

Integrating individual and community exposures for cancer risk in urban and rural areas of western Pennsylvania

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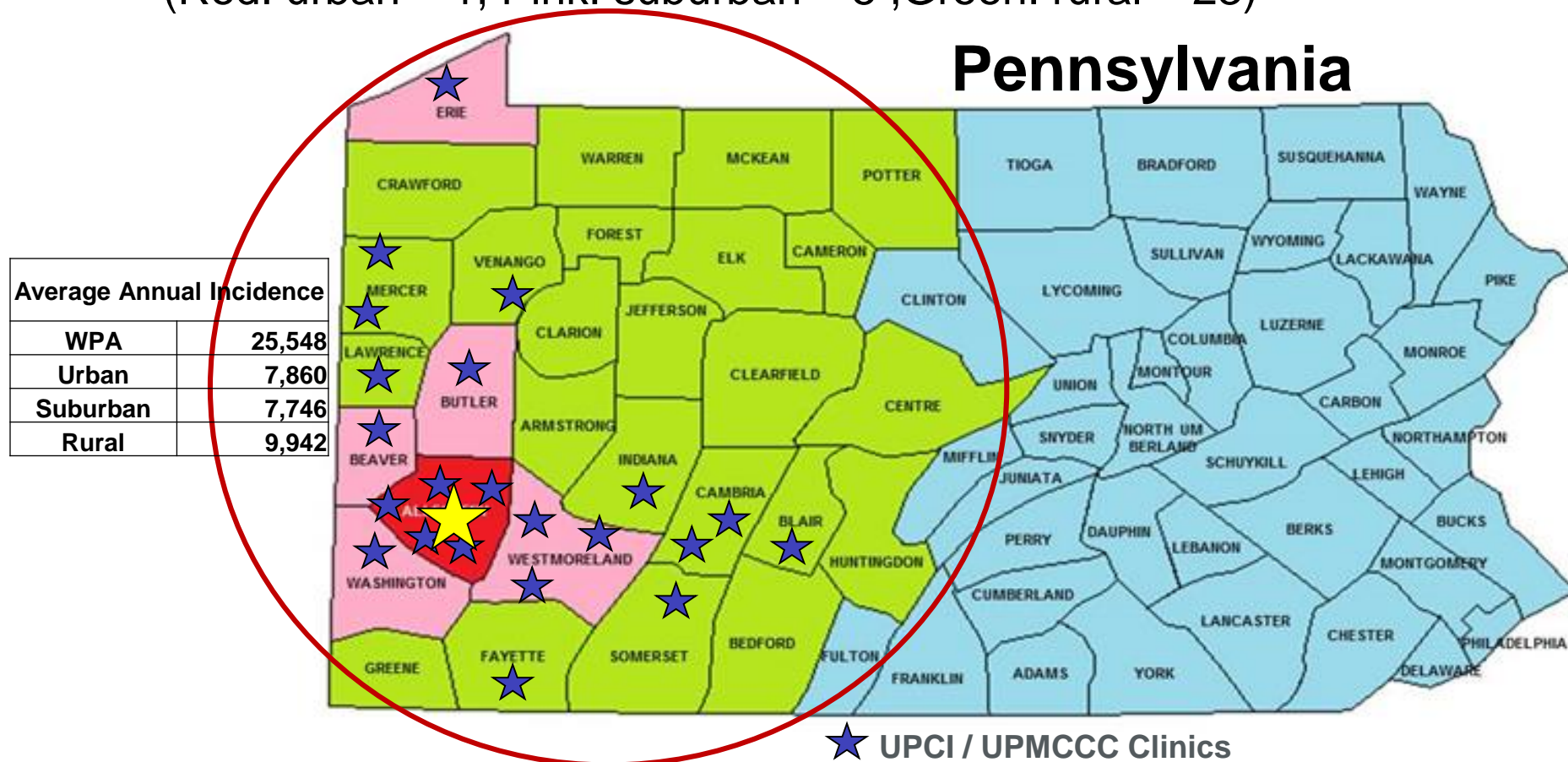


University of Pittsburgh
Cancer Institute
Partner with UPMC CancerCenter



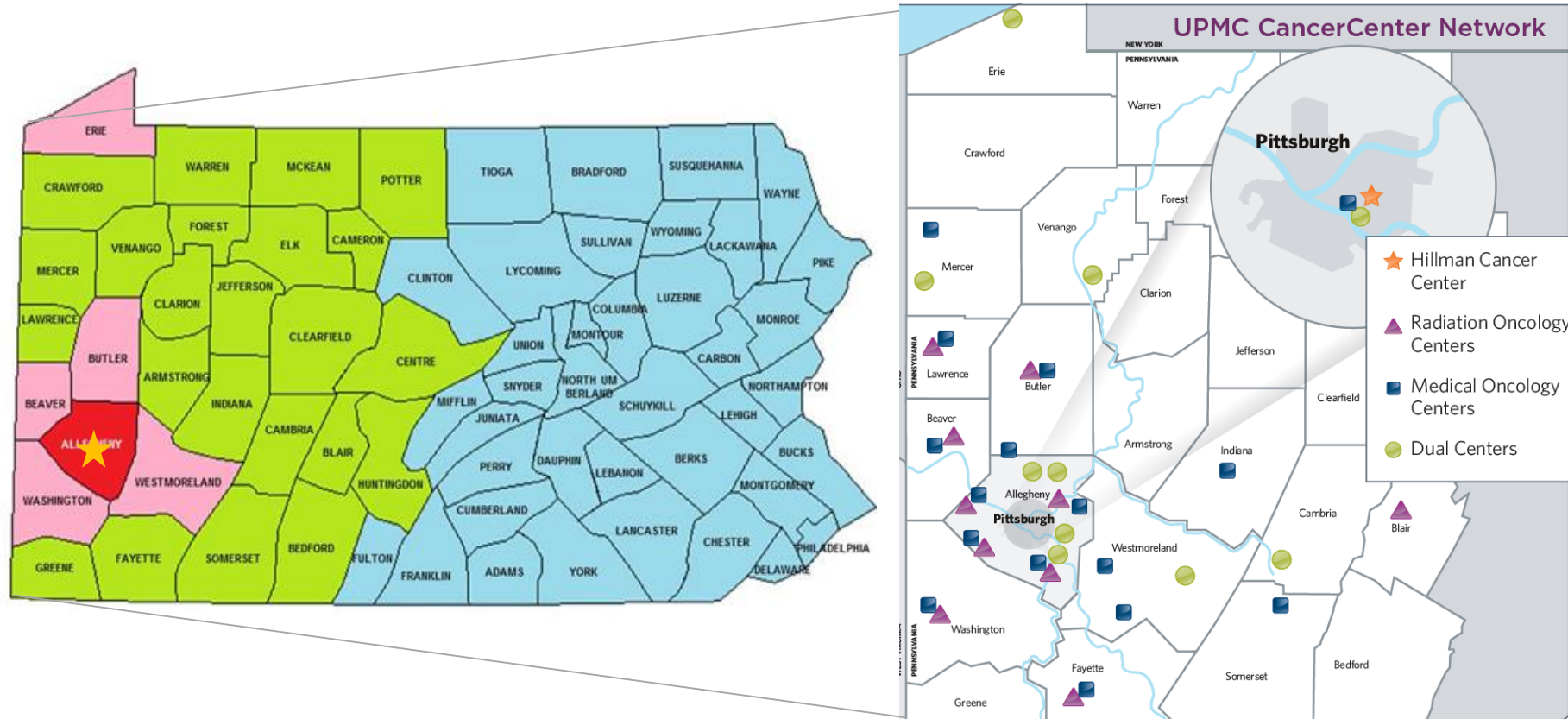
Defining UPCI's Catchment Area

- UPCI is the only NCI-designated Comprehensive Cancer Center in Western PA
- Catchment area includes 29 Western PA Counties:
(Red: urban = 1, Pink: suburban = 5, Green: rural = 23)



UPCI's Catchment Area

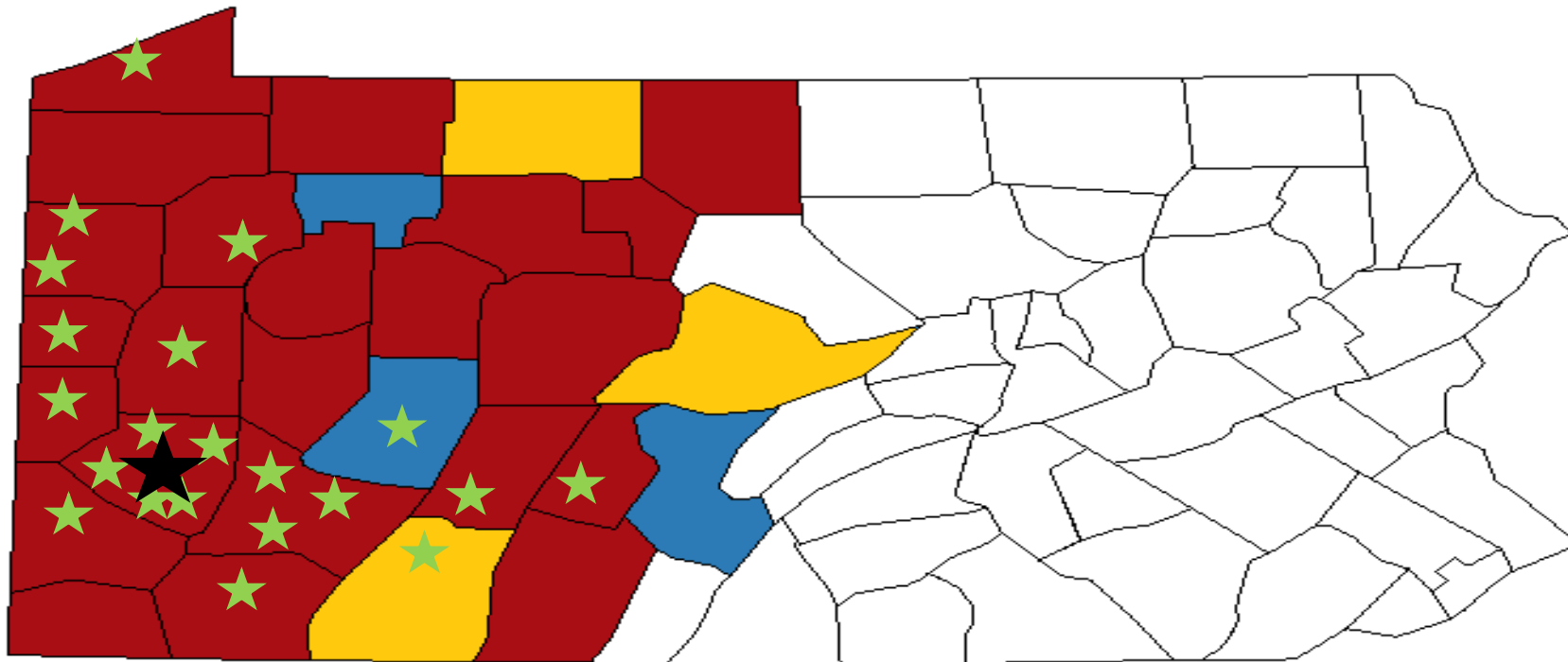
Western Pennsylvania (29 counties)



Area	# Counties	Population
Urban	1	1,229,022
Suburban	5	926,272
Rural	23	1,865,673

- **35** UPMC CancerCenter clinical facilities serving Western PA
- **91%** of UPMC CancerCenter patients live in the 29-county catchment area

Total Cancer Incidence Rate in WPA Counties vs. U.S. (2009-2013)



 More than US

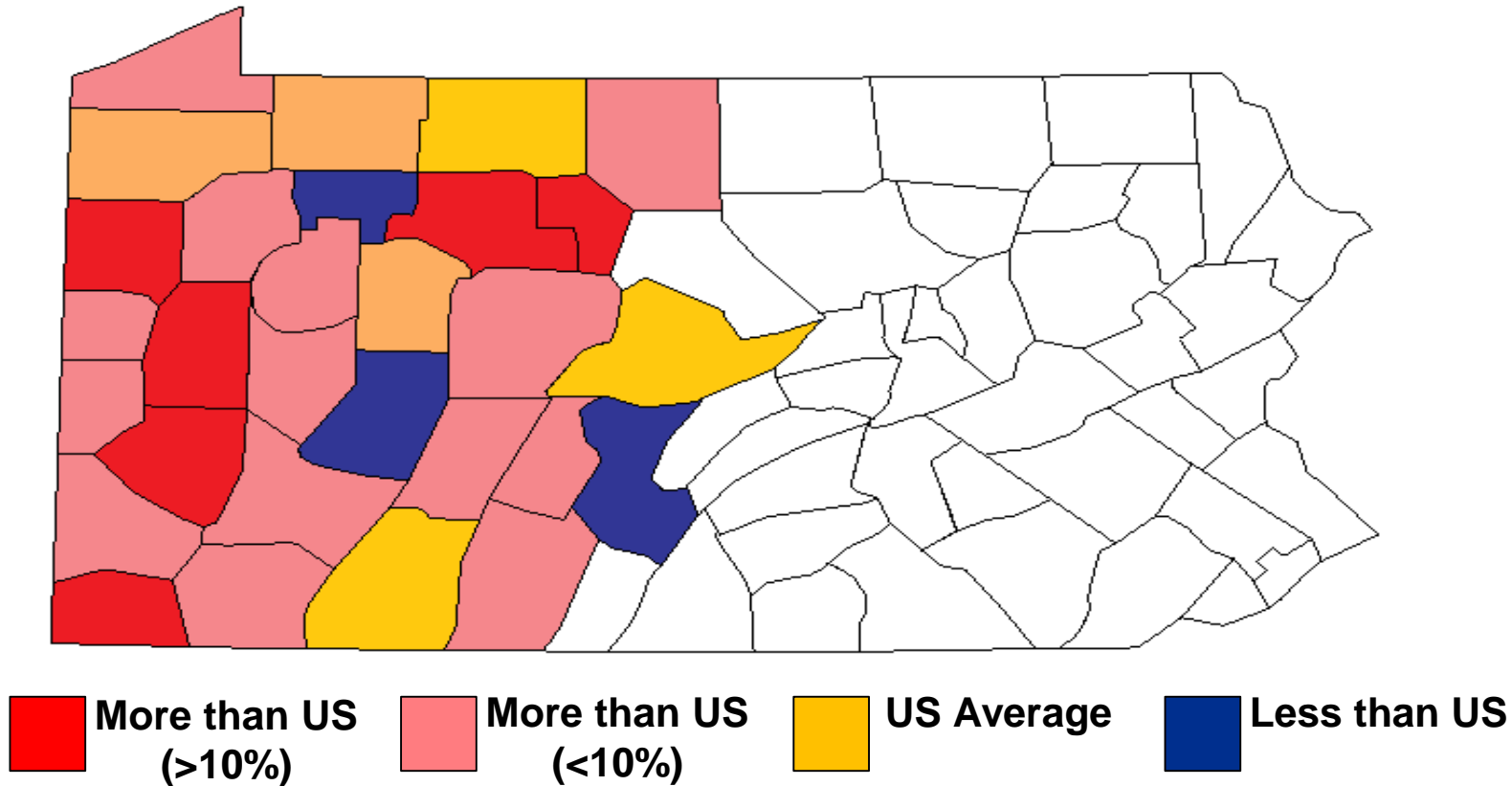
 US Average

 Less than US

Of the 29 WPA counties, 23 counties have higher total cancer incidence rate than U.S. average.

(<https://www.statecancerprofiles.cancer.gov/>)

Total Cancer Incidence Rate in Western PA Counties vs. U.S. Average (2009-2013)



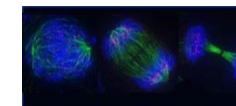
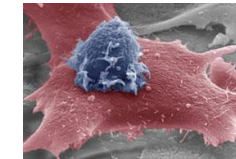
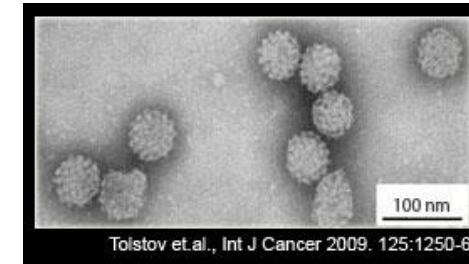
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Top Six Cancers in Catchment Area: Incidence and Mortality

Top Six Cancers

Incidence	Mortality
Breast	Lung
Prostate	Breast
Lung	Prostate
Colon	Colon
Thyroid	Pancreas
Bladder	Ovary



UPCI Catchment Area Population

	Total Population (%)
Total	4,028,386 (100%)
Racial Categories	
American Indian	5,340 (<1%)
Asian	58,034 (1%)
Native Hawaiian or Other Pacific Islander	846 (<1%)
Black (African American)	254,709 (6%)
White	3,633,389 (90%)
Ethnic Categories	
Hispanic or Latino	57,612 (1%)
Not Hispanic or Latino	3,970,774 (99%)
Gender	
Male	1,972,066 (49%)
Female	2,056,320 (51%)

Project Overview

- Collect individual-level data on the knowledge, attitudes & utilization of cancer screening and early detection for breast, colorectal, cervical and lung cancers
- Integrate newly collected data with existing community data on behavioral, environmental, SES and lifestyle factors
- Using geo-spatial information (GIS) analysis to co-localize with cancer incidence and mortality at the neighborhood/community, as well as county level

Sampling Strategy

- Dr. Todd Baer (Pitt's Office of Health Survey Research)
- Random Digit Dialing (N=1,000)
- Dual Frame (Cell and Landline)
- Urban/Rural Stratification
- Response Rate based on previous surveys using the same sampling and survey method ~ 45%
- Vendor: MSG
- In addition to the 1000 new subjects, we combine with our recently completed survey data from two counties:
 - Allegheny County (9,000)
 - Erie County (1,200)

Summary of Survey Constructs

- NCI Common Constructs
- Behavioral Risk Factor Survey System (BRFSS)
 - Demographics: age, gender, race, income, home ownership, financial security, education, marital status, employment, place of birth
 - Healthcare Access: Insurance, provider, coverage, routine checkup
 - Vaccination: HPV
 - Health behaviors: alcohol use
- Health Information National Trends Survey (HINTS)
 - Sources of information
 - Tobacco products: cigarettes, smokeless tobacco, e-cigarettes, hookah pipe (or shisha), quitting smoking
- Cancer screening: breast, cervical, colorectal, and lung
- Approximate 130 questions including all recommended core constructs
- Limit to 25 minutes interview time

Procedures for Data Collection

- Pitt's Office of Health Survey Research
- Computer Assisted Telephone Interviews
- Use BRFSS calling rules
 - 15 attempts Landline
 - 6 attempts Cell
 - Day, evening, and weekend calling
- Quality Control
 - Unobtrusive Monitoring
 - Verification Callbacks
- Hot Deck Imputation
- Iterative Proportional Fitting (raking)

IRB Status

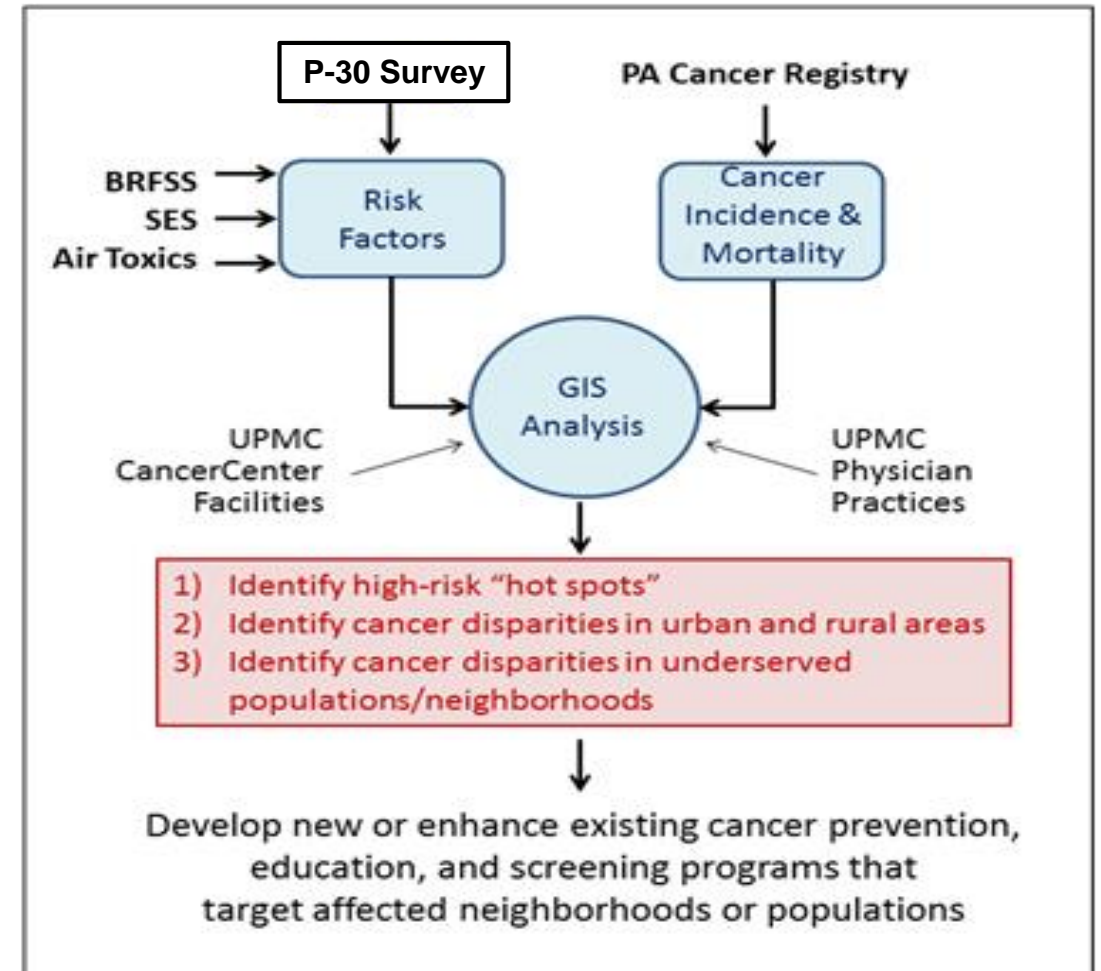
- Expedited Review (minimal risk)
- Waiver of written informed consent
- Submitted and approved (10/31/2016)
- Up next: Modification with revised instrument

Proposed Survey Timeline (UPCI)



Data Analysis and Use

- Combined survey data with the Pennsylvania Cancer Registry
- Overlay the location of UPMC CancerCenter facilities and UPMC physician practices
- Identify individual and interacting risk factors in order to detect high-risk hot spots
- Describe rural vs. urban/suburban differences, and disparities in underserved populations and neighborhoods/communities
- Inform interventions and policy at a local level



BRFSS: Behavior Risk Factor Surveillance System
HINTS: Health Information National Trends Survey
NCI Common Constructs

P-30 Supplemental Investigators and Partners

- Jian-Min Yuan, Project Leader
- Todd Bear, Co-Investigator
- Dana Bovbjerg, Co-Investigator
- Jane Clougherty, Co-Investigator
- Lyn Robertson, Co-Investigator
- Evelyn Talbott, Co-Investigator
- Beth Simon, Project Coordinator



Thank You