Definition of Catchment Area

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Objectives

1) Define what a catchment area is;
2) Describe how to select a catchment area; and
3) Identify where and how to obtain data to characterize the cancer burden in the catchment area.
4) Example of Ohio State.

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What is a Catchment Area?

- "The **catchment area** must be defined and justified by the [center] *institution*, based on the geographic area it serves."
- "It must be population based, e.g. using census tracts, zip codes, county or state lines, or other geographically defined boundaries."
- "It must include the local area surrounding the cancer center."
- "Cancer Centers occupy a unique role in their communities. They are expected to perform research relevant to their catchment area and engage the populations within their catchment area in the research they conduct and other Center activities."

NCI, CCSG FOA

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How to Select a Catchment Area?

- Options:
  - **Primary service area** – where clinics are located
  - **Market share** – where patients come from
  - **Clinical and research geographic areas** – where you have a footprint
  - **Institutional region** – historic or alignment
  - **Other**
- Defined:
  - Geographically defined boundaries
    - Zip code, county, state, etc.
- You decide
  - Rationale for decision needed

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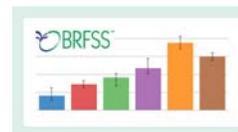COMPREHENSIVE CANCER CENTER

How to Characterize Your Catchment Area

- Who is in your catchment area?
  - Demographics
  - Special populations
- What is the cancer burden like?
  - Risk factors
  - Incidence
  - Mortality
  - Stage of diagnosis
  - Survival

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## Information to Characterize the Catchment Area

- Demographics
  - Census data
  - Marketing data
- Cancer Risk Factors
  - BRFSS – CDC online
- Cancer Rates
  - Cancer registries
  - NCI website
  - Cancer Control Planet
  - State health department
  - American Cancer Society - website

BRFSS

https://www.cdc.gov/brfss/data_tools.htm

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Slide 1

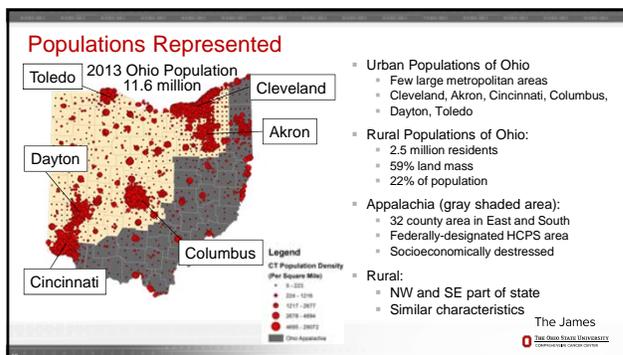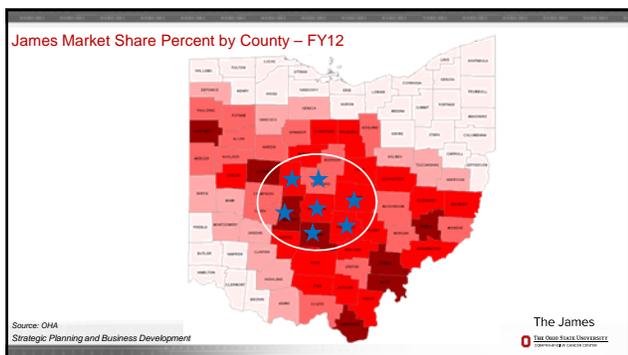Example: Ohio State University Comprehensive Cancer Center

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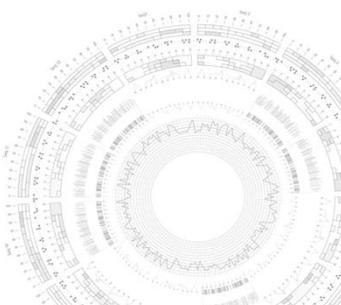THE OHIO STATE UNIVERSITY
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Slide 2
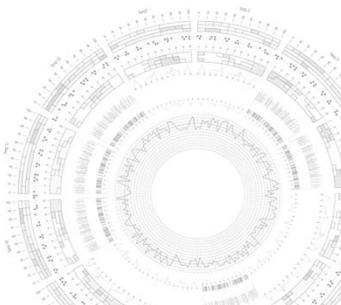
Options for Catchment Area

- Service area/market share
- All of Ohio
- Decision made based on where research is done and clinical service area (where patients are drawn from)
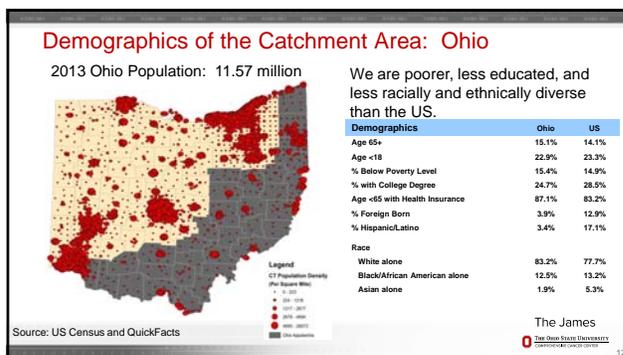- Concurrence from External Scientific Advisory Board

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James Market Share Percent by County – FY12

Source: OHA
Strategic Planning and Business Development

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Populations Represented

Toledo · 2013 Ohio Population 11.6 million · Cleveland · Akron · Dayton · Columbus · Cincinnati

- Urban Populations of Ohio
  - Few large metropolitan areas
  - Cleveland, Akron, Cincinnati, Columbus,
  - Dayton, Toledo
- Rural Populations of Ohio:
  - 2.5 million residents
  - 59% land mass
  - 22% of population
- Appalachia (gray shaded area):
  - 32 county area in East and South
  - Federally-designated HCPS area
  - Socioeconomically destressed
- Rural:
  - NW and SE part of state
  - Similar characteristics

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Catchment Area Description

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Slide 6

Demographics of the Catchment Area: Ohio

2013 Ohio Population: 11.57 million

We are poorer, less educated, and less racially and ethnically diverse than the US.

Demographics	Ohio	US
Age 65+	15.1%	14.1%
Age <18	22.9%	23.3%
% Below Poverty Level	15.4%	14.9%
% with College Degree	24.7%	28.5%
Age <65 with Health Insurance	87.1%	83.2%
% Foreign Born	3.9%	12.9%
% Hispanic/Latino	3.4%	17.1%
Race		
White alone	83.2%	77.7%
Black/African American alone	12.5%	13.2%
Asian alone	1.9%	5.3%

Source: US Census and QuickFacts

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Slide 1:

Average Annual (2007-2011), Age-adjusted Invasive Cancer Incidence Rates in Ohio by County

Legend
Rate Per 100,000
318.10 - 441.80
441.81 - 452.80
452.81 - 468.30
468.31 - 483.80
483.81 - 527.50
Ohio Appalachia
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Source: Ohio Cancer Incidence Surveillance System

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Slide 2:

Smoothed, Average Annual, Age-adjusted Invasive All Sites/Types Cancer Incidence Rates[1]

Rate per 100,000
366.4 - 428.6
426.7 - 441.6
441.7 - 449.9
450.0 - 456.6
456.7 - 461.3
461.4 - 467.3
467.4 - 472.6
472.7 - 477.6
477.7 - 484.2
484.3 - 523.2

Ohio Mortality Ranking in US[2]: 11th

1. Source: Ohio Cancer Incidence Surveillance System, 2010 (based on 1996-2006 data)
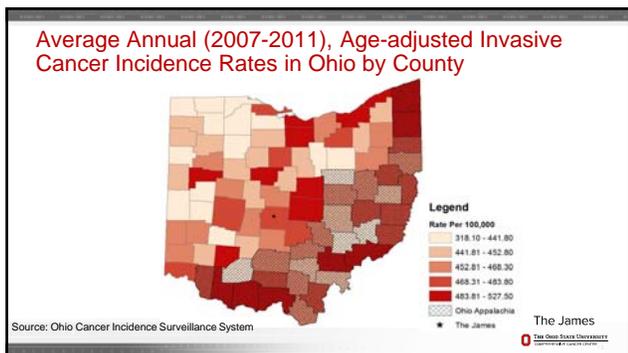2. Source: Cancer Statistics Review, 2013 (based on 2006-2010 data)

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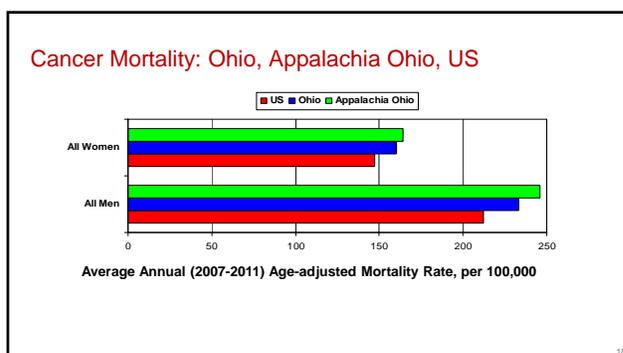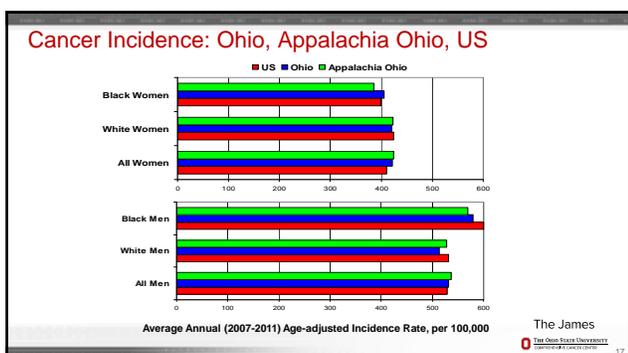COMPREHENSIVE CANCER CENTER

Slide 3:

Health Behaviors in Our Catchment Area

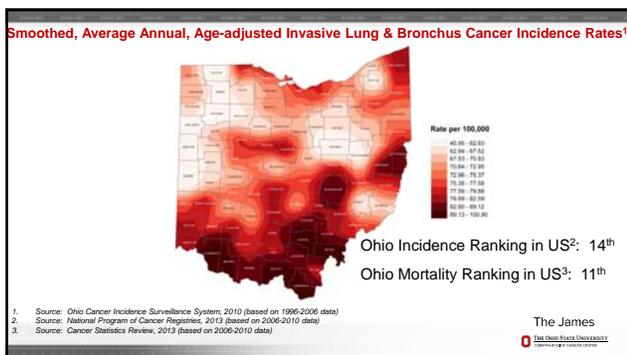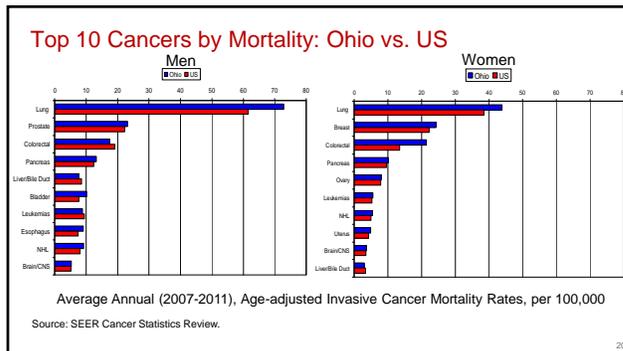| Risk Factors and Screening in Ohio	WHITES	BLACKS	APPALACHIANS
Current tobacco use, adults	22.8%	25.6%	30.8%
Current tobacco use, teens	23.5%	16.0%	21.7%
Obese adults age 18+	30.0%	34.5%	30.2%
Ever had flex sig/colonoscopy, age 50+	65.2%	64.8%	62.9%
Mammogram last 2 years, age 50-74	76.1%	86.4%	81.5%
Pap smear, last 3 years, age 19-<65	77.2%	85.4%	81.1%

To eliminate health disparities in Ohio, our priorities are to target:
•High prevalence of obesity, especially among blacks
•High prevalence of current tobacco use, especially among Appalachians
•Cancer screening behaviors

Source: CDC Behavioral Risk Factor Surveillance System, 2012 and 2013

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Slide 4:

Leading Cancers in Ohio

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Slide 5:

Cancer Incidence: Ohio, Appalachia Ohio, US

Average Annual (2007-2011) Age-adjusted Incidence Rate, per 100,000

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Slide 6:

Cancer Mortality: Ohio, Appalachia Ohio, US

Average Annual (2007-2011) Age-adjusted Mortality Rate, per 100,000

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5/13/2017

Top 10 Incident Cancers: Ohio vs. US

Men

Ohio ■ US

0 20 40 60 80 100 120 140 160

Prostate
Lung
Colorectal
Bladder
Melanoma
NHL
Kidney
Oropharynx
Leukemias
Pancreas

Women

Ohio ■ US

0 20 40 60 80 100 120 140 160

Breast
Lung
Colorectal
Uterus
Thyroid
Melanoma
NHL
Ovary
Bladder
Pancreas

Average Annual (2007-2011), Age-adjusted Invasive Cancer Incidence Rates, per 100,000

Sources: Ohio Cancer Incidence Surveillance System and SEER-18.

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Top 10 Cancers by Mortality: Ohio vs. US

Men

Ohio ■ US

0 10 20 30 40 50 60 70 80

Lung
Prostate
Colorectal
Pancreas
Liver/Bile Duct
Bladder
Leukemias
Esophagus
NHL
Brain/CNS

Women

Ohio ■ US

0 10 20 30 40 50 60 70 80

Lung
Breast
Colorectal
Pancreas
Ovary
Leukemias
NHL
Uterus
Brain/CNS
Liver/Bile Duct

Average Annual (2007-2011), Age-adjusted Invasive Cancer Mortality Rates, per 100,000

Source: SEER Cancer Statistics Review.

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Smoothed, Average Annual, Age-adjusted Invasive Lung & Bronchus Cancer Incidence Rates[1]

Rate per 100,000

45.95 - 62.63
62.64 - 67.52
67.53 - 73.83
73.84 - 72.95
72.96 - 75.37
75.38 - 77.58
77.59 - 79.88
79.89 - 82.59
82.60 - 89.12
89.13 - 100.96

Ohio Incidence Ranking in US[2]: 14th

Ohio Mortality Ranking in US[3]: 11th

1. Source: Ohio Cancer Incidence Surveillance System, 2010 (based on 1995-2006 data)
2. Source: National Program of Cancer Registries, 2013 (based on 2006-2010 data)
3. Source: Cancer Statistics Review, 2013 (based on 2006-2010 data)

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Cancer #1 Killer in Ohio Appalachia

Poverty
Obesity
Infection (HPV)
Smoking
Lack of Screening

Cervical Cancer	Lung Cancer	Colorectal Cancer	Risk Factors
Reducing cervical cancer in Ohio Appalachia (CPHHD)	Tobacco Center of Regulatory Science (TCORS)	CBPR Strategies to Increase Colorectal Screening in Ohio Appalachia	Diet & Exercise

Proportion Received HPV Vaccination

13%
7%
p=.003
Control Intervention

■ Appalachia
■ Central Ohio

32%
22%
10%
3% 3% 1%
Smoking Smoke-less Dual Use

Walk by Faith
United By Faith Dedicated To Health

Protocol: OSU-11115
P50 CA015632

Protocol: OSU-14020
P50 CA180908

Protocol: OSU-08168
R24 MD002785

Protocol: OSU-11109
OSU IDEA grant
U54-CA153604

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