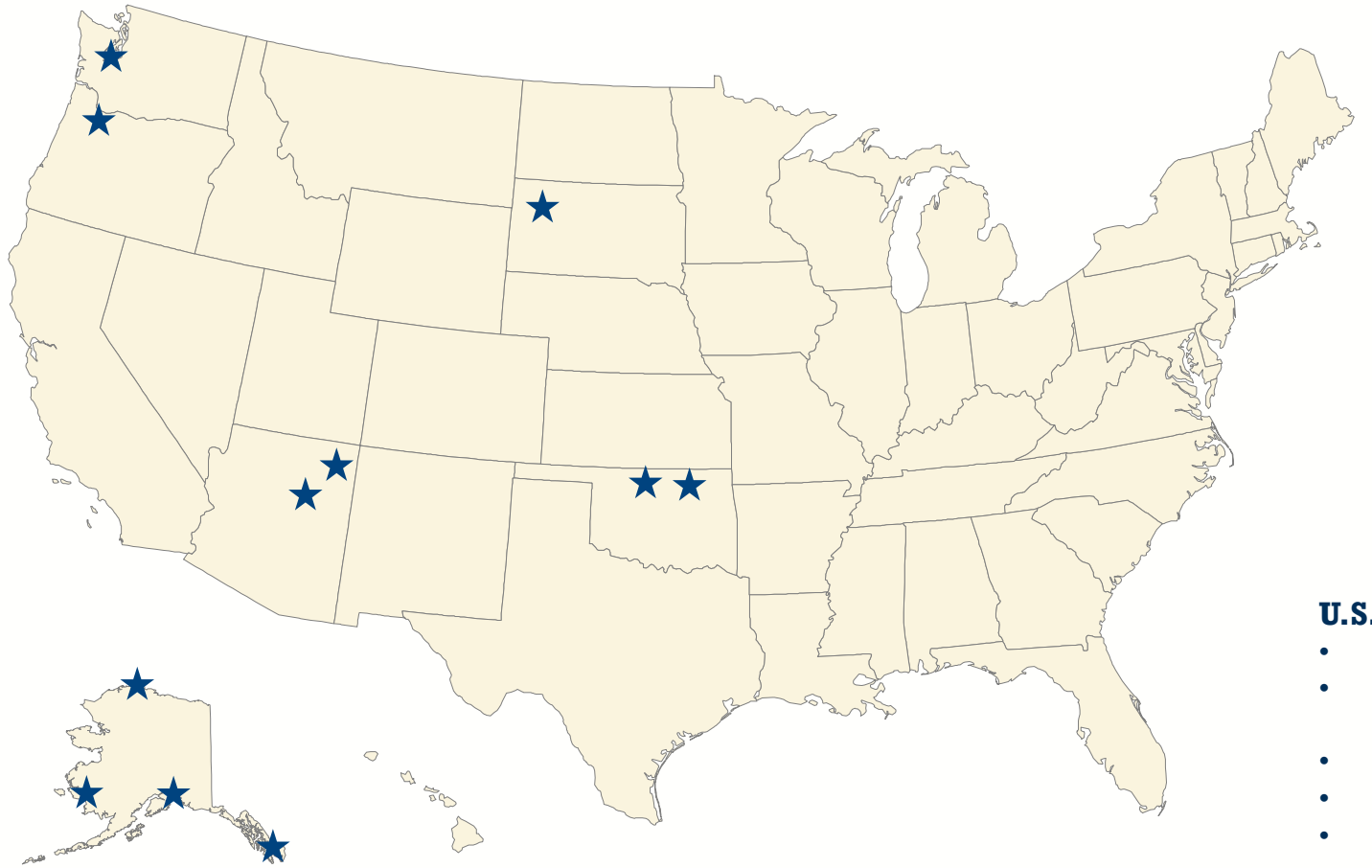
Source: Clinic data submission, Component 1 only, all 30 reporting, thru 1/27/17

National Breast and Cervical Cancer Early Detection Program (NBCCEDP)

The National Breast and Cervical Cancer Early Detection Program began in 1991

- Important safety net that has provided >12M screening exams
- Expanding program to meet needs of new public health roles
- *CDC's vision: increase population level screening rates*

National Breast and Cervical Cancer Early Detection Program (NBCCEDP)



NBCCEDP

★ **Tribal Organizations:**

- Arctic Slope Native Association Limited
- Cherokee Nation
- Cheyenne River Sioux Tribe
- Hopi Tribe
- Kaw Nation of Oklahoma
- Native American Rehabilitation Association of the Northwest, Inc.
- Navajo Nation
- Southcentral Foundation
- South East Alaska Regional Health Consortium
- South Puget Intertribal Planning Agency
- Yukon-Koskowin Health Corporation

U.S. Territories (Not Shown):

- American Samoa
- Commonwealth of Northern Mariana Islands
- Guam
- Puerto Rico
- Republic of Palau

Funded in all 50 states, the District of Columbia, 5 U.S. territories, and 11 tribal organizations

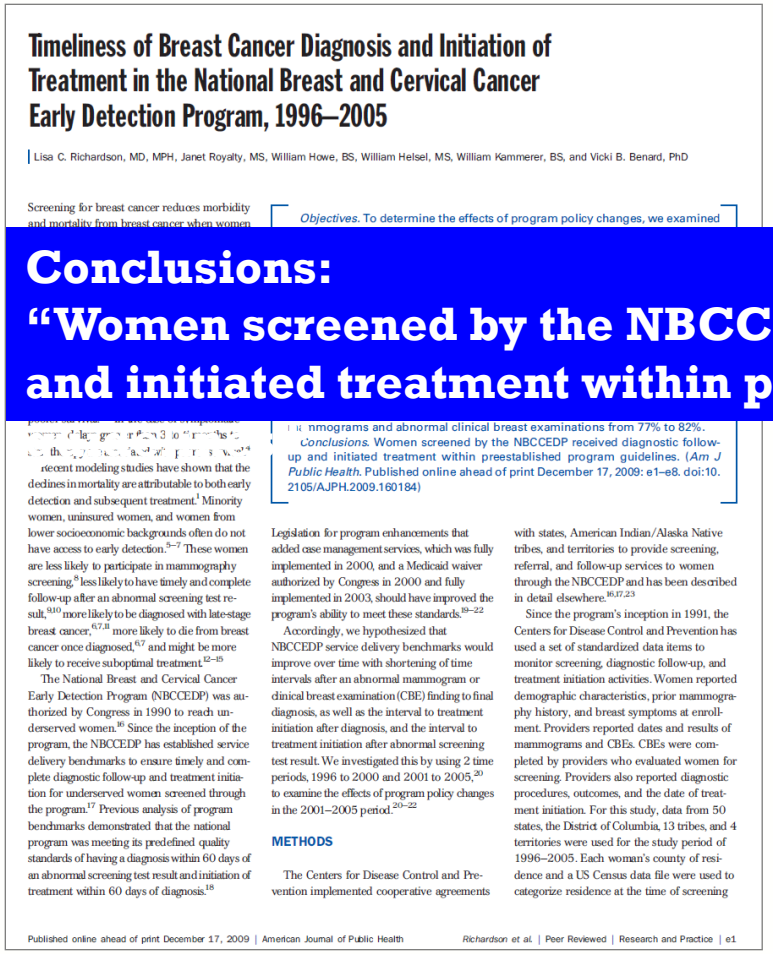
Since Inception

- 25+ years of service
- 5 million women screened
- >12 million breast and cervical cancer screening examinations completed
- 70,997 breast cancers detected
- 3,845 invasive cervical cancers detected
- 175,688 pre-malignant cervical lesions, of which 40% were high grade

Breast and Cervical Cancer Prevention and Treatment Act of 2000

- Allowed states the option to offer women in the NBCCEDP access to treatment through Medicaid
- The Native American Breast and Cervical Cancer Treatment Technical Amendment Act of 2001 extended these same services to American Indians and Native Alaskans who received their care through the Indian Health Service.
- Each state establishes their own guidelines for treatment eligibility

Program Performance (Quality)



Timeliness of Breast Cancer Diagnosis and Initiation of Treatment in the National Breast and Cervical Cancer Early Detection Program, 1996–2005

Lisa C. Richardson, MD, MPH, Janet Royalty, MS, William Howe, BS, William Helsel, MS, William Kammerer, BS, and Vicki B. Benard, PhD

Screening for breast cancer reduces morbidity and mortality from breast cancer when women

Objectives. To determine the effects of program policy changes, we examined

nmograms and abnormal clinical breast examinations from 77% to 82%.

Conclusions. Women screened by the NBCCEDP received diagnostic follow-up and initiated treatment within preestablished program guidelines. (*Am J Public Health.* Published online ahead of print December 17, 2009: e1–e8. doi:10.2105/AJPH.2009.160184)

recent modeling studies have shown that the declines in mortality are attributable to both early detection and subsequent treatment.[1] Minority women, uninsured women, and women from lower socioeconomic backgrounds often do not have access to early detection.[5–7] These women are less likely to participate in mammography screening,[8] less likely to have timely and complete follow-up after an abnormal screening test result,[9,10] more likely to be diagnosed with late-stage breast cancer,[6,7,11] more likely to die from breast cancer once diagnosed,[6,7] and might be more likely to receive suboptimal treatment.[12–15]

The National Breast and Cervical Cancer Early Detection Program (NBCCEDP) was authorized by Congress in 1990 to reach underserved women.[16] Since the inception of the program, the NBCCEDP has established service delivery benchmarks to ensure timely and complete diagnostic follow-up and treatment initiation for underserved women screened through the program.[17] Previous analysis of program benchmarks demonstrated that the national program was meeting its predefined quality standards of having a diagnosis within 60 days of an abnormal screening test result and initiation of treatment within 60 days of diagnosis.[18]

Legislation for program enhancements that added case management services, which was fully implemented in 2000, and a Medicaid waiver authorized by Congress in 2000 and fully implemented in 2003, should have improved the program's ability to meet these standards.[19–22]

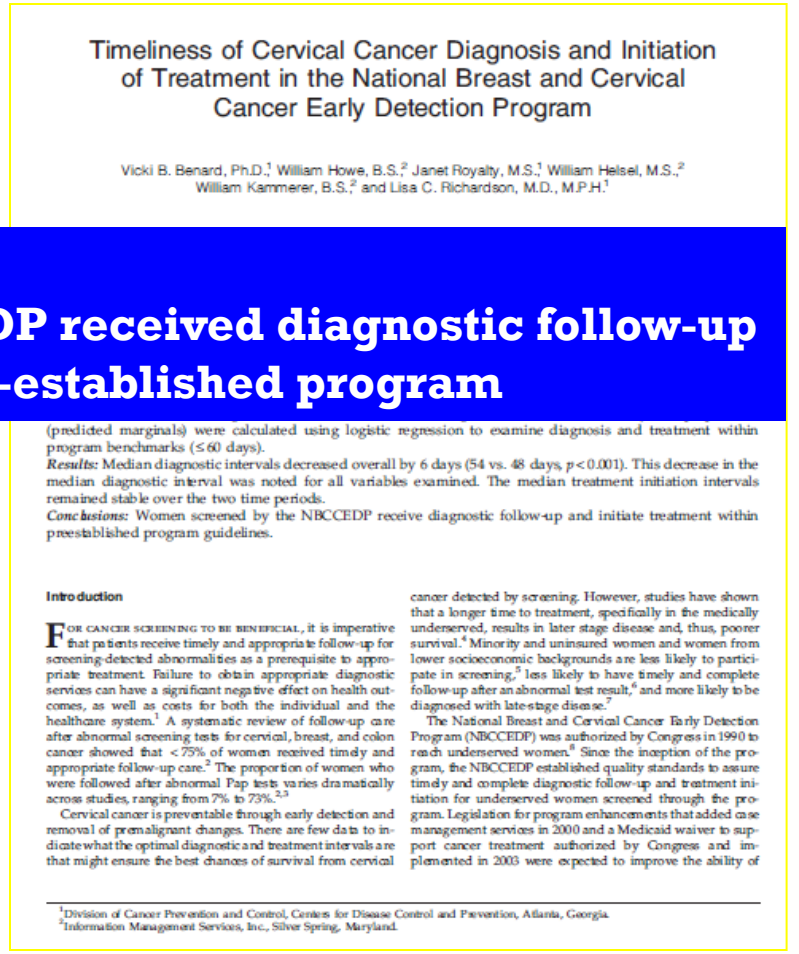
Accordingly, we hypothesized that NBCCEDP service delivery benchmarks would improve over time with shortening of time intervals after an abnormal mammogram or clinical breast examination (CBE) finding to final diagnosis, as well as the interval to treatment initiation after diagnosis, and the interval to treatment initiation after abnormal screening test result. We investigated this by using 2 time periods, 1996 to 2000 and 2001 to 2005,[20] to examine the effects of program policy changes in the 2001–2005 period.[20–22]

METHODS

The Centers for Disease Control and Prevention implemented cooperative agreements with states, American Indian/Alaska Native tribes, and territories to provide screening, referral, and follow-up services to women through the NBCCEDP and has been described in detail elsewhere.[16,17,23]

Since the program's inception in 1991, the Centers for Disease Control and Prevention has used a set of standardized data items to monitor screening, diagnostic follow-up, and treatment initiation activities. Women reported demographic characteristics, prior mammography history, and breast symptoms at enrollment. Providers reported dates and results of mammograms and CBEs. CBEs were completed by providers who evaluated women for screening. Providers also reported diagnostic procedures, outcomes, and the date of treatment initiation. For this study, data from 50 states, the District of Columbia, 13 tribes, and 4 territories were used for the study period of 1996–2005. Each woman's county of residence and a US Census data file were used to categorize residence at the time of screening

Conclusions:
"Women screened by the NBCCEDP received diagnostic follow-up and initiated treatment within pre-established program



Timeliness of Cervical Cancer Diagnosis and Initiation of Treatment in the National Breast and Cervical Cancer Early Detection Program

Vicki B. Benard, Ph.D.,[1] William Howe, B.S.,[2] Janet Royalty, M.S.,[1] William Helsel, M.S.,[2] William Kammerer, B.S.,[2] and Lisa C. Richardson, M.D., M.P.H.[1]

(predicted marginals) were calculated using logistic regression to examine diagnosis and treatment within program benchmarks (≤60 days).

Results: Median diagnostic intervals decreased overall by 6 days (54 vs. 48 days, $p < 0.001$). This decrease in the median diagnostic interval was noted for all variables examined. The median treatment initiation intervals remained stable over the two time periods.

Conclusions: Women screened by the NBCCEDP receive diagnostic follow-up and initiate treatment within preestablished program guidelines.

Introduction

FOR CANCER SCREENING TO BE BENEFICIAL, it is imperative that patients receive timely and appropriate follow-up for screening-detected abnormalities as a prerequisite to appropriate treatment. Failure to obtain appropriate diagnostic services can have a significant negative effect on health outcomes, as well as costs for both the individual and the healthcare system.[1] A systematic review of follow-up care after abnormal screening tests for cervical, breast, and colon cancer showed that <75% of women received timely and appropriate follow-up care.[2] The proportion of women who were followed after abnormal Pap tests varies dramatically across studies, ranging from 7% to 73%.[2,3]

Cervical cancer is preventable through early detection and removal of premalignant changes. There are few data to indicate what the optimal diagnostic and treatment intervals are that might ensure the best chances of survival from cervical cancer detected by screening. However, studies have shown that a longer time to treatment, specifically in the medically underserved, results in later stage disease and, thus, poorer survival.[4] Minority and uninsured women and women from lower socioeconomic backgrounds are less likely to participate in screening,[5] less likely to have timely and complete follow-up after an abnormal test result,[6] and more likely to be diagnosed with late-stage disease.[7]

The National Breast and Cervical Cancer Early Detection Program (NBCCEDP) was authorized by Congress in 1990 to reach underserved women.[8] Since the inception of the program, the NBCCEDP established quality standards to assure timely and complete diagnostic follow-up and treatment initiation for underserved women screened through the program. Legislation for program enhancements that added case management services in 2000 and a Medicaid waiver to support cancer treatment authorized by Congress and implemented in 2003 were expected to improve the ability of

[1]Division of Cancer Prevention and Control, Centers for Disease Control and Prevention, Atlanta, Georgia.
[2]Information Management Services, Inc., Silver Spring, Maryland.

Richardson LC, et al. Timeliness of Breast Cancer Diagnosis and Initiation of Treatment. AJPH. 2010

Benard VB, et al. Timeliness of Cervical Cancer Diagnosis and Initiation of Treatment. JWH. 2012.

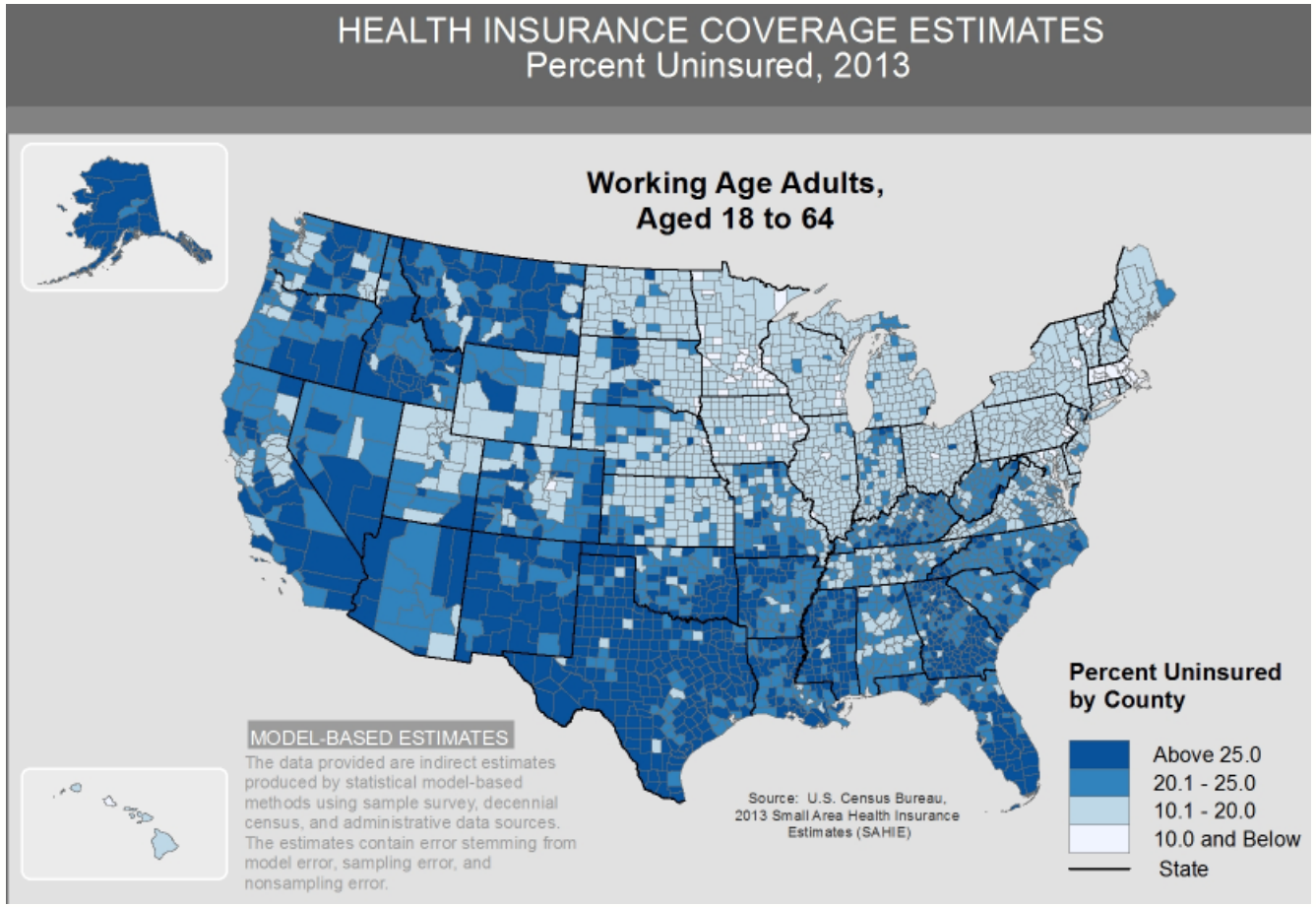
Simulation-based Analyses on Life Years Gained From Selected Population-based Prevention Programs

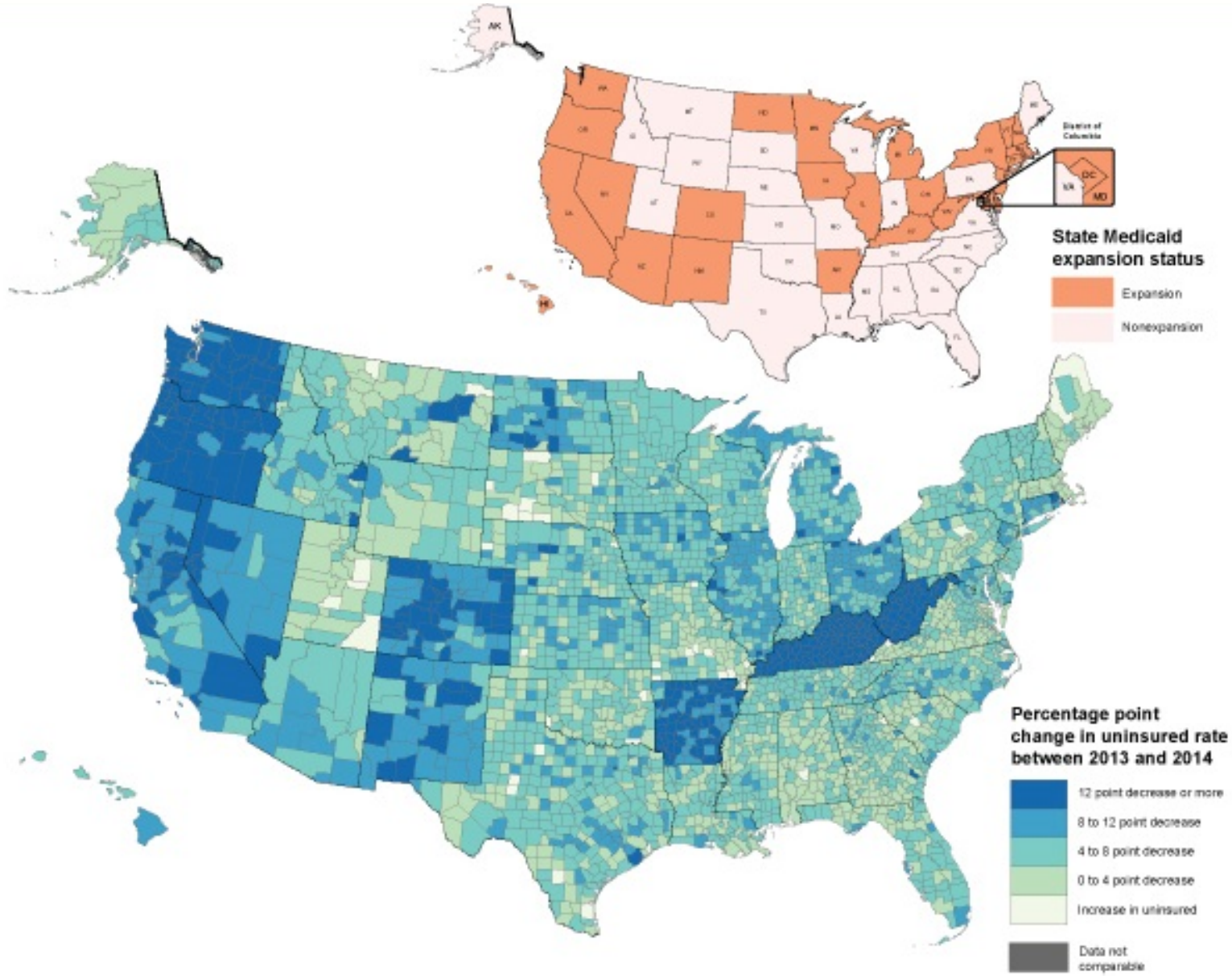
Intervention	Target Population	LYs saved per person/ year	Data sources, yr
Quitting cigarette smoking	35-year-olds	0.667–0.833	Wright JC, 1998
All childhood immunizations	<5 years old	0.1233	Maciosek MV, 2010
NBCCEDP–Breast cancer screening	40-64 years	0.056	Hoerger TJ, 2011
NBCCEDP–Cervical cancer screening	18-29 years	0.023	Ekwueme DU 2014
NBCCEDP–Cervical cancer screening	30-39 years	0.01	Ekwueme DU 2014
Measles vaccine	<5 years old	0.008	Wright JC, 1998
Rubella vaccine	<5 years old	0.008	Wright JC, 1998
NBCCEDP–Cervical cancer screening	18-64 years	0.006	Ekwueme DU 2014
Breast cancer screening	50+ year-old women	0.0045	Maciosek MV, 2010
Colorectal cancer screening	50 +years FOBT	0.0041	Maciosek MV, 2010
NBCCEDP–Cervical cancer screening	40-64 years	0.003	Ekwueme DU 2014
Influenza immunization	50 + years	0.0024	Maciosek MV, 2010
Cervical cancer screening	21+ years women	0.0002	Maciosek MV, 2010

NBCCEDP: Estimating Eligible Population

- DCPC provided partial funding for the US Census Bureau to:
  - Estimate NBCCEDP Eligible Population
  - Develop the Small Area Health Insurance Estimates (SAHIE)
- SAHIE is only source of single-year health insurance coverage estimates for all U.S. counties

For more information visit:
http://www.census.gov/did/www/sahie/index.html





2013-2014 Change in Uninsured Rate for Low-Income Adults Ages 18-64

US Census Bureau, 2016
http://www.census.gov/newsroom/press-releases/2016/cb16-86.html

Quality Indicators for Monitoring Program Performance

Type	Indicator	Target
Screening Priority Population	*Mammography screening age 50 and older*	*≥75%*
	Women rarely/never screened for cervical cancer	*≥20%*
Timely and complete Diagnostic follow-up of abnormal screening results	*Breast diagnosis completed*	*≥ 90%*
	Breast diagnosis completed within 60 days	*≥75%*
	Cervical diagnosis completed	*≥ 90%*
	Cervical diagnosis completed within 90 days	*≥ 75%*
Timely and complete Treatment initiated for cancers diagnosed	*Breast treatment initiated*	*≥90%*
	Breast treatment initiated within 60 days	*≥80%*
	Cervical treatment initiated	*≥90%*
	Cervical treatment initiated within 60 days (Invasive)	*≥ 80%*
	Cervical treatment initiated within 90 days (CIN2/3)	*≥80%*

NBCCEDP – Data Quality Indicator Guide

Breast Cancer

Standards	2015
% Diagnostic follow-up complete ≥ 90%	**95.9%**
% Treatment initiation ≥ 90%	**96.6%**
% >60 days Screening to Diagnosis ≤ 25%	**6.8%**
% >60 days Diagnosis to Treatment ≤ 20%	**7.7%**

Cervical Cancer

Standards	2015
% Diagnostic follow-up complete ≥ 90%	**92.3%**
% Treatment initiation ≥ 90%	**92.5%**
% >90 days Screening to Diagnosis ≤ 25%	**14.3%**
% >90 days Diagnosis to Treatment ≤ 20%	**6.9%**

People have the best possible cancer care and outcomes

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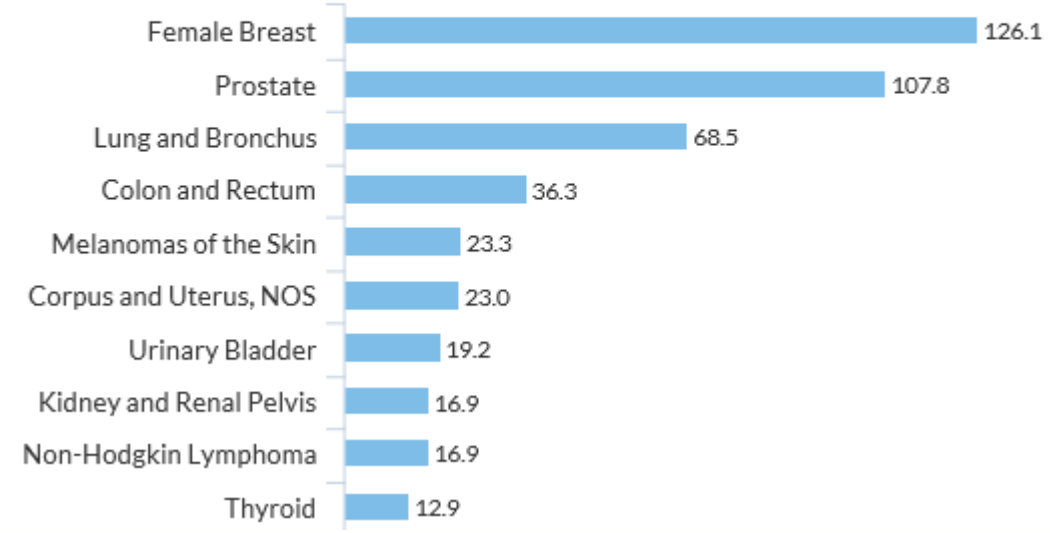

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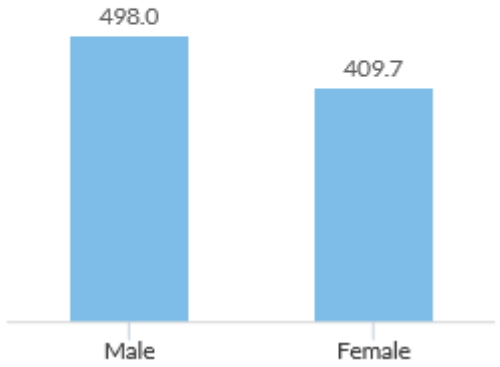

Rate of new cancer cases by Race/Ethnicity, Both Sexes

Rate per 100,000 people

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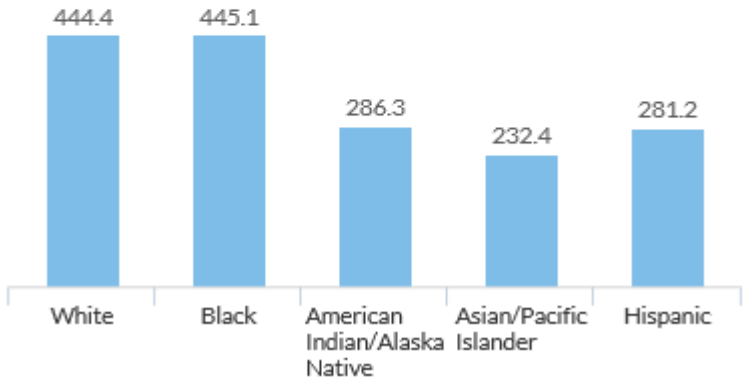

Rate of new cancer cases by Sex and Race/Ethnicity

Rate per 100,000 people

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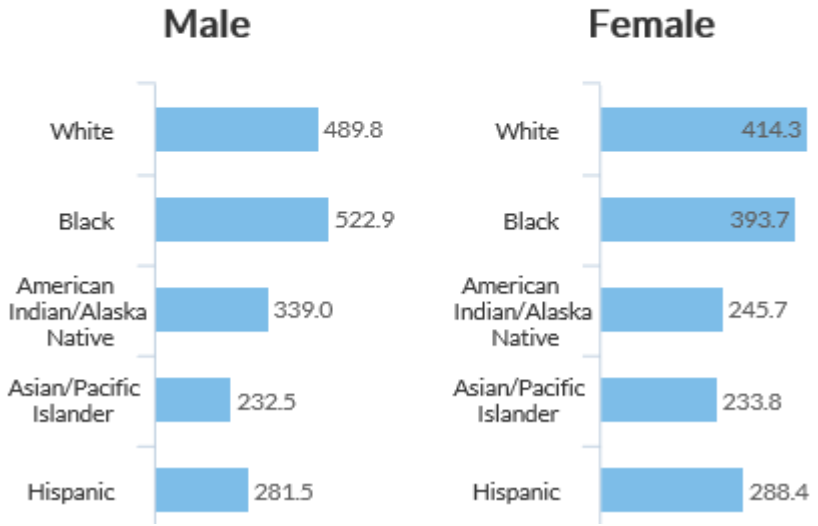
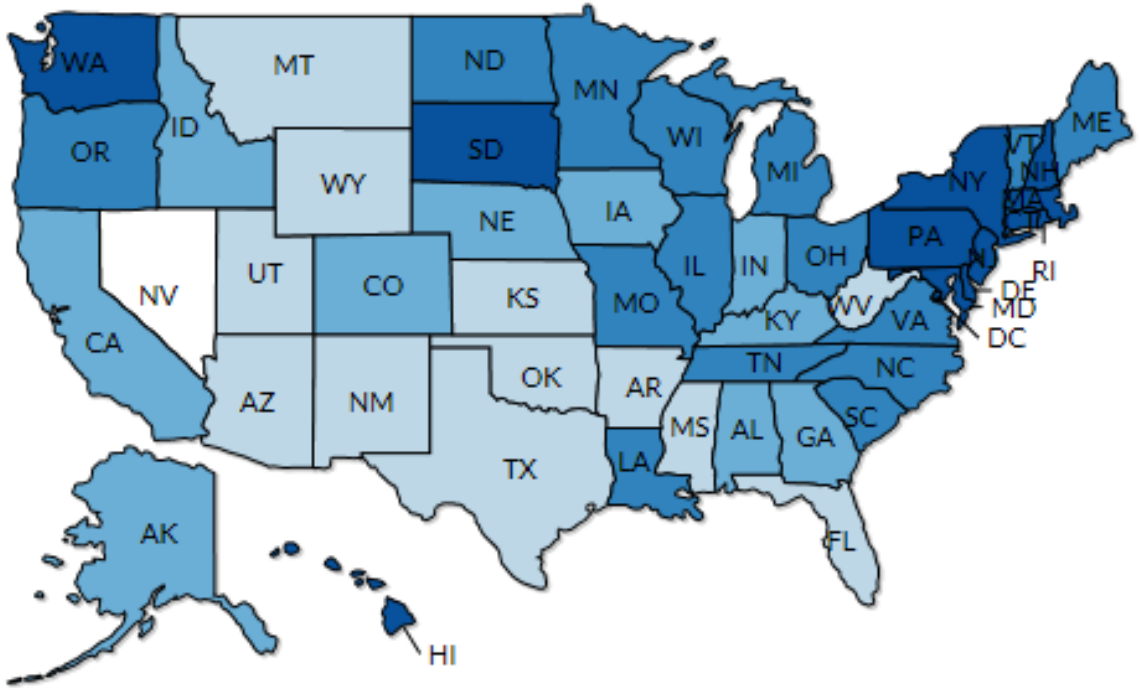


Rate of new cancers, Breast (female), Female, 2013

Rate of new cancers by State, Female Breast



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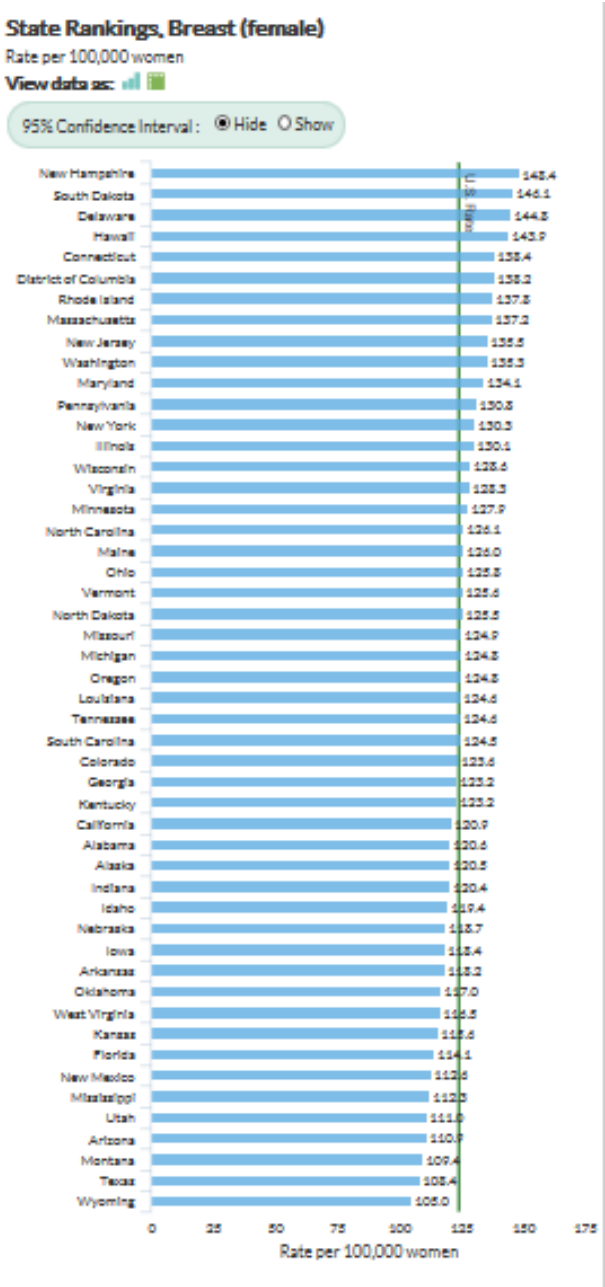
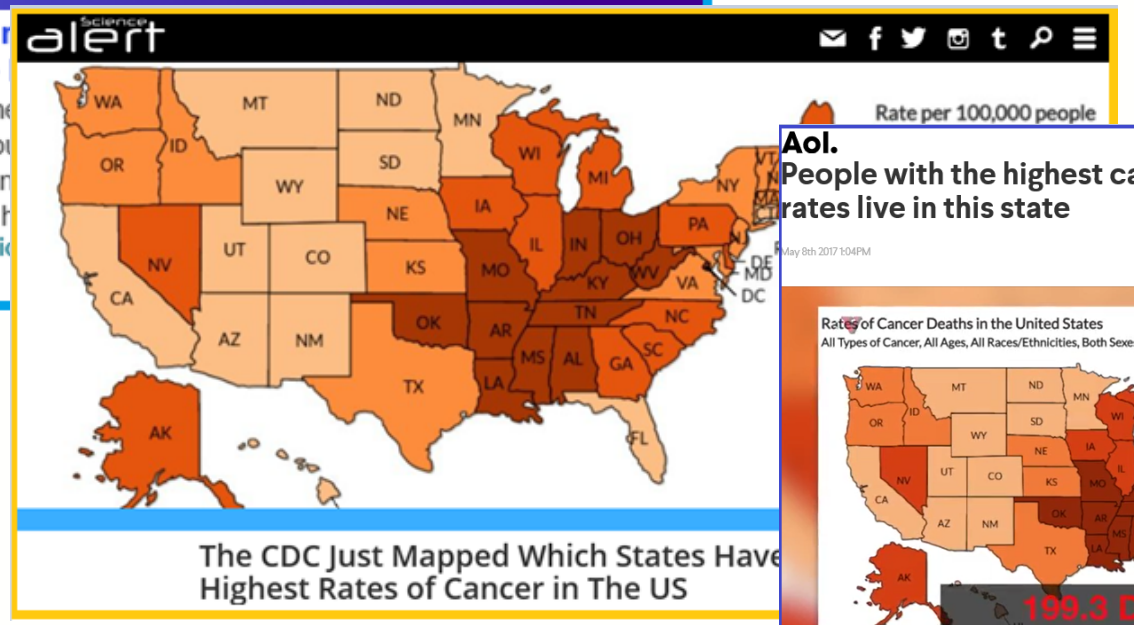
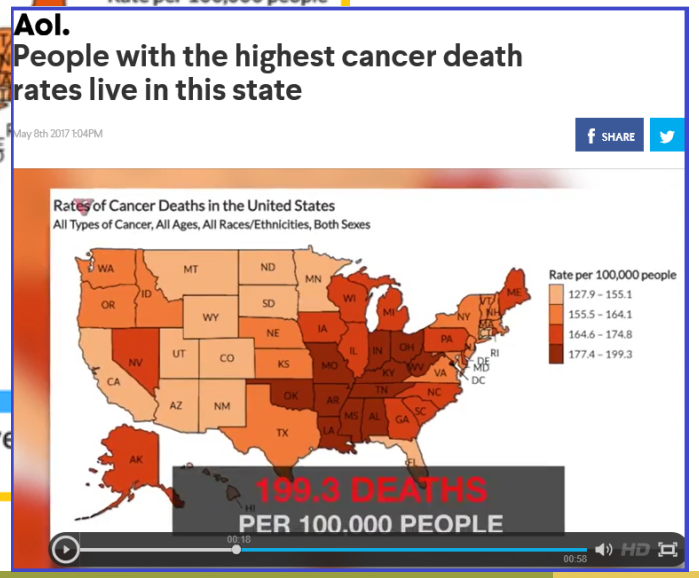


Media Coverage





Cancer Survivors Live Longer Healthier Lives

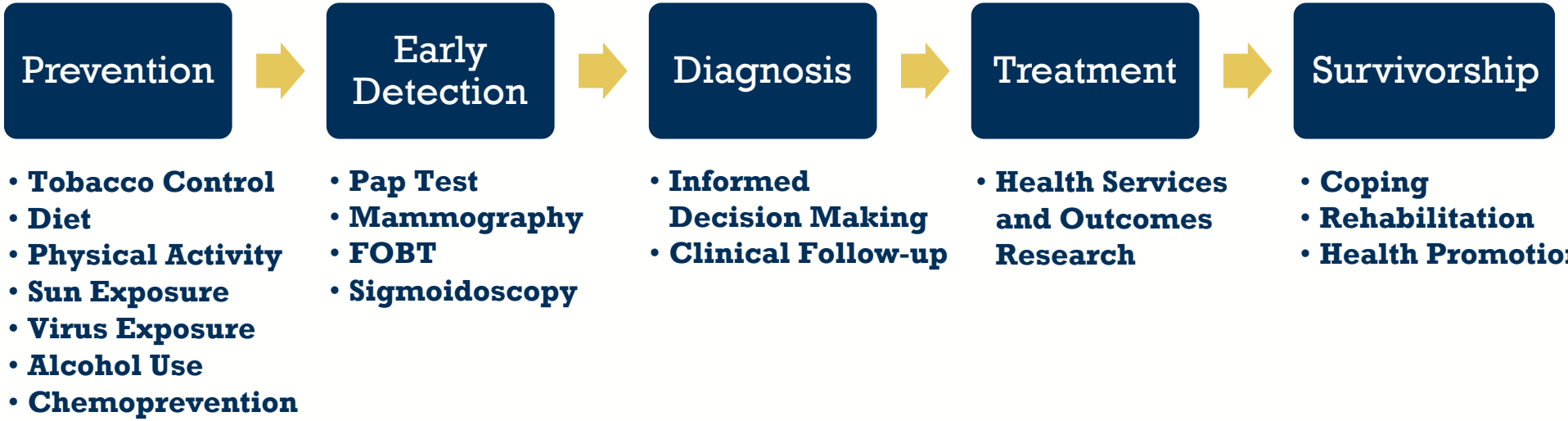
Cancer Survivorship

The number of cancer survivors in the U.S. is large, growing, and increasingly diverse.

Cancer takes a physical, psychosocial, and financial toll on survivors, making some survivors particularly vulnerable.

CDC is evaluating and disseminating promising practices and interventions to promote health and improve quality of life of cancer survivors.

Cancer Control Continuum: Survivorship



Cross-cutting Issues

- Communications
- Surveillance/epidemiology/evaluation
- Research
- Social determinants and health disparities
- Genomics
- Quality of and access to cancer services

CDC/DCPC Focused Survivorship Work

Research & Publications

Population-Based Surveys

BRFSS™

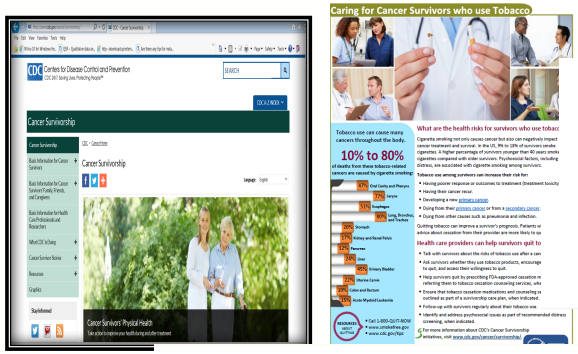
NATIONAL HEALTH INTERVIEW SURVEY
Since 1957

MEPS

Surveillance

1992 25 YEARS 2017
NPCR
NATIONAL PROGRAM of CANCER REGISTRIES

Health Promotion



BRING YOUR brave.

Medscape Wednesday, October 26, 2016

NEWS & PERSPECTIVE | DRUGS & DISEASES | CME & EDUCATION

Programs

Comprehensive Cancer Control
Collaborating to Conquer Cancer

LIVESTRONG™ at the YMCA
A PROGRAM OF THE YMCA AND THE LANCE ARMSTRONG FOUNDATION

NATIONAL CANCER INSTITUTE

American Cancer Society

LIVESTRONG

CDC
CENTERS FOR DISEASE CONTROL AND PREVENTION


Action is the foundational key to all success.
Imperfect Action is Better than Perfect Inaction
Success consists of going from failure to failure without loss of enthusiasm

2017 National Cancer Conference

- Opportunity for translating research into practice to improve public health
- August 14-16, 2017
- Speakers:
  - Lucille Adams Campbell
  - Atul Gwande
  - Joan Lunden
  - Sanjeev Arora

https://www.cdc.gov/cancer/conference/

Follow DCPC Online!

@CDC_Cancer

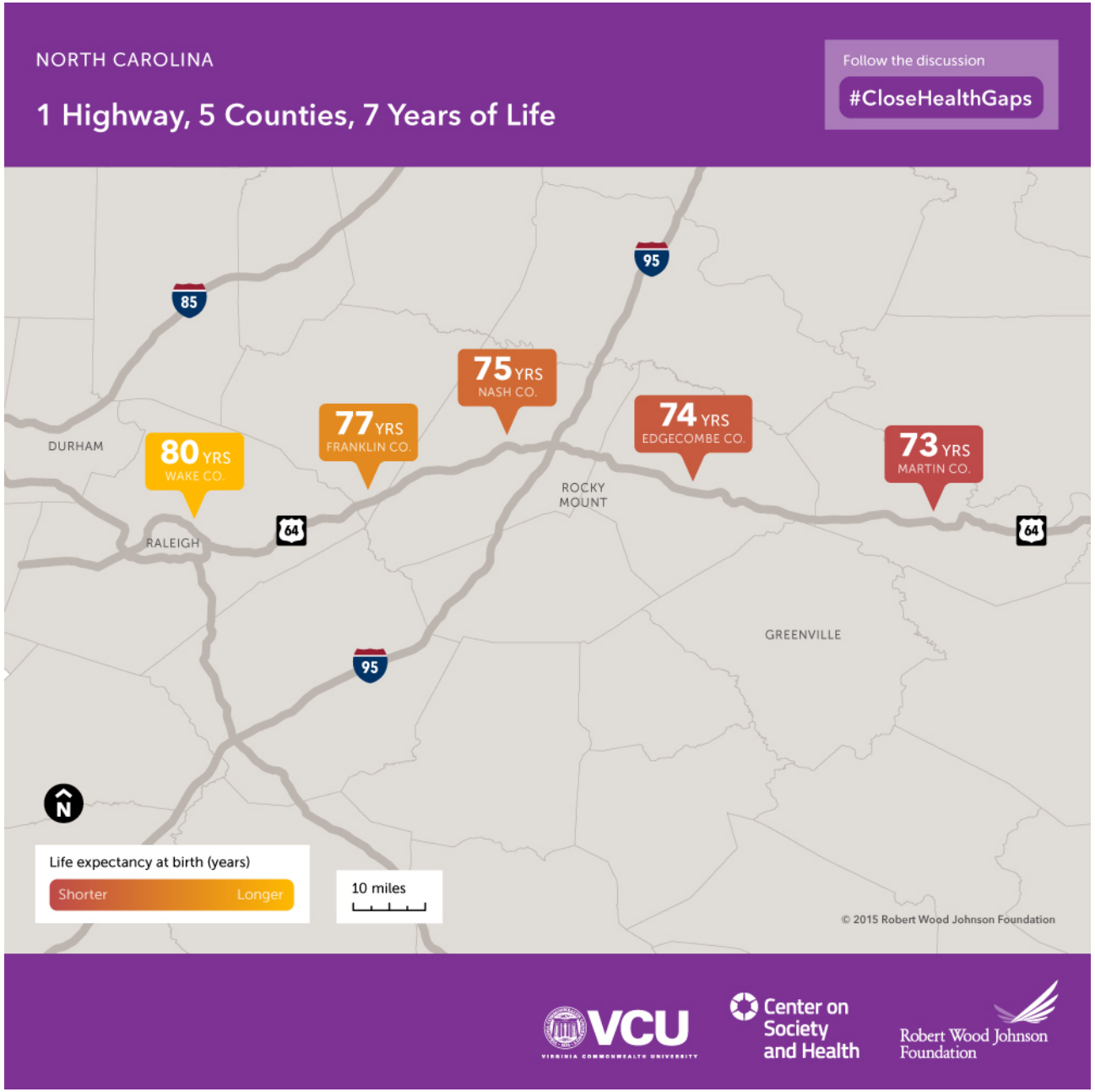
CDC Breast Cancer

Go to the official source of cancer prevention information: www.cdc.gov/cancer.

The findings and conclusions in this report are those of the authors and do not necessarily represent the official position of the Centers for Disease Control and Prevention.

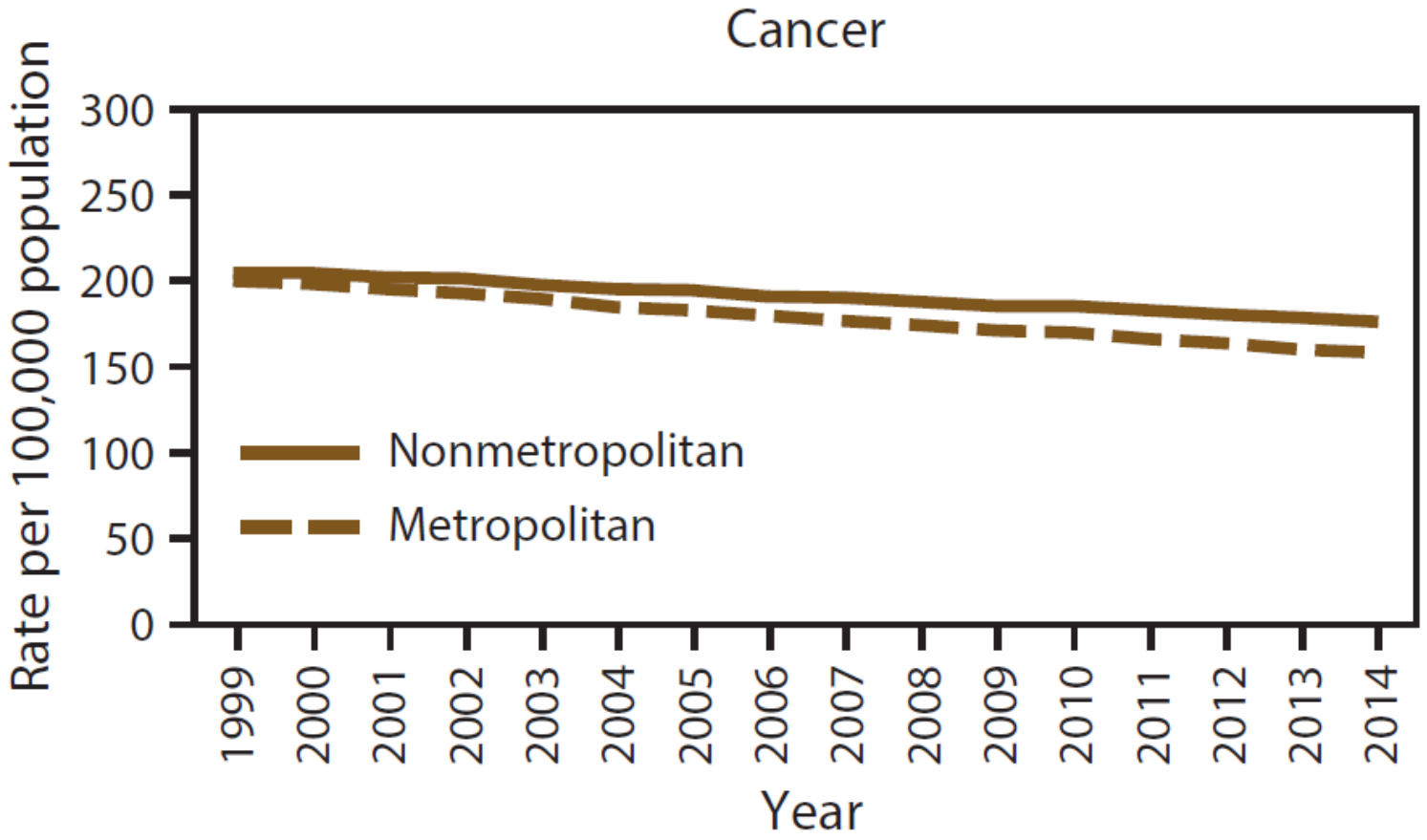
CDC's Cancer Aspirations and Strategic Priorities

Elimination of preventable cancers	••Reduce incidence of vaccine-preventable cancers
All people get the right screening at the right time	••Increase the impact and scaling of best practices of the screening continuum
People have the best possible cancer care and outcomes	••Improve the integration and use of data platform to support data-driven decisions
Cancer survivors live longer, healthier lives	••Improve health outcomes for cancer survivors



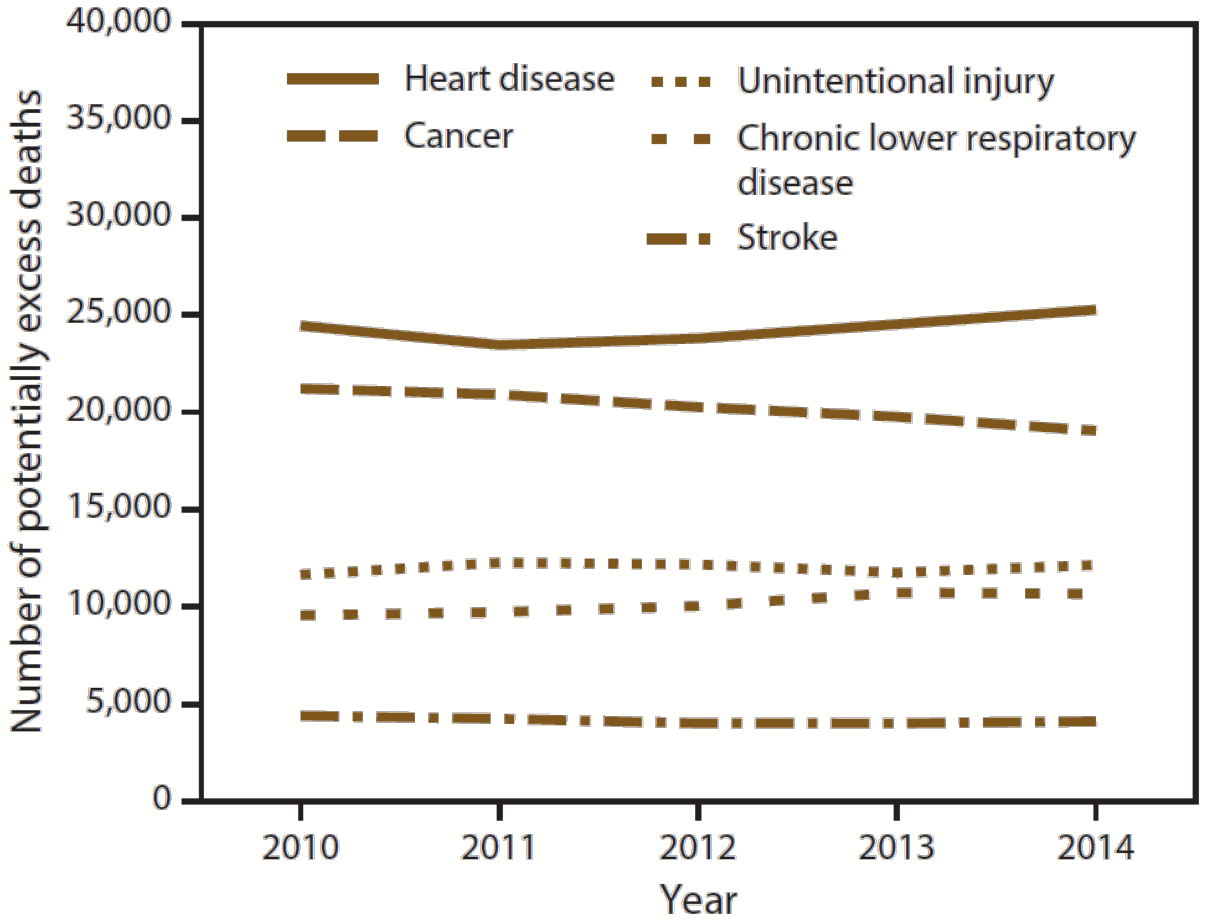
http://www.societyhealth.vcu.edu/work/the-projects/mapping-life-expectancy.html

Age-adjusted death rates among persons of all ages for five leading causes of death in nonmetropolitan and metropolitan areas, National Vital Statistics System, United States, 1999–2014



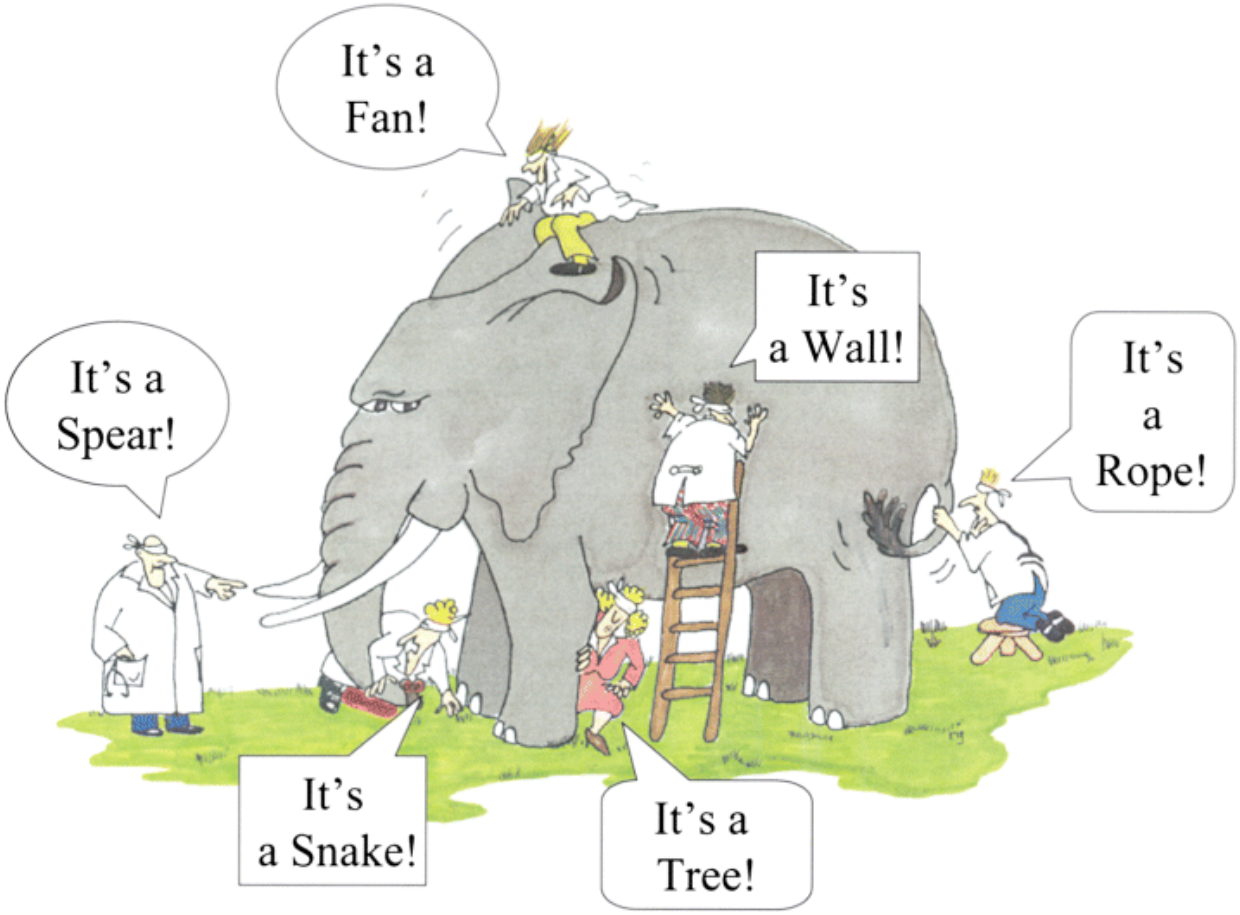
Moy E, Garcia MC, Bastian B, et al. Leading Causes of Death in Nonmetropolitan and Metropolitan Areas — United States, 1999–2014. MMWR Surveill Summ 2017;66(No. SS-1):1–8. DOI: http://dx.doi.org/10.15585/mmwr.ss6601a1

Number of potentially excess deaths among persons aged <80 years for five leading causes of death in nonmetropolitan areas National Vital Statistics System, United States, 2010–2014



Moy E, Garcia MC, Bastian B, et al. Leading Causes of Death in Nonmetropolitan and Metropolitan Areas — United States, 1999–2014. MMWR Surveill Summ 2017;66(No. SS-1):1–8. DOI: http://dx.doi.org/10.15585/mmwr.ss6601a1

Seeing opportunities for prevention requires working across disciplines and sectors

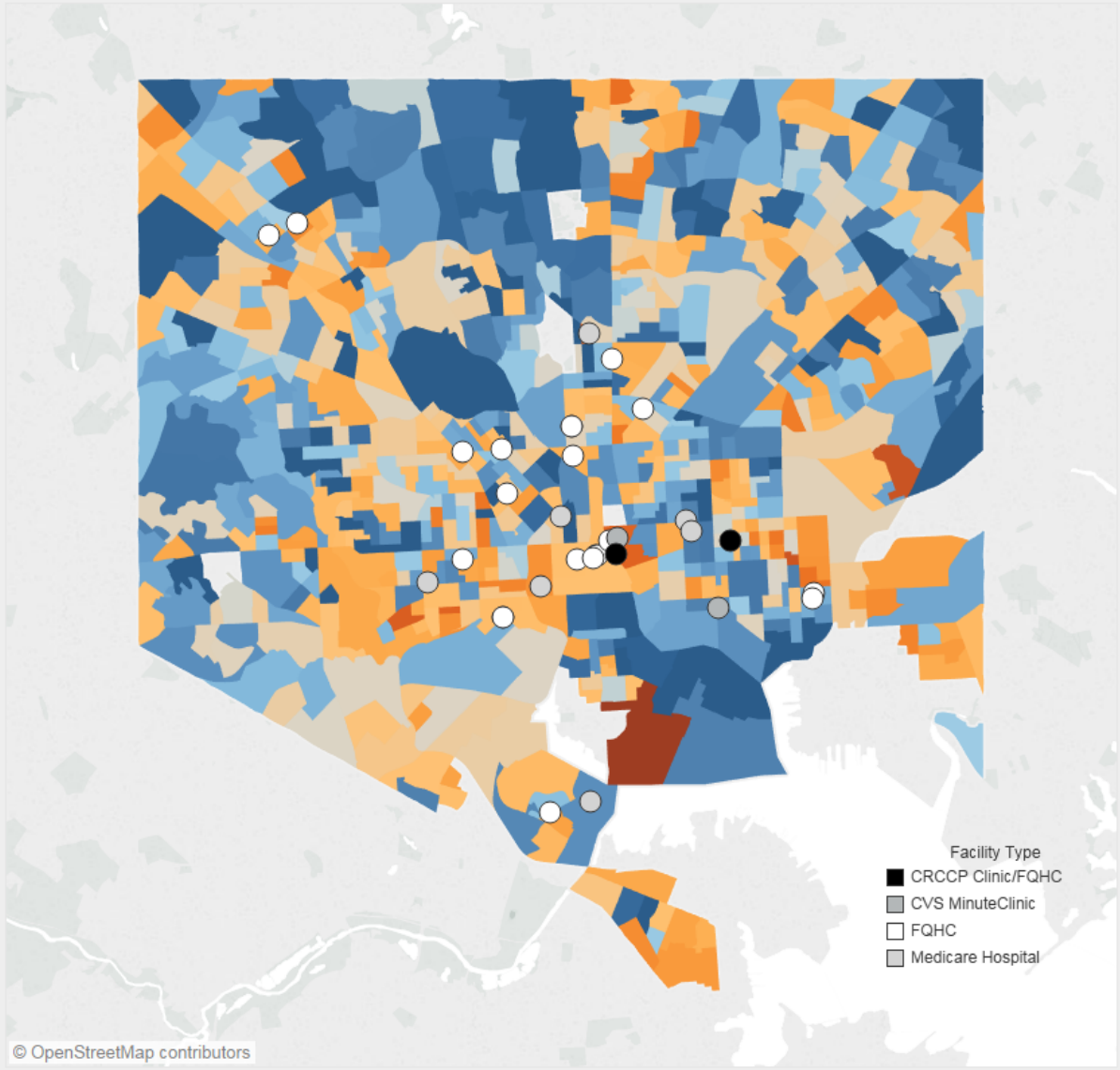


RESEARCH

Careful study that is done
to report ***new knowledge***

Access to Clinics among Baltimore's Uninsured Population

Select an area on the map to view the closest clinic in terms of public transit time



% Uninsured, Ages 35+

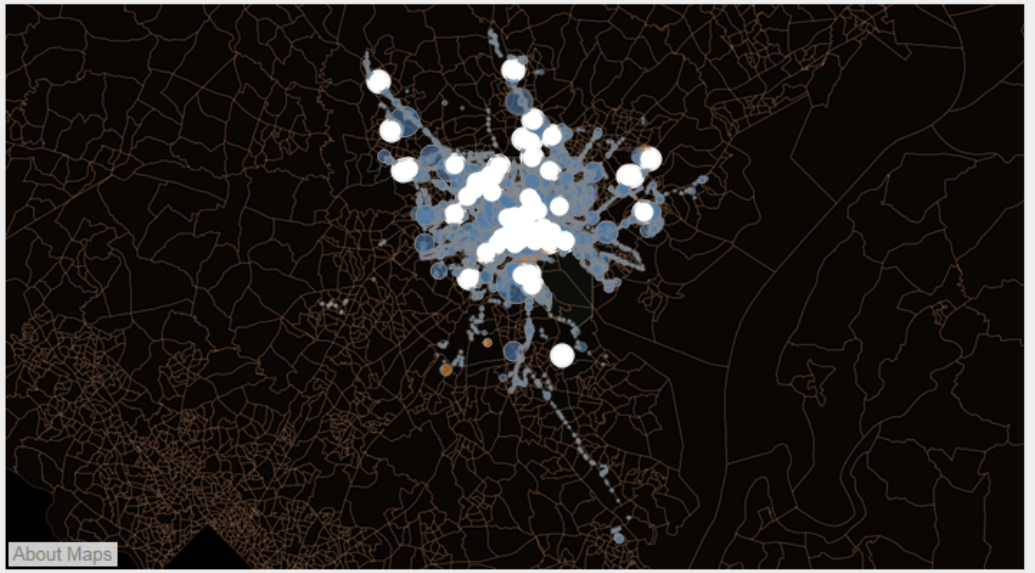
0.0% 64.5%

Source: ACS 5-Year Estimates; only block groups with >20 residents shown

Closest Established CRCCP Clinic

Closest Facility

MTA Transit Bus Stops (demo in progress)



Source: MD iMAP (data.imap.maryland.gov)

Access to Clinics among Baltimore's Uninsured Population

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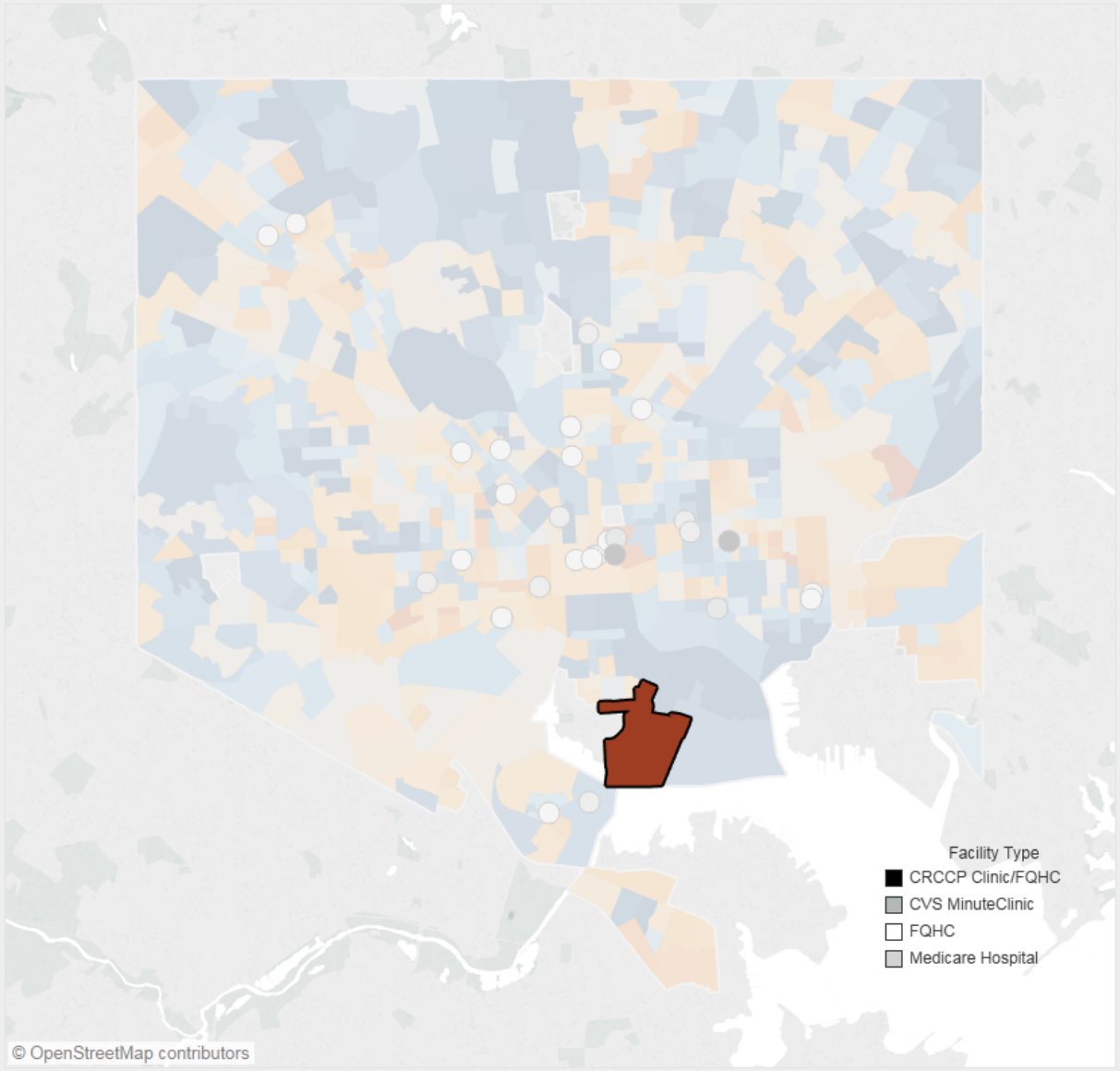

Closest Established CRCCP Clinic	
HEALTH CARE FOR THE HOMELESS	27

Closest Facility	
MERCY MEDICAL CENTER INC	16

MTA Transit Bus Stops (demo in progress)

Access to Clinics among Baltimore's Uninsured Population

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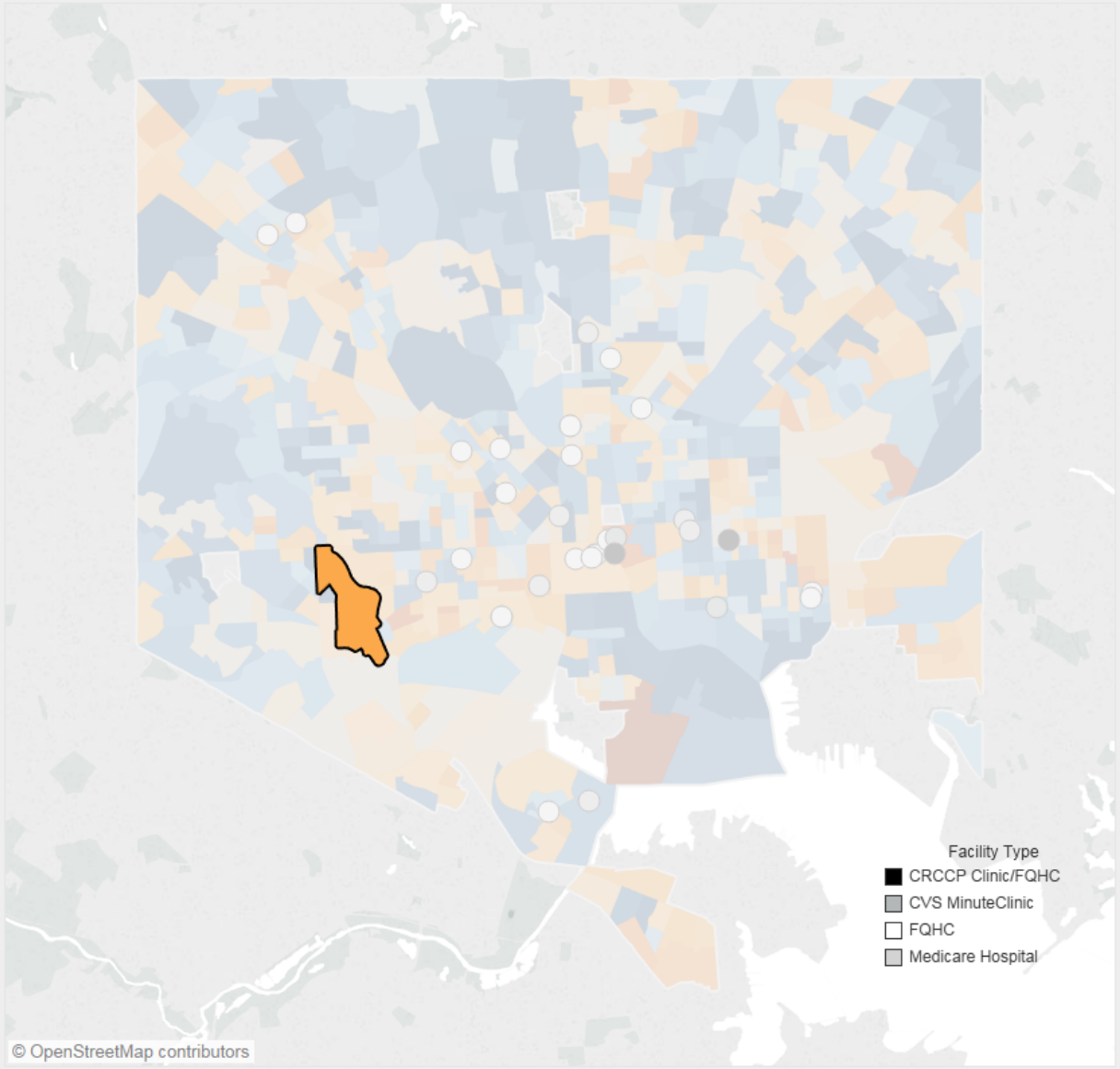


Closest Established CRCCP Clinic	
HEALTH CARE FOR THE HOMELESS	20

Closest Facility	
BON SECOURS HOSPITAL	11

MTA Transit Bus Stops (demo in progress)

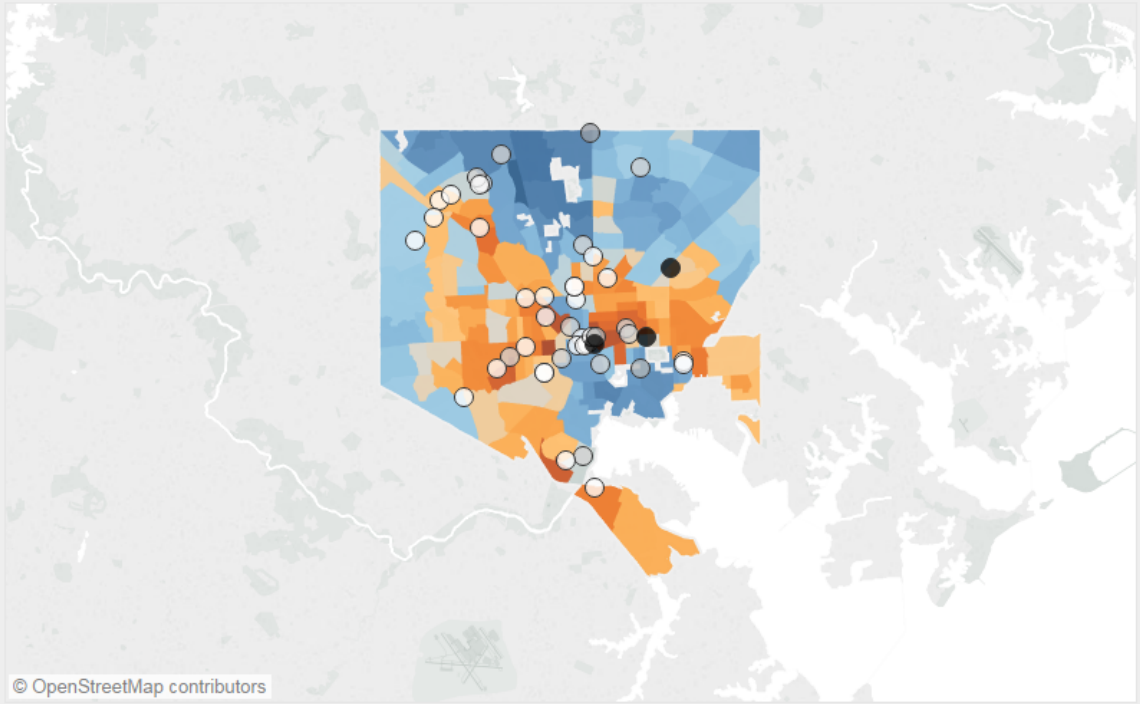
Identifying Vulnerable Areas

Select up to four risk factors to calculate a composite risk score* for side-by-side comparisons of small areas

Factor 1: CRC Screening Rate | Factor 2: Diabetes | Factor 3: Obesity | Factor 4: Regular Checkups

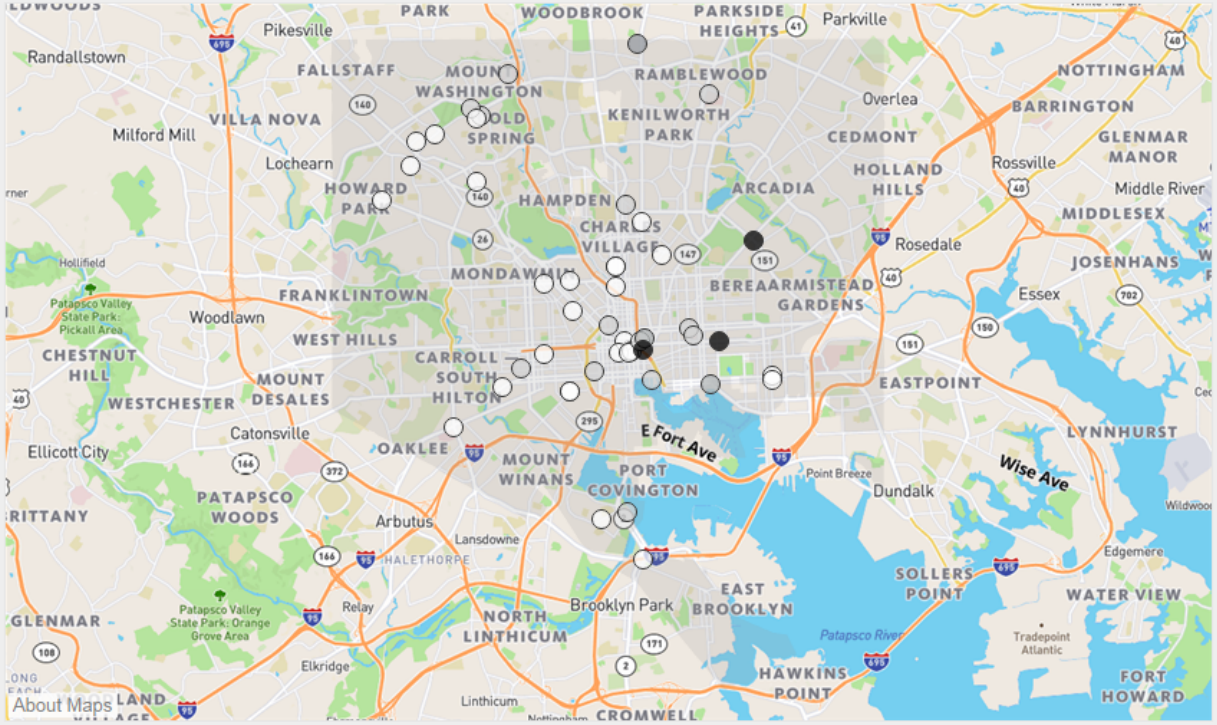
Risk Score Heatmap

Select an area on the map to view neighborhood detail and location within score distribution



Neighborhood / Street View

Zoom for additional detail



Risk Score Distribution

Click to highlight one area or draw a box to around a portion of the distribution to highlight multiple areas

*Composite score is calculated by summing z-scores for selected factors. Assumes equal weight for all factors.

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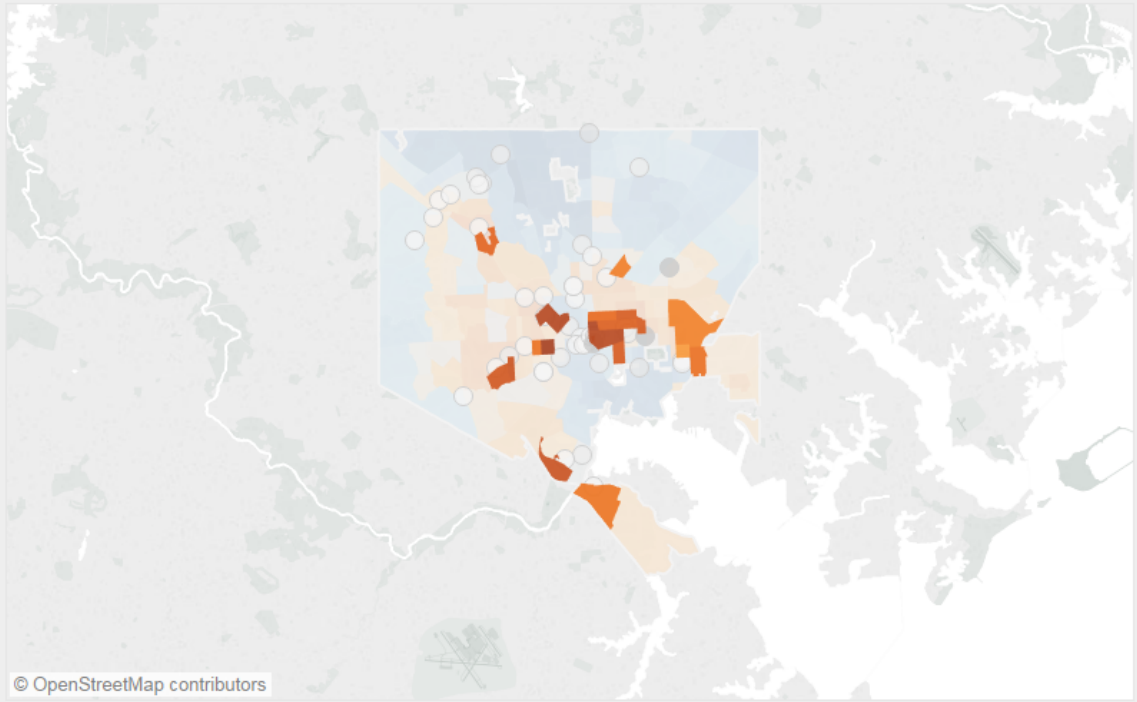

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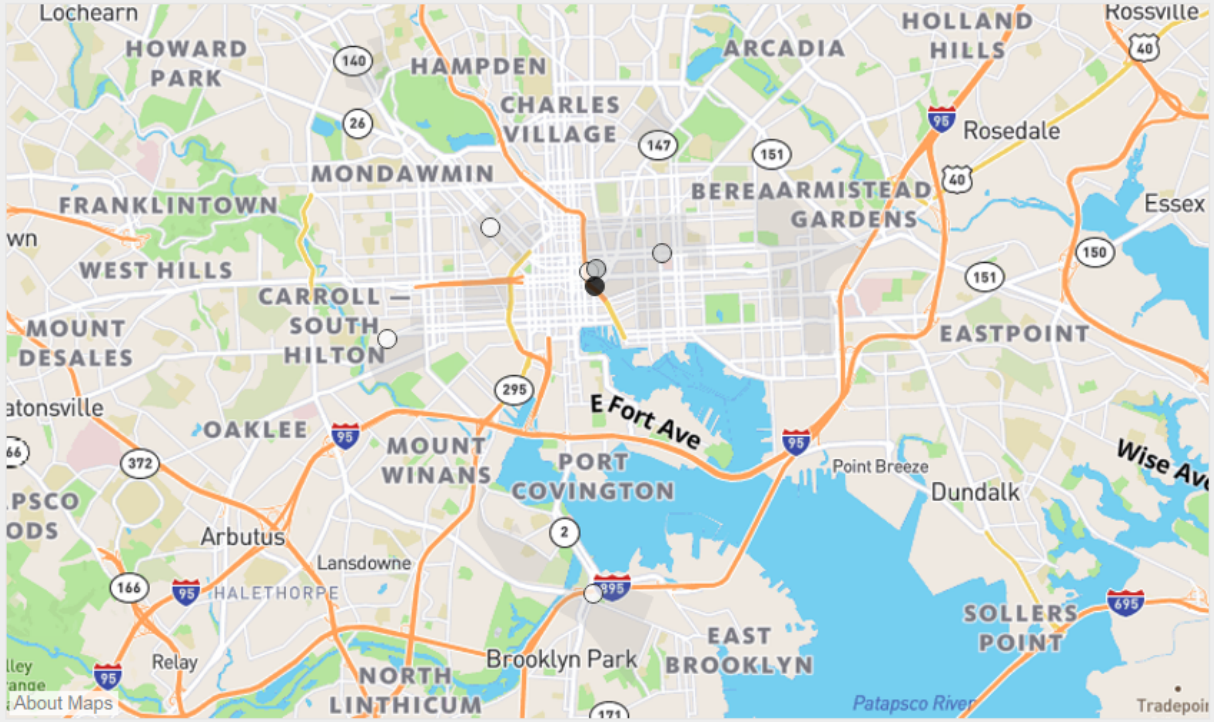
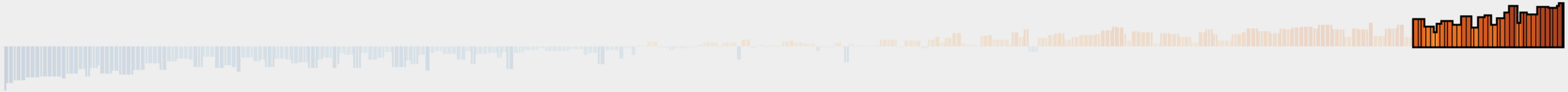


Risk Score Distribution

Click to highlight one area or draw a box to around a portion of the distribution to highlight multiple areas

Score: 6.17
Percentile:: 100.0%



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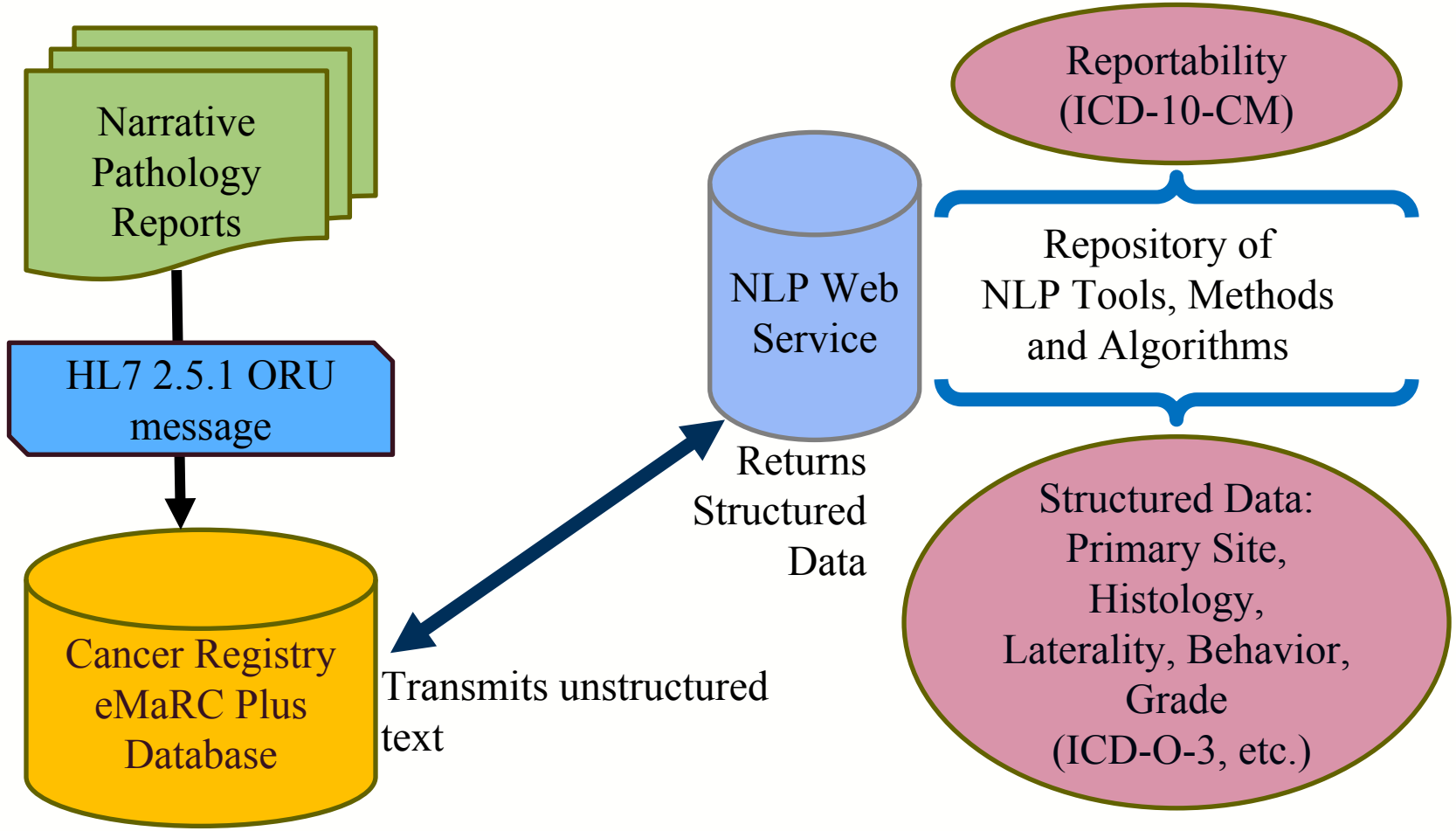
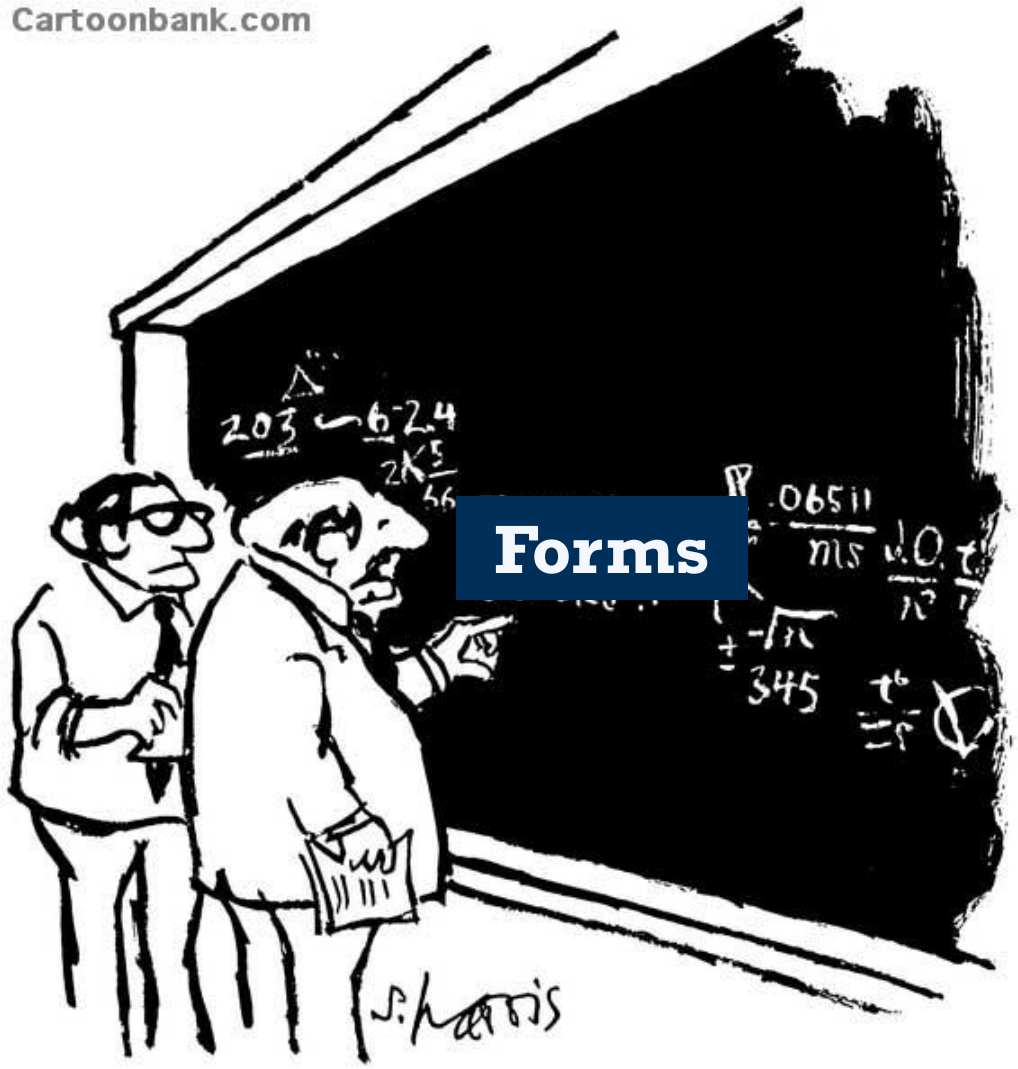
Conceptual NLP Design for Cancer Pathology



Paper Records



Standard Coded Data

"I think you should be more explicit here in step two."

High Level Conceptual Design