

PORTAGE COUNTY MATERNAL AND CHILD HEALTH INDICATORS

**A Report to the Portage County Maternal & Child
Health Consortium for Issue Prioritization**

June 2013



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Introduction

The Ohio Department of Health Child and Family Health Services (CFHS) Program is designed to eliminate health disparities, improve birth outcomes, and advance the health status of women, infants, and children across Ohio. In July 2011, CFHS awarded Portage County Health Department a five-year grant to fund maternal and child health programming in Portage County, including the cities of Kent and Ravenna. The grant also funds a five-year community health assessment (CHA) of maternal and child health indicators using the Community Health Improvement Cycle (CHIC) model, the plan for which is depicted below:

Year One: Internal assessment; external assessment; partnership building; conduct planning

Year Two: Data collection/analysis; conduct prioritization

Year Three: Intervention planning; intervention implementation

Year Four: Intervention implementation

Year Five: Intervention implementation; evaluation

As a result of the partnership building process, the Portage County Maternal and Child Health Consortium was formed in May 2012 to support the examination of priority health issues and our community's provision of corresponding solutions. Key stakeholders from 35 Portage County organizations attended the meeting, demonstrating the readiness of community leaders to collaborate in a widened forum about the needs of mothers and children in the context of population-based health.

Volunteers from the Consortium formed a Data Workgroup in June 2012 to guide the process of data collection and analysis for this report. We owe them a great deal of thanks for their diligence and willingness to contribute their invaluable time, skills, and community knowledge to the project. We also wish to thank the Summit County Public Health Epidemiology team, especially Dr. Heather Beaird and Dana Mowls, for their commitment to the project, empowering workgroup facilitation, and encouragement to customize results to Portage County communities in unprecedented ways.

When the Consortium reconvenes in July 2013 to review the report and prioritize results, the prioritized indicators will be the catalyst for a community-wide interventions plan. To meet this purpose, an Interventions Workgroup will be tasked with evidence-based interventions development, resource identification, and evaluation planning.

This report is designed as a tool to inform and reinforce the efforts of organizations serving Portage County mothers and children. It is our hope that the results herein sustain a future of thoughtful discussions, ground-breaking collaborations, and evidence-based programs that effectively meet the needs of Portage County residents while engaging them in the practice of community improvement.

In good health,



Karen Towne, BA, BSN, RN
Nursing Supervisor & CFHS Grant Coordinator





Framework

The Vision, Mission, and Goals of *Healthy People 2020*

The vision, mission, and overarching goals provide structure and guidance for achieving the *Healthy People 2020* objectives. While general in nature, they offer specific, important areas of emphasis where action must be taken if the United States is to achieve better health by the year 2020. Developed under the leadership of the Federal Interagency Workgroup (FIW), the *Healthy People 2020* framework is the product of an exhaustive collaborative process among the U.S. Department of Health and Human Services (HHS) and other federal agencies, public stakeholders, and the advisory committee.

Vision—A society in which all people live long, healthy lives.

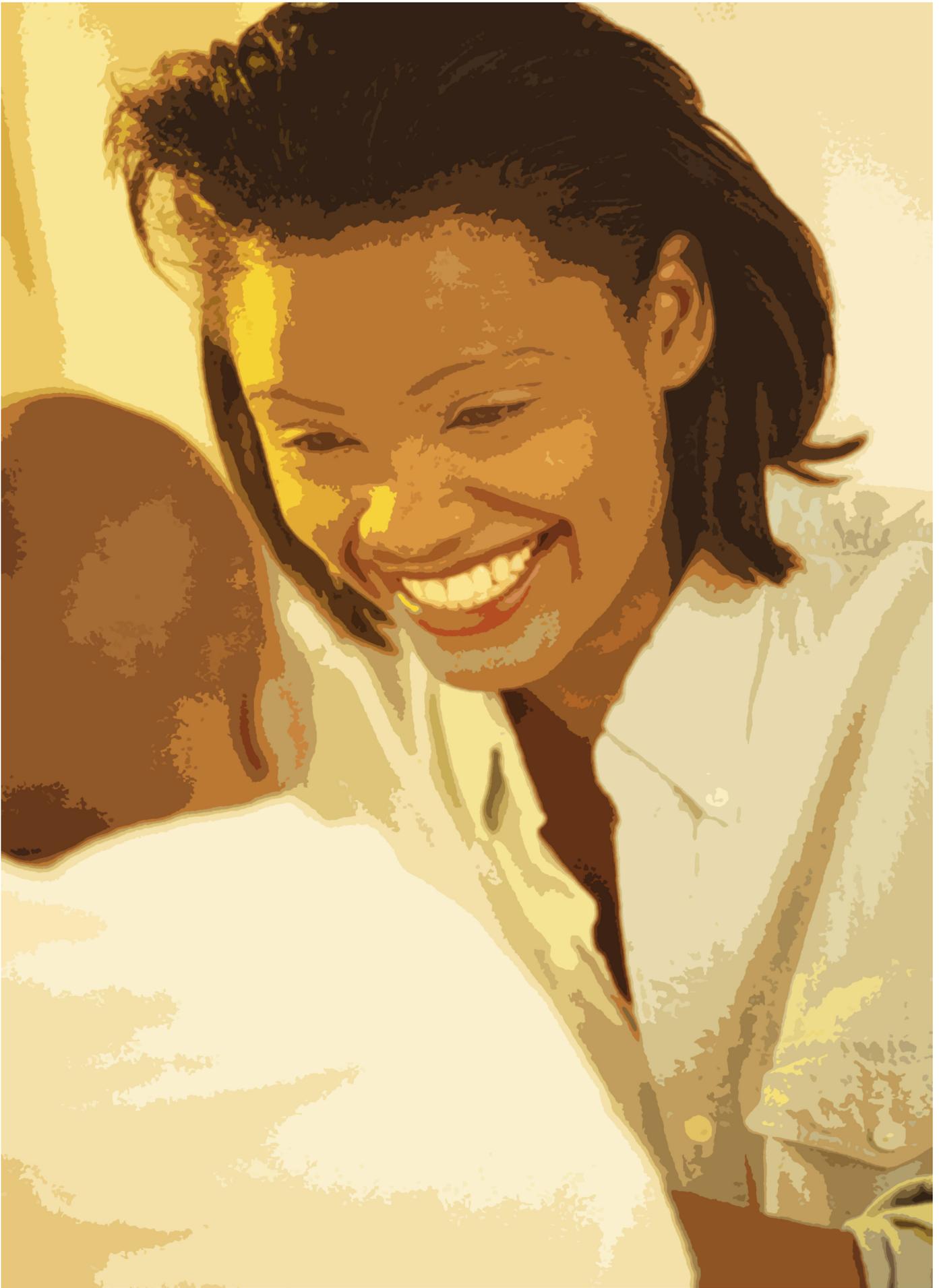
Mission—*Healthy People 2020* strives to:

- Identify nationwide health improvement priorities;
- Increase public awareness and understanding of the determinants of health, disease, and disability and the opportunities for progress;
- Provide measurable objectives and goals that are applicable at the national, state, and local levels;
- Engage multiple sectors to take actions to strengthen policies and improve practices that are driven by the best available evidence and knowledge; and
- Identify critical research, evaluation, and data collection needs.

Overarching Goals

- Attain high-quality, longer lives free of preventable disease, disability, injury, and premature death.
 - Achieve health equity, eliminate disparities, and improve the health of all groups.
 - Create social and physical environments that promote good health for all.
 - Promote quality of life, healthy development, and healthy behaviors across all life stages.
-





Executive Summary

The tables on the following pages summarize the findings of this indicator report. Where they exist, results for each indicator are presented along with Healthy People 2020 (HP2020) targets that correspond to each indicator. For some indicators, there are no directly comparable HP2020 targets available. In many of those cases, the closest appropriate objective is included (in italics), but only for reference. The summary tables also include comparisons to Ohio and to current HP2020 targets, when available. Further, arrows are included that indicate how favorably (or unfavorably) Portage County's outcome compares to the state figures and national targets. Green arrows denote favorable results for Portage County when compared to Ohio results or HP2020 targets, red arrows denote unfavorable results, and blue arrows or equal signs denote results that are neither favorable nor unfavorable. It is important to note that differences between results may be slight and that arrows do not imply differences that are of statistical or practical significance. Please refer to the footnotes at the end of the executive summary for details and other important information related to the tables.

Section I - Maternal and Child Health Profile

Part A - Demographics

Indicator		Ohio	Portage County	Range Among Portage County Clusters	
				Low	High
1	Number of women 13 to 44 years of age	2,386,368	37,158	Rootstown (1,613)	Kent City (10,469)
2	Percent of female-headed households with children	8.63%	7.00%	Aurora (4.55%)	Ravenna City (9.81%)
3	Percent of persons of a non-white race	17.31%	7.73%	Mogadore/Suffield/Randolph (1.55%)	Kent City (16.90%)
4	Percent of persons of Hispanic or Latino ethnicity	3.07%	1.28%	Mogadore/Suffield/Randolph (0.44%)	Kent City (2.22%)
5	Percent of persons that do not speak English "Very Well" ^a	2.31%	1.06%	Edinburg/Palmyra/Atwater/Deerfield (0.01%)	Kent City (2.57%)
6	Percent of persons without a high school degree ^a	12.18%	9.61%	Aurora (4.49%)	Freedom/Windham/Charlestown/Paris (16.67%)
	Percent of persons without a Bachelor's degree ^a	75.50%	75.50%	Aurora (54.27%)	Freedom/Windham/Charlestown/Paris (89.91%)
7	Percent of persons living below 100% of the federal poverty level ^a	14.75%	14.31%	Aurora (5.13%)	Kent City (35.32%)
	Percent of children living below 100% of the federal poverty level ^a	21.19%	17.95%	Aurora (4.94%)	Ravenna City (36.53%)

Part A - Demographics (Continued)

Indicator		Healthy People 2020 (HP2020) Target (Objective Number) <i>*Similar target (but not comparable)*</i>	Portage County Comparison ^b	
			vs Ohio	vs HP2020
1	Number of women 13 to 44 years of age	----- ^c	----- ^d	----- ^d
2	Percent of female-headed households with children	----- ^c	↓	----- ^d
3	Percent of persons of a non-white race	----- ^c	↓	----- ^d
4	Percent of persons of Hispanic or Latino ethnicity	----- ^c	↓	----- ^d
5	Percent of persons that do not speak English "Very Well"	----- ^c	↓	----- ^d
6	Percent of persons without a high school degree	<i>*Less than 2.1% of persons ages 18 to 24 years not completing high school (ECBP-6)^{e*}</i>	↓	----- ^d
	Percent of persons without a Bachelor's degree	----- ^c	=	----- ^d
7	Percent of persons living below 100% of the federal poverty level	Not applicable – tracked for information purposes, a target may be set during the decade (SDOH-3.1)	↓	----- ^d
	Percent of children living below 100% of the federal poverty level	Not applicable – tracked for information purposes, a target may be set during the decade (SDOH-3.2)	↓	----- ^d

Part B - Access to Care

Indicator		Ohio	Portage County	Range Among Portage County Clusters	
				Low	High
8	Percent of children without health insurance ^a	6.03%	4.40%	----- ^f	----- ^f
	Percent of adults without health insurance ^a	13.90%	12.31%	----- ^f	----- ^f
9	Percent of children ages 0 to 19 years enrolled in Medicaid	38.77%	29.58%	----- ^f	----- ^f
10	Percent of children without a personal health care provider ^a	10.53%	1.49%	----- ^f	----- ^f
	Percent of working-age adults without a personal health care provider ^a	19.12%	13.92%	----- ^f	----- ^f
11	Number of women in need of publicly funded contraception	1,330,250	21,550	----- ^f	----- ^f
12	Health Professional Shortage Area (HPSA) designation	Yes	No	No	No
13	Number of registered physicians (MDs and DOs)	----- ^d	174	----- ^f	----- ^f
	Number of primary care providers	----- ^d	42	4 of 12 County Clusters (0)	Kent City (15)
	Number of specialty care providers	----- ^d	125	5 of 12 County Clusters (0)	Ravenna City (75)
	Number of pediatric care providers	----- ^d	16	8 of 12 County Clusters (0)	Franklin/Brady Lake/ Ravenna Township (6)
	Number of obstetrics-gynecology (OB-GYN) providers	----- ^d	9	9 of 12 County Clusters (0)	Ravenna City (5)
	Number of mental health care providers	----- ^d	13	10 of 12 County Clusters (0)	Kent City (10)
	Number of hearing, vision, and dental providers	----- ^d	68	5 of 12 County Clusters (0)	Franklin/Brady Lake/ Ravenna Township (17)
	Number of Federally Qualified Health Centers (FQHCs)	----- ^d	1	11 of 12 County Clusters (0)	Kent City (1)
14	Percent of children with unmet health care needs ^a	8.35%	3.12%	----- ^f	----- ^f
	Percent of working-age adults with unmet health care needs ^a	29.98%	28.13%	----- ^f	----- ^f

Part B - Access to Care (Continued)

Indicator		Healthy People 2020 (HP2020) Target (Objective Number) <i>*Similar target (but not comparable)*</i>	Portage County Comparison ^b	
			vs Ohio	vs HP2020
8	Percent of children without health insurance	0.0% of persons without medical insurance (AHS-1.1) ^e	↓	↑
	Percent of adults without health insurance		↓	↑
9	Percent of children ages 0 to 19 years enrolled in Medicaid	----- ^c	↓	----- ^d
10	Percent of children without a personal health care provider ^a	<i>*Less than 16.1% percent of persons without a usual primary care provider (AHS-3)^{e*}</i>	↓	----- ^d
	Percent of working-age adults without a personal health care provider ^a		↓	----- ^d
11	Number of women in need of publicly funded contraception	<i>*Less than 35.5% of women in need not receiving publicly supported contraceptive services and supplies (FP-15)^{e*}</i>	----- ^d	----- ^d
12	Health Professional Shortage Area (HPSA) designation	----- ^c	----- ^d	----- ^d
13	Number of registered physicians (MDs and DOs)	----- ^c	----- ^d	----- ^d
	Number of primary care providers	Developmental – currently being developed (AHS-4.1)	----- ^d	----- ^d
	Number of specialty care providers	----- ^c	----- ^d	----- ^d
	Number of pediatric care providers	----- ^c	----- ^d	----- ^d
	Number of obstetrics-gynecology (OB-GYN) providers	----- ^c	----- ^d	----- ^d
	Number of mental health care providers	----- ^c	----- ^d	----- ^d
	Number of hearing, vision, and dental providers	----- ^c	----- ^d	----- ^d
	Number of Federally Qualified Health Centers (FQHCs)	----- ^c	----- ^d	----- ^d
14	Percent of children with unmet health care needs	<i>*Less than 9.0% of persons unable to obtain or delay obtaining necessary medical care, dental care, or prescription medicines (AHS-6.1)*</i>	↓	----- ^d
	Percent of working-age adults with unmet health care needs		↓	----- ^d

Part C - Reproductive Morbidity and Mortality

Indicator		Ohio	Portage County	Range Among Portage County Clusters	
				Low	High
15	Incidence of female breast cancer (per 100,000 females)	117.26	104.70	Streetsboro/Sugar Bush Knolls (78.60)	Kent City (127.79)
16	Incidence of cervical cancer (per 100,000 females)	8.16	6.24	-----g,i	-----g,i
17	Incidence of uterine cancer (per 100,000 females)	25.25	21.79	Freedom/Windham/Charlestown/Paris (14.37)	Mogadore/Suffield/Randolph (27.03)
18	Incidence of ovarian cancer (per 100,000 females)	12.11	13.34	Aurora (11.37) ^{h,i}	Franklin/Brady Lake/Ravenna Township (21.68)
19	Incidence of testicular cancer (per 100,000 males)	5.88	4.89	-----g,i	-----g,i
20	Incidence of lung and bronchus cancer (per 100,000 population)	69.95	66.75	Tallmadge/Brimfield (41.52)	Ravenna City (118.96)
21	Incidence of chlamydia (per 100,000 population)	437.53	200.35	Rootstown (92.40)	Kent City (378.49)
22	Incidence of gonorrhea (per 100,000 population)	142.85	25.77	Mogadore/Suffield/Randolph (20.61) ^{h,i}	Kent City (51.90)
23	Incidence of syphilis (per 100,000 population)	3.29	0.87	-----f	-----f
24	Incidence of HIV (per 100,000 population)	9.04	4.71	-----f	-----f
	Prevalence of HIV/AIDS (per 100,000 population)	155.39	55.14	-----f	-----f

Part C - Reproductive Morbidity and Mortality (Continued)

Indicator		Healthy People 2020 (HP2020) Target (Objective Number) <i>*Similar target (but not comparable)*</i>	Portage County Comparison ^b	
			vs Ohio	vs HP2020
15	Incidence of female breast cancer (per 100,000 females)	<i>*Less than 20.6 female breast cancer deaths per 100,000 females (C-3)*</i>	↓	----- ^d
16	Incidence of cervical cancer (per 100,000 females)	Less than 7.1 new cases of invasive cervical cancer per 100,000 females (C-10)	↓	↓
17	Incidence of uterine cancer (per 100,000 females)	----- ^c	↓	----- ^d
18	Incidence of ovarian cancer (per 100,000 females)	----- ^c	↑	----- ^d
19	Incidence of testicular cancer (per 100,000 males)	----- ^c	↓	----- ^d
20	Incidence of lung and bronchus cancer (per 100,000 population)	<i>*Less than 45.5 lung cancer deaths per 100,000 population (C-2)*</i>	↓	----- ^d
21	Incidence of chlamydia (per 100,000 population)	<i>*Developmental – currently being developed (STD-2)*</i>	↓	----- ^d
22	Incidence of gonorrhea (per 100,000 population)	<i>*Less than 279.9 new cases of gonorrhea per 100,000 females ages 15 to 44 years (STD-6.1) and less than 216.5 new cases of gonorrhea per 100,000 males ages 15 to 44 years (STD-6.2)*</i>	↓	----- ^d
23	Incidence of syphilis (per 100,000 population)	<i>*Less than 1.3 new cases of syphilis per 100,000 females (STD-7.1) and less than 6.7 new cases of syphilis per 100,000 males (STD-7.2)*</i>	↓	----- ^d
24	Incidence of HIV (per 100,000 population)	<i>*Developmental – currently being developed (HIV-2)*</i>	↓	----- ^d
	Prevalence of HIV/AIDS (per 100,000 population)	----- ^c	↓	----- ^d

Section II - Perinatal Health

Part A - At Risk Populations

Indicator		Ohio	Portage County	Range Among Portage County Clusters	
				Low	High
25	Crude birth rate (per 1,000 population)	12.72	9.79	Mogadore/Suffield/Randolph (7.20)	Ravenna City (12.90)
26	Teen birth rate (per 1,000 females ages 10 to 17 years)	7.61	4.17	Aurora (0.57)	Ravenna City (10.18)
27	Percent of births to unmarried women	42.53%	31.52%	Aurora (16.43%)	Freedom/Windham/Charlestown/Paris (52.56%)
28	Percent of births paid by Medicaid	38.67%	31.52%	Aurora (9.66%)	Freedom/Windham/Charlestown/Paris (50.80%)

Part B - Pre-Pregnancy and Pregnancy Health and Behaviors

Indicator		Ohio	Portage County	Range Among Portage County Clusters	
				Low	High
29	Percent of births to mothers with an overweight/obese pre-pregnancy BMI	47.37%	44.33%	Aurora (34.68%)	Edinburg/Palmyra/Atwater/Deerfield (52.14%)
30	Percent of births to mothers with excessive gestational weight gain	50.36%	55.59%	Rootstown (49.79%)	Ravenna City (60.47%)
31	Percent of births to mothers not receiving 1st trimester prenatal care	28.58%	22.25%	Tallmadge/Brimfield (15.88%)	Hiram/Garrettsville/Nelson (32.54%)
32	Percent of births to mothers not receiving early and adequate prenatal care	30.88%	21.23%	Mogadore/Suffield/Randolph (14.81%)	Hiram/Garrettsville/Nelson (35.73%)
33	Percent of births to mothers who smoked during pregnancy	19.08%	21.83%	Aurora (8.39%)	Franklin/ Brady Lake/Ravenna Township (31.60%)
34	Percent of births to mothers with diabetes	5.97%	5.28%	Rootstown (3.40%)	Franklin/ Brady Lake/Ravenna Township (6.42%)
35	Percent of births to mothers with hypertension	6.06%	5.68%	Hiram/Garrettsville/Nelson (3.29%)	Mogadore/Suffield/Randolph (8.76%)

Part A - At Risk Populations (Continued)

Indicator		Healthy People 2020 (HP2020) Target (Objective Number) <i>*Similar target (but not comparable)*</i>	Portage County Comparison ^b	
			vs Ohio	vs HP2020
25	Crude birth rate (per 1,000 population)	----- ^c	↓	----- ^d
26	Teen birth rate (per 1,000 females ages 10 to 17 years)	<i>*Less than 36.2 pregnancies per 1,000 females ages 15 to 17 years (FP-8.1) and less than 105.9 pregnancies per 1,000 females ages 18 to 19 years (FP-8.2)*</i>	↓	----- ^d
27	Percent of births to unmarried women	----- ^c	↓	----- ^d
28	Percent of births paid by Medicaid	----- ^c	↓	----- ^d

Part B - Pre-Pregnancy and Pregnancy Health and Behaviors (Continued)

Indicator		Healthy People 2020 (HP2020) Target (Objective Number) <i>*Similar target (but not comparable)*</i>	Portage County Comparison ^b	
			vs Ohio	vs HP2020
29	Percent of births to mothers with an overweight/obese pre-pregnancy BMI	<i>*Less than 46.6% of mothers of live born infants not at a healthy weight prior to pregnancy (MICH-16.5)^e*</i>	↓	----- ^d
30	Percent of births to mothers with excessive gestational weight gain	Developmental – currently being developed (MICH-13)	↑	----- ^d
31	Percent of births to mothers not receiving 1st trimester prenatal care	Less than 22.1% of mothers of live born infants not receiving prenatal care in the 1st trimester (MICH-10.1) ^e	↓	↑
32	Percent of births to mothers not receiving early and adequate prenatal care	Less than 22.4% of pregnant females not receiving early and adequate prenatal care (MICH-10.2) ^e	↓	↓
33	Percent of births to mothers who smoked during pregnancy	Less than 1.4% of mothers of live born infants not abstaining from cigarettes during pregnancy (MICH-11.3) ^e	↑	↑
34	Percent of births to mothers with diabetes	----- ^c	↓	----- ^d
35	Percent of births to mothers with hypertension	----- ^c	↓	----- ^d

Part C - Birth Outcomes and Post-Partum Health

Indicator		Ohio	Portage County	Range Among Portage County Clusters	
				Low	High
36	Percent of births that are preterm	12.61%	11.84%	Streetsboro/Sugar Bush Knolls (10.56%)	Mogadore/Suffield/Randolph (14.54%)
	Percent of births that are very preterm	2.23%	1.92%	Streetsboro/Sugar Bush Knolls (1.73%) ^{h,i}	Mantua/Shalersville (2.53%)
37	Percent of births with low birth weight	8.64%	7.60%	Aurora (5.54%)	Freedom/Windham/Charlestown/Paris (9.28%)
	Percent of births with very low birth weight	1.62%	1.29%	Streetsboro/Sugar Bush Knolls (1.21%) ^{h,i}	Ravenna City (1.85%)
38	Percent of infants who were not breastfeeding at hospital discharge	36.16%	27.63%	Rootstown (19.30%)	Freedom/Windham/Charlestown/Paris (38.89%)
39	Percent of active WIC clients 12 to 59 months of age who were never breastfed	50.78%	47.92%	----- ^f	----- ^f
	Percent of active WIC clients 12 to 59 months of age who were not breastfeeding at 24 weeks of age	86.38%	87.58%	----- ^f	----- ^f

Part C - Birth Outcomes and Post-Partum Health (Continued)

Indicator		Healthy People 2020 (HP2020) Target (Objective Number) <i>*Similar target (but not comparable)*</i>	Portage County Comparison ^b	
			vs Ohio	vs HP2020
36	Percent of births that are preterm	Less than 11.4% of live births born preterm (MICH-9.1)	↓	↑
	Percent of births that are very preterm	Less than 1.8% of live births born very preterm (MICH-9.4)	↓	↑
37	Percent of births with low birth weight	Less than 7.8% of live births born with low birth weight (MICH-8.1)	↓	↓
	Percent of births with very low birth weight	Less than 1.4% of live births born with very low birth weight (MICH-8.2)	↓	↓
38	Percent of infants who were not breastfeeding at hospital discharge	----- ^c	↓	----- ^d
39	Percent of active WIC clients 12 to 59 months of age who were never breastfed	Less than 18.1% of infants never breastfed (MICH21.2) ^e	↓	↑
	Percent of active WIC clients 12 to 59 months of age who were not breastfeeding at 24 weeks of age	Less than 39.4% of infants not breastfed at 6 months of age (MICH-21.2) ^e	↑	↑

Section III - Child Health

Part A - Preventative Care

Indicator		Ohio	Portage County	Range Among Portage County Clusters	
				Low	High
40	Number of children 0 to 72 months of age screened for lead poisoning	154,880	1,495	----- ^f	----- ^f
	Percent of children screened that had elevated blood lead levels	1.12%	0.33%	----- ^f	----- ^f
41	Percent of 3 rd grade students with untreated dental decay	18.70%	22.70%	----- ^f	----- ^f
	Percent of 3 rd grade students without dental protective sealants	49.60%	40.00%	----- ^f	----- ^f
42	Percent of children that were not up-to-date with the 4:3:1:3:3:1 childhood immunization series by 24 months of age ⁱ	----- ^d	30.23%	Southeast Local School District (22.64%)	Windham Exempted Village School District (54.17%)
	Percent of children that were not up-to-date with the 4:3:1:3:3:1 childhood immunization series by 35 months of age ^k	24.00% ^a	7.13%	----- ^f	----- ^f
43	Percent of working-age adults who smoked cigarettes ^a	27.77%	25.70%	----- ^f	----- ^f

Part A - Preventative Care (Continued)

Indicator		Healthy People 2020 (HP2020) Target (Objective Number) <i>*Similar target (but not comparable)*</i>	Portage County Comparison ^b	
			vs Ohio	vs HP2020
40	Number of children 0 to 72 months of age screened for lead poisoning	----- ^c	----- ^d	----- ^d
	Percent of children screened that had elevated blood lead levels	Not applicable – tracked for information purposes, a target may be set during the decade (EH-8)	↓	----- ^d
41	Percent of 3 rd grade students with untreated dental decay	<i>*Less than 49.0% of children 6 to 9 years of age with dental caries in at least one primary or permanent tooth (OH-1.2)*</i>	↑	----- ^d
	Percent of 3 rd grade students without dental protective sealants	Less than 71.9% of children 6 to 9 years of age not receiving dental sealants on one or more of their permanent molars (OH-12.2) ^e	↓	↓
42	Percent of children that were not up-to-date with the 4:3:1:3:3:1 childhood immunization series by 24 months of age	<i>*Less than 20.0% of children 19 to 35 months of age not receiving the recommended doses of DTaP, polio, MMR, Hib, hepB, varicella, and PCV (4:3:1:3:3:1:4 immunization series) (IID-8)^{e*}</i>	----- ^d	----- ^d
	Percent of children that were not up-to-date with the 4:3:1:3:3:1 childhood immunization series by 35 months of age		↓ ^k	----- ^d
43	Percent of working-age adults who smoked cigarettes	Less than 12.0% of adults 18 years of age and older who are current cigarette smokers (TU-1.1)	↓	↑

Part B - Childhood Morbidity and Mortality

Indicator		Ohio	Portage County	Range Among Portage County Clusters	
				Low	High
44	Percent of active WIC clients 24 to 59 months of age who are high-weight-for-height (have a BMI in the 95th percentile)	12.63%	12.06%	----- ^f	----- ^f
45	Percent of school-aged children ages 11 to 17 years that are overweight/obese ^a	35.58%	45.94%	----- ^f	----- ^f
46	Prevalence of childhood asthma ^a	15.46%	9.26%	----- ^f	----- ^f
47	Incidence of childhood cancers (per 100,000 children 19 years of age and younger)	14.76	15.21	----- ^{g,i}	----- ^{g,i}
48	Rate of infant mortality (per 1,000 live births)	7.30	5.25	Aurora (3.20)	Freedom/Windham/ Charlestown/Paris (9.27)
49	Percent of preventable child deaths	24.66%	23.47%	----- ^f	----- ^f
50	Rate of child deaths due to medical causes (per 100,000 children aged 17 years and younger)	49.46	39.19	Aurora (5.22)	Mantua/Shalersville (75.01)
	Rate of child deaths due to external causes (per 100,000 children aged 17 years and younger)	15.05	12.77	Aurora (2.61)	Mantua/Shalersville (27.64)

Part B - Childhood Morbidity and Mortality (Continued)

Indicator		Healthy People 2020 (HP2020) Target (Objective Number) <i>*Similar target (but not comparable)*</i>	Portage County Comparison ^b	
			vs Ohio	vs HP2020
44	Percent of active WIC clients 24 to 59 months of age who are high-weight-for-height (have a BMI in the 95th percentile)	Less than 9.6% of children 2 to 5 years of age considered obese (NWS-10.1)	↓	↑
45	Percent of school-aged children ages 11 to 17 years that are overweight/obese	<i>*Less than 15.7% of children 6 to 11 years of age considered obese (NWS-10.2) and less than 16.1% of children 12 to 19 years of age considered obese (NWS-10.3)*</i>	↑	----- ^d
46	Prevalence of childhood asthma	<i>*Less than 95.6 emergency room visits for asthma per 10,000 children 4 years of age and younger (RD-3)*</i>	↓	----- ^d
47	Incidence of childhood cancers (per 100,000 children 19 years of age and younger)	----- ^c	↑	----- ^d
48	Rate of infant mortality (per 1,000 live births)	Less than 6.0 infant deaths per 1,000 live births (MICH-1.3)	↓	↓
49	Percent of preventable child deaths	----- ^c	↓	----- ^d
50	Rate of child deaths due to medical causes (per 100,000 children aged 17 years and younger)	<i>*Less than 25.7 deaths per 100,000 children ages 1 to 4 years (MICH-3.1), less than 12.3 deaths per 100,000 children ages 5 to 9 years (MICH-3.2), less than 15.2 deaths per 100,000 children ages 10 to 14 years (MICH-4.1), and less than 55.7 deaths per 100,000 children ages 15 to 19 years (MICH-4.2)*</i>	↓	----- ^d
	Rate of child deaths due to external causes (per 100,000 children aged 17 years and younger)		↓	----- ^d

^aResults were calculated from survey data and have confidence intervals that are not shown, interpretation may be limited (see the Methods section of this report for additional information)

^bGreen arrows denote favorable results for Portage County when compared to Ohio results or HP2020 targets, red arrows denote unfavorable results, and blue arrows or equal signs denote results that are neither favorable nor unfavorable (differences between results may be slight and arrows do not imply differences that are of statistical or practical significance)

^cThere is not a corresponding Healthy People 2020 objective

^dComparison is not available or not applicable

^eHealthy People 2020 target percent is stated in the negative instead of the positive (i.e., stated as the percent "without" instead of the percent "with", the percent "not receiving" instead of the percent "receiving", etc.)

^fData source does not allow for analyses at the sub-county level

^gAll (or most) Portage County clusters had less than 10 events

^hLowest among the Portage County clusters with 10 events or more

ⁱDue to confidentiality restrictions, some indicator results (i.e., numbers, rates, or percentages) could not be calculated for clusters where the number of events was less than 10 (see the Methods section of this report for additional information)

^jPortage County sub-county analyses were stratified by school district instead of cluster

^kOhio and Portage County results were obtained from different data sources, use caution when comparing.

Methods

The process for determining the inclusion of indicators to be measured in this report began with the investigation of items that were required or recommended by the Ohio Department of Health (ODH) as measurements for the Child and Family Health Services (CFHS) Program. Specifically, as part of the CFHS grant, ODH provided a list of “data indicators to be used as part of the Community Health Assessment and included in the CFHS grant application” (Appendix D-1.3 of the CFHS grant). Such indicators were automatically included in this report. In addition, ODH provided a list of “additional indicators recommended for inclusion in [the] Community Health Assessment” (Appendix D-1.3 of the CFHS grant). Such indicators were reviewed by the Portage County Maternal and Child Health Consortium Data Workgroup, a group of volunteer community members with knowledge and experience in working with data, as well as various other fields related to maternal and child health. The Data Workgroup considered the importance of the recommended indicators, in addition to the availability of data to measure them, and made decisions regarding their inclusion or exclusion. Further, the Data Workgroup collectively discussed the importance of including additional indicators, made suggestions for inclusion, and decided upon appropriate measurements to be added to the list of indicators.

Once the list of indicators was finalized, the group discussed the specifics of the measurements, including: the exact definition of each indicator, the best possible data sources to be used (whether primary or secondary data and how primary data would be collected, if necessary), the time frame for measurements, and the best possible geographic levels of analysis among Portage County residents. Consequently, the Data Workgroup also decided on the types of sub-county analyses to be conducted (i.e. at the level of census tracts, political subdivisions, school districts, zip codes, or clusters of any of the aforementioned geographies). The Workgroup ultimately decided to perform analyses, when possible, by 12 clusters of Portage County political subdivisions, with the exception of school districts for one indicator.

The tables that follow on the next six pages provide a summary of all of the final decisions of the Portage County Maternal and Child Health Consortium Data Workgroup regarding the 50 indicators (some with sub-indicators) that are included in this report. The tables detail information on the indicator basis (required by ODH [R], recommended by ODH [r], or optional [o], as discussed above), the data source used, the data time period for the measurement, and the geographic level of analysis that was possible. Please see the footnotes after the last table for important information regarding specific elements. In addition, a brief description of each data source (in alphabetical order) with references follows the summary methods tables. In some cases, there are further discussions on the methodologies used to analyze a particular data source.

All primary analyses utilizing raw data were conducted by staff in the Office of Epidemiology and Biostatistics at Summit County Public Health (OEB-SCPH) using SAS statistical analysis software. All geocoding of address-level data (to assign Portage County clusters) and map creation was performed with ESRI ArcGIS software. All data maintained by OEB-SCPH are housed on a secure server accessible only to authorized staff, in accordance with ODH and SCPH data confidentiality procedures. An electronic copy of this report will be made available online by the Portage County Health Department (<http://www.co.portage.oh.us/healthdepartment.htm>). It is unfortunately expected that errors in the print copy of this report will be realized after it is disseminated. Please refer to the electronic copy for the most current and updated version, along with an erratum page that will be posted, if necessary.

Section I - Maternal and Child Health Profile

Part A - Demographics

Indicator		Indicator Basis ^a	Data Source	Data Time Period	Geographic Level of Analysis
1	Number of women 13 to 44 years of age	R	US Decennial Census Summary File 1, 100% Data	2010	County clusters
2	Percent of female-headed households with children	R	US Decennial Census Summary File 1, 100% Data	2010	County clusters
3	Percent of persons of a non-white race	R	US Decennial Census Summary File 1, 100% Data	2010	County clusters
4	Percent of persons of Hispanic or Latino ethnicity	R	US Decennial Census Summary File 1, 100% Data	2010	County clusters
5	Percent of persons that do not speak English "Very Well"	R	American Community Survey 5-Year Estimates	2007-2011	County clusters
6	Percent of persons without a high school degree	R	American Community Survey 5-Year Estimates	2007-2011	County clusters
	Percent of persons without a Bachelor's degree	R	American Community Survey 5-Year Estimates	2007-2011	County clusters
7	Percent of persons living below 100% of the federal poverty level	R	American Community Survey 5-Year Estimates	2007-2011	County clusters
	Percent of children living below 100% of the federal poverty level	R	American Community Survey 5-Year Estimates	2007-2011	County clusters

Part B - Access to Care

Indicator		Indicator Basis ^a	Data Source	Data Time Period	Geographic Level of Analysis
8	Percent of children without health insurance	R	American Community Survey 3-Year Estimates	2009-2011	County
	Percent of adults without health insurance	R	American Community Survey 3-Year Estimates	2009-2011	County
9	Percent of children ages 0 to 19 years enrolled in Medicaid	R	Ohio Department of Job and Family Services (ODJFS), Ohio Medicaid Report County Profiles	2007	County
10	Percent of children without a personal health care provider	o	Ohio Family Health Survey (OFHS) Data	2008	County
	Percent of working-age adults without a personal health care provider	o	Ohio Family Health Survey (OFHS) Data	2008	County
11	Number of women in need of publicly funded contraception	R	Guttmacher Institute, Detailed County Tables	2006	County
12	Health Professional Shortage Area (HPSA) designation	R	Health Resources and Services Administration (HRSA), HPSA Search by State and County Website	2013	County
13	Number of registered physicians (MDs and DOs)	R	Office of Policy, Research, and Strategic Planning, Ohio County Profiles	May 2012	County
	Number of primary care providers	o	Portage County Health District, Health Alert Network (HAN) Data	June 2013	County clusters
	Number of specialty care providers	o	Portage County Health District, Health Alert Network (HAN) Data	June 2013	County clusters
	Number of pediatric care providers	o	Portage County Health District, Health Alert Network (HAN) Data	June 2013	County clusters
	Number of obstetrics-gynecology (OB-GYN) providers	o	Portage County Health District, Health Alert Network (HAN) Data	June 2013	County clusters
	Number of mental health care providers	o	Portage County Health District, Health Alert Network (HAN) Data	June 2013	County clusters
	Number of hearing, vision, and dental providers	r	Portage County Health District, Health Alert Network (HAN) Data	June 2013	County clusters
	Number of Federally Qualified Health Centers (FQHCs)	R	Ohio Association of Community Health Centers, CHC Search by County Website	2012	County clusters
14	Percent of children with unmet health care needs	o	Ohio Family Health Survey (OFHS) Data	2008	County
	Percent of working-age adults with unmet health care needs	o	Ohio Family Health Survey (OFHS) Data	2008	County

Part C - Reproductive Morbidity and Mortality

Indicator		Indicator Basis ^a	Data Source	Data Time Period	Geographic Level of Analysis
15	Incidence of female breast cancer (per 100,000 females)	R	Ohio Cancer Incidence Surveillance System (OCISS) Data ^{b,c}	2000-2009	County clusters
16	Incidence of cervical cancer (per 100,000 females)	R	Ohio Cancer Incidence Surveillance System (OCISS) Data ^{b,c}	2000-2009	County ^{d,e}
17	Incidence of uterine cancer (per 100,000 females)	R	Ohio Cancer Incidence Surveillance System (OCISS) Data ^{b,c}	2000-2009	County clusters
18	Incidence of ovarian cancer (per 100,000 females)	R	Ohio Cancer Incidence Surveillance System (OCISS) Data ^{b,c}	2000-2009	County clusters (5 out of 12) ^e
19	Incidence of testicular cancer (per 100,000 males)	R	Ohio Cancer Incidence Surveillance System (OCISS) Data ^{b,c}	2000-2009	County ^{d,e}
20	Incidence of lung and bronchus cancer (per 100,000 population)	R	Ohio Cancer Incidence Surveillance System (OCISS) Data ^{b,c}	2000-2009	County clusters
21	Incidence of chlamydia (per 100,000 population)	R	Ohio Disease Reporting System (ODRS) Data ^b	2008-2012	County clusters
22	Incidence of gonorrhea (per 100,000 population)	R	Ohio Disease Reporting System (ODRS) Data ^b	2008-2012	County clusters (5 out of 12) ^e
23	Incidence of syphilis (per 100,000 population)	o	Ohio Department of Health (ODH), Primary and Secondary Syphilis Statistical Summaries ^b	2007-2011	County
24	Incidence of HIV (per 100,000 population)	R	Ohio Department of Health (ODH), HIV/AIDS Statistical Summaries ^b	2007-2011	County
	Prevalence of HIV/AIDS (per 100,000 population)	R	Ohio Department of Health (ODH), HIV/AIDS Statistical Summaries ^b	2011	County

Section II - Perinatal Health

Part A - At Risk Populations

	Indicator	Indicator Basis ^a	Data Source	Data Time Period	Geographic Level of Analysis
25	Crude Birth rate (per 1,000 population)	R	Ohio Birth Certificate Data ^b	2006-2010	County clusters
26	Teen birth rate (per 1,000 females ages 10 to 17 years)	R	Ohio Birth Certificate Data ^b	2006-2010	County clusters
27	Percent of births to unmarried women	R	Ohio Birth Certificate Data	2006-2010	County clusters
28	Percent of births paid by Medicaid	R	Ohio Birth Certificate Data	2006-2010	County clusters

Part B - Pre-Pregnancy and Pregnancy Health and Behaviors

	Indicator	Indicator Basis ^a	Data Source	Data Time Period	Geographic Level of Analysis
29	Percent of births to mothers with an overweight/obese pre-pregnancy BMI	r	Ohio Birth Certificate Data	2006-2010	County clusters
30	Percent of births to mothers with excessive gestational weight gain	r	Ohio Birth Certificate Data	2006-2010	County clusters
31	Percent of births to mothers not receiving 1st trimester prenatal care	R	Ohio Birth Certificate Data	2006-2010	County clusters
32	Percent of births to mothers not receiving early and adequate prenatal care	o	Ohio Birth Certificate Data	2006-2010	County clusters
33	Percent of births to mothers who smoked during pregnancy	R	Ohio Birth Certificate Data	2006-2010	County clusters
34	Percent of births to mothers with diabetes	o	Ohio Birth Certificate Data	2006-2010	County clusters
35	Percent of births to mothers with hypertension	o	Ohio Birth Certificate Data	2006-2010	County clusters

Part C - Birth Outcomes and Post-Partum Health

	Indicator	Indicator Basis ^a	Data Source	Data Time Period	Geographic Level of Analysis
36	Percent of births that are preterm	R	Ohio Birth Certificate Data	2006-2010	County clusters
	Percent of births that are very preterm	R	Ohio Birth Certificate Data	2006-2010	County clusters (7 out of 12) ^e
37	Percent of births with low birth weight	R	Ohio Birth Certificate Data	2006-2010	County clusters
	Percent of births with very low birth weight	R	Ohio Birth Certificate Data	2006-2010	County clusters (4 out of 12) ^e
38	Percent of infants who were not breastfeeding at hospital discharge	o	Ohio Birth Certificate Data	2006-2010	County clusters
39	Percent of active WIC clients 12 to 59 months of age who were never breastfed	r	WIC Enrollment and Visit Data (from COGNOS)	June 2013	County
	Percent of active WIC clients 12 to 59 months of age who were not breastfeeding at 24 weeks of age	r	WIC Enrollment and Visit Data (from COGNOS)	June 2013	County

Section III - Child Health

Part A - Preventative Care

Indicator		Indicator Basis ^a	Data Source	Data Time Period	Geographic Level of Analysis
40	Number of children 0 to 72 months of age screened for lead poisoning	R	Ohio Department of Health (ODH), Data and Statistics on Childhood Lead Poisoning	2011	County
	Percent of children screened that had elevated blood lead levels	R	Ohio Department of Health (ODH), Data and Statistics on Childhood Lead Poisoning	2011	County
41	Percent of 3 rd grade students with untreated dental decay	r	Ohio Department of Health (ODH), Ohio Oral Health Surveillance System	2011	County
	Percent of 3 rd grade students without dental protective sealants	r	Ohio Department of Health (ODH), Ohio Oral Health Surveillance System	2011	County
42	Percent of children that were not up-to-date with the 4:3:1:3:3:1 childhood immunization series by 24 months of age	r	Portage County Health District, Kindergarten Retrospective Study	2010	School district
	Percent of children that were not up-to-date with the 4:3:1:3:3:1 childhood immunization series by 35 months of age	r	Ohio – Ohio Department of Health (ODH), Ohio Immunization Coverage Rates (from the National Immunization Survey)	2010	State
			Portage County – Portage County Health District, Kindergarten Retrospective Study	2010	County
43	Percent of working-age adults who smoked cigarettes	o	Ohio Family Health Survey (OFHS) Data	2008	County

Part B - Childhood Morbidity and Mortality

Indicator		Indicator Basis ^a	Data Source	Data Time Period	Geographic Level of Analysis
44	Percent of active WIC clients 24 to 59 months of age who are high-weight-for-height (have a BMI in the 95th percentile)	R	WIC Enrollment and Visit Data (from COGNOS)	June 2013	County
45	Percent of school-aged children ages 11 to 17 years that are overweight/obese	o	Ohio Family Health Survey (OFHS) Data	2008	County
46	Prevalence of childhood asthma	r	Ohio Family Health Survey (OFHS) Data	2008	County
47	Incidence of childhood cancers (per 100,000 children 19 years of age and younger)	o	Ohio Cancer Incidence Surveillance System (OCISS) Data ^{b,c}	2000-2009	County ^{d,e}
48	Rate of infant mortality (per 1,000 live births)	R	Ohio Infant Birth-Death Certificate Linked Data	2000-2009	County clusters
49	Percent of preventable child deaths	r	Ohio - Ohio Department of Health (ODH), Ohio Child Fatality Review 12th Annual Report, 2012	2006-2010	State
			Portage County - Portage County Child Fatality Review Board Data	2006-2010	County
50	Rate of child deaths due to medical causes (per 100,000 children aged 17 years and younger)	r	Ohio Death Certificate Data ^b	2001-2010	County clusters
	Rate of child deaths due to external causes (per 100,000 children aged 17 years and younger)	r	Ohio Death Certificate Data ^b	2001-2010	County clusters

^aR = required, this indicator was required by the Child and Family Health Services (CFHS) Program; r = recommended, this indicator was recommended by the CFHS Program and was selected by the Portage County Maternal and Child Health Consortium (PCMCHC) Data Workgroup; o = optional, this indicator was proposed and selected by the PCMCHC Data Workgroup

^bRates were calculated using the 2010 US decennial census, Summary File (SF) 1, 100% data as population denominators

^cRates were adjusted by the direct method of age-adjustment using the 2000 US Census standard population

^dAll (or most) Portage County clusters had less than 10 events

^eDue to confidentiality restrictions, some indicator results could not be calculated for clusters where the number of events was less than 10

American Community Survey Data

The American Community Survey (ACS) is an annual nationwide survey of a sample of households in the United States.¹ It is conducted among a sample of all persons living in housing units and/or group quarters.¹ The group quarters population includes all persons residing in such places as college residence halls, residential treatment centers, skilled nursing facilities, group homes, military barracks, correctional facilities, workers' facilities, and facilities for people experiencing homelessness.¹ Data is available on an annual basis for all states and counties and other geographies with populations of 65,000 or more.² Further, 3-year combined estimates are available for all geographies with populations of 20,000 or more and 5-year combined estimates are available for all geographies.² The data measured in the ACS include demographic, social, economic, and housing variables.¹

Measurements using the ACS were conducted among a sample of the population, rather than the 100-percent population. Therefore, statistics based on these samples may differ from those that would have been obtained had the entire population been surveyed. This difference is referred to as sampling error and is represented by the margin of error (MOE). The US Census Bureau provides MOEs with the population estimations obtained from ACS data. An MOE can be represented in many ways, but for the purposes of this report it is documented as +/-n or +/-x%, the number or percentage that can be subtracted and added to the estimate to form a range of possible true estimates of the 100-percent population. MOEs are not presented in the body of this report, but can be found in the tables in Appendix A, when appropriate. Further information regarding the accuracy of ACS data is available from the US Census Bureau.³

Estimates in this report are also subject to non-sampling error. Unlike sampling error, non-sampling error can affect both sample data and 100-percent data. Further, it can either be random or systematic. Because random error occurs at random, it tends to increase the range of possible true estimates and, therefore, should be included as part of the MOE. Systematic error, on the other hand, tends to bias the data in one direction because the errors occur in a consistent manner. For instance, if respondents to a survey tend to consistently overestimate their income (possibly because of social norms), then the data will reflect erroneously low poverty rates. Data biases such as this are not reflected in the MOE and usually cannot be measured. Hence, the possibility of various types of non-sampling error should be taken into account when interpreting the estimates provided in this document.

Guttmacher Institute, "Contraceptive Needs and Services, 2006: Detailed County Tables"

The Guttmacher Institute provides estimates of the number of women in need of publicly supported contraceptive services and supplies by state and county in their online reports titled "Contraceptive Needs and Services, 2006: Detailed County Tables".⁴ Numbers contained in the reports are calculated by the Guttmacher Institute using a complex methodology for estimation based on each county's population subgroups and women's characteristics.⁵

Health Resources and Services Administration, "HPSA Search by State and County" Website

The Health Resources and Services Administration (HRSA) of the US Department of Health and Human Services (HHS) maintains a website that allows for the online search of Health Professional Shortage Areas (HPSAs) by state and county.⁶ HRSA designates primary care HPSAs as geographical areas with a full-time equivalent primary care physician to population ratio of less than 1:3,500.⁷

Office of Policy, Research, and Strategic Planning, “Ohio County Profiles”

The Office of Policy, Research, and Strategic Planning of the Ohio Development Services Agency provides a report titled “Ohio County Profiles” for each county in the state of Ohio.⁸ The profiles contain a wealth of information obtained from various data sources. Specific to this report, the profiles contain the number of registered physicians in each county, as estimated from the 2010 “Roster of Registered Physicians” data maintained by the State of Ohio Medical Board.⁹

Ohio Association of Community Health Centers, “CHC Search by County” Website

The Ohio Association of Community Health Centers maintains a website that allows for the online search of Ohio’s community health centers (CHCs) by county.¹⁰ The website provides a comprehensive listing of CHCs in Ohio. The online search tool return the name, address, phone number, and web address of every CHC in the county that is selected.

Ohio Birth Certificate Data

Demographics, perinatal risk factors, and birth outcomes for all live births occurring in the state of Ohio are reported according to the “long form” of the Ohio birth certificate and are submitted as the birth certificate record to the Ohio Department of Health (ODH) through the Electronic Birth Registration System (EBRS). A live birth is defined by the National Center for Health Statistics (NCHS) as any product of conception that shows any signs of life (i.e. breathing, beating of the heart, pulsation of the umbilical cord, or definite movement of voluntary muscles) after delivery, regardless of gestational age.¹¹ The data that make up the official birth certificate record are collected by various entities throughout the perinatal period, including the prenatal care provider, the birth attendant, the birthing facility, and the mother of the infant. In addition, ODH receives certificates of all births to Ohio residents which occurred outside of the state. All subsequent records, births in-state and out-of-state, are combined into annual statistical data files that are edited according to specifications outlined by NCHS for the standardization of certificates across the US.¹²

Each record represents the perinatal experience of one live birth (i.e. infant) and contains information regarding: maternal and paternal demographics, maternal residence, prenatal care, maternal risk factors, obstetric procedures, characteristics of labor and delivery, infant birth outcomes, abnormal conditions, and congenital anomalies. For the purpose of this report, births in the calendar years of 2006 through 2010 to mothers residing in Portage County (as defined by ODH) were analyzed and represent the universe of all Portage County resident births during that time frame. The mother’s residential address and zip code at the time of birth were utilized for geocoding to obtain the mother’s Portage County political subdivision of residence. The political subdivision was subsequently categorized into one of 12 Portage County geographies, or county clusters.

Ohio Cancer Incidence Surveillance System (OCISS) Data

Beginning in 1992, all primary malignancies, with the exception of basal and squamous cell carcinoma of the skin and carcinoma in situ of the cervix, are mandated by Ohio Revised Code to be reported to the Ohio Cancer Incidence Surveillance System (OCISS) at the Ohio Department of Health (ODH) within six months of diagnosis.^{13,14} In 1995, the OCISS joined 45 other states in the National Program of Cancer Registries (NPCR) in order to ensure the standardized collection of cancer data.¹⁵ Since 1996, over 400 hospitals and facilities, including ambulatory surgery and radiation therapy centers, free-standing pathology laboratories, nursing

homes, and physician offices, have reported new cancer cases to the OCISS.¹⁵ Further, cancer registries in Florida and the five states bordering Ohio report cancer diagnoses among Ohio residents to the OCISS and additional, previously unreported, cases are identified by the ODH Vital Statistics Program from the underlying cause of death listed on Ohio death certificates.¹⁵

All primary malignant cancer diagnoses among Ohio residents, whether they occur in-state, out-of-state or via death certificate, are combined into a working statistical data file that is maintained according to the national standards set by the North American Association of Central Cancer Registries (NAACR) to ensure data completeness, quality, and timeliness.^{15,16} Each record represents one primary malignant cancer diagnosis and contains a minimum of 39 data elements regarding: patient demographics, residence, cancer diagnosis, site, histology, staging, and treatment. For the purpose of this report, cancer diagnoses among residents of Portage County (as identified by OCISS) in the calendar years of 2000 through 2009 were analyzed and represent the universe of all Portage County resident cancer diagnoses during that time frame.

As part of the cancer record, the cancer type is recorded as the site and histology in the form of the International Classification of Diseases for Oncology, 3rd Revision (ICD-O-3) codes.¹⁷ The codes are generated by the diagnosing entity and are edited by the OCISS according to their Data Quality Assurance Plan based on NAACR Standards for Cancer Registries using Rocky Mountain Cancer Data Systems software.^{15,16} For the purpose of these analyses, cancers were categorized in the manner of the Surveillance, Epidemiology, and End Results (SEER) Program at the National Cancer Institute.¹⁸ All primary invasive cancer cases, including carcinoma in situ of the bladder, were classified as such if the ICD-O-3 site code was in the range C000-C809. Specific to this report, the following ICD-O-3 site and histology codes were used to identify cancers by site/type:

Cancer Site/Type	ICD-O-3 Site Code(s)	ICD-O-3 Histology Code(s)
Breast Cancer	C500-C509	Excluding types 9590-9989
Cervical Cancer	C530-C539	Excluding types 9590-9989
Uterine Cancer	C540-C549 and C559	Excluding types 9590-9989
Ovarian Cancer	C569	Excluding types 9590-9989
Testicular Cancer	C620-C629	Excluding types 9590-9989
Lung and Bronchus Cancer	C340-C349	Excluding types 9590-9989
Brain and Other Central Nervous System	C700-C729	Excluding types 9590-9989
Leukemias	C420-C421 and C424	9823 and 9827
	C000-C809	9733, 9742, 9800-9801, 9805, 9820, 9826, 9831-9837, 9840, 9860-9861, 9863, 9866-9867, 9870-9876, 9891, 9895-9897, 9910, 9920, 9930-9931, 9940, 9945-9946, 9948, 9963, and 9964

In addition, breast cancers were limited to persons that were female. The patient’s residential address and zip code at the time of cancer diagnosis were utilized for geocoding to obtain the patient’s Portage County political subdivision of residence. The political subdivision was subsequently categorized into one of 12 Portage County geographies, or county clusters. The age-adjusted annual incidence of cancers by specified type were calculated using the 2010 US Decennial Census population estimates as population denominators and the direct method of age-adjustment using the 2000 US Census standard population.

Ohio Death Certificate Data

Demographics and causes of death for all fatalities occurring in the state of Ohio are reported according to the “long form” of the Ohio death certificate and are submitted as the death certificate record to the Ohio Department of Health (ODH) through the Electronic Death Registration System (EDRS). The data that make up the official death certificate record are collected by various entities, including the certifying physician or coroner, the facility of death, the funeral director, and an informant for the decedent. In addition, ODH receives certificates of all deaths to Ohio residents which occurred outside of the state. All subsequent records, deaths in-state and out-of-state, are combined into annual statistical data files that are edited according to specifications outlined by the National Center for Health Statistics (NCHS) for the standardization of certificates across the US.^{19,20}

Each record represents the death of one person and contains information regarding: decedent demographics, residence, occupation, causes of death, and other descriptors of the fatality. For the purpose of this report, deaths among child residents (17 years of age and younger) of Portage County (as identified by ODH) in the calendar years of 2001 through 2010 were analyzed and represent the universe of all Portage County child resident deaths during that time frame. As part of the death record, the underlying cause of death is recorded in the form of the International Classification of Diseases, 10th Revision (ICD-10) code.²¹ The code is generated according to NCHS specifications by a nosologist using SuperMicar software.^{22,23} It results from the integration of the multiple causes of death listed on the certificate by the certifier of death.

Specific to this report, the following ICD-10 codes were used to identify the manner of death:

Cause of Death		ICD-10 Code(s)
External Causes		
	Drowning/Asphyxiation	W65-W69, W73, W74, W75-W84, Y21, V90, V92, T17, T18
	Transport Accidents	V00-V99, Y32
	Falls	W00-W19, Y30, W70
	Exposure	W20-X58, X59, Y22-Y33, T58-T68, T75
	Intentional Self-Harm	X60-X83
	Assault	X85-Y08
	Legal Intervention/War	Y35-Y38
	Heath/Surgical Care	Y40-Y84
	All Other External	S00-Y98
Medical Causes		
	Certain conditions originating in the perinatal period	P00-P96
	Congenital malformations, deformations, and chromosomal abnormalities	Q00-Q99
	Sudden Infant Death Syndrome (SIDS)	R95
	All Other Medical Causes	All codes not otherwise listed

In addition, mortality rates were limited to children 17 years of age and younger. Total rates of mortality and those by manner (medical versus external) were calculated using the 2010 US Census total population estimates as population denominators. The decedent's residential address and zip code at the time of death were utilized for geocoding to obtain the decedent's political subdivision of residence. The political subdivision was subsequently categorized into one of 12 Portage County geographies, or county clusters.

Ohio Department of Health, "Data and Statistics on Childhood Lead Poisoning"

The Ohio Department of Health (ODH) maintains lead poisoning data for children 16 years of age and younger on STELLAR, a mandated electronic laboratory reporting and data entry program that contains demographic data, lead tests, case management, and investigation results.²⁴ ODH provides county and city data on children 72 months of age and younger screened for lead poisoning and found to have high blood levels on the online report titled "Data and Statistics on Childhood Lead Poisoning."²⁵

Ohio Department of Health, "HIV/AIDS Statistical Summaries"

The Ohio Department of Health (ODH) provides annual HIV/AIDS surveillance data for the entire state of Ohio and by county in their reports titled "HIV/AIDS Statistical Summaries."²⁶ HIV/AIDS surveillance data is compiled from the Ohio Disease Reporting System (ODRS) and includes information on new diagnoses of HIV infection (i.e., incident cases of HIV), persons living with HIV (i.e., prevalent cases of HIV) and deaths among persons living with HIV.²⁷ Please see the section on ODRS data for further information on the reporting of diseases in ODRS. Under the ODH definition, a diagnosis of HIV includes those with a diagnosis of HIV, a diagnosis of HIV and a later diagnosis of AIDS, or a concurrent diagnosis of HIV infections and AIDS.²⁷ Persons living with HIV are considered all persons with an HIV infection ever diagnosed in their lifetime and not reported as having died by December 31st of the reporting year. HIV/AIDS data is analyzed by select demographics, risk exposures, and residence.²⁷ Due to confidentiality restrictions and the small number of events, analyses stratified by HIV/AIDS data at the county level were not always possible, as is the case in Portage County.

Ohio Department of Health, "Ohio Child Fatality Review 12th Annual Report, 2012"

Each local Child Fatality Review (CFR) Board is responsible for providing the Ohio Department of Health (ODH) with information on reviewed child deaths by April 1st of each year.²⁸ A joint annual report is prepared and made available online by ODH and Children's Trust Fund Board on child death data provided by the local CFR Boards.²⁹ Data provided in the most recent report titled "Ohio Child Fatality Review 12th Annual Report, 2012" was based on 2010 Ohio child death data reported by April 1st of 2012 and an additional review of Ohio child deaths that occurred from 2006-2010.²⁸

Ohio Department of Health, "Ohio Immunization Coverage Rates" (from the National Immunization Survey)

The Ohio Department of Health (ODH) provides childhood immunization coverage rates online for the state of Ohio, as measured through the Centers for Disease Control and Prevention's (CDC) National Immunization Survey.³⁰ The National Immunization Survey is a large population based survey of children 19-35 months of age that assesses for antigen-specific DTP/DTaP (diphtheria, tetanus, and pertussis vaccine), polio (oral or inactivated poliovirus vaccine), MMR (measles, mumps, and rubella vaccine), Hib (*Haemophilus influenzae* type b conjugate vaccine), hepatitis B, varicella (chickenpox), PCV7 (7-valent pneumococcal conjugate vaccine) or PCV13 (13-valent pneumococcal conjugate vaccine), and series completion rates for 4:3:1:3:3:1 and 4:3:1:3:3:1:4 childhood immunization.³⁰ Series combination 4:3:1:3:3:1 includes 4 doses of DTP or DTaP, 3 doses of polio, 1 dose of MMR, 3 doses of Hib, 3 doses of hepatitis B, and 1 dose of varicella vaccine. Series combination 4:3:1:3:3:1:4 includes 4 doses of DTP or DTaP, 3 doses of polio, 1 dose of MMR, 3 doses of Hib, 3 doses of hepatitis B, 1 dose of varicella, and 4 doses of PCV7 or PCV13 vaccine.³⁰

Ohio Department of Health, “Ohio Oral Health Surveillance System: County Profile”

The Ohio Department of Health (ODH) Ohio Oral Health Surveillance System provides a report titled “County Profile” for each county in the state of Ohio.³¹ The profile contains information from a variety of data sources related to oral health. Specific to this report, the profile contains oral health data collected on third grade students during the 2009-2010 school year by ODH.³²

Ohio Department of Health, “Primary and Secondary Syphilis Statistical Summaries”

The Ohio Department of Health (ODH) provides a report on primary and secondary syphilis infection data with case counts for the state of Ohio and by county of residence in their online report titled “2007-2011 Ohio Infectious Disease Status Report: Primary and Secondary Syphilis.”³³ Primary and secondary syphilis are classified as the infectious stages of syphilis.³³ For the entire state of Ohio, syphilis data were analyzed by select demographic variables. Due to confidentiality restrictions and the small number of cases, county level analyses were not provided.

Ohio Department of Job and Family Services, “Ohio Medicaid Report County Profiles”

The Ohio Department of Job and Family Services (ODJFS) provides a report titled “Ohio Medicaid Report 2007 County Profiles” on Medicaid related data at the state and county level.³⁴ Information specific to this report, includes data on children 19 years of age and younger that were enrolled in the Ohio Medicaid Healthy Start program.³⁴ Medicaid enrollment percentages were calculated by ODJFS using the Office of Ohio Health Plans data from fiscal year 2007 for enrollment numbers and the 2007 US Census, Small Area Estimates Program data as population denominators.³⁴

Ohio Disease Reporting System (ODRS) Data

In the State of Ohio, reporting of communicable diseases is mandated by law (Ohio Administrative Code 3701-3). Included in these reporting rules is a list developed by the Ohio Department of Health (ODH) detailing which communicable diseases are required to be reported to the local health district, as well as the time in which they are to be reported. Data for the communicable diseases represented in this report originated from the 2009 Class A, Class B, and Class C diseases that have been reported to the Ohio Disease Reporting System (ODRS)³⁵ during the calendar years of 2008-2012. This includes all cases that were classified as “suspected”, “probable,” or “confirmed” based on the epidemiological case definition. If a case was ultimately determined as “not a case,” it was not included in this report. Data came from the mandatory reports and communicable disease investigations. This report does not necessarily reflect every disease case that could have been present within Portage County, only those which were reported and entered into ODRS.

Ohio Family Health Survey Data

The Ohio Family Health Survey (OFHS) is the largest state sponsored health survey in the nation. The 2008 survey of 51,000 families in Ohio included questions on demographics, employment, and income; health insurance coverage; access to care and unmet needs; utilization and quality; and child and adult health status. Since the respondents of the 2008 Ohio Family Health Survey (OFHS) were sampled separately in each of Ohio’s 88 counties and those counties are unique with regard to the demographics of their resident populations, the frequencies and percents presented in this report were weighted in order to better reflect the true frequencies and percents that would have been obtained had the entire population been sampled. The sample weights were calculated based on a predetermined sampling scheme. This report presents findings from the survey for working-aged adults (18 to 64 years of age) and children (under 18 years of age) residing in Portage County.

Estimations from the OFHS were based on data that may be subject to sampling and/or non-sampling error. The 2008 OFHS was conducted among a sample of the population rather than 100-percent of Ohio residents. Therefore, statistics based on these samples may differ from those that would have been obtained had the entire population been surveyed. This difference is referred to as sampling error and is represented in this report by margins of error (MOE).

Estimates from the OFHS are also subject to non-sampling error. Unlike sampling error, non-sampling error can affect both sample data and 100-percent data. Further, it can either be random or systematic. Because random error occurs at random, it tends to increase the range of possible true estimates and, therefore, should be included in the measurements of sampling error. Systematic error, on the other hand, tends to bias the data in one direction because the errors occur in a consistent manner. For instance, if respondents to the survey tend to consistently overestimate how often they visit the dentist (possibly because of social norms), then the data will reflect erroneously high values. Data biases such as this are not reflected in the measurements of sampling error and usually cannot be measured. Hence, the possibility of various types of non-sampling error should be taken into account when interpreting the estimates provided in this document.

Ohio Infant Birth-Death Certificate Linked Data

Infant birth-death certificate linked data were created by linking birth certificates to matching death certificates for all infants who died before their first birthday. Reciprocity agreements among bordering states ensure that even if the state of birth was not the same as the state of death (i.e., Ohio was the state of birth but not the state of death), then the state of death was responsible for contacting the infant's state of birth for the birth certificate number. The main purpose behind the linkage of infant birth and infant death files is to create one statistical record per infant that can be used to maintain a population-based database to research infant mortality. Infant birth-death certificate linked data include all of the information from the US birth certificate, as well as the information on the infant's death certificate, including age and cause of death. Please see the sections on Ohio birth and death certificate data for additional information regarding the each separate file.

Infant mortality data presented in this report are based on Ohio infant birth-death certificate linked data from the period 2000-2009 where the maternal residence during the infant's birth was Portage County (as defined by the Ohio Department of Health). The National Center for Health Statistics (NCHS) also uses infant birth-death certificate linked data as the primary data source for the calculation of infant mortality statistics. NCHS attaches weights to the infant-death certificate data to adjust for underreporting in certain states (i.e., unlinked infant birth and death files). While that is an appropriate method, the Ohio infant birth-death certificate linked data are estimated to be sufficiently complete (98.6% in 2008)³⁶. Therefore, the infant birth-death certificate linked data in this report were not weighted.

In contrast, the Ohio Department of Health (ODH) uses different data sources for the calculation of infant mortality statistics. ODH calculates infant mortality statistics from birth certificates and death certificates of the same calendar year (i.e., all births in 2009 and all infant deaths in 2009). Due to differing methodologies, caution should be used when comparing infant mortality statistics from multiple sources. In this report, both Ohio and Portage County rates were obtained from the Ohio birth-death certificate linked data.

Portage County Child Fatality Review Board Data

The Portage County Child Fatality Review (CFR) Board is responsible for reducing the number of preventable child deaths and is expected to maintain a database of all child deaths reviewed.³⁷ Data collected on the reviewed child deaths include the cause of death, factors contributing to death, geographic location of death and certain demographic variables.³⁷ For this report, Portage County Child Fatality Review Board data files for 2006-2010 were analyzed in order to determine the number of child deaths ruled as preventable.

Portage County Health District, Health Alert Network (HAN) Data

The Portage County Health District maintains a list of health care providers by Portage County location and specialty known as a Health Alert Network (HAN) listing. For this report, the HAN list was used to enumerate health care providers in Portage County by geographic location and specialty (i.e. primary care, specialty care, pediatric care, obstetrics-gynecology, mental health care, or hearing/vision/dental care).

Portage County Health District, Kindergarten Retrospective Survey Data

In December 2010, the Portage County Health District performed a Kindergarten Retrospective Survey via grant funding from the Ohio Department of Health. From eleven Portage County public school districts, immunization records were manually pulled on 870 kindergarten students that were 24 to 35 months of age as of January 1, 2008. Only available records (i.e., not missing or unavailable) were included in the survey. The immunization records were then assessed using the Centers for Disease Control and Prevention's CoCASA software to determine the percent of students that were up-to-date on the 4:3:1:3:3:1 childhood immunization series (which includes 4 doses of diphtheria, tetanus, and pertussis vaccine; 3 doses of polio vaccine; 1 dose of measles, mumps, and rubella vaccine; 3 doses of *Haemophilus influenzae* type b vaccine; 3 doses of hepatitis B vaccine; and 1 dose of varicella vaccine).

US Decennial Census Summary File 1 (SF 1), 100% Data

The United States Census is a decennial, Constitutionally-mandated survey which is designed to count every resident in the US. The Census questionnaire form used in 2010 was one of the shortest forms in the history of the Census, with only ten questions (many questions previously asked on the Census form are now asked in the American Community Survey). These ten Census questions were designed to collect information on the following: the number of people who were living or staying in each house, apartment, and mobile home; whether each residence was owned with a mortgage, owned without a mortgage, rented, or occupied without rent, and every resident's sex, age, date of birth, race, and ethnicity. Data from the US decennial Census are available every ten years for an abundance of geographies, including blocks, block groups, census tracts, cities, villages, county subdivisions, counties, and states. In this report, data for county subdivisions were aggregated (where appropriate) to calculate statistics at the county cluster level. In addition, analyses in this report frequently used 2010 US Census data to provide denominators when incidence rates were calculated.

WIC Enrollment and Visit Data (from COGNOS)

The Women, Infants, and Children (WIC) Program in Portage County manages their client enrollment and visit data in a state-mandated system called CONGOS. The data maintained in COGNOS allows WIC staff to track client histories, including their experiences with breastfeeding and any nutritional risk codes that may influence the type of nutritional counseling or other services that the client may receive. The COGNOS system also provides reports for tabulating client counts. Such reports allow WIC staff to report on the characteristics of clients that are being served.

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Family & Community Services	Portage County WIC
Healthy Communities Partnership	Portage Learning Centers
Help Me Grow	Safe Communities Partnership
Hiram College	Portage Substance Abuse Prevention Coalition
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Kent State University College of Public Health	Renaissance Family Center of Windham
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Kent State University Center for Nutrition Outreach	St. Paul Lutheran Church
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SECTION I

Maternal and Child Health Profile



1 | Women 13 to 44 Years of Age

Significance

The number of women of childbearing age, those 13 to 44 years of age, is directly related to a variety of factors that influence the health of a community, including fertility, family planning, and sexual and reproductive health. Specifically, the number of women of childbearing age is predictive of a community's need for both medical and public health services involving gynecological care, sexually transmitted disease (STD) screening and treatment, contraception and STD prevention, pre-conception and obstetrical care, perinatal nutrition, and so forth.

Definition

This indicator measures the number of females 13 to 44 years of age that resided in Portage County. The data were obtained from the 2010 US decennial census, Summary File (SF) 1, containing 100% data.

Discussion

There were a total of 82,578 females that lived in Portage County in 2010. Of those, 37,158 (45.00%) were between the ages of 13 and 44 years (Figure 1A). In the state of Ohio, a lower percent of all females (40.42%) were between the ages of 13 to 44 years. Among women of childbearing age in Portage County, the largest number were 13 to 19 years of age (9,562), followed by those 20 to 24 years of age (8,833) (Figure 1B). Furthermore, 13 to 19 and 20 to 24 year-olds in Portage County made up a larger percent (1.73% and 2.33%, respectively) of all Ohio women in those age groups (Figure 1B). This is likely because Portage County is the home of Kent State University, a large academic institution that attracts young residential students from all over the world. In fact, as depicted in Figure 1C, the number of women 13 to 44 years of age was highest in the city of Kent and the surrounding county clusters.

Figure 1A: Percent of Women by Age Group, Portage County, 2010

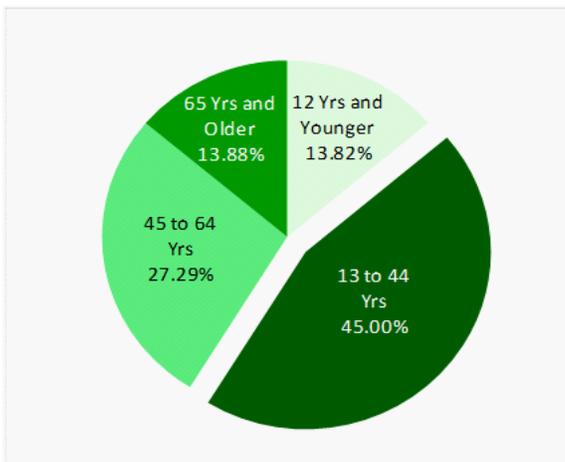


Figure 1B: Number and Percent of Women by Age Group, Portage County, 2010

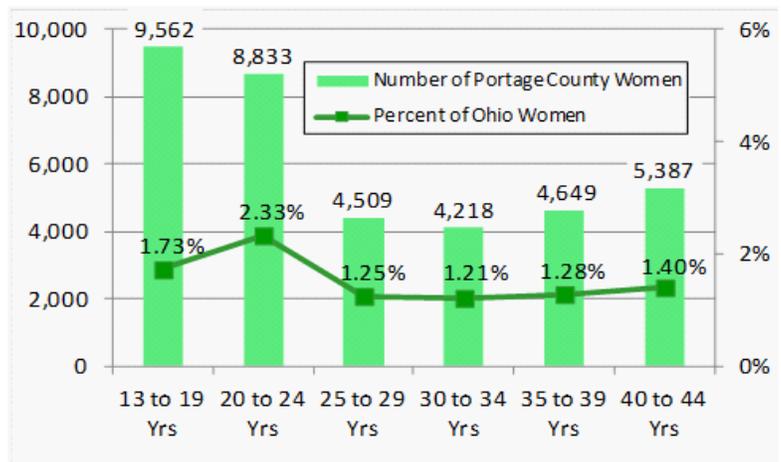
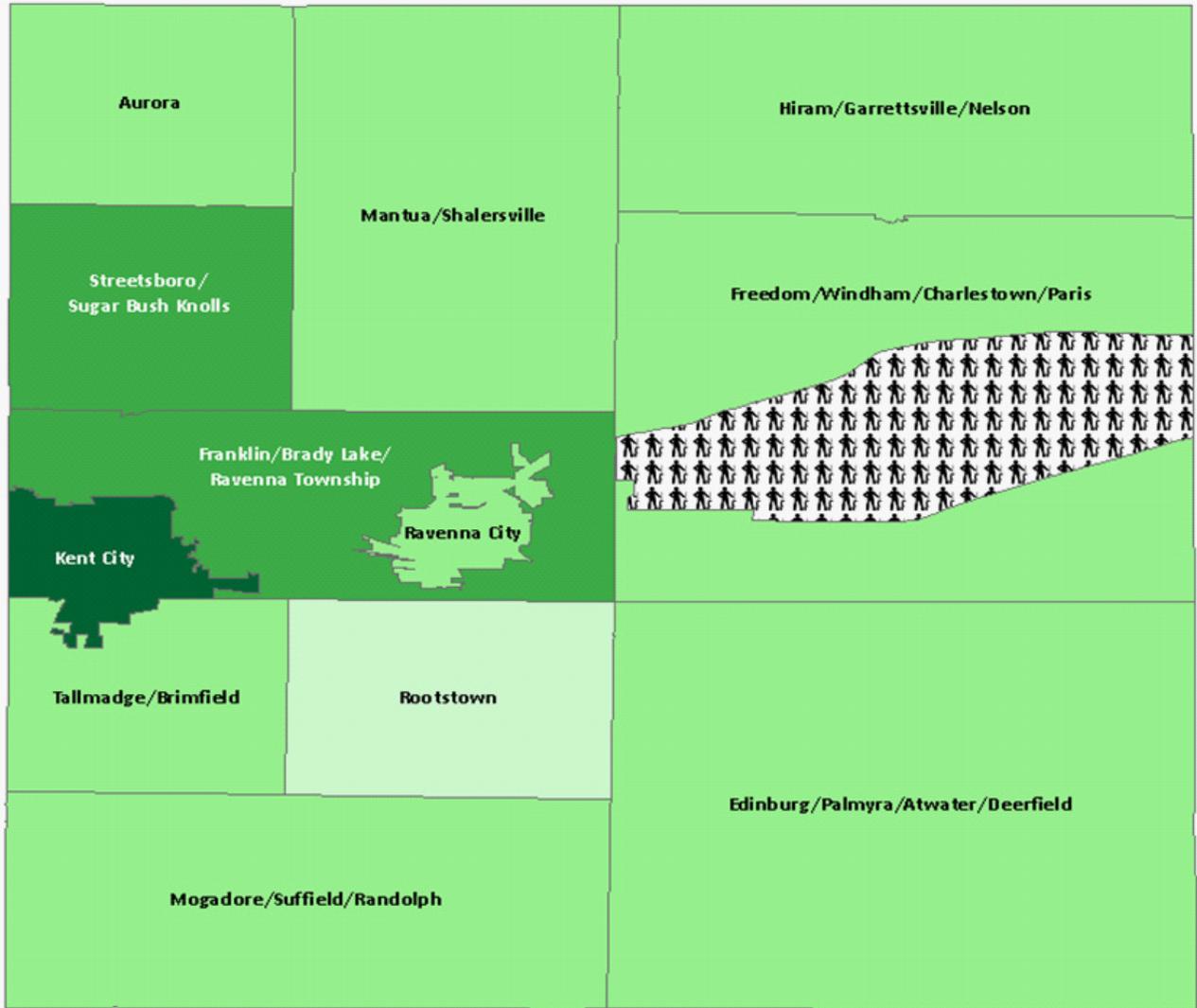


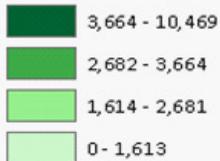
Figure 1C: Number of Women 13 to 44 Years of Age by County Cluster, Portage County, 2010



Ravenna Arsenal

Data source: 2010 US decennial census, SF1 100% data

Portage County Clusters



2 | Female-Headed Households with Children

Significance

Historically, poverty rates among unmarried female householders with children have consistently been two to three times greater than the rates among the general population.¹ In 2011, 31.2% of American families with a female householder lived in poverty, compared to 6.2% of married-couple families and 16.1% of families with a male householder.² Moreover, recent research has suggested that, when compared to children from two-parent families, those from single-mother families are more likely to have learning disabilities, attention deficit hyperactivity disorder (ADHD), school absenteeism due to illness or injury, multiple annual visits to an emergency room, and unmet dental needs.³

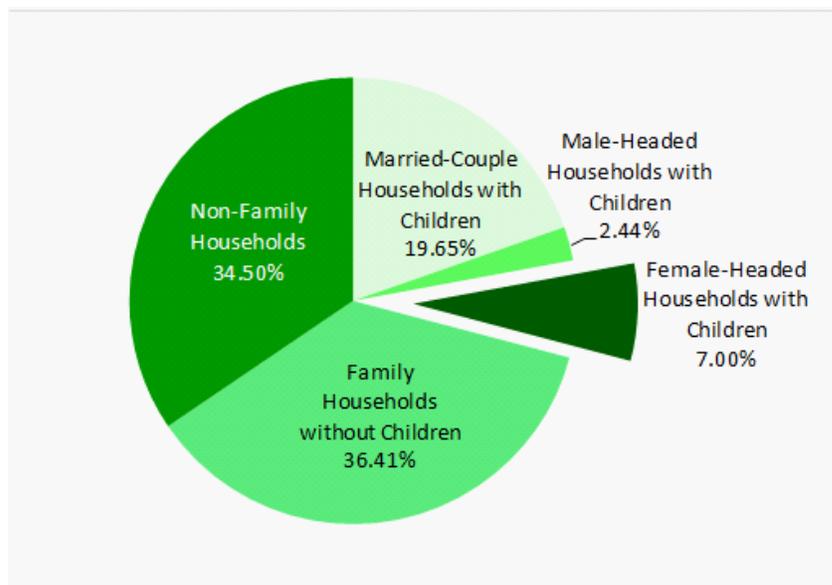
Definition

This indicator measures the percent of total households in Portage County that were female-headed with related children. Female-headed households were defined as family households where the primary householder was a legally unmarried female (i.e., there is no husband present). Such households may have included unmarried-partner households where the unmarried-partner was of the same or opposite sex as the female householder (even in the case of same-sex marriages). Related children included all individuals under 18 years of age that were related to the householder by birth, marriage, or adoption. The data were obtained from the 2010 US decennial census, Summary File (SF) 1, containing 100% data.

Discussion

There were a total of 62,222 households in Portage County in 2010. Of those, 18,103 (29.09%) households contained children related to the householder. A total of 7.00% of all households in Portage County were female-headed with children (Figure 2A), which is slightly lower than the percent among all households in the state of Ohio (8.63%). Portage County clusters with the greatest percent of female-headed households with children included Kent, Ravenna, and Freedom/Windham/Charlestown/Paris (Figure 2B).

Figure 2A: Percent of Households by Type, Portage County, 2010

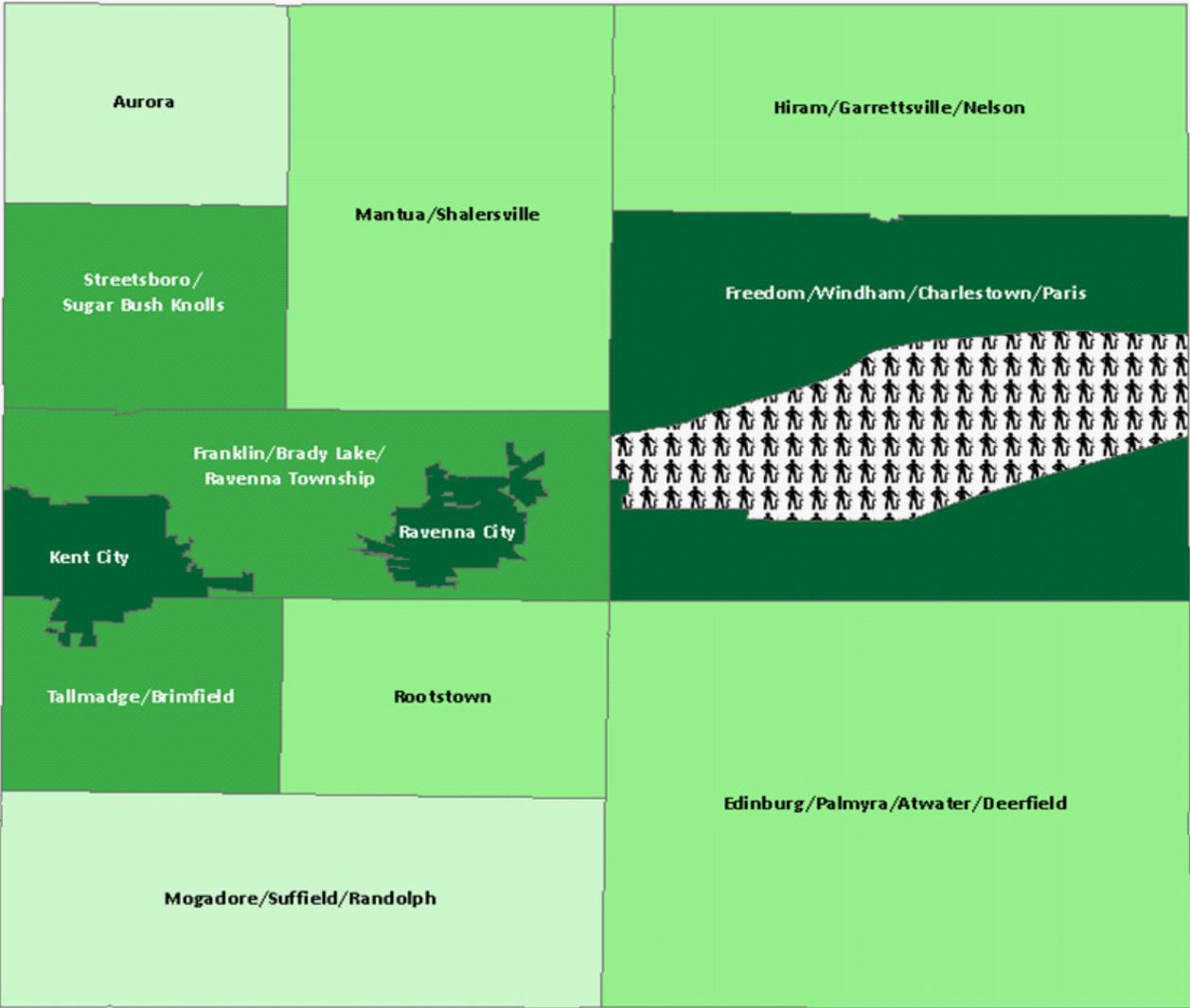


¹US Department of Commerce, Economics and Statistics Administration & US Executive Office of the President, Office of Management and Budget. (2011). *Women in America: Indicators of social and economic well-being*.

²DeNavas-Walt, C., Proctor, B.D., & Smith, J.C. (2012). Income, poverty, and health insurance coverage in the United States: 2011. *Current Population Reports*, 60-243.

³Bloom, B., Cohen, R.A., & Freeman, G. (2012). Summary health statistics for US children: National health interview survey, 2011. *Vital and Health Statistics, Series 10*(Number 254), 1-81.

Figure 2B: Percent of Female-Headed Households with Children by County Cluster, Portage County, 2010



Ravenna Arsenal

Data source: 2010 US decennial census, SF 1 100% data

Portage County Clusters

- 7.00% - 9.81%
- 6.33% - 6.99%
- 5.17% - 6.32%
- 4.55% - 5.16%

3 | Persons of a Non-White Race

Significance

The Centers for Disease Control and Prevention (CDC) has long recognized the importance of monitoring minority health. Hence, over twenty years ago, the CDC organized the Office of Minority Health and Health Equity (OMHHE), formerly known as the Office of Minority Health and Health Disparities (OMHD), to demand national attention to the fact that there is "compelling evidence that race and ethnicity correlate with persistent, and often increasing, health disparities among US populations."¹ More recently, in the 2011 report on health disparities and health inequalities, the Director of the CDC, Dr Thomas R Frieden, called for a "particular focus on reducing gaps between the least and most vulnerable US residents in illness, injury, risk behaviors, use of preventative health services, exposure to environmental hazards, and premature death," while further emphasizing the existence of such gaps as the rationale for regular reporting on health disparities.²

Definition

This indicator measures the percent of residents in Portage County that were of a non-white race. Persons of a non-white race included individuals who self-identified as "Black, African American, or Negro", "American Indian or Alaskan Native", "Asian Indian", "Chinese", "Filipino", "Other Asian", "Japanese", "Korean", "Vietnamese", "Native Hawaiian", "Guamanian or Chamorro", "Samoan", "Other Pacific Islander", "Some Other Race", or any combination of multiple races, including or excluding "White". The data were obtained from the 2010 US decennial census, Summary File (SF) 1, containing 100% data.

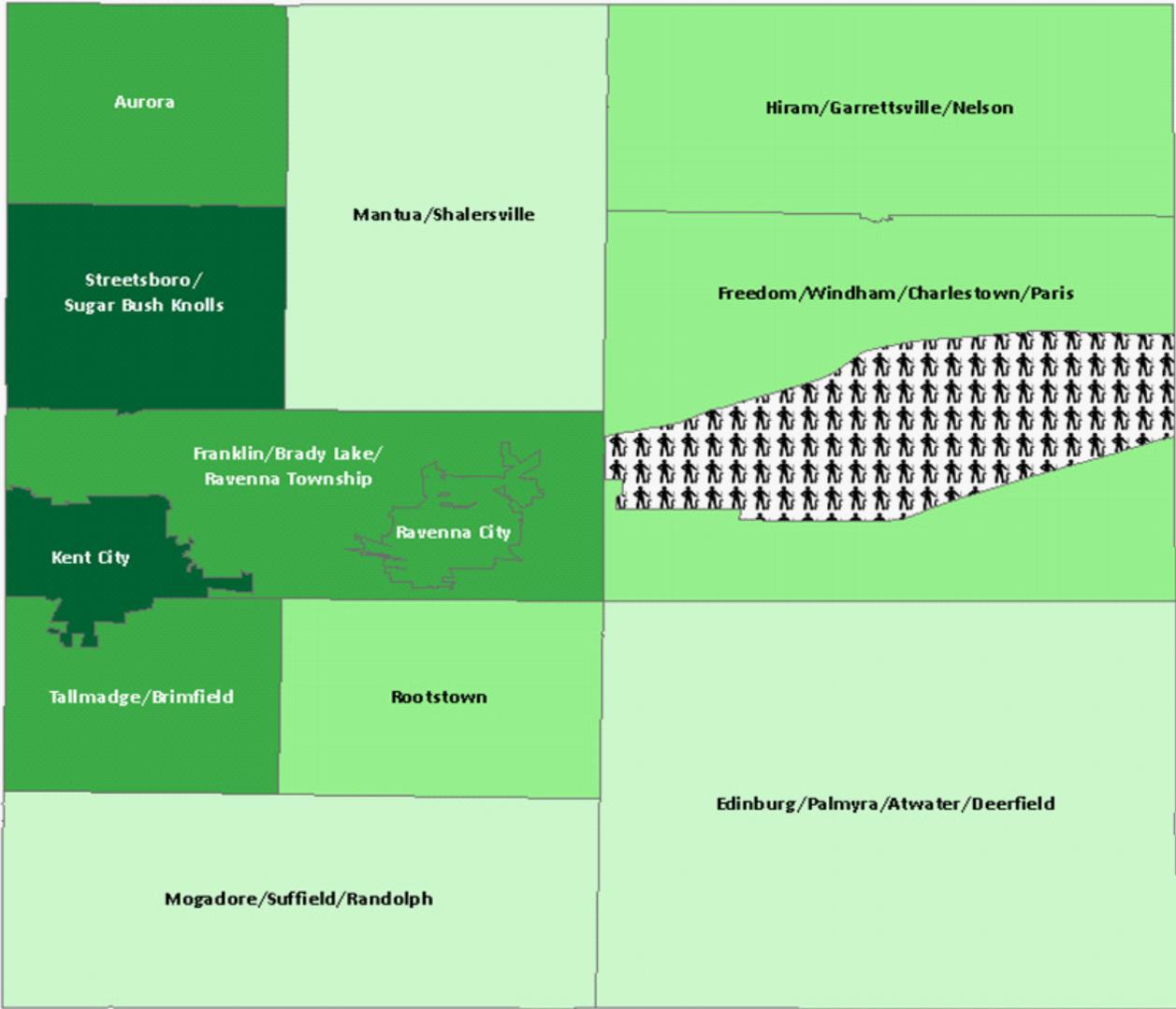
Discussion

In all, slightly more than one in 13 Portage County residents were of a non-white race in 2010 (7.73%). As compared to the entire state of Ohio, where more than one in six residents was of a non-white race (17.31%), Portage County's racial composition was less diverse. When stratified by county cluster (Figure 3A), the percent of residents of a non-white race ranged from 1.55% in Mogadore/ Suffield/Randolph to 16.90% in the city of Kent.

¹Centers for Disease Control and Prevention, Office of Minority Health and Health Equity. (2013, March 22). *About CDC's Office of Minority Health and Health Equity*. Retrieved from <http://www.cdc.gov/minorityhealth/OMHHE.html>.

²Centers for Disease Control and Prevention. (2011). CDC health disparities and inequalities report: United States, 2011. *Morbidity and Mortality Weekly Report*, 60(Suppl), 1-113.

Figure 3A: Percent of Persons of a Non-White Race by County Cluster, Portage County, 2010



Ravenna Arsenal

Data source: 2010 US decennial census, SF1 100% data

Portage County Clusters

- 8.94% - 16.90%
- 3.74% - 8.93%
- 2.51% - 3.73%
- 1.55% - 2.50%

4 | Persons of a Hispanic or Latino Ethnicity

Significance

The US Census Bureau has projected that by the year 2050, nearly one in three Americans will be of a Hispanic or Latino ethnicity.¹ In fact, people of a Hispanic origin make up the largest ethnic or racial minority in the US and more than 50% of the nation's growth over the previous decade was due to an increase in the Hispanic population.² Such growth was not exclusive to any region of the US, as all 50 states and the District of Columbia experienced an increase in the percent of Hispanic or Latino residents.² Specifically, Ohio's Hispanic population grew over 63% from 2000 to 2010.² As the Hispanic population continues to increase, national attention is further focused on the disparities that continue to affect the health and well-being of this large minority population. For instance, when comparing Hispanics to non-Hispanic whites, there are significant disparities in income, education, unhealthy housing, lack of health insurance, and diagnoses of human immunodeficiency virus (HIV).³

Definition

This indicator measures the percent of residents in Portage County that were of a Hispanic or Latino ethnicity. Persons of a Hispanic or Latino ethnicity included individuals who self-identified as “Mexican, Mexican American, or Chicano”, “Puerto Rican”, “Cuban”, or “Another Hispanic, Latino, or Spanish Origin”. The data were obtained from the 2010 US decennial census, Summary File (SF) 1, containing 100% data.

Discussion

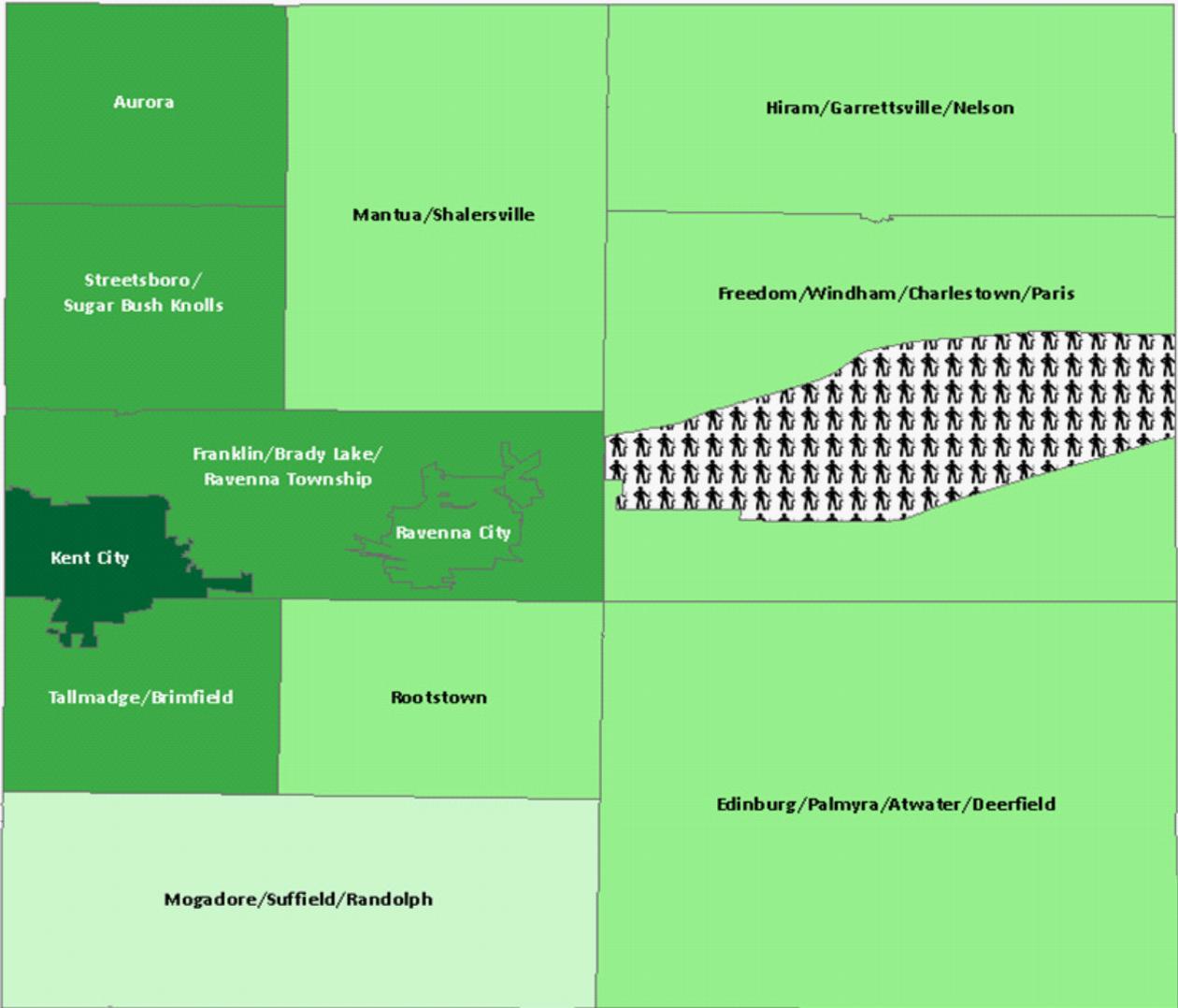
In 2010, 1.28% of Portage County's total population was of a Hispanic or Latino ethnicity. In comparison, over twice the percent (3.07%) of Ohio residents were Hispanic. There was some variation in the percent of Hispanic residents by cluster in Portage County (Figure 4A), which ranged from a low of 0.44% in Mogadore/Suffield/Randolph to a high of 2.22% in the city of Kent.

¹United States Census Bureau. (2008, August 14). *An older and more diverse nation by midcentury*. Retrieved from <http://www.census.gov/newsroom/releases/archives/population/cb08-123.html>.

²Ennis, SR, Rios-Vargas, M, & Albert, NG. (2011). The Hispanic population: 2010. *2010 Census Briefs*, 1-16.

³Centers for Disease Control and Prevention. (2011). CDC health disparities and inequalities report: United States, 2011. *Morbidity and Mortality Weekly Report*, 60(Suppl), 1-113.

Figure 4A: Percent of Persons of a Hispanic or Latino Ethnicity by County Cluster, Portage County, 2010



 Ravenna Arsenal

Data source: 2010 US decennial census, SF1 100% data

Portage County Clusters

-  1.69% - 2.22%
-  0.92% - 1.68%
-  0.45% - 0.91%
-  0.00% - 0.44%

5 | Persons that Do Not Speak English “Very Well”

Significance

Recent research shows that significant disparities exist in health, access to care, and service utilization among US children from households where English is not spoken as the primary language.¹ In particular, children from non-English-primary-language households are less likely to be in excellent or very good health and are more likely to be overweight or at risk for overweight, have teeth in fair or poor condition, lack both medical and dental insurance, not have a usual source of medical care, go without preventative care, and have problems obtaining specialty care.¹ As such, the Ohio Children’s Defense Fund considers the lack of adequate interpreter services and bilingual health care providers as a significant barrier to an equitable system of care in the state of Ohio and further, calls for improved cultural competency.²

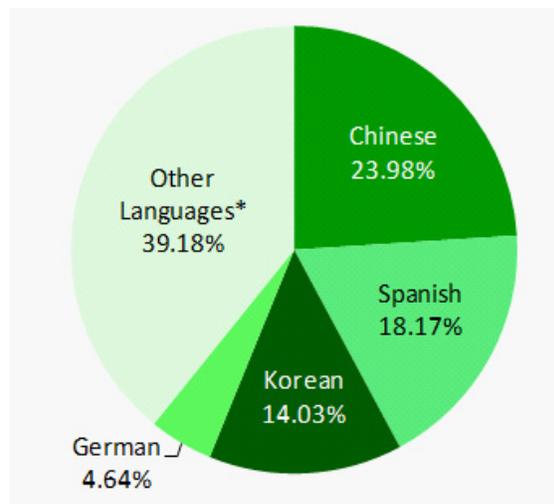
Definition

This indicator measures the percent of residents 5 years of age and older in Portage County that did not speak English “Very Well”. Persons that did not speak English “Very Well” included individuals who self-identified as speaking a language other than English at home and only have the ability to speak English “Well”, “Not Well”, or “Not At All”. The data were obtained from the US Census Bureau’s 2007-2011 American Community Survey, containing 5-year estimates. Confidence intervals are not presented here, but should be considered. Please see the data tables in Appendix A and the Methods section of this report for additional information.

Discussion

From 2007-2011, it was estimated that 1,618 (1.06%) Portage County residents 5 years of age and older did not speak English “Very Well”. Of those, the primary languages spoken were Chinese, Spanish, Korean, and German (Figure 5A). Among residents of the state of Ohio, nearly twice the percent (2.31%) did not speak English “Very Well”. Portage County clusters with the greatest percent of persons that did not speak English “Very Well” included the city of Kent and Streetsboro/ Sugar Bush Knolls (Figure 5B).

Figure 5A: Primary Languages Among Persons that Do Not Speak English “Very Well”, Portage County, 2007-2011

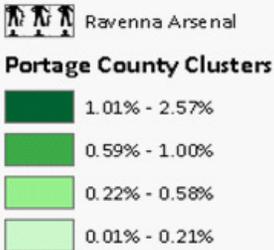
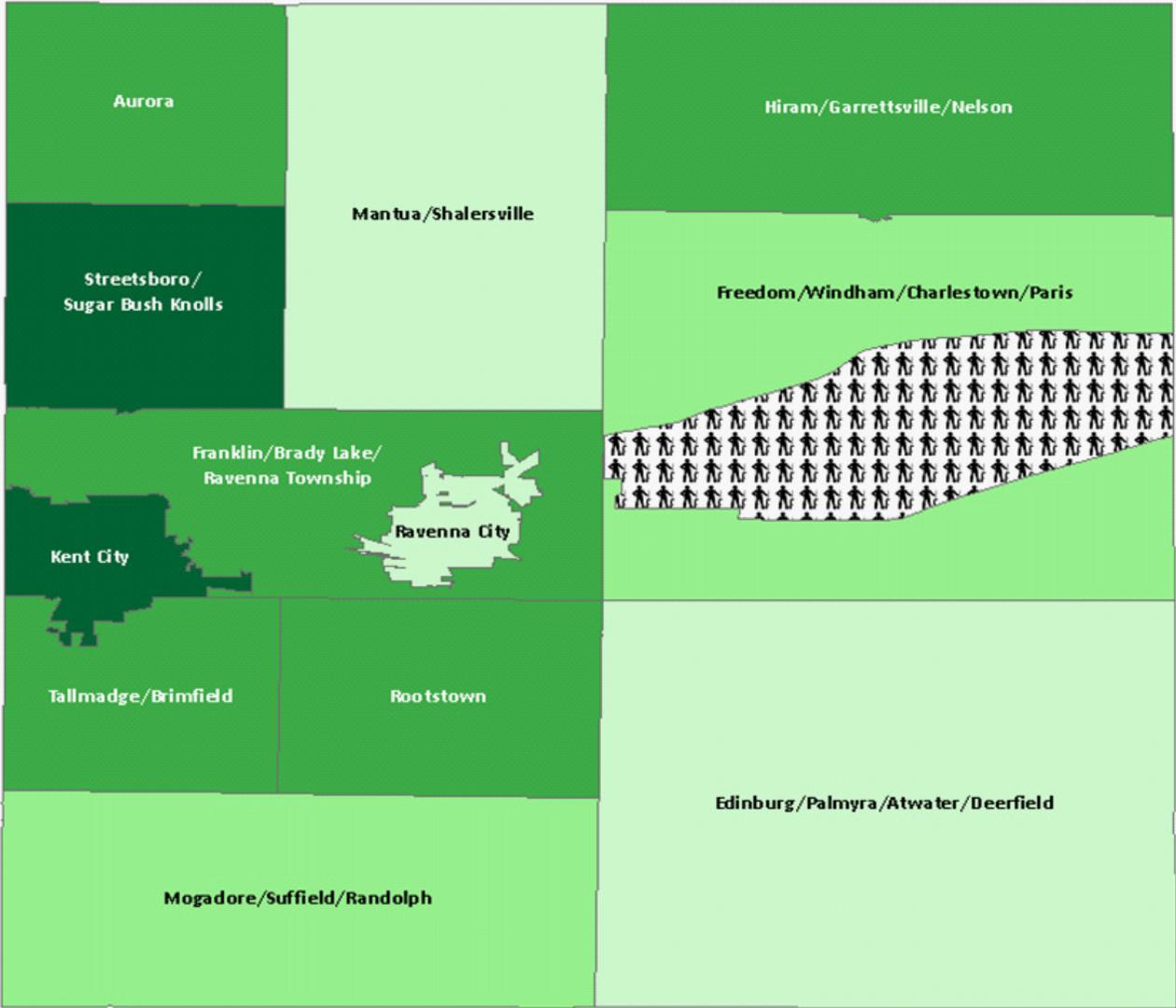


*Other languages include: French, Italian, other west Germanic languages, Russian, Polish, Serbo-Croatian, other Slavic languages, Persian, Gujarati, Hindi, other Indic languages, other Indo-European languages, Japanese, Tagalog, Hungarian, Arabic, and African languages

¹Flores, G & Tomany-Korman, SC. (2008). The language spoken at home and disparities in medical and dental health, access to care, and use of services in US children. *Pediatrics*, 121(6), 1703-1714.

²Children’s Defense Fund – Ohio. (2009, April). *Issue brief: The face of health disparities among children in Ohio*. Retrieved from <http://www.cdfohio.org/research-library/documents/resources/cdf-ohio-health-disparities-issue-brief-april-2009.pdf>.

Figure 5B: Percent of Persons that Do Not Speak English “Very Well” by County Cluster, Portage County, 2007-2011



Data source: 2011 American Community Survey (ACS) 5-year estimates

Note: The data presented are point estimates calculated from survey data and thus, have confidence intervals that are not shown. Interpretation may be limited, especially when sample sizes are small and confidence intervals are wide. Refer to the Methods section of this report for additional information.

6 | Persons without a High School Degree

Significance

Educational attainment is widely recognized as one of the most significant predictors of the health of a population. As described in the 2007 article "Reframing School Dropout as a Public Health Issue," education influences the health of individuals through several generalized mechanisms.¹ First, the more education people have, the better employment they are able to obtain and the more money they are able to earn. This, in turn, gives them access to healthier homes in safer neighborhoods, more nutritious foods, health insurance and better medical care, and other resources that are associated with improved health and well-being. Second, the more educated people are, the better access they have to health information and the more knowledgeable they are with regard to health-related issues. This consequently affects their well-being by positively influencing healthy behaviors and decision-making. Third, the more education people have, the more likely they are to "acquire social support, strengthen social networks, and mitigate social stressors"¹; all of which reward people with more control over their lives and subsequently, better health outcomes. Completion of high school (or equivalent) is commonly utilized by researchers and public health professionals as a measure of educational attainment.¹ This is primarily because there have been numerous studies that have documented the effects of high school completion on health and well-being, but is also due to the common belief that the completion of high school is the minimum level of education required for gainful employment.

Definition

This indicator measures the percent of residents 25 years of age and older in Portage County that had not obtained a high school degree (or equivalent). Persons without a high school degree included individuals who self-identified their maximum level of education as fully completing "No schooling", "Nursery school", "Kindergarten", "Grade 1 through 11", or "12th grade – No diploma". The data were obtained from the US Census Bureau's 2007-2011 American Community Survey, containing 5-year estimates. Confidence intervals are not presented here, but should be considered. Please see the data tables in Appendix A and the Methods section of this report for additional information.

Discussion

Among all Portage County residents 25 years of age and older from 2007-2011, 9.61% did not have a high school degree (Figure 6A). Conversely, 12.18% of Ohio residents did not complete high school. It might be expected that Portage County has more high school educated residents than the entire state because it is the home of Kent State University, a large academic institution that attracts successful students to move into the county while continuing their education. There was a large amount of variation in the percent of persons without a high school degree among the county clusters, which ranged from 4.49% in Aurora to 16.67% in Freedom/Windham/Charlestown/Paris (Figure 6C). Moreover, Portage County had a greater percent of residents between the ages of 25 and 34 years that were enrolled in college or graduate school from 2007-2011 (Figure 6B). When compared to the state as a whole, Portage County had the same percent of residents that had not obtained at least a bachelor's degree, 75.50% (Figure 6A). This might suggest that once they have graduated from college, many former student residents move out of Portage County to seek employment or other opportunities. In fact, nearly 75% to almost 90% of the county's residents that lived outside of the cities of Aurora and Kent did not have a college degree (Figure 6D).

Figure 6A: Educational Attainment Among Persons 25 Years of Age and Older, Portage County, 2007-2011

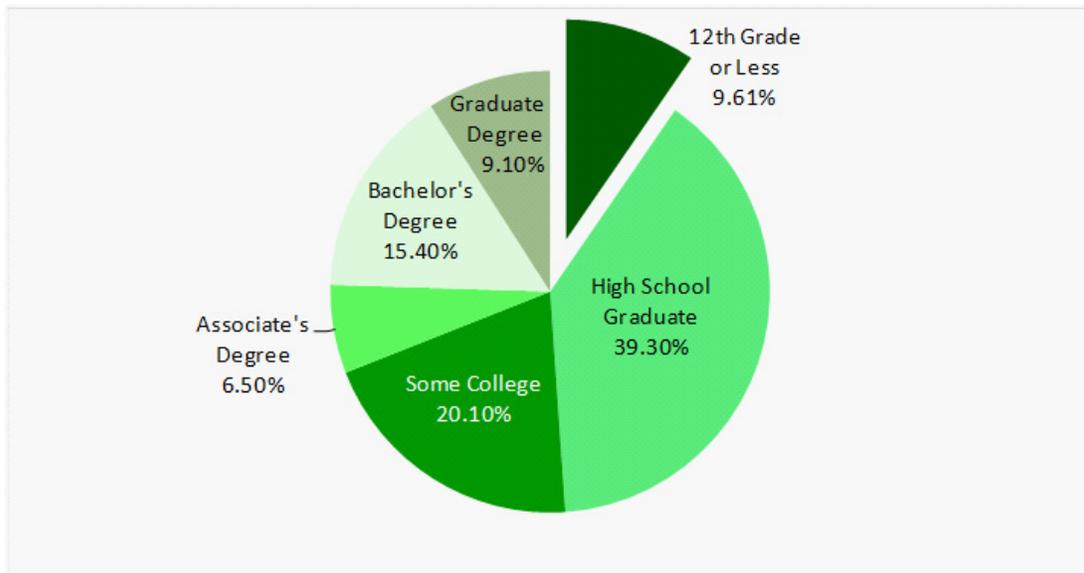
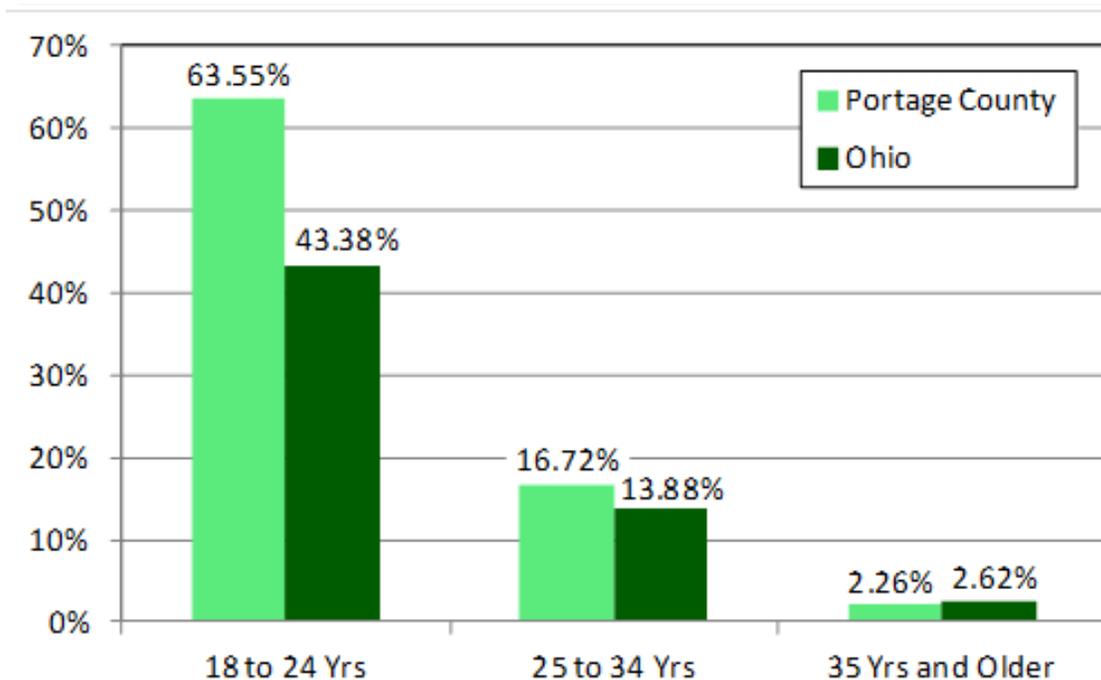
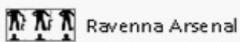
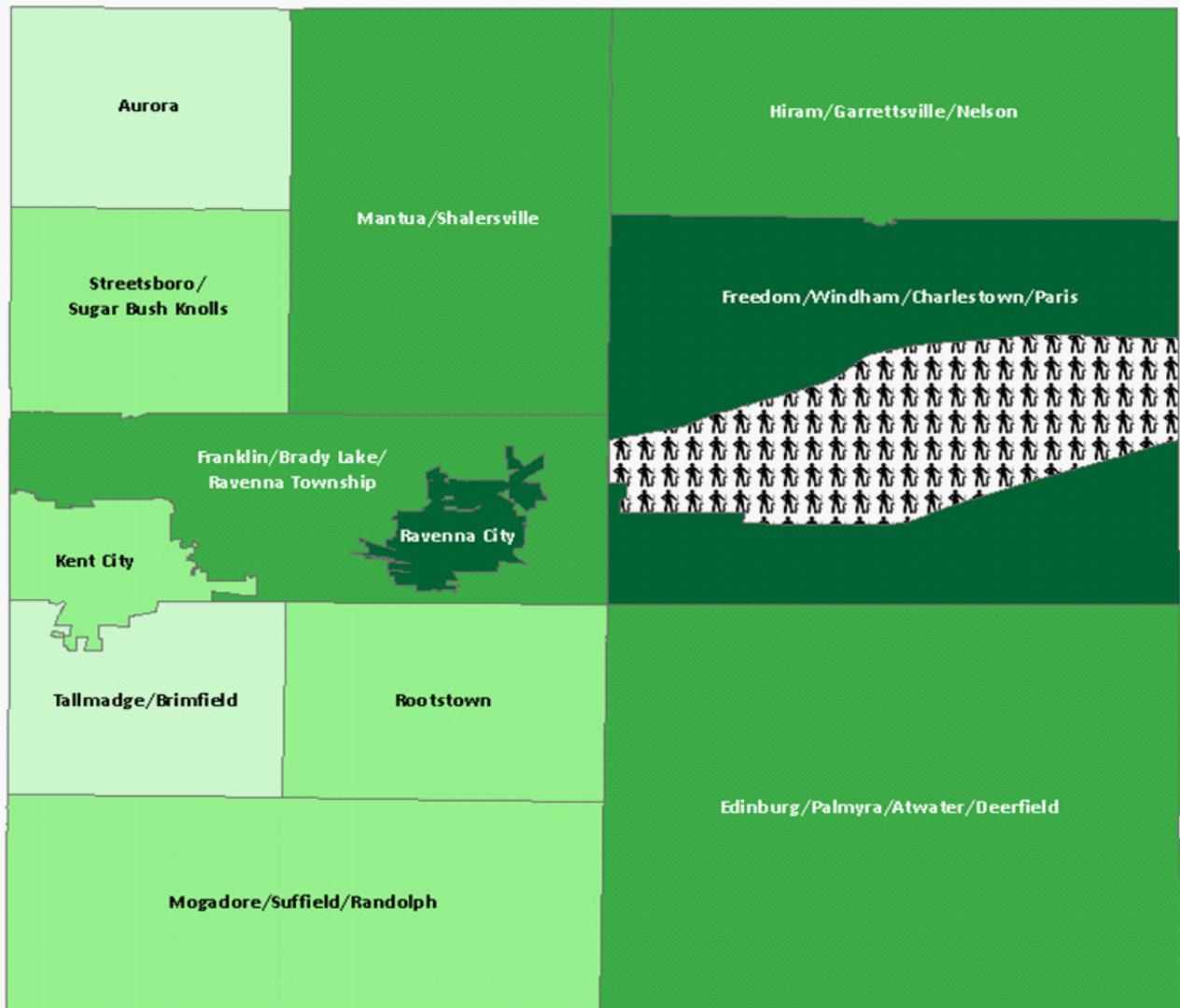


Figure 6B: College or Graduate School Enrollment by Age Group, Portage County and Ohio, 2007-2011



¹Freudenberg, N & Ruglis, J. (2007). Reframing school dropout as a public health issue. *Preventing Chronic Disease*, 4(4), 1-11.

Figure 6C: Percent of Persons without a High School Degree by County Cluster, Portage County, 2007-2011



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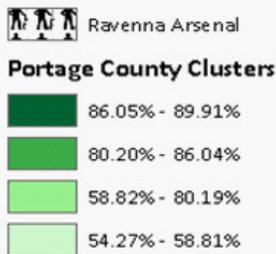
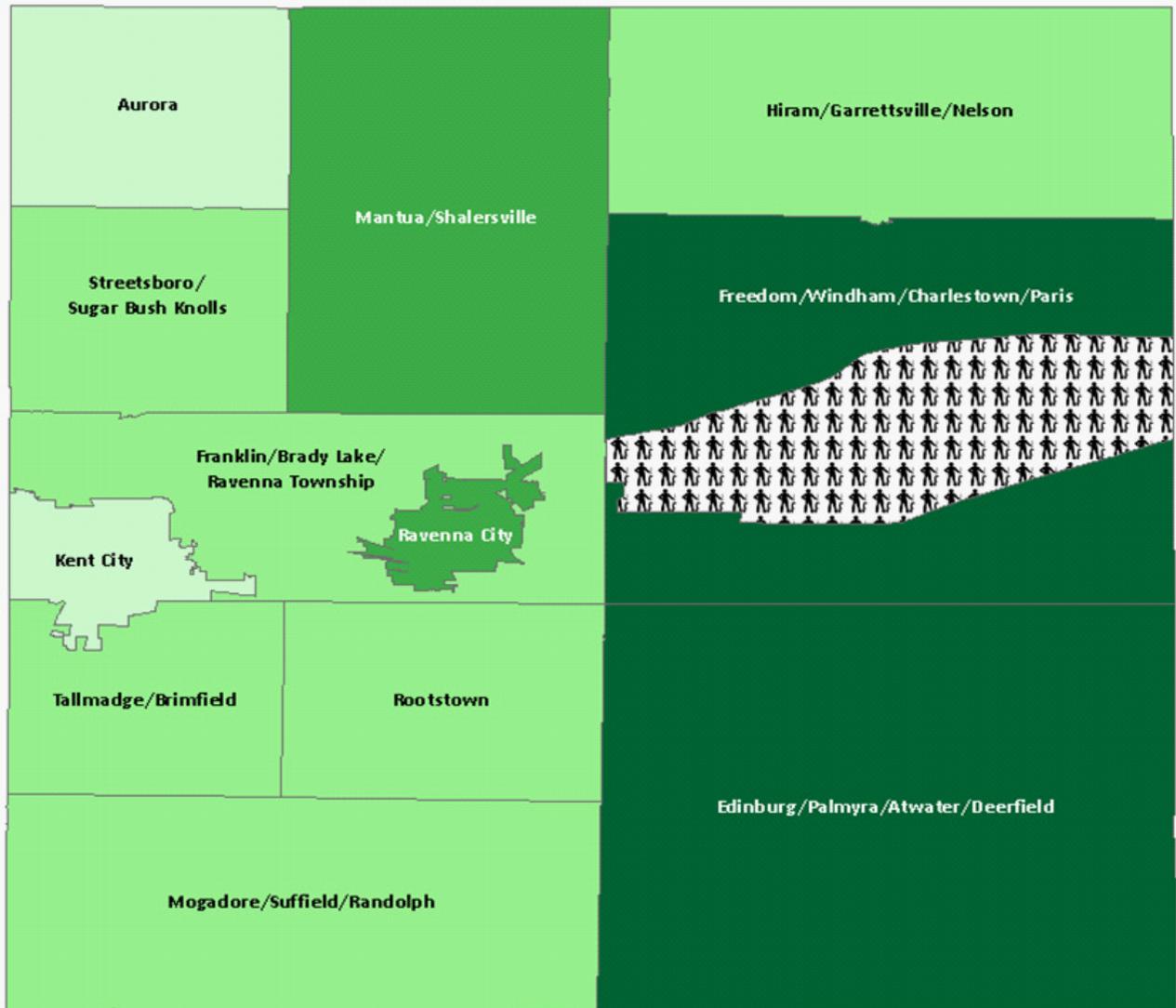
Portage County Clusters

- 11.69% - 16.67%
- 8.51% - 11.68%
- 6.15% - 8.50%
- 4.49% - 6.14%

Data source: 2011 American Community Survey (ACS) 5-year estimates

Note: The data presented are point estimates calculated from survey data and thus, have confidence intervals that are not shown. Interpretation may be limited, especially when sample sizes are small and confidence intervals are wide. Refer to the Methods section of this report for additional information.

Figure 6D: Percent of Persons without a Bachelor's Degree by County Cluster, Portage County, 2007-2011



Data source: 2011 American Community Survey (ACS) 5-year estimates

Note: The data presented are point estimates calculated from survey data and thus, have confidence intervals that are not shown. Interpretation may be limited, especially when sample sizes are small and confidence intervals are wide. Refer to the Methods section of this report for additional information.

7 | Persons Living Below 100% of Federal Poverty Level

Significance

While redeveloping the National Health Promotion and Disease Prevention Objectives for Healthy People 2020, the US Department of Health and Human Services (HHS) identified a new opportunity to address social determinants of health (SDOH) in the United States.¹ Thus, one of the four new Healthy People 2020 overarching goals for the decade is to "create social and physical environments that promote good health for all." This involves an approach that reflects five key areas of SDOH, including: economic stability; education; social and community context; health and health care; and neighborhood and built environment.² Even though the "proportion of persons living in poverty" is used by Healthy People 2020 as a specific measure of economic stability (objective SDOH-3)³, it is widely recognized as an important factor in all five of the key areas of SDOH. For instance, poverty is highly associated with lower rates of high school graduation, more incarceration, lack of access to health services, poor quality of housing, and so forth. Moreover, for individuals that live in poverty, risky behaviors are often not an option, healthful decisions do not take priority, and access to medical care requires more than simply a Medicaid card and a doctor that accepts it.

Definition

This indicator measures the percent of residents in Portage County that were living below 100% of the federal poverty level (FPL). Persons living below 100% FPL were defined as those that lived in households with a combined total family income in the previous 12 months that was below the federal poverty threshold for their family size and composition (Figure 7A). Specific groups of people were excluded from the numerator and denominator when poverty rates were calculated, including those that were institutionalized, lived in military group quarters or dormitories, and unrelated individuals 14 years of age and younger. The data were obtained from the US Census Bureau's 2007-2011 American Community Survey, containing 5-year estimates. Confidence intervals are not presented here, but should be considered. Please see the data tables in Appendix A and the Methods section of this report for additional information.

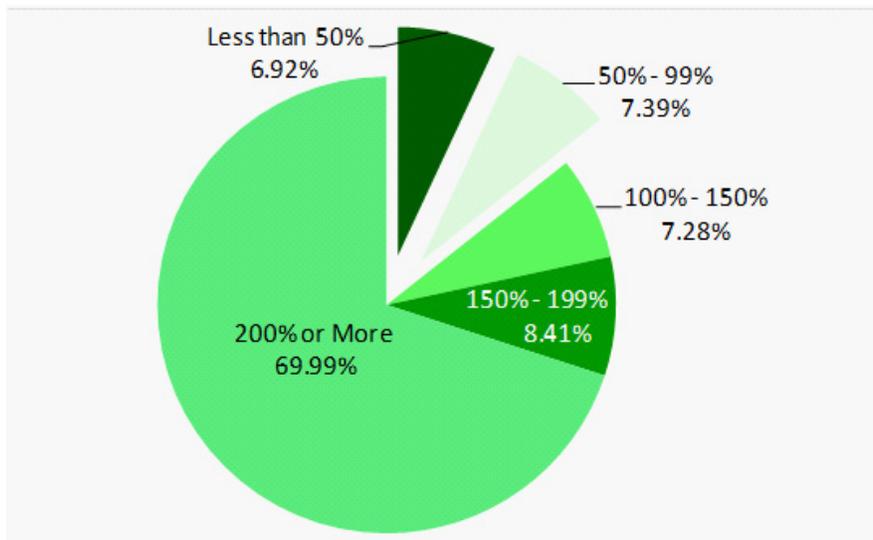
Discussion

In all, poverty status was assessed for a total of 153,554 residents of Portage County. Of those, it was estimated that 21,977 individuals (14.31%) lived below 100% of the federal poverty level (FPL) in 2007-2011 (Figure 7B). Similarly, it was estimated that 14.75% of Ohio residents lived in poverty. Portage County clusters with the greatest percent of residents living below 100% of the FPL included the city of Kent with 35.32%, the city of Ravenna with 21.84%, and Freedom/Windham/ Charlestown/Paris with 17.28% (Figure 7C). Also, it should be noted that Figure 7B indicates that an additional 24,103 (15.70%) Portage County residents lived in near-poverty conditions (between 100% and 199% of the FPL), a state of impoverishment that is often considered equally important to the health of a population because such individuals do not qualify for as many subsidized medical and social services. Further, it was estimated that 17.95% of children 17 years of age and younger in Portage County lived below 100% of the FPL. In comparison, 21.19% of children in the state of Ohio lived in poverty. County clusters with considerable child poverty were the same as for overall poverty, Kent with 36.14%, Ravenna with 36.53%, and Freedom/Windham/ Charlestown/Paris with 28.62% (Figure 7D).

Figure 7A: Poverty Thresholds by Family Size and Number of Children, US Census Bureau, 2011⁴

Family Size (Age of Householder)	Number of Related Children Under 18 Years of Age								
	None	One	Two	Three	Four	Five	Six	Seven	Eight or More
One (<65 yrs)	\$11,702								
One (>=65 yrs)	\$10,788								
Two (<65 yrs)	\$15,063	\$15,504							
Two (>=65 yrs)	\$13,596	\$15,446							
Three	\$17,595	\$18,106	\$18,123						
Four	\$23,201	\$23,581	\$22,811	\$22,891					
Five	\$27,979	\$28,386	\$27,517	\$26,844	\$26,434				
Six	\$32,181	\$32,309	\$31,643	\$31,005	\$30,056	\$29,494			
Seven	\$37,029	\$37,260	\$36,463	\$35,907	\$34,872	\$33,665	\$32,340		
Eight	\$41,414	\$41,779	\$41,027	\$40,368	\$39,433	\$38,247	\$37,011	\$36,697	
Nine or More	\$49,818	\$50,059	\$49,393	\$48,835	\$47,917	\$46,654	\$45,512	\$45,229	\$43,487

Figure 7B: Persons Living at Percents of the Federal Poverty Level (FPL), Portage County, 2007-2011



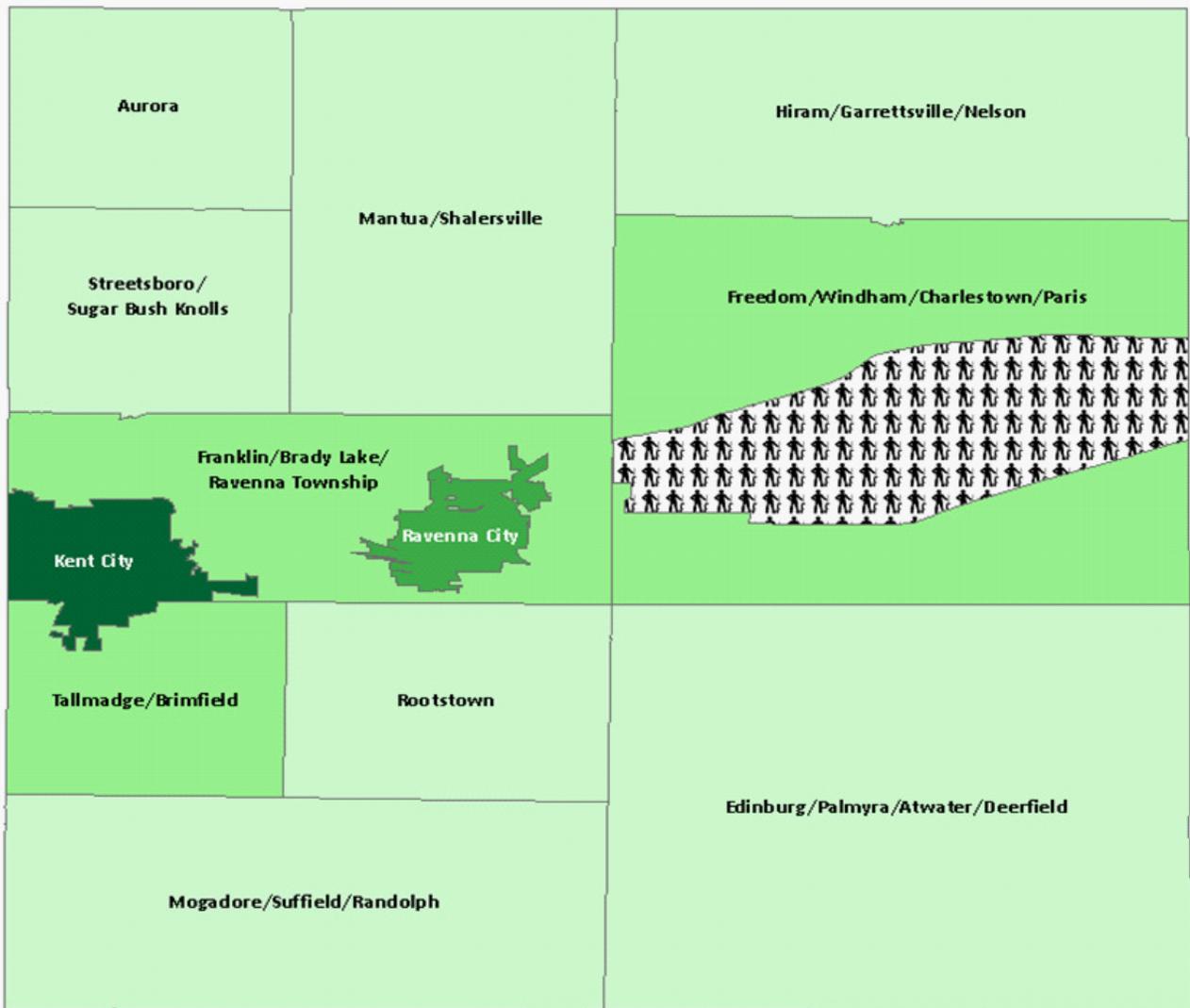
¹Secretary's Advisory Committee on National Health Promotion and Disease Prevention Objectives for 2020. (2010, July 26). *Healthy People 2020: An opportunity to address societal determinants of health in the United States*. Retrieved from <http://www.healthypeople.gov/2010/hp2020/advisory/societaldeterminanthealth.htm>.

²US Department of Health and Human Services. (2013, April 10). *Healthy People 2020 social determinants of health: Overview*. Retrieved from <http://www.healthypeople.gov/2020/topicsobjectives2020/overview.aspx?topicId=39>.

³US Department of Health and Human Services. (2013, April 24). *Healthy People 2020 social determinants of health: Objectives*. Retrieved from <http://www.healthypeople.gov/2020/topicsobjectives2020/objectiveslist.aspx?topicId=39>.

⁴US Census Bureau. (2011). *Poverty thresholds for 2011 by size of family and number of related children under 18 years*. Retrieved from <http://www.census.gov/hhes/www/poverty/data/threshld/>.

Figure 7C: Percent of Persons Living Below 100% of the Federal Poverty Level by County Cluster, Portage County, 2007-2011



 Ravenna Arsenal

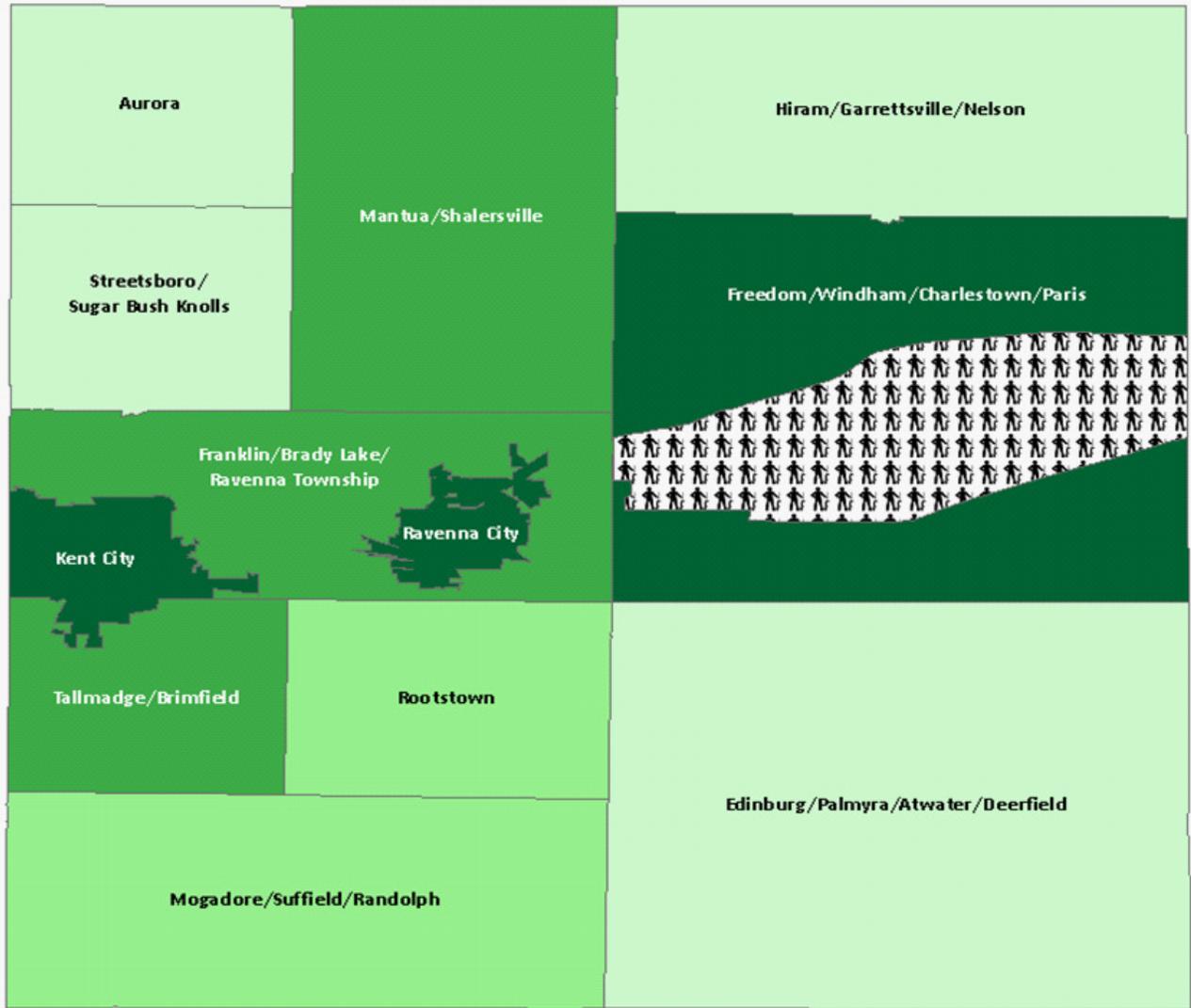
Portage County Clusters

-  21.85% - 35.32%
-  17.29% - 21.84%
-  8.10% - 17.28%
-  5.13% - 8.09%

Data source: 2011 American Community Survey (ACS) 5-year estimates

Note: The data presented are point estimates calculated from survey data and thus, have confidence intervals that are not shown. Interpretation may be limited, especially when sample sizes are small and confidence intervals are wide. Refer to the Methods section of this report for additional information.

Figure 7D: Percent of Children Living Below 100% of the Federal Poverty Level by County Cluster, Portage County, 2007-2011



 Ravenna Arsenal

Portage County Clusters

-  23.85% - 36.53%
-  10.55% - 23.84%
-  6.80% - 10.54%
-  4.94% - 6.79%

Data source: 2011 American Community Survey (ACS) 5-year estimates

Note: The data presented are point estimates calculated from survey data and thus, have confidence intervals that are not shown. Interpretation may be limited, especially when sample sizes are small and confidence intervals are wide. Refer to the Methods section of this report for additional information.

8 | Persons without Health Insurance

Significance

Health insurance coverage enables people to have access to a basic level of health care. People who have no health insurance coverage are less likely to have a regular source of care or receive preventive care, thereby worsening their health status. Such negative health outcomes are very often avoidable with the kind of basic medical care that having health insurance provides. According to the Urban Institute, "Some may believe that people always have access to medical care because they can always go to an emergency room. But even areas with well supported safety net care do not remove barriers to access to the same extent as does having health insurance."¹ Further, children need access to basic services that parents may be otherwise unable to afford. As argued by the Children's Defense Fund, "Children are relatively inexpensive to insure. For most children, health coverage means fluoride treatments at the dentist to prevent cavities, and eyeglasses if they are needed to see the blackboard at school. Health coverage means that children will have a regular doctor, who will counsel their families on preventing obesity and diabetes, and will screen for and immunize against serious diseases. If a child has an emergency, health coverage means that their parents won't have to go bankrupt to get their children the care they need."²

Definition

This indicator measures the percent of residents in Portage County that did not have health insurance coverage. Persons without health insurance coverage include individuals who self-identified as not having any one of eight types of coverage, including "Insurance through a current or former employer or union", "Insurance purchased directly from an insurance company", " Medicare, for people 65 and older, or people with certain disabilities", " Medicaid, Medical Assistance, or any kind of government-assistance plan for those with low incomes or a disability", " TRICARE or other military health care", " VA (including those who have ever used or enrolled for VA health care)", "Indian Health Service", or " Any other type of health insurance or health coverage plan". The data were obtained from the US Census Bureau's 2009-2011 American Community Survey, containing 3-year estimates. Confidence intervals are not presented here, but should be considered. Please see the data tables in Appendix A and the Methods section of this report for additional information.

Discussion

From 2009-2011, it was estimated that 1,467 children (4.40%) and 15,612 adults (12.31%) living in Portage County did not have health insurance coverage. Although the percents uninsured in Portage County were slightly lower than those for the state as a whole (6.03% of children and 13.90% of adults), they are far from reaching the Healthy People 2020 target of universal health insurance coverage (i.e. 100% of persons with medical insurance coverage) (objective AHS-1).³

¹Bovbjerg, RR & Hadley, J. (2007). Why health insurance is important. *The Urban Institute Health Policy Briefs*, DC-SPG no.1.

²Children's Defense Fund. (2007, December). *The importance of children's health coverage: Research and stories from working Californians*. Retrieved from <http://www.childrensdefense.org/child-research-data-publications/data/the-importance-of-childrens-health-coverage.pdf>.

³US Department of Health and Human Services. (2013, April 24). *Healthy People 2020 access to health services: Objectives*. Retrieved from <http://www.healthypeople.gov/2020/topicsobjectives2020/objectiveslist.aspx?topicid=1>.

9 | Children Enrolled in Medicaid

Significance

The Ohio Department of Job and Family Services (ODJFS) administers the Ohio Medicaid programs which provide comprehensive health insurance to eligible children, pregnant women, and families living in the state of Ohio. Healthy Start is the Ohio Medicaid program that covers children up to the age of 19 years in families with a total household income at or below 150% of the federal poverty level (FPL) and those between 151%-200% FPL without access to credible health insurance (see the sidebar at right for the current Healthy Start income guidelines).¹ Medicaid coverage for those children who qualify for Healthy Start is particularly important because such children come from low-income families, or families which almost by definition cannot afford health care coverage on their own. Such coverage provides them access to important services, including: doctor visits, prescriptions, hospital care, immunizations, vision and dental care, substance abuse treatment, mental health services, and more.¹

Ohio Medicaid Healthy Start 2013 Gross Monthly Income Guidelines²

Family Size	150% FPL	200% FPL
1	\$1,437	\$1,915
2	\$1,939	\$2,585
3	\$2,442	\$3,255
4	\$2,944	\$3,925

These figures are based on Federal Poverty Level (FPL) Income Guidelines updated annually by the US Department of Health and Human Services

Definition

This indicator measures the percent of children 19 years of age and younger living in Portage County that were enrolled in the Ohio Medicaid Healthy Start program. The data were obtained from the Ohio Department of Job and Family Service's (ODJFS) "Ohio Medicaid Report 2007 County Profiles". Enrollment percentages were calculated by ODJFS using the Office of Ohio Health Plans data from fiscal year 2007 for enrollment numbers and the 2007 US Census, Small Area Estimates Program data as population denominators.

Discussion

In 2007, the Ohio Department of Job and Family Services (ODJFS) reports that 11,868 children 19 years of age and younger living in Portage County were enrolled in the Ohio Medicaid Healthy Start Program. This amounts to 29.58% of all children in Portage County of that age group. Conversely, ODJFS reports that 38.77% of all children 19 years of age and younger in the entire state of Ohio were enrolled in Medicaid.

¹Ohio Department of Job and Family Services. (2009, January). *Fact sheet: Healthy Start and Healthy Families*. Retrieved from <http://jfs.ohio.gov/OHP/bcps/FactSheets/hshf.pdf>.

²Ohio Department of Job and Family Services. (2013). *2013 income guidelines for Ohioans: Healthy Start and Healthy Families*. Retrieved from <http://jfs.ohio.gov/OHP/consumers/HSHF2013.stm>.

10 | Persons without a Personal Health Care Provider

Significance

While having health insurance is a critical part of maintaining health, having a regular source of health care is also very important. Without a personal health care provider, people tend to forego necessary preventative services (including screenings, immunizations, routine health maintenance, health information counseling, and more) and use hospital emergency departments (EDs) when sick or in need of health-related services. In fact, a recent article in the journal *American Family Physician* noted that, “Having no usual source of care and relying on EDs for care is associated with worse health outcomes and higher costs ... Providing everyone access to a usual source of care, particularly to a patient-centered medical home, could further improve continuity of care and reduce avoidable ED visits and health care costs.”¹

Definition

This indicator measures the percent of children under 18 years of age and adults 18 to 64 years of age living in Portage County that did not have a personal health care provider. Persons with a personal health care provider include survey respondents who answered that they usually saw the same doctor, nurse, or other health provider each time that they visited the place that they usually go to when they are sick or they are in need of advice about their health. The data were obtained from the 2008 Ohio Family Health Survey. Confidence intervals are not presented here, but should be considered. Please see the data tables in Appendix A and the Methods section of this report for additional information.

Discussion

The Ohio Family Health Survey estimated that 468, or 1.49%, of Portage County children did not have a personal health care provider in 2008. Statewide, the percentage was significantly higher, as 10.53% of Ohio children were without a personal health care provider. Among working-age adults in Portage County, it was estimated that 13,414 (13.92%) did not have a personal health care provider, compared to 19.12% of Ohioans of the same age group. Although the sample size among Portage County residents was not large enough to detect significant differences, there were a few apparent trends that were consistent with significant Ohio results. For instance, both adults and children without health insurance were less likely to have had a personal health care provider than their insured counterparts (Figure 10A). As well, lower educated working-age adults were less likely to have had a personal health care provider than those with at least a Bachelor's degree (Figure 10B).

¹Petterson, SM, Rabin, D, Phillips Jr, RL, Bazemore, AW, & Doodoo, MS. (2009). Having a usual source of care reduces ED visits. *American Family Physician*, 79(2), 94.

Figure 10A: Percent of Children and Working-Age Adults without a Personal Health Care Provider by Insurance Status, Portage County and Ohio, 2008

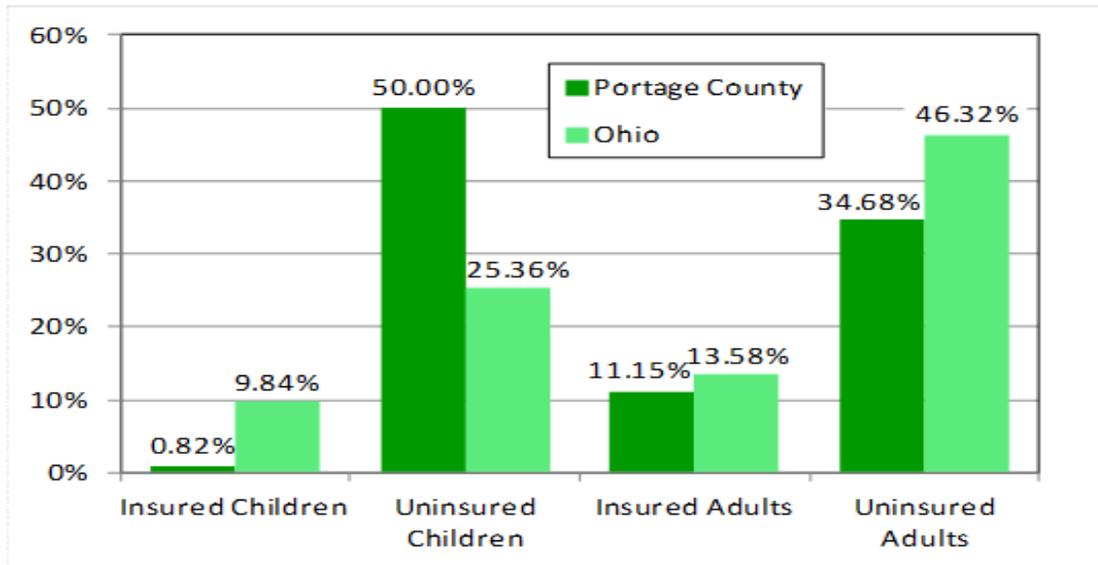
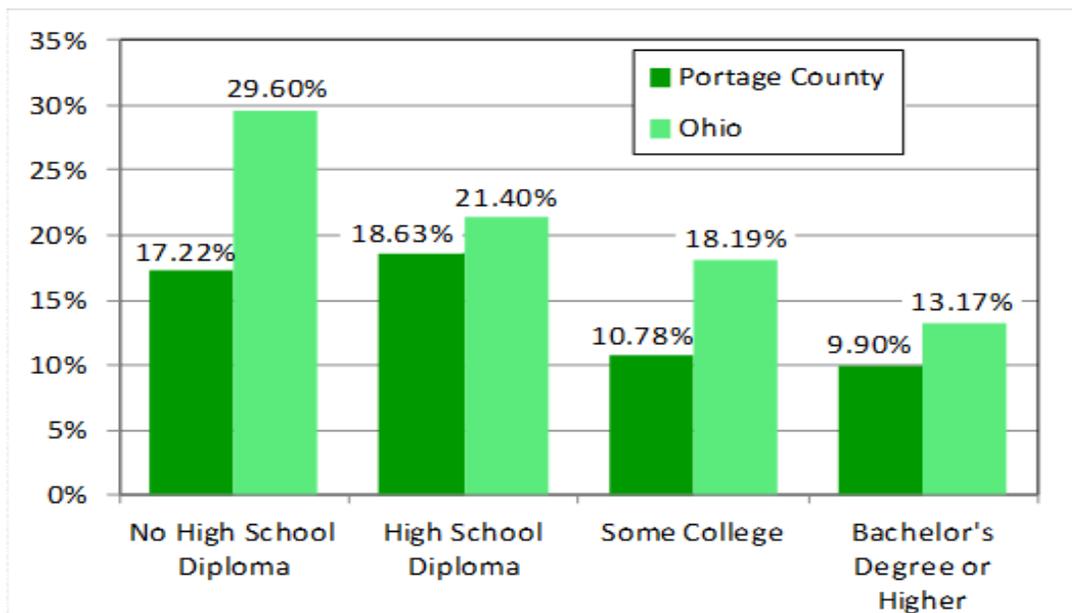


Figure 10B: Percent of Working-Age Adults without a Personal Health Care Provider by Educational Attainment, Portage County and Ohio, 2008



11 | Women in Need of Publicly Funded Contraception

Significance

Because of the sheer volume of unintended pregnancies, making contraception services available to all who wish to use them is important. According to the Guttmacher Institute, nearly half of all pregnancies across the nation are unintended¹, and approximately 30% of all women will have an abortion by the age of 45.² However, for a variety of reasons, many are unable to access contraceptive services without assistance. Women who are young and/or lower income (defined by the Guttmacher Institute as younger than 20 and/or below 250% of the federal poverty level, respectively) are considered to be in the most need of such services and have the least ability to afford them.³

Definition

This indicator measures the number of women in need of publicly supported contraceptive services and supplies in Portage County. The data were obtained from the Guttmacher Institute's "Contraceptive Needs and Services, 2006: Detailed County Tables" using a complex methodology for estimation based on the county's population subgroups and women's characteristics.

Discussion

According to the Guttmacher Institute, there were 21,550 women in need of contraceptive services and supplies in Portage County in 2006. That constitutes 56.95% of women between the ages of 13 and 44 years in Portage County. In contrast, the Guttmacher Institute estimated that a total of 1,330,250 Ohio women (53.46% of those 13 to 44 years of age) were in need of publicly funded contraception in 2006.

¹Guttmacher Institute. (2012, January). *Facts on unintended pregnancy in the United States*. Retrieved from <http://www.guttmacher.org/pubs/FB-Unintended-Pregnancy-US.html>.

²Guttmacher Institute. (2011, August). *Facts on induced abortion in the United States*. Retrieved from http://www.guttmacher.org/pubs/fb_induced_abortion.html.

³Sonfield, A. (2006). One women new women in need of publicly funded contraception. *Guttmacher Policy Review*, 9(3).

12 | Health Professional Shortage Areas (HPSAs)

Significance

Access to health care providers is an essential component of receiving necessary medical care. When people are geographically isolated from an adequate supply of health care providers, receiving necessary care becomes both harder to accomplish and more costly in time and money than it is for those who have ready access to the care that they need. Consequently, the US Department of Health and Human Services (HHS) Health Resources and Services Administration (HRSA) has provided methods to designate geographic areas with shortages of primary care physicians, dentists, and psychiatrists.¹ With regards to primary care, such areas, designated as primary care Health Professional Shortage Areas (HPSAs), are defined as those with 3,500 or more people per primary care physician, or areas that do not meet the HRSA standard of a primary care physician to population ratio of 1:3,500.¹ Currently, HRSA has designated approximately 5,900 primary care HPSAs in the United States.¹

Definition

This indicator identifies geographical areas in Portage County that are designated by the US Department of Health and Human Services (HHS) Health Resources and Services Administration (HRSA) as primary care Health Professional Shortage Areas (HPSAs), or geographical areas with a full-time equivalent primary care physician to population ratio of less than 1:3,500. The data were obtained from the HRSA HPSA search by state and county website.

Discussion

There are currently no geographical areas in Portage County that are designated by HRSA as primary care HPSAs. However, the following indicator on health care providers in Portage County allows for the identification of specific areas that appear to be geographically isolated from access to health care services.

¹US Department of Health and Human Services, Health Resources and Services Administration. (n.d.). *Primary medical care HPSA designation overview*. Retrieved from <http://bhpr.hrsa.gov/shortage/hpsas/designationcriteria/primarycarehpsaoverview.html>.

13 | Health Care Providers

Significance

An adequate number of physicians is important in order to provide essential health care services (both prevention and treatment) to everyone in a community who needs them. The US Department of Health and Human Services (HHS) Health Resources and Services Administration (HRSA) identifies a ratio of less than one primary care physician for every 3,500 people, less than one dentist for every 5,000 people, and less than one psychiatrist for every 30,000 people as the definitions for primary care, dental, and mental health HPSAs (Health Professional Shortage Areas), respectively.¹ According to the Association of American Medical Colleges, “by 2020 our nation will face a serious shortage of both primary care and specialist physicians to care for an aging and growing population. According to the AAMC’s Center for Workforce Studies, there will be 45,000 too few primary care physicians – and a shortage of 46,000 surgeons and medical specialists – in the next decade.”² Further, the existence of a free clinic in a community, or a Federally Qualified Health Center (FQHC), is an indicator of the ability of those who cannot afford health care services to get the care that they need. According to the website of the New York Regional Association of Free Clinics, free clinics operate as primary care medical homes and often offer a variety of services at low or no cost.³

Definition

This indicator includes a variety of measures to describe the availability of health care providers in Portage County. First, it contains the number of physicians (MDs and DOs) in Portage County that are registered with the State Medical Board of Ohio, as reported by the Office of Policy, Research, and Strategic Planning's "Ohio County Profiles". Second, this indicator contains an enumeration of health care providers (physicians, nurse practitioners, podiatrists, psychologists, and dentists) in Portage County that are part of Portage County Health District's Health Alert Network (HAN) listing by location and specialty (primary care, specialty care, pediatric care, obstetrics-gynecology, mental health care, and hearing/vision/dental care). Lastly, this indicator contains the number of Federally Qualified Health Centers (FQHCs) as identified by the Ohio Association of Community Health Centers' "CHC Search by County" website.

Discussion

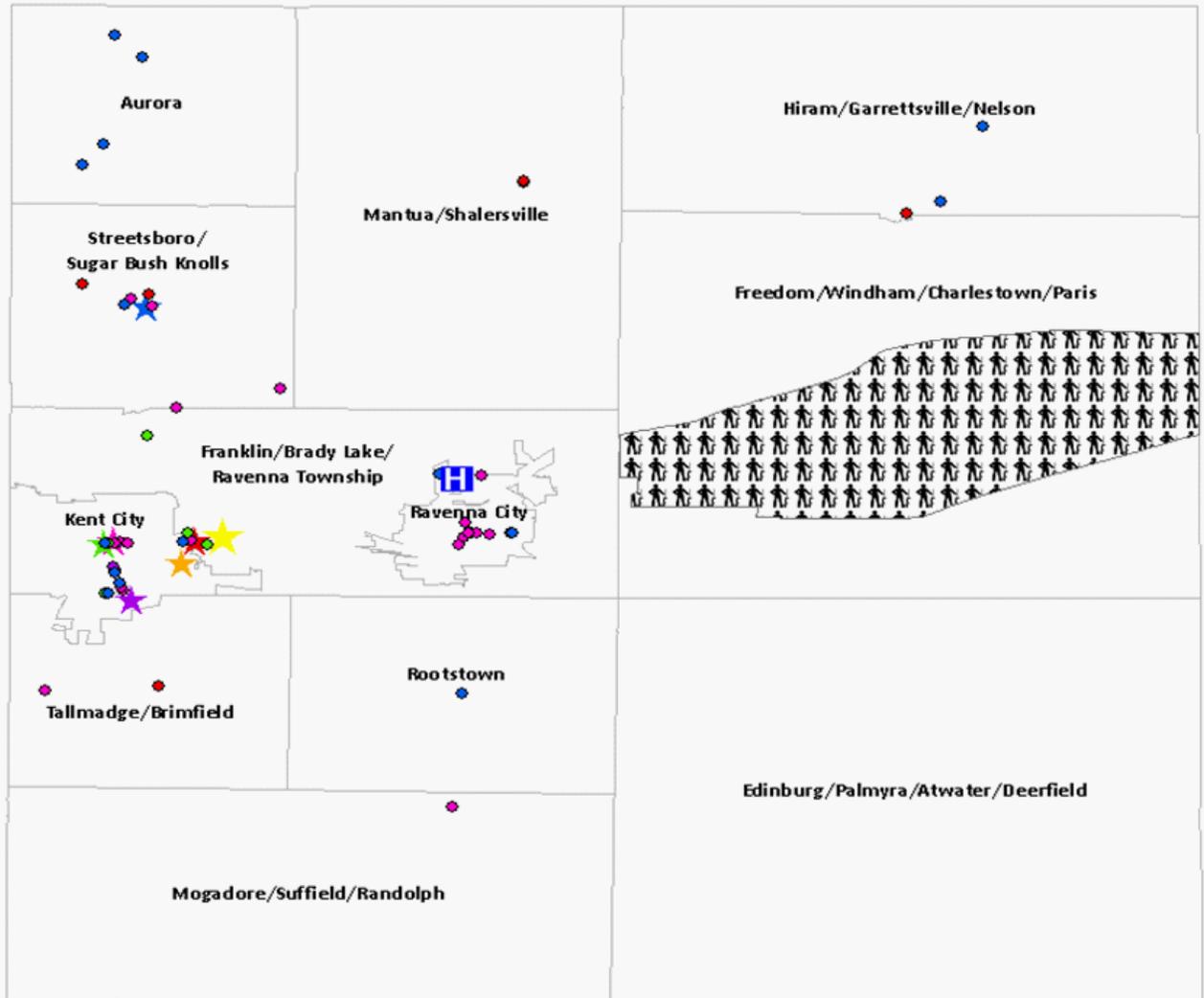
According to the State Medical Board of Ohio, there are a total of 174 physicians (MDs and DOs) registered in Portage County. Portage County Health District's Health Alert Network (HAN) listing contains 42 primary care providers, 125 specialty care providers, 16 pediatric care providers, 9 obstetrics-gynecology providers, 13 mental health care providers, and 68 hearing/vision/dental providers (Figure 13A). There is one Federally Qualified Health Center (FQHC) in Portage County, AxessPointe, as identified by the Ohio Association of Community Health Centers.

¹US Department of Health and Human Services, Health Resources and Services Administration. (n.d.). *Health Professional Shortage Areas (HPSAs)*. Retrieved from <http://bhpr.hrsa.gov/shortage/hpsas/designationcriteria/index.html>.

²Association of American Medical Colleges. (n.d.). *Physician shortages to worsen without increases in residency training*. Retrieved from <https://www.aamc.org/download/150584/data/>.

³New York Regional Association of Free Clinics. (n.d.). *Description of free clinics*. Retrieved from <http://nysfreeclinics.org/>.

Figure 13A: Health Care Providers by Location and Specialty, Portage County, 2013



- | | | | |
|--|--|--|---|
| | Ravenna Arsenal | | Robinson Health Center of Kent (13 providers) |
| | Portage County Clusters | | Unity Health Network (8 providers) |
| | AxesPointe Community Health Center (15 providers) | | Townhall II (at least 2 providers) |
| | Robinson Memorial Hospital Area (86 providers) | | Primary Care Provider |
| | Robinson Health Center of Streetsboro (31 providers) | | Specialty Care Provider |
| | St Rt 59 Medical Plaza Area (23 providers) | | Pediatric Care Provider |
| | Kent State University Health Services (14 providers) | | Mental Health Care Provider |
| | | | Hearing/Vision/Dental Provider |

Data source: 2013 Portage County Health District Health Alert Network (HAN) Data

14 | Persons with Unmet Health Care Needs

Significance

Unmet health care needs represent a significant threat not only to personal health, but to public health as well. As noted in the publication "Health Wanted: The State of Unmet Need For Primary Care In America", the National Association of Community Health Centers states, "When people delay or fail to receive needed preventive services, everyone pays in some measure. People become sicker and many suffer preventable deaths. Caring for a growing population of chronically ill is straining our health care delivery system, and many others have unmet primary care needs. Those without access often wind up in costly Emergency Departments or experience more hospitalizations for care that could have been avoided through timely primary care."¹

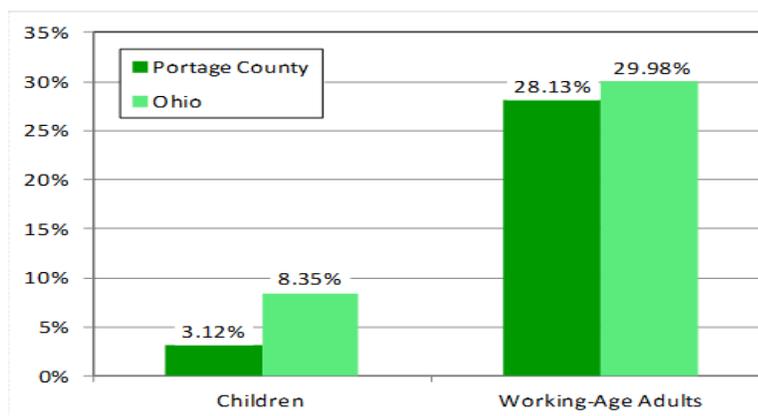
Definition

This indicator measures the percent of children under 18 years of age and adults 18 to 64 years of age living in Portage County that had unmet health care needs. Persons with unmet health care needs include survey respondents who answered that there was a time in the past 12 months when they needed dental care but could not get it, they did not fill a prescription because of the cost, or there was any time that they did not get any other health care that they needed, such as a medical exam, medical supplies, mental health care, or eyeglasses. The data were obtained from the 2008 Ohio Family Health Survey. Confidence intervals are not presented here, but should be considered. Please see the data tables in Appendix A and the Methods section of this report for additional information.

Discussion

The Ohio Family Health Survey estimated that 982, or 3.12%, of Portage County children had unmet health care needs in 2008. Statewide, the percentage was significantly higher, as 8.35% of Ohio children had unmet health care needs. Among working-age adults in Portage County, it was estimated that 27,572 (28.13%) had unmet health care needs, compared to 29.98% of Ohioans of the same age group.

Figure 14A: Percent of Children and Working-Age Adults with Unmet Health Care Needs, Portage County and Ohio, 2008



¹National Association of Community Health Centers. (2012, March). *Health wanted: The state of unmet need for primary care in America*.



15 | Female Breast Cancer

Significance

According to current surveillance, 1 in 8 women in the US will develop invasive breast cancer in their lifetimes.¹ Breast cancer is by far the most commonly diagnosed invasive cancer among women, accounting for 29% of all newly diagnosed cases (excluding basal and squamous cell skin cancers and in situ carcinomas, except urinary bladder).² Although the exact causes are not known, there are several leading risk factors for invasive female breast cancer, some of which are modifiable and others that are not.³ As such, known modifiable risk factors include: not having children, use of oral contraceptives, use of post-menopausal hormone therapy, not breastfeeding, being overweight or obese, consuming alcohol, and being physically inactive. Further, known non-modifiable risk factors consist of: age, race and ethnicity, genetics, family and personal history, previous breast radiation, long menstrual history, and use of diethylstilbestrol during pregnancy. Even though most breast cancers can be successfully treated when diagnosed early, nearly 40,000 women in the US are expected to die from the disease in this year alone.² Thus, early detection is imperative and emphasizes the necessity of the regular use of effective methods of screening, such as self-breast examination, clinical breast examination, and mammography¹ (see Appendix B for the American Cancer Society's screening guidelines for the early detection of cancer in average-risk, asymptomatic people).

Definition

This indicator measures the average annual age-adjusted incidence of invasive breast cancer per 100,000 females residing in Portage County. The data were obtained from the Ohio Cancer Incidence Surveillance System (OCISS) data files for 2000-2009. Rates were calculated using the 2010 US decennial census, Summary File (SF) 1, containing 100% data, as population denominators and the direct method of age-adjustment using the 2000 US Census standard population. Please see the Methods section of this report for documentation on the identification of cancers by type in OCISS and the methods for age-adjustment.

Discussion

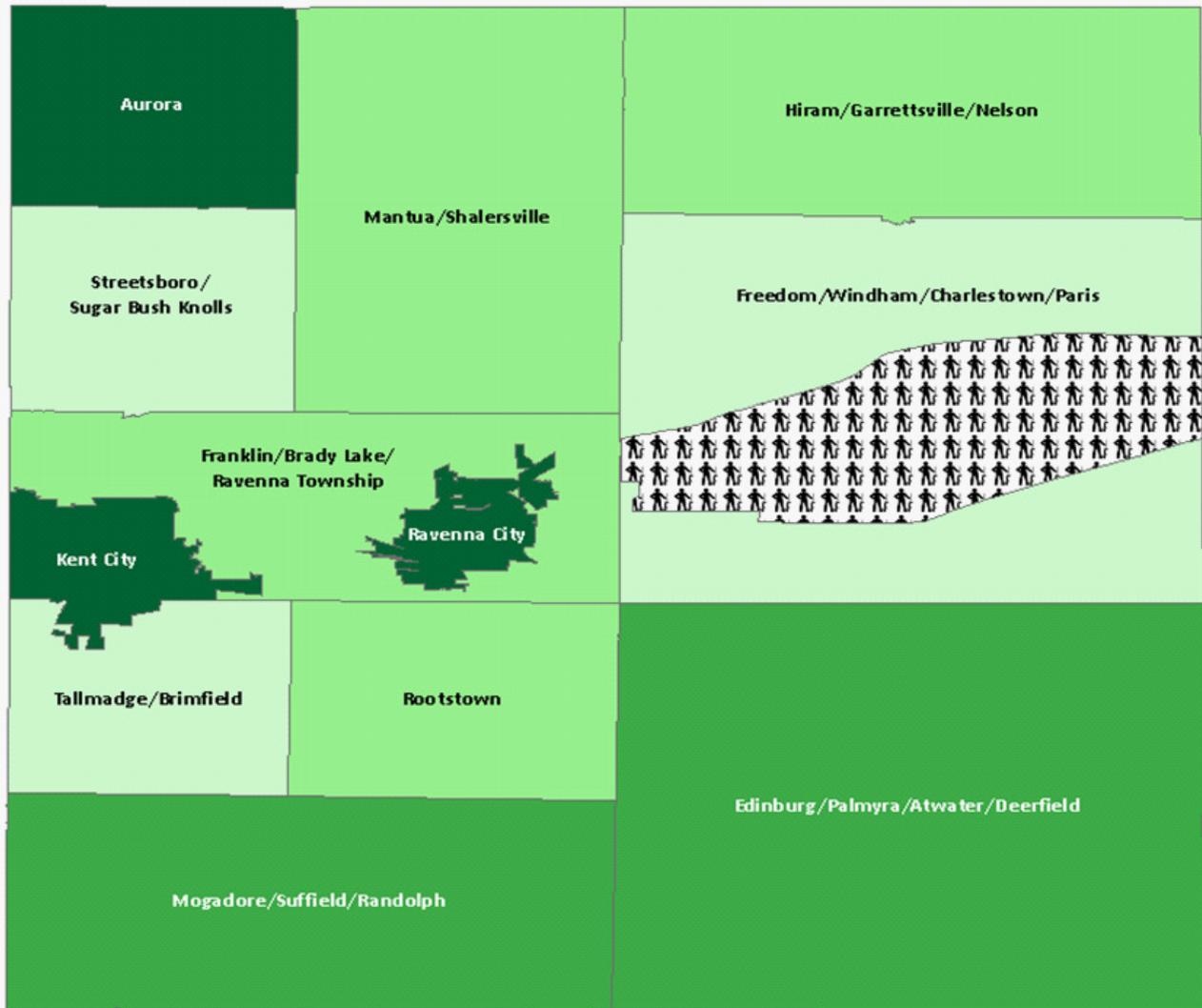
From 2000 to 2009, there were a total of 959 cases of invasive breast cancer diagnosed among women residing in Portage County, which amounts to an average annual age-adjusted incidence of 104.70 cases per 100,000 females. In comparison, the incidence among women residing across the entire state of Ohio was 117.26 per 100,000 females. Women residing in Streetsboro/Sugar Bush Knolls experienced the lowest average annual incidence of invasive breast cancer of 78.60 per 100,000 females, while those residing in the city of Kent had the highest incidence of 127.79 per 100,000 females (Figure 15A).

¹American Cancer Society. (2013). *Breast cancer facts and figures 2011-2012*. Atlanta, GA: American Cancer Society.

²American Cancer Society. (2013). *Cancer facts and figures 2013*. Atlanta, GA: American Cancer Society.

³American Cancer Society East Central Division, Ohio Department of Health, & The Ohio State University. (2010). *Ohio cancer facts and figures 2010*. Columbus, OH: American Cancer Society.

Figure 15A: Average Annual Age-Adjusted Incidence of Invasive Female Breast Cancer per 100,000 Females by County Cluster, Portage County, 2000-2009



Ravenna Arsenal

Data source: 2000-2009 Ohio Cancer Incidence Surveillance System (OCISS)

Portage County Clusters

- 114.90 - 127.79
- 104.42 - 114.89
- 87.80 - 104.41
- 78.60 - 87.79

16 | Cervical Cancer

Significance

The national incidence of cervical cancer has steadily declined over the past several decades, presumably due to modern prevention methods and consistent routine screening with the Pap test.¹ Nonetheless, the Ohio Department of Health (ODH) still reports statewide average estimates of 487 new cases and 159 deaths due to cervical cancer annually.² While the likelihood of survival is nearly 100% among women for whom precancerous lesions are detected³, adherence to evidence-based screening guidelines for early detection are not universal (see Appendix B for the American Cancer Society's screening guidelines for the early detection of cancer in average-risk, asymptomatic people). In fact, from 2003-2007, approximately 56% of the deaths due to cervical cancer in the state of Ohio were among women 55 years of age and older.² By far, the greatest risk factor for cervical cancer is persistent infection with human papillomavirus (HPV), a common sexually transmitted infection that is most often benign and transient.³ Thus, the Advisory Committee on Immunization Practices (ACIP) now recommends vaccination against the major subtypes of HPV that cause over 70% of cervical cancers.³ The vaccine was approved by the US Food and Drug Administration (FDA) in 2006 and is currently recommended for the prevention of the most common types of HPV infection among both males and females 11 to 26 years of age (see the sidebar at right for the latest ACIP recommendations for HPV vaccination).⁴

Definition

This indicator measures the average annual age-adjusted incidence of invasive cancer of the uterine cervix (i.e., cervical cancer) per 100,000 females residing in Portage County. The data were obtained from the Ohio Cancer Incidence Surveillance System (OCISS) data files for 2000-2009. Rates were calculated using the 2010 US decennial census, Summary File (SF) 1, containing 100% data, as population denominators and the direct method of age-adjustment using the 2000 US Census standard population. Please see the Methods section of this report for documentation on the identification of cancers by type in OCISS and the methods for age-adjustment.

Human Papillomavirus (HPV) Vaccine Recommendations from the Advisory Committee on Immunization Practices (current as of January 2013)⁴

Females

- Routine vaccination at age 11-12 years with 3 doses of bivalent (HPV2) or quadrivalent (HPV4) vaccine (may begin vaccination as early as 9 years of age)
- Vaccination with 3 doses of HPV2 or HPV4 at age 13-26 years for those not previously or fully vaccinated
- Vaccination with 3 doses of HPV2 or HPV4 through age 26 years for immunocompromised females who were not previously or fully vaccinated
- Not recommended for pregnant women

Males

- Routine vaccination at age 11-12 years with 3 doses of quadrivalent (HPV4) vaccine (may begin vaccination as early as 9 years of age)
- Vaccination with 3 doses of HPV4 at age 13-21 years for those not previously or fully vaccinated (although, those aged 22-26 years may also be vaccinated)
- Vaccination with 3 doses of HPV4 through age 26 years for immunocompromised males who were not previously or fully vaccinated
- Vaccination with 3 doses of HPV4 through age 26 years for men who have sex with men who were not previously or fully vaccinated

Discussion

From 2000 to 2009, there were a total of 51 cases of invasive cervical cancer diagnosed among women residing in Portage County, which amounts to an average annual age-adjusted incidence of 6.24 cases per 100,000 females. In contrast, the incidence among women residing in Ohio was 8.16 per 100,000 females. The incidence observed in both Portage County and the state of Ohio as a whole were far from reaching the Healthy People 2020 target of less than 7.1 new cases of invasive cervical cancer per 100,000 females (objective C-10).⁵ Due to confidentiality restrictions, analyses stratified by Portage County cluster were not able to be reported because there were no clusters that had a total of at least 10 events. Please see the Methods section of this report for documentation on the confidentiality restrictions for analyses involving OCISS data.

The Pink Ribbon Project

The Ohio Department of Health Breast and Cervical Cancer Project (BCCP) began in Ohio in 1994. Its mission is to provide screening and early detection of breast and cervical cancer to eligible women throughout the state. The goal of the BCCP is to detect the cancers in women at an earlier stage, when treatment is more effective and to improve access to breast and cervical cancer screening for low-income women.

There are 11 such grant projects across Ohio. Region 10 includes Summit, Portage, Stark, and Wayne Counties and is known as the Pink Ribbon Breast & Cervical Cancer Project. It is located in the Community Health Division at Summit County Public Health.

Women who are age 40 and older, without health insurance and with an income at or below 200% of the federal poverty level are encouraged to call us today and sign up for a pap smear, breast exam and mammogram (ages 50 and older) at no cost to you.

¹American Cancer Society. (2013). *Cancer facts and figures 2013*. Atlanta, GA: American Cancer Society.

²American Cancer Society East Central Division, Ohio Department of Health, & The Ohio State University. (2010). *Ohio cancer facts and figures 2010*. Columbus, OH: American Cancer Society.

³American Cancer Society. (2013). *Cancer prevention and early detection facts and figures 2013*. Atlanta, GA: American Cancer Society.

⁴Centers for Disease Control and Prevention. (2013). Advisory Committee on Immunization Practices (ACIP) recommended immunization schedules for persons aged 0 through 18 years and adults aged 19 years and older: United States, 2013. *Morbidity and Mortality Weekly Report*, 62(Suppl 1), 1-19.

⁵US Department of Health and Human Services. (2013, April 24). *Healthy People 2020 cancer: Objectives*. Retrieved from <http://www.healthypeople.gov/2020/topicsobjectives2020/objectiveslist.aspx?topicid=5>.

17 | Uterine Cancer

Significance

The American Cancer Society estimates that in 2013, nearly 50,000 women in the US will be diagnosed with invasive cancer of the uterine corpus, more commonly known as uterine or endometrial cancer, as the uterine corpus refers to the body of the uterus, which includes the endometrium, or the lining of the uterus.¹ Uterine cancer is the fourth most commonly diagnosed invasive cancer among women and accounts for approximately 6% of all newly diagnosed cases (excluding basal and squamous cell skin cancers and in situ carcinomas, except urinary bladder) and 3% of all cancer deaths.¹ Due to the well known association between uterine cancer and estrogen exposure, the major risk factors are conditions or practices that cause increased estrogen levels, including: obesity and excess abdominal adiposity, late menopause, never having children, use of post-menopausal hormone therapy or tamoxifen, and having diabetes or polycystic ovarian disease (PCOD).¹ On the contrary, pregnancy, use of oral contraceptives or intrauterine devices, and physical activity are all known to decrease the risk of uterine cancer.¹

Definition

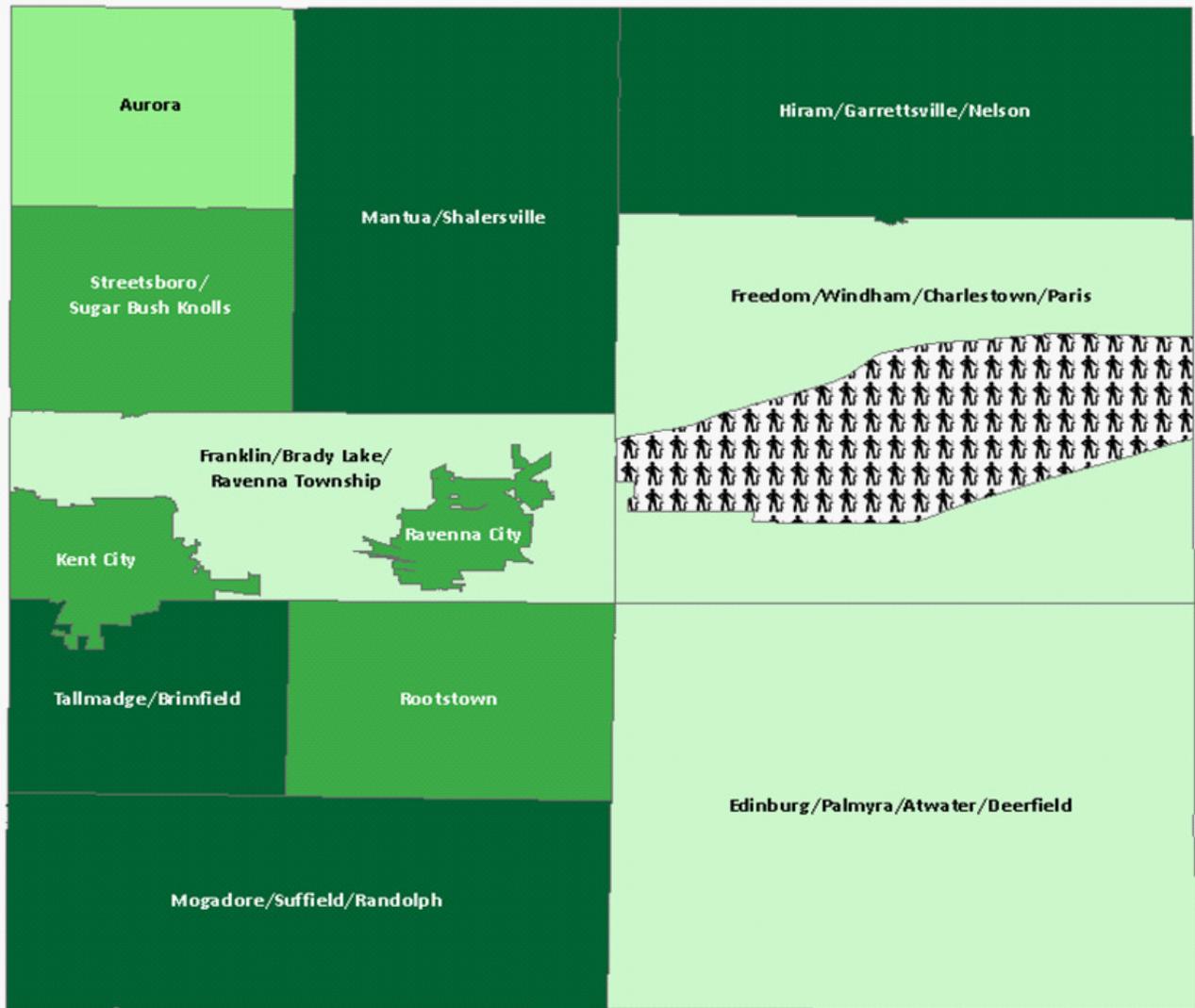
This indicator measures the average annual age-adjusted incidence of invasive cancer of the uterine corpus (i.e., uterine or endometrial cancer) per 100,000 females residing in Portage County. The data were obtained from the Ohio Cancer Incidence Surveillance System (OCISS) data files for 2000-2009. Rates were calculated using the 2010 US decennial census, Summary File (SF) 1, containing 100% data, as population denominators and the direct method of age-adjustment using the 2000 US Census standard population. Please see the Methods section of this report for documentation on the identification of cancers by type in OCISS and the methods for age-adjustment.

Discussion

From 2000 to 2009, there were a total of 208 cases of invasive uterine cancer (including endometrial cancer) diagnosed among women residing in Portage County, which amounts to an average annual age-adjusted incidence of 21.79 cases per 100,000 females. In comparison, the incidence among women residing across the entire state of Ohio was 25.25 per 100,000 females. There was some variation in the incidence of uterine cancer by cluster in Portage County (Figure 17A), which ranged from a low of 14.37 per 100,000 females in Freedom/Windham/Charlestown/Paris to a high of 27.03 per 100,000 females in Mogadore/Suffield/Randolph.

¹American Cancer Society. (2013). *Cancer facts and figures 2013*. Atlanta, GA: American Cancer Society.

Figure 17A: Average Annual Age-Adjusted Incidence of Invasive Uterine Cancer per 100,000 Females by County Cluster, Portage County, 2000-2009



Ravenna Arsenal

Data source: 2000-2009 Ohio Cancer Incidence Surveillance System (OCISS)

Portage County Clusters

- 23.79 - 27.03
- 20.62 - 23.78
- 17.72 - 20.61
- 14.37 - 17.71

18 | Ovarian Cancer

Significance

Ovarian cancer accounts for approximately 3% of all newly diagnosed invasive cancer cases among American women (excluding basal and squamous cell skin cancers and in situ carcinomas, except urinary bladder), yet the disease is responsible for 5% of all cancer deaths.¹ Consequently, the Ohio Department of Health (ODH) reports statewide average estimates of 836 new cases and 605 deaths due to ovarian cancer annually.² Since there is currently no sufficiently effective screening test and the signs and symptoms of ovarian cancer are typically nonspecific and overlooked, most cases (61%) are diagnosed at distant stage¹, the latest of the cancer summary staging categories which indicates that the tumor has spread to other parts of the body, including distant organs, tissues, and/or lymph nodes.² Thus, the overall 1-year, 5-year, and 10-year relative survival of ovarian cancer patients is only 75%, 44%, and 34%, respectively.

Definition

This indicator measures the average annual age-adjusted incidence of invasive ovarian cancer per 100,000 females residing in Portage County. The data were obtained from the Ohio Cancer Incidence Surveillance System (OCISS) data files for 2000-2009. Rates were calculated using the 2010 US decennial census, Summary File (SF) 1, containing 100% data, as population denominators and the direct method of age-adjustment using the 2000 US Census standard population. Please see the Methods section of this report for documentation on the identification of cancers by type in OCISS and the methods for age-adjustment.

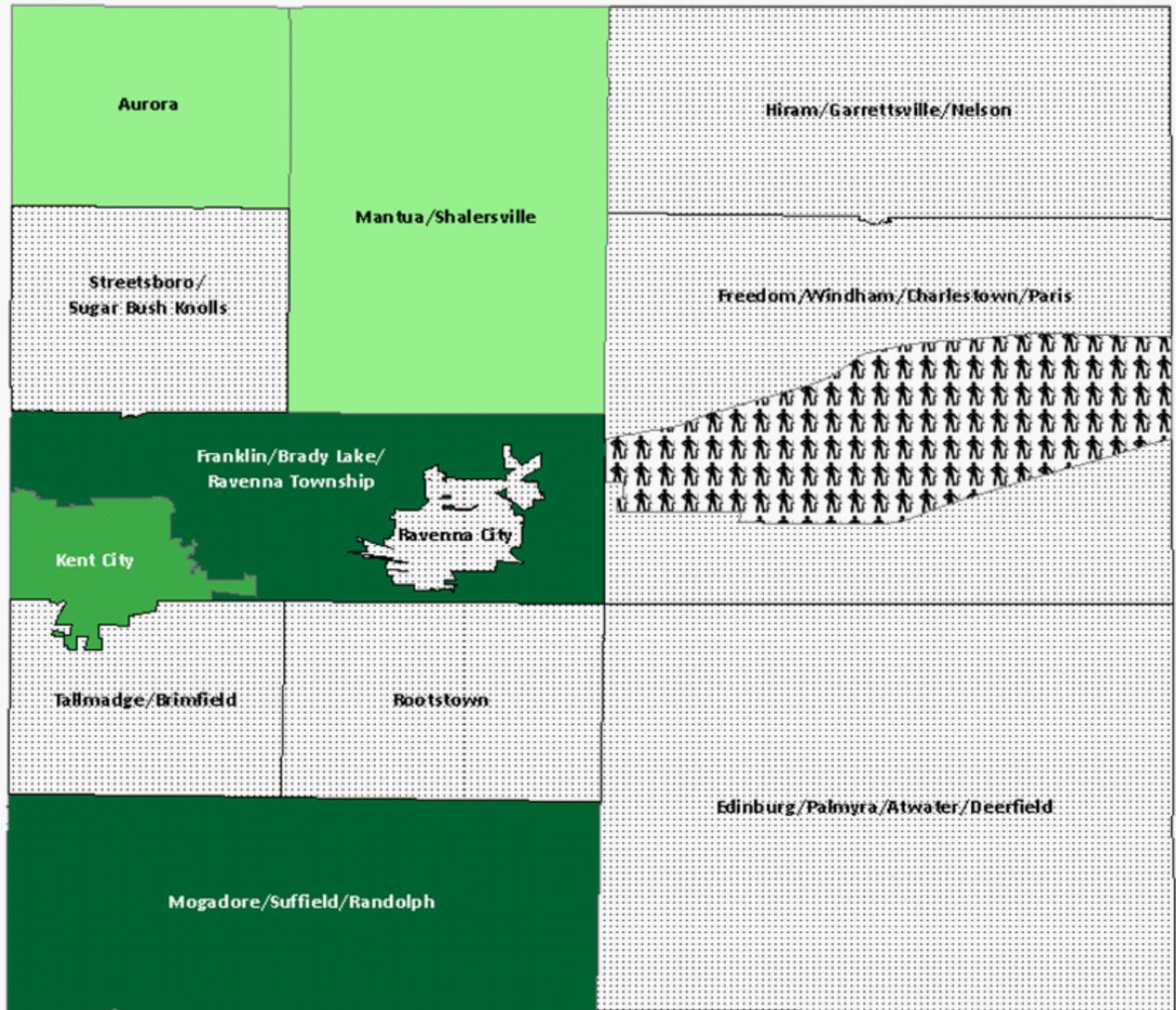
Discussion

From 2000 to 2009, there were a total of 122 cases of invasive ovarian cancer diagnosed among women residing in Portage County, which amounts to an average annual age-adjusted incidence of 13.34 cases per 100,000 females. Conversely, the incidence among women residing in Ohio was slightly lower at 12.11 cases per 100,000 females. Due to confidentiality restrictions, analyses stratified by Portage County cluster were not able to be reported for seven of the 12 clusters because each had less than 10 events. However, of the five clusters where analyses were possible, those of Franklin/Brady Lake/Ravenna Township and Mogadore/ Suffield/Randolph experienced the highest incidence of ovarian cancer, with 21.68 and 19.85 cases per 100,000 females, respectively (Figure 18A). Please see the Methods section of this report for documentation on the confidentiality restrictions for analyses involving OCISS data.

¹American Cancer Society. (2013). *Cancer facts and figures 2013*. Atlanta, GA: American Cancer Society.

²American Cancer Society East Central Division, Ohio Department of Health, & The Ohio State University. (2010). *Ohio cancer facts and figures 2010*. Columbus, OH: American Cancer Society.

Figure 18A: Average Annual Age-Adjusted Incidence of Invasive Ovarian Cancer per 100,000 Females by County Cluster, Portage County, 2000-2009



Ravenna Arsenal

Data source: 2000-2009 Ohio Cancer Incidence Surveillance System (OCISS)

Portage County Clusters

-  17.99 - 21.68
-  14.42 - 17.98
-  7.09 - 14.41
-  Not Reportable

19 | Testicular Cancer

Significance

According to current surveillance, testicular cancer is not common in the United States, as a man's lifetime risk of developing the disease is only about 1 in 270.¹ Further, since highly successful treatment options are readily available, the overall risk of death from testicular cancer is extremely low, approximately 1 in 5,000 men.¹ However, there are certain risk factors that are known to increase a man's risk of developing invasive testicular cancer, including: undescended testicle(s), a personal or family history of testicular cancer, human immunodeficiency virus (HIV) infection, acquired immunodeficiency syndrome (AIDS), and carcinoma in situ of the testicle(s).¹ Although males of any age can develop testicular cancer, the greatest risk factor for the disease is age, as roughly 50% of all cases occur among men between the ages of 20 and 34 years.¹

Definition

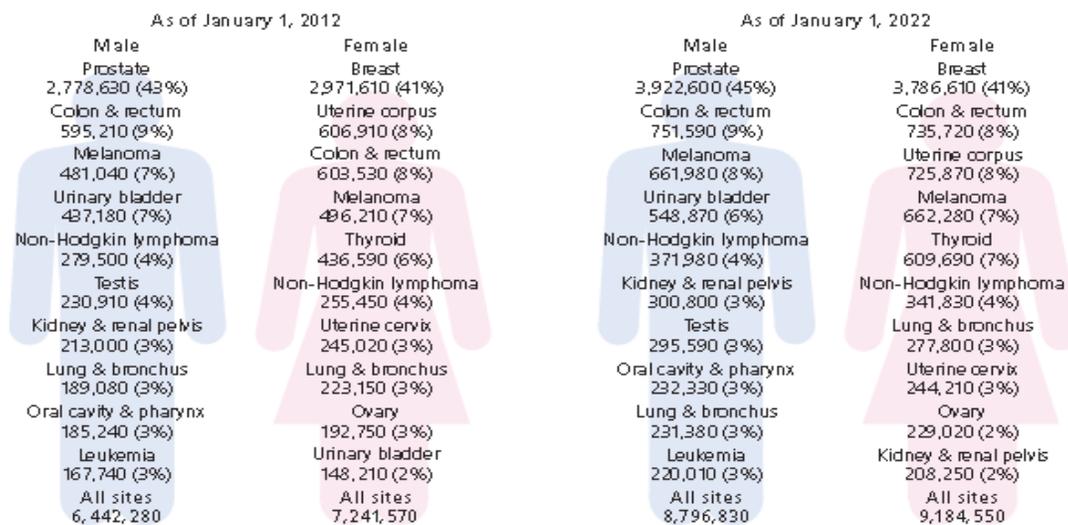
This indicator measures the average annual age-adjusted incidence of invasive testicular cancer per 100,000 males residing in Portage County. The data were obtained from the Ohio Cancer Incidence Surveillance System (OCISS) data files for 2000-2009. Rates were calculated using the 2010 US decennial census, Summary File (SF) 1, containing 100% data, as population denominators and the direct method of age-adjustment using the 2000 US Census standard population. Please see the Methods section of this report for documentation on the identification of cancers by type in OCISS and the methods for age-adjustment.

Discussion

From 2000 to 2009, there were a total of 34 cases of invasive testicular cancer diagnosed among men residing in Portage County, which amounts to an average annual age-adjusted incidence of 4.89 cases per 100,000 males. In comparison, the incidence among men residing in Ohio was 5.88 per 100,000 males. Due to confidentiality restrictions, analyses stratified by Portage County cluster were not able to be reported because there were no clusters that had a total of at least 10 events. Please see the Methods section of this report for documentation on the confidentiality restrictions for analyses involving OCISS data.

¹American Cancer Society. (2013). *Testicular cancer detailed guide*. Atlanta, GA: American Cancer Society.

Figure 1. Estimated Numbers of US Cancer Survivors by Site



Source: Data Modeling Branch, Division of Cancer Control and Population Sciences, National Cancer Institute.

American Cancer Society, Intramural Research, 2012

National Cancer Survivorship Resource Center

The National Cancer Survivorship Resource Center (The Survivorship Center) is a collaboration between the American Cancer Society and the George Washington Cancer Institute, funded by the Centers for Disease Control and Prevention. Its goal is to shape the future of post-treatment cancer survivorship care and to improve the quality of life of cancer survivors. The Survivorship Center staff and more than 100 volunteer survivorship experts nationwide developed the tools listed below for cancer survivors, caregivers, health care professionals, and policy and advocacy efforts.

Tools for cancer survivors and caregivers

Life After Treatment Guide - a quick, easy-to-read information guide to help cancer survivors and their caregivers understand the various aspects of the survivorship journey. The guide also includes trusted resources for survivorship information and encourages communication with health care professionals. The guide is available online at cancer.org/survivorshipguide.

Survivorship Information Resource Inventory - an inventory of information resources to assist post-treatment survivors, available online at cancer.org/survivorshipresourceinventory.

Tools for health care professionals

Prescription for Cancer Information - a tool to help health care professionals talk to survivors about resources available in their office or clinic, in the community, online, and over the telephone. This tool is available online at cancer.org/survivorshipprescription.

Moving Beyond Patient Satisfaction: Tips to Measure Program Impact Guide - a brief guide detailing indicators and outcome measures that can be used to monitor the success of survivorship programs, available online at cancer.org/survivorshipprogramevaluation.

Tools for advocates and policy makers

The Survivorship Center recognizes the importance of policies that support quality survivorship care. To educate policy makers on these issues, a white paper was created describing the priority areas for improving survivorship care. This paper is available online at cancer.org/survivorshippolicypaper.

To find out more about The Survivorship Center's activities, visit cancer.org/survivorshipcenter.

20 | Lung and Bronchus Cancer

Significance

Lung and bronchus cancer are collectively the second most commonly diagnosed type of cancer and the leading cause of cancer death among both men and women in the United States.¹ Together, lung and bronchus cancer account for approximately 14% of all newly diagnosed invasive cancer cases (excluding basal and squamous cell skin cancers and in situ carcinomas, except urinary bladder) and 28% and 26% of cancer deaths among men and women, respectively.¹ In fact, men in the US currently have a 1 in 13 lifetime risk of developing invasive lung and/or bronchus cancer, while women have a 1 in 16 lifetime risk.¹ There are several leading risk factors for lung and bronchus cancer, some of which are modifiable and others that are not.² As such, known modifiable risk factors include: smoking, exposure to secondhand smoke, exposure to air pollution, and occupational or environmental exposure to substances like radon, asbestos, and arsenic. Further, known non-modifiable risk factors consist of: age, family history, and personal history of lung cancer. While more than half of the individuals diagnosed with localized (i.e. early stage) lung and bronchus cancer survive beyond five years, only 15% of cases are caught at that early stage and thus, the 5-year survival rate for all stages combined is only 16%.¹

Definition

This indicator measures the average annual age-adjusted incidence of invasive lung and/or bronchus cancer per 100,000 residents of Portage County. The data were obtained from the Ohio Cancer Incidence Surveillance System (OCISS) data files for 2000-2009. Rates were calculated using the 2010 US decennial census, Summary File (SF) 1, containing 100% data, as population denominators and the direct method of age-adjustment using the 2000 US Census standard population. Please see the Methods section of this report for documentation on the identification of cancers by type in OCISS and the methods for age-adjustment.

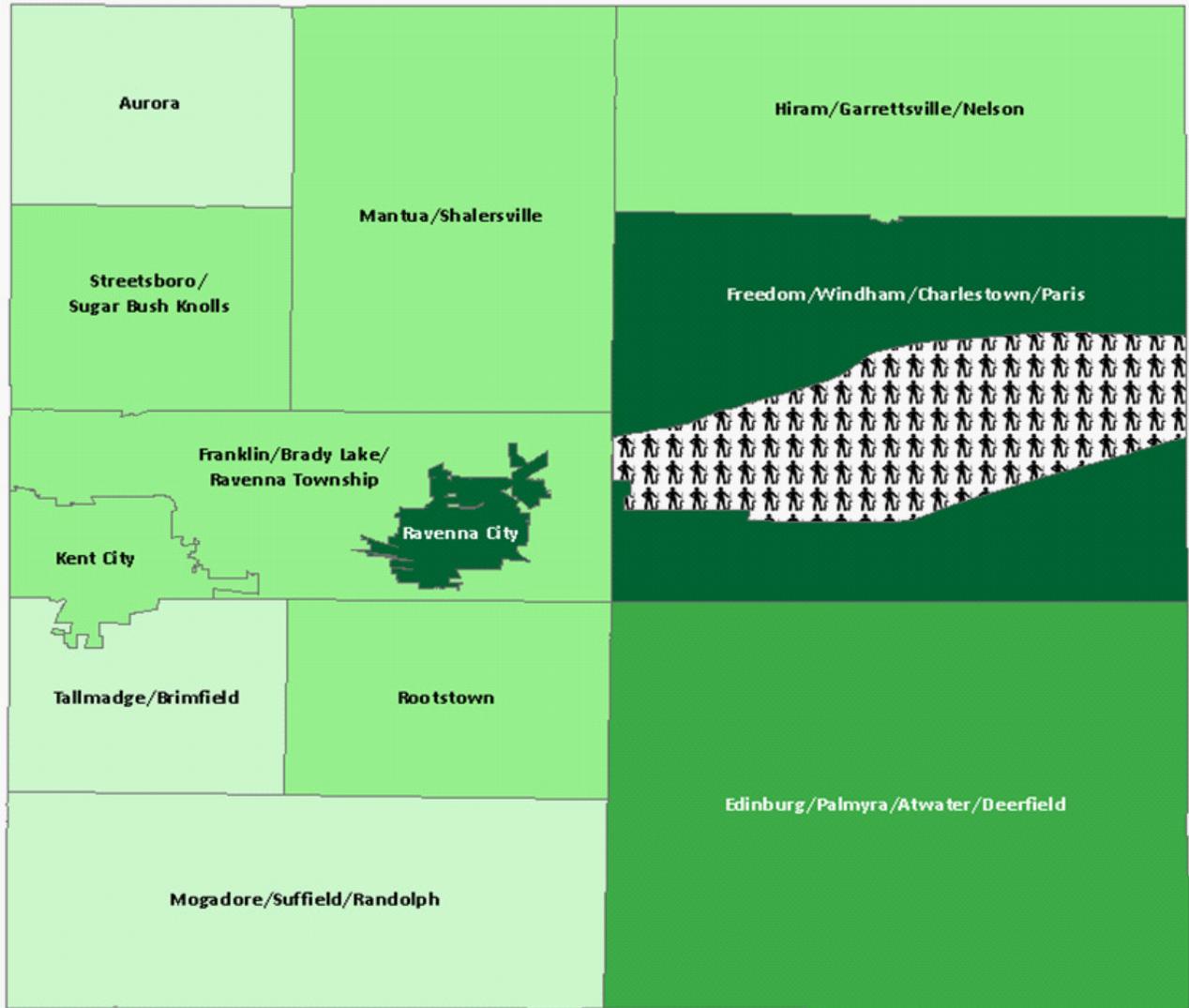
Discussion

From 2000 to 2009, there were a total of 1,181 cases of invasive lung and/or bronchus cancer diagnosed among residents of Portage County, which amounts to an average annual age-adjusted incidence of 66.75 cases per 100,000 population. Likewise, the incidence among all residents of the state of Ohio was 69.95 per 100,000 population. Portage County clusters with the greatest incidence of lung and bronchus cancer included the city of Ravenna and Freedom/Windham/Charlestown/Paris with 118.96 and 105.65 cases per 100,000 residents, respectively (Figure 20A).

¹American Cancer Society. (2013). *Cancer facts and figures 2013*. Atlanta, GA: American Cancer Society.

²American Cancer Society East Central Division, Ohio Department of Health, & The Ohio State University. (2010). *Ohio cancer facts and figures 2010*. Columbus, OH: American Cancer Society.

Figure 20A: Average Annual Age-Adjusted Incidence of Invasive Lung and Bronchus Cancer per 100,000 Population by County Cluster, Portage County, 2000-2009



Ravenna Arsenal

Data source: 2000-2009 Ohio Cancer Incidence Surveillance System (OCISS)

Portage County Clusters

- 79.89 - 118.96
- 70.36 - 79.88
- 46.64 - 70.35
- 41.52 - 46.63

21 | Chlamydia

Significance

Chlamydia is one of the most frequently-occurring of the sexually transmitted diseases (STDs), accounting for approximately 2.8 million cases nationally in 2008, making it second only to human papillomavirus, or HPV.¹ In addition to being frequently-occurring, chlamydia has a number of potentially serious health effects, including: increased susceptibility to other sexually transmitted infections, pelvic inflammatory disease, infection near the testicles, prostate gland infection, infections in newborn infants, infertility, and reactive arthritis.²

Definition

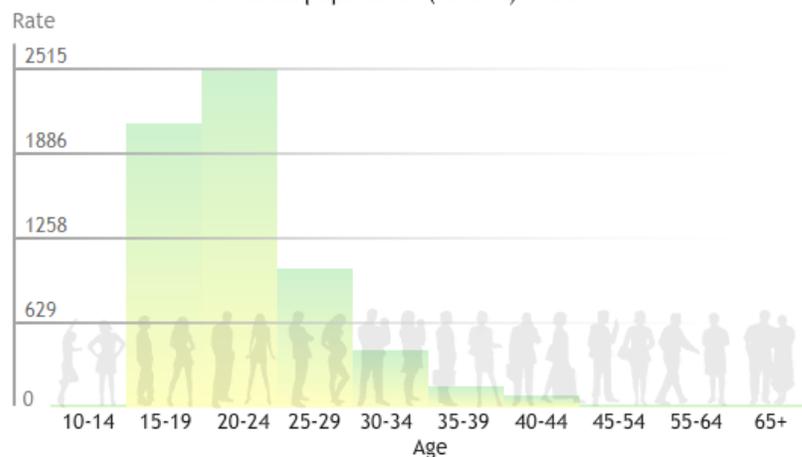
This indicator measures the average annual incidence of newly diagnosed chlamydia infections per 100,000 residents of Portage County. Recurrent chlamydia infections in the same individuals were considered new cases when diagnosed at least 30 days apart (i.e., cases diagnosed in the same individuals within 29 days or less were not counted as new cases). The data were obtained from the Ohio Disease Reporting System (ODRS) data files for 2008-2012. Rates were calculated using the 2010 US decennial census, Summary File (SF) 1, containing 100% data, as population denominators. Please see the Methods section of this report for documentation on the reporting of diseases in ODRS.

Discussion

From 2008 to 2012, there were a total of 1,617 cases of chlamydia diagnosed among residents of Portage County, of which nearly 34% (547 cases) were diagnosed among residents of the city of Kent. While the average annual incidence of chlamydia in Portage County (200.35 cases per 100,000 population) was less than half of that for residents of the entire state (437.53 cases per 100,000 population), the incidence among residents of the city of Kent was strikingly higher than the county as a whole at 378.49 cases per 100,000 population (Figure 21A) –

although, it was still less than the incidence observed among the entire state. This is likely because Kent is the home to a large number of young residential students that attend Kent State University. As depicted in the figure presented by the Centers for Disease Control and Prevention (CDC), young people 15 to 24 years of age have four times the reported chlamydia rate of the total population.³

Young people (15 to 24) had four times the reported chlamydia rate of the total population (10-65+) in 2011.



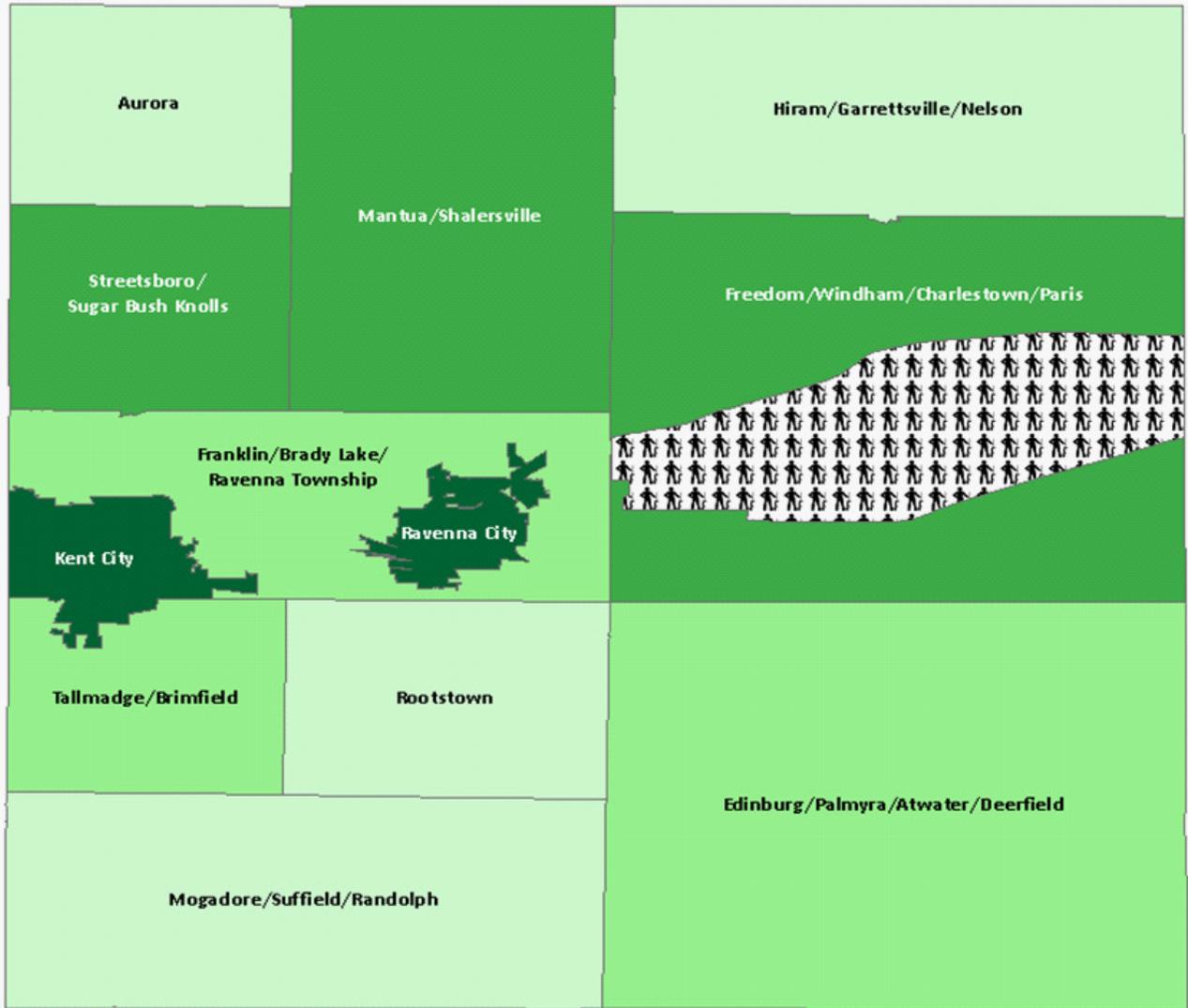
Source: <http://www.cdc.gov/std/health-disparities/age.htm>

¹Centers for Disease Control and Prevention. (2013, February). *CDC fact sheet: Incidence, prevalence, and cost of sexually transmitted infections in the United States*. Retrieved from <http://www.cdc.gov/std/stats/STI-Estimates-Fact-Sheet-Feb-2013.pdf>.

²Mayo Clinic. (2011, April 29). *Chlamydia: Complications*. Retrieved from <http://www.mayoclinic.com/health/chlamydia/DS00173/DSECTION=complications>.

³Centers for Disease Control and Prevention. (2011, January 31). *STD health equity - Rates by age*. Retrieved from <http://www.cdc.gov/std/health-disparities/age.htm>.

Figure 21A: Average Annual Incidence of Chlamydia per 100,000 Population by County Cluster, Portage County, 2008-2012



 Ravenna Arsenal

Data source: 2008-2012 Ohio Disease Reporting System (ODRS) Data

Portage County Clusters

-  185.71 - 378.49
-  147.38 - 185.70
-  118.42 - 147.37
-  92.40 - 118.41

22 | Gonorrhea

Significance

Gonorrhea is the fourth-most frequently-occurring of the sexually transmitted diseases (STDs), accounting for approximately 820,000 cases nationally in 2008.¹ According to the Centers for Disease Control and Prevention (CDC), “In women, gonorrhea can spread into the uterus (womb) or fallopian tubes (egg canals) and cause pelvic inflammatory disease (PID) ... In men, gonorrhea can cause a painful condition called epididymitis in the tubes attached to the testicles. In rare cases, this may prevent a man from being able to father children. If not treated, gonorrhea can also spread to the blood or joints. This condition can be life-threatening.”²

Definition

This indicator measures the average annual incidence of newly diagnosed gonorrhea infections per 100,000 residents of Portage County. Recurrent gonorrhea infections in the same individuals were considered new cases when diagnosed at least 30 days apart (i.e., cases diagnosed in the same individuals within 29 days or less were not counted as new cases). The data were obtained from the Ohio Disease Reporting System (ODRS) data files for 2008-2012. Rates were calculated using the 2010 US decennial census, Summary File (SF) 1, containing 100% data, as population denominators. Please see the Methods section of this report for documentation on the reporting of diseases in ODRS.

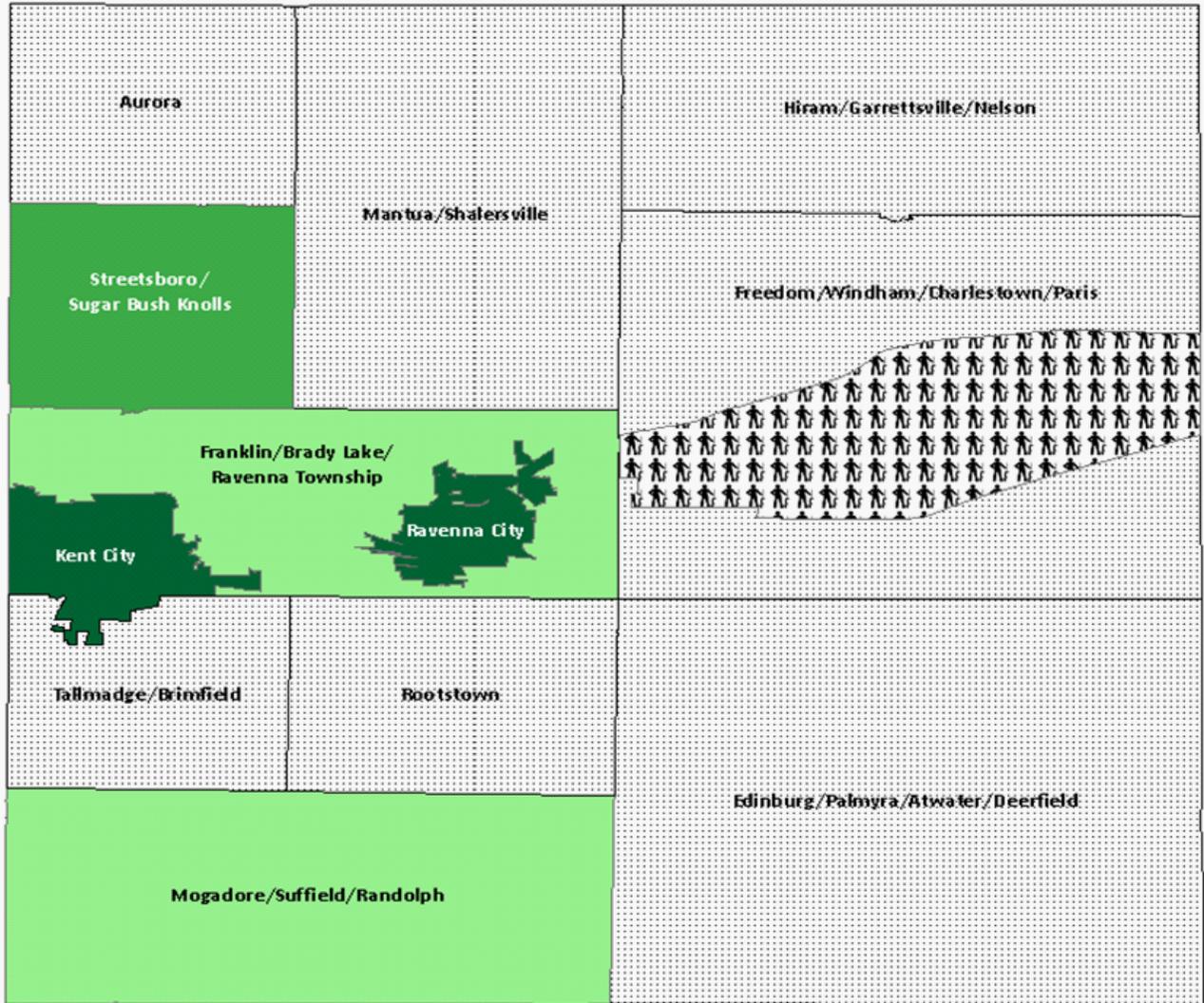
Discussion

From 2008 to 2012, there were a total of 208 cases of gonorrhea diagnosed among residents of Portage County, which amounts to an average annual incidence of 25.77 cases per 100,000 population. Conversely, the incidence among all Ohio residents was drastically higher at 142.85 cases per 100,000 population. Due to confidentiality restrictions, analyses stratified by Portage County cluster were not able to be reported for seven of the 12 clusters because each had less than 10 events. However, of the five clusters where analyses were possible, those of the cities of Kent and Ravenna experienced the highest incidence of gonorrhea, with 51.90 and 49.47 cases per 100,000 population, respectively (Figure 22A). Please see the Methods section of this report for documentation on the confidentiality restrictions for analyses involving ODRS data.

¹Centers for Disease Control and Prevention. (2013, February). *CDC fact sheet: Incidence, prevalence, and cost of sexually transmitted infections in the United States*. Retrieved from <http://www.cdc.gov/std/stats/STI-Estimates-Fact-Sheet-Feb-2013.pdf>.

²Centers for Disease Control and Prevention. (2013, February 11). *Gonorrhea - CDC fact sheet*. Retrieved from <http://www.cdc.gov/std/gonorrhea/STDFact-gonorrhea.htm>.

Figure 22A: Average Annual Incidence of Gonorrhea per 100,000 Population by County Cluster, Portage County, 2008-2012



Ravenna Arsenal

Data source: 2008-2012 Ohio Disease Reporting System (ODRS) Data

Portage County Clusters

- 32.10 - 51.90
- 22.38 - 32.09
- 20.61 - 22.37
- Not Reportable

23 | Syphilis

Significance

Syphilis is the sixth-most frequently-occurring of the sexually transmitted diseases (STDs), accounting for approximately 55,000 cases nationally in 2008.¹ According to the Mayo Clinic, complications of syphilis can include: small bumps or tumors, neurological problems (such as stroke, meningitis, deafness, visual problems, and dementia), cardiovascular problems, increased risk of human immunodeficiency virus (HIV) infection, and pregnancy and childbirth complications (such as miscarriage, stillbirth, or infant death).²

Definition

This indicator measures the average annual incidence of newly diagnosed primary and secondary syphilis infections per 100,000 residents of Portage County. The data were obtained from the Ohio Department of Health (ODH), STD Surveillance Program's "Primary and Secondary Syphilis Statistical Summaries" for 2007-2011. The statistical summaries were compiled by ODH using data from the Ohio Disease Reporting System (ODRS) that were otherwise unavailable for download by local epidemiologists due to confidentiality restrictions. Rates were calculated using the 2010 US decennial census, Summary File (SF) 1, containing 100% data, as population denominators. Please see the Methods section of this report for documentation on the reporting of diseases in ODRS.

Discussion

According to ODH's STD Surveillance Program, there were a total of seven cases of primary and secondary syphilis diagnosed among residents of Portage County from 2007-2011. This amounts to an average annual incidence of 0.87 cases per 100,000 population, which is nearly four times lower than the incidence among all residents of the state of Ohio (3.29 per 100,000 population). Due to confidentiality restrictions and the small number of events, analyses stratified by Portage County cluster were not able to be conducted.

¹Centers for Disease Control and Prevention. (2013, February). *CDC fact sheet: Incidence, prevalence, and cost of sexually transmitted infections in the United States*. Retrieved from <http://www.cdc.gov/std/stats/STI-Estimates-Fact-Sheet-Feb-2013.pdf>.

²Mayo Clinic. (2010, December 14). *Syphilis: Complications*. Retrieved from <http://www.mayoclinic.com/health/syphilis/DS00374/DSECTION=complications>.

³Centers for Disease Control and Prevention. (2013, February 13). *Syphilis - CDC fact sheet*. Retrieved from <http://www.cdc.gov/std/syphilis/STDFact-Syphilis-detailed.htm>.

Stages of Syphilis Infection³

When syphilis is left untreated, the disease usually progresses through the following stages, which can last for weeks, months, or even years

Primary Syphilis

- Marked by the appearance of the 1st symptom
- Usually begins about 21 days from infection, but can begin anywhere from ten to 90 days post-infection
- Typically characterized by a single, painless chancre at the location where the bacteria entered the body, which heals on its own in three to six weeks regardless of treatment

Secondary Syphilis

- Usually begins somewhere in the range of when the primary chancre is healing up to several weeks after
- Typically characterized by skin rashes and/or mucous membrane lesions (i.e., sores in the mouth, vagina, or anus)
- Additional generalized symptoms may include: fever, swollen lymph glands, sore throat, patchy hair loss, headaches, weight loss, muscle aches, and fatigue

Latent Syphilis

- Begins once the primary and secondary symptoms disappear
- Characterized by the absence of signs and symptoms even though infection is still present in the body
- Can last for up to 20 years after the infection was first acquired

Late Stage Syphilis

- Sometimes called tertiary syphilis, neurological syphilis, or neurosyphilis
- Occurs in about 15% of cases that remain untreated
- Can damage the internal organs and invade the nervous system, which may be serious enough to cause death
- Symptoms may include: difficulty coordinating muscle movements, paralysis, numbness, gradual blindness, and dementia

24 | Human Immunodeficiency Virus (HIV)

Significance

Human immunodeficiency virus (HIV) is the seventh-most frequently-occurring of the sexually transmitted diseases (STDs), accounting for approximately 41,000 new cases nationally in 2008.¹ However, HIV was the fifth-most prevalent STD infection in the US in 2008, with approximately 908,000 cases.¹ While modern HIV prevention efforts have decreased the number of new infections over the years, the number of persons living with HIV disease remains high. In addition to advancements in treatment, the slow progression of HIV disease allows infected individuals to live with the disease for several decades.² Acute infection with HIV usually occurs within two to four weeks after exposure and is characterized by acute retroviral syndrome (ARS), a collection of flu-like symptoms that are the body's natural response to the virus's destruction of CD4 cells, an important part of the immune system. Eventually, as the immune system brings the amount of virus down to a stable level, the number of CD4 cells increases and the disease enters the stage of clinical latency, also called asymptomatic HIV infection or chronic HIV infection. During this stage, the virus is still active, but reproduces very slowly, and often does not cause any symptoms or illnesses. Toward the middle and end of clinical latency, which can last several decades with modern HIV treatment, the CD4 count begins to drop as the viral load rises. When the CD4 count falls below 200 cells per cubic millimeter of blood (normal CD4 counts are between 500 and 1,600 cells/mm³), the disease enters a stage commonly referred to as AIDS (acquired immunodeficiency syndrome). According to the Mayo Clinic, "AIDS is a chronic, potentially life-threatening condition."³ During the stage of AIDS, HIV severely damages the immune system, which interferes with the body's ability to defend itself against organisms that cause disease, resulting in opportunistic infections, cancers, and other lethal complications.³ Without aggressive treatment, individuals with AIDS typically only survive an additional three years after diagnosis and once they develop an opportunistic infection, their life expectancy drops to about one year.²

Definition

This indicator measures the average annual incidence of newly diagnosed human immunodeficiency virus (HIV) infections per 100,000 residents of Portage County. In addition, this indicator reports the number of persons living with a diagnosis of HIV and/or acquired immunodeficiency syndrome (AIDS) per 100,000 residents of Portage County, also known as the prevalence of HIV/AIDS in Portage County. The data were obtained from the Ohio Department of Health (ODH), HIV/AIDS Surveillance Program's "HIV/AIDS Statistical Summaries" for 2011. The statistical summaries were compiled by ODH using data from the Ohio Disease Reporting System (ODRS) that were otherwise unavailable for download by local epidemiologists due to confidentiality restrictions. Rates were calculated using the 2010 US decennial census, Summary File (SF) 1, containing 100% data, as population denominators. Please see the Methods section of this report for documentation on the reporting of diseases in ODRS.

¹Centers for Disease Control and Prevention. (2013, February). *CDC fact sheet: Incidence, prevalence, and cost of sexually transmitted infections in the United States*. Retrieved from <http://www.cdc.gov/std/stats/STI-Estimates-Fact-Sheet-Feb-2013.pdf>.

²Centers for Disease Control and Prevention. (2013, May 29). *What is HIV?* Retrieved from <http://www.cdc.gov/hiv/basics/whatishiv.html>.

³Mayo Clinic. (2012, August 11). *HIV/AIDS: Complications*. Retrieved from <http://www.mayoclinic.com/health/hiv-aids/DS00005/DSECTION=complications>.

Discussion

According to ODH's HIV/AIDS Surveillance Program, there were a total of 38 cases of HIV infection diagnosed among residents of Portage County from 2007-2011. This amounts to an average annual incidence of 4.71 cases per 100,000 population, which is almost half the incidence among all residents of the state of Ohio (9.04 per 100,000 population). When diagnosed with HIV, 71.05% of individuals in Portage County did not have AIDS, whereas 18.42% developed AIDS within 12 months of diagnosis and 10.53% were diagnosed with HIV and AIDS concurrently. In 2011, there were a total of 89 residents of Portage County that were living with HIV and/or AIDS. This amounts to an estimated prevalence of 55.14 cases per 100,000 population, compared to 155.39 cases per 100,000 residents of the entire state of Ohio. As depicted in Figure 24A, the prevalence of HIV/AIDS was higher among males. Further, nearly 62% of Portage County residents living with HIV/AIDS were exposed through male-to-male sexual contact (Figure 24B). Due to confidentiality restrictions and the small number of events, analyses stratified by Portage County cluster were not able to be conducted.

Figure 24A: Prevalence of HIV/AIDS Per 100,000 population by Sex, Portage County and Ohio, 2011

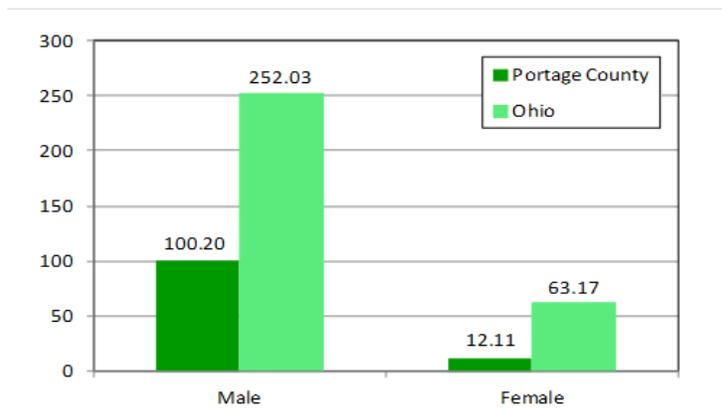
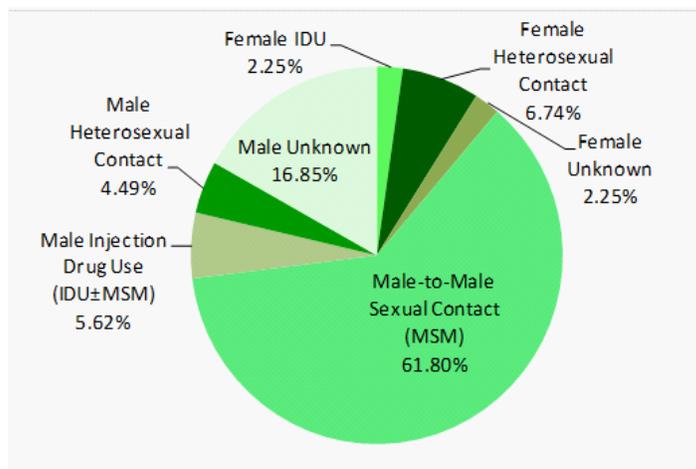
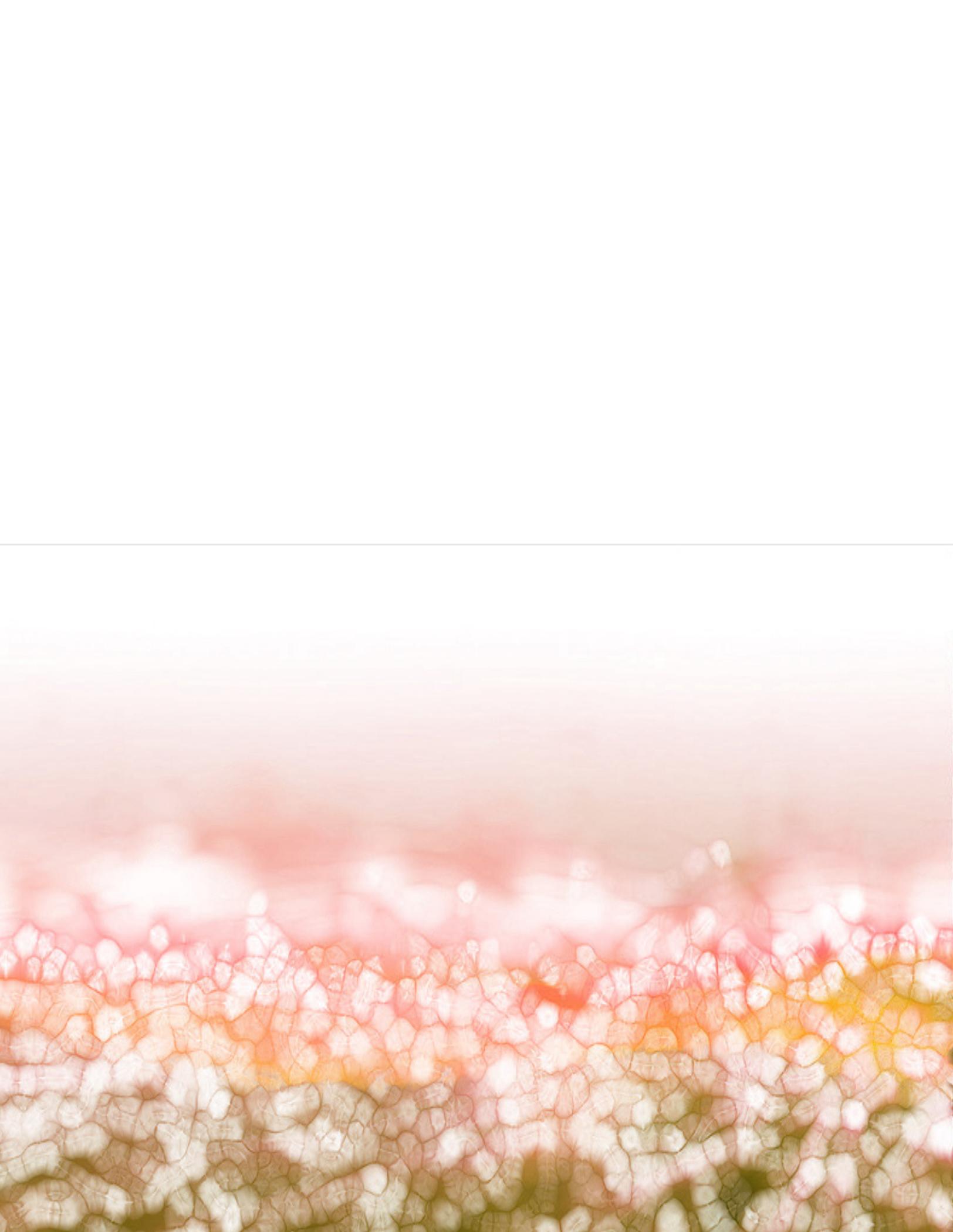


Figure 24B: Percent of Persons Living with HIV/AIDS by Transmission Category, Portage County, 2007-2011





SECTION II

Perinatal Health



25 | Births

Significance

Understanding the demographic structure of a population is an essential tool for determining current and future public health needs. The crude birth rate is defined as the number of live births per 1,000 total population and is widely recognized as an important demographic measure for monitoring population growth and change. Factors that have the potential to affect the crude birth rate in a given population include: the availability of family planning and health services, the acceptance and use of contraception, evolving family structures, economic prosperity, religious beliefs, and governmental policies.

Definition

This indicator measures the average annual crude birth rate, or the average annual number of live births to mothers that were residents of Portage County per 1,000 total population. The data were obtained from the Ohio birth certificate data files for 2006-2010. Rates were calculated using the 2010 US decennial census, Summary File (SF) 1, containing 100% data, as population denominators. Please see the Methods section of this report for additional information regarding the collection of data elements for Ohio birth certificate data.

Discussion

From 2006 to 2010, there were a total of 7,900 live births to women that were residents of Portage County. Of those, approximately half (50.67%) of the infants were male and the vast majority (90.93%) of births were among non-Hispanic white women. The average annual crude birth rate was 9.79 per 1,000 population for Portage County, which was lower than average annual crude birth rate for Ohio (12.72 per 1,000 population). Compared to Ohio, the age-specific birth rates among Portage County women aged 18 to 19 years and those 20 to 24 years were considerably lower (Figure 25A). This is likely due to the greater proportion of 18 to 24 year-old women that reside in Portage County for educational opportunities provided by Kent State University and Hiram College. In fact, when stratified by county cluster, the city of Kent, which is home to Kent State University, had one of the lowest average annual crude birth rates of 7.81 per 1,000 population (Figure 25B).

Figure 25A: Average Annual Age-Specific Birth Rate by Maternal Age, Portage County and Ohio, 2006-2010

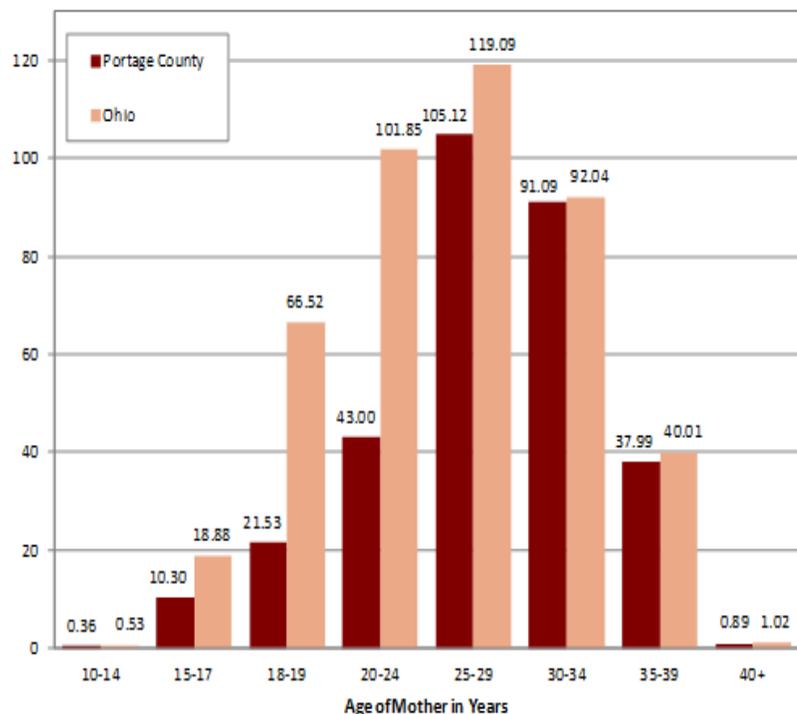
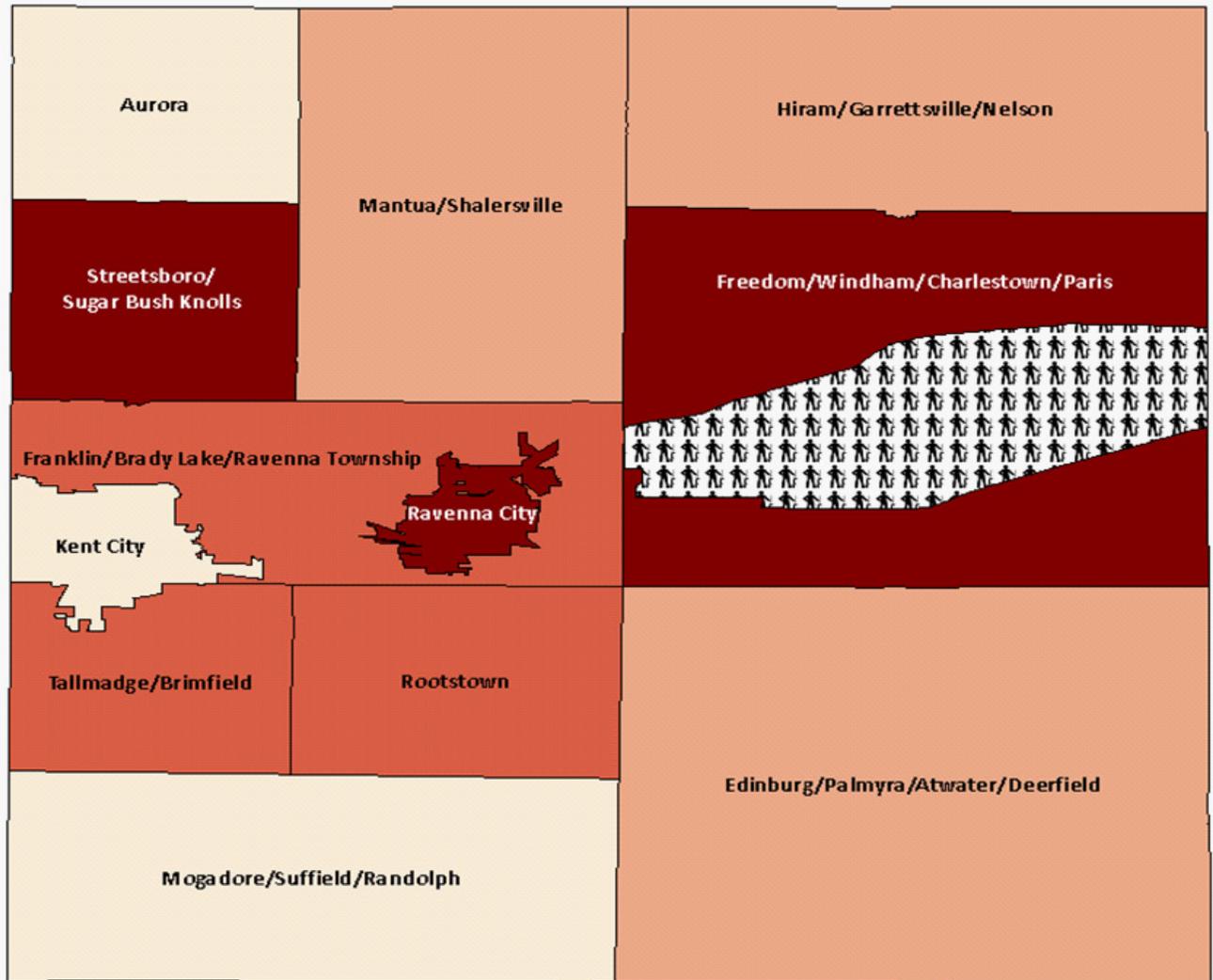
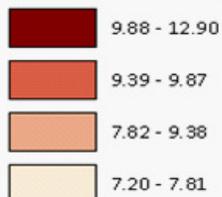


Figure 25B: Average Annual Crude Birth Rate Per 1,000 Total Population by County Cluster, Portage County, 2006-2010



Data source: 2006-2010 Ohio birth certificate files

Portage County Clusters



26 | Births to Teenage Women

Significance

Each year, a considerable number of teenage women have unplanned, often unwanted, births resulting in significant challenges for the teen mother, the child, and society at large. For instance, teenage mothers are more likely to drop out of high school and nearly 80% of teen mothers receive some type of public assistance.¹ Further, the children of teen mothers carry a great burden, as they are more likely to be born prematurely and/or at low birth weight² and are two times more likely to be abused or neglected³ when compared to children born to non-teen mothers. Given these factors and others, children of teenage mothers are more likely to have underlying health conditions, perform poorly in school, drop out of high school, and become teenage parents themselves, as opposed to children born to non-teen mothers.⁴

Definition

This indicator measures the average annual teen birth rate, or the number of live births to women between the ages of 10 and 17 years that were residents of Portage County per 1,000 females of the same ages. The data were obtained from the Ohio birth certificate data files for 2006-2010. Rates were calculated using the 2010 US decennial census, Summary File (SF) 1, containing 100% data, as population denominators. Please see the Methods section of this report for additional information regarding the collection of data elements for Ohio birth certificate data.

Discussion

Of the 7,900 live births from 2006 to 2010 among women that were residents of Portage County, 167 (2.11%) were to teen women between the ages of 10 and 17 years. The average annual teen birth rate in Portage County was 4.17 per 1,000 females aged 10 to 17 years, which was lower than the average annual teen birth rate for the state of Ohio as a whole (7.61 per 1,000 females aged 10 to 17 years). In Portage County, the average annual age-specific teen birth rates were 0.36 per 1,000 females aged 10 to 14 years and 10.30 per 1,000 females aged 15 to 17 years. When stratified by county cluster (Figure 26A), the city of Ravenna had the highest average annual teen birth rate among women aged 10 to 17 years at 10.18 per 1,000 females of the same ages. The second highest rate was in the county cluster of Freedom/Windham/Charlestown/ Paris with 8.46 live births per 1,000 females aged 10 to 17 years.

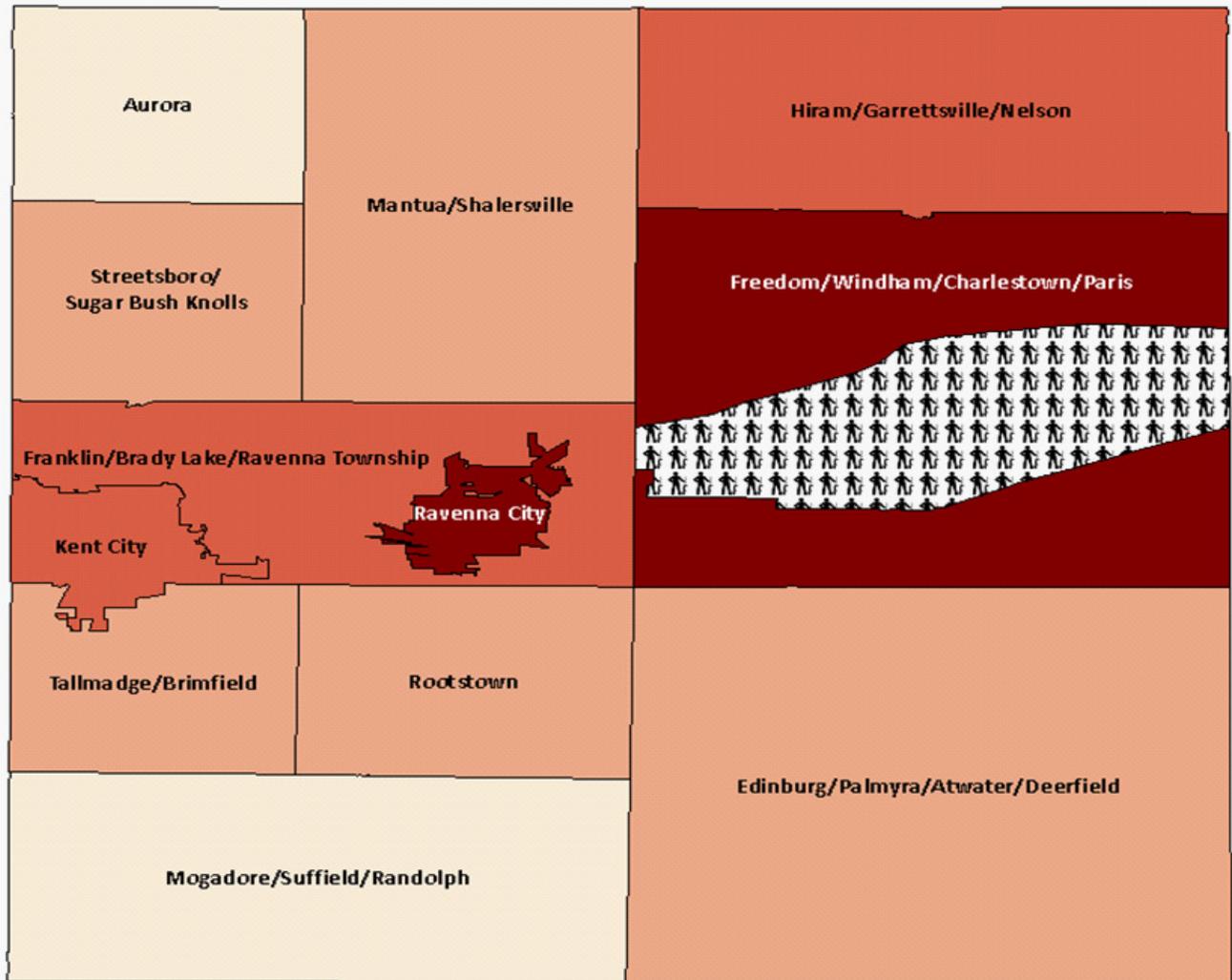
¹Acs, G & Koball, H. (2003). TANF and the status of teen mothers under age 18. *The Urban Institute New Federalism: Issues and Options for States*, Series A, No A-62.

²Martin, JA, Hamilton, BE, Ventura, SJ, Menacker, F, & Kirmeyer, S. (2006). Births: final data for 2004. *National Vital Statistics Reports*, 55(1).

³Hoffman, SD. (2006). *By the numbers: The public costs of teen childbearing*. Washington, DC: The National Campaign to Prevent Teen Pregnancy.

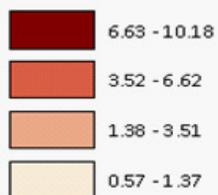
⁴Hoffman, SD. (2008). *Kids Having Kids: Economic Costs and Social Consequences of Teen Pregnancy*. Washington, DC: The Urban Institute Press.

Figure 26A: Average Annual Teen Birth Rate Per 1,000 Females Aged 10 to 17 Years by County Cluster, Portage County, 2006-2010



Data source: 2006-2010 Ohio birth certificate files

Portage County Clusters



27 | Births to Unmarried Women

Significance

Family composition can have a major effect on the well-being of a child. The percent of births to unmarried women has been steadily rising since the 1940s and has created concern regarding the impact of the evolving family structure on child health and development.¹ For instance, non-marital births are at a higher risk for prematurity and/or low birth weight², as well as for infant mortality³, when compared to marital births. In addition, children of single mothers are often more likely to live in poverty and have developmental disabilities than their counterparts from two-parent households.² However, past research often does not reflect the modern family structure. A growing number of children that are born to unmarried mothers are actually not born to single parent households, as many live with their unmarried mothers and other adult caretakers, including their fathers, their grandparents, or their mothers' unmarried partners. Such children may experience a different support system than children of single parent households and thus, further research is necessary to better explain the complex relationships between health, well-being, and births to unmarried women.

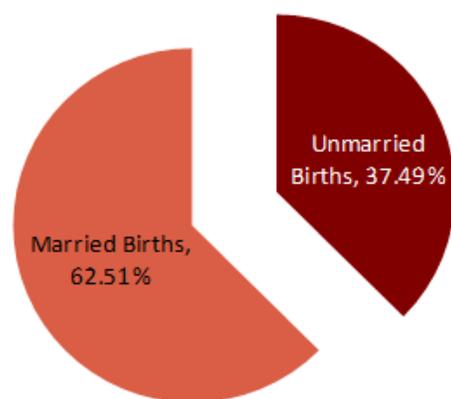
Definition

This indicator measures the percent of live births to unmarried women that were residents of Portage County. Unmarried mothers included women who self-identified on the birth certificate paperwork as not married at birth, conception, or anytime in between. The data were obtained from the Ohio birth certificate data files for 2006-2010. Please see the Methods section of this report for additional information regarding the collection of data elements for Ohio birth certificate data.

Discussion

Of all live births from 2006 to 2010 to women that were residents of Portage County, more than one-third (37.49%) were to unmarried women (Figure 27A), which is lower than the percent among Ohio residents (42.53%). By county cluster (Figure 27B), the highest percent of births to unmarried women was in county clusters of Freedom/Windham/Charlestown/ Paris (52.56%) followed by the city of Ravenna (49.47%); whereas, Aurora had the lowest percent of births to unmarried women at 16.43%.

Figure 27A: Percent of Births by Maternal Marital Status, Portage County, 2006-2010

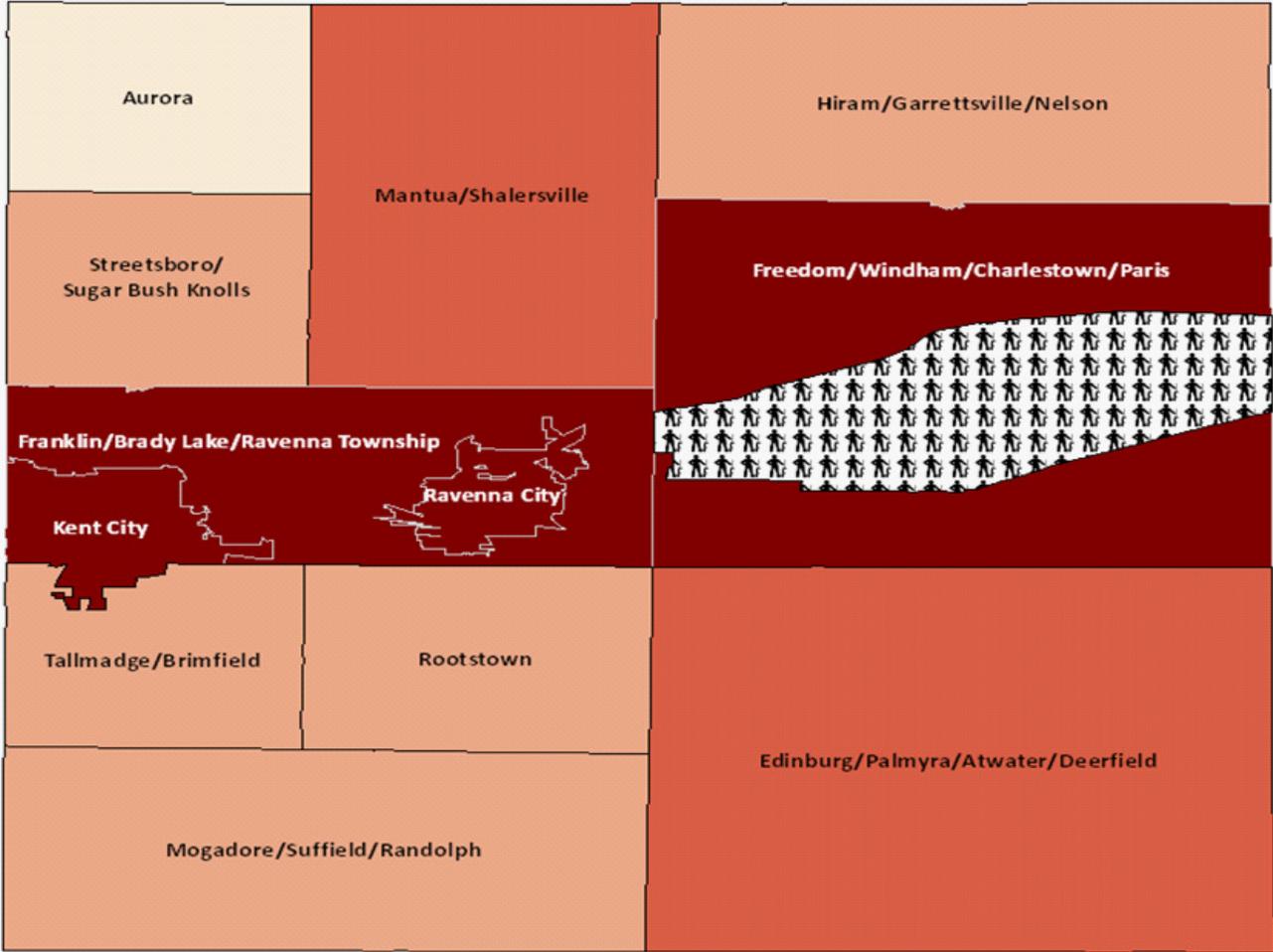


¹Shattuck, RM & Kreider RM. (2013). Social and economic characteristics of currently unmarried women with a recent birth: 2011. *American Community Survey Reports*, 1-10.

²Ventura, SJ & Bachrach, CA. (2000). Nonmarital childbearing in the United States, 1940-99. *National Vital Statistics Reports*, 48(16).

³Mathews, TJ & MacDorman, MF. (2008). Infant mortality statistics from the 2005 period linked birth/infant death data set. *National Vital Statistics Reports*, 57(2).

Figure 27B: Percent of Births to Unmarried Women by County Cluster, Portage County, 2006-2010



 Ravenna Arsenal

Data source: 2006-2010 Ohio birth certificate files

Portage County Clusters

-  38.16 - 52.56 %
-  30.99 - 38.15 %
-  16.44 - 30.98 %
-  16.43 %

28 | Births Paid by Medicaid

Significance

Medicaid plays an important role in ensuring access to health services, including prenatal care for pregnant women and basic preventative health services for children. In Ohio, Medicaid is a major source of care, paying for approximately two out of every five births.¹ Eligible women are permitted to enroll in Medicaid following conception. Yet, not all women do so in a timely manner, which deprives them and their unborn infants of essential early preventative care services. For instance, mothers enrolled in Medicaid are less likely to receive early prenatal care than mothers not enrolled in Medicaid, which consequently places them and their infants at a higher risk for negative birth outcomes.²

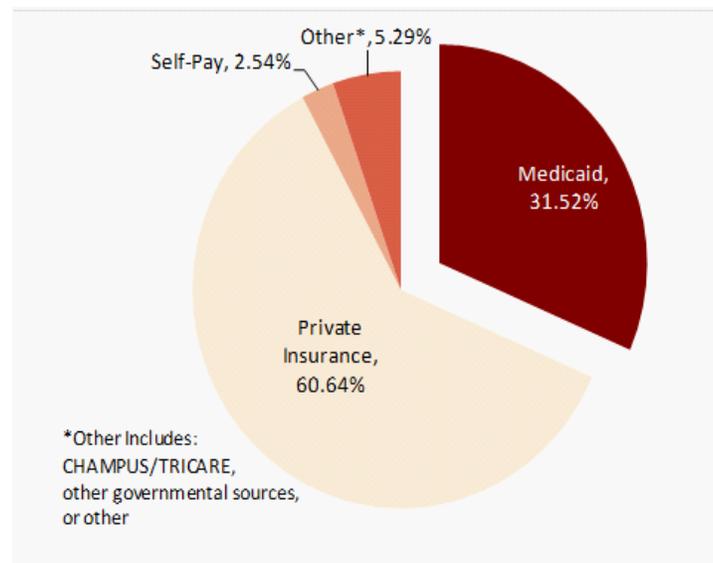
Definition

This indicator measures the percent of live births to mothers that were residents of Portage County where the birth was paid by Medicaid. Non-Medicaid births included those where the payer source was identified as "Private Insurance", "Self-Pay", "CHAMPUS/TRICARE", "Other Government Sources (local, state, or federal)", or "Other". The data were obtained from the Ohio birth certificate data files for 2006-2010. Please see the Methods section of this report for additional information regarding the collection of data elements for Ohio birth certificate data.

Discussion

Of the 7,900 live births to mothers that were residents of Portage County from 2006-2010, 6,215 (78.67%) had a known payer source. Of those, nearly one-third (31.52%) of the births were paid by Medicaid (Figure 28A), which is lower than the percent among Ohio residents (38.67%). Portage County clusters with the greatest percent of births paid by Medicaid were Freedom/ Windham /Charlestown/ Paris (50.80%), followed by Ravenna City (49.05%); whereas, Aurora had the lowest percent of births paid by Medicaid at 9.66% (Figure 28B).

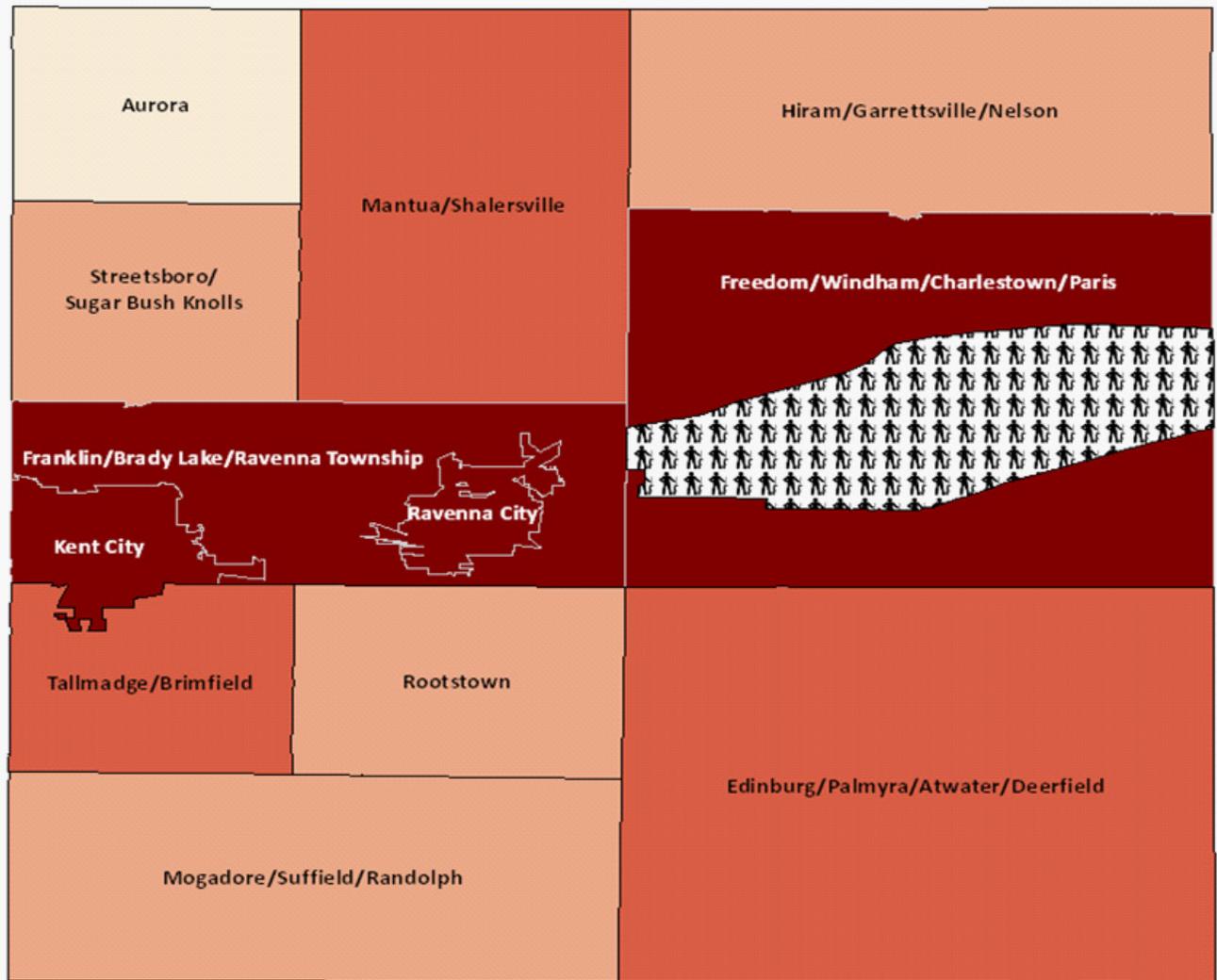
Figure 28A: Percent of Births by Payer Source, Portage County, 2006-2010



¹Ohio Department of Health. (2009). *Ohio Medicaid 2009: Report on mothers, infants and children: Perinatal experience*. Retrieved from <http://jfs.ohio.gov/ohp/bhpp/reports/mic2009.pdf>.

²Ohio Pregnancy Risk Assessment Monitoring System, Ohio Department of Health. (2011). *Ohio PRAMS fact sheet: Prenatal care in Ohio fact sheet, 2007-2009*. Retrieved from <http://www.odh.ohio.gov/~media/ODH/ASSETS/Files/prams%20-%20pregnancy%20risk%20assessment%20monitoring%20program/prenatalcarefs.ashx>.

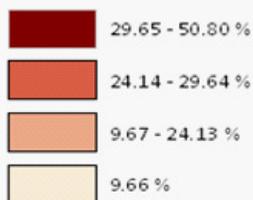
Figure 28B: Percent of Births Paid by Medicaid by County Cluster, Portage County, 2006-2010



Ravenna Arsenal

Data source: 2006-2010 Ohio birth certificate files

Portage County Clusters



29 | Births to Women Who are Overweight/Obese

Significance

Preconception health strongly influences birth outcomes and child health. Pre-pregnancy weight is strongly related to the weight that the mother gains throughout pregnancy. According to the Centers for Disease Control and Prevention, approximately 60% of women enter pregnancy above a normal weight.¹ Women that are overweight (with a body mass index, or BMI, between 26 and 29) or obese (with a BMI of 30 or greater) prior to pregnancy have an increased risk for pregnancy related morbidities such as heart disease, type 2 diabetes, and certain cancers.² Increasing the proportion of women delivering a live birth who had a healthy weight prior to pregnancy is a public health objective, as it is outlined by Healthy People 2020 with a national target of 53.4%.³

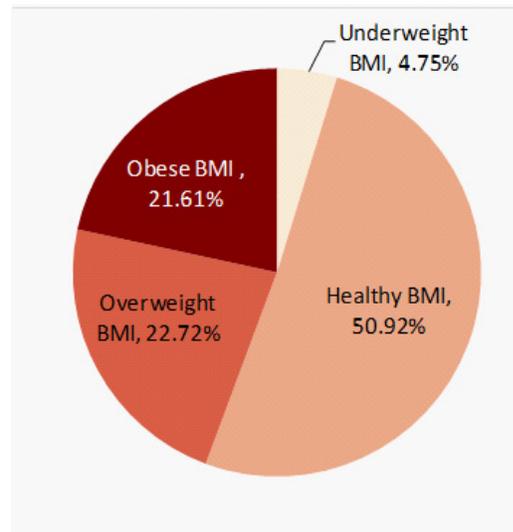
Definition

This indicator measures the percent of live births to mothers that were residents of Portage County who were either overweight or obese prior to pregnancy. Overweight mothers included those with a pre-pregnancy BMI between 26 and 29 and obese mothers included those with a pre-pregnancy BMI of 30 or greater. The data were obtained from the Ohio birth certificate data files for 2006-2010. Please see the Methods section of this report for additional information regarding the collection of data elements for Ohio birth certificate data.

Discussion

Of the 7,900 live births to mothers that were residents of Portage County from 2006-2010, 7,349 (93.03%) had a known maternal pre-pregnancy BMI. Of those, 44.33% of infants were born to mothers with either an overweight (22.72%) or an obese (21.61%) BMI prior to pregnancy (Figure 29A), which is lower than the percent among Ohio residents (47.37%). When stratified by county cluster, Edinburg/Palmyra/Atwater/Deerfield had the highest percent of all live births to overweight or obese mothers at 52.14%; whereas, Aurora had the lowest at 34.68% (Figure 29B).

Figure 29A: Percent of Births by Maternal Pre-Pregnancy BMI, Portage County, 2006-2010

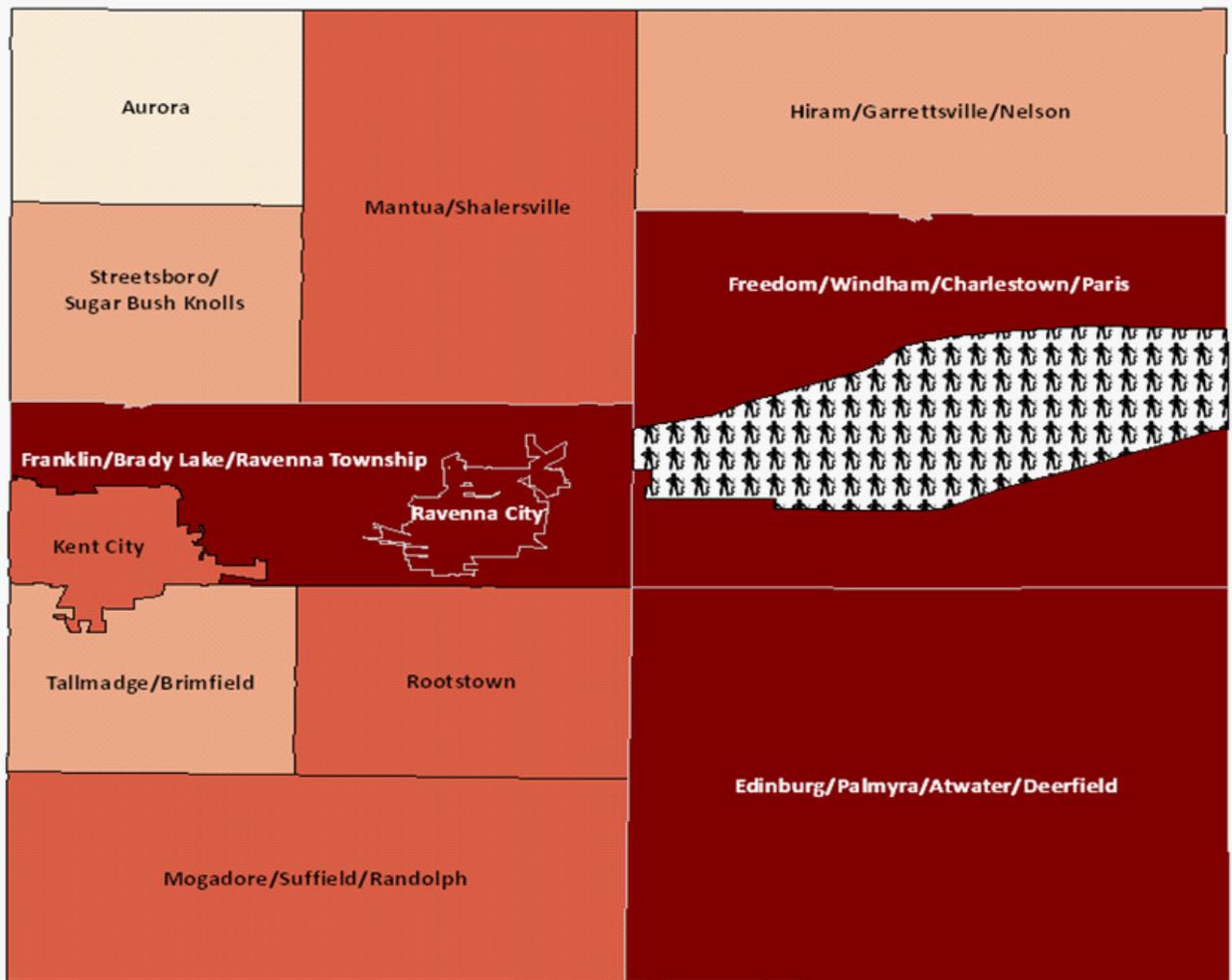


¹Centers for Disease Control and Prevention. (2013, February 5). *Reproductive health: Pregnancy complications*. Retrieved from <http://www.cdc.gov/reproductivehealth/MaternalInfantHealth/PregComplications.htm>.

²Obesity Education Initiative. (2004). *Clinical guidelines on the identification, evaluation, and treatment of overweight and obesity in adults*. Bethesda, MD: National Heart, Lung, and Blood Institute.

³US Department of Health and Human Services. (2013, April 24) *Healthy People 2020 maternal, infant, and child health: Objectives*. Retrieved from <http://www.healthypeople.gov/2020/topicsobjectives2020/objectiveslist.aspx?topicId=26>.

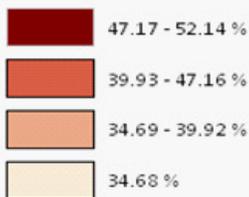
Figure 29B: Percent of Births to Women with an Overweight/Obese Pre-Pregnancy BMI by County Cluster, Portage County, 2006-2010



Ravenna Arsenal

Data source: 2006-2010 Ohio birth certificate files

Portage County Clusters



30 | Births to Women with Excessive Gestational Weight Gain

Significance

Maternal nutrition can positively influence overall maternal health, as well as the delivery and well-being of the infant. As recommended by the Institute of Medicine (IOM), appropriate weight gain during pregnancy is necessary to ensure proper nourishment for the developing baby and positive birth outcomes.¹ Greater than recommended, or excessive, weight gain is defined as weight gain that exceeds the upper limit of that recommended by IOM for each pre-pregnancy BMI category¹ (see the sidebar at right for the latest IOM recommendations). Encouraging mothers to achieve a healthy weight gain during their pregnancy is a public health priority. Thus, Healthy People 2020 has outlined an objective aimed at reducing the proportion of mothers with excessive gestational weight gain during their pregnancies.²

Institute of Medicine Recommendations for Total Weight Gain During Pregnancy for a Singleton Birth by Maternal Pre-Pregnancy Body Mass Index (BMI) Category ¹	
Pre-Pregnancy BMI Category	Recommended Weight Gain
Underweight (< 18.5 kg/m ²)	28 to 40 lbs
Normal Weight (18.5–24.9 kg/m ²)	25 to 35 lbs
Overweight (25.0–29.9 kg/m ²)	15 to 25 lbs
Obese (≥ 30.0 kg/m ²)	11 to 20 lbs

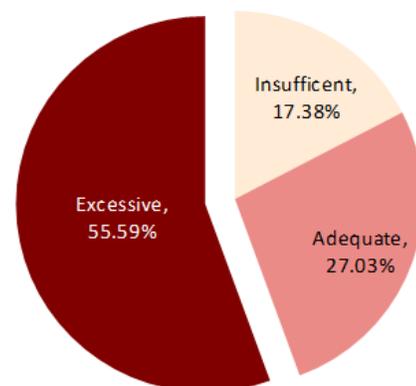
Definition

This indicator measures the percent of births to mothers that were residents of Portage County who gained more weight than was recommended during their pregnancy according to their pre-pregnancy body mass index (BMI) and plurality (i.e., singleton birth or multiple birth). The sidebar above outlines the ranges of recommended weight gain by maternal pre-pregnancy BMI category for a singleton birth. The data were obtained from the Ohio birth certificate data files for 2006-2010. Please see the Methods section of this report for additional information regarding the collection of data elements for Ohio birth certificate data.

Discussion

Of the 7,900 live births to mothers that were residents of Portage County from 2006-2010, 5,512 (69.77%) had complete data on maternal gestational weight gain. Of those, 55.59% of infants were born to mothers with excessive gestational weight gain (Figure 30A), which was higher than the percent among Ohio residents (50.36%). As depicted in Figure 30B, Ravenna City had the highest percent of all live births to mothers with excessive gestational weight gain (60.47%), followed closely by the county clusters of Freedom/Windham/Charlestown/Paris (58.69%), Edinburg/Palmyra/Atwater/Deerfield (58.07%), and Mogadore/Suffield/Randolph (58.05%).

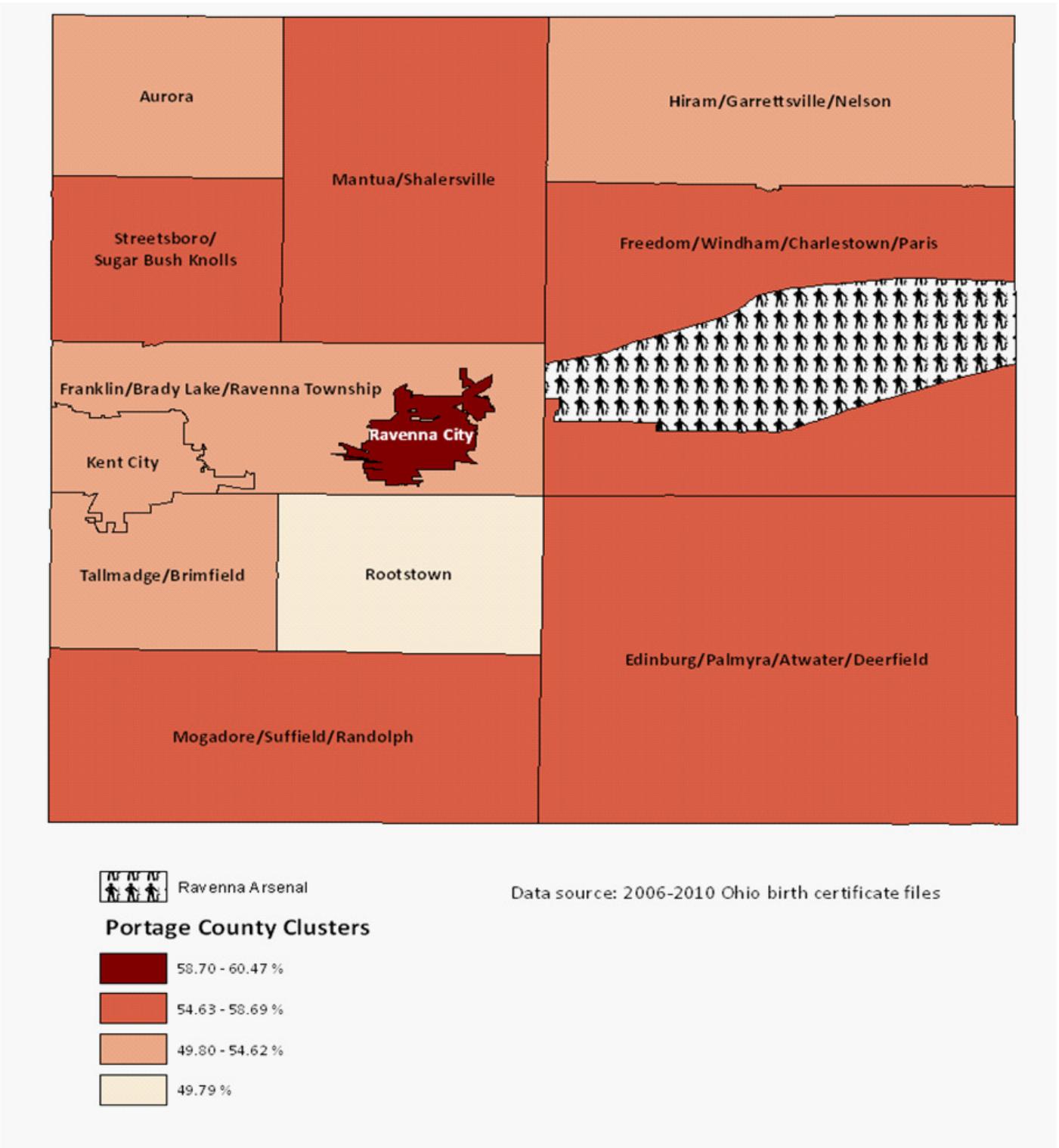
Figure 30A: Percent of Births by Maternal Gestational Weight Gain, Portage County, 2006-2010



¹Rasmussen, KM & Yaktine, AL. (2009). *Weight gain during pregnancy: Reexamining the guidelines*. Washington, DC: The National Academies Press.

²US Department of Health and Human Services. (2013, April 24). *Healthy People 2020 maternal, infant, and child health: Objectives*. Retrieved from <http://www.healthypeople.gov/2020/topicsobjectives2020/objectiveslist.aspx?topicId=26>.

Figure 30B: Percent of Births to Women with Excessive Gestational Weight Gain by County Cluster, Portage County, 2006-2010



31 | Births to Women Not Receiving 1st Trimester Prenatal Care

Significance

Prenatal care is necessary to monitor the health of both the mother and her infant throughout pregnancy, as well as to prevent potential problems that could result in negative birth outcomes. Prenatal care in the first trimester (i.e., first to third month of pregnancy) is associated with positive birth outcomes, such as a decreased risk of prematurity and low birth weight.¹ An increase in the proportion of pregnant women who receive prenatal care beginning in the first trimester is a public health objective set forth by Healthy People 2020.² The objective is aimed at reducing the proportion of pregnant women not receiving prenatal care in the first trimester to less than 22.1% of mothers of live births.

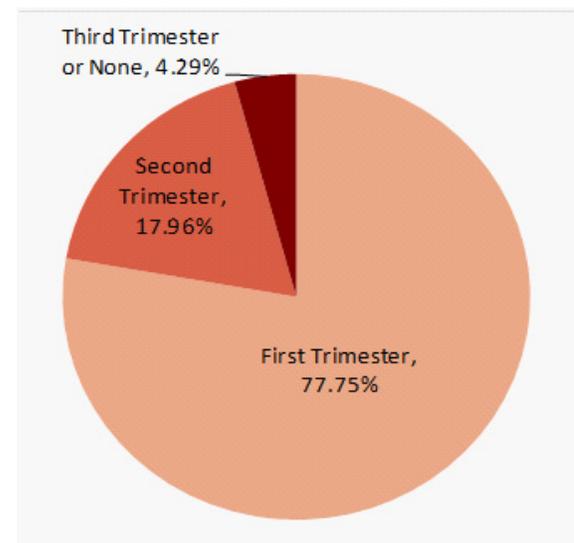
Definition

This indicator measures the percent of live births to mothers that were residents of Portage County who did not receive prenatal care beginning in their first trimester (i.e., within the first three months of pregnancy). The data were obtained from the Ohio birth certificate data files for 2006-2010. Please see the Methods section of this report for additional information regarding the collection of data elements for Ohio birth certificate data.

Discussion

Of the 7,900 live births to mothers that were residents of Portage County from 2006-2010, 7,327 (92.75%) had documented data on the pregnancy month of initiation into prenatal care. Among those, 22.25% did not receive prenatal care in the first trimester (Figure 31A), which was lower than the percent among all Ohio residents (28.58%). When stratified by county cluster (Figure 31B), Hiram/Garrettsville/Nelson (32.54%) had the highest percent of live births to mothers not receiving prenatal care in the first trimester, followed by the city of Kent (25.73%), Freedom/Windham/Charlestown/Paris (25.68%), Edinburg/Palmyra/Atwater/Deerfield (23.11%), and the city of Ravenna (22.25%), respectively. Further, all of the aforementioned county clusters did not meet the Healthy People 2020 target of less than 22.1% of mothers not receiving first trimester prenatal care.

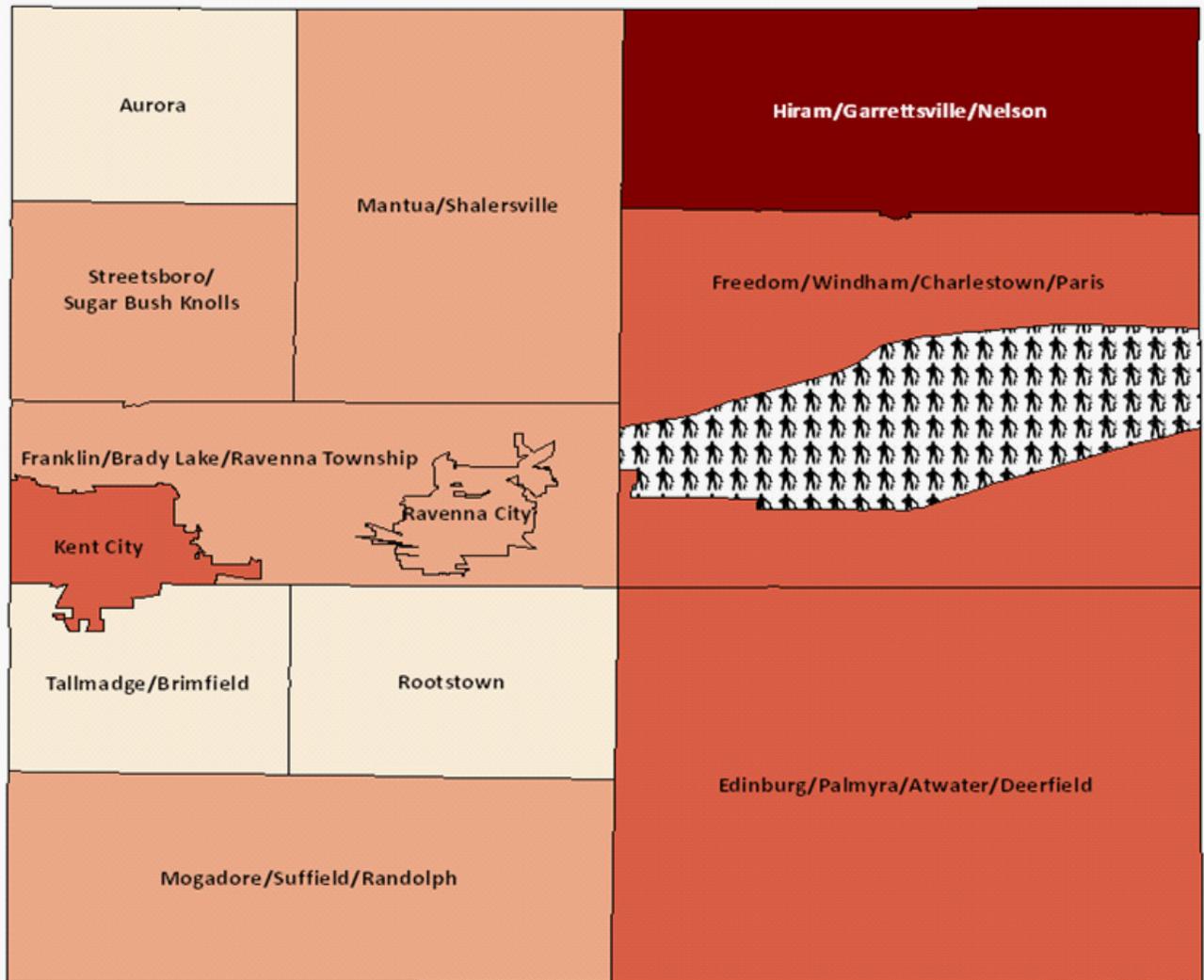
Figure 31A: Percent of Births by Initiation of Maternal Prenatal Care, Portage County, 2006-2010



¹US Department of Health and Human Services, Health Resources and Services Administration. (n.d.). *Prenatal-first trimester care access*. Retrieved from <http://www.hrsa.gov/quality/toolbox/measures/prenatalfirsttrimester/index.html>.

²US Department of Health and Human Services. (2013, April 24) *Healthy People 2020 maternal, infant, and child health: Objectives*. Retrieved from <http://www.healthypeople.gov/2020/topicsobjectives2020/objectiveslist.aspx?topicId=26>.

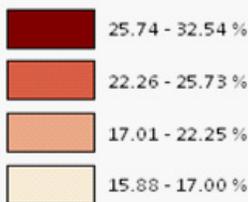
Figure 31B: Percent of Births to Women Not Receiving 1st Trimester Prenatal Care by County Cluster, Portage County, 2006-2010



Ravenna Arsenal

Data source: 2006-2010 Ohio birth certificate files

Portage County Clusters



32 | Births to Women Not Receiving Adequate Prenatal Care

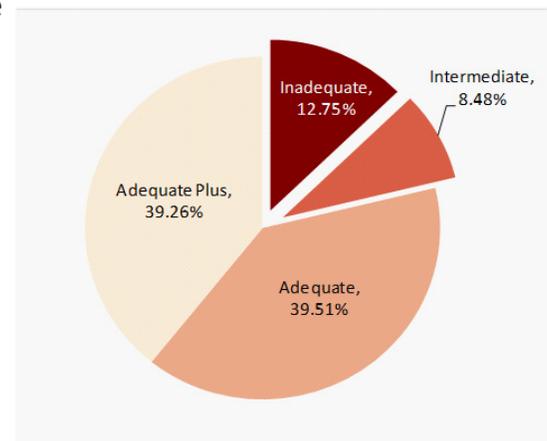
Significance

Recommendations to decrease adverse birth outcomes stress the importance of receiving both early and adequate prenatal care, since not all women who initiate early into prenatal care also receive adequate prenatal care. Moreover, early and adequate prenatal care has an important role in ensuring the reduction of maternal and infant morbidity and mortality.¹ According to the Adequacy of Prenatal Care Utilization (APNCU) index, a widely recognized index for the measurement of the adequacy of prenatal care, such care is considered adequate if it meets two criteria: 1) there is adequacy of initiation, meaning prenatal care is initiated by the fourth month of pregnancy (or 14 weeks gestation) and 2) there is adequacy of received services, meaning at least 80% of the number of visits recommended by the American College of Obstetricians and Gynecologists (ACOG) for an uncomplicated pregnancy are received² (see the next page for a depiction of adequacy of initiation by adequacy of received services). In other words, the APNCU category can be determined by knowing the pregnancy month in which prenatal care was initiated, the number of prenatal care visits received, and the number of visits recommended by ACOG based on gestation (an example for women beginning care by six weeks gestation is depicted in the sidebar at bottom right). The current Healthy People 2020 target concerning adequacy of prenatal care has documented a national target of less than 22.4% of pregnant females not receiving early and adequate prenatal care.³

Definition

This indicator measures the percent of live births to mothers that were residents of Portage County who did not receive adequate prenatal care (i.e., mothers who received intermediate or inadequate prenatal care according to the Adequacy of Prenatal Care Utilization, or APNCU, index). The APNCU index, created by Milton Kotelchuck², uses the month of prenatal care initiation, the number of prenatal care visits, and the weeks of gestation to characterize adequacy of pregnancy-related health services into one of the following four categories: 1) inadequate, 2) intermediate, 3) adequate, or 4) adequate plus (see the Significance section for this indicator and the sidebar on the previous page for a more detailed description on the calculation the APNCU index). The data were obtained from the Ohio birth certificate data files for 2006-2010. Please see the Methods section of this report for additional information regarding the collection of data elements for Ohio birth certificate data.

Figure 32A: Percent of Births by Adequacy of Maternal Prenatal Care, Portage County, 2006-2010



¹Ohio Pregnancy Risk Assessment Monitoring System, Ohio Department of Health. (2011). *Ohio PRAMS fact sheet: Prenatal care in Ohio fact sheet, 2007-2009*. Retrieved from <http://www.odh.ohio.gov/~media/ODH/ASSETS/Files/prams%20-%20pregnancy%20risk%20assessment%20monitoring%20program/prenatalcarefs.ashx>.

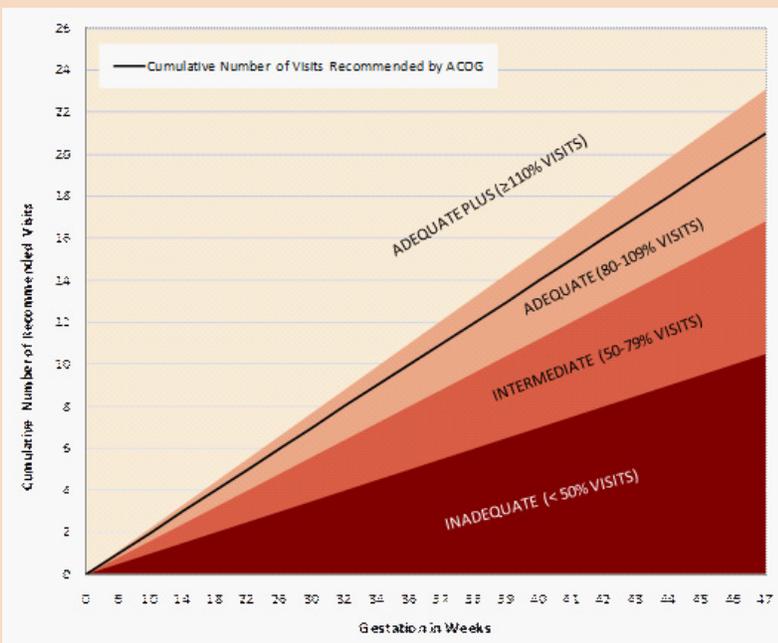
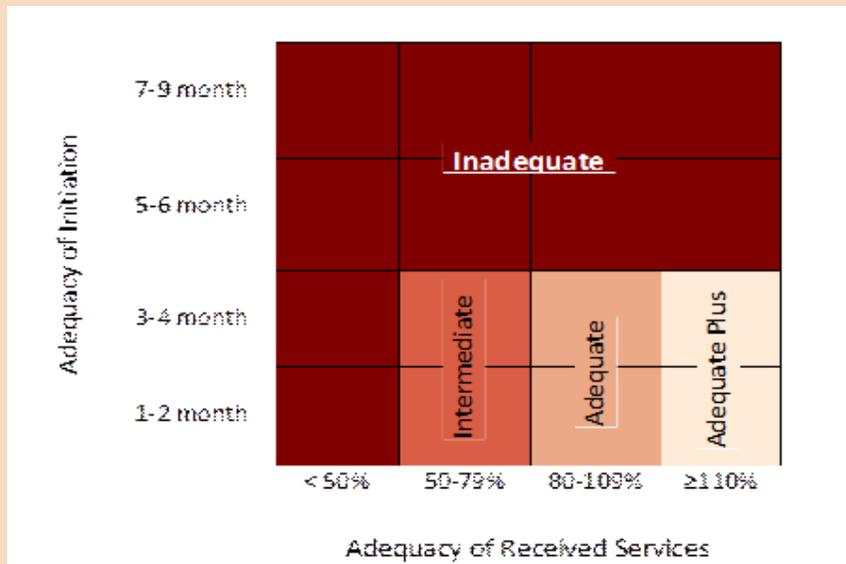
²Kotelchuck, M. (1994). An evaluation of the Kessner Adequacy of Prenatal Care Index and a proposed Adequacy of Prenatal Care Utilization Index. *American Journal of Public Health, 84*(9) 1414-1420.

³US Department of Health and Human Services. (2013, April 24) *Healthy People 2020 maternal, infant and child health: Objectives*. Retrieved from <http://www.healthypeople.gov/2020/topicsobjectives2020/objectiveslist.aspx?topicId=26>.

Discussion

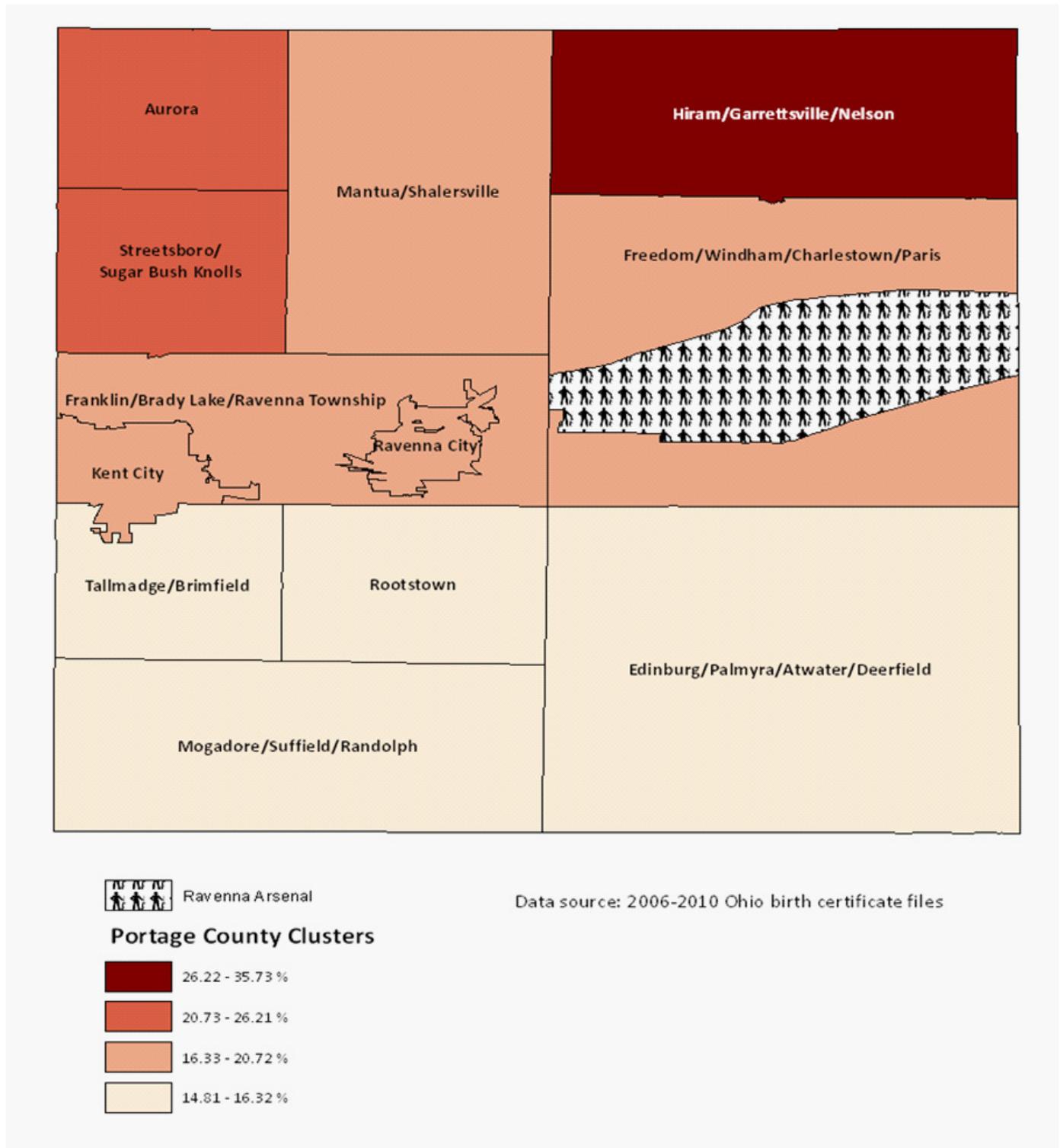
Of the 7,900 live births to mothers that were residents of Portage County from 2006-2010, 7,135 (90.32%) had complete data required to calculate the adequacy of maternal prenatal care. Among those, 21.23% were births to mothers who did not receive adequate or adequate plus prenatal care (Figure 32A), which was considerably lower than the percent among all Ohio residents (30.88%). As depicted in Figure 32B, the county cluster of Hiram/Garrettsville/Nelson had the highest percent of births to mothers not receiving early and adequate prenatal care (35.73%), while Mogadore/Suffield/Randolph had the lowest at 14.81%.

Summary of the Adequacy of Prenatal Care Utilization (APNCU) Index²



Number of Recommended Prenatal Care Visits and APNCU Category² by Gestation for Women Initiating Prenatal Care by 6 Weeks Gestation*

Figure 32B: Percent of Births to Women Not Receiving Early and Adequate Prenatal Care by County Cluster, Portage County, 2006-2010





33 | Births to Women Who Smoked During Pregnancy

Significance

It is widely known that maternal smoking during any period of pregnancy adversely affects the health and development of the unborn child. Research shows that compared to women who do not smoke, women who smoke are less likely to achieve the recommended gestational weight gain, which puts their infants at a higher risk for prematurity and low birth weight.¹ Further, the health consequences attributed to maternal smoking are associated with a considerable financial burden to the mother, the child, and society at large.² An increase in abstinence from cigarette smoking among pregnant women is an objective set forth by Healthy People 2020, with a national target of 98.6% of women abstaining from smoking during pregnancy. Therefore, a reduction in this behavior is a public health priority with a target of less than 1.5% mothers of live born infants not abstaining from cigarettes during pregnancy.³

Definition

This indicator measures the percent of live births to mothers who reported smoking during any trimester of pregnancy. Mothers who smoked included those who self-identified on the birth certificate paperwork that they smoked one or more cigarettes per day during the 1st, 2nd, and 3rd trimesters of their pregnancies. The data were obtained from the Ohio birth certificate data files for 2006-2010. Please see the Methods section of this report for additional information regarding the collection of data elements for Ohio birth certificate data.

Discussion

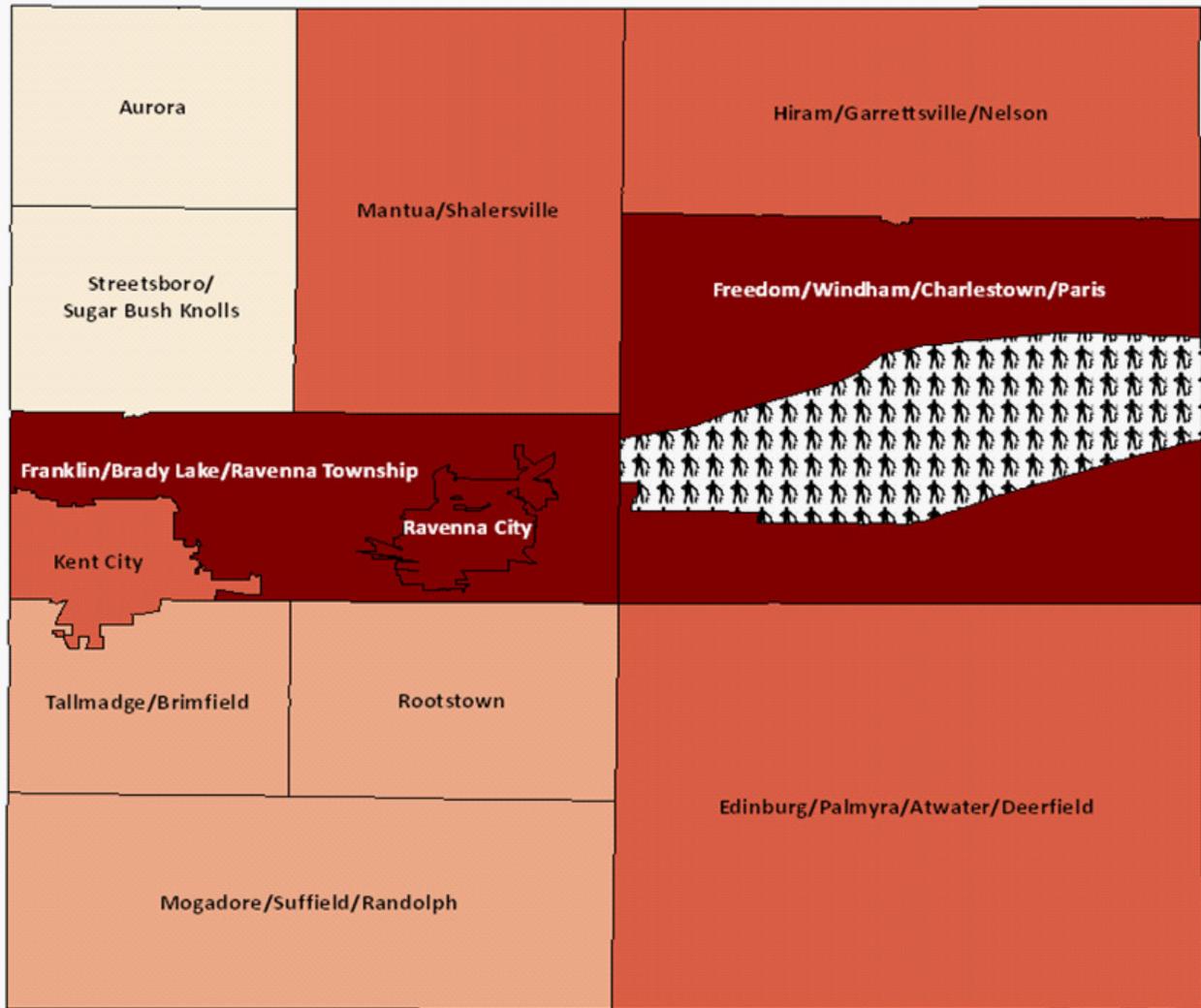
Of the 7,900 live births to mothers that were residents of Portage County from 2006-2010, 7,871 (99.63%) had a known maternal smoking status. Among those, 21.83% were births to mother who smoked during pregnancy, which was higher than the percent among all residents of Ohio (19.08%). By county cluster, Franklin/Brady Lake/Ravenna Township (31.60%), Freedom/ Windham/ Charlestown /Paris (30.98%) and Ravenna City (30.63%) had the highest percent of maternal smoking among live births (Figure 33A).

¹United States Department of Health and Human Services, Centers for Disease Control and Prevention, Center for Chronic Disease Prevention and Health Promotion, Division of Nutrition and Physical Activity. (2009, November 4). *Birth outcome and risk factor analysis*. Retrieved from http://www.cdc.gov/pednss/how_to/read_a_data_table/prevalence_tables/birth_outcome.htm.

²Association of Maternal and Child Health Programs. (n.d.) The power of prevention for mothers and children: *The cost effectiveness of maternal and child health interventions*. Retrieved from <http://www.amchp.org/Policy-Advocacy/health-reform/Documents/powerofprevention.pdf>.

³US Department of Health and Human Services. (2013, April 24) *Healthy People 2020 maternal, infant and child health: Objectives*. Retrieved from <http://www.healthypeople.gov/2020/topicsobjectives2020/objectiveslist.aspx?topicId=26>.

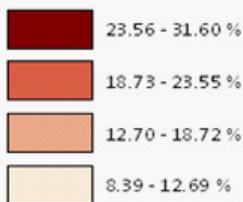
Figure 33A: Percent of Births to Women Who Smoked During Any Trimester of Pregnancy by County Cluster, Portage County, 2006-2010



Ravenna Arsenal

Data source: 2006-2010 Ohio birth certificate files

Portage County Clusters



34 | Births to Women with Diabetes

Significance

Diabetes is commonly diagnosed in women during their childbearing years, which can lead to adverse health outcomes for both the women and their unborn infants. Although some women with diabetes deliver healthy babies, uncontrolled blood sugar in women with pre-pregnancy diabetes increases the risk for negative births outcomes.¹ Gestational diabetes is a type of diabetes that is first seen in women during pregnancy. Uncontrolled gestational diabetes can cause high blood pressure, high birth weight infants, and complications during delivery. Of all pregnant women, 2%-10% develop gestational diabetes and an estimated 15%-50% of women develop diabetes in the years to follow.²

Definition

This indicator measures the percent of live births to mothers with either pre-pregnancy diabetes or gestational diabetes (i.e., diabetes that developed during pregnancy). The data were obtained from the Ohio birth certificate data files for 2006-2010. Please see the Methods section of this report for additional information regarding the collection of data elements for Ohio birth certificate data.

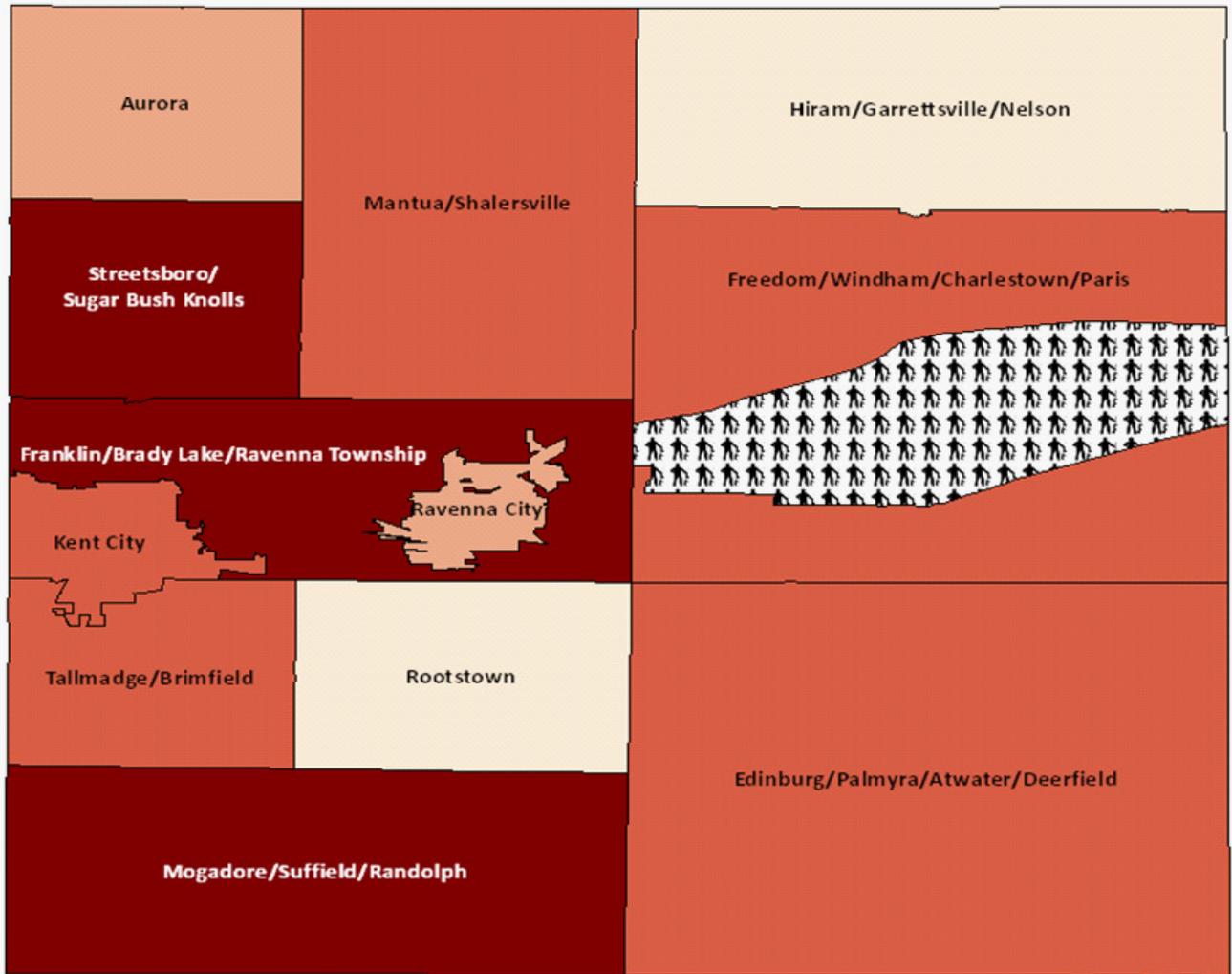
Discussion

Of the 7,900 live births to mothers that were residents of Portage County from 2006-2010, 7,636 (96.66%) had a known maternal diabetes status. Among those, 5.28% of births were to mothers with pre-pregnancy diabetes (0.64%) or gestational diabetes (4.64%), which was lower than the percent among all Ohio births (5.97%). As shown in Figure 34A, Portage County clusters with the greatest percent of births to mothers with diabetes included Franklin/Brady Lake/ Ravenna Township (6.42%), Streetsboro/Sugar Bush Knolls (6.09%), and Mogadore/Suffield/Randolph (6.07%).

¹Centers for Disease Control and Prevention. (2012, October 5). *Pregnancy: Type 1 or type 2 diabetes and pregnancy*. Retrieved from <http://www.cdc.gov/pregnancy/diabetes-types.html>.

²Centers for Disease Control and Prevention. (2010, June 7). *Pregnancy: Gestational diabetes and pregnancy*. Retrieved from <http://www.cdc.gov/pregnancy/diabetes-gestational.html>.

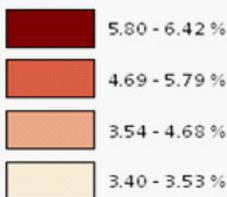
Figure 34A: Percent of Births to Women with Pre-Pregnancy or Gestational Diabetes by County Cluster, Portage County, 2006-2010



Ravenna Arsenal

Data source: 2006-2010 Ohio birth certificate files

Portage County Clusters



35 | Births to Women with Hypertension

Significance

Uncontrolled hypertension (i.e., high blood pressure), whether it occurs before or after conception, is a frequent health problem of pregnancy. Although many women with high blood pressure deliver healthy babies, high blood pressure during pregnancy can pose various risks for both the mother and her unborn infant. High blood pressure occurs in 6%-8% of all pregnancies, with approximately 70% of all cases starting during pregnancy (i.e., gestational hypertension).¹ Preventative measures such as obtaining early prenatal care, avoiding tobacco products, and abstaining from alcoholic beverages should be taken to lower the risks associated with high blood pressure during pregnancy.¹

Definition

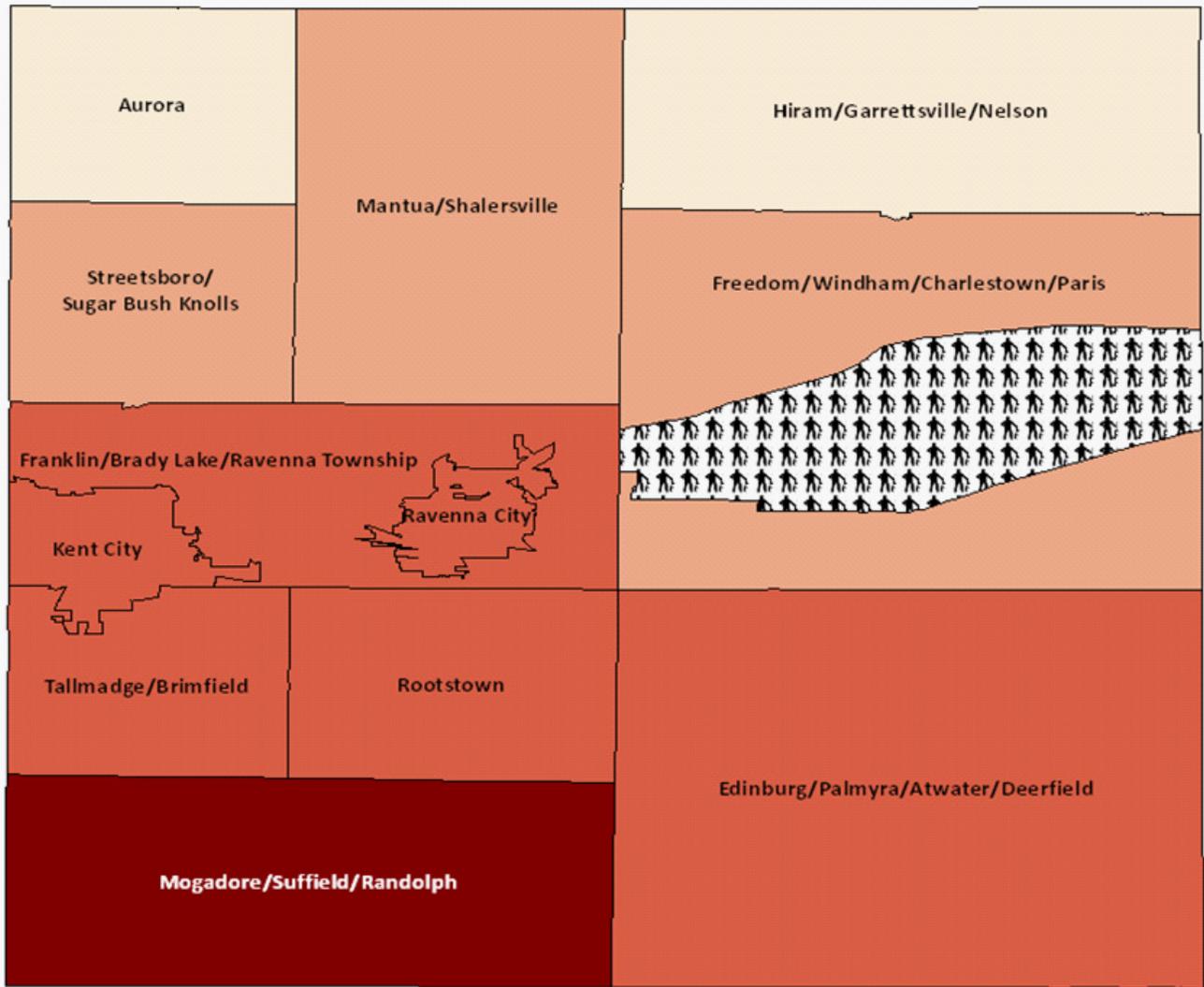
This indicator measures the percent of live births to mothers with either pre-pregnancy hypertension or gestational hypertension (i.e., high blood pressure that developed during pregnancy). The data were obtained from the Ohio birth certificate data files for 2006-2010. Please see the Methods section of this report for additional information regarding the collection of data elements for Ohio birth certificate data.

Discussion

Of the 7,900 live births to mothers that were residents of Portage County from 2006-2010, 7,640 (96.71%) had a known maternal hypertension status. Among those, a total of 5.68% of mothers had pre-pregnancy (1.52%) or gestational hypertension (4.16), which was lower than the percent among all Ohio births (6.06%). As depicted in Figure 35A, Portage County clusters with the greatest percent of births to mothers with hypertension were Mogadore/Suffield/Randolph (8.76%), followed by Tallmadge/Brimfield (6.75%). Conversely, the county cluster of Hiram/Garrettsville/Nelson had the lowest percent of births to mothers with hypertension (3.29%).

¹National Heart, Lung, and Blood Institute. (n.d.). *High blood pressure during pregnancy*. Retrieved from http://www.nhlbi.nih.gov/health/public/heart/hbp/hbp_preg.htm.

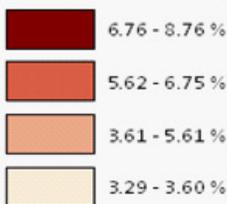
Figure 35A: Percent of Births to Women with Pre-Pregnancy or Gestational Hypertension by County Cluster, Portage County, 2006-2010



Ravenna Arsenal

Data source: 2006-2010 Ohio birth certificate files

Portage County Clusters



36 | Preterm Births

Significance

Each year, approximately one out of every nine births is born prematurely in the United States.¹ Premature births are those that are born at less than 37 weeks of gestation (a full-term birth is 40 weeks of gestation). The earlier an infant is born, the greater their risk for health complications that can significantly impact their survival.¹ The reduction of preterm births is an objective set forth by Healthy People 2020, with a national target of less than 11.4% of all live births born prematurely. The reduction of very preterm births (those born at less than 32 weeks of gestation) is also an objective outlined by Healthy People 2020, with a national target of less than 1.8% of all live births born very preterm.²

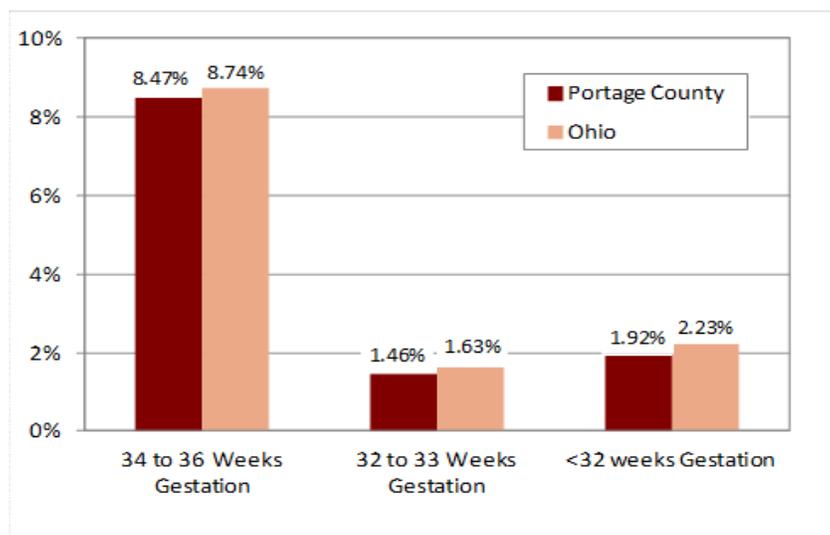
Definition

This indicator measures the percent of live births that were born preterm, as well as the percent that were born very preterm. Preterm infants included those that were born at less than 37 weeks of gestation and very preterm infants included those that were born at less than 32 weeks of gestation (note that preterm infants include very preterm infants). The data were obtained from the Ohio birth certificate data files for 2006-2010. Please see the Methods section of this report for additional information regarding the collection of data elements for Ohio birth certificate data.

Discussion

Of the 7,900 live births to mothers that were residents of Portage County from 2006-2010, 7,832 (99.14%) had a known gestational age. Among those, 11.84% of infants were born preterm and 1.92% were born very preterm (Figure 36A). Neither percentage met the respective target set forth by Healthy People 2020.¹ However, both of the percents of preterm and the very preterm for Portage County were below the percents for preterm (12.61%) and very preterm (2.23%) among all infants born to Ohio residents. As shown in Figure 36B, the only county clusters that met the Healthy People 2020 target for preterm births were Streetsboro/Sugar Bush Knolls (10.56%), Tallmadge/Brimfield (10.81%), Aurora (11.09%), and Kent City (11.24%).

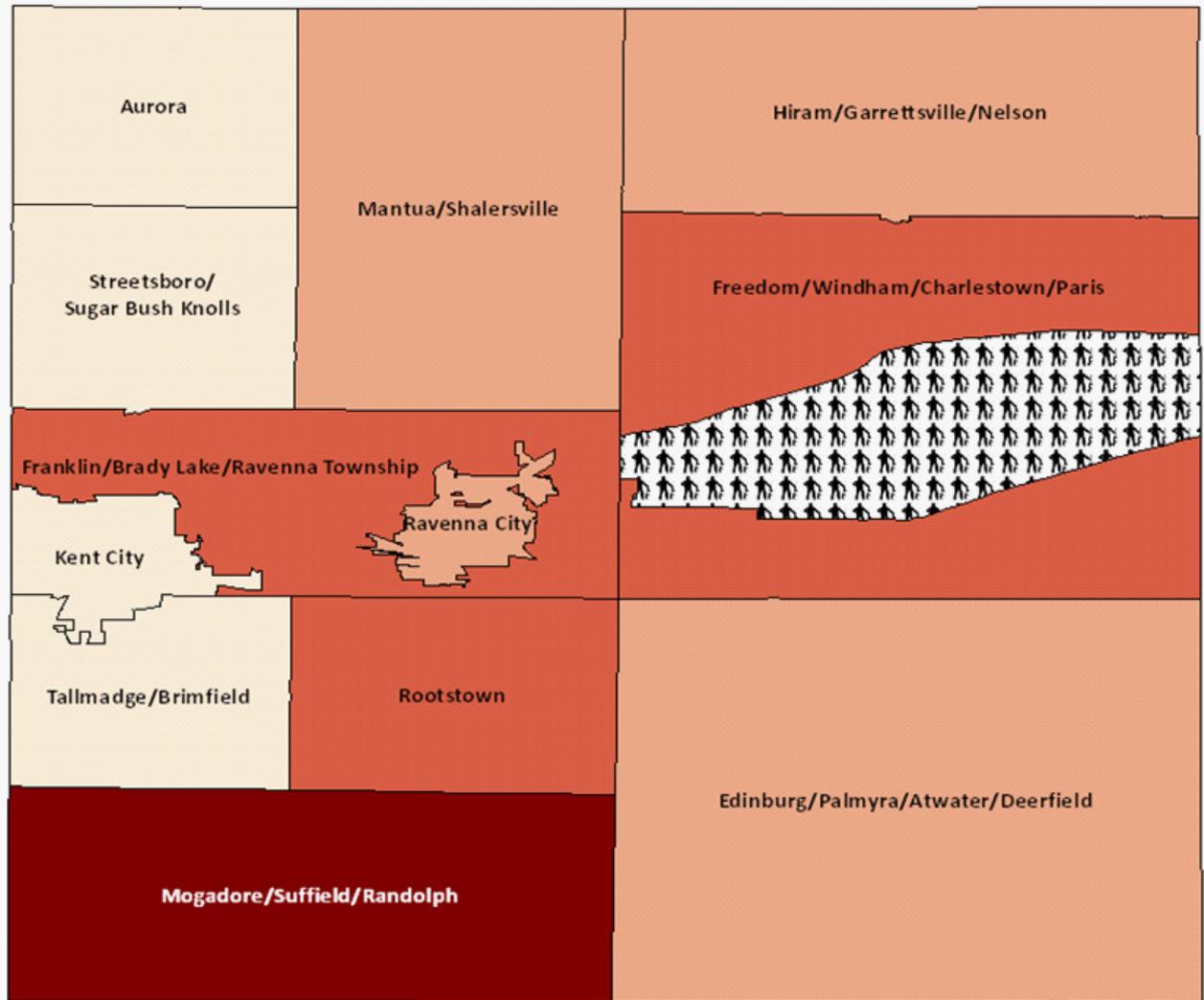
Figure 36A: Percent of Preterm Births by Gestational Age, Portage County and Ohio, 2006-2010



¹ Centers for Disease Control and Prevention. (2013, February 11). *CDC features: National prematurity awareness month*. Retrieved from <http://www.cdc.gov/features/prematurebirth/>.

² US Department of Health and Human Services. (2013, April 24). *Healthy People 2020 maternal, infant, and child health: Objectives*. Retrieved from <http://www.healthypeople.gov/2020/topicsobjectives2020/objectiveslist.aspx?topicId=26>.

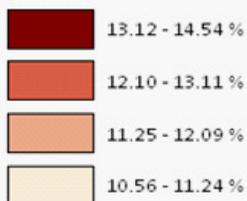
Figure 36B: Percent of Preterm Births (including very preterm births) by County Cluster, Portage County, 2006-2010



Ravenna Arsenal

Data source: 2006-2010 Ohio birth certificate files

Portage County Clusters



37 | Births with Low Birth Weight

Significance

Low birth weight infants are more likely to live with life-long disabilities or to die within the first year of life than infants of normal birth weight.¹ Low birth weight is an important predictor of an infant’s health and survival and is associated with several perinatal risk factors including: maternal smoking, poor nutrition, pre-pregnancy weight, gestational weight gain, and insufficient prenatal care.¹ The reduction of low birth weight (less than 2,500 grams) and very low birth weight (less than 1,500 grams) are public health objectives outlined by Healthy People 2020, with national targets of less than 7.8% of all live births born with low birth weight and 1.4% of all live births born with very low birth weight.²

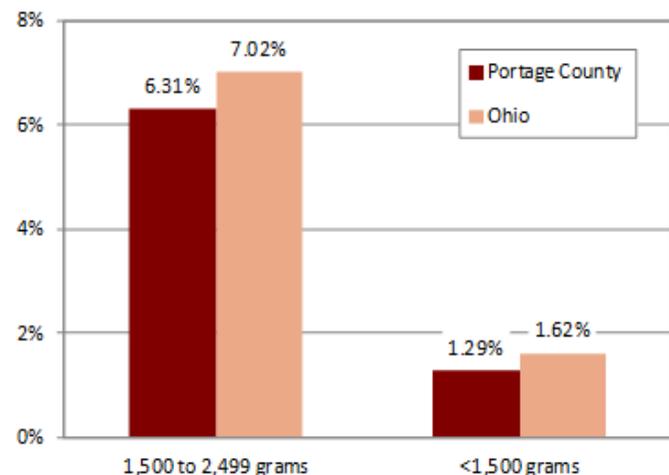
Definition

This indicator measures the percent of live births that were born with low birth weight, as well as the percent that were born with very low birth weight. Low birth weight infants included those that weighed less than 2,500 grams and very low birth weight infants included those that weighed less than 1,500 grams (note that low birth weight infants include very low birth weight infants). The data were obtained from the Ohio birth certificate data files for 2006-2010. Please see the Methods section of this report for additional information regarding the collection of data elements for Ohio birth certificate data.

Discussion

Of the 7,900 live births to mothers that were residents of Portage County from 2006-2010, all but three had a known birth weight. Among those, 7.60% of infants were born at low birth weight and 1.29% were born at very low birth weight (Figure 37A). Both percentages were below their respective targets set forth by Healthy People 2020.² Moreover, both the percent of low birth weight and very low birth weight infants born to Portage County mothers were below the percents for all Ohio residents (8.64% and 1.62%, respectively). As shown in Figure 37B, Portage County clusters above the Healthy People 2020 target for low birth weight included Freedom/Windham/Charlestown/Paris (9.28%), Rootstown (8.93%), Kent City (8.41%), Franklin/Brady Lake/Ravenna Township (8.40%), Mantua/Shalersville (8.32%), and Edinburg Palmyra/Atwater/Deerfield (7.90%).

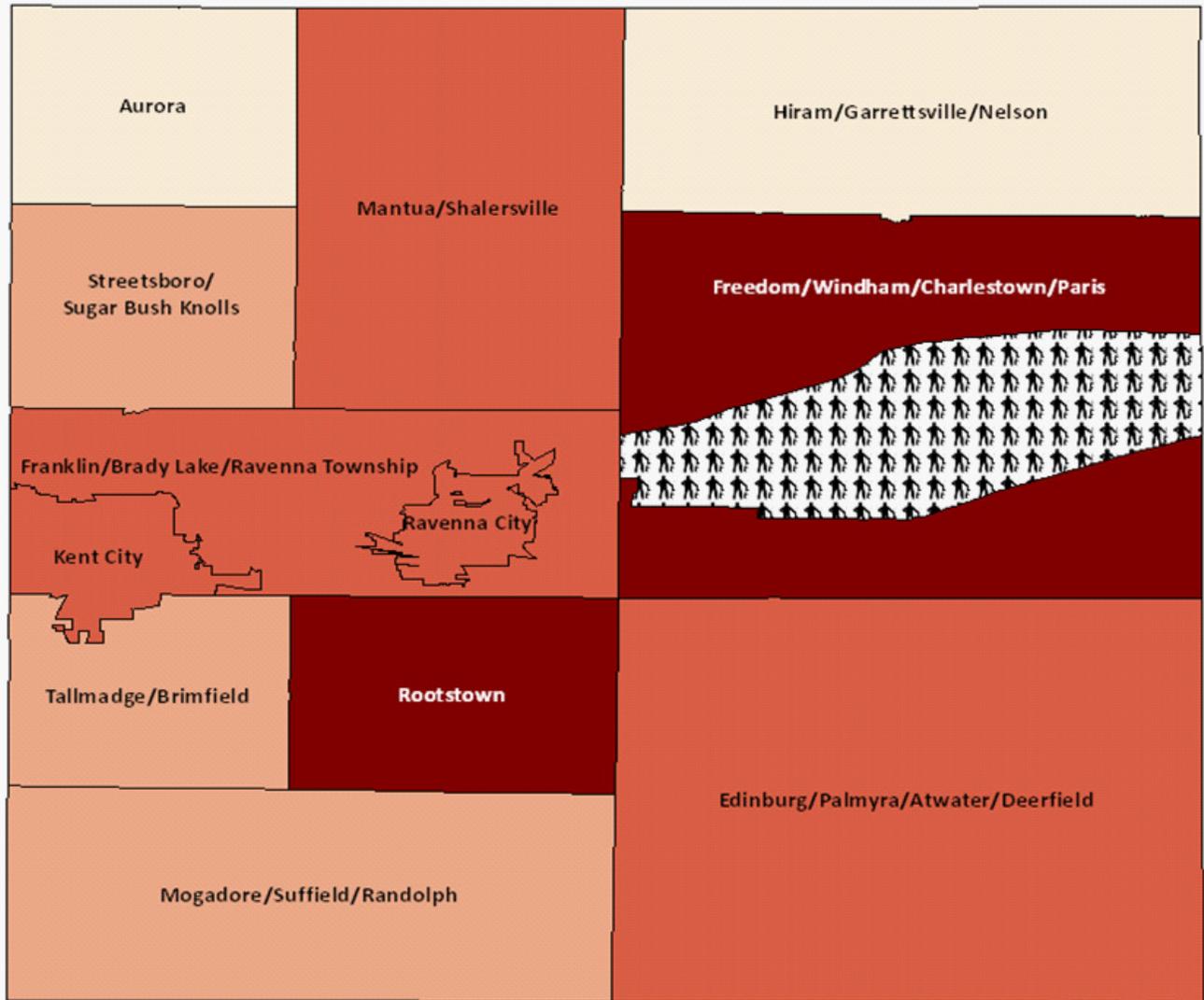
Figure 37A: Percent of Low Birth Weight Infants by Birth Weight, Portage County and Ohio, 2006-2010



¹US Department of Health and Human Services, Health Resources and Services Administration, Maternal and Child Health Bureau. (2009). *Child Health USA 2008-2009*. Retrieved from <http://mchb.hrsa.gov/publications/pdfs/childhealth200809.pdf>.

²US Department of Health and Human Services. (2013, April 24). *Healthy People 2020 maternal, infant, and child health: Objectives*. Retrieved from <http://www.healthypeople.gov/2020/topicsobjectives2020/objectiveslist.aspx?topicId=26>.

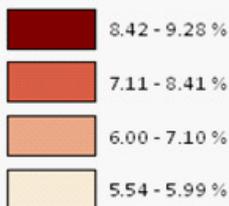
Figure 37B: Percent of Births with Low Birth Weight (including very low birth weight) by County Cluster, Portage County, 2006-2010



Ravenna Arsenal

Data source: 2006-2010 Ohio birth certificate files

Portage County Clusters



38 | Infants Not Breastfeeding at Hospital Discharge

Significance

Breastfeeding is known as one of the most effective preventative measures for the health and well-being of both the mother and her newborn infant. Breastfeeding protects the infant by decreasing the risk of sudden infant death syndrome (SIDS), infections, asthma, and obesity.^{1,2} Breastfeeding also protects the mother against certain types of cancer, such as breast and ovarian.^{1,2} According to the Centers for Disease Control and Prevention, only 23% of babies born in 2008 met the current recommendation by the American Academy of Pediatrics of continued breastfeeding until at least 12 months, which suggests that women need increased breastfeeding support.³

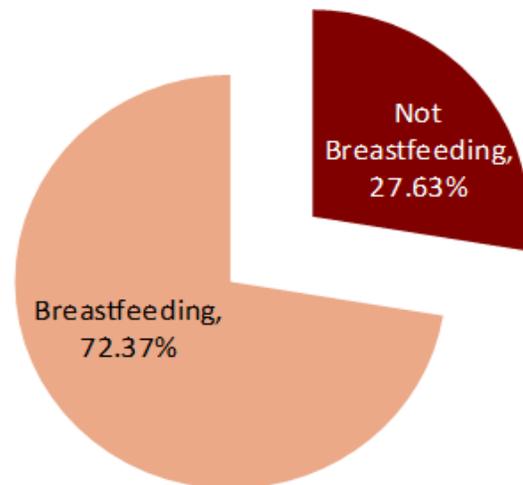
Definition

The indicator measures the percent of live births to mothers that were residents of Portage County who were not breastfeeding at hospital discharge. The data were obtained from the Ohio birth certificate data files for 2006-2010. Please see the Methods section of this report for additional information regarding the collection of data elements for Ohio birth certificate data.

Discussion

Of the 7,900 live births to mothers that were residents of Portage County from 2006-2010, 6,481 (82.04%) had known data on breastfeeding at hospital discharge. Among those, 27.63% were not breastfeeding at hospital discharge (Figure 38A), which was considerably lower than the percent among all residents of Ohio (36.16%). When stratified by county subdivision, Freedom/Windham/Charlestown/Paris had the greatest percent of infants not breastfeeding at hospital discharge (38.89%), followed by Franklin/Brady Lake/Ravenna Township at 31.52% (Figure 38B).

Figure 38A: Percent of Infants by Breastfeeding Status at Hospital Discharge, Portage County, 2006-2010



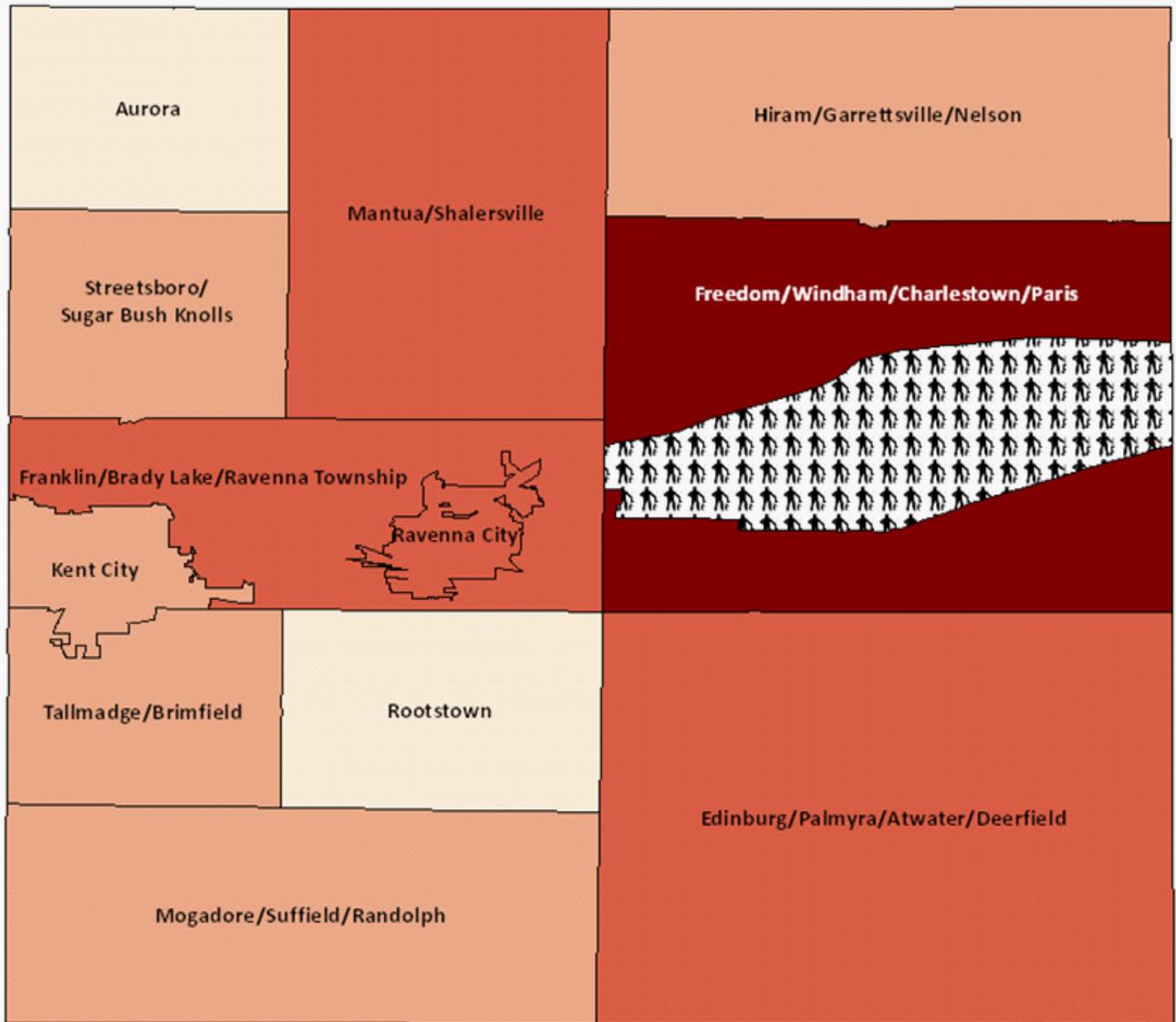
¹US Department of Health and Human Services. (2012, April 10). *Healthy People 2020 family planning: Overview*. Retrieved from <http://www.healthypeople.gov/2020/topicsobjectives2020/overview.aspx?topicid=13#nine>.

²US Department of Health and Human Services. (2010, August 4). *Breastfeeding*. Retrieved from <http://www.womenshealth.gov/breastfeeding/why-breastfeeding-is-important/>.

³Centers for Disease Control and Prevention. (2013). Progress in increasing breastfeeding and reducing racial/ethnic differences—United States, 2000-2008. *Births Morbidity and Mortality Weekly Report*, 62, 78-90.

⁴US Department of Health and Human Services. (2013, April 24). *Healthy People 2020 maternal, infant and child health: Objectives*. Retrieved from <http://www.healthypeople.gov/2020/topicsobjectives2020/objectiveslist.aspx?topicid=26>.

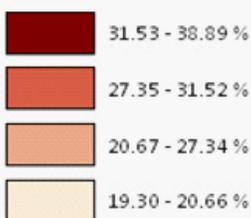
Figure 38B: Percent of Infants Not Breastfeeding at Hospital Discharge, Portage County, 2006-2010



Ravenna Arsenal

Data source: 2006-2010 Ohio birth certificate files

Portage County Clusters



39 | WIC Infants Never Breastfeeding

Significance

The Special Supplemental Nutrition Program for Women, Infants, and Children (WIC) plays an important role in improving the health of expecting and new mothers and ensuring a healthy start for their children. WIC provides supplemental foods, nutritional education and support to income-eligible pregnant, breastfeeding, and non-breastfeeding women who just delivered a baby, and children under five years of age who are at risk for inadequate or poor nutrition.¹ Services provided by WIC promote the American Academy of Pediatrics breastfeeding recommendation of exclusive breastfeeding for about 6 months² and also helps in meeting the Healthy People 2020 target of less than 39.4% of infants not breastfeeding at 6 months of age.³

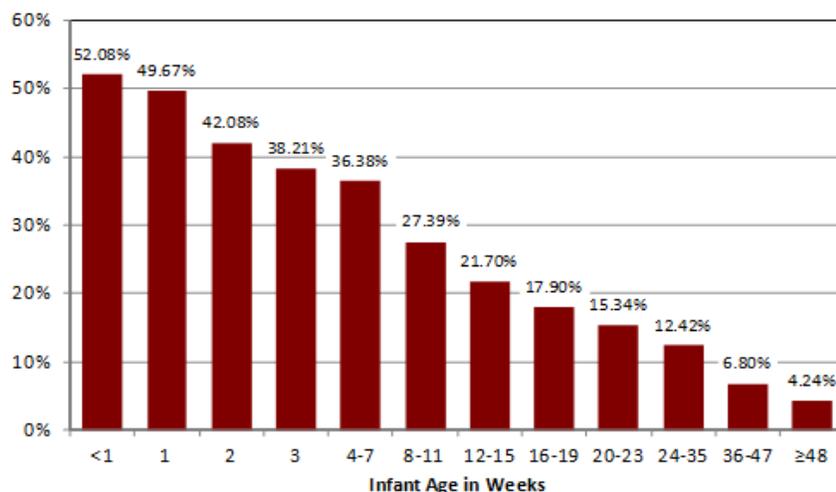
Definition

This indicator measures the percent of active Portage County Women, Infants, and Children (WIC) clients 12 to 59 months of age who were never breastfed, as well as the percent that were not breastfed at 24 weeks (six months) of age. The data were obtained from WIC enrollment and visit data housed on the WIC COGNOS system as of June 2013.

Discussion

Among all active Portage County WIC clients 12 to 59 months of age, 47.92% were never breastfed and 87.58% were not breastfeeding at 24 weeks of age (Figure 39A). In comparison to all active Ohio WIC clients 12 to 59 months of age, 50.78% were never breastfed and 86.38% were not breastfeeding at 24 weeks of age.

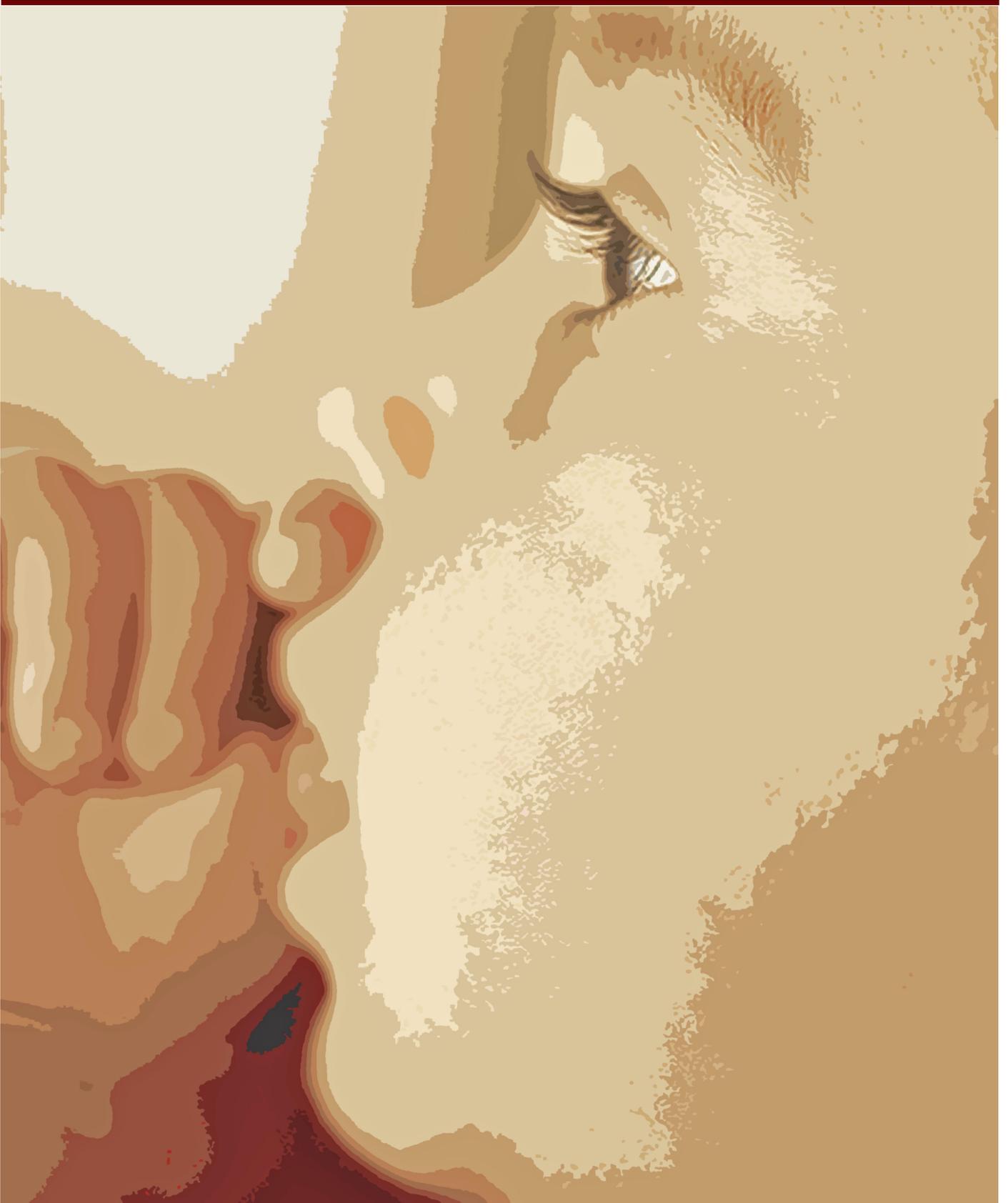
Figure 39A: Cumulative Percent of WIC Infants Still Breastfeeding by Age in Weeks, Portage County, 2006-2010

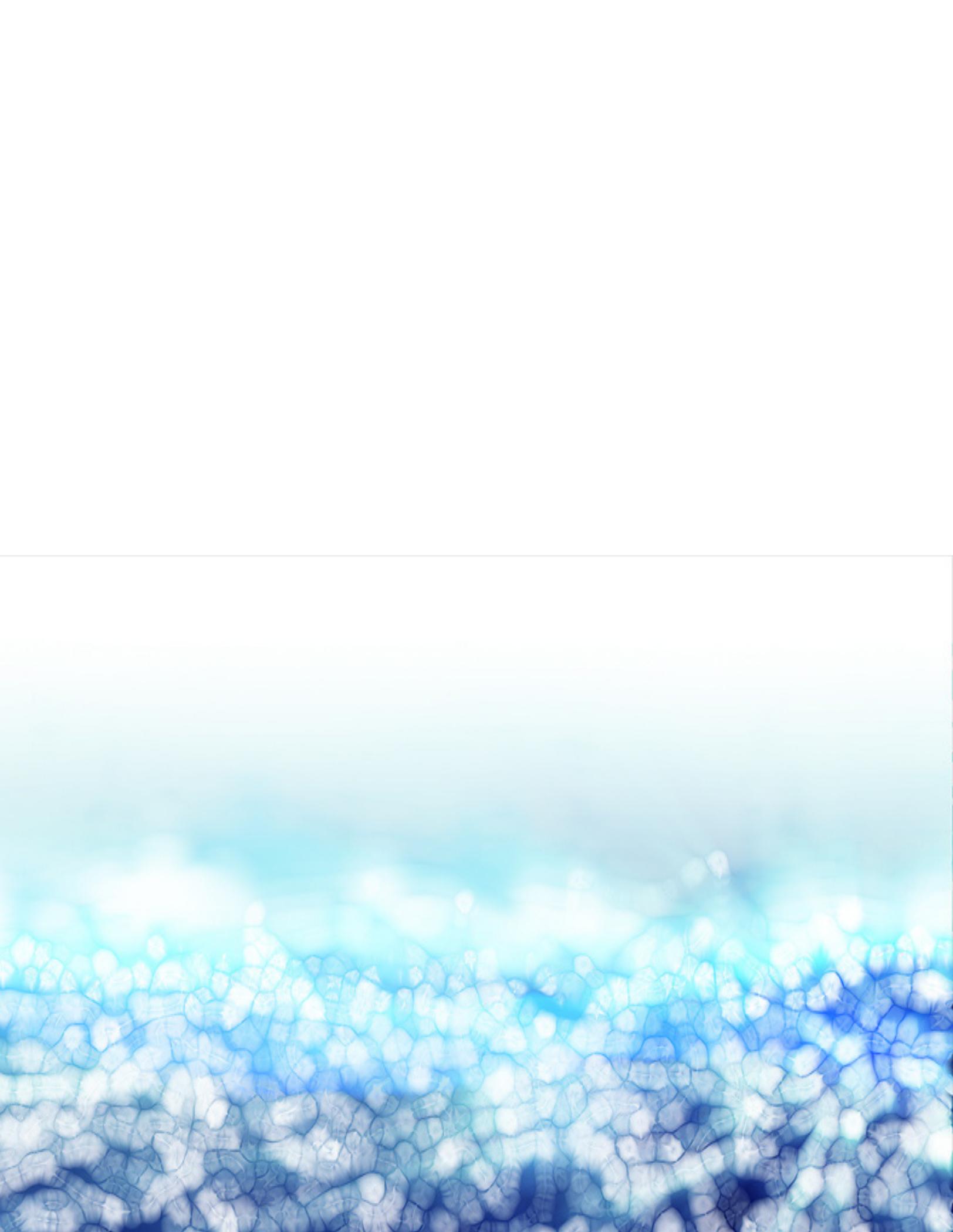


¹Ohio Department of Health.(2013, February).Women, Infants &Children (WIC). Retrieved from <http://www.odh.ohio.gov/odhprograms/ns/wic/wic1.aspx>.

²Edelman, Al, Schanler, RJ, Johnston, M, Landers, S, Noble, L, Szucs, K, &Viehmann, L. (2012).Breastfeeding and the use of human milk. *Pediatrics*, 129 (3), e827-e841.

³US Department of Health and Human Services. (2013, April 24).*Healthy People 2020 maternal, infant, and child health: Objectives*. Retrieved from <http://www.healthypeople.gov/2020/topicsobjectives2020/objectiveslist.aspx?topicid=26>.





SECTION III

Child Health



40 | Children with Lead Poisoning

Significance

Lead is a significant cause of environmental poisoning in American children. Research suggests that elevated blood lead levels in the United States are mainly due from exposure to lead-based paint chips, household dust, and contaminated soil and water surrounding older deteriorating homes.¹ Lead exposure often goes unrecognized, with no apparent symptom. Thus, the most important steps are to prevent lead exposure before it occurs.¹ Until recently, the Centers for Disease Control and Prevention's (CDC) Advisory Committee on Childhood Lead Poisoning Prevention (ACCLPP) argued that an elevated blood lead level of 10 µg/dL or above was a "blood lead level of concern".¹ ACCLPP has now disregarded this definition since research shows adverse health outcomes associated with levels below 10 µg/dL.¹ In 2012, the ACCLPP established a reference value of 5 µg/dL as the current definition of children with elevated blood lead levels (EBLLs), which is likely to result in the identification of more children at risk for EBLLs and allow for earlier public health action.^{2,3}

Definition

The indicator measures the number of children 72 months (6 years) of age and younger in Portage County that were screened for and determined to have elevated blood lead levels (EBLLs) in 2011. Children with EBLLs include those who had measured blood lead levels of 10 µg/dL or greater. The data were obtained from the Ohio Department of Health's 2011 Data and Statistics on Childhood Lead Poisoning.

Discussion

In 2011, a total of 1,495 Portage County children 72 months of age and younger were screened for EBLLs. Of those, 0.33% were determined to have EBLLs of 10 µg/dL or greater. Throughout the state of Ohio, a total of 154,880 children were screened, resulting in 1.12% with EBLLs of 10 µg/dL or greater. However, when using the new ACCLPP reference value of 5 µg/dL, 2.21% of Portage County children and 7.31% of Ohio children screened had EBLLs.

¹Centers for Disease Control and Prevention, Advisory Committee on Childhood Lead Poisoning Prevention. (2012). *Low level lead exposure harms children: A renewed call for primary prevention*. Retrieved from http://www.cdc.gov/nceh/lead/ACCLPP/Final_Document_010412.pdf.

²Centers for Disease Control and Prevention. (2012). *Blood lead levels in children*. Retrieved from http://www.cdc.gov/nceh/lead/ACCLPP/Lead_Levels_in_Children_Fact_Sheet.pdf.

³Ohio Department of Health. (2013, April). *Information for parents: Understanding your child's blood lead level*. Retrieved from http://www.odh.ohio.gov/odhprograms/cfhs/lead_ch/infoparents.aspx.

41 | Children with Untreated Dental Decay

Significance

Oral health is an integral component of a person's overall general health. It has been estimated that 19% of Ohio's children do not have dental insurance and approximately 340,000 children in Ohio have never been to a dentist.¹ Untreated tooth decay is the most common chronic disease affecting children and dental sealants help fight tooth decay by sealing molars and blocking the spread of germs and food particles.^{1,2,3} Community-based prevention programs such as water fluoridation and school-based sealant programs only address a fraction of Ohio's unmet oral health needs^{1,2}, suggesting that much progress needs to be made to improve upon Ohio's oral health care system. A reduction in the proportion of children six to nine years of age with dental caries in their primary or permanent teeth is a public health objective outlined by Healthy People 2020, with a national target of less than 49%.⁴ Also, a reduction in the proportion of children aged 6 to 9 years who are not receiving dental sealants on one or more of their permanent first molar teeth is a Healthy People 2020 objective, with a national target of less than 71.9%.⁴

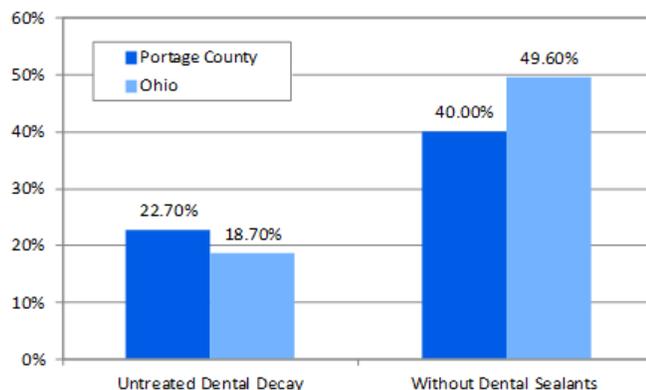
Definition

This indicator measures the percent of third grade students in Portage County with untreated dental decay, as well as the percent without dental protective sealants. The data were obtained from the Ohio Department of Health's Ohio Oral Health Surveillance System (OOHSS) analysis of data collected among third grade students during the 2009-2010 school year.

Discussion

As shown in Figure 41A, 22.70% of the third grade students residing in Portage County had untreated dental decay, which was higher than the percent among all of the Ohio students (18.70%). Further, among the third grade students residing in Portage County, 40.00% were without dental sealants, as opposed to 49.60% across the entire state of Ohio.

Figure 41A: Percent of Children with Untreated Dental Decay and Without Dental Sealants, Portage County and Ohio, 2009-2010



¹Ohio Department of Health. (2011). *Oral health isn't optional!* Retrieved from <http://www.odh.ohio.gov/~media/ODH/ASSETS/Files/health%20resources/reports/oralhealthisntoptionalreport.ashx>.

²Centers for Disease Control and Prevention. (2012). *Preventing dental caries with community programs*. Retrieved from http://www.cdc.gov/oralhealth/publications/factsheets/dental_caries.htm.

³American Academy of Pediatrics. (n.d.). *Oral health and children*. Retrieved from <http://www2.aap.org/oralhealth/index.html>.

⁴US Department of Health and Human Services. (2013, April 24). *Healthy People 2020 oral health of children and adolescents: Objectives*. Retrieved from <http://www.healthypeople.gov/2020/topicsobjectives2020/objectiveslist.aspx?topicId=32>.

42 | Children Not Up-To-Date with Immunizations

Significance

Vaccines are a critical component of public health as they prevent the spread of communicable disease from one host to another by stimulating immunity.¹ The childhood immunization schedule recommended by the Centers for Disease Control and Prevention's Advisory Committee on Immunization Practices (ACIP) prevents an estimated 20 million cases of vaccine preventable disease, 42,000 deaths, and saves 83 billion dollars in direct and societal costs.² Due to the dramatic health and financial benefits of vaccines, child vaccinations can be hailed as one of public health's major achievements of the past century. However, not all children in the United States are up-to-date with the immunization schedule recommended by ACIP, as vaccine-hesitant parents may choose to follow alternative immunization schedules or delay/reject immunizations altogether. An increase in the percentage of children aged 19 to 35 months who receive the recommended four doses of DTaP (diphtheria, tetanus, and acellular pertusis), three doses of polio, one dose of MMR (measles, mumps, and rubella), three doses of Hib (*Haemophilus influenzae* type b), three doses of hepatitis B, one dose of varicella, and four doses of pneumococcal conjugate vaccines (also known as the 4:3:1:3:3:1:4 immunization series) is a public health objective outlined by Healthy People 2020, with a national target of 80% of children up-to-date by 19 to 35 months of age.³

Definition

This indicator measures the percent of children in 2010 that were not up-to-date with the 4:3:1:3:3:1 childhood immunization series by 24 months of age, as well as the percent not up-to-date with the 4:3:1:3:3:1 childhood immunization series by 35 months of age. Children not up-to-date include those that were not fully immunized by 24 months of age with four DTaP, three polio, one MMR, three Hib, three hepatitis B, and one dose of varicella vaccine. The data were obtained from the 2010 Kindergarten Retrospective Study conducted by the Portage County Health District via grant funding from the Ohio Department of Health. Comparison data for Ohio were obtained from the 2010 Ohio Department of Health's report "Ohio Immunization Coverage Rates" utilizing data from the 2010 National Immunization Survey. As Ohio and Portage County rates were obtained from different data sources, results should be compared with caution.

Discussion

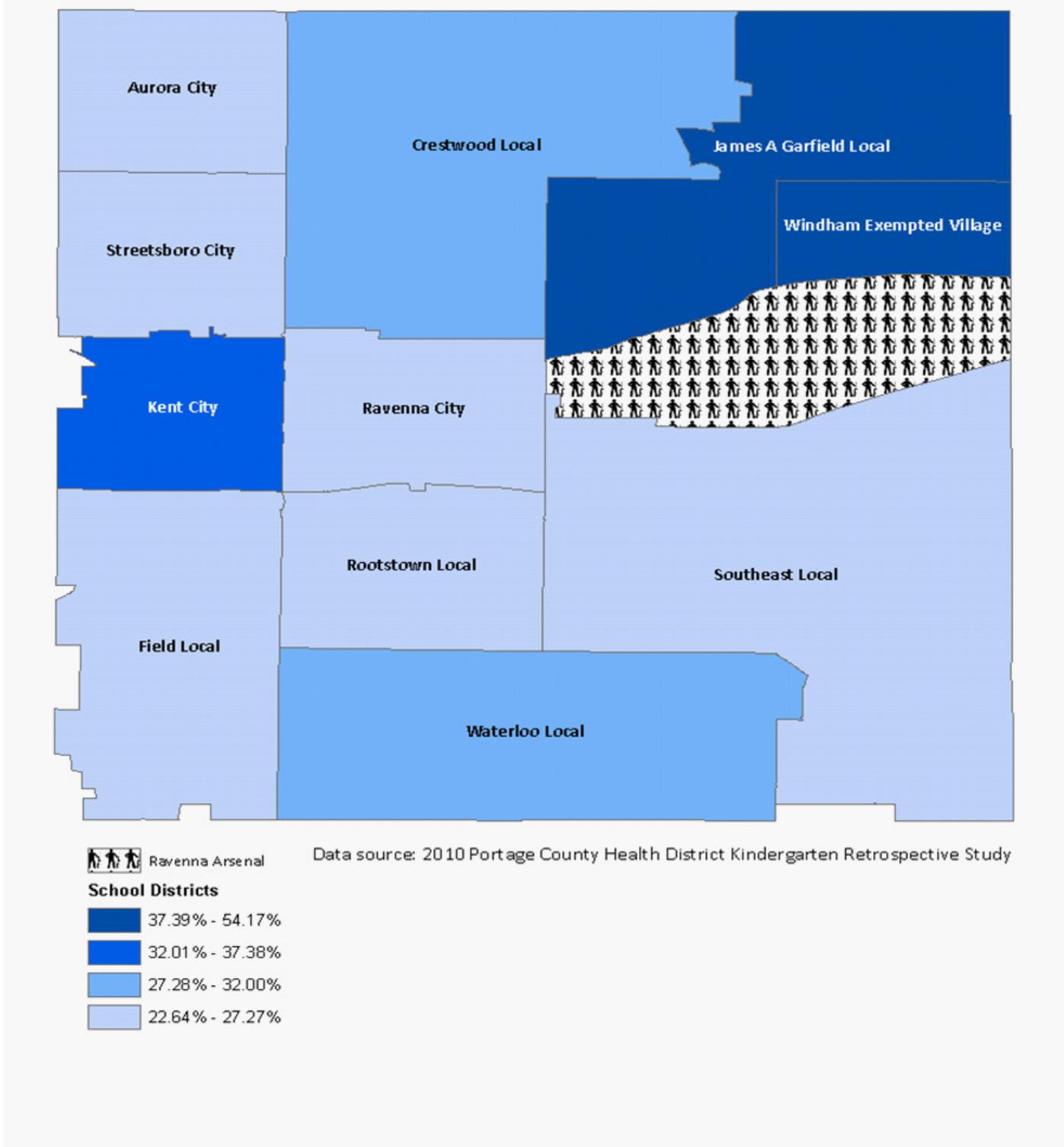
In 2010, nearly one-third (30.23%) of Portage County children were not up-to-date with the 4:3:1:3:3:1 childhood immunization series by 24 months of age. When stratified by Portage County school district (Figure 42A), Windham Exempted Village School District had the highest percent of children not up-to-date by 24 months of age (54.17%). However, only 7.13% of children were not up-to-date with the 4:3:1:3:3:1 childhood immunization series by 35 months of age, which was considerably lower than the percent reported among all Ohio children (24.00%).

¹US Department of Health and Human Services. (2013, May 17). *Community immunity ("Herd" immunity)*. Retrieved from <http://www.vaccines.gov/basics/protection>.

²Zhou, F. (2011). *Updated economic evaluation of the routine childhood immunization schedule in the United States*. Presented at the 45th National Immunization Conference. Washington, DC: 28-31.

³US Department of Health and Human Services. (2013, April 24). *Healthy People 2020 immunization and infectious disease: Objectives*. Retrieved from <http://www.healthypeople.gov/2020/topicsobjectives2020/objectiveslist.aspx?topicId=32>.

Figure 42A: Percent of Children Not Up-To-Date with the 4:3:1:3:3:1 Childhood Immunization Series by 24 Months of Age by School District, Portage County, 2010



43 | Adults Who Smoke

Significance

There is no safe level of contact with secondhand smoke (SHS). According to the US Surgeon General, nearly 60 percent of American children three to eleven years of age are exposed to SHS.¹ SHS exposure is particularly problematic for children, as it increases their risk of sudden infant death syndrome (SIDS), recurrent respiratory and middle ear infections, hospitalizations, and exacerbations of chronic diseases, such as sickle cell anemia and asthma.^{1,2,3} SHS commonly occurs in homes and workplaces. Further, household smoking has been shown to cause approximately 30% of US fire deaths in which children are disproportionately fire victims and, in some cases, fire starters.² A reduction in the percent of adults 18 years of age and older who are current cigarette smokers is a public health objective outlined by Healthy People 2020, with a target of less than 12.0%.⁴

Definition

This indicator measures the percent of working-age adults 18 to 64 years of age who smoked cigarettes. Adults who smoked cigarettes include survey respondents who answered at the time of the interview that they smoked cigarettes “every day” or “some days”, as opposed to “not at all”. The data were obtained from the 2008 Ohio Family Health Survey. Confidence intervals are not presented here, but should be considered. Please see the data tables in Appendix A and the Methods section of this report for additional information.

Discussion

In Portage County, the percent of working-age adults who smoked cigarettes was 25.70%, which was slightly lower than the percent in Ohio (27.77%). However, the percent of working-age adults who smoked cigarettes in both Portage County and across Ohio were far above the Healthy People 2020 target of less than 12.0%. Although the sample size among Portage County residents was not large enough to detect significant differences, Portage County results were similar with significant Ohio results. For instance, males were more likely to have smoked than females and uninsured adults were more likely to have smoked than insured adults, as depicted in Figure 43A and 43B.

¹US Surgeon General. (2006). *The health consequences of involuntary exposure to tobacco smoke: A report of the Surgeon General*. Washington, DC: US Department of Health and Human Services.

²Best, D, The Committee on Environmental Health, The Committee on Native American Child Health, & The Committee on Adolescence. Technical report—Secondhand and prenatal tobacco smoke exposure. *Pediatrics*, 124(5), e1017-e1044.

³Centers for Disease Control and Prevention. (2013, June 10). *Health effects of secondhand smoke*. Retrieved from http://www.cdc.gov/tobacco/data_statistics/fact_sheets/secondhand_smoke/health_effects/.

⁴US Department of Health and Human Services. (2013, April 24). *Healthy People 2020 tobacco use: Objectives*. Retrieved from <http://www.healthypeople.gov/2020/topicsobjectives2020/objectiveslist.aspx?topicid=26>.

Figure 43A: Percent of Working-Age Adults that Smoked Cigarettes by Gender, Portage County and Ohio, 2008

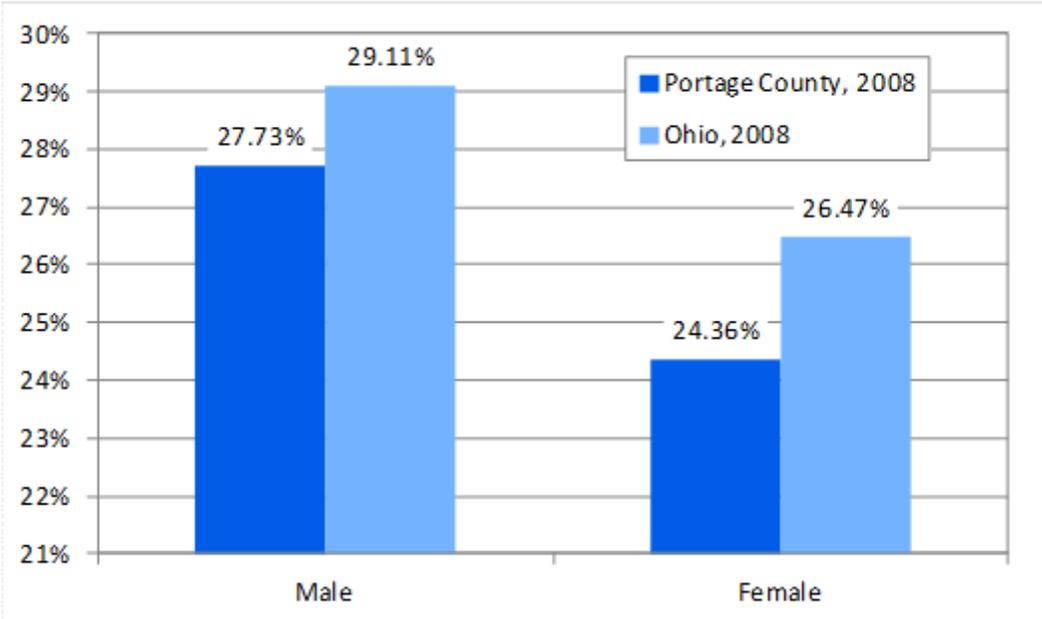
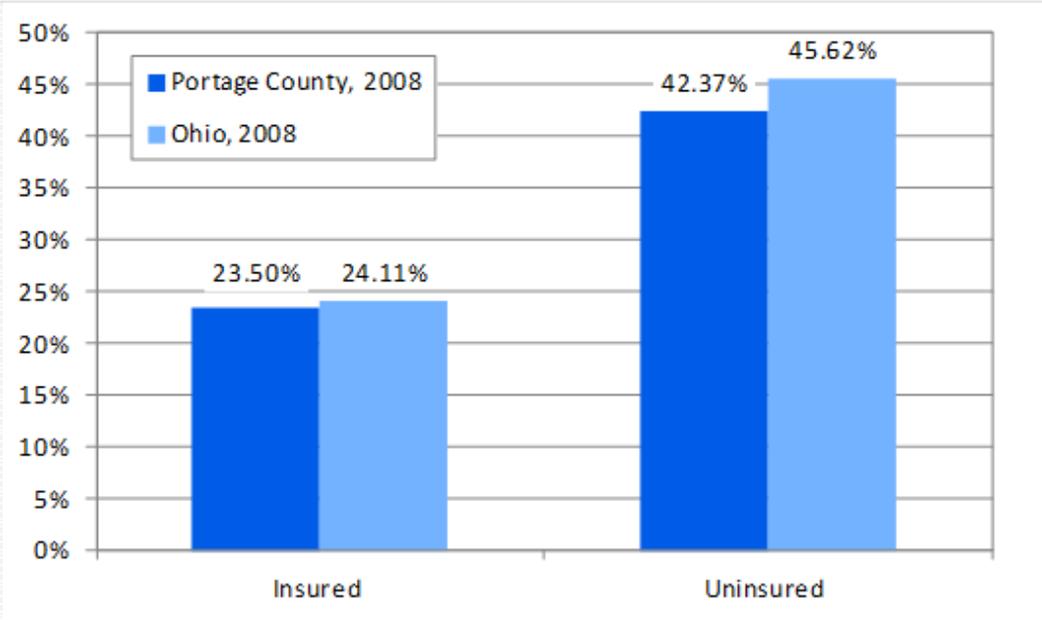


Figure 43B: Percent of Working-Age Adults that Smoked Cigarettes by Insurance Status, Portage County and Ohio, 2008



44 | WIC Children Who Are Obese

Significance

In the past three decades, the prevalence of childhood obesity has more than doubled amongst America's children.¹ According to the Centers for Disease Control and Prevention (CDC), children that are obese are at an increased risk for developing a broad array of health problems, including risk factors for cardiovascular disease (i.e., high blood pressure, high cholesterol, etc.), respiratory complications, and psychological problems due to discrimination and poor self-esteem.² In addition, obese children are more likely to be obese in adulthood, which is associated with even more health-related issues.² Thus, immense public health concern has grown over the past decade with regard to the present and future health of obese children, and the reduction of obesity among children 2 to 5 years of age has become a leading public health priority in the US. Such an objective is documented by Healthy People 2020 with a target to reduce the proportion of children two to five years of age that are considered obese to less than 9.6%.³

Definition

This indicator measures the percent of active Portage County Women, Infants, and Children (WIC) clients 24 to 59 months of age who were classified with a risk code for high-weight-for-height, a term used by WIC to describe a child that is obese, or has a body mass index in the 95th percentile. The data were obtained from WIC enrollment and visit data housed on the WIC COGNOS system as of June 2013.

Discussion

Among active Portage County WIC clients 24 to 59 months of age, 12.06% were found to be classified as high-weight-for-height. In the entire state of Ohio, a slightly higher percent of WIC clients 24 to 59 months of age were classified as high-weight-for-height (12.63%).

¹Ogden, CL, Carroll, MD, Kit, BK, & Flegal, KM. (2012). Prevalence of obesity and trends in body mass index among US children and adolescents, 1999-2010. *Journal of the American Medical Association*, 307(5), 483-490.

²Centers for Disease Control and Prevention. (2012, April 27). *Basics about childhood obesity*. Retrieved from <http://www.cdc.gov/obesity/childhood/basics.html>.

³US Department of Health and Human Services. (2013, April 24). *Healthy People 2020 nutrition and weight status: Objectives*. Retrieved from <http://www.healthypeople.gov/2020/topicsobjectives2020/objectiveslist.aspx?topicId=29>.

45 | School-Aged Children Who Are Overweight/Obese

Significance

In 2010, more than one-third of all children were considered to be overweight or obese.¹ Ensuring a healthy lifestyle can prevent a child from becoming overweight or obese. Schools have direct contact with children for approximately 6 hours each day and thus, play a fundamental role in the prevention of childhood obesity by promoting healthy eating and physical activity behaviors.² In 2012, the National School Lunch Program and School Breakfast Program increased the availability of fruits, vegetables, and whole grains and set sensible calorie limits on the school menu.³ Schools must continue to provide healthy lifestyle opportunities for students in order to reach the Healthy People 2020 targets to reduce the proportion of children considered obese to less than 15.7% of children 6 to 11 years of age and 16.1% of children 12 to 19 years of age.⁴

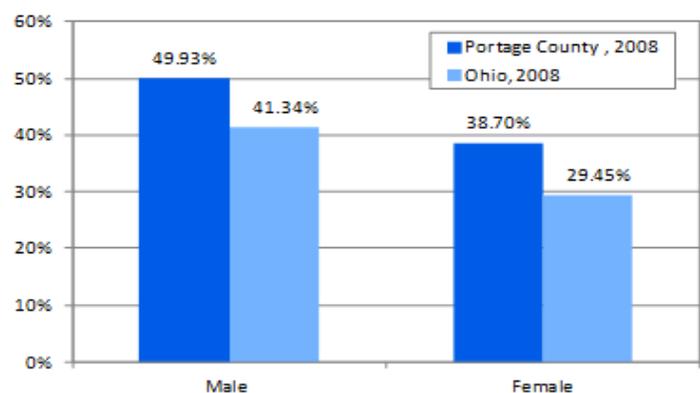
Definition

This indicator measures the percent of school-aged children 11 to 17 years of age living in Portage County that had an overweight or obese body mass index (BMI). The BMIs of children were calculated from each child's gender, age, height, and weight as reported by the survey respondent, the caretaker of the child. The BMIs were then grouped into the following categories based on percentile ranges set by the Centers for Disease Control and Prevention⁵: underweight (< 5th percentile), normal or healthy weight (5th-85th percentile), overweight (85th-95th percentile), and obese (\geq 95th percentile). The data were obtained from the 2008 Ohio Family Health Survey. Confidence intervals are not presented here, but should be considered. Please see the data tables in Appendix A and the Methods section of this report for additional information.

Discussion

Among Portage County school-aged children, 45.94% had an overweight or obese body mass index (BMI), which was considerably higher than school-aged children residing in Ohio (35.58%) with an overweight or obese BMI. Although the sample size among Portage County residents was not large enough to detect significant differences, results were similar to the findings for Ohio which showed that school-aged males were more likely to be overweight or obese than school-aged females (Figure 45A).

Figure 45A: Percent of School-Aged Children that Had an Overweight or Obese BMI by Gender, Portage County and Ohio, 2008



¹ Ogden, CL, Carroll, MD, Kit, BK, & Flegal, KM. (2012). Prevalence of obesity and trends in body mass index among US children and adolescents, 1999-2010. *Journal of the American Medical Association*, 307(5), 483-490.

² US Department of Education, Institute of Education Sciences. (2010). *Educational indicators, indicator 24: Time in formal instruction*. Retrieved from <http://nces.ed.gov/pubs/eiip/eiipid24.asp>.

³ US Department of Health and Human Services. (2013, April 24). *Healthy People 2020 nutrition and weight status: Objectives*. Retrieved from <http://www.healthypeople.gov/2020/topicsobjectives2020/objectiveslist.aspx?topicId=29>.

⁴ Centers for Disease Control and Prevention. (2011, September 13). *About BMI for children and teens*. Retrieved from http://www.cdc.gov/healthyweight/assessing/bmi/childrens_bmi/about_childrens_bmi.html.

46 | Children with Asthma

Significance

Asthma is one of the most common chronic conditions affecting children. It is characterized by wheezing and breathlessness, and often contributes to interrupted sleep and activity limitations, which prevent a children and their family from leading normal lives.¹ Particles that provoke the respiratory tract such as tobacco smoke, air pollution and indoor allergens, along with physical activity, are major triggers for the development of asthma. The prevalence of asthma grows each year. It is currently estimated that one out of every 10 children have asthma.² While it is unclear why the number of children living with asthma is rising, it is known that optimal disease management (i.e., using correct prescriptions and avoiding known triggers) can control its severity. The reduction in emergency department visits for asthma is a national public health objective, as it is outlined in Healthy People 2020 with a target to reduce emergency department visits to less than 96.6 per 10,000 children under the age of 5 years.³

Definition

This indicator measures the prevalence of asthma, or the percent of children between 10 and 17 years of age residing in Portage County that had asthma. Child participants with asthma included those where the adult respondent, or caretaker of the child, had ever been told by a doctor or any other health professional that the child had asthma. The data were obtained from the 2008 Ohio Family Health Survey. Confidence intervals are not presented here, but should be considered. Please see the data tables in Appendix A and the Methods section of this report for additional information.

Discussion

In 2008, nearly 10% (9.26%) of children aged 10 to 17 years residing in Portage County had asthma, which was lower than the percent observed among all Ohio children of the same ages (15.46%). Among Portage County children, more females (10.29%) than males (8.30%) had asthma. In contrast, the opposite was found for Ohio, where more male (17.66%) children than female (12.97%) children had asthma.

¹US Environmental Protection Agency. (2012, April 5). *Health and achievement: Managing asthma in the school environment*. Retrieved from <http://www.epa.gov/iaq/schools/managingasthma.html#epidemic>.

²Centers for Disease Control and Prevention. (2011, May 3). *Asthma in the US-Growing every year*. Retrieved from <http://www.cdc.gov/VitalSigns/Asthma/index.html>.

³US Department of Health and Human Services. (2013, April 24). *Healthy People 2020 respiratory diseases: Objectives*. Retrieved from <http://www.healthypeople.gov/2020/topicsobjectives2020/objectiveslist.aspx?topicId=36>.

47 | Childhood Cancer

Significance

Although childhood cancer is rare, rates of cancer among children have been slightly rising over the past few decades¹ and raising concern. Today, childhood cancer is a significant cause of morbidity and mortality, as it is the second leading cause of death among children ages 14 years and younger.² Leukemia, cancer of the bone marrow and blood, and brain and other central nervous system tumors account for more than half of all childhood cancers.² Early signs of cancer in children are usually non-specific, which emphasizes the need for regular well-child check-ups and for parents to be alert for uncommon and recurring symptoms.² Treatments for childhood cancers have dramatically improved over the past three decades, leading to improved prognosis and survival rates for all invasive childhood cancers combined.¹

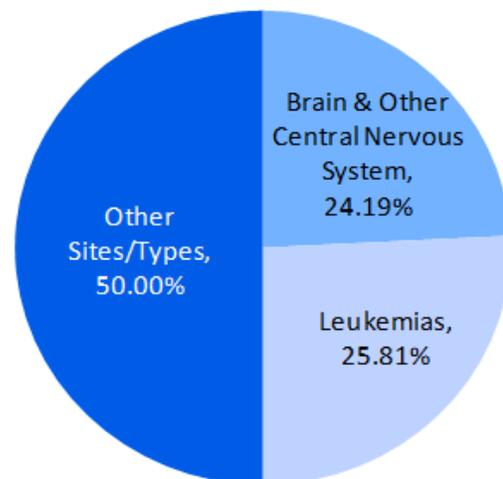
Definition

This indicator measures the average annual age-adjusted incidence of invasive cancer of any site/type per 100,000 children 19 years of age and younger residing in Portage County. The data were obtained from the Ohio Cancer Incidence Surveillance System (OCISS) data files for 2000-2009. Rates were calculated using the 2010 US decennial census, Summary File (SF) 1, containing 100% data, as population denominators and the direct method of age-adjustment using the 2000 US Census standard population. Please see the Methods section of this report for documentation on the identification of cancers by type in OCISS and the methods for age-adjustment.

Discussion

From 2000 to 2009, there were a total of 62 cases of cancer diagnosed among children 19 years of age and younger residing in Portage County. Of those, exactly half were cancers of the brain or other parts of the central nervous system (24.19%) or leukemia (25.81%), as shown in Figure 47A. The average annual age-adjusted incidence of childhood cancer in Portage County was 15.21 cases per 100,000 children 19 years of age and younger, which was slightly higher than the incidence observed across the entire state of Ohio (14.76 per 100,000 children 19 years of age and younger). Due to confidentiality restrictions, analyses stratified by Portage County cluster were not able to be reported because most clusters did not have at least 10 events. Please see the Methods section of this report for documentation on the confidentiality restrictions for analyses involving OCISS data.

Figure 47A: Percent of Childhood Cancers by Site/Type, Portage County, 2000-2009



¹American Cancer Society (2013, January 18). Cancer in children. Retrieved from <http://www.cancer.org/cancer/cancerinchildren/detailedguide/cancer-in-children-key-statistics>.

²American Cancer Society. (2013). *Cancer facts and figures 2013*. Atlanta, GA: American Cancer Society.

48 | Infant Mortality

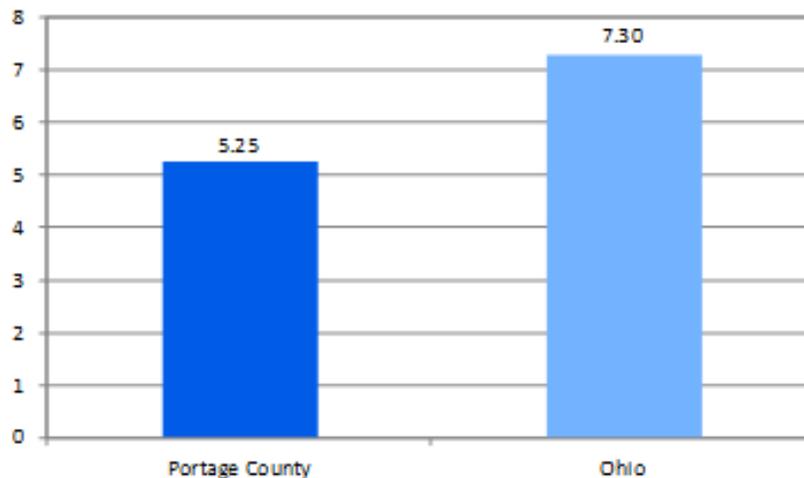
Significance

Each year in the United States, approximately 25,000 infants die before their first birthday.¹ The leading causes of infant mortality, contributing to more than 50% of all cases, include congenital anomalies, disorders related to low birth weight and preterm delivery, Sudden Infant Death Syndrome (SIDS), maternal complications of pregnancy, and accidents.² The infant mortality rate is the estimate of the number of infant deaths per 1000 live births, and is widely used as a measure of population health and well being.¹ The reduction of all infant deaths is a high public health priority, as it is outlined by Healthy People 2020 to reduce the rate of all infant deaths to no more than 6 per 1,000 live births.³

Definition

This indicator measures the average annual rate of infant deaths before their first birthday per 1,000 live births. Data were obtained from the infant birth-death certificate linked files for the period of 2000-2009. Infant mortality statistics are sometimes calculated using unlinked birth and death certificate files. Therefore, caution should be used when comparing infant mortality rates. Please see the Methods section of this report for additional information on the differing methodologies for calculating infant mortality rates.

Figure 48A: Infant Mortality Rate per 1,000 Live Births, Portage County and Ohio, 2000-2009



¹Centers for Disease Control and Prevention. (2012, October 1). *Infant mortality*. Retrieved from <http://www.cdc.gov/reproductivehealth/MaternalInfantHealth/InfantMortality.htm#note1>.

²Murphy, SL, Xu, J, & Kochanek, KD. (2012). Deaths: Preliminary data for 2010. *National Vital Statistics Reports*, 60(4).

³US Department of Health and Human Services. (2013, April 24). *Healthy People 2020 maternal, infant and child health: Objectives*. Retrieved from <http://www.healthypeople.gov/2020/topicsobjectives2020/objectiveslist.aspx?topicId=26>.

Discussion

From 2000 to 2009, there were 16,375 live births to women that were residing in Portage County. Among all of the live births in Portage County, there were 86 infants that died before their first birthday. As shown in Figure 48A, the average annual infant mortality rate for Portage County was 5.25 per 1,000 live births. In comparison, the average annual rate of infant mortality was higher among all Ohio residents (7.30 per 1,000). In Ohio, there were clear racial disparities in the rate of infant mortality, as non-Hispanic African Americans experienced infant mortality at more than twice the rate of non-Hispanic Whites (14.59 versus 5.95 per 1,000 live births, respectively). Due to confidentiality restrictions, infant mortality statistics in Portage County could not be stratified by maternal race/ethnicity because there were certain categories that did not have at least ten events. Please see the Methods section of this report for documentation on the confidentiality restrictions for analyses involving birth-death linked data.

Neonatal infant mortality is the death of an infant that is less than 28 days of age. Post-neonatal infant mortality is the death of an infant that is between 28 and 364 days of age. From 2000-2009, almost two-thirds (65.12%) of all infant deaths among Portage County residents were neonatal deaths. Both the neonatal (3.42 per 1,000 live births) and the post-neonatal mortality rates (1.83 per 1,000 live births) for Portage County were lower than those for Ohio (Figure 48B). As shown in Figure 48C, the infant mortality rate for Portage County male infants (6.26 per 1,000 live births) was higher than the rate for female infants (4.21 per 1,000 live births).

Maternal education is a strong predictor for infant mortality. Maternal education was known for 16,290 (99.50%) of the live births to residents of Portage County. As shown in Figure 48D, Portage County's infant mortality rate for infants born to mothers without a high school degree (11.15 per 1,000 live births) was higher than infants born to mothers with a high school degree (4.55 per 1,000 live births). A similar disparity existed across the entire state of Ohio.

As shown in Figure 48E, the vast majority (91.86%) of infant deaths from 2000-2009 in Portage County were due to medical causes. Of the 79 infant deaths due to medical causes, more than one-third (36.71%) had causes of death associated with prematurity (as defined by the National Center for Health Statistics). Of the 7 deaths due to external causes, more than half (57.14%) were due to asphyxiation, which includes unsafe sleep practices.

Low birth weight (less than 2,500 grams) and premature delivery (less than 37 weeks gestation) are leading risk factors for infant mortality. There is a clear relationship between gestational age and infant mortality (Figure 48F), as the average infant mortality rate in Portage County from 2000-2009 was highest among infants born at less than 32 weeks gestation (168.46 per 1,000 live births). A relationship is also observed between birth weight and infant mortality (Figure 48G), as the average infant mortality rate in Portage County from 2000-2009 was highest among infants born at less than 1,500 grams (232.56 per 1,000 live births). By county cluster, Freedom/Windham/Charlestown/Paris had the highest infant mortality rate of 9.27 per 1,000 live births, while Aurora had the lowest at 3.20 per 1,000 live births (Figure 48H).

Figure 48B: Neonatal and Post-neonatal Mortality Rate per 1,000 Live Births, Portage County and Ohio, 2000-2009

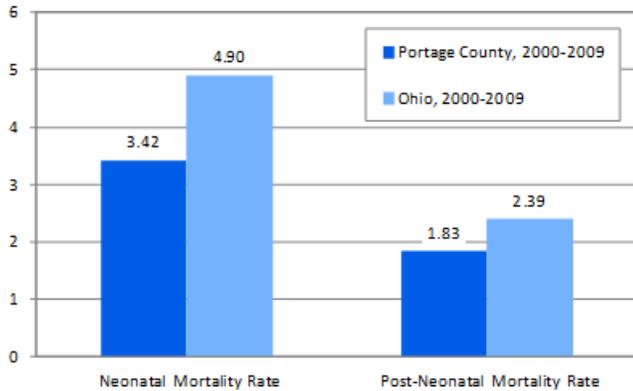


Figure 48C: Infant Mortality Rate by Infant Gender per 1,000 Live Births, Portage County and Ohio, 2000-2009

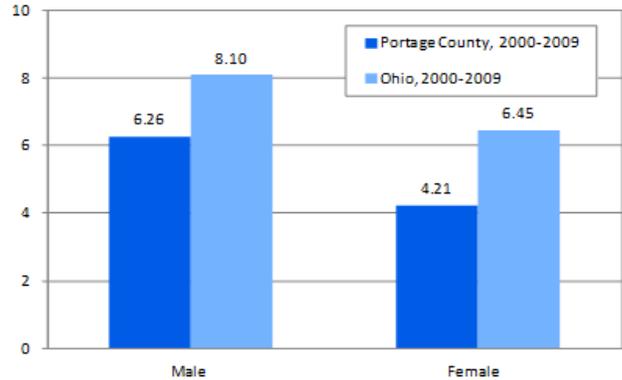


Figure 48D: Infant Mortality Rate by Maternal Education per 1,000 Live Births, Portage County and Ohio, 2000-2009

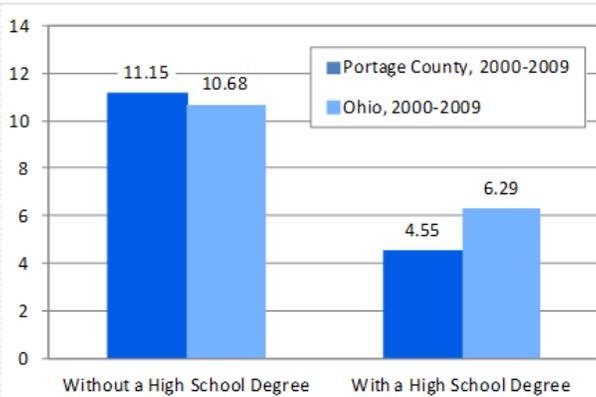


Figure 48E: Leading Causes of Infant Death*, Portage County, 2000-2009

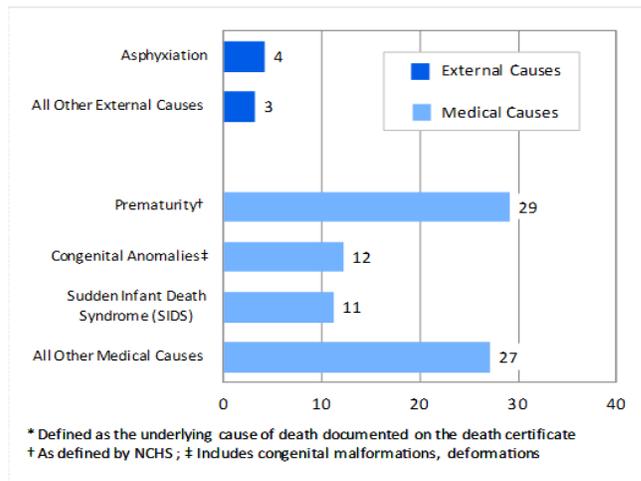


Figure 48F: Infant Mortality Rates per 1,000 Live Births by Gestational Age at Birth, Portage County and Ohio, 2000-2009

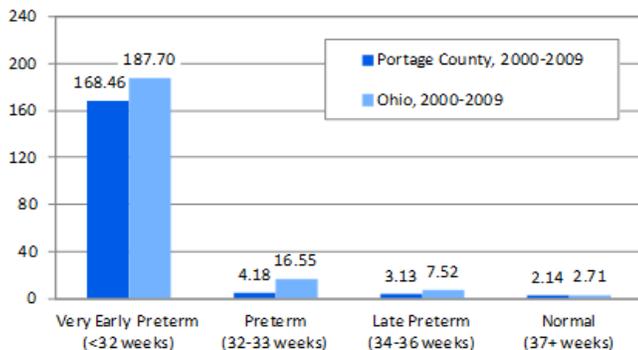


Figure 48G: Infant Mortality Rates per 1,000 Live Births by Birth Weight, Portage County and Ohio, 2000-2009

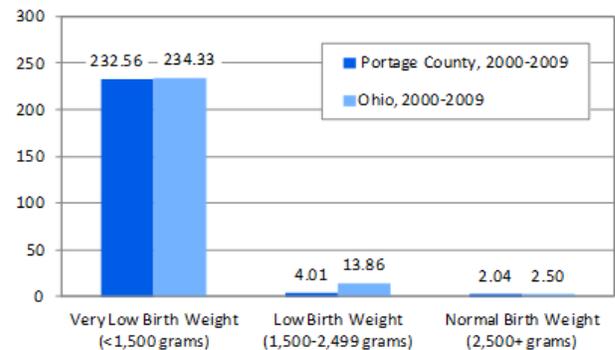
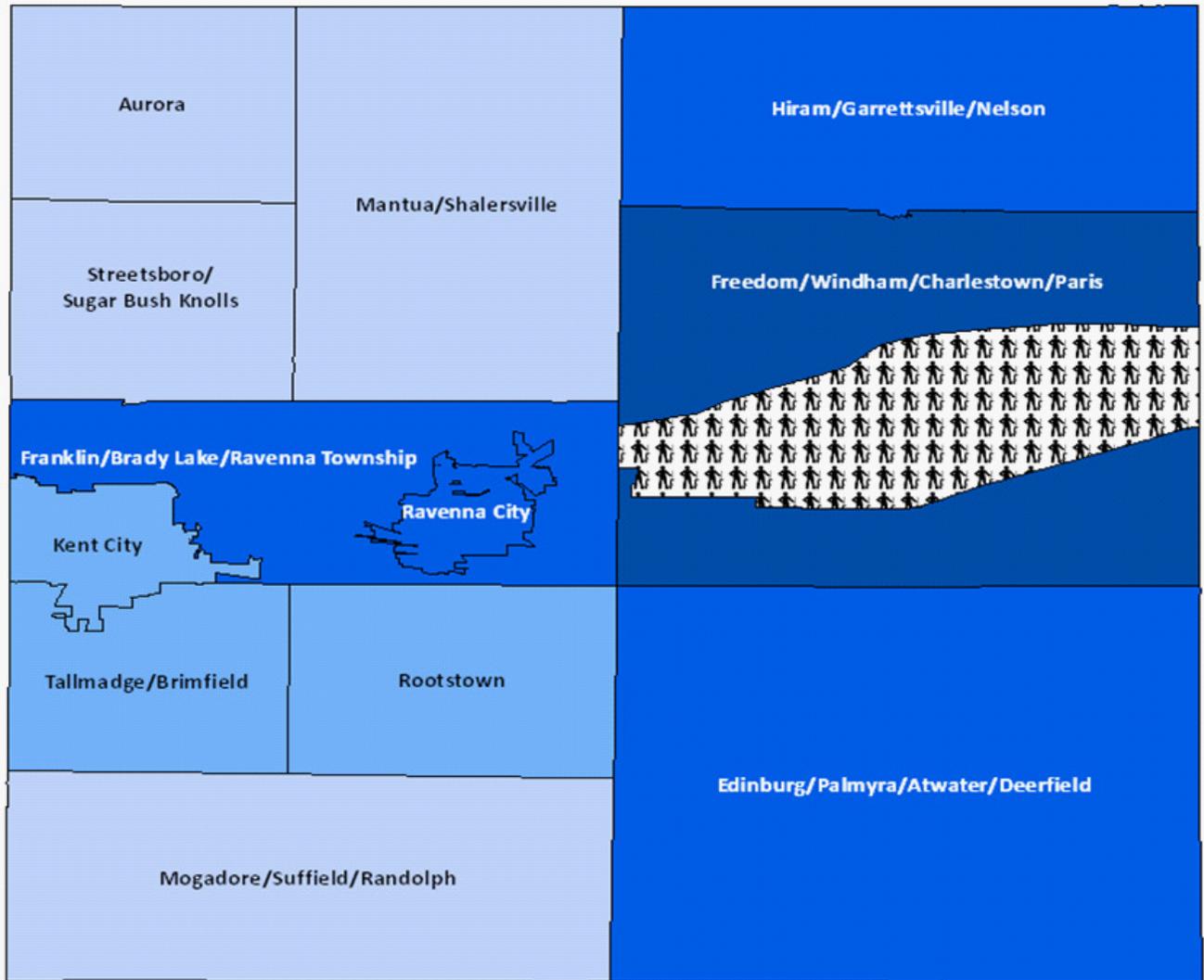


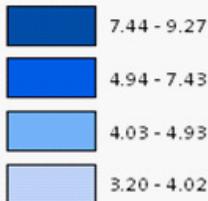
Figure 48H: Infant Mortality Rate Per 1,000 Live Births by County Cluster, Portage County, 2000-2009



Ravenna Arsenal

Data source: 2000-2009 Infant Birth-Death Linked Files

Portage County Clusters



49 | Preventable Child Death

Significance

The death of a child is a devastating event. In 2010 alone, an estimated 1,580 Ohio children under 18 years of age died.¹ Efforts to understand the broad array of risk factors and causes of child death can help prevent further deaths among Ohio’s youth. The definition of a preventable death often varies with regard to Child Fatality Review programs. A commonly used definition of preventability states that a “child’s death is preventable if the community or individual could reasonably have done something that would have changed the circumstance that led to the death.”² Thus, each Child Fatality Review Board focuses on a broad array of factors that could have realistically been changed, in order to understand the cause of each child death for the prevention of future like events.²

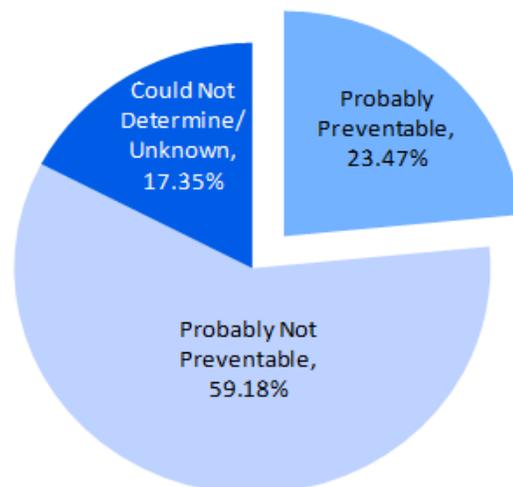
Definition

This indicator measures the percent of child deaths that were ruled to be preventable. The Portage County Child Fatality Review Board is responsible for determining whether a child death is preventable. Generally, a child’s death is ruled as preventable if the local Child Fatality Review Board collectively determines that the circumstances surrounding the death involved factors that could have been reasonably mitigated. Portage County data were obtained from the Portage County Child Fatality Review Board data files for 2006-2010. Ohio data were obtained from the Ohio Department of Health's "Ohio Child Fatality Review 12th Annual Report, 2012" for the years 2006-2010.

Discussion

From 2006-2010, there were a total of 98 deaths to children 17 years of age and younger in Portage County, among which 23.47% were ruled as probably preventable, 59.18% were probably not preventable and 17.35% could not be determined or were unknown (Figure 49A). In comparison, among the child deaths reviewed across the state of Ohio, 24.66% were ruled probably preventable, 59.00% were probably not preventable, and 16.34% could not be determined or were unknown.

Figure 49A: Percent Child Deaths by Preventability, Portage County, 2006-2010



¹Ohio Department of Health. (2012, September). *Ohio child fatality review twelfth annual report*. Columbus, OH: Ohio Department of Health.

²Covington, T, Foster, V, & Rich, S. (2005). *A program manual for child death review*. Okemos, MI: The National Center for Child Death Review.

50 | Cause of Child Death

Significance

Understanding the cause of child death is necessary for the development and sustainability of effective strategies to prevent these events. As shown in the table on the next page, leading causes of child death vary with respect to age. According to the Centers for Disease Control and Prevention, the number one cause of death among children younger than one year (i.e., infant mortality) was congenital anomalies, followed by prematurity.¹ Whereas, the leading cause of death among children aged 1-4, 5-9, 10-14, and 15-24 years was unintentional injury.¹ The reduction of all child deaths is a national public health priority, and is outlined with Healthy People 2020 targets of less than 25.7 deaths per 100,000 children ages 1 to 4 years, less 12.3 deaths per 100,000 children ages 5 to 9 years, less than 15.2 deaths per 100,000 children ages 10 to 14 years, and less than 55.7 deaths per 100,000 children ages 15 to 19 years.²

Definition

This indicator measures the number of child deaths due to medical causes and the number of child deaths due to external causes in order to determine the average annual rate of all child deaths due to medical causes and external causes per 100,000 children aged 17 years and younger. The data were obtained from the Ohio Death Certificate data files for 2001-2010. Rates were calculated using the 2010 US decennial census, Summary File (SF) 1, containing 100% data, as population denominators.

Discussion

From 2001 to 2010, there were a total of 175 deaths to children 17 years of age and younger residing in Portage County. Among those, more than three-fourths (75.43%) were deaths due to medical causes. The average annual rate of child deaths due to medical causes among children residing in Portage County was 39.19 per 100,000 children aged 17 years and younger, which was lower than the rate for the entire state of Ohio (49.46 per 100,000 children aged 17 years and younger). The average annual rate of child deaths due to external causes was 12.77 per 100,000 children aged 17 years and younger, which was slightly lower than the rate for Ohio as a whole (15.05 per 100,000 children aged 17 years and younger). As shown in Figure 50A, one-third of all medical causes of child death were due to certain conditions originating in the perinatal period. Among the 43 child deaths due to external causes in Portage County, nearly 40% were due to transport accidents, as depicted in Figure 50B. When stratified by county cluster, Mantua/Shalersville had both the highest rate of child deaths due to medical causes (75.01 per 100,000 children aged 17 years and younger) and external causes (27.64 per 100,000 children aged 17 years and younger) compared to all of the other Portage County clusters (Figures 50C and 50D).

¹Centers for Disease Control and Prevention. (2012, October 15). *Leading causes of death by age group, United States--2010*. Retrieved from http://www.cdc.gov/injury/wisqars/pdf/10LCID_All_Deaths_By_Age_Group_2010-a.pdf.

²US Department of Health and Human Services. (2013, April 24). *Healthy People 2020 maternal, infant, and child health: Objectives*. Retrieved from <http://www.healthypeople.gov/2020/topicsobjectives2020/objectiveslist.aspx?topicId=26>.

Top 5 Causes of Child Death by Age Group, United States-2010¹

Rank	Age Group				
	<1 years	1-4 years	5-9 years	10-14 years	15-24 years
1	Congenital Anomalies	Unintentional Injury	Unintentional Injury	Unintentional Injury	Unintentional Injury
2	Short Gestation	Congenital Anomalies	Malignant Neoplasms	Malignant Neoplasms	Homicide
3	SIDS	Homicide	Congenital Anomalies	Suicide	Suicide
4	Maternal Pregnancy Complications	Malignant Neoplasms	Homicide	Homicide	Malignant Neoplasms
5	Unintentional Injury	Heart Disease	Heart Disease	Congenital Anomalies	Heart Disease

Figure 50A: Percent of Medical Causes of Child Death by Type, Portage County, 2001-2010

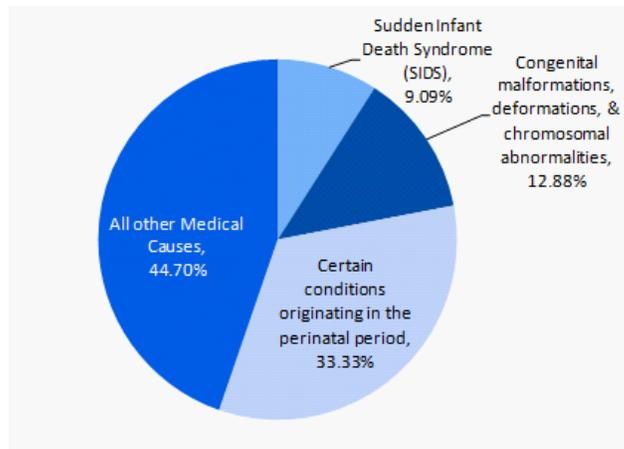


Figure 50B: Percent of External Causes of Child Death by Type, Portage County, 2001-2010

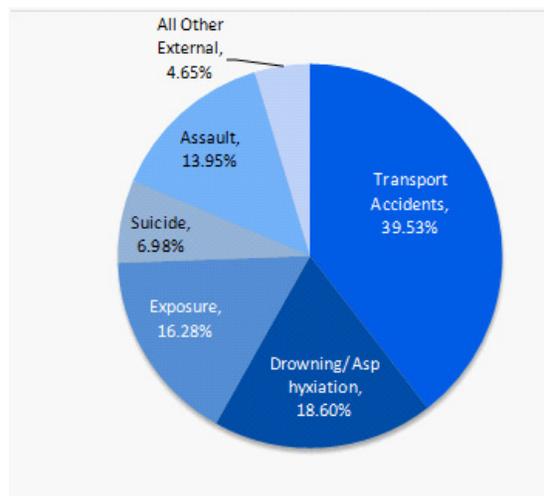


Figure 50C: Rate of Child Deaths Due to Medical Causes Per 100,000 Children Aged 17 Years and Younger by County Cluster, Portage County, 2001-2010



 Ravenna Arsenal

Data source: 2001-2010 Death Certificates

Portage County Clusters

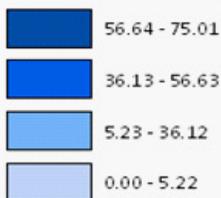
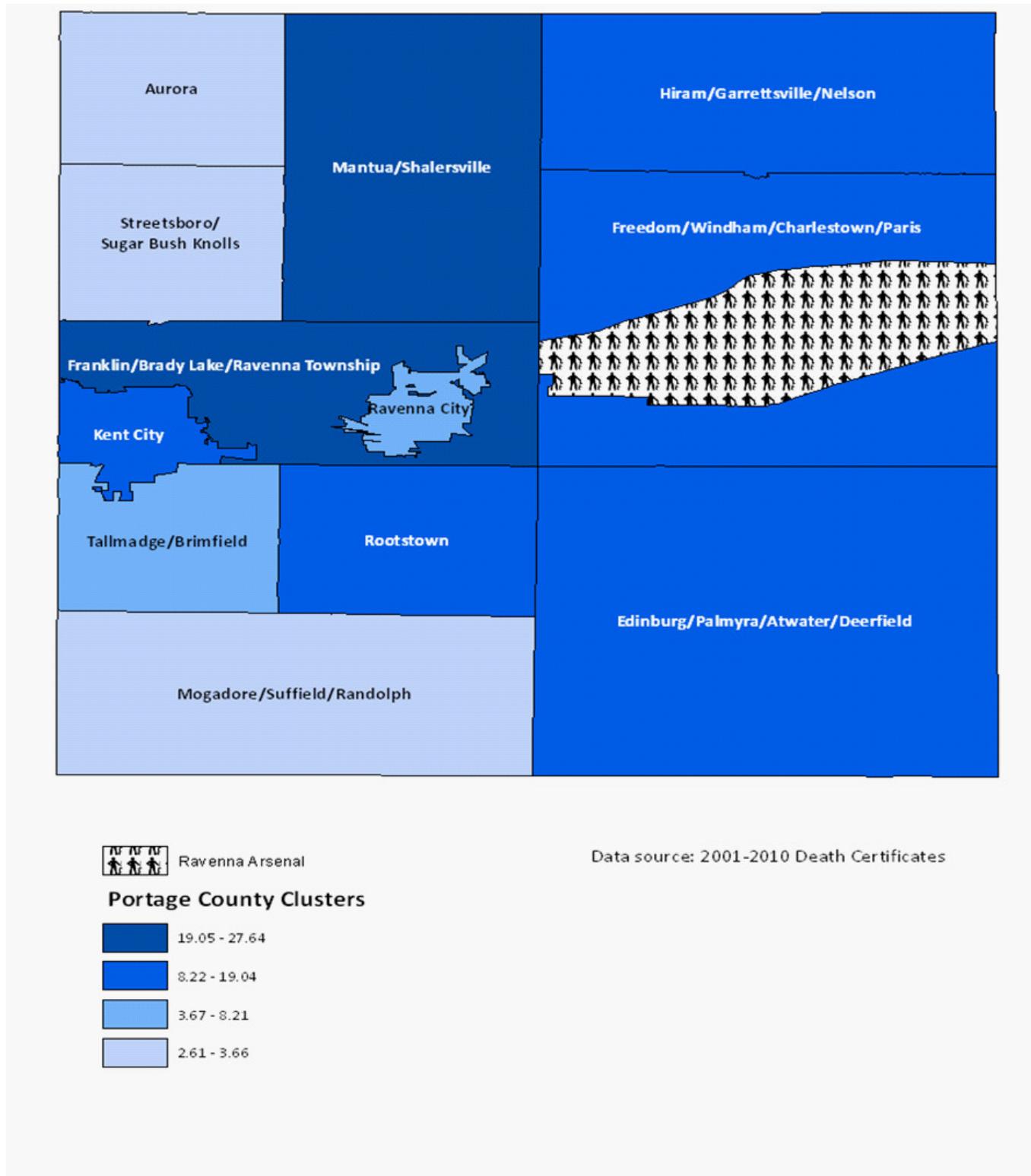
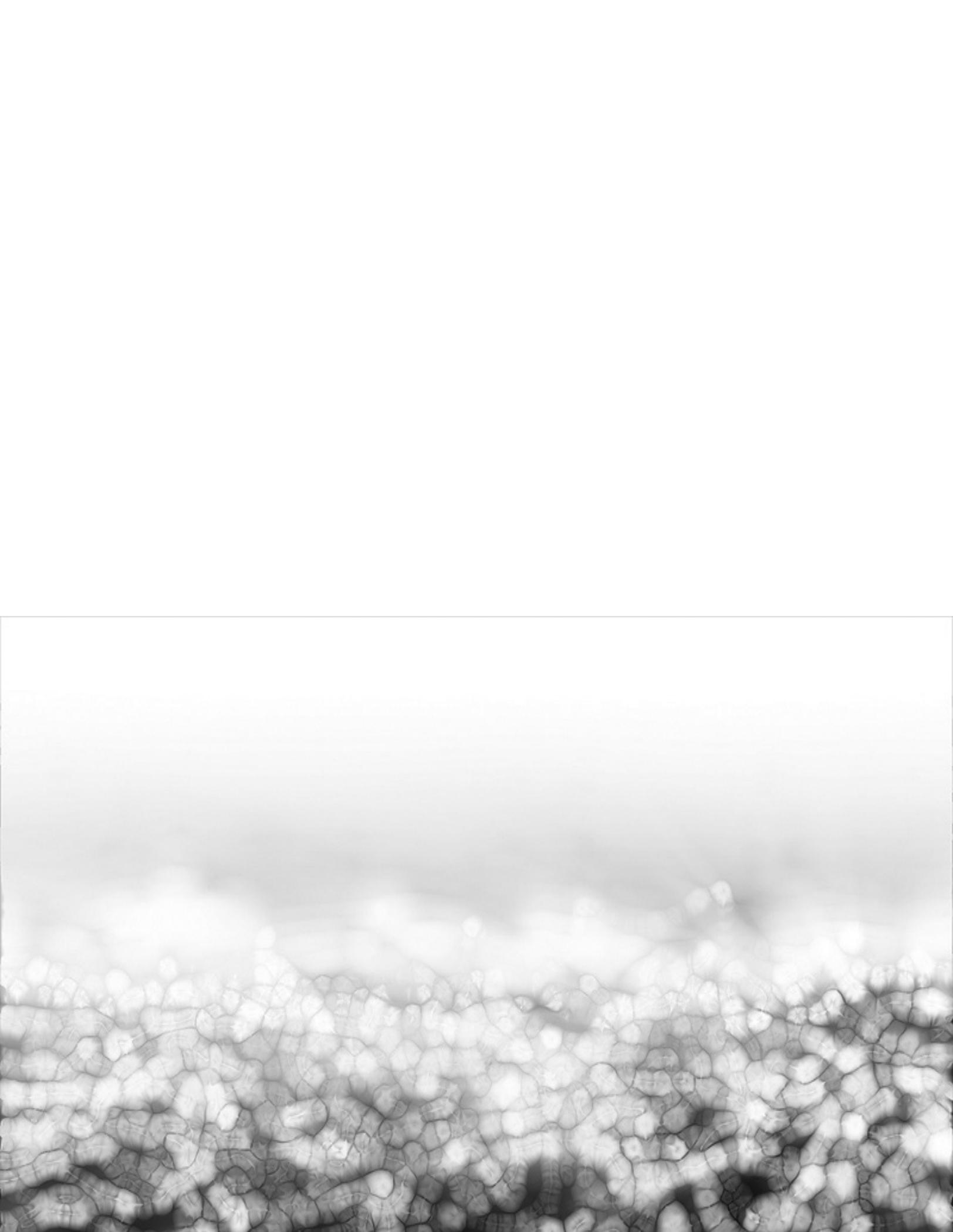


Figure 50D: Rate of Child Deaths Due to External Causes Per 100,000 Children Aged 17 Years and Younger by County Cluster, Portage County, 2001-2010







APPENDICES



Appendix A

Table 1A: Percent of Women in Four Age Groups, Portage County and Ohio, 2010

	Portage County		Ohio	
	Count	Pct. Of Total	Count	Pct. Of Total
Age				
0-12	11,416	13.82	945,975	16.02
13-44	37,158	45.00	2,386,368	40.42
45-64	22,539	27.29	1,635,431	27.70
65+	11,465	13.88	936,574	15.86
Total	82,578	100.00	5,904,348	100.00

Source: U.S. Census Bureau, 2010, Summary File 1, Table PCT12

Table 1B: Number and Percent of Women by Selected Age Groups, Portage County and Ohio, 2010

Age	Portage Count	Ohio Count	Portage as Pct. Of Ohio
13-19	9,562	553,904	1.73
20-24	8,833	378,914	2.33
25-29	4,509	360,793	1.25
30-34	4,218	347,242	1.21
35-39	4,649	362,042	1.28
40-44	5,387	383,473	1.40
All ages	82,578	5,904,348	1.40

Source: U.S. Census Bureau, 2010, Summary File 1, Table PCT12

Table 1C: Number of Women 13 to 44 Years of Age by Portage County Cluster, Portage County Overall, and Ohio, 2010

Cluster	Number of Women Ages 13-44
Aurora	2,681
Edinburg/Palmyra/Atwater/Deerfield	2,137
Franklin/Brady Lake/Ravenna Township	3,029
Freedom/Windham/Charlestown/Paris	2,118
Hiram/Garrettsville/Nelson	2,037
Kent City	10,469
Mantua/Shalersville	2,221
Mogadore/Suffield/Randolph	2,270
Ravenna City	2,501
Rootstown	1,613
Streetsboro/Sugar Bush Knolls	3,664
Tallmadge/Brimfield	2,418
Total for Portage	37,158
Ohio	2,386,368

Source: U.S. Census Bureau, 2010, Summary File 1, Table PCT12

Table 2A: Percent of Households by Type, Portage County and Ohio, 2010

Type of Household	Portage County		Ohio	
	Count	Pct. Of County	Count	Pct. Of State
Married-Couple Households with Children	12,225	19.65	893,911	19.42
Male-Headed Households with Children	1,521	2.44	125,885	2.73
Female-Headed Households with Children	4,357	7.00	397,464	8.63
Family Households without Children	22,654	36.41	1,574,369	34.20
Non-Family Households	21,465	34.50	1,611,806	35.01
Total	62,222	100.00	4,603,435	100.00

Source: U.S. Census Bureau, 2010, Summary File 1, Table QTP11

Table 2B: Percent of Female-Headed Households with Children by Portage County Cluster, Portage County Overall, and Ohio, 2010

Cluster	Percent of Female Headed Households with Children
Aurora	4.55
Edinburg/Palmyra/Atwater/Deerfield	6.32
Franklin/Brady Lake/Ravenna Township	6.99
Freedom/Windham/Charlestown/Paris	9.15
Hiram/Garrettsville/Nelson	5.66
Kent City	8.89
Mantua/Shalersville	6.02
Mogadore/Suffield/Randolph	5.16
Ravenna City	9.81
Rootstown	6.14
Streetsboro/Sugar Bush Knolls	6.55
Tallmadge/Brimfield	6.71
Total for Portage	7.00
Ohio	8.63

Source: U.S. Census Bureau, 2010, Summary File 1, Table QTP11 or P21

Table 3A: Percent of Persons of a Non-White* Race by Portage County Cluster, Portage County Overall, and Ohio, 2010

Cluster	Total Persons	White	Non-White	Percent of Persons of a Non-White Race
Aurora	15,548	14,595	203	6.13
Edinburg/Palmyra/Atwater/Deerfield	11,067	10,862	80	1.85
Franklin/Brady Lake/Ravenna Township	15,200	14,004	198	7.87
Freedom/Windham/Charlestown/Paris	10,460	10,086	81	3.58
Hiram/Garrettsville/Nelson	9,290	8,955	79	3.61
Kent City	28,904	24,019	642	16.90
Mantua/Shalersville	11,524	11,236	101	2.50
Mogadore/Suffield/Randolph	12,616	12,421	56	1.55
Ravenna City	11,724	10,677	163	8.93
Rootstown	8,225	7,918	75	3.73
Streetsboro/Sugar Bush Knolls	16,205	14,219	273	12.26
Tallmadge/Brimfield	10,656	9,944	122	6.68
Total for Portage	161,419	148,936	2,073	7.73
Total for Ohio	11,536,504	9,539,437	1,997,067	17.31

Source: U.S. Census Bureau, 2010, Summary File 1, Table QTP3

*Non-white includes all persons who self-identified as "Black, African American, or Negro", "American Indian or Alaskan Native", "Asian Indian", "Chinese", "Filipino", "Other Asian", "Japanese", "Korean", "Vietnamese", "Native Hawaiian", "Guamanian or Chamorro", "Samoan", "Other Pacific Islander", "Some Other Race", or any combination of multiple races, including or excluding "White".

Table 4A: Percent of Persons of a Hispanic or Latino Ethnicity, Portage County Clusters, Portage County Overall, and Ohio, 2010

Cluster	Total Persons	Persons of a Hispanic or Latino Ethnicity	Percent of Persons of a Hispanic or Latino Ethnicity
Aurora	15,548	203	1.31
Edinburg/Palmyra/Atwater/Deerfield	11,067	80	0.72
Franklin/Brady Lake/Ravenna Township	15,200	198	1.30
Freedom/Windham/Charlestown/Paris	10,460	81	0.77
Hiram/Garrettsville/Nelson	9,290	79	0.85
Kent City	28,904	642	2.22
Mantua/Shalersville	11,524	101	0.88
Mogadore/Suffield/Randolph	12,616	56	0.44
Ravenna City	11,724	163	1.39
Rootstown	8,225	75	0.91
Streetsboro/Sugar Bush Knolls	16,205	273	1.68
Tallmadge/Brimfield	10,656	122	1.14
Total for Portage	161,419	2,073	1.28
Total for Ohio	11,536,504	354,674	3.07

Source: U.S. Census Bureau, 2010, Summary File 1, Table QTP3

Table 5A: Primary Language Among Persons that Do Not Speak English "Very Well", Portage County and Ohio, 2007-2011

Primary Language	Number of Persons Who Do Not Speak English "very well"	Margin of Error (+/-)	Percent of the 1618 Persons Who Do Not Speak English "very well"	Margin of Error (+/-)	Total Number of Persons 5 and Older	Margin of Error	Percent of All Persons Who Do Not Speak English "very well"	Margin of Error (+/-)
Chinese	388	151	23.98	8.08				
Spanish	294	127	18.17	7.01				
Korean	227	145	14.03	8.53				
German	75	52	4.64	3.08				
Other*	634	191	39.18	9.05				
Portage Total	1,618	315	100.00	N/A	152,498	63	1.06	0.19
Ohio Total	249,499	3,920	N/A	N/A	10,804,753	520	2.31	0.04

Source: U.S. Census Bureau, 2010, Summary File 1, Table B16001

*Other languages include French, Italian, Other West Germanic languages, Russian, Polish, Serbo-Croatian, other Slavic languages, Persian, Gujarati, Hindi, other Indic languages, other Indo-European languages, Japanese, Tagalog, Hungarian, Arabic, and African languages.

Table 5B: Percent of Persons that Do Not Speak English "Very Well" by Portage County Cluster, Portage County Overall, and Ohio, 2007-2011

Cluster	Total Number of Persons 5 and Older	Margin of Error (+/-)	Number of Persons 5 and Older that do not Speak English "Very Well"	Margin of Error (+/-)	Percent of Persons 5 and Older that do not Speak English "Very Well"	Margin of Error (+/-)
Aurora	14,657	219	124	78	0.85	0.53
Edinburg/Palmyra/Atwater/Deerfield	10,602	147	1	235	0.01	2.22
Franklin/Brady Lake/Ravenna Township	14,548	206	116	177	0.80	1.21
Freedom/Windham/Charlestown/Paris	10,018	525	38	238	0.38	2.37
Hiram/Garrettsville/Nelson	8,921	445	64	186	0.72	2.08
Kent City	27,464	216	707	217	2.57	0.79
Mantua/Shalersville	11,172	198	14	200	0.13	1.79
Mogadore/Suffield/Randolph	12,160	330	71	188	0.58	1.55
Ravenna City	11,010	209	23	22	0.21	0.20
Rootstown	7,742	105	69	47	0.89	0.61
Streetsboro/Sugar Bush Knolls	14,522	209	294	165	2.02	1.14
Tallmadge/Brimfield	9,682	195	97	142	1.00	1.46
Total for Portage	152,498	63	1,618	282	1.06	0.19
Ohio	10,804,753	520	249,499	3,920	2.31	0.04

Source: U.S. Census Bureau, 2007-2011 American Community Survey, Table B06007

Table 6A: Educational Attainment Among Persons 25 Years of Age and Older, Portage County and Ohio, 2007-2011

Highest Level	Portage County				Ohio			
	Number of Persons 25 and Older	Margin of Error (+/-)	Pct. Of Total	Margin of Error (+/-)	Number of Persons 25 and Older	Margin of Error (+/-)	Pct. Of Total	Margin of Error (+/-)
12th grade or less	9,777	662	9.61	0.65	936,133	8,072	12.18	0.1
High school graduate	39,971	936	39.28	0.90	2,718,960	10,550	35.36	0.1
Some college, no degree	20,463	916	20.11	0.90	1,574,628	7,688	20.48	0.1
Associate's degree	6,617	611	6.50	0.60	576,084	7,688	7.49	0.1
Bachelor's degree	15,650	740	15.38	0.70	1,190,414	8,367	15.48	0.1
Graduate degree	9,278	585	9.12	0.60	692,282	6,274	9.00	0.1
TOTAL	101,756	241	100.00		7,688,501	1,236	100.00	

Source: U.S. Census Bureau, 2007-2011 American Community Survey, Tables B06009 and S1501

Table 6B: College or Graduate School Enrollment by Age Group, Portage County and Ohio, 2007-2011

Portage County						
	Number of Persons	Margin of Error (+/-)	Persons in College / Grad School	Margin of Error (+/-)	Pct. Persons in College / Grad School	Margin of Error (+/-)
Age Group						
18-24	25,073	955	15,941	736	63.55	1.66
25-34	17,652	559	2,952	387	16.72	2.13
35+	84,104	494	1,899	304	2.26	0.36
TOTAL	126,829		20,792		16.39	

Ohio						
	All Persons	Margin of Error (+/-)	Persons in College / Grad School	Margin of Error (+/-)	Pct. Persons in College / Grad School	Margin of Error (+/-)
Age Group						
18-24	1,092,859	5,657	474,038	4332	43.38	0.33
25-34	1,417,906	4,311	196,869	2967	13.88	0.20
35+	6,270,595	4,078	164,245	2840	2.62	0.05
TOTAL	8,781,360		835,152		9.51	

Source: U.S. Census Bureau, 2007-2011 American Community Survey, Tables B06009 and S1501

Table 6C: Percent of Persons 25 and Older without a High School Degree, by Portage County Cluster, Portage County Overall, and Ohio, 2007-2011

Cluster	Number of Persons 25 and Older	Margin of Error (+/-)	Number of Persons 25 and Older without a High School Degree	Margin of Error (+/-)	Percent of Persons without a High School Degree	Margin of Error (+/-)
Aurora	10,502	237	472	167	4.49	1.59
Edinburg/Palmyra/Atwater/Deerfield	7,620	251	837	335	10.98	2.18
Franklin/Brady Lake/Ravenna Township	10,419	361	1,217	373	11.68	2.58
Freedom/Windham/Charlestown/Paris	7,169	372	1,195	476	16.67	2.89
Hiram/Garrettsville/Nelson	5,943	291	687	247	11.56	2.72
Kent City	12,574	594	942	215	7.49	1.67
Mantua/Shalersville	7,886	249	848	299	10.75	2.40
Mogadore/Suffield/Randolph	9,053	302	666	324	7.36	2.28
Ravenna City	7,767	302	1,232	221	15.86	2.78
Rootstown	5,483	187	368	114	6.71	2.07
Streetsboro/Sugar Bush Knolls	10,512	288	894	212	8.50	1.97
Tallmadge/Brimfield	6,828	302	419	225	6.14	2.36
Total for Portage	101,756	241	9,777	662	9.61	0.65
Ohio	7,688,501	1,236	936,133	8,072	12.18	0.10

Source: U.S. Census Bureau, 2007-2011 American Community Survey, Table B06009

Table 7B: Persons Living at Percents of the Federal Poverty Level, Portage County and Ohio, 2007-2011

Percent of Federal Poverty Level: Poverty Range	Portage County				Ohio			
	Persons for whom Poverty Status is Determined	Margin of Error (+/-)	Pct. Persons for whom Poverty Status is Determined	Margin of Error (+/-)	Persons for whom Poverty Status is Determined	Margin of Error (+/-)	Pct. Persons for whom Poverty Status is Determined	Margin of Error (+/-)
< 50%	10,628	1,115	6.92	0.72	760,408	11,941	6.78	0.11
50%-<100%	11,349	1,841	7.39	1.20	893,785	21,570	7.97	0.19
100%-<150%	11,183	2,205	7.28	1.44	979,078	29,074	8.73	0.05
150%-<200%	12,920	2,489	8.41	1.62	1,030,972	34,447	9.19	0.31
>=200%	107,474	2,011	69.99	1.26	7,549,285	25,838	67.32	0.23
TOTAL	153,554	753	100.00		11,213,528	1,905	100.00	

Source: U.S. Census Bureau, 2007-2011 American Community Survey, Table S1701

Table 7C: Percent of Persons Living Below 100% of the Federal Poverty Level, by Portage County Cluster, Portage County Overall, and Ohio, 2007-2011

Cluster	Persons for whom Poverty Status is Determined	Persons for whom Poverty Status is Determined - MOE (+/-)	Persons Below Poverty Level	Persons Below Poverty Level - MOE (+/-)	Percent of Persons Living Below 100% FPL	Percent of Persons Living Below 100% FPL - MOE (+/-)
Aurora	15,035	169	772	358	5.13	2.38
Edinburg/Palmyra/Atwater/Deerfield	11,048	72	746	215	6.75	1.95
Franklin/Brady Lake/Ravenna Township	15,187	121	2,420	561	15.93	3.69
Freedom/Windham/Charlestown/Paris	10,491	541	1,813	432	17.28	4.02
Hiram/Garrettsville/Nelson	8,530	436	586	257	6.87	3.00
Kent City	23,654	660	8,354	796	35.32	3.22
Mantua/Shalersville	11,086	246	897	363	8.09	3.27
Mogadore/Suffield/Randolph	12,665	300	844	327	6.66	2.58
Ravenna City	11,605	149	2,534	598	21.84	5.15
Rootstown	8,104	30	577	256	7.12	3.16
Streetsboro/Sugar Bush Knolls	15,732	140	1,128	312	7.17	1.98
Tallmadge/Brimfield	10,417	138	1,306	407	12.54	3.90
Total for Portage	153,554	753	21,977	1,466	14.31	0.95
Ohio	11,213,528	1,905	1,654,193	17,963	14.75	0.20

Source: U.S. Census Bureau, 2007-2011 American Community Survey, Table S1701

Table 7D: Percent of Children Living Below 100% of the Federal Poverty Level, by Portage County Cluster, Portage County Overall, and Ohio, 2007-2011

Cluster	Persons < 18 for whom Poverty Status is Determined	Persons < 18 for whom Poverty Status is Determined - MOE (+/-)	Persons < 18 Below Poverty Level	Persons < 18 Below Poverty Level - MOE (+/-)	Percent of Persons < 18 Living Below 100% FPL	Percent of Persons < 18 Living Below 100% FPL - MOE (+/-)
Aurora	3,826	213	189	154	5.13	2.38
Edinburg/Palmyra/Atwater/Deerfield	3,654	241	248	152	7.17	1.98
Franklin/Brady Lake/Ravenna Township	2,551	204	441	227	8.09	3.27
Freedom/Windham/Charlestown/Paris	4,306	350	1,556	408	35.32	3.22
Hiram/Garrettsville/Nelson	2,595	253	948	329	21.84	5.15
Kent City	3,079	309	734	293	15.93	3.69
Mantua/Shalersville	2,414	171	480	234	12.54	3.90
Mogadore/Suffield/Randolph	1,916	155	202	122	7.12	3.16
Ravenna City	2,528	273	243	144	6.66	2.58
Rootstown	2,463	223	153	88	6.75	1.95
Streetsboro/Sugar Bush Knolls	2,495	277	714	218	17.28	4.02
Tallmadge/Brimfield	1,733	244	117	132	6.87	3.00
Total for Portage	33,560	112	6,025	728	17.95	2.20
Ohio	2,699,622	1,896	572,022	9,028	21.19	0.30

Source: U.S. Census Bureau, 2007-2011 American Community Survey, Table S1701

Table 8A: Percent of Children without Health Insurance, Portage County and Ohio, 2009-2011

Portage County				Ohio			
Number of Children w/o Health Insurance, 2009-2011	Number of Children w/o Health Insurance, 2009-2011 - MOE (+/-)	Percent of Children w/o Health Insurance, 2009-2011	Percent of Children w/o Health Insurance, 2009-2011 - MOE (+/-)	Number of Children w/o Health Insurance, 2009-2011	Number of Children w/o Health Insurance, 2009-2011 - MOE (+/-)	Percent of Children w/o Health Insurance, 2009-2011	Percent of Children w/o Health Insurance, 2009-2011 - MOE (+/-)
1,467	345	4.40	1.03	163,792	4,546	6.03	0.17

Source: U.S. Census Bureau, 2009-2011 American Community Survey, Table B27001

Table 8B: Percent of Adults without Health Insurance, Portage County and Ohio, 2009-2011

Portage County				Ohio			
Number of Adults w/o Health Insurance, 2009-2011	Number of Adults w/o Health Insurance, 2009-2011 - MOE (+/-)	Percent of Adults w/o Health Insurance, 2009-2011	Percent of Adults w/o Health Insurance, 2009-2011 - MOE (+/-)	Number of Adults w/o Health Insurance, 2009-2011	Number of Adults w/o Health Insurance, 2009-2011 - MOE (+/-)	Percent of Adults w/o Health Insurance, 2009-2011	Percent of Adults w/o Health Insurance, 2009-2011 - MOE (+/-)
15,612	1,126	12.31	0.88	1,201,309	9,493	13.90	0.11

Source: U.S. Census Bureau, 2009-2011 American Community Survey, Table B27001

Table 9A: Children Enrolled in Medicaid, Portage County and Ohio, 2007

Area	Number of Children 0-19	Number of Children 0-19 Enrolled in Medicaid	Percent Children 0-19 Enrolled in Medicaid
Portage County	40,119	11,868	29.58
Ohio	3,064,656	1,188,168	38.77

Source: Ohio Department of Job and Family Services, Office of Ohio Health Plans, 2007; US Census data from 2007 small area estimates program

Table 10A: Percent of Children and Working-Age Adults without a Personal Health Care Provider (PHCP) by Insurance Status, Portage County and Ohio, 2008

Area	Pct. Insured Children w/o Personal Health Care Provider	Pct. Insured Children w/o Personal Health Care Provider - MOE (+/-)	Pct. Uninsured Children w/o Personal Health Care Provider	Pct. Uninsured Children w/o Personal Health Care Provider - MOE (+/-)	Pct. Insured Adults w/o Personal Health Care Provider	Pct. Insured Adults w/o Personal Health Care Provider - MOE (+/-)	Pct. Uninsured Adults with Personal Health Care Provider	Pct. Uninsured Adults with Personal Health Care Provider - MOE (+/-)
Portage County	0.82	1.15	50.00	50.00	11.15	4.15	34.68	18.83
Ohio	9.84	0.62	25.36	4.04	13.58	0.48	46.32	1.62

Source: 2008 Ohio Family Health Survey

Table 10B: Percent of Working-Age Adults without a Personal Health Care Provider (PHCP) by Educational Attainment, Portage County and Ohio, 2008

Area	Percent with no High School Diploma w/o PHCP	Percent with no High School Diploma w/o PHCP - MOE (+/-)	Percent with a High School Diploma w/o PHCP	Percent with a High School Diploma w/o PHCP - MOE (+/-)	Percent with Some College w/o PHCP	Percent with Some College w/o PHCP - MOE (+/-)	Percent with Bachelor's Degree or Higher w/o PHCP	Percent with Bachelor's Degree or Higher w/o PHCP - MOE (+/-)
Portage County	17.22	25.67	18.63	7.99	10.78	7.39	9.90	6.64
Ohio	29.60	1.98	21.40	0.88	18.19	1.00	13.17	0.81

Source: 2008 Ohio Family Health Survey

Table 10C: Children and Working-Age Adults without a Personal Health Care Provider (PHCP), Portage County and Ohio, 2008

Area	Weighted Number of Uninsured Children	Weighted Number of Uninsured Children - MOE (+/-)	Weighted Pct. Uninsured Children	Weighted Pct. Uninsured Children - MOE (+/-)	Weighted Number of Uninsured Adults	Weighted Number of Uninsured Adults - MOE (+/-)	Weighted Pct. Uninsured Adults	Weighted Pct. Uninsured Adults - MOE (+/-)
Portage County	468	496	1.49	1.60	13,414	4,368	2.68	4.43
Ohio	268,029	16,017	10.53	0.61	1,349,246	38,347	19.12	0.51

Source: 2008 Ohio Family Health Survey

Table 11A: Women in Need of Publicly Funded Contraception, Portage County and Ohio, 2006

Area	Number of Women aged 13-44	Number of Women Needing Contraception	Percent Women Needing Contraception
Portage County	37,840	21,550	56.95
Ohio	2,488,330	1,330,250	53.46

Source: Guttmacher Institute, "Contraceptive Needs and Services, 2006"

Table 13A: Access to Care Providers, Portage County

Cluster	Number of Providers						Total
	Primary Care	Specialty Care	Pediatric Care	OB-GYN	Mental Health	Hearing, Vision, Dental	
Aurora	1	4	0	0	0	0	5
Edinburg/Palmyra/Atwater/Deerfield	0	0	0	0	0	0	0
Franklin/Brady Lake/Ravenna Township	0	9	3	0	3	5	20
Freedom/Windham/Charlestown/Paris	0	0	0	0	0	0	0
Hiram/Garrettsville/Nelson	1	2	0	0	0	0	3
Kent City	25	19	5	2	10	27	88
Mantua/Shalersville	1	0	0	0	0	2	3
Mogadore/Suffield/Randolph	0	0	0	0	0	2	2
Ravenna City	3	75	3	5	0	13	99
Rootstown	0	1	0	0	0	0	1
Streetsboro/Sugar Bush Knolls	9	15	5	2	0	16	47
Tallmadge/Brimfield	2	0	0	0	0	3	5
Total for Portage	42	125	16	9	13	68	273

Sources: The Office of Policy, Research, and Strategic Planning's "Ohio County Profiles" (MDs, DOs); Portage County Health District's Health Alert Network (HAN) listing by location and specialty (primary care, specialty care, pediatric care, obstetrics-gynecology, mental health care, and hearing/vision/dental care)

Table 14A: Children with Unmet Health Care Needs, Portage County and Ohio, 2008

Area	Weighted Frequency of Children w/unmet Health Care Needs	Weighted Frequency of Children w/unmet Health Care Needs - MOE (+/-)	Weighted Percent of Children w/unmet Health Care Needs	Weighted Percent of Children w/unmet Health Care Needs - MOE (+/-)
Portage County	982	945	3.12	3.00
Ohio	212,453	14,094	8.35	0.55

Source: 2008 Ohio Family Health Survey

Table 14B: Adults with Unmet Health Care Needs, Portage County and Ohio, 2008

Area	Weighted Frequency of Adults w/unmet Health Care Needs	Weighted Frequency of Adults w/unmet Health Care Needs - MOE (+/-)	Weighted Percent of Adults w/unmet Health Care Needs	Weighted Percent of Adults w/unmet Health Care Needs - MOE (+/-)
Portage County	27,572	5,623	28.13	5.58
Ohio	2,139,633	43,033	29.98	0.57

Source: 2008 Ohio Family Health Survey

Table 15A: Average Annual Age-Adjusted Incidence of Invasive Female Breast Cancer per 100,000 Females, by County Cluster, Portage County, 2000-2009

Cluster	Number of Cases of Female Breast Cancer (2000-2009)	Age-Adjusted* Annual Incidence of Female Breast Cancer per 100,000 Females (2000-2009)
Aurora	128	124.35
Edinburg/Palmyra/Atwater/Deerfield	74	111.54
Franklin/Brady Lake/Ravenna Township	103	104.41
Freedom/Windham/Charlestown/Paris	54	87.79
Hiram/Garrettsville/Nelson	48	95.89
Kent City	127	127.79
Mantua/Shalersville	69	103.25
Mogadore/Suffield/Randolph	91	114.89
Ravenna City	92	120.35
Rootstown	50	98.46
Streetsboro/Sugar Bush Knolls	75	78.60
Tallmadge/Brimfield	46	85.60
Total for Portage	959	104.70

Source: Ohio Cancer Incidence Surveillance System, 2010 US decennial census, Summary File (SF) 1

*See the Methods section for documentation on the methods for age adjustment.

Table 16A: Average Annual Age-Adjusted Incidence of Cervical Cancer per 100,000 Females, Portage County, 2000-2009

Area	Number of Cases of Cervical Cancer (2000-2009)	Age-Adjusted* Annual Incidence of Cervical Cancer per 100,000 Females (2000-2009)
Portage County	51	6.24

Source: Ohio Cancer Incidence Surveillance System, 2010 US decennial census, Summary File (SF) 1

*See the Methods section for documentation on the methods for age adjustment.

Table 17A: Average Annual Age-Adjusted Incidence of Invasive Uterine Cancer per 100,000 Females, by County Cluster, Portage County, 2000-2009

Cluster	Number of Cases of Uterine Cancer (2000-2009)	Age-Adjusted* Annual Incidence of Uterine Cancer per 100,000 Females (2000-2009)
Aurora	24	20.61
Edinburg/Palmyra/Atwater/Deerfield	12	17.71
Franklin/Brady Lake/Ravenna Township	18	17.55
Freedom/Windham/Charlestown/Paris	10	14.37
Hiram/Garrettsville/Nelson	14	25.52
Kent City	22	23.44
Mantua/Shalersville	18	26.82
Mogadore/Suffield/Randolph	23	27.03
Ravenna City	18	23.14
Rootstown	12	23.78
Streetsboro/Sugar Bush Knolls	22	22.33
Tallmadge/Brimfield	15	25.27
Total for Portage	208	21.79

Source: Ohio Cancer Incidence Surveillance System, 2010 US decennial census, Summary File (SF) 1

*See the Methods section for documentation on the methods for age adjustment

Table 18A: Average Annual Age-Adjusted Incidence of Invasive Ovarian Cancer per 100,000 Females, by County Cluster, Portage County, 2000-2009

Cluster	Number of Cases of Ovarian Cancer (2000-2009)	Age-Adjusted* Annual Incidence of Ovarian Cancer per 100,000 Females (2000-2009)
Aurora	13	11.37
Edinburg/Palmyra/Atwater/Deerfield	--	--
Franklin/Brady Lake/Ravenna Township	17	21.68
Freedom/Windham/Charlestown/Paris	--	--
Hiram/Garrettsville/Nelson	--	--
Kent City	20	17.98
Mantua/Shalersville	10	14.41
Mogadore/Suffield/Randolph	17	19.85
Ravenna City	--	--
Rootstown	--	--
Streetsboro/Sugar Bush Knolls	--	--
Tallmadge/Brimfield	--	--
Total for Portage	122	13.34

Source: Ohio Cancer Incidence Surveillance System, 2010 US decennial census, Summary File (SF) 1
 *See the Methods section for documentation on the methods for age adjustment

Table 19A: Average Annual Age-Adjusted Incidence of Invasive Testicular Cancer per 100,000 Males, Portage County, 2000-2009

	Number of Cases of Testicular Cancer (2000-2009)	Age-Adjusted* Annual Incidence of Testicular Cancer per 100,000 Males (2000-2009)
Total for Portage	34	4.89

Source: Ohio Cancer Incidence Surveillance System, 2010 US decennial census, Summary File (SF) 1
 *See the Methods section for documentation on the methods for age adjustment

Table 20A: Average Annual Age-Adjusted Incidence of Invasive Lung and Bronchus Cancer per 100,000 Population, by County Cluster, Portage County, 2000-2009

Cluster	Number of Cases of Lung & Bronchus Cancer (2000-2009)	Age-Adjusted* Annual Incidence of Lung & Bronchus Cancer per 100,000 (2000-2009)
Aurora	103	44.07
Edinburg/Palmyra/Atwater/Deerfield	104	79.88
Franklin/Brady Lake/Ravenna Township	126	63.79
Freedom/Windham/Charlestown/Paris	119	105.65
Hiram/Garrettsville/Nelson	61	63.48
Kent City	121	67.92
Mantua/Shalersville	93	70.35
Mogadore/Suffield/Randolph	82	46.63
Ravenna City	159	118.96
Rootstown	63	65.64
Streetsboro/Sugar Bush Knolls	101	58.86
Tallmadge/Brimfield	46	41.52
Total for Portage	1,181	66.75

Source: Ohio Cancer Incidence Surveillance System, 2010 US decennial census, Summary File (SF) 1

*See the Methods section for documentation on the methods for age adjustment

Table 21A: Average Annual Incidence of Chlamydia per 100,000 Population, by County Cluster, Portage County, 2008-2012

Cluster	Total 2010 Population	2008-2012 Chlamydia Cases	Average Annual Incidence of Chlamydia per 100,000 Population (2008-2012)
Aurora	15,548	84	108.05
Edinburg/Palmyra/Atwater/Deerfield	11,067	79	142.77
Franklin/Brady Lake/Ravenna Township	15,200	112	147.37
Freedom/Windham/Charlestown/Paris	10,460	94	179.73
Hiram/Garrettsville/Nelson	9,290	55	118.41
Kent City	28,904	547	378.49
Mantua/Shalersville	11,524	107	185.70
Mogadore/Suffield/Randolph	12,616	61	96.70
Ravenna City	11,724	173	295.12
Rootstown	8,225	38	92.40
Streetsboro/Sugar Bush Knolls	16,205	145	178.96
Tallmadge/Brimfield	10,656	71	133.26
Total for Portage	161,419	1,617	200.35
Ohio	11,536,504	252,381	437.53

Source: Ohio Disease Reporting System, 2008-2012; 2010 US decennial census, Summary File (SF) 1

Table 22A: Average Annual Incidence of Gonorrhea per 100,000 Population, by County Cluster, Portage County, 2008-2012

Cluster	Total 2010 Population	2008-2012 Gonorrhea Cases	Average Annual Incidence of Gonorrhea per 100,000 Population (2008-2012)
Aurora	15,548	--	--
Edinburg/Palmyra/Atwater/Deerfield	11,067	--	--
Franklin/Brady Lake/Ravenna Township	15,200	17	22.37
Freedom/Windham/Charlestown/Paris	10,460	--	--
Hiram/Garrettsville/Nelson	9,290	--	--
Kent City	28,904	75	51.90
Mantua/Shalersville	11,524	--	--
Mogadore/Suffield/Randolph	12,616	13	20.61
Ravenna City	11,724	29	49.47
Rootstown	8,225	--	--
Streetsboro/Sugar Bush Knolls	16,205	26	32.09
Tallmadge/Brimfield	10,656	--	--
Total for Portage	161,419	208	25.77
Ohio	11,536,504	82,397	142.85

Source: Ohio Disease Reporting System, 2008-2012; 2010 US decennial census, Summary File (SF) 1

Table 23A: Average Annual Incidence of Syphilis per 100,000 Population, Portage County, 2007-2011

	Number of Cases of Primary and Secondary Syphilis, 2007-2011	Average Annual Incidence of Syphilis per 100,000 Population
Portage County	7	0.87

Source: Ohio Department of Health, STD Surveillance Program's "Primary and Secondary Syphilis Statistical Summaries", 2007-2011; 2010 US decennial census, Summary File (SF) 1

Table 24A: Prevalence of HIV/AIDS (per 100,000 population), by Sex, Portage County and Ohio, 2011

Gender	Portage County			Ohio		
	Living with AIDS, 2011	Total Population, 2010	Prevalence per 100,000 Population	Living with AIDS, 2011	Total Population, 2010	Prevalence per 100,000 Population
Male	79	78,841	100.20	14,195	5,632,156	252.03
Female	10	82,578	12.11	3,730	5,904,348	63.17
Total	89	161,419	55.14	17,926	11,536,504	155.39

Source: Ohio Department of Health, HIV/AIDS Surveillance Program

Table 24B: Percent of Persons Living with HIV/AIDS by Transmission Category, Portage County, 2007-2011

Transmission Category	Number of Persons Living with HIV/AIDS, 2007-2011	Percent Persons Living with HIV/AIDS, 2007-2011
Female IDU	2	2.25
Female Heterosexual Contact	6	6.74
Female Unknown	2	2.25
Male-to-Male Sexual Contact (MSM)	55	61.80
Male Injection Drug Use (IDU±MSM)	5	5.62
Male Heterosexual Contact	4	4.49
Male Unknown	15	16.85
Total for Portage	89	100.00

Source: Ohio Department of Health, HIV/AIDS Surveillance Program

Table 24C: Incidence of HIV Diagnosis (per 100,000 population), Portage County and Ohio, 2007-2011

Portage County			Ohio		
Diagnosed with HIV Infection, 2007-2011	Total Population, 2010	Avg. Incidence per 100,000 Population	Diagnosed with HIV Infection, 2007-2011	Total Population, 2010	Avg. Incidence per 100,000 Population
38	161,419	4.71	5,215	11,536,504	9.04

Source: Ohio Department of Health, HIV/AIDS Surveillance Program

Table 25A: Age-specific Average Birth Rates by Maternal Age, Portage County and Ohio, 2006-2010

Mother's Age Range	Portage County			Ohio		
	Number of Births, 2006-2010	Number of Females, 2010	Average Age-Specific Birth Rate	Number of Births, 2006-2010	Number of Females, 2010	Average Age-Specific Birth Rate
10 to 14	9	4,942	0.36	1,005	378,547	0.53
15 to 17	158	3,069	10.30	22,441	237,669	18.88
18 to 19	485	4,506	21.53	54,889	165,038	66.52
20 to 24	1,899	8,833	43.00	192,963	378,914	101.85
25 to 29	2,370	4,509	105.12	214,829	360,793	119.09
30 to 34	1,921	4,218	91.09	159,793	347,242	92.04
35 to 39	883	4,649	37.99	72,428	362,042	40.01
40+	175	39,391	0.89	15,132	2,955,478	1.02

Sources: Ohio Department of Health, Birth files 2006-2010; U.S. Census Bureau, 2010, Summary File 1, Table QTP2
 Note: Since the number of births represents 5 years of data, the average age-specific birth rate is calculated as the following:

$$[\# \text{ births} / (5 * \# \text{ females})] * 1000$$

Table 25B: Crude Birth Rates by Maternal Race, Portage County and Ohio, 2006-2010

Maternal Race	Portage County			Ohio		
	Number of Births, 2006-2010	Number of Persons, 2010	Average Crude Birth Rate for Group	Number of Births, 2006-2010	Number of Persons, 2010	Average Crude Birth Rate for Group
Overall	7,900	161,419	9.79	733,489	11,536,504	12.72
Non-Hispanic White	7,197	147,527	9.76	560,898	9,359,263	11.99
Non-Hispanic Black	434	6,611	13.13	121,174	1,389,115	17.45
Hispanic/Latino	95	2,073	9.17	33,384	354,674	18.83
Non-Hispanic Other	174	5,208	6.68	18,033	433,452	8.32

Sources: Ohio Department of Health, Birth files 2006-2010; U.S. Census Bureau, 2010, Summary File 1, Table QTP2
 Note: Since the number of births represents 5 years of data, the average crude rate is calculated as the following:

$$[\# \text{ births} / (5 * \# \text{ persons})] * 1000$$

Table 25C: Average Annual Crude Birth Rate by Portage County Cluster, Portage County Overall, and Ohio, 2006-2010

Cluster	Number of Live Births, 2006-2010	Total Number of Persons, 2010	Average Crude Birth Rate
Aurora	560	15,548	7.20
Edinburg/Palmyra/Atwater/Deerfield	519	11,067	9.38
Franklin/Bradly Lake/Ravenna Township	750	15,200	9.87
Freedom/Windham/Charlestown/Paris	626	10,460	11.97
Hiram/Garrettsville/Nelson	434	9,290	9.34
Kent City	1,129	28,904	7.81
Mantua/Shalersville	517	11,524	8.97
Mogadore/Suffield/Randolph	454	12,616	7.20
Ravenna City	756	11,724	12.90
Rootstown	392	8,225	9.53
Streetsboro/Sugar Bush Knolls	990	16,205	12.22
Tallmadge/Brimfield	523	10,656	9.82
Unknown	250	N/A	N/A
Total for Portage County	7,900	161,419	9.79
Ohio	733,489	11,536,504	12.72

Sources: Ohio Department of Health, Birth files 2006-2010; U.S. Census Bureau, 2010, Summary File 1, Table QTP2

Note: Since the number of births represents 5 years of data, the average crude rate is calculated as the following:

$$[\# \text{ births} / (5 * \# \text{ persons})] * 1000$$

Table 26A: Average Annual Teen Birth Rate Per 1,000 Females Aged 10-17, by Portage County Cluster, Portage County Overall, and Ohio, 2006-2010

Cluster	Number of Live Births, 2006-2010	Total Number of Females Ages 10-17, 2010	Average 10-17 Year Old Birth Rate
Aurora	3	1,047	N/A
Edinburg/Palmyra/Atwater/Deerfield	11	659	3.34
Franklin/Bradly Lake/Ravenna Township	23	695	6.62
Freedom/Windham/Charlestown/Paris	25	591	8.46
Hiram/Garrettsville/Nelson	12	489	4.91
Kent City	20	854	4.68
Mantua/Shalersville	7	634	2.21
Mogadore/Suffield/Randolph	5	728	1.37
Ravenna City	28	550	10.18
Rootstown	5	430	2.33
Streetsboro/Sugar Bush Knolls	14	797	3.51
Tallmadge/Brimfield	7	537	2.61
Unknown	7	N/A	N/A
Total for Portage	167	8,011	4.17
Ohio	23,446	616,216	7.61

Sources: Ohio Department of Health, Birth files 2006-2010; U.S. Census Bureau, 2010, Summary File 1, Table QTP2
 Note: Since the number of births represents 5 years of data, the average 10-17 year old birth rate is calculated as the following:

$$[\# \text{ births} / (5 * \# \text{ females } 10-17 \text{ years old})] * 1000$$

Table 26B: Teen Birth Rates, Portage County and Ohio, 2006-2010

Mother's Age Range	Portage County				Ohio			
	Number of Births, 2006-2010	Number of Females, 2010	Average Age-Specific Birth Rate for Group	Percent of all Births	Number of Births, 2006-2010	Number of Females, 2010	Average Age-Specific Birth Rate for Group	Percent of all Births
10 to 14	9	4,942	0.36	0.11	1,005	378,547	0.53	0.14
15 to 17	158	3,069	10.30	2.00	22,441	237,669	18.88	3.06
10 to 17	167	8,011	4.17	2.11	23,446	616,216	7.61	3.20
All	7,900				733,489			

Sources: Ohio Department of Health, Birth files 2006-2010; U.S. Census Bureau, 2010, Summary File 1, Table QTP2
 Note: Since the number of births represents 5 years of data, the average age-specific birth rate is calculated as the following:

$$[\# \text{ births} / (5 * \# \text{ females})] * 1000$$

Table 27A: Births to Unmarried Women, Portage County and Ohio, 2006-2010

Portage County					Ohio				
Number of Births, 2006-2010	Unmarried Births	Pct. Unmarried	Married Births	Pct. Married Births	Number of Births, 2006-2010	Unmarried Births	Pct. Unmarried	Married Births	Pct. Married Births
7,900	2,962	37.49	4,938	62.51	733,489	311,944	42.53	421,545	57.47

Source: Ohio Department of Health, Birth files 2006-2010

Table 27B: Percent of Births to Unmarried Women by Portage County Cluster, Portage County Overall, and Ohio, 2006-2010

Cluster	Number of Live Births, 2006-2010	Number of Births to Unmarried Women	Pct. Unmarried Births
Aurora	560	92	16.43
Edinburg/Palmyra/Atwater/Deerfield	519	198	38.15
Franklin/Bradly Lake/Ravenna Township	750	347	46.27
Freedom/Windham/Charlestown/Paris	626	329	52.56
Hiram/Garrettsville/Nelson	434	129	29.72
Kent City	1,129	514	45.53
Mantua/Shalersville	517	194	37.52
Mogadore/Suffield/Randolph	454	120	26.43
Ravenna City	756	374	49.47
Rootstown	392	103	26.28
Streetsboro/Sugar Bush Knolls	990	262	26.46
Tallmadge/Brimfield	523	162	30.98
Unknown	250	138	55.20
Total for Portage	7,900	2,962	37.49
Ohio	733,489	311,944	42.53

Source: Ohio Department of Health, Birth files 2006-2010

Table 28A: Births Paid by Medicaid, Portage County and Ohio, 2006-2010

Payer Source	Portage County		Ohio	
	Number	Percent	Number	Percent
Medicaid	1,959	31.52	267,371	38.67
Private Insurance	3,769	60.64	356,885	51.62
Self-Pay	158	2.54	34,250	4.95
CHAMPUS/TRICARE*	18	0.29	3,615	0.52
Other Government*	20	0.32	12,610	1.82
Other *	291	4.68	16,606	2.40
Total	6,215	100.00	691,337	100.00

Source: Ohio Department of Health, Birth files 2006-2010

Note: There were 7,900 births in Portage County, and 733,489 births in Ohio. However, payer source was missing on 1,685 records for Portage County, and on 42,151 records for Ohio. Percents reported in this table are based only on those records for which payer source was reported. Also, CHAMPUS/TRICARE, other government, and other were combined into "other" in Figure 28A.

Table 28B: Percent of Births Paid by Medicaid, by Portage County Cluster, Portage County Overall, and Ohio, 2006-2010

Cluster	Number of Live Births With Known Payer Source, 2006-2010	Number of Births Paid by Medicaid	Percent Paid by Medicaid	<i>Unknown Payer</i>
Aurora	507	49	9.66	53
Edinburg/Palmyra/Atwater/Deerfield	414	122	29.47	105
Franklin/Bradly Lake/Ravenna Township	541	223	41.22	209
Freedom/Windham/Charlestown/Paris	437	222	50.80	189
Hiram/Garrettsville/Nelson	362	81	22.38	72
Kent City	895	380	42.46	234
Mantua/Shalersville	388	115	29.64	129
Mogadore/Suffield/Randolph	402	97	24.13	52
Ravenna City	524	257	49.05	232
Rootstown	316	68	21.52	76
Streetsboro/Sugar Bush Knolls	817	146	17.87	173
Tallmadge/Brimfield	422	107	25.36	101
Unknown	190	92	48.42	60
Total for Portage	6,215	1,959	31.52	1,685
Ohio	691,337	267,371	38.67	42,151

Source: Ohio Department of Health, Birth files 2006-2010

Note: The calculation for Percent Paid by Medicaid is based only on those records with a known payer source.

Table 29A: Births to Mothers with an Overweight/Obese Pre-pregnancy BMI, Portage County and Ohio, 2006-2010

Pre-pregnancy status	Portage County		Ohio	
	Number	Percent	Number	Percent
Underweight BMI	349	4.75	30,486	4.44
Healthy BMI	3,742	50.92	330,464	48.18
Overweight BMI	1,670	22.72	164,537	23.99
Obese BMI	1,588	21.61	160,381	23.38
Total	7,349	100.00	685,868	100.00

Source: Ohio Department of Health, Birth files 2006-2010

Note: There were 7,900 births in Portage County, and 733,489 births in Ohio. However, pre-pregnancy status was missing on 551 records for Portage County, and on 47,621 records for Ohio. Percents reported in this table are based only on those records for which pre-pregnancy status was reported.

Table 29B: Percent of Births to Mothers with an Overweight/Obese Pre-pregnancy BMI, by Portage County Cluster, Portage County Overall, and Ohio, 2006-2010

Cluster	Number of Live Births with Known Maternal Pre-Pregnancy BMIs, 2006-2010	Number of Births to Mothers w/ Over-Weight/ Obese Pre-pregnancy BMI	Percent Over-weight/Obese Pre-pregnancy BMI	Unknown BMI Status
Aurora	545	189	34.68	15
Edinburg/Palmyra/Atwater/Deerfield	491	256	52.14	28
Franklin/Bradly Lake/Ravenna Township	678	331	48.82	72
Freedom/Windham/Charlestown/Paris	571	288	50.44	55
Hiram/Garrettsville/Nelson	407	154	37.84	27
Kent City	1,037	445	42.91	92
Mantua/Shalersville	480	220	45.83	37
Mogadore/Suffield/Randolph	422	199	47.16	32
Ravenna City	694	350	50.43	62
Rootstown	363	164	45.18	29
Streetsboro/Sugar Bush Knolls	947	369	38.97	43
Tallmadge/Brimfield	476	190	39.92	47
Unknown	238	103	43.28	12
Total for Portage County	7,349	3,258	44.33	551
Ohio	685,868	324,918	47.37	47,621

Source: Ohio Department of Health, Birth files 2006-2010

Note: The calculation for Percent Overweight/Obese Pre-pregnancy BMI is based only on those records with a known maternal pre-pregnancy BMI.

Table 30A: Births to Mothers by Maternal Gestational Weight Gain, Portage County and Ohio, 2006-2010

Maternal Gestational Weight Gain	Portage County		Ohio	
	Number	Percent	Number	Percent
Insufficient	958	17.38	132,479	20.35
Adequate	1,490	27.03	190,658	29.29
Excessive	3,064	55.59	327,791	50.36
Total	5,512	100.00	650,928	100.00

Source: Ohio Department of Health, Birth files 2006-2010

Note: There were 7,900 births in Portage County, and 733,489 births in Ohio. However, maternal gestational weight gain was missing on 2,388 records for Portage County, and on 82,561 records for Ohio. Percents reported in this table are based only on those records for which maternal gestational weight gain was reported.

Table 30B: Percent of Births to Mothers with Excessive Gestational Weight Gain, by Portage County Cluster, Portage County Overall, and Ohio, 2006-2010

Cluster	Number of Live Births with Known Maternal Gestational Weight Change, 2006-2010	Number of Births to Mothers w/ Excessive Gestational Weight Gain	Percent Births to Mothers w/ Excessive Gestational Weight Gain	<i>Unknown Gestational Weight Change</i>
Aurora	509	268	52.65	51
Edinburg/Palmyra/Atwater/Deerfield	353	205	58.07	166
Franklin/Bradly Lake/Ravenna Township	509	278	54.62	241
Freedom/Windham/Charlestown/Paris	443	260	58.69	183
Hiram/Garrettsville/Nelson	362	189	52.21	72
Kent City	716	379	52.93	413
Mantua/Shalersville	383	216	56.40	134
Mogadore/Suffield/Randolph	236	137	58.05	218
Ravenna City	506	306	60.47	250
Rootstown	241	120	49.79	151
Streetsboro/Sugar Bush Knolls	776	448	57.73	214
Tallmadge/Brimfield	283	153	54.06	240
Unknown	195	105	53.85	55
Total for Portage	5,512	3,064	55.59	2,388
Ohio	650,928	327,791	50.36	82,561

Source: Ohio Department of Health, Birth files 2006-2010

Note: The calculation for Percent of Births to Mothers with Excessive Gestational Weight Gain includes only those records with known maternal gestational weight change.

Table 31A: Births by Initiation of Maternal Prenatal Care, Portage County and Ohio, 2006-2010

Initiation of Maternal Prenatal Care	Portage County		Ohio	
	Number	Percent	Number	Percent
First Trimester	5,697	77.75	475,190	71.42
Second Trimester	1,316	17.96	146,290	21.99
Third Trimester or None	314	4.29	43,867	6.59
Total	7,327	100.00	665,347	100.00

Source: Ohio Department of Health, Birth files 2006-2010

Note: There were 7,900 births in Portage County, and 733,489 births in Ohio. However, initiation of maternal prenatal care information was missing on 573 records for Portage County, and on 68,142 records for Ohio. Percents reported in this table are based only on those records for which initiation of maternal prenatal care information was reported.

Table 31B: Percent of Births to Mothers not Receiving 1st Trimester Prenatal Care, by Portage County Cluster, Portage County Overall, and Ohio, 2006-2010

Cluster	Number of Live Births with Known 1st Trimester Care status, 2006-2010	Number of Births to Mothers not Receiving 1st Trimester Prenatal Care	Percent Births to Mothers not Receiving 1st Trimester Prenatal Care	<i>Unknown 1st Trimester Care</i>
Aurora	526	86	16.35	34
Edinburg/Palmyra/Atwater/Deerfield	489	113	23.11	30
Franklin/Bradly Lake/Ravenna Township	705	149	21.13	45
Freedom/Windham/Charlestown/Paris	588	151	25.68	38
Hiram/Garrettsville/Nelson	421	137	32.54	13
Kent City	1,022	263	25.73	107
Mantua/Shalersville	489	96	19.63	28
Mogadore/Suffield/Randolph	408	83	20.34	46
Ravenna City	692	154	22.25	64
Rootstown	353	60	17.00	39
Streetsboro/Sugar Bush Knolls	939	182	19.38	51
Tallmadge/Brimfield	466	74	15.88	57
Unknown	229	82	35.81	21
Total for Portage	7,327	1,630	22.25	573
Ohio	665,347	190,157	28.58	68,142

Source: Ohio Department of Health, Birth files 2006-2010

Note: The calculation for Percent of Births to Mothers not receiving 1st trimester prenatal care includes only those records with known 1st trimester care status

Table 32A: Births by Adequacy of Maternal Prenatal Care, Portage County and Ohio, 2006-2010

Adequacy of Maternal Prenatal Care	Portage County		Ohio	
	Number	Percent	Number	Percent
Inadequate	910	12.75	115,270	18.28
Intermediate	605	8.48	79,419	12.60
Adequate	2,819	39.51	238,536	37.83
Adequate Plus	2,801	39.26	197,297	31.29
Total	7,135	100.00	630,522	100.00

Source: Ohio Department of Health, Birth files 2006-2010

Note: There were 7,900 births in Portage County, and 733,489 births in Ohio. However, adequacy of maternal prenatal care information was missing on 765 records for Portage County, and on 102,967 records for Ohio. Percents reported in this table are based only on those records for which adequacy of maternal prenatal care information was reported.

Table 32B: Percent of Births to Mothers not Receiving Early and Adequate Prenatal Care, by Portage County Cluster, Portage County Overall, and Ohio, 2006-2010

Cluster	Number of Live Births with Known Prenatal Care Quality, 2006-2010	Number of Births to Mothers not Receiving Adequate Prenatal Care	Percent of Births to Mothers not Receiving Adequate Prenatal Care	<i>Unknown Prenatal Care</i>
Aurora	515	135	26.21	45
Edinburg/Palmyra/Atwater/Deerfield	478	78	16.32	41
Franklin/Bradly Lake/Ravenna Township	687	139	20.23	63
Freedom/Windham/Charlestown/Paris	569	111	19.51	57
Hiram/Garrettsville/Nelson	403	144	35.73	31
Kent City	999	207	20.72	130
Mantua/Shalersville	468	96	20.51	49
Mogadore/Suffield/Randolph	405	60	14.81	49
Ravenna City	670	126	18.81	86
Rootstown	345	53	15.36	47
Streetsboro/Sugar Bush Knolls	916	226	24.67	74
Tallmadge/Brimfield	457	68	14.88	66
Unknown	223	72	32.29	27
Total for Portage	7,135	1,515	21.23	765
Ohio	665,347	190,157	28.58	68,142

Source: Ohio Department of Health, Birth files 2006-2010

Note: The calculation for Percent of Births to Mothers not receiving early and adequate prenatal care includes only those records with known prenatal care quality

Table 33A: Percent of Births to Women Who Smoked During Any Trimester of Pregnancy, by Portage County Cluster, Portage County Overall, and Ohio, 2006-2010

Cluster	Number of Live Births with Known Maternal Smoking Status, 2006-2010	Number of Births to Mothers who Smoked During Pregnancy	Percent of Births to Mothers who Smoked During Pregnancy	<i>Unknown Smoking Status During Pregnancy</i>
Aurora	560	47	8.39	0
Edinburg/Palmyra/Atwater/Deerfield	518	122	23.55	1
Franklin/Bradly Lake/Ravenna Township	750	237	31.60	0
Freedom/Windham/Charlestown/Paris	623	193	30.98	3
Hiram/Garrettsville/Nelson	432	90	20.83	2
Kent City	1,124	246	21.89	5
Mantua/Shalersville	515	112	21.75	2
Mogadore/Suffield/Randolph	454	85	18.72	0
Ravenna City	751	230	30.63	5
Rootstown	392	61	15.56	0
Streetsboro/Sugar Bush Knolls	985	125	12.69	5
Tallmadge/Brimfield	523	89	17.02	0
Unknown	244	81	33.20	6
Total for Portage	7,871	1,718	21.83	29
Ohio	721,051	137,575	19.08	12,438

Source: Ohio Department of Health, Birth files 2006-2010

Note: The calculation for Percent of Births to Mothers who smoked during any trimester of pregnancy includes only those records with known smoking status during pregnancy

Table 34A: Percent of Births to Women with Pre-pregnancy or Gestational Diabetes, by Portage County Cluster, Portage County Overall, and Ohio, 2006-2010

Cluster	Number of Live Births with Known Maternal Diabetes Status, 2006-2010	Number of Births to Mothers with Diabetes	Percent of Births to Mothers with Diabetes	<i>Unknown Diabetes Status During Pregnancy</i>
Aurora	555	26	4.68	5
Edinburg/Palmyra/Atwater/Deerfield	497	27	5.43	22
Franklin/Bradly Lake/Ravenna Township	716	46	6.42	34
Freedom/Windham/Charlestown/Paris	605	35	5.79	21
Hiram/Garrettsville/Nelson	425	15	3.53	9
Kent City	1,085	58	5.35	44
Mantua/Shalersville	499	27	5.41	18
Mogadore/Suffield/Randolph	445	27	6.07	9
Ravenna City	715	31	4.34	41
Rootstown	382	13	3.40	10
Streetsboro/Sugar Bush Knolls	969	59	6.09	21
Tallmadge/Brimfield	504	29	5.75	19
Unknown	239	10	4.18	11
Total for Portage	7,636	403	5.28	264
Ohio	717,289	42,844	5.97	16,200

Source: Ohio Department of Health, Birth files 2006-2010

Note: The calculation for Percent of Births to Mothers with diabetes includes only those records with known maternal diabetes status during pregnancy.

Table 35A: Percent of Births to Women with Pre-pregnancy or Gestational Hypertension, by Portage County Cluster, Portage County Overall, and Ohio, 2006-2010

Cluster	Number of Live Births with Known Maternal Hypertension Status, 2006-2010	Number of Births to Mothers with Hypertension	Percent of Births to Mothers with Hyper-tension	Unknown Hypertension Status During Pregnancy
Aurora	555	20	3.60	5
Edinburg/Palmyra/Atwater/Deerfield	497	32	6.44	22
Franklin/Bradly Lake/Ravenna Township	716	47	6.56	34
Freedom/Windham/Charlestown/Paris	605	31	5.12	21
Hiram/Garrettsville/Nelson	425	14	3.29	9
Kent City	1,085	65	5.99	44
Mantua/Shalersville	499	28	5.61	18
Mogadore/Suffield/Randolph	445	39	8.76	9
Ravenna City	715	42	5.87	41
Rootstown	382	23	6.02	10
Streetsboro/Sugar Bush Knolls	969	51	5.26	21
Tallmadge/Brimfield	504	34	6.75	19
Unknown	243	8	3.29	7
Total for Portage	7,640	434	5.68	260
Ohio	722,507	43,765	6.06	10,982

Source: Ohio Department of Health, Birth files 2006-2010

Note: The calculation for Percent of Births to Mothers with hypertension includes only those records with known maternal hypertension status during pregnancy.

Table 36A: Births by Gestational Age, Portage County, Ohio, 2006-2010, and Healthy People 2020

Initiation of Maternal Prenatal Care	Portage County		Ohio		Healthy People 2020
	Number	Percent	Number	Percent	Percent
Total Preterm Births	927	11.84	92,332	12.61	11.40
34 to 36 weeks	663	8.47	64,046	8.74	8.10
32 to 33 weeks	114	1.46	11,944	1.63	1.40
< 32 weeks	150	1.92	16,342	2.23	1.80
Total Births with Gestational Age Info	7,832	100.00	732,416	100.00	

Source: Ohio Department of Health, Birth files 2006-2010

Note: There were 7,900 births in Portage County, and 733,489 births in Ohio. However, gestational age information was missing on 68 records for Portage County, and on 1,073 records for Ohio. Percents reported in this table are based only on those records for which adequacy of maternal prenatal care information was reported.

Table 36B: Percent of Preterm Births, by Portage County Cluster, Portage County Overall, and Ohio, 2006-2010

Cluster	Number of Live Births with Known Term Status, 2006-2010	Number of Preterm Births	Percent of Preterm Births	<i>UnknownTerm</i>
Aurora	559	62	11.09	1
Edinburg/Palmyra/Atwater/Deerfield	512	59	11.52	7
Franklin/Bradly Lake/Ravenna Township	742	93	12.53	8
Freedom/Windham/Charlestown/Paris	617	79	12.80	9
Hiram/Garrettsville/Nelson	433	51	11.78	1
Kent City	1,121	126	11.24	8
Mantua/Shalersville	513	62	12.09	4
Mogadore/Suffield/Randolph	454	66	14.54	0
Ravenna City	743	89	11.98	13
Rootstown	389	51	13.11	3
Streetsboro/Sugar Bush Knolls	985	104	10.56	5
Tallmadge/Brimfield	518	56	10.81	5
Unknown	246	29	11.79	4
Total for Portage County	7,832	927	11.84	68
Ohio	732,416	92,332	12.61	1,073

Source: Ohio Department of Health, Birth files 2006-2010

Note: The calculation for Percent of preterm births includes only those records with known term status.

Table 37A: Percent of Births by Birth Weight, Portage County and Ohio, 2006-2010

Birth Weight	Portage County		Ohio		Healthy People 2020
	Number	Percent	Number	Percent	Percent
Low Birth Weight	600	7.60	63,322	8.64	7.80
Very Low Birth Weight	102	1.29	11,899	1.62	1.40
Total	7,897	100.00	732,494	100.00	

Source: Ohio Department of Health, Birth files 2006-2010

Note: There were 7,900 births in Portage County, and 733,489 births in Ohio. However, birth weight information was missing on 3 records for Portage County, and on 995 records for Ohio. Percents reported in this table are based only on those records for which birth weight information was reported.

Table 37B: Percent of Births with Low Birth Weight, by Portage County Cluster, Portage County Overall, and Ohio, 2006-2010

Cluster	Number of Live Births with Known Birth Weights, 2006-2010	Number of Low Birth Weight Births	Percent of Low Birth Weight Births	<i>Unknown Birth Weights</i>
Aurora	560	31	5.54	0
Edinburg/Palmyra/Atwater/Deerfield	519	41	7.90	0
Franklin/Bradly Lake/Ravenna Township	750	63	8.40	0
Freedom/Windham/Charlestown/Paris	625	58	9.28	1
Hiram/Garrettsville/Nelson	434	26	5.99	0
Kent City	1,129	95	8.41	0
Mantua/Shalersville	517	43	8.32	0
Mogadore/Suffield/Randolph	454	30	6.61	0
Ravenna City	756	58	7.67	0
Rootstown	392	35	8.93	0
Streetsboro/Sugar Bush Knolls	990	65	6.57	0
Tallmadge/Brimfield	521	37	7.10	2
Unknown	250	18	7.20	0
Total for Portage	7,897	600	7.60	3
Ohio	732,494	63,322	8.64	995

Note: The calculation for Percent of Low Birth Weight births includes only those records with known birth weights.

Table 38A: Infants Not Breastfeeding at Hospital Discharge, Portage County and Ohio, 2006-2010

Breastfeeding Status	Portage County		Ohio	
	Number	Percent	Number	Percent
Not Breastfeeding	1,791	27.63	247,700	36.16
Breastfeeding	4,690	72.37	437,350	63.84
Total	6,481	100.00	685,050	100.00

Source: Ohio Department of Health, Birth files 2006-2010

Note: There were 7,900 births in Portage County, and 733,489 births in Ohio. However, breastfeeding at discharge information was missing on 1,419 records for Portage County, and on 48,439 records for Ohio. Percents reported in this table are based only on those records for which breastfeeding at discharge information was reported.

Table 38B: Infants Not Breastfeeding at Hospital Discharge, Portage County Clusters, Portage County Overall, and Ohio, 2006-2010

Cluster	Number of Live Births with Known Discharge Breast-feeding Statuses, 2006-2010	Number of Infants not Breastfeeding at Hospital Discharge	Percent Infants not Breastfeeding at Hospital Discharge	<i>Unknown Breast-feeding Status</i>
Aurora	513	106	20.66	47
Edinburg/Palmyra/Atwater/Deerfield	426	120	28.17	93
Franklin/Bradly Lake/Ravenna Township	571	180	31.52	179
Freedom/Windham/Charlestown/Paris	486	189	38.89	140
Hiram/Garrettsville/Nelson	384	105	27.34	50
Kent City	932	232	24.89	197
Mantua/Shalersville	402	123	30.60	115
Mogadore/Suffield/Randolph	392	93	23.72	62
Ravenna City	584	179	30.65	172
Rootstown	316	61	19.30	76
Streetsboro/Sugar Bush Knolls	820	205	25.00	170
Tallmadge/Brimfield	446	113	25.34	77
Unknown	209	85	40.67	41
Total for Portage County	6,481	1,791	27.63	1,419
Ohio	685,050	247,700	36.16	48,439

Source: Ohio Department of Health, Birth files 2006-2010

Note: The calculation for Percent of Infants not breastfeeding includes only those records with known statuses of breastfeeding at discharge.

Table 39A: Cumulative Percent of WIC Clients Still Breastfeeding by Age in Weeks, Portage County and Ohio, 2006-2010

Duration of Breast-feeding	Portage County			Ohio		
	Number of WIC Infants	Number Who Breastfed at Least This Long	Percent Who Breastfed at Least This Long	Number of WIC Infants	Number Who Breastfed at Least This Long	Percent Who Breastfed at Least This Long
(Never Breastfed)	656	N/A	47.92	66,170	N/A	50.78
Less than 1 Week	33	713	52.08	2,150	64,134	49.22
1 Week	104	680	49.67	8,609	61,984	47.57
2 Weeks	53	576	42.07	4,644	53,375	40.96
3 Weeks	25	523	38.20	3,351	48,731	37.40
4 to 7 Weeks	123	498	36.38	8,919	45,380	34.83
8 to 11 Weeks	78	375	27.39	6,709	36,461	27.98
12 to 15 Weeks	52	297	21.69	6,113	29,752	22.83
16 to 19 Weeks	35	245	17.90	3,307	23,639	18.14
20 to 23 Weeks	40	210	15.34	2,588	20,332	15.60
24 to 35 Weeks	77	170	12.42	6,953	17,744	13.62
36 to 47 Weeks	35	93	6.79	3,403	10,791	8.28
48 Weeks or More	58	58	4.24	7,388	7,388	5.67
Total	1,369			130,304		

Source: WIC enrollment and visit data housed on the WIC COGNOS system as of June 2013

Note: There were 1,468 WIC clients in Portage County, and 135,742 WIC clients in Ohio. However, breastfeeding status was unknown for 99 clients in Portage County, and for 5,438 clients in Ohio. All calculations in the table were made on the basis of clients for whom breastfeeding status was known.

Table 40A: Children with Lead Poisoning, Portage County and Ohio, 2011

Area	Number of Children 0-72 Months Screened for EBLL	Number of Children 0-72 Months Determined to Have EBLL	Percent Children 0-72 Months Determined to Have EBLL	Number of Children 0-72 Months Determined to Have Lead Levels above 5 ug/dL	Pct. Children 0-72 Months Determined to Have Lead Levels above 5 ug/dL
Portage County	1,495	5	0.33	33	2.21
Ohio	154,880	1,742	1.12	11319	7.31

Source: Ohio Department of Health, Data and Statistics on Childhood Lead Poisoning

Note: EBLL=Elevated Blood Lead Level, defined as 10 ug/dL or higher. In 2012 the Centers for Disease Control and Prevention Advisory Committee on Childhood Lead Poisoning Prevention (ACCLPP) established a reference value of 5 ug/dL to determine blood lead levels that are higher than most children.

Table 41A: Children with Untreated Dental Decay or Without Dental Sealants, Portage County and Ohio, 2009-2010

Area	Percent of Third Grade Students Who	
	Had Untreated Dental Decay	Were Without Dental Sealants
Portage County	22.70	40.00
Ohio	18.70	49.60

Source: Ohio Department of Health, Oral Health Surveillance System (OOHSS), 2009-2010 school year

Table 42A: Percent of Children Not Up to Date with the 4:3:1:3:3:1 Childhood Immunization Series by 24 Months of Age, Portage County Clusters and Portage County Overall, 2010

School District	Percent of School Children Not Up to Date
Aurora City	23.48
Crestwood Local	32.00
Field Local	25.00
James A Garfield Local	48.15
Kent City	37.38
Ravenna City	26.47
Rootstown Local	27.27
Southeast Local	22.64
Streetsboro City	24.05
Waterloo Local	30.00
Windham Exempted Village	54.17
Total for Portage	30.23

Source: Portage County Health District, 2010 Kindergarten Retrospective Study
 Note: 4:3:1:3:3:1 refers to four DTaP, three polio, one MMR, three Hib, three hepatitis B, and one dose of varicella vaccine.

Table 43A: Percent of Working-Age Adults That Smoked Cigarettes, by Gender, Portage County and Ohio, 2008

Group	Portage County				Ohio			
	Weighted Frequency	Weighted Frequency - MOE (+/-)	Pct. Smokers	Pct. Smokers - MOE (+/-)	Weighted Frequency	Weighted Frequency - MOE (+/-)	Pct. Smokers	Pct. Smokers - MOE (+/-)
All	25,021	5,032	25.70	5.05	1,987,970	42,923	27.77	0.56
- Male	11,493	4,012	27.73	8.60	1,029,658	35,104	29.11	0.86
- Female	13,528	3,900	24.36	6.55	958,222	28,338	26.47	0.71
- Insured	20,210	4,402	23.50	5.03	1,431,317	36,147	24.11	0.57
- Uninsured	4,811	2,875	42.37	19.16	556,353	26,243	45.62	1.60

Source: 2008 Ohio Family Health Survey

Table 44A: Active WIC-Recipient Clients Ages 24-59 Months who are High Weight for Height, 2013

Area	Number of WIC Clients	Number w/ High Weight for Height	Percent w/ High Weight for Height
Portage County	1,003	121	12.06
Ohio	88,594	11,188	12.63

Source: WIC Enrollment and Visit Data, June 2013

Table 45A: Percent of School-Aged Children that Had an Overweight or Obese BMI, by Gender, Portage County and Ohio, 2008

Group	Portage County				Ohio			
	Weighted Frequency	Weighted Frequency - MOE (+/-)	Pct. Overweight or Obese	Pct. Overweight or Obese - MOE (+/-)	Weighted Frequency	Weighted Frequency - MOE (+/-)	Pct. Overweight or Obese	Pct. Overweight or Obese - MOE (+/-)
All	7,368	2,565	45.94	14.41	413,097	17,373	35.58	1.40
- Male	5,163	2,295	49.93	17.98	247,487	14,423	41.34	2.01
- Female	2,206	1,747	38.70	23.92	165,610	11,974	29.45	1.89

Source: 2008 Ohio Family Health Survey

Table 46A: Prevalence of Children with Asthma, Portage County and Ohio, 2008

Group	Portage County				Ohio			
	Weighted Frequency	Weighted Frequency - MOE (+/-)	Pct. With Asthma	Pct.with Asthma - MOE (+/-)	Weighted Frequency	Weighted Frequency - MOE (+/-)	Pct. With Asthma	Pct.with Asthma - MOE (+/-)
All	2,916	1,500	9.26	4.87	398,364	19,325	15.46	0.72
- Male	1,356	992	8.30	6.14	231,127	15,129	17.66	1.09
- Female	1,561	1,186	10.29	7.72	161,104	12,680	12.97	0.97

Source: 2008 Ohio Family Health Survey

Table 47A: Percent of Childhood Cancers, by Site/Type, Portage County, 2000-2009

Population 19 and Younger, 2010	Number of Cancer Cases, 2000-2009	Average Annual Age-Adjusted Incidence per 100,000 Children 19 and Younger	Number of Cancers of the Brain or Other Parts of Central Nervous System	Pct. Total	Leukemia	Pct. Total	Other Sites/Types	Pct. Total
41,778	62	15.21	15	24.19	16	25.81	31	50.00

Source: Ohio Cancer Incidence Surveillance System (OCISS), 2000-2009; 2010 US decennial census, Summary File (SF) 1

Table 48A: Infant Mortality Rate per 1,000 Live Births, Portage County and Ohio, 2000-2009

Year	Portage County			Ohio		
	Infant Deaths	Live Births	Mortality Rate	Infant Deaths	Live Births	Mortality Rate
2000	7	1,723	4.06	1,111	155,721	7.13
2001	9	1,692	5.32	1,098	151,410	7.25
2002	5	1,599	3.13	1,136	147,832	7.68
2003	9	1,663	5.41	1,081	148,483	7.28
2004	8	1,632	4.90	1,081	148,855	7.26
2005	5	1,634	3.06	1,109	148,255	7.48
2006	6	1,627	3.69	1,105	150,510	7.34
2007	15	1,673	8.97	1,082	150,784	7.18
2008	12	1,572	7.63	1,072	148,592	7.21
2009	10	1,560	6.41	1,033	144,569	7.15
Total	86	16,375	5.25	10,908	1,495,011	7.30

Source: Ohio Department of Health, Infant Birth-Death Linked files 2000-2009
 Note: The Healthy People 2020 objective was less than 6.0 infant deaths per 1,000 live births

Table 48B: Neonatal and Post-neonatal Mortality Rate per 1,000 Live Births, Portage County and Ohio, 2000-2009

Portage County					Ohio				
Live Births	Neonatal Deaths	Neonatal Mortality Rate	Post Neonatal Deaths	Post Neonatal Mortality Rate	Live Births	Neonatal Deaths	Neonatal Mortality Rate	Post Neonatal Deaths	Post Neonatal Mortality Rate
16,375	56	3.42	30	1.83	1,495,011	7,328	4.90	3,580	2.39

Source: Ohio Department of Health, Infant Birth-Death Linked files 2000-2009

Note: The Healthy People 2020 objective was less than 4.1 neonatal deaths per 1,000 live births, and less than 2.0 post-neonatal deaths per 1,000 live births.

Table 48C: Infant Mortality Rate by Infant Gender per 1,000 Live Births, Portage County and Ohio, 2000-2009

Gender	Portage County			Ohio		
	Live Births	Infant Deaths	Infant Mortality Rate	Live Births	Infant Deaths	Infant Mortality Rate
Male	8,308	52	6.26	765,327	6,200	8.10
Female	8,067	34	4.21	729,684	4,708	6.45
Total	16,375	86	5.25	1,495,011	10,908	7.30

Source: Ohio Department of Health, Infant Birth-Death Linked files 2000-2009

Table 48D: Infant Mortality Rate by Maternal Education per 1,000 Live Births, Portage County and Ohio, 2000-2009

Maternal Education	Portage County			Ohio		
	Live Births for Which Maternal Education is Known	Infant Deaths	Infant Mortality Rate	Live Births for Which Maternal Education is Known	Infant Deaths	Infant Mortality Rate
Less than High School graduate	1,793	20	11.15	257,378	2,749	10.68
High School graduate or greater	14,497	66	4.55	1,219,783	7,668	6.29
Total	16,290	86	5.28	1,477,161	10,417	7.05

Source: Ohio Department of Health, Infant Birth-Death Linked files 2000-2009

Note: There were 16,375 births in Portage County, and 1,495,011 births in Ohio. However, maternal education information was missing on 85 records for Portage County, and on 17,850 records for Ohio. There were 86 infant deaths in Portage County and 10,908 infant deaths in Ohio. However, maternal education information was missing on 491 of the records for which there was an infant death in Ohio. Percents reported in this table are based only on those records for which maternal education information was reported.

Table 48E: Leading Causes of Infant Death, Portage County, 2000-2009

Cause	Portage County		
	Number	Pct. Sub-group	Pct. Total
Total	86		100.00
<i>Medical Total</i>	79	100.00	91.86
Prematurity	29	36.71	33.72
Congenital Anomalies	12	15.19	13.95
Sudden Infant Death Syndrome (SIDS)	11	13.92	12.79
All other Medical Causes	27	34.18	31.40
<i>External Total</i>	7	100.00	8.14
Asphyxiation	4	57.14	4.65
All other External Causes	3	42.86	3.49

Source: Ohio Department of Health, Infant Birth-Death Linked files 2000-2009
 Note: "Congenital Anomalies" includes malformations, chromosomal abnormalities, etc.

Table 48F: Infant Mortality Rates per 1,000 Live Births by Gestational Age at Birth, Portage County and Ohio, 2000-2009

Gestational Age at Birth	Portage County			Ohio		
	Live Births for which Gestational Age at Birth is Known	Infant Deaths	Infant Mortality Rate	Live Births for which Gestational Age at Birth is Known	Infant Deaths	Infant Mortality Rate
Very Early Preterm (<32 weeks)	279	47	168.46	30,682	5,759	187.70
Preterm (32-33 weeks)	239	1	4.18	23,685	392	16.55
Late Preterm (34-36 weeks)	1,276	4	3.13	128,590	967	7.52
Normal (37+ weeks)	14,510	31	2.14	1,308,234	3,544	2.71
Total	16,304	83	5.09	1,491,191	10,662	7.15

Source: Ohio Department of Health, Infant Birth-Death Linked files 2000-2009
 Note: There were 16,375 births in Portage County, and 1,495,011 births in Ohio. However, gestational age at birth information was missing on 71 records for Portage County, and on 3,820 records for Ohio. Percents reported in this table are based only on those records for which gestational age at birth information was reported.

Table 48G: Infant Mortality Rates per 1,000 Live Births by Birth Weight, Portage County and Ohio, 2000-2009

Birth Weight	Portage County			Ohio		
	Live Births for which Birth Weight is Known	Infant Deaths	Infant Mortality Rate	Live Births for which Birth Weight is Known	Infant Deaths	Infant Mortality Rate
Very Low Birth Weight (<1,500 grams)	215	50	232.56	23,578	5,525	234.33
Low Birth Weight (1,500-2,500 grams)	998	4	4.01	102,428	1,420	13.86
Normal Weight (2,500+ grams)	15,159	31	2.04	1,367,454	3,416	2.50
Total	16,372	85	5.19	1,493,460	10,361	6.94

Source: Ohio Department of Health, Infant Birth-Death Linked files 2000-2009

Note: There were 16,375 births in Portage County, and 1,495,011 births in Ohio. However, birth weight information was missing on 3 records for Portage County, and on 1,551 records for Ohio. Percents reported in this table are based only on those records for which birth weight information was reported

Table 48H: Infant Mortality Rates per 1,000 Live Births by County Cluster, Portage County and Ohio, 2000-2009

Cluster	Infant Deaths	Total Births	Infant Mortality Rate
Aurora	4	1,250	3.20
Edinburg/Palmyra/Atwater/Deerfield	8	1,076	7.43
Franklin/Bradly Lake/Ravenna Township	11	1,488	7.39
Freedom/Windham/Charlestown/Paris	13	1,402	9.27
Hiram/Garrettsville/Nelson	6	859	6.98
Kent City	10	2,298	4.35
Mantua/Shalersville	4	1,079	3.71
Mogadore/Suffield/Randolph	4	996	4.02
Ravenna City	9	1,470	6.12
Rootstown	4	811	4.93
Streetsboro/Sugar Bush Knolls	7	1,963	3.57
Tallmadge/Brimfield	4	912	4.39
Unknown	2	771	2.59
TOTAL	86	16,375	5.25
Ohio	10,908	1,495,011	7.30

Source: Ohio Department of Health, Infant Birth-Death Linked files 2000-2009

Table 49A: Preventable Child Deaths, Portage County and Ohio, 2006-2010

Ruling on Cause of Death	Portage		Ohio	
	Number of Cases	Percent of Total	Number of Cases	Percent of Total
Probably Preventable	23	23.47	1,859	22.54
Probably Not Preventable	58	59.18	N/A	N/A
Could Not Determine, Unknown	17	17.35	N/A	N/A
Total	98	100.00	8,247	100.00

Source: Portage County Child Fatality Review Data, 2006-2010; Ohio Department of Health (ODH), Ohio Child Fatality Review, 12th Annual Report, 2012, data for 2006-2010

Table 50A: Percent of Medical Causes of Child Death, by Type, Portage County, 2001-2010

(Medical) Cause of Death	Number of Cases	Percent of Total
Sudden Infant Death Syndrome (SIDS)	12	9.09
Congenital Malformations, deformations, and chromosomal abnormalities	17	12.88
Certain conditions originating in the perinatal period	44	33.33
All other Medical Causes	59	44.70
Total	132	100.00

Source: Ohio Death Certificate data files, 2001-2010

Table 50B: Percent of External Causes of Child Death, by Type, Portage County, 2001-2010

(External) Cause of Death	Number of Cases	Percent of Total
Transport Accidents	17	39.53
Drowning/ Asphyxiation	8	18.60
Exposure	7	16.28
Suicide	3	6.98
Assault	6	13.95
All Other External	2	4.65
Total	43	100.00

Source: Ohio Death Certificate data files, 2001-2010

Table 50C: Rate of Child Deaths Due to Medical Causes, Per 100,000 Children Aged 17 Years and Younger, by County Cluster, Portage County, 2001-2010

Cluster	Number of Persons 0-17, 2010	Number of Deaths Due to Medical Causes, 2000-2010	Child Death Rate (due to Medical Causes)
Aurora	3,831	2	5.22
Edinburg/Palmyra/Atwater/Deerfield	2,626	8	30.46
Franklin/Bradly Lake/Ravenna Township	2,918	13	44.55
Freedom/Windham/Charlestown/Paris	2,472	14	56.63
Hiram/Garrettsville/Nelson	1,938	7	36.12
Kent City	4,062	16	39.39
Mantua/Shalersville	2,533	19	75.01
Mogadore/Suffield/Randolph	2,735	7	25.59
Ravenna City	2,640	12	45.45
Rootstown	1,876	8	42.64
Streetsboro/Sugar Bush Knolls	3,611	18	49.85
Tallmadge/Brimfield	2,436	6	24.63
Unknown	N/A	2	N/A
TOTAL	33,678	132	39.19

Source: Ohio Death Certificate data files, 2001-2010

Table 50D: Rate of Child Deaths Due to External Causes, Per 100,000 Children Aged 17 Years and Younger, by County Cluster, Portage County, 2001-2010

Cluster	Number of Persons 0-17, 2010	Number of Deaths Due to External Causes, 2000-2010	Child Death Rate (due to External Causes)
Aurora	3,831	1	2.61
Edinburg/Palmyra/Atwater/Deerfield	2,626	5	19.04
Franklin/Bradly Lake/Ravenna Township	2,918	7	23.99
Freedom/Windham/Charlestown/Paris	2,472	4	16.18
Hiram/Garrettsville/Nelson	1,938	3	15.48
Kent City	4,062	6	14.77
Mantua/Shalersville	2,533	7	27.64
Mogadore/Suffield/Randolph	2,735	1	3.66
Ravenna City	2,640	2	7.58
Rootstown	1,876	3	15.99
Streetsboro/Sugar Bush Knolls	3,611	1	2.77
Tallmadge/Brimfield	2,436	2	8.21
Unknown	N/A	1	N/A
TOTAL	33,678	43	12.77

Source: Ohio Death Certificate data files, 2001-2010

Appendix B

American Cancer Society's Screening Guidelines for the Early Detection of Cancer in Average Risk, Asymptomatic People¹

Cancer Site	Population	Test or Procedure	Frequency
Breast	Women, 20 years of age and older	Breast-self examination (BSE)	It is acceptable for women to choose not to do BSE or to do BSE regularly (monthly) or irregularly. Beginning in their early 20s, women should be told about the benefits and limitations of BSE. Whether or not a woman ever performs BSE, the importance of prompt reporting of any new breast symptoms to a health professional should be emphasized. Women who choose to do BSE should receive instruction and have their technique reviewed on the occasion of a periodic health examination.
		Clinical breast examination (CBE)	For women in their 20s and 30s, it is recommended that CBE be part of a periodic health examination, preferably at least every three years. Asymptomatic women aged 40 and over should continue to receive a CBE as part of a periodic health examination, preferably annually.
		Mammography	Begin annual mammography at age 40.*
Cervix	Women, 21-65 years of age	Pap test and HPV DNA test	Cervical cancer screening should begin at age 21. For women ages 21-29, screening should be done every 3 years with conventional or liquid-based Pap tests. For women ages 30-65, screening should be done every 5 years with both the HPV test and the Pap test (preferred), or every 3 years with the Pap test alone (acceptable). Women aged 65+ who have had ≥3 consecutive negative Pap tests or ≥2 consecutive negative HPV and Pap tests within the last 10 years, with the most recent test occurring within 5 years, and women who have had a total hysterectomy should stop cervical cancer screening. Women should not be screened annually by any method at any age.
Colorectal	Men and women, 50 years of age and older	Fecal occult blood test (FOBT) with at least 50% test sensitivity for cancer, or fecal immunochemical test (FIT) with at least 50% test sensitivity for cancer, OR	Annual, starting at age 50. Testing at home with adherence to manufacturer's recommendation for collection techniques and number of samples is recommended. FOBT with the single stool sample collected on the clinician's fingertip during a digital rectal examination is not recommended. Guaiac based toilet bowl FOBT tests also are not recommended. In comparison with guaiac-based tests for the detection of occult blood, immunochemical tests are more patient-friendly, and are likely to be equal or better in sensitivity and specificity. There is no justification for repeating FOBT in response to an initial positive finding.
		Stool DNA test**, OR	Interval uncertain, starting at age 50
		Flexible sigmoidoscopy (FSIG), OR	Every 5 years, starting at age 50. FSIG can be performed alone, or consideration can be given to combining FSIG performed every 5 years with a highly sensitive gFOBT or FIT performed annually.
		Double contrast barium enema (DCBE), OR	Every 5 years, starting at age 50
		Colonoscopy	Every 10 years, starting at age 50
		CT colonography	Every 5 years, starting at age 50

Cancer Site	Population	Test or Procedure	Frequency
Endometrial	Women, at menopause	At the time of menopause, women at average risk should be informed about risks and symptoms of endometrial cancer and strongly encouraged to report any unexpected bleeding or spotting to their physicians.	
Lung	Current or former smokers 55-74 years of age in good health with at least a 30-pack year history	Low dose helical CT (LDCT)	Clinicians with access to high-volume, high quality lung cancer screening and treatment centers should initiate a discussion about lung cancer screening with apparently healthy patients ages 55-74 who have at least a 30 pack-year smoking history, and who currently smoke or have quit within the past 15 years. A process of informed and shared decision making with a clinician related to the potential benefits, limitations, and harms associated with screening for lung cancer with LDCT should occur before any decision is made to initiate lung cancer screening. Smoking cessation counseling remains a high priority for clinical attention in discussions with current smokers, who should be informed of their continuing risk of lung cancer. Screening should not be viewed as an alternative to smoking cessation.
Prostate	Men, 50 years of age and older	Digital rectal examination (DRE) and prostate-specific antigen test (PSA)	Men who have at least a ten-year life expectancy should have an opportunity to make an informed decision with their health care provider about whether to be screened for prostate cancer, after receiving information about the potential benefits, risks, and uncertainties associated with prostate cancer screening. Prostate cancer screening should not occur without an informed decision making process.
Cancer-related checkup	Men and women, 20 years of age and older	On the occasion of a periodic health examination, the cancer-related checkup should include examination for cancers of the thyroid, testicles, ovaries, lymph nodes, oral cavity, and skin, as well as health counseling about tobacco, sun exposure, diet and nutrition, risk factors, sexual practices, and environmental and occupational exposures.	
<p>*Beginning at age 40, annual clinical breast examination should be performed prior to mammography.</p> <p>**The stool DNA test approved for colorectal cancer screening in 2008 is no longer commercially available. New stool DNA tests are presently undergoing evaluation and may become available at some future time.</p>			

¹American Cancer Society. (2013). *Cancer prevention and early detection facts and figures 2013*. Atlanta, GA: American Cancer Society.