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Rural Health
INFORMATION



Rural Cancer: Data, Disparities, and Determination -
Insights from the CDC MMWR Rural Health Series



- Q & A to follow – Submit questions using Q&A area
- Slides are available at <https://www.ruralhealthinfo.org/webinars/cancer-incidence-and-death>
- Technical difficulties please call 866-229-3239



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Cancer Incidence and Mortality in Nonmetropolitan and Metropolitan Counties

S. Jane Henley, MSPH

Epidemiologist, Cancer Surveillance Branch,
Division of Cancer Prevention and Control

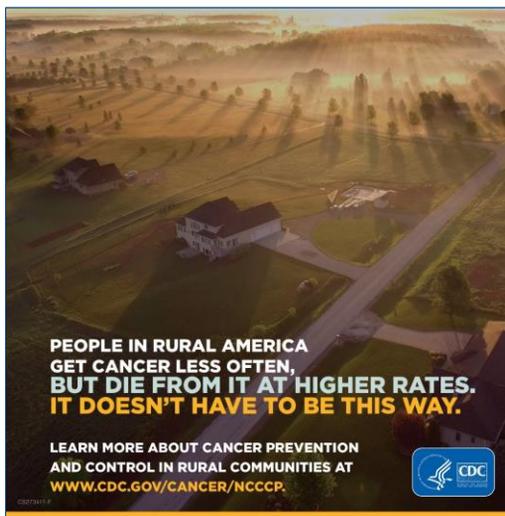
Rural Health Information Hub Webinar
August 30, 2017



Division of Cancer Prevention and Control

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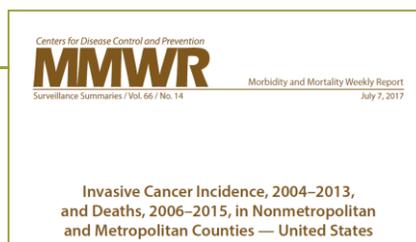
Methods

Cancer incidence and death data

- CDC's National Program of Cancer Registries and NCI's SEER Program.
- CDC's NCHS National Vital Statistics System.

Current rates and trends

- Incidence rates: 2009–2013 and trends: 2004–2013.
- Death rates: 2011–2015 and trends: 2006–2015.
- Described trends using average annual percentage change (AAPC).
- Compared differences by sex; age; race/ethnicity; U.S. Census region; and cancer site (most common types).



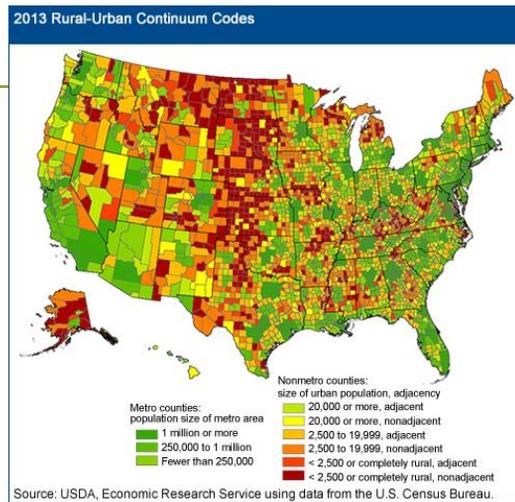
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Source: [MMWR, Wednesday, August 2, 2017, 44:10](http://MMWR.Wednesday, August 2, 2017, 44:10).

County Classification

USDA Economic
Research Service
Rural-Urban Continuum

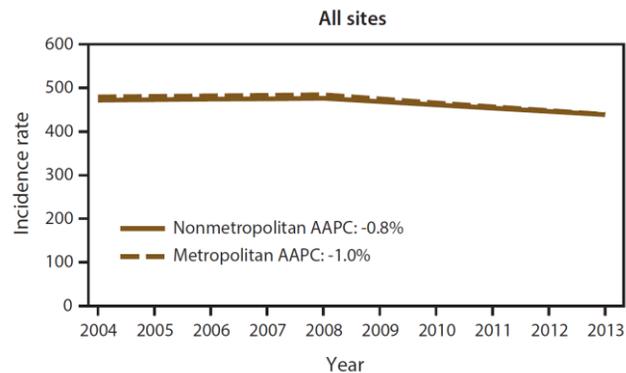
- nonmetropolitan (including rural and urban)
- metropolitan (including <1 million population and ≥ 1 million population)



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Source: [CDC, Surveillance System, 2012-2013](#)

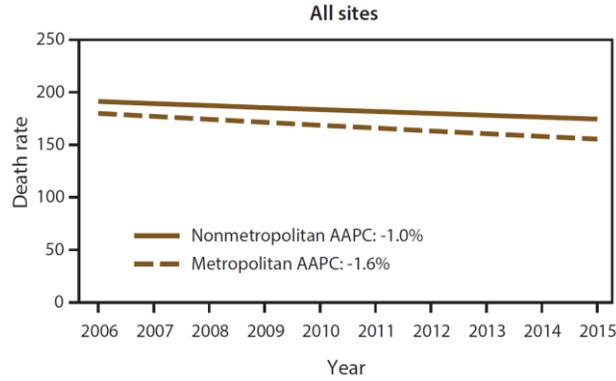
Overall incidence rates were **slightly lower**
and **decreased at about the same rate**



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Source: [CDC, Surveillance System, 2012-2013](#)

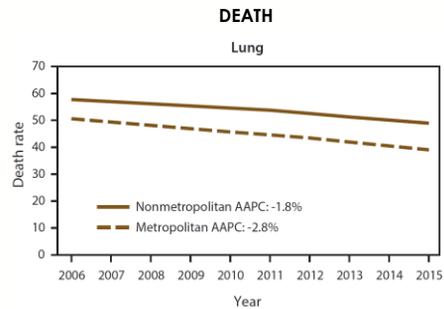
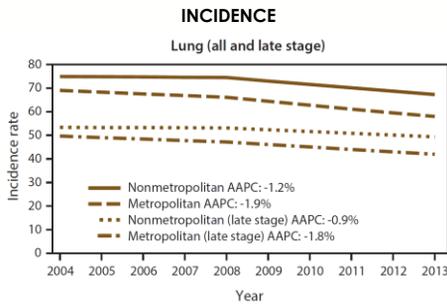
Overall death rates were **higher** and **decreased at a slower rate**



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Source: [CDC, Surveillance System, 2012, 2015](#)

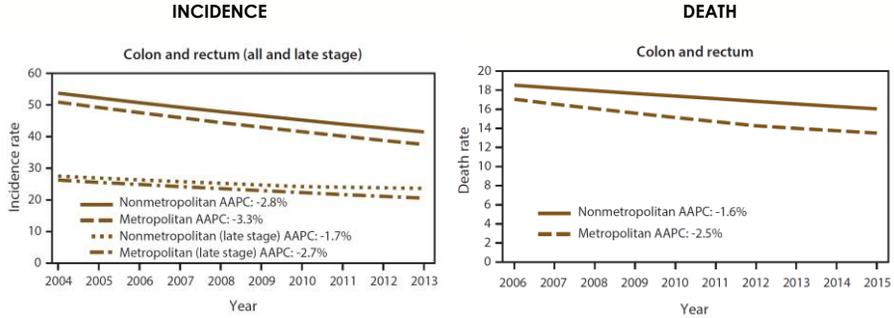
Rates for cancers related to tobacco (such as **lung**) were **higher** and **decreased slower**



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Source: [CDC, Surveillance System, 2012, 2015](#)

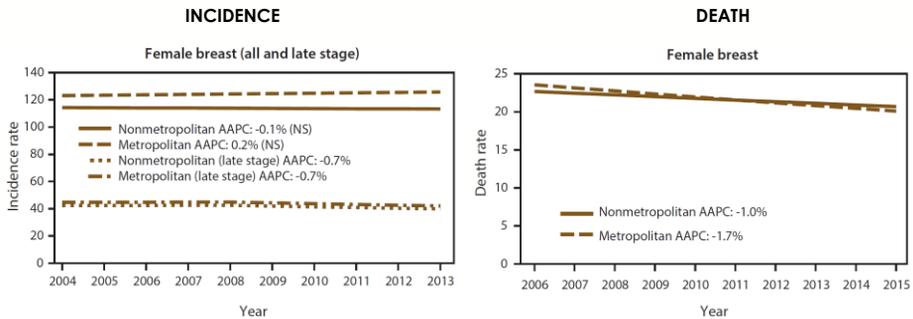
Rates for **colorectal** cancer (which can be prevented by screening) were **higher** and **decreased slower**



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Source: NCI's Surveillance System, 2011-2013.

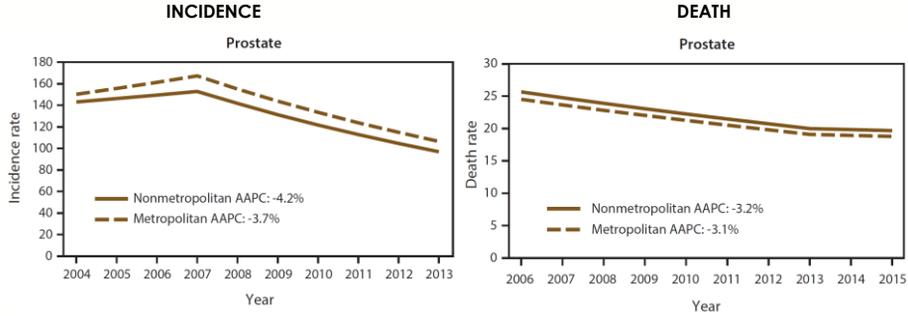
Breast cancer incidence rates were **lower** and stable; death rates were **similar** but **decreased slower**



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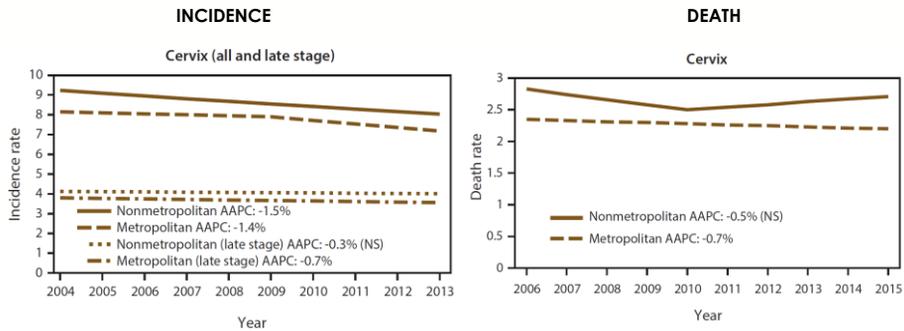
Source: NCI's Surveillance System, 2011-2013.

Lower prostate cancer incidence rates but slightly **higher** death rates; differences persisted over time



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Higher incidence and death rates for **cervical** cancer



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Why are there differences?

- Differences in risk factors
 - More people smoke cigarettes and use smokeless tobacco products
 - More people are exposed to secondhand smoke
 - Higher prevalence of obesity
 - Lower proportion get enough physical activity
- Differences in vaccination and cancer screening
 - Lower use of colorectal cancer screening
 - Lower use of cervical cancer screening
 - Fewer youth get HPV vaccination
- Differences in diagnostic testing and treatment
 - Have to travel longer distances to get care
 - Fewer available resources (staff and equipment)

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Geography should not be a risk factor

- **Geography alone** can't predict cancer risk, but it *can* impact prevention, diagnosis, and treatment opportunities.
- Targeted public health efforts and interventions can close the growing gap between rural and urban Americans.

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What can be done?

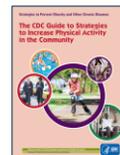
Healthcare providers in rural areas can:

- Improve healthy behaviors that reduce cancer risk
- Increase use of vaccinations and cancer screening tests that prevent cancer or detect it early
- Participate in state-level comprehensive cancer control coalitions

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Improve healthy behaviors that reduce cancer risk

- Prevent tobacco initiation and promote tobacco cessation.
- Eliminate secondhand smoke exposure.
- Limit excessive exposure to ultraviolet rays from the sun and tanning beds.
- Encourage physical activity and healthy eating to prevent and reduce obesity.
- Encourage adherence to alcohol use guidelines.



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Increase use of vaccinations and cancer screening tests that prevent cancer or detect it early

- Recommend patients receive vaccination against cancer-related infectious diseases such as human papillomavirus (HPV) and hepatitis B virus.
- Recommend appropriate cancer screening tests such as Pap tests, mammograms, and colonoscopy or FIT tests.



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Participate in state-level comprehensive cancer control coalitions

Support comprehensive cancer control programs to implement evidence-based activities that:

- Encourage people to make healthy choices.
- Educate people about cancer screening tests.
- Increase access to good cancer care and reduce health disparities.
- Make sure people who survive cancer live well.



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Everyone, regardless of where they live,
should be able to benefit from activities proven
to promote healthy behaviors,
increase screening and vaccination rates, and
receive timely and appropriate cancer care.

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

 Follow DCPC Online!

 @CDC_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.



Division of Cancer Prevention and Control

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Rural Cancer Control

Robert T. Croyle, PhD

Director, Division of Cancer Control and Population Sciences

National Cancer Institute

National Institutes of Health

HRSA/CDC/NCI Webinar

August 30, 2017



Background and Outline

- Development of NCI's Rural Cancer Control Research Initiative
 - Kick Off: May 18, 2016 NCI blog
 - Update: July 7, 2017 NCI blog: <https://www.cancer.gov/news-events/cancer-currents-blog/2017/rural-cancer-disparities-next-steps>
- Co-sponsored meetings to date:
 - Cancer in AI/AN Populations, Nov. 10, 2016, OKC
 - Rural Cancer Control, May 4-5, 2017, Memphis
- Scientific Challenges
- Portfolio Examples
- NCI Communication Services
- Next Steps

Scientific Challenges

Heterogeneity of “Rural”

- Example: rural Alaska vs. rural Mississippi
- “Grain size” of counties (and, therefore, data sources):
 - 3,142 total; Iowa has 99; Arizona has 15

Structural Factors that Affect both Research and Practice

- Access to care
- Limited access to clinical trials
- Lower physician density
- Distance to facilities – transportation
- Poor telecommunication infrastructure for telemedicine/telehealth
- SES and other area-level correlates and confounders

Cultural Factors

- Trust in institutions, medical providers, and government-sponsored programs
- Non-traditional comorbidities such as opiate drug use
- Cancer-related fatalism

One of Many Analytic Challenges: “Small Data”

- When the size, dispersion, or accessibility of the population may make it difficult to obtain adequate sample sizes for specific research questions in cancer control and prevention
- Examples include racial or ethnic groups (e.g., Honduran Latin Americans), refugees, LGBT, and low income subpopulations
- The “Small Data” problem is a barrier to addressing persistent unsolved research and public health challenges

Save the date - Small Data/Population NASEM Workshop

Steering Committee: **Graham Colditz** (University of Washington St Louis - Chair); Graham Kalton (Westat); Lance Waller (Emory); Jan Probst (University of South Carolina); Jim Allen (University of Minnesota)

NCI Contact: Shobha Srinivasan (ss688k@nih.gov)

Date: November 30 – December 1, 2017
Location: National Academies of Sciences
500 Fifth Street NW, Washington, DC 20001

NCI's Role as a Research Agency

- Leverage extensive research infrastructure, grant portfolio and scientific community
- Encourage more grant applications focused on rural populations
- Extend reach of clinical trials programs
- Engage NCI-funded cancer centers (n=69) in rural cancer control research (community outreach and engagement requirement)
- Support partnerships and training of new investigators

Examples of funded NCI R01 Grants

Implementing Cancer Prevention Using Patient-Provider Clinical Decision Support.

PI: Thomas Edward Elliott, Health Partners Institute

Comparative effectiveness in interventions to improve screening among rural women.

PI: Electra Paskett, Ohio State University

Enhancing prevention pathways towards tribal colorectal health.

PI: Shiraz Mishra, University of New Mexico Health Sciences Center

Community intervention to reduce tobacco use among pregnant Alaska Native women.

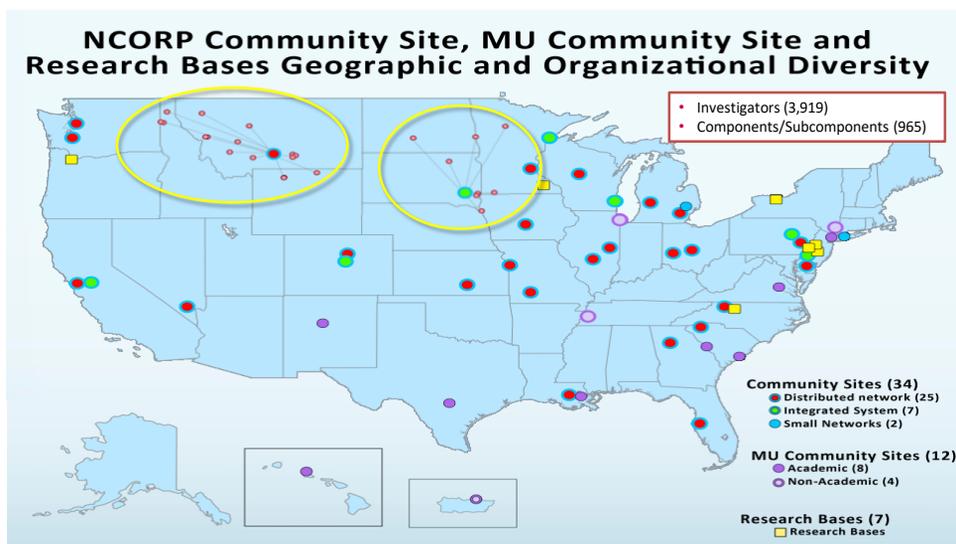
PI: Christi Patten, Mayo Clinic Rochester

NCI Center for Reducing Cancer Health Disparities: U54 & P20 Grants with a Rural Component

Grant #	Institution	Principal Investigator (PI)
U54CA202995	Northeastern Illinois University	Christina Ciecierski
U54CA203000	Northwestern University at Chicago	Melissa Andrea Simon
U54CA202997	University of Illinois at Chicago	Robert Andrew Winn
P20CA192966/87	Washington University Southern Illinois Univ. Sch of Med	Graham Colditz Laurent Brard
P20CA202907/08	University of Illinois at Chicago Governors State University	Catherine Balthazar Robert Winn
P20CA202921/23	University of Oklahoma Norman Cherokee Nation	Paul Spicer Sohail Khan

National Community Oncology Research Program (NCORP) Overview

- A national NCI-supported network that brings cancer prevention clinical trials and cancer care delivery research (CCDR) studies to local communities
 - designs and conducts cancer prevention, control, screening, and post-treatment surveillance clinical trials;
 - designs and conducts cancer care delivery research (CCDR) studies;
 - participates in treatment and imaging clinical trials conducted by the NCI National Clinical Trials Network (NCTN); and
 - integrates health disparity questions into its research priorities.



Population Health Assessment in NCI Cancer Center Catchment Areas

- Administrative supplement program to NCI-designated (P30) Cancer Centers
- To enhance cancer centers' capacities to acquire, aggregate, and integrate population data from multiple sources in order to facilitate community-focused, comprehensive cancer control activities
- 15 awards in FY16
 - Ohio State University Comprehensive Cancer Center (Electra Paskett)
 - Abramson Cancer Center- University of Pennsylvania (Karen Glanz)
 - University of Pittsburgh Cancer Institute (Jian-Min Yuan)
 - Albert Einstein Cancer Center (Bruce Rapkin)
 - Duke Cancer Institute (Nadine Barrett)
 - University of Hawaii Cancer Center (Kevin Cassel/Hye-ryeon Lee)
 - Simon Cancer Center- Indiana University (David Haggstrom)
 - Fox Chase Cancer Center (Nestor Espinola)
 - Roswell Park Cancer (Elizabeth Bouchard)
 - Norris Cotton Cancer Center - Dartmouth College (Tracy Omega)
 - Markey Cancer Center -University of Kentucky (Robin Vanderpool/Bin Huang)
 - Helen Diller Family Comprehensive Cancer Center- UCSF (Robert Hiatt)
 - Memorial-Sloan Kettering Cancer Center (Joseph Osborne)
 - Dana-Farber Cancer Institute - Harvard University (K. Vish Viswanath)
 - MD Anderson Cancer Center -The University of Texas (Sanjay Shete)

Includes a
Rural Health
Working Group



Connected Health: Improving Patients' Engagement and Activation for Cancer-Related Health Outcomes

President's Cancer Panel 2014-2015 Series

The power and utility of connected health technologies are growing. Many forces are catalyzing a national U.S. effort to engage and activate individuals to be more proactive about their health and healthcare and to translate this engagement to enhanced activation among patients. These forces have important implications for the prevention and treatment of cancer and for optimal survivorship. They include but are not limited to:

- **"Meaningful Use"** incentives to healthcare providers focus on requirements to demonstrate "patient engagement" through health information technology (Phases 2 & 3).
- **The "Quantified Self"** movement is creating new tools to encourage and reinforce a variety of healthy behaviors relevant to cancer control.
- **The Internet** has made vast amounts of health information available, and social media platforms have

A patient with a complex chronic condition receives a prescription for an app that is downloaded to a mobile device. Using information the patient enters, the app delivers automated clinical coaching and sends reports to the physician, recommending evidence-based protocols for adjusting the patient's treatment regimen, if needed. Equipped with a tool that offers personal, relevant

THE PRESIDENT'S CANCER PANEL

Chairperson

Barbara K. Simon, DPH
Chair
Office of Global Public Health
School of International Health, Health Services and Health Education
The University of North Carolina at Chapel Hill
Chapel Hill, NC

Members

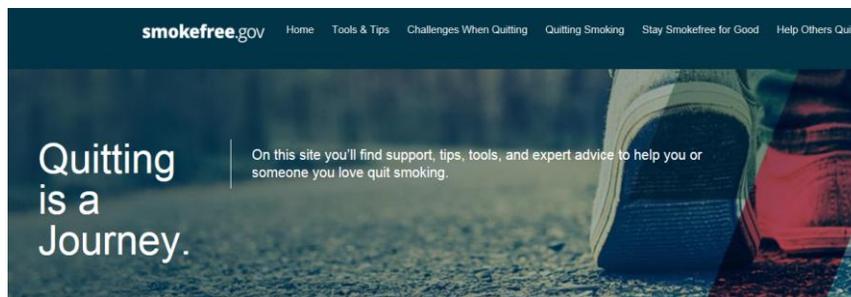
Hill Harper, MD
Cancer Survivor
Frost Foundation for Three Best Selling Author, Actor, and Philanthropist
Los Angeles, CA

Cheryl M. Serlin, MD
University Professor
UCLA and Cedars-Sinai Center of Regenerative Medicine and Stem Cell Research
University of California, Los Angeles
Los Angeles, CA

Enabling Access to High-Quality Cancer Information: The Cancer Information Service

- 1-800-4CANCER (1-800-422-6237)
- M-F 9am-9pm ET
- <https://livehelp.cancer.gov>
- E-mail form: <https://www.cancer.gov/contact/email-us>
- More info: <https://www.cancer.gov/contact/contact-center>

Increasing the Reach of Cessation Support: Smokefree.gov and Quitlines



800-QUIT-NOW (800-784-8669)

Save the Date!

Accelerating Research in Rural Cancer Control Conference

Natcher Conference Center
National Institutes of Health
Bethesda, MD

May 30-31, 2018

Program Committee Chair: Robin Vanderpool, University of Kentucky

<https://cancercontrol.cancer.gov/research-emphasis/rural.html>

A Prevention Program to Improve Access to Colorectal, Breast and Cervical Cancer Screenings for Low-income and Underserved Persons in Texas

Dr. Jane N. Bolin, PhD, JD, BSN
Professor & Director
Southwest Rural Health Research Center
Texas A&M School of Public Health
August 30, 2017



Funding Credits

- **Cancer Prevention & Research Institute of Texas**
 - Grant PP110176: \$2.78M over 3.5 years for Colorectal Screening, Training, Education and Prevention (09/2011 - 02/2015).
 - Grant PP130090: \$1.5M over 3 years for Breast & Cervical Cancer Screening and Prevention (12/2013 - 11/2016).
 - Grant PP150025: \$1.5M over 3 years for Continuation/Expansion of the Colorectal Cancer Screening Program (12/2014 – 11/2017).
 - Grant PP160048: \$300,000 over 2 years for Dissemination of Tools to Support Community Health Workers working in Cancer Screening (12/2015 – 11/2017).

TEXAS C-STEP

Investigators & Collaborators

Principal Investigator: David McClellan, MD, A&M College of Medicine

Co-PI: Jane N. Bolin, RN, JD, PhD, A&M School of Public Health

Co-Investigators:

(Women's Health Grant) Anna Lichorad, MD, TAMHSC College of Medicine

(Colorectal Screening Grants) Robert Pope, MD, TAMHSC College of Medicine

(Women's Health Grant) Cynthia Weston, FNP, DNP, TAMHSC College of Nursing



TEXAS C-STEP

What is Texas C-STEP?

- The Texas Cancer Screening, Training, Education and Prevention Program (Texas C-STEP):
- Provides critical colorectal, breast and cervical cancer safety-net services, such as cancer screenings and related diagnostics and prevention education to uninsured, underserved and low-income residents of Texas
- Provides training for:
 - Family Medicine Residents (FMRs)
 - Bachelor of Science Nurses (BSNs)
 - Family Nurse Practitioners (FNPs)
 - Graduate Students in Public Health (PhD & MPH)
 - Community Health Workers (CHWs)



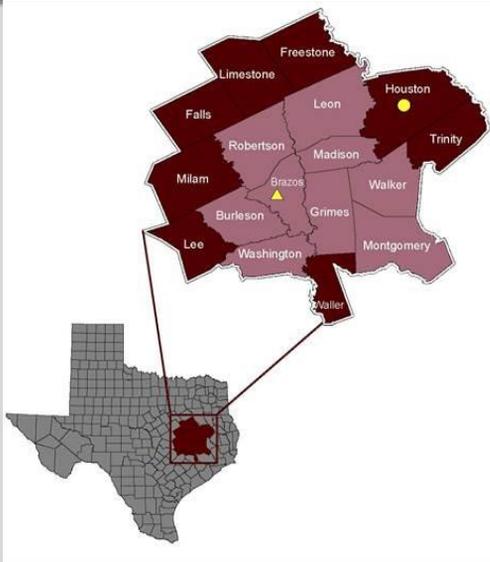
TEXAS C-STEP

Goals of Texas C-STEP?

- Increase access to evidence-based preventative cancer screenings for underserved, safety-net patients
- Increase the number of providers trained to perform cancer screening and diagnostic procedures
- Utilize community health workers, (CHW), to provide culturally-sensitive education, referrals, and clinical services
- Train the next generation of physicians, nurses, CHWs and public health professionals in colorectal, breast and cervical cancer prevention, screening and education

TEXAS C-STEP

Texas C-STEP Service Area



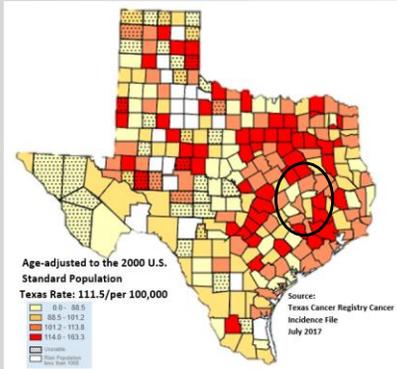
17-county region in Central Texas.

12 of these counties are considered rural.¹

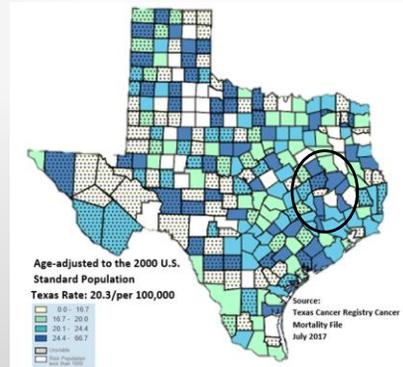
¹United States Census Bureau, State and County QuickFacts. <https://www.census.gov/quickfacts/table/HEA775215/48477,48473,48471>

TEXAS C-STEP

Texas Breast Cancer Incidence & Mortality by County



4 of 17 C-STEP target counties have incidence rates that are higher than the state average

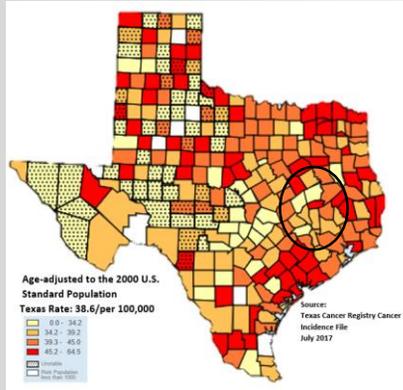


12 of 17 C-STEP target counties have mortality rates that are higher than the state average

Age-Adjusted Invasive Cancer Incidence Rates in Texas, Breast, 2010-2014, By County

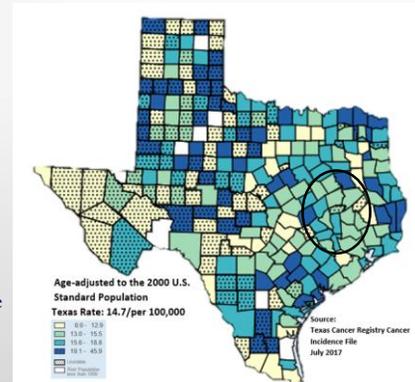
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Texas Colorectal Cancer **Incidence** & **Mortality** by County



11 of 17 C-STEP target counties have incidence rates that are higher than the state average

9 of 17 C-STEP target counties have mortality rates that are higher than the state average



Age-Adjusted Invasive Cancer Incidence Rates in Texas, Colon and Rectum, 2010-2014, By County

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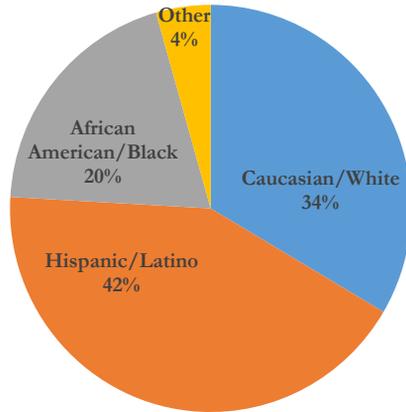
Results: C-STEP Colonoscopy Services (12/2011 – 05/2017)

- 1,941 total colonoscopy screenings provided to 1,870 people, with 1,455 CPRIT-funded procedures
- 33% of colonoscopies had abnormal pathology
- 24.7% of all colonoscopies revealed cancer precursors
- 17 people were diagnosed with colorectal cancers

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Results: Demographics of CPRIT Funded Screened Individuals

Individuals funded by race/ethnicity



n=1870

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A&M Family Residency Endoscopy Training



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First 1100 colonoscopies

	C-STEP Result	ASGE recommends
Cecum attained (%)	96%	≥ 95
Overall adenoma detection rate (%)	27%	≥ 20
Adenoma detection rate among females >50 years (%)	26%	≥ 15
Adenoma detection rate among males >50 years (%)	38%	≥ 25
Mean total withdrawal time (minutes)	18	≥ 6
Perforation rate	1 in 1100	1:1000

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Breast & Cervical Cancer Screening Grant

Breast Cancer Screenings:

- Mammograms
- Clinical breast exams
- Advanced diagnostics, when warranted, including ultrasounds, and breast biopsies



Cervical Cancer Screenings

- HPV vaccinations
- Pap tests
- Advanced diagnostics, when warranted, including colposcopies, and Loop Electrosurgical Excision Procedures (LEEPs)

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C-STEP Women's Health Clinical Services (Years 1 & 2: 3/1/14 – 5/31/17)

Total Women's Health Services first 41 months: N= 2,308
(Serving poor, uninsured women in Central Texas)

- **Clinical Breast Exams: 373**
- **Mammograms: 977**
- **Breast Ultrasounds: 203**
- **Breast Biopsies: 40**
- **Pap Tests: 455**
- **Colposcopies: 211**
- **LEEPS: 49**

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Education & Outreach (2014 – 2017)

908 health professionals
received direct training ...



.... family medicine
residents, nurse
practitioners, public
health, and community
health workers all training
collaboratively

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Sources of Referrals for Screenings



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Community Health Worker (CHW) Integration

- Community Health Workers (CHWs) also known as *promotoras* provide culturally appropriate, bilingual education and navigation
- Studies show that integration of CHWs into cancer screening programs can increase:
 - Cancer knowledge
 - Screening rates
 - Screening guidelines adherence
 - Referrals
 - Volume of services performed

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CHWs in front of SuperColon™



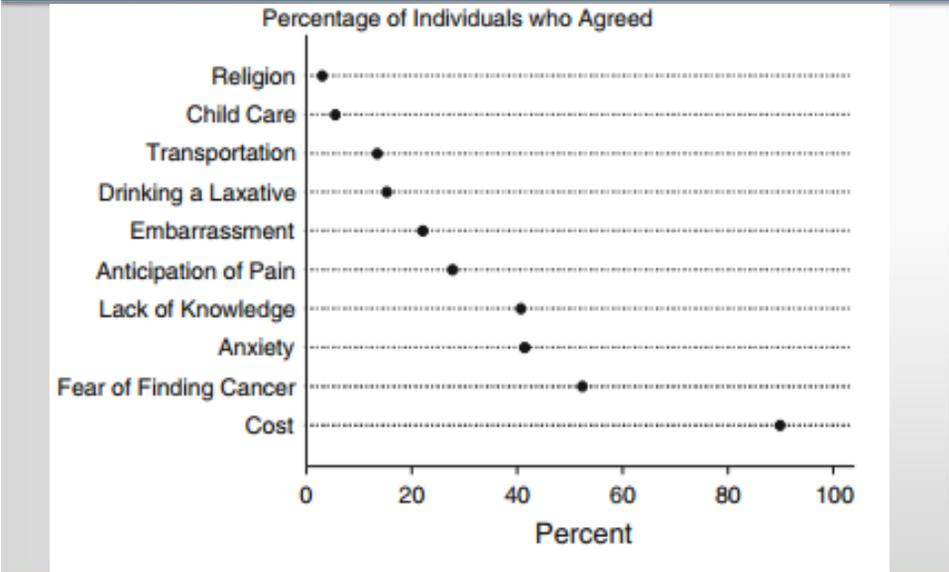
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CHWs Provide Tracking, Assessment and Patient Navigation

- Ideally same cultural background and language
- Receive referrals and meet 1:1 with patients
- Work planned community outreach events (health fairs, church events, food pantries etc.) to register individuals for cancer screenings
- Collect relevant clinical data for reporting
- Serve as a “bridge” or patient advocate between clinical staff and patient services
- Help patients navigate the complex health care system

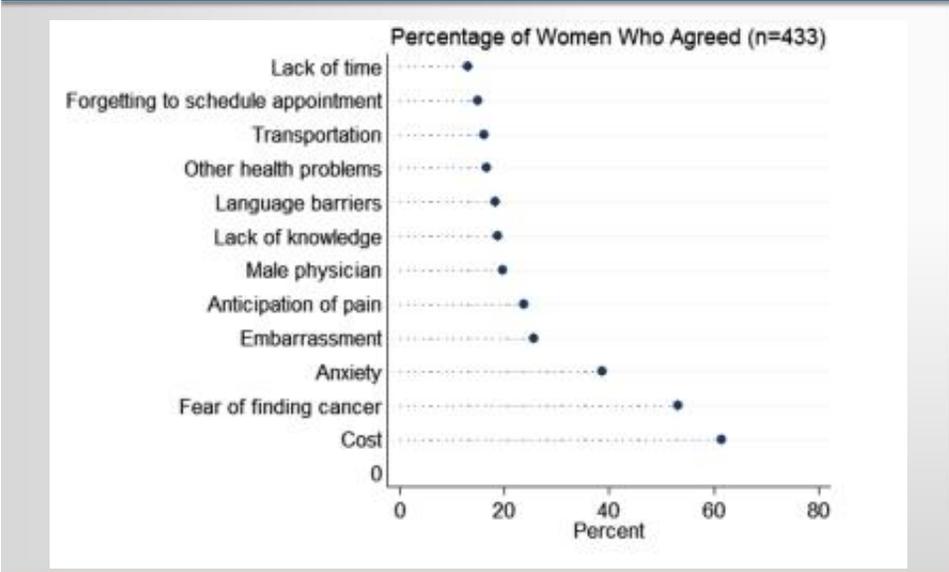
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Barriers to Receiving a Colonoscopy



TEXAS C-STEP

Barriers to Receiving a Pap test



TEXAS C-STEP

Patient Quotes About the Texas C-STEP Program

The Texas C-STEP program is a vital resource for cancer screening in the Brazos Valley region. During one of the food pantry visits, where we register people for services, a client had this to say:

"I had colon cancer that was found and removed at an early stage about 15 years ago. I am overdue for a repeat colonoscopy but I lost my job and insurance, and so I have not been able to go for the repeat colonoscopy. Thank God I came here today."



TEXAS C-STEP

Patient Quotes About the Texas C-STEP Program



C-STEP CHWs and volunteers are visible at health fairs and other events around the 17-county Brazos Valley region served by C-STEP. A participant at a Washington County event had this to say about the importance of C-STEP's program:

"It is a great job you all do. My wife died of colon cancer; she was gone within a month. (wishing it was caught earlier)... You all do not know how much what you do means."

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Closing---Texas C-STEP Success!

- Texas A&M's C-STEP has provided a combined 3,300 patient visits for preventive clinical services since it started 4.5 years ago for uninsured or underinsured residents of Central Texas who could not pursue these services due to cost.
- Our findings indicate the need to continue to tailor strategies to reach poor and underserved, and the most vulnerable among us.
- Texas C-STEP has successfully trained 80 family medicine physicians in performing colonoscopies, guided ultrasounds, and colposcopies.
- Policy strategies to ensure that trained FMPs or FNP's are able to offer their services (i.e., costs or state scope of practice (turf protection), and misguided reluctance to credential for these procedures) are critical.

TEXAS C-STEP

Questions & Contact Information

Texas A&M School of Public Health

Professor & Director

Southwest Rural Health Research Center

Jane N. Bolin, RN, JD, PhD

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jbolin@sph.tamhsc.edu

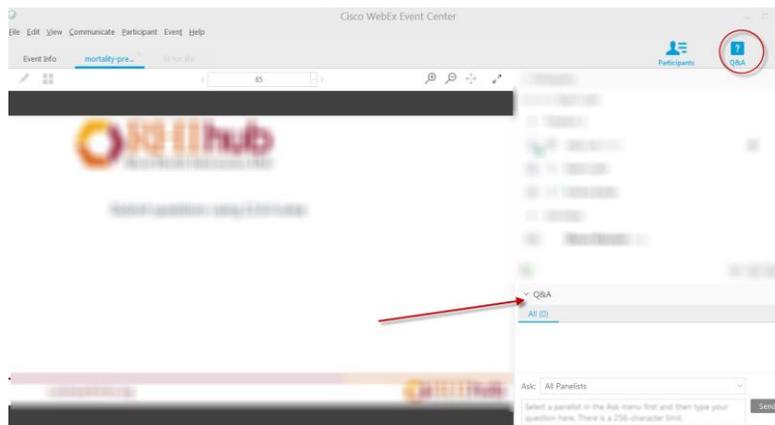


CANCER PREVENTION & RESEARCH
INSTITUTE OF TEXAS

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Questions?



ruralhealthinfo.org



Rural Cancer: Data, Disparities and Determination

Cancer is always...

Personal

Challenging

But we are *Determined* to make it less
challenging in rural areas!



Thank you!



- Contact us at ruralhealthinfo.org with any questions
- Please complete webinar survey
- Recording and transcript will be available on RHIhub website



ruralhealthinfo.org

Your *First STOP* for
Rural Health
INFORMATION



Rural Cancer: Data, Disparities, and Determination -
Insights from the CDC MMWR Rural Health Series