Health Equity in Montgomery County, MD

Healthy Montgomery Core Indicators 2010-2018

Office of Planning and Epidemiology

Montgomery County Department of Health and Human Services

Health Equity in Montgomery County, Maryland: Healthy Montgomery Core Indicators, 2010-2018

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INTRODUCTION

Montgomery County is the most populous county in Maryland with a population estimate of over 1.05 million in 2019 from the U.S. Census; it also has the highest percentage (31.4%) of residents over 25 years of age who hold post-graduate degrees as of 2019. Montgomery County has a very diverse population and there is an increasing trend toward becoming more diverse over time. In 2019, 44.2% of county residents were Non-Hispanic White, 19.4% were Non-Hispanic Black, 16.1% were Asian/Pacific Islander, and 20% were Hispanic or Latino based on estimates from the U.S. Census. Of the County's population, 32.5% were born outside the U.S.

Montgomery County has had the highest overall health outcomes ranking in Maryland since 2014, based on the County Health Rankings by the Robert Wood Johnson Foundation. However, ongoing efforts are needed to make improvements in the areas of access to health care, health inequities, and unhealthy behaviors. Though doing better than the state average and other jurisdictions in most health outcomes, great disparities exist among population subgroups on race/ethnicity and geographic areas. An analysis of population health data between 2014 and 2016 showed that length and quality of life, health behaviors, and social determinants vary greatly across zip codes in the county. For example, residents in Bethesda, Chevy Chase, and Potomac have greater length of life compared to those living in Montgomery Village, Silver Spring, and Poolesville. The population health surveillance report also highlights notable disparities over the past decade among minority populations. For example, Hispanics have consistently had the highest adolescent birth rate and percentage of births to unmarried women between 2010 and 2019. Non-Hispanic Blacks have the highest rate of diabetes mortality and emergency room visit rate between 2017 and 2019. Over time, HHS has created a data driven platform to review programs and interventions, identify pockets of disparities in health outcomes, and disseminate these data points regarding general health (e.g. Biannual status of health surveillance report) and specific health issues that disproportionately impact our jurisdiction (e.g. maternal and infant health, sexually transmitted infections). To achieve this goal, HHS has engaged a host of county, state and national resources, including expertise from the county Minority Health Program and initiatives (the African American Health Program, Asian American Health Initiative, and Latino Health Initiative), local government agencies, the Maryland Department of Health, and the Centers for Disease Control and Prevention. This report is a continuation of this data driven approach; the report examines the disparity of Healthy Montgomery Core Indicators in the areas of maternal and infant health, behavioral health, chronic disease, infectious disease, and injury among population subgroups on race/ethnicity.

Findings from this report serve as a source of knowledge, bring attention to areas of success and weakness, and will serve as a basis for further multi-layered analysis by stakeholders to understand what specific factors are driving

sustained gaps in outcomes, and to aid in designing appropriate programming and interventions to address these disparities.

METHODS

Data Sources

Birth – birth data from Maryland Department of Health; data are used for measures of late/no prenatal care and preterm birth.

Mortality – death files from Maryland Department of Health; data are used for measures of infant mortality, suicide mortality, drug-induced mortality, diabetes mortality, heart disease mortality, chronic lower respiratory disease (CLRD) mortality, and fall mortality.

Hospitalization – hospitalization data from Maryland Health Services Cost Review Commission; data are used for behavioral health ER visit, substance abuse ER visit, diabetes ER visit, heart disease ER visit, CLRD ER visit, firearm hospitalization, fall hospitalization, fall ER visit, and motor vehicle ER visit

Infectious Disease – infectious disease registry data from Maryland Department of Health; data are used for measures of TB incidence, chlamydia incidence, gonorrhea incidence, syphilis incidence, and HIV incidence

Healthy Montgomery Core Measures

Healthy Montgomery (HM) is the County's community health improvement process that brings together County government agencies, elected officials, hospital systems, minority health initiatives/program, advocacy groups, academic institutions, community-based service providers, the health insurance community, and other stakeholders to achieve optimal health and well-being for County residents. Representatives from the minority health programs serve on the HM Steering Committee and provided input on core measures used to track progress.

The HM Steering Committee and Data Project Team identified these 25 core measures over time to cover priority areas of maternal and infant health, behavioral health, chronic disease, infectious disease, and injury - see Table 1 below. County officials have utilized these measures for the past decade as proxy measures to approximate population health progress

in Montgomery County. Among these 25 measures, measures of ‘adults who are overweight or obese’ and ‘high blood pressure prevalence’ are excluded because subcounty level data are not available. Race/ethnicity data on measures of incidence of HIV, Chlamydia, Gonorrhea, and Syphilis are only available in County level, thus no stratifications by PCSA are presented. These measures are not exhaustive of all potential measures of health outcomes but represent a set of data points that can be analyzed for trends over the past decade.

Table 1. Healthy Montgomery Core Measures

Maternal and Infant Health	Mothers who Received Early Prenatal Care Infant Mortality Preterm Births
Behavioral health	Mental Health Related ER Visit Suicide Mortality Drug-Induced Mortality Substance Abuse ER Visit
Chronic Disease	**Obesity:** Adults who are Overweight or Obese **Diabetes:** Diabetes ER Visit Diabetes Mortality **Cardiovascular health:** Heart Disease Mortality High Blood Pressure Prevalence Heart disease ER Visit Chronic Lower Respiratory Disease Mortality Chronic Lower Respiratory Disease ER Visit
Infectious Disease	Incidence of TB Incidence of Chlamydia Incidence of Gonorrhea Incidence of Syphilis Incidence of HIV
Injury	Firearm Hospitalization Fall Mortality Fall Hospitalization Fall ER Visit Motor Vehicle ER Visit

Population Subgroups Comparison

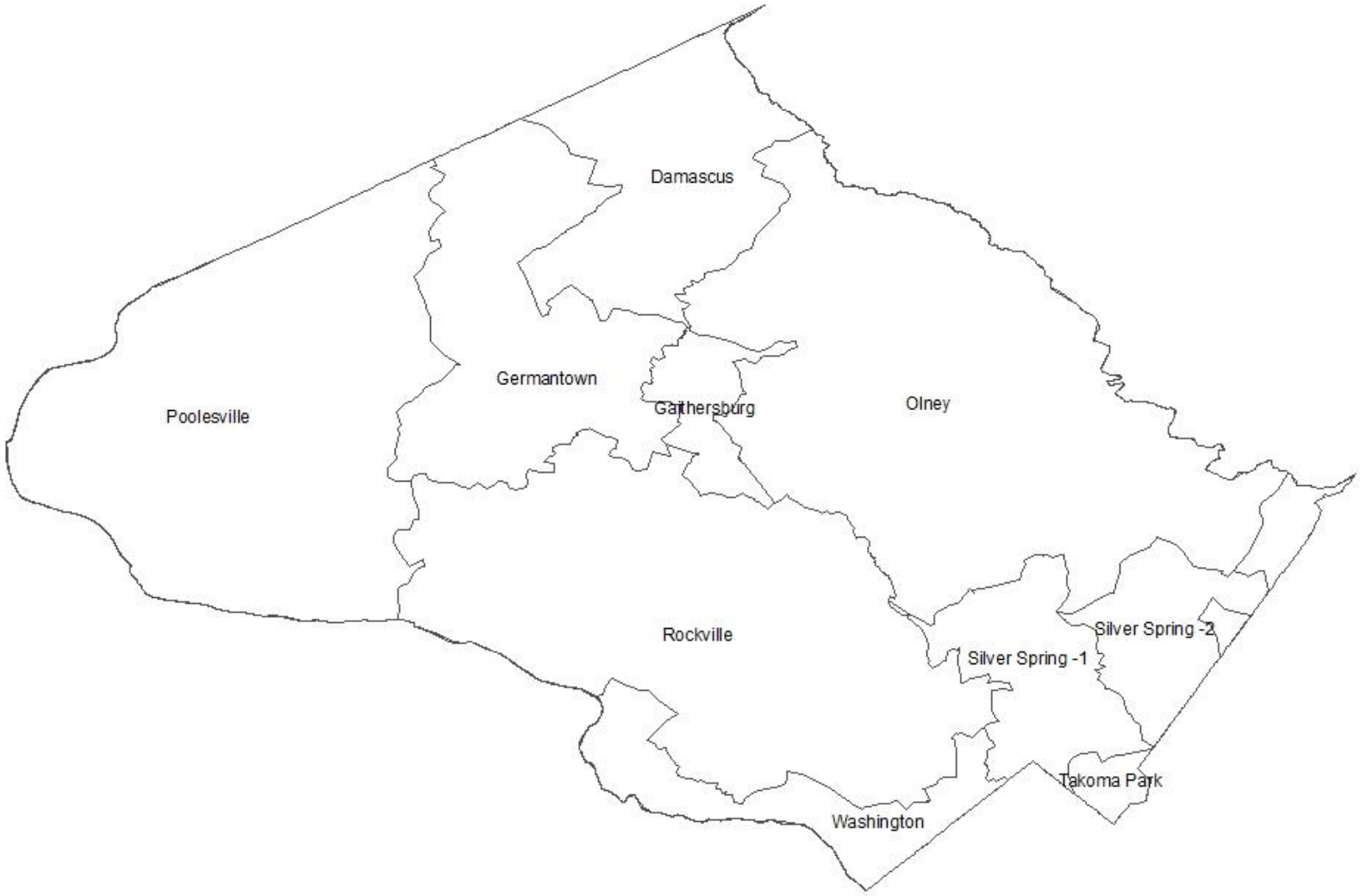
Four population subgroups on race/ethnicity including non-Hispanic White (NH-White), non-Hispanic Black (NH-Black), Asian/Pacific Islander (Asian/PI), and Hispanic were examined in this report, NH-White was used as the reference group where 3 other groups are compared to. Healthy Montgomery Core Indicators were examined for years of 2010-2018. In addition to presenting estimates for two time periods for each indicator, the equity tables incorporate four measures for monitoring racial and ethnic health equity across areas of Montgomery County and the county overall.

Primary Care Service Area

Primary Care Service Areas (PCSA) are geographic areas that are self-sufficient markets of primary care. These areas are designed in a manner such that the majority of patients living in these areas use primary care services form within the area. This ensures that nay geographic targeting of policies and resources reach the patients they are meant for. There are eleven PCSAs in Montgomery County including Damascus, Gaithersburg, Germantown, Laurel, Olney, Poolesville, Rockville, Silver Spring 1, Silver Spring 2, Takoma Park, and Washington. The list of zip codes included in each PCSA is in Table 2. A map depicting the PCSAs in Montgomery County is in Map 1. Health equity among population subgroups on race/ethnicity is examined within each PCSA and County overall to understand its variations geographically.

Table 2. List of Zip Codes for Primary Care Service Areas, Montgomery County, MD									
Damascus	**Gaithersburg**	**Germantown**	**Olney**	**Poolesville**	**Rockville**	**Silver Spring 1**	**Silver Spring 2**	**Takoma Park**	**Washington**
20871	20877	20874	20830	20837	20810	20901	20903	20912	20812
20872	20879	20875	20832	20838	20811	20902	20904	20913	20813
	20884	20876	20833	20839	20814	20907	20914		20815
	20886	20885	20853	20841	20817	20910	20993		20816
	20898	20899	20855	20842	20824	20911			20818
			20860		20827	20915			20825
			20861		20847	20918			
			20862		20848				
			20868		20849				
			20880		20850				
			20882		20851				
			20897		20852				
			20905		20854				
			20906		20857				
			20908		20859				
			20916		20878				
					20883				
					20889				
					20891				
					20892				
					20894				
					20895				
					20896				
					20997				

Map 1. Primary Care Service Areas (PCSAs), Montgomery County, MD



Measurement of Health Inequity

Methods used from the Michigan Health Equity Data Project that compared consistent and standardized group-level data for minority populations across two time periods were adopted to assess health equity in Montgomery County. The summary measure of health disparity from the National Center for Health Statistics was used to summarize difference in disease rates across groups within the county.

1) Pairwise Disparity (rate difference and rate ratio (RR)): Compares the minority population to the NH-White population (reference) for each indicator. To fully understand differences between two groups and how they compare to other indicators, pairwise comparisons should be made on both absolute (e.g. rate difference) and relative (e.g. rate ratio) scales.

2) Change in Pairwise Disparity Over Time: Measures whether the minority population rate has gotten closer to or farther from the NH-White population rate from one time period to another. This measure helps depict whether the gap in the health status between the minority population and the NH-White population is growing or shrinking over time.

3) Index of Disparity (ID): Measures the level of disparity in the overall Montgomery County population for each indicator. Unlike the pairwise disparities that only include two populations, this indicator takes into account all subpopulations and overall Montgomery County population.

$$Index\ of\ disparity = \left(\sum \left| r_{(1-n)} - R \right| / n\right) / R * 100$$

, where r is the absolute difference of rates for a specific group within the population, and R is the rate for the overall population.

4) Change in Population Disparity Over Time: Measures whether the overall population disparity has increased or decreased from one time period to another. This measure helps depict whether the gap in the health status between all of the subpopulations and the overall Montgomery County population is growing or shrinking over time.

FINDINGS

The comparison of the four race/ethnicity groups across different health measures revealed health disparities among minority groups. NH-Black and Hispanic groups are shown to have the most disparities, as compared to their NH-White counterparts. The disparities each minority group exhibits are listed below from the most disparity to the least.

Inequity Status (most recent period)

NH-Blacks (Table 3): For County overall, 17 of the 23 core measures show inequity in the NH-Black populations compared to NH-White for the most recent period. TB incidence has the most inequity (RR=18.5), followed by HIV (RR=14.5), firearm hospitalization (RR=7.17), gonorrhea incidence (RR=6.56), chlamydia incidence (RR=5.53), syphilis incidence (RR=5.06), diabetes ER visit (RR=4.02), motor vehicle ER visit (RR=3.30), CLRD ER visit (RR=3.19), percent births with late or no prenatal care (RR=2.99), infant mortality rate (RR=2.88), heart disease ER visit (RR=2.72), diabetes mellitus mortality (RR=2.31), substance abuse ER visit (RR=1.64), behavioral health conditions ER visit (RR=1.51), percent preterm birth (RR=1.24), and heart disease mortality (RR=1.20).

Health inequity in NH-Black populations compared to NH-White by PCSA varies among measures. For example, the top measure with most disparity is diabetes ER visit for Damascus (RR=3.36), motor vehicle ER visit for Gaithersburg (RR=2.65), firearm hospitalization for Germantown (RR=6.04), TB incidence for Olney (RR=16.13); fall mortality for Poolesville (RR=32.5), TB incidence for Rockville (RR=6.79) and Silver Spring I (RR=11.22), firearm hospitalization for Silver Spring II (RR=7.83), diabetes ER visit for Takoma Park (RR=5.65), and diabetes mortality for Washington (RR=13.08).

Asian/PI (Table 4): For County overall, 5 of the 23 core measures show inequity in Asian populations compared to NH-White for the most recent period. TB incidence has the most inequity (RR=24.0), followed by syphilis incidence (RR=1.63), percent late or no prenatal care (RR=1.36), infant mortality rate (RR=1.30), and percent preterm births (RR=1.07).

Health inequity in Asian populations compared to NH-White by PCSA varies among measures. The top measure with most disparity is suicide mortality for Damascus (RR=2.24) and Gaithersburg (RR=1.30), diabetes mortality for Germantown (RR=1.21), percent late or no prenatal care for Olney (RR=1.51); CLRD ER visit for Poolesville (RR=2.04),

TB incidence for Rockville (RR=17.5) and Silver Spring I (RR=16.0), infant mortality for Silver Spring II (RR=2.77), percent late or no prenatal care for Takoma Park (RR=3.47) and Washington (RR=1.93).

Hispanic (Table 5): For County overall, 15 of the 23 core measures show inequity in Hispanic populations compared to NH-White for the most recent period. TB incidence has the most inequity (RR=8.70), followed by HIV incidence (RR=3.92), chlamydia incidence (RR=3.26), diabetes ER visit (RR=2.48), motor vehicle ER visit (RR=2.48), syphilis incidence (RR=2.29), percent late or no prenatal care (RR=2.13), firearm hospitalization (RR=2.00), gonorrhea incidence (RR=1.88), CLRD ER visit (RR=1.67), infant mortality (RR=1.55), heart disease ER visit (RR=1.33), substance abuse ER visit (RR=1.25), percentage of preterm births (1.20), and diabetes mellitus mortality (RR=1.03).

Health inequity in Hispanic populations compared to NH-White by PCSA varies among measures. The top measure with most disparity is percent late or no prenatal care for Damascus (RR=2.36), motor vehicle ER visit for Gaithersburg (RR=2.01), fall mortality for Germantown (RR=2.29), firearm hospitalization for Olney (RR=2.85); percent late or no prenatal care for Poolesville (RR=4.40), TB incidence for Rockville (RR=5.68), TB incidence (RR=3.13) and diabetes ER visit (RR=3.13) for Silver Spring I, fall mortality for Silver Spring II (RR=3.02), diabetes ER visit for Takoma Park (RR=4.80) and Washington (RR=3.09).

Inequality Change over Time

NH-Black (Table 3): For County overall, 15 of the 23 core measures show increased inequity over time in NH-Black populations compared with NH-White. Fall mortality has the most increase in inequity over time (RR change=301%), followed by CLRD mortality (RR change=47.6%), suicide mortality (RR change=42.3%), HIV incidence (RR change=36.2%), fall hospitalization (RR change=32.2%), diabetes ER visit (RR change=31.4%), heart disease mortality (RR change=21.3%), heart disease ER visit (RR change=19.8%), infant mortality rate (RR change=18.9%), diabetes mortality (RR change=13.8%), substance abuse ER visit (RR change=13.5%), percent late or no prenatal care (RR change=13.3%), motor vehicle ER visit (RR change=11.0%), behavioral health ER visit (RR change=7.49%), and CLRD ER visit (RR change=7.03%).

Changes of inequity overt time in NH-Black populations compared to NH-White by PCSA vary among measures. The top measure with most disparity increase is substance abuse ER visit for Damascus (RR change=165%), infant mortality for Gaithersburg (RR change=168%), CLRD mortality for Germantown (RR change=2233%), fall mortality for Olney (RR change=196%); percent late or no prenatal care for Poolesville (RR change=249%), percent late or no prenatal care for

Rockville (RR change=48.0%), fall mortality for Silver Spring I (RR change=339%), infant mortality for Silver Spring II (RR change=188%), heart disease mortality for Takoma Park (RR change=103%), and fall hospitalization for Washington (RR change=147%).

Asian/PI (Table 4): For County overall, 9 of the 23 core measures show increased inequity over time in the Asian populations compared with NH-White. Suicide mortality has the most increase in inequity over time (RR change=2995%), followed by infant mortality (RR change=1268%), diabetes mortality (RR change=666%), heart disease mortality (RR change=478%), syphilis incidence (RR change=280%), CLRD mortality (RR change=266%), diabetes ER visit (RR change=15.8%), behavioral health ER visit (RR change=13.7%), and heart disease ER visit (RR change=6.09%).

Changes of inequity overt time in Asian populations compared to NH-White by PCSA vary among measures. The top measure with most disparity increase is behavioral health ER visit for Damascus (RR change=63.8%), heart disease mortality for Gaithersburg (RR change=1123%), diabetes ER visit for Germantown (RR change=100%), CLRD mortality for Olney (RR change=297%); motor vehicle ER visit for Poolesville (RR change=335%), diabetes mortality for Rockville (RR change=755%), heart disease mortality for Silver Spring I (RR change=688%), Silver Spring II (RR change=2651%), Takoma Park (RR change=78.9%), and Washington (RR change=706%).

Hispanic (Table 5): For County overall, 12 of the 23 core measures show increased inequity over time in the Hispanic populations compared with NH-White. Firearm hospitalization has the most increase in inequity over time (RR change=595%), followed by fall mortality (RR change=73.2%), diabetes ER visit (RR change=69.9%), suicide mortality (RR change=55.6%), infant mortality (RR change=49.0%), syphilis incidence (RR change=42.3%), heart disease ER visit (RR change=39.9%), behavioral health ER visit (RR change=38.7%), CLRD mortality (RR change=28.2%), HIV incidence (RR change=27.6%), percent preterm births (RR change=12.6%), and heart disease mortality (RR change=8.81%).

Changes of inequity overt time in Hispanic populations compared to NH-White by PCSA vary among measures. The top measure with most disparity increase is CLRD ER visit for Damascus (RR change=196%), infant mortality for Gaithersburg (RR change=287%), behavioral health ER visit for Germantown (RR change=57.62%), heart disease ER visit for Olney (RR change=74.1%); substance abuse ER visit for Poolesville (RR change=1001%), infant mortality for Rockville (RR change=170%), drug-induced mortality for Silver Spring I (RR change=60.4%), fall mortality for Silver Spring II (RR change=1444%), diabetes ER visit for Takoma Park (RR change=42.1%), and motor vehicle ER visit for Washington (RR change=134%).

Inequality Status for Overall Population (most recent period)

Results are in Table 6. For County overall, all the 23 core measures show inequity in the overall population compared to NH-White for the most recent period. HIV incidence has the most inequity (ID=102), followed by firearm hospitalization (ID=88.3), TB incidence (ID=83.0), diabetes ER visit (ID=66.6), motor vehicle ER visit (ID=54.9), CLRD ER visit (ID=51.3), heart disease ER visit (ID=48.2), drug-induced mortality (ID=48.0), percent late or no prenatal care (ID=44.1), CLRD mortality (ID=41.7), diabetes mortality (ID=38.0), substance abuse ER visit (ID=37.1), behavioral health ER visit (ID=36.3), infant mortality (ID=35.4), gonorrhea incidence (ID=32.9), fall hospitalization (ID=32.9), heart disease mortality (ID=31.3), suicide mortality (ID=30.8), syphilis incidence (ID=25.8), fall ER visit (ID=25.8), chlamydia incidence (ID=25.1), fall mortality (ID=25.1), and percent preterm births (ID=8.2).

Health inequity in overall populations compared to NH-White by PCSA varies among measures. The top measure with most disparity is firearm hospitalization for Damascus (ID=109), TB incidence for Gaithersburg (ID=486), Germantown (ID=651), and Olney (ID=102), fall mortality for Poolesville (ID=275), TB incidence for Rockville (ID=102) and Silver Spring I (ID=150), firearm hospitalization for Silver Spring II (ID=91.6) and Takoma Park (ID=100), and diabetes mortality for Washington (ID=231).

Inequality Change over time for overall population

Results are in Table 6. For County overall, 5 of the 23 core measures show increased inequity over time in the overall population compared to NH-White. Diabetes ER visit has the most increase in inequity (ID change=16.6%), followed by motor vehicle ER visit (ID change=16.1%), percent late or no prenatal care (ID change=7.98%), substance abuse ER visit (ID change=6.42%), and CLRD ER visit (ID change=5.55%).

Changes of inequity overt time in overall populations compared to NH-White by PCSA vary among measures. The top measure with most disparity increase is CLRD mortality for Damascus (ID change=45.6%), TB incidence for Gaithersburg (ID change=90.5%), Germantown (ID change=297%), Olney (ID change=30.6%); fall hospitalization for Poolesville (ID change=40.4%), motor vehicle ER visit for Rockville (ID change=22.2%), firearm hospitalization for Silver Spring I (ID change=43.5%), infant mortality for Silver Spring II (ID change=16.1%), heart disease ER visit for Takoma Park (ID change=15.0%), and fall mortality for Washington (ID change=22.4%).

CONCLUSION

Montgomery County has the overall health status better than the state and the U.S, however great variations exist among population subgroups. It creates a special challenge with the much diverse population in the County, and the population is becoming more diverse over time. This report provides insights on health inequities among population subgroups on race/ethnicity within the County, it also serves as the basis for further analysis to better understand the root causes and factors associated with these disparities. Inputs from and engagement with respective communities and stakeholders are essential to design appropriate programming and interventions. The Office of Planning and Epidemiology follows the recommendation of the National Center for Health Statistics of classifying health conditions according to the self-reported race/ethnicity of the individual. Information on race/ethnicity recorded in each data source is used to illustrate disease burdens for population subgroups. There are variations of data quality on race/ethnicity recorded in each population dataset, in terms of completeness and accuracy, thus interpretations of results are to take this into consideration. Though this information can be used to address important topic such as health equity, race/ethnicity is a self-reported item and is subject to the usual limitations of this type of information.

Table 3. Health Equity Comparing NH-Blacks to NH-Whites by PCSA, Montgomery County, MD

Indicators	County		Damascus		Gaithersburg		Germantown		Olney		Poolesville		Rockville		Silver Spring 1		Silver Spring 2		Takoma Park		Washington	
	RR t = 2	% Δ RR	RR t = 2	% Δ RR	RR t = 2	% Δ RR	RR t = 2	% Δ RR	RR t = 2	% Δ RR	RR t = 2	% Δ RR	RR t = 2	% Δ RR	RR t = 2	% Δ RR	RR t = 2	% Δ RR	RR t = 2	% Δ RR	RR t = 2	% Δ RR
Maternal and Infant Health																						
Births with Late or No Prenatal Care[1]	2.99	13.3	2.95	-30.3	1.82	-25.9	1.94	-36.4	3.25	37.5	6.07	249	4.24	48.0	2.88	-6.09	2.05	33.9	2.64	46.0	2.84	-2.89
Infant Mortality[2]	2.88	18.9	2.68	-19.9	2.52	168	-	-	0.92	-63.9	0.00	-	2.96	20.0	5.12	-52.4	2.58	188	3.65	-	-	-
Preterm Births[1]	1.24	-5.08	1.21	-4.90	1.36	10.6	1.24	-4.72	1.34	5.19	2.36	4.86	1.14	-14.8	1.21	-30.1	1.42	12.8	0.64	-24.5	0.57	-51.2
Behavioral Health																						
ER Visit for Behavioral Health Conditions	1.51	7.49	1.64	72.4	1.11	-4.49	1.15	7.74	1.17	18.1	0.89	110	1.79	-39.2	1.73	18.3	0.93	23.7	1.30	-15.9	1.85	-34.0
Suicide Mortality	0.55	42.3	-	-	0.45	-38.2	0.65	263	0.54	185	-	-	0.81	-34.0	0.78	-	0.27	-	0.20	41.0	-	-
Drug-Induced Mortality	0.54	-26.5	0.48	-39.3	0.63	-59.4	0.59	44.2	0.23	-	-	-	0.59	-	0.73	-	0.43	-	0.55	-	2.16	-
ER Visit for Substance Abuse	1.64	13.5	2.14	165	1.48	-12.6	1.29	23.2	0.94	12.8	1.15	91.7	2.08	-11.5	2.14	165	0.78	19.5	1.42	-9.59	2.00	-12.2
Chronic Disease																						
Diabetes:																						
ER Visit for Diabetes	4.02	31.4	3.36	4.63	2.05	-32.7	2.88	23.4	3.05	33.0	7.95	119	4.87	10.2	4.03	13.6	3.07	25.9	5.65	29.6	5.92	25.6
Diabetes Mellitus Mortality	2.31	13.8	0.00	-100	0.96	-60.3	1.47	-55.5	1.22	-17.6	15.0	49.0	2.33	27.6	3.21	90.2	1.20	-5.21	3.54	-56.2	13.08	-
Cardiovascular Health:																						
Heart Disease Mortality	1.20	21.3	1.40	284	0.82	-4.45	1.15	-17.5	0.84	-5.70	0.92	-59.8	1.09	-6.77	1.11	0.83	1.35	116	0.95	103	1.94	57.1
ER Visit for Heart Disease	2.72	19.8	2.78	78.4	2.01	-21.3	2.51	13.4	1.93	9.42	3.68	24.9	2.89	18.5	2.52	-12.6	2.00	1.28	3.76	16.0	2.73	-27.2
Chronic Lower Respiratory Disease Mortality	0.80	47.6	2.27	-	0.42	-42.8	1.05	2233	0.78	28.3	2.35	16.7	0.84	-2.32	0.68	96.6	0.73	111	1.28	-	0.75	-26.9
ER Visit for Chronic Lower Respiratory Disease	3.19	7.03	3.22	52.5	2.03	-36.6	2.70	15.0	2.35	18.3	3.31	19.5	3.66	-5.40	3.26	2.44	1.95	18.5	3.37	-1.21	4.48	-0.01
Infectious Disease																						
TB	18.5	-32.1	-	-	-	-	-	-	16.13	-	-	-	6.79	-53.9	11.22	-7.20	-	-	-	-	-	-
Chlamydia	5.53	-27.8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Gonorrhea	6.56	-45.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Syphilis	5.06	80.7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HIV	14.5	36.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Injury																						
Firearm Hospitalization	7.17	-14.9	-	-	-	-	6.04	-	4.69	-78.1	-	-	3.66	-	-	-	7.83	-	-	-	-	-
Fall Mortality	0.77	301	-	-	0.24	-	1.90	-	0.74	196	32.5	-	0.45	-	0.98	339	2.58	-	1.02	-	-	-
Fall Hospitalization	0.71	32.2	0.85	91.6	0.44	-8.95	0.80	48.1	0.62	55.6	1.50	6.67	0.72	20.4	0.75	4.58	0.42	-2.50	0.84	4.33	0.97	147
ER Visit for Fall	0.93	-3.76	0.96	59.3	0.79	-21.2	0.94	6.56	0.86	21.1	0.72	4.33	0.90	-13.4	0.93	-13.7	0.71	-3.78	0.81	-32.5	1.11	-6.76
ER Visit for Motor Vehicle	3.30	11.0	2.39	60.8	2.65	-14.8	2.76	34.4	2.20	25.7	2.07	42.4	3.35	-6.72	3.03	-8.04	2.87	32.5	3.39	-16.7	3.16	-61.7

1- percentage 2- rate per 1,000 live births Increase in disparity Decrease in disparity

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Table 4. Health Equity Comparing Asians to NH-Whites by PCSA, Montgomery County, MD

Indicators	County		Damascus		Gaithersburg		Germantown		Olney		Poolesville		Rockville		Silver Spring 1		Silver Spring 2		Takoma Park		Washington	
	RR t = 2	% Δ RR	RR t = 2	% Δ RR	RR t = 2	% Δ RR	RR t = 2	% Δ RR	RR t = 2	% Δ RR	RR t = 2	% Δ RR	RR t = 2	% Δ RR	RR t = 2	% Δ RR	RR t = 2	% Δ RR	RR t = 2	% Δ RR	RR t = 2	% Δ RR
Maternal and Infant Health																						
Births with Late or No Prenatal Care[1]	1.36	0.23	0.66	-1.48	1.10	-4.32	0.01	-98.9	1.51	-13.1	0.00	-	1.43	1.24	1.20	-28.1	1.13	53.9	3.47	17.8	1.93	-26.3
Infant Mortality[2]	1.30	1268	1.65	-	0.38	-	-	-	0.73	91.2	0.00	-	1.17	1176	6.05	-	2.77	-	0.00	-	-	-
Preterm Births[1]	1.07	3.85	1.22	8.19	1.10	12.6	1.02	15.3	1.14	14.8	0.00	-	0.97	5.03	1.61	16.3	1.03	-39.0	0.56	-18.5	0.82	107
Behavioral Health																						
ER Visit for Behavioral Health Conditions	0.30	13.7	0.52	63.8	0.22	1.57	0.22	13.2	0.25	24.0	1.42	-	0.22	-32.3	0.50	34.8	0.23	60.4	0.74	-45.7	0.13	85.8
Suicide Mortality	0.64	2995	2.24	-	1.30	-	0.90	878	0.51	-	-	-	0.61	-	0.43	-	0.33	-	-	-	-	-
Drug-Induced Mortality	-	-	-	-	0.18	-	0.31	-	-	-	-	-	0.19	-	0.43	-	0.27	-	-	-	-	-
ER Visit for Substance Abuse	0.19	-5.19	0.21	4.23	0.11	-40.3	0.10	-36.3	0.14	-12.2	0.05	-	0.20	-5.98	0.21	4.23	0.14	-49.5	0.29	-60.9	0.11	-
Chronic Disease																						
Diabetes:																						
ER Visit for Diabetes	0.70	15.8	1.36	10.8	0.68	6.29	0.65	100	0.82	144	1.64	-	0.85	57.7	1.30	82.0	1.14	88.0	2.65	51.0	1.69	-92.5
Diabetes Mellitus Mortality	0.85	666	1.04	-	0.58	6.54	1.21	-	0.70	257	0.00	-	0.64	755	0.30	-	0.86	-	0.00	-	1.92	-
Cardiovascular Health:																						
Heart Disease Mortality	0.57	478	0.27	474	0.50	1123	0.40	-	0.55	267	0.77	-	0.60	387	0.55	688	0.68	2651	0.23	78.9	0.77	706
ER Visit for Heart Disease	0.51	6.09	0.50	30.7	0.49	-12.9	0.40	-7.73	0.39	-7.59	0.34	-	0.45	1.85	0.77	34.1	0.44	11.8	1.00	-40.8	0.32	-4.61
Chronic Lower Respiratory Disease Mortality	0.29	266	0.76	-	0.42	-	0.07	-	0.46	297	-	-	0.29	38.0	0.23	-	-	-	-	-	0.58	-
ER Visit for Chronic Lower Respiratory Disease	0.42	-2.90	0.34	9.41	0.38	-16.4	0.26	7.73	0.40	3.24	2.04	-	0.36	-26.2	0.79	19.0	0.38	79.4	0.61	-54.1	0.21	84.7
Infectious Disease																						
TB	24.0	-24.1	-	-	-	-	-	-	-	-	-	-	17.5	-20.5	16.0	-	-	-	-	-	-	-
Chlamydia	0.85	-9.78	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Gonorrhea	0.68	-27.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Syphilis	1.63	280	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HIV	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Injury																						
Firearm Hospitalization	0.25	-80.0	-	-	-	-	0.63	-	0.00	-100	-	-	0.00	-	-	-	0.00	-	-	-	-	-
Fall Mortality	-	-	-	-	0.41	-	0.41	-	0.93	-	-	-	-	-	0.31	-	-	-	-	-	-	-
Fall Hospitalization	0.36	-2.95	0.39	-15.5	0.19	-40.0	0.29	-26.1	0.31	-15.0	0.00	-	0.36	8.70	0.61	31.2	0.28	-0.53	0.00	-100	0.52	-25.9
ER Visit for Fall	0.21	-43.4	0.36	2.53	0.27	-31.2	0.30	9.27	0.25	-19.3	0.14	-	0.10	-76.3	0.41	-1.53	0.27	-26.2	0.56	-52.3	0.08	-89.5
ER Visit for Motor Vehicle	0.65	-11.4	0.63	26.9	0.65	-11.0	0.63	32.9	0.40	-38.0	1.05	335	0.52	-38.1	0.98	-1.43	0.56	-4.63	1.31	-50.5	0.27	-56.2

1- percentage 2- rate per 1,000 live births Increase in disparity Decrease in disparity

Table 5. Health Equity Comparing Hispanics to NH-Whites by PCSA, Montgomery County, MD

Indicators	County		Damascus		Gaithersburg		Germantown		Olney		Poolesville		Rockville		Silver Spring 1		Silver Spring 2		Takoma Park		Washington	
	RR t = 2	% Δ RR	RR t = 2	% Δ RR	RR t = 2	% Δ RR	RR t = 2	% Δ RR	RR t = 2	% Δ RR	RR t = 2	% Δ RR	RR t = 2	% Δ RR	RR t = 2	% Δ RR	RR t = 2	% Δ RR	RR t = 2	% Δ RR	RR t = 2	% Δ RR
Maternal and Infant Health																						
Births with Late or No Prenatal Care[1]	2.13	-3.26	2.36	-13.5	1.23	-36.2	1.26	-32.0	2.63	20.7	4.40	74.7	1.95	7.03	2.26	-10.7	1.75	36.4	3.34	18.0	1.71	-31.5
Infant Mortality[2]	1.55	49.0	0.00	-100	1.22	287	-	-	0.63	-50.1	0.00	-	1.20	170	3.69	-55.9	0.55	-5.37	0.96	-	-	-
Preterm Births[1]	1.20	12.6	0.99	-26.0	1.03	11.1	1.17	9.63	1.38	49.0	2.83	312	1.03	5.21	1.51	9.00	1.23	0.98	0.85	0.08	0.83	-33.9
Behavioral Health																						
ER Visit for Behavioral Health Conditions	0.87	38.7	0.80	144	0.51	135	0.59	57.62	0.66	71.5	0.79	307	0.85	17.9	1.07	0.97	0.68	2.02	1.32	12.6	1.09	44.0
Suicide Mortality	0.40	55.6	-	-	0.23	-	-	-	0.15	-45.0	-	-	0.86	82.5	0.32	29.5	0.40	8.55	0.44	-	1.51	-
Drug-Induced Mortality	0.26	-	0.23	-	0.17	-82.6	0.27	-	0.26	-68.1	-	-	0.34	-	0.36	60.4	-	-	-	-	-	-
ER Visit for Substance Abuse	1.25	-2.23	0.50	213	0.72	19.4	0.55	8.54	0.85	47.2	0.66	1001	1.11	-10.3	0.50	213	1.23	-25.0	2.87	-34.2	0.93	-7.29
Chronic Disease																						
Diabetes:																						
ER Visit for Diabetes	2.48	69.9	1.39	-3.31	1.44	67.3	1.13	25.3	0.98	-1.44	0.89	80.2	1.95	90.9	3.13	-21.9	2.71	17.3	4.80	42.1	3.09	57.9
Diabetes Mellitus Mortality	1.03	-4.23	2.54	-	0.69	-29.2	0.00	-100	0.68	-56.0	0.00	-	0.46	-1.96	0.25	-68.4	1.12	-27.7	5.00	-45.4	2.42	-
Cardiovascular Health:																						
Heart Disease Mortality	0.47	8.81	0.63	103	0.28	9.51	0.11	-	0.38	-22.3	-	-	0.75	77.3	0.34	-34.9	0.76	144	0.18	-62.9	0.62	-57.6
ER Visit for Heart Disease	1.33	39.9	1.16	63.4	1.01	58.7	0.80	6.06	1.04	74.1	0.39	8.56	1.30	94.1	1.50	-38.3	1.30	-15.5	2.14	-11.2	1.85	15.2
Chronic Lower Respiratory Disease Mortality	0.19	28.2	-	-	-	-	-	-	-	-	-	-	0.42	-48.4	0.10	-3.80	-	-	-	-	0.73	-39.9
ER Visit for Chronic Lower Respiratory Disease	1.67	-12.0	1.48	196	0.82	-25.1	0.98	14.5	1.49	23.2	0.66	150	1.64	7.77	2.20	-47.4	1.60	-24.6	1.93	-32.8	1.45	-31.5
Infectious Disease																						
TB	8.70	-21.3	-	-	-	-	-	-	-	-	-	-	5.68	-	3.13	-30.7	-	-	-	-	-	-
Chlamydia	3.26	-23.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Gonorrhea	1.88	-25.3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Syphilis	2.29	42.3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HIV	3.92	27.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Injury																						
Firearm Hospitalization	2.00	595	-	-	-	-	0.50	-	2.85	-	-	-	0.53	-	-	-	0.00	-	-	-	-	-
Fall Mortality	0.53	73.2	2.14	-	0.47	-	2.29	-	0.31	-34.4	-	-	0.49	-	0.20	-92.1	3.02	1444	-	-	1.32	-
Fall Hospitalization	0.54	3.54	0.35	23.1	0.39	19.6	0.34	-42.0	0.51	37.6	0.31	-25.0	0.59	56.6	0.62	-41.1	0.29	-69.1	0.91	30.5	0.53	-47.6
ER Visit for Fall	0.93	-14.9	0.86	16.3	0.88	24.8	0.99	25.2	0.88	26.1	0.58	152	0.84	-14.6	0.95	-46.0	0.66	-52.5	1.25	-21.7	0.75	2.97
ER Visit for Motor Vehicle	2.48	-1.45	1.68	47.5	2.01	8.56	1.78	10.8	1.88	31.0	2.21	218	2.12	-19.0	2.94	-36.6	2.03	-21.9	2.38	-48.5	2.67	134

1- percentage 2- rate per 1,000 live births Increase in disparity Decrease in disparity

Table 6. Health Equity Among Overall Population by PCSA, Montgomery County, MD

Indicators	County		Damascus		Gaithersburg		Germantown		Olney		Poolesville		Rockville		Silver Spring 1		Silver Spring 2		Takoma Park		Washington	
	ID t = 2	Δ ID	ID t = 2	Δ ID	ID t = 2	Δ ID	ID t = 2	Δ ID	ID t = 2	Δ ID	ID t = 2	Δ ID	ID t = 2	Δ ID	ID t = 2	Δ ID	ID t = 2	Δ ID	ID t = 2	Δ ID	ID t = 2	Δ ID
Maternal and Infant Health																						
Births with Late or No Prenatal Care[1]	44.1	7.98	64.5	-19.3	21.2	-10.3	44.1	10.9	40.9	15.5	117	30.3	57.1	16.8	39.1	2.32	23.9	2.55	38.4	-0.60	57.9	-29.6
Infant Mortality[2]	35.4	-19.9	64.7	-0.45	48.5	-13.7	74.1	-3.22	16.5	-32.0	83.7	2.28	42.4	-30.7	51.4	-18.6	57.4	16.1	70.0	-18.6	-	-
Preterm Births[1]	8.2	-0.87	10.3	-1.19	10.0	1.08	8.80	-2.66	12.0	1.78	86.8	23.8	5.10	-6.08	18.2	1.39	14.0	-0.54	20.1	9.05	17.3	-11.7
Behavioral Health																						
ER Visit for Behavioral Health Conditions	36.3	-3.56	33.9	-2.20	44.6	-2.40	40.3	-5.96	34.6	-2.65	57.2	-0.33	44.3	-20.6	32.8	-12.0	29.9	-5.45	17.2	2.74	42.9	-8.40
Suicide Mortality	30.8	-30.8	77.8	-	62.5	1.60	31.8	-33.6	42.2	-5.07	-	-	13.7	-18.0	34.2	-20.4	49.8	-9.61	56.3	-41.5	35.0	-
Drug-Induced Mortality	48.0	-4.36	62.3	-9.23	64.0	-11.3	43.0	-27.4	59.6	-17.5	76.7	-3.66	45.8	-27.9	32.1	-55.6	75.4	-36.0	69.8	-30.6	95.0	14.7
ER Visit for Substance Abuse	37.1	6.42	65.3	20.6	44.9	-2.91	48.9	8.05	26.8	-7.96	50.6	-17.2	48.0	-0.34	46.3	-0.85	35.8	-3.63	52.4	-10.5	49.1	-4.57
Chronic Disease																						
Diabetes:																						
ER Visit for Diabetes	66.6	16.6	47.3	-1.07	35.2	-24.0	51.9	-0.23	55.2	5.77	99.4	26.0	87.3	11.06	54.1	12.4	42.0	0.93	45.5	6.76	115	-190
Diabetes Mellitus Mortality	38.0	-8.68	61.8	-51.1	20.6	-27.3	48.1	-40.3	21.7	-18.8	202	-588	58.8	0.63	78.4	30.7	20.5	-32.2	81.4	1.19	231	153
Cardiovascular Health:																						
Heart Disease Mortality	31.3	-9.60	27.5	-28.8	34.4	-14.5	56.3	-9.08	27.3	-8.11	8.39	-252	20.3	-25.2	34.1	-6.39	23.5	-27.8	47.5	0.68	38.9	-1.89
ER Visit for Heart Disease	48.2	0.68	52.6	15.5	39.7	-17.0	56.5	6.03	39.2	-5.78	79.7	19.9	58.7	3.11	37.7	-8.12	37.1	-8.84	46.0	15.0	69.6	10.1
Chronic Lower Respiratory Disease Mortality	41.7	-15.8	53.8	45.6	63.1	40.3	75.4	10.3	23.4	-29.8	-	-	38.5	13.7	49.6	-11.5	21.2	-29.3	29.8	-	22.6	13.6
ER Visit for Chronic Lower Respiratory Disease	51.3	5.55	69.1	-38.0	46.3	-68.4	58.6	-65.8	43.6	-36.6	46.0	-109	74.8	-45.9	47.1	-28.2	33.9	-25.6	48.1	-36.8	96.5	21.0
Infectious Disease																						
TB	83.0	-16.6	-	-	486	90.5	651	297	102	30.6	-	-	102	-33.6	150	30.1	59.3	-23.2	72.9	-40.5	96.7	-20.9
Chlamydia	25.1	-6.83	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Gonorrhea	32.9	-15.4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Syphilis	25.8	-11.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HIV	102	-10.9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Injury																						
Firearm Hospitalization	88.3	-6.83	109	-	75.1	-35.1	77.0	-52.1	58.0	-34.4	-	-	88.9	-11.1	96.9	43.5	91.6	-7.91	100	-19.6	-	-
Fall Mortality	25.1	-15.4	90.5	-	45.3	-	62.2	-13.1	24.4	-20.1	275	-	29.7	1.42	43.2	-38.4	-	-	52.5	-	66.6	22.4
Fall Hospitalization	32.9	-11.6	33.1	-12.0	49.2	3.09	39.8	5.18	36.9	-9.61	73.6	40.4	31.2	-14.9	22.2	-30.5	50.3	3.56	30.8	4.15	24.2	-19.2
ER Visit for Fall	25.8	-14.9	21.3	-9.39	24.0	-0.60	23.4	0.22	23.5	-12.8	63.3	19.5	26.7	-18.1	16.5	-36.4	29.3	-15.6	22.1	3.25	32.6	-39.9
ER Visit for Motor Vehicle	54.9	16.1	46.8	19.7	42.9	-1.48	45.4	10.6	46.4	16.6	28.9	-31.8	68.4	22.2	47.1	0.74	41.6	-3.91	36.8	3.05	86.7	1.02

1- percentage 2- rate per 1,000 live births Increase in disparity Decrease in disparity

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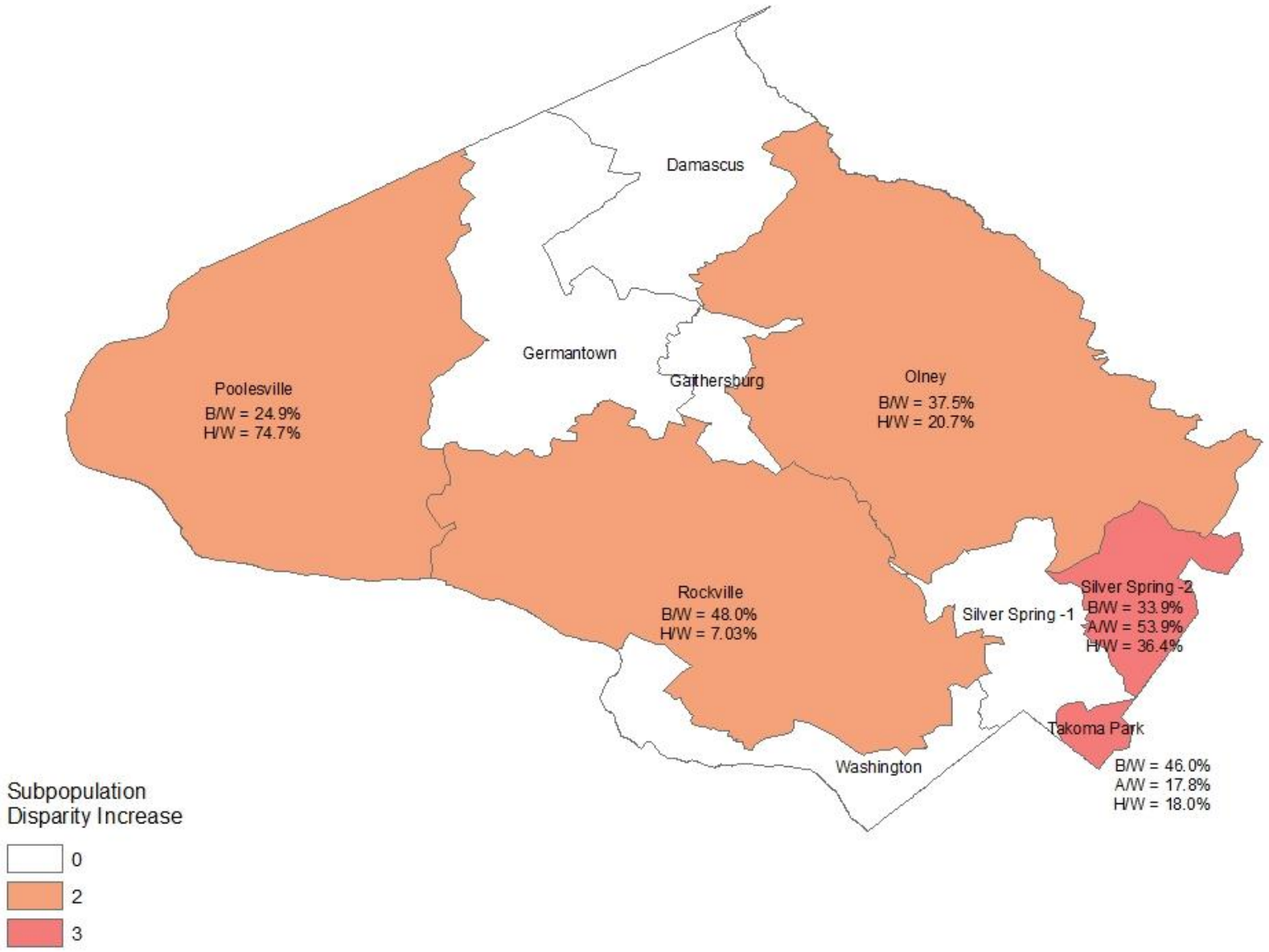
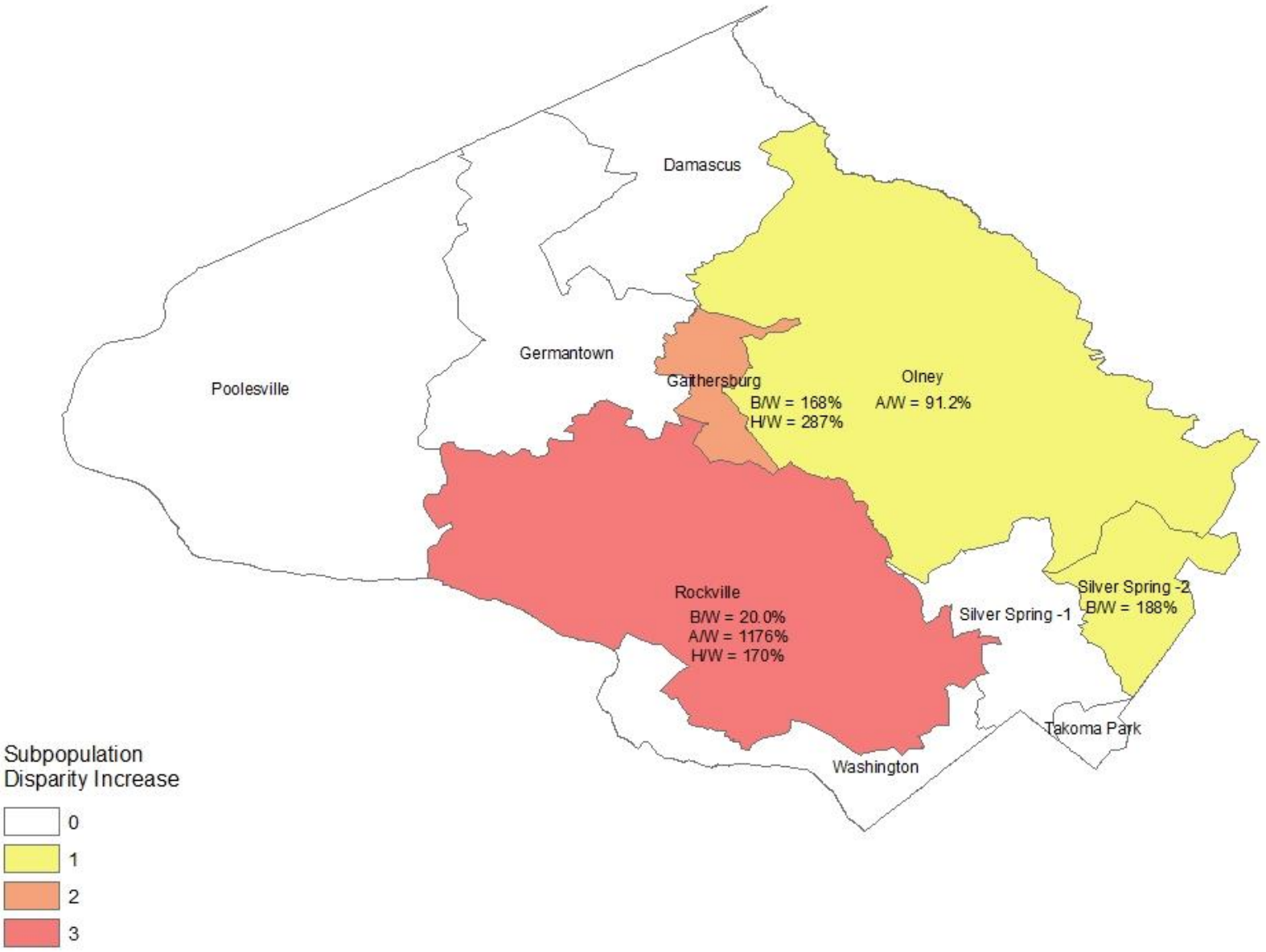
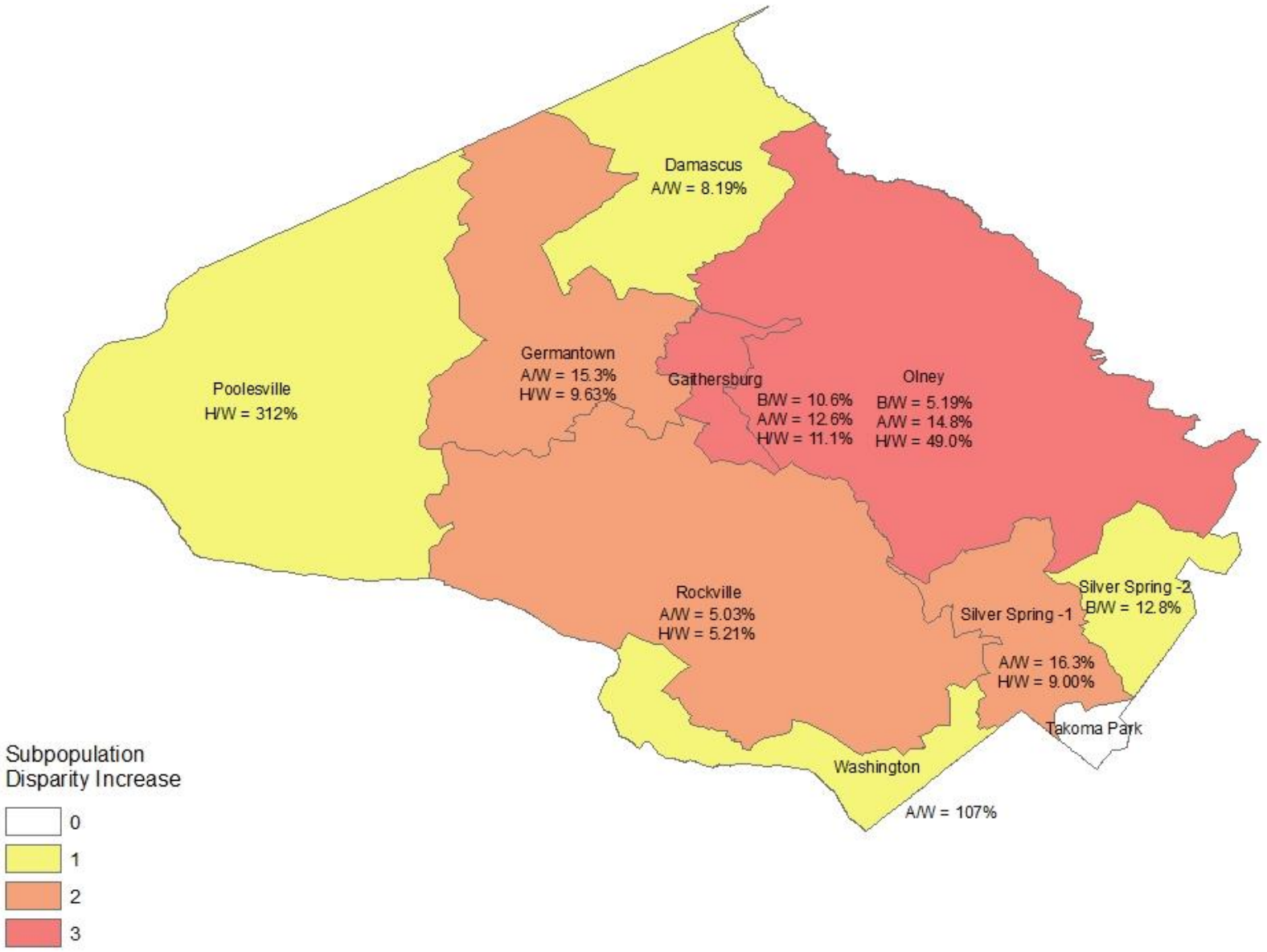
Map 2. Change in Equity for Late or No Prenatal Care by PCSA



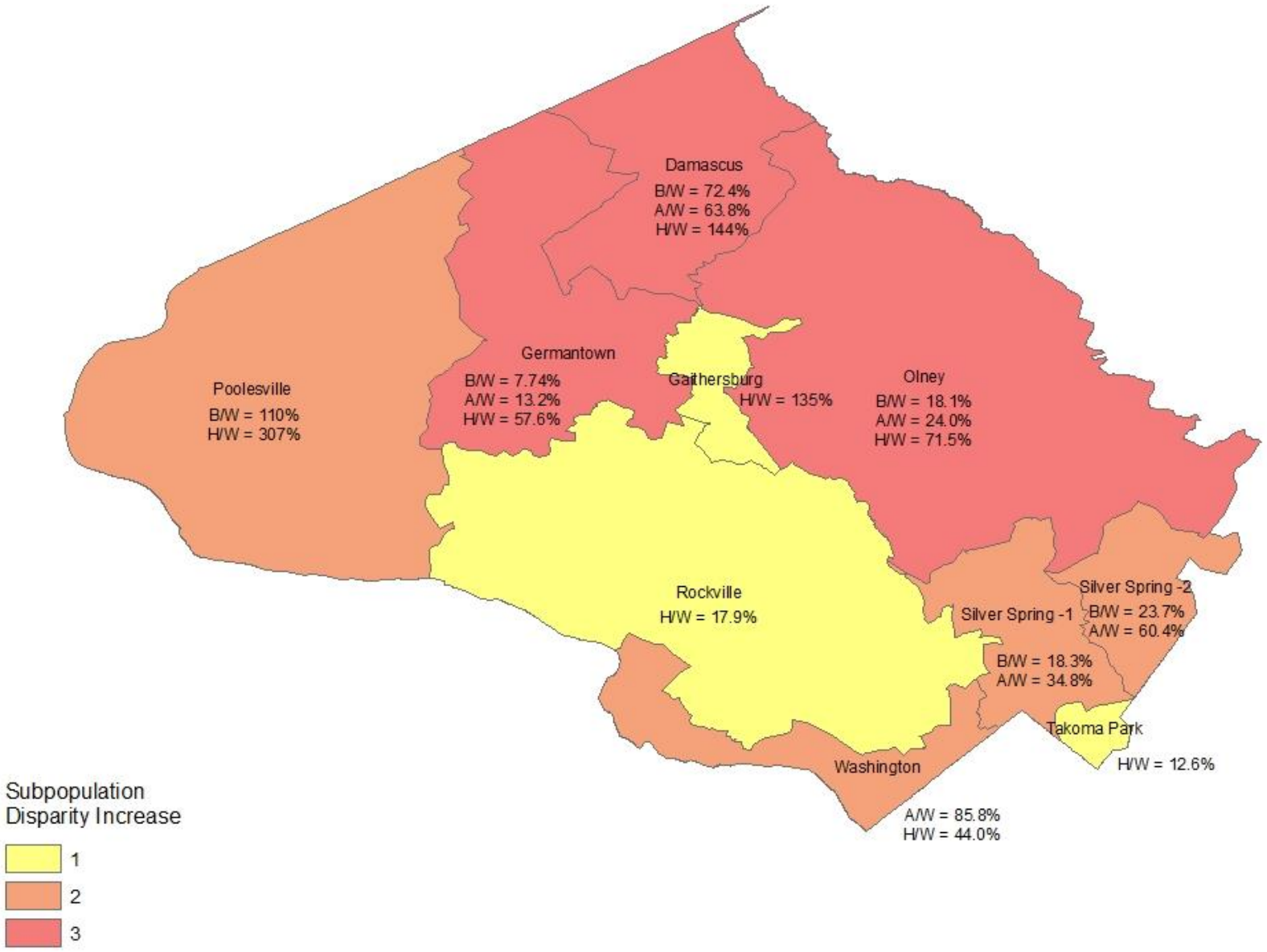
Map 3. Change in Equity for Infant Mortality by PCSA



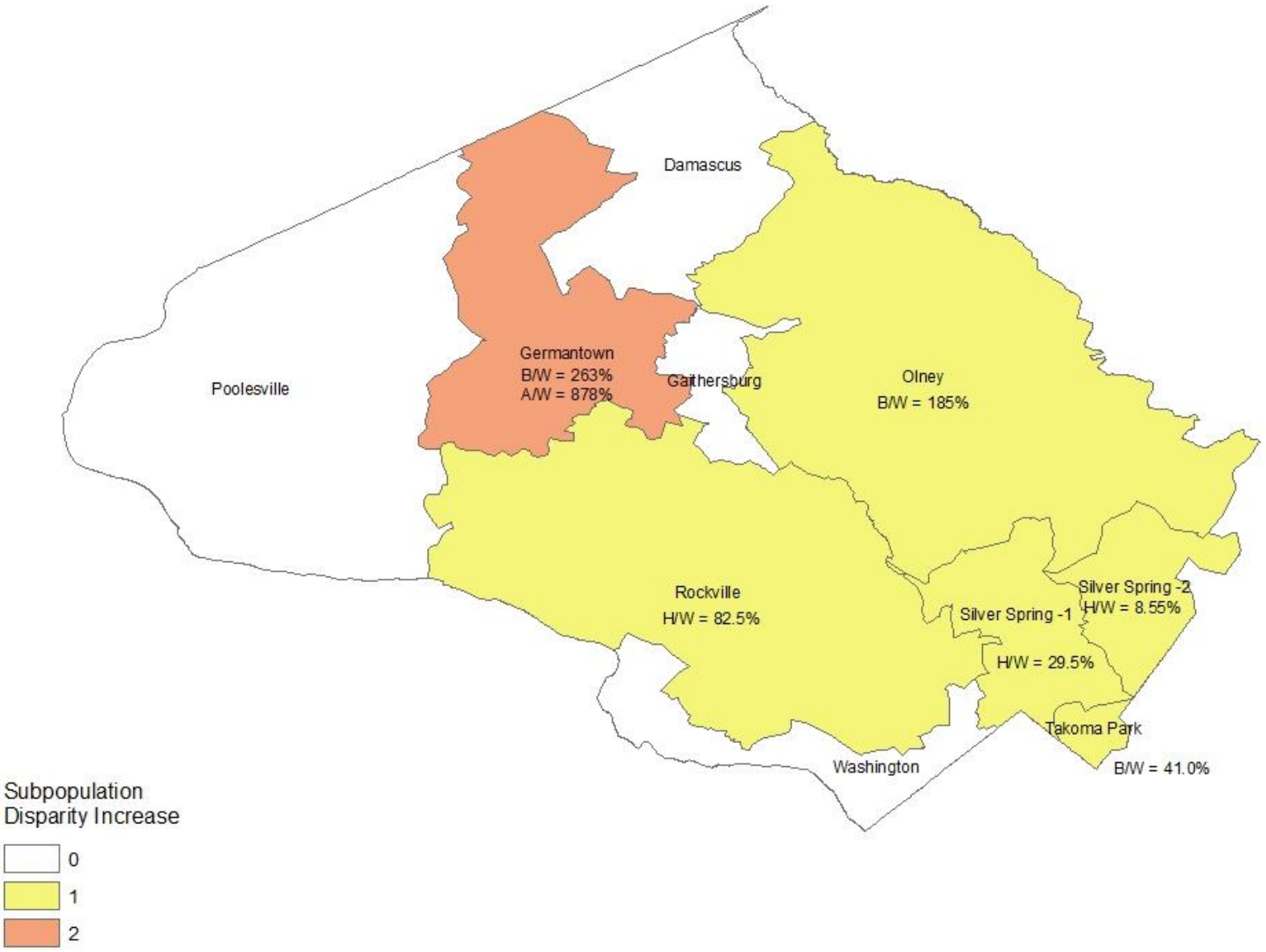
Map 4. Change in Equity for Preterm Births by PCSA



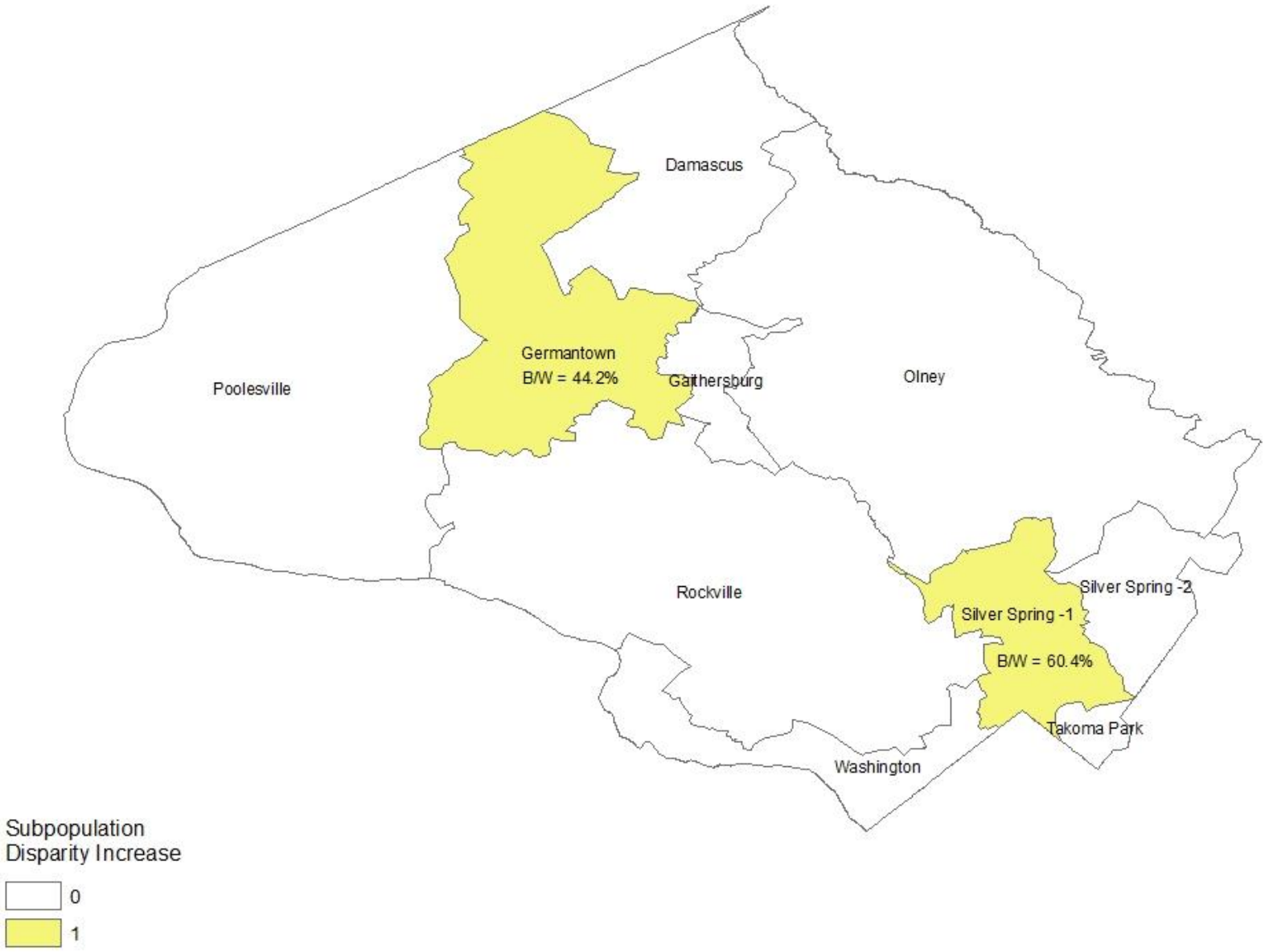
Map 5. Change in Equity for Behavioral Health ER Visit by PCSA



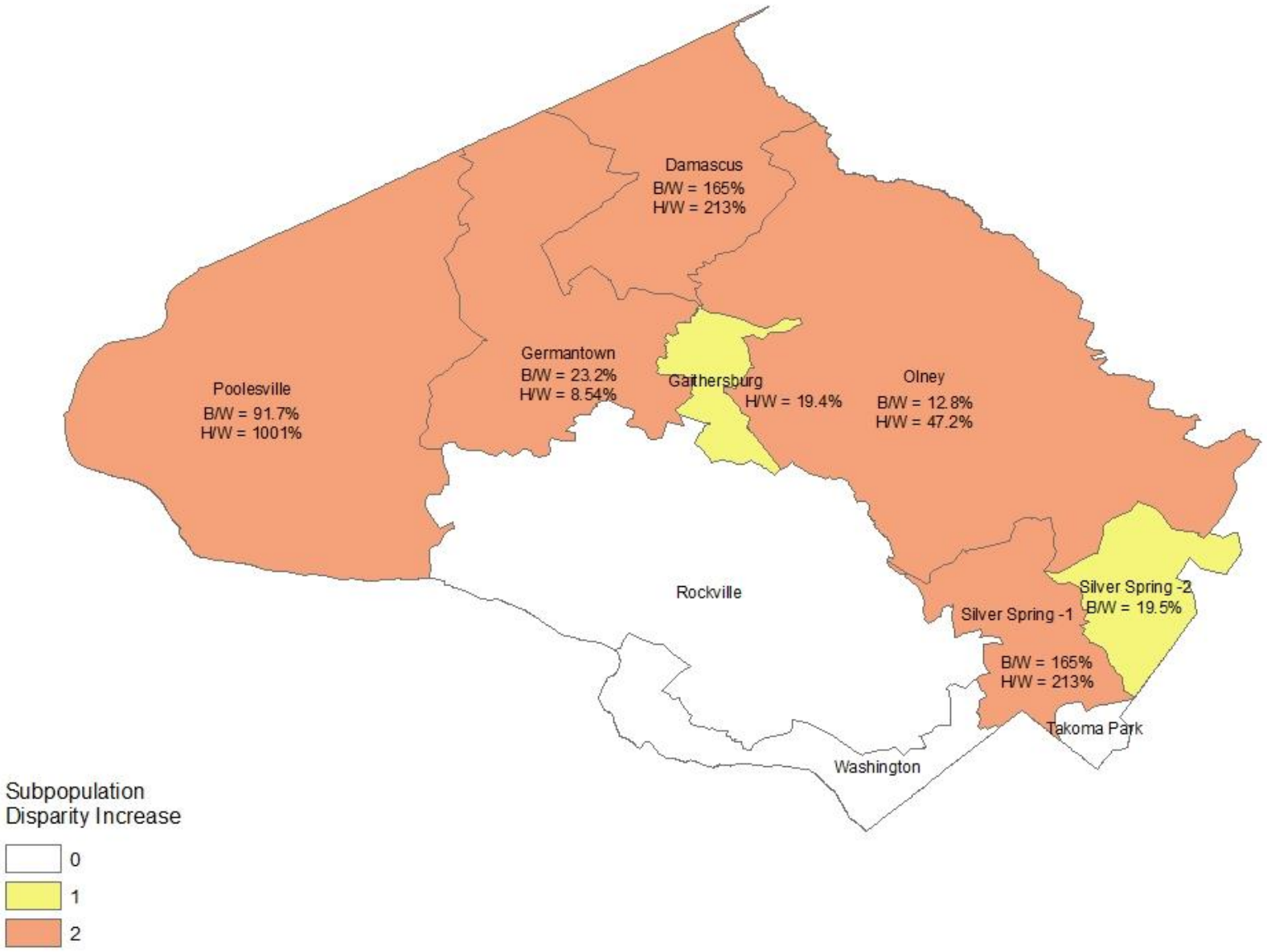
Map 6. Change in Equity for Suicide Mortality by PCSA



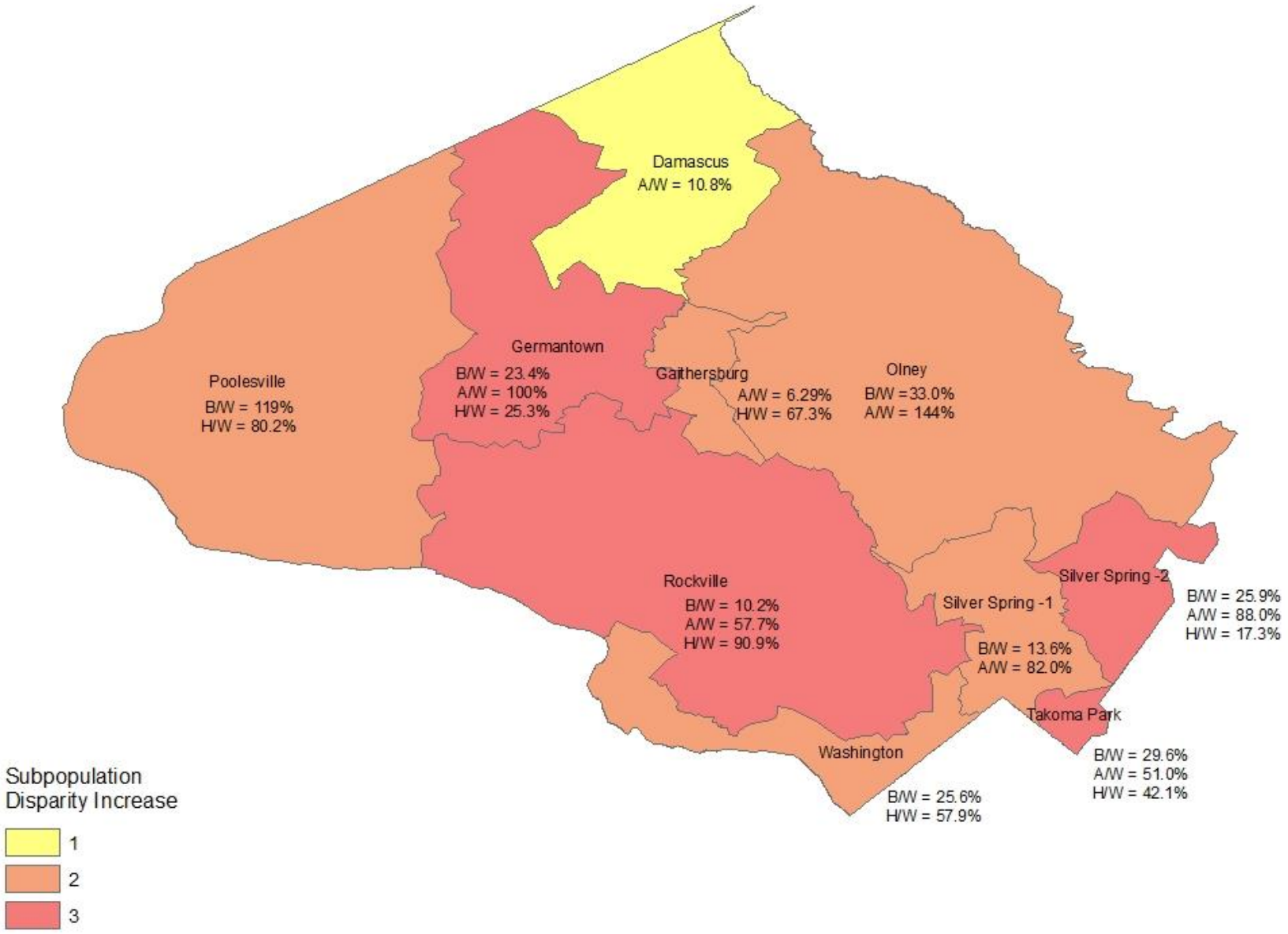
Map 7. Change in Equity for Drug-Induced Mortality by PCSA



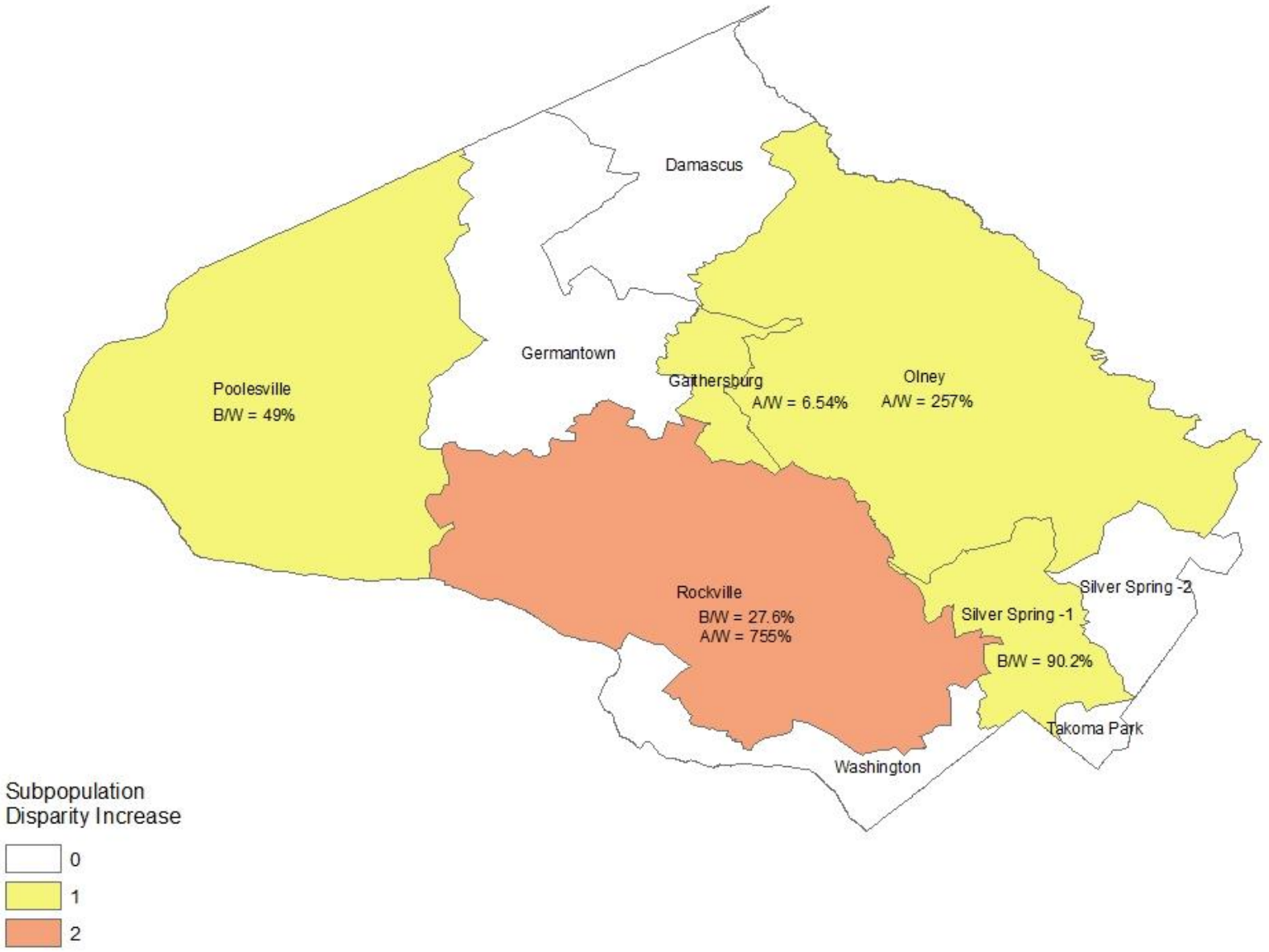
Map 8. Change in Equity for Substance Abuse ER Visit by PCSA



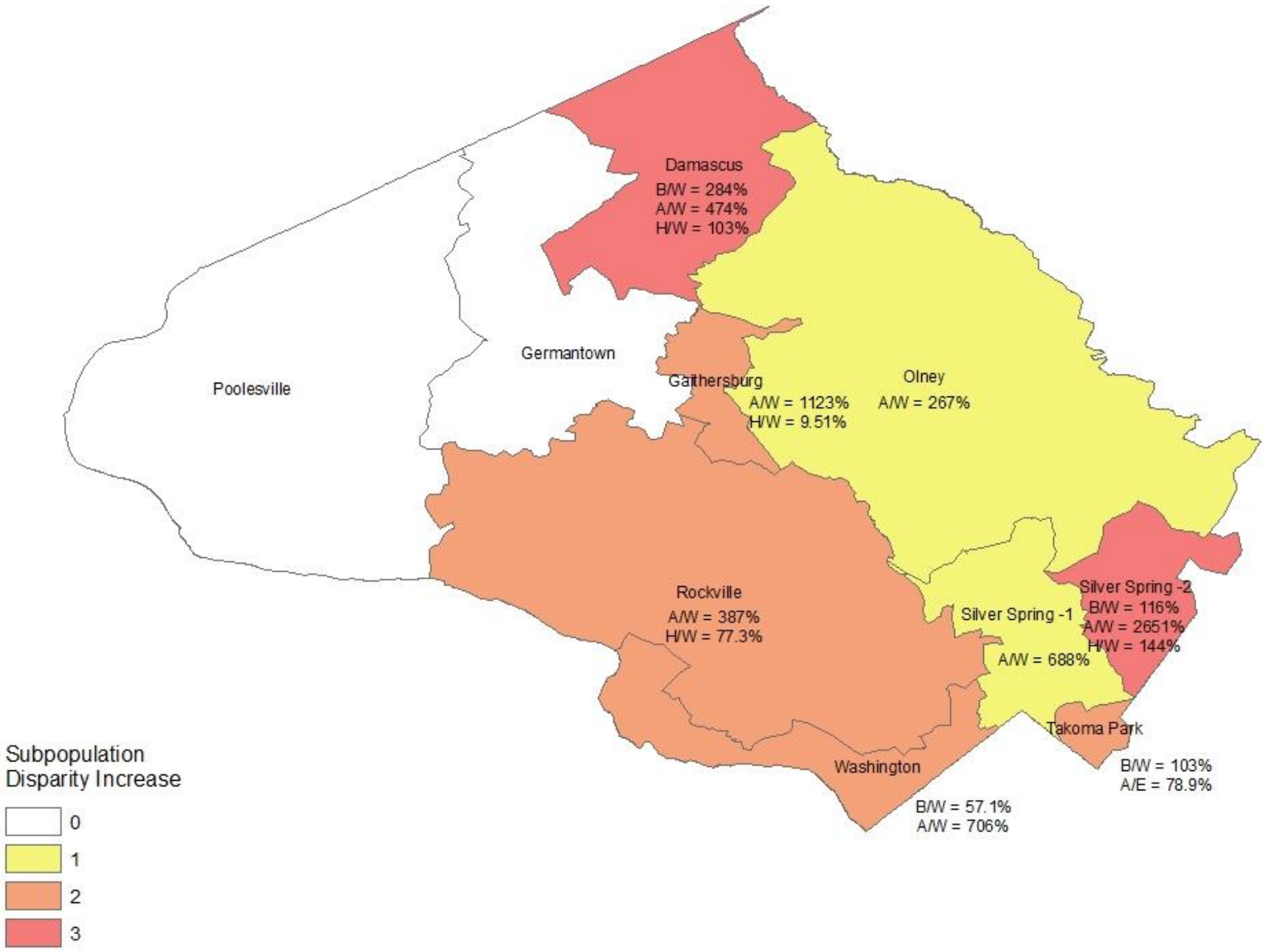
Map 9. Change in Equity for Diabetes ER Visit by PCSA



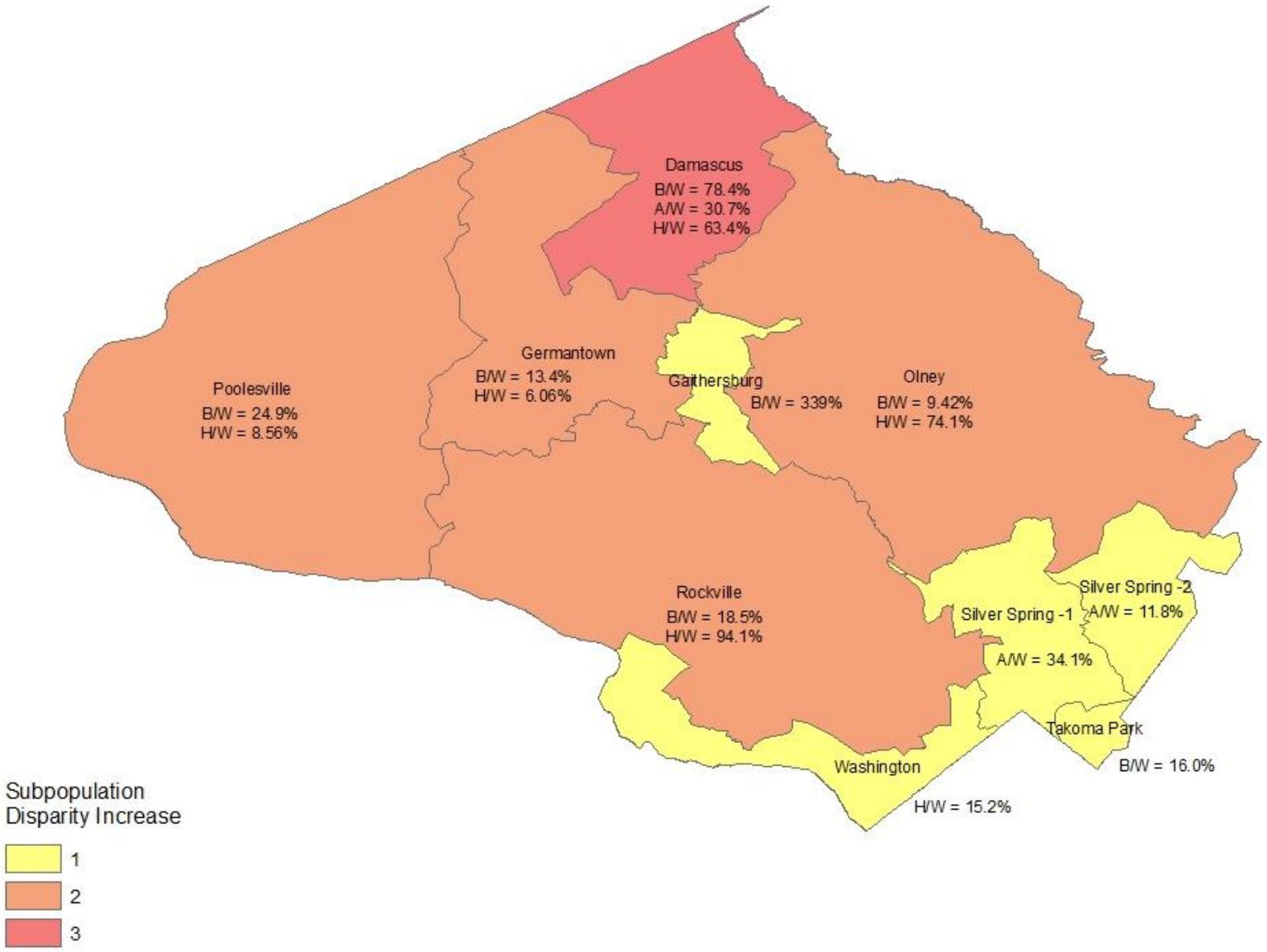
Map 10. Change in Equity for Diabetes Mortality by PCSA



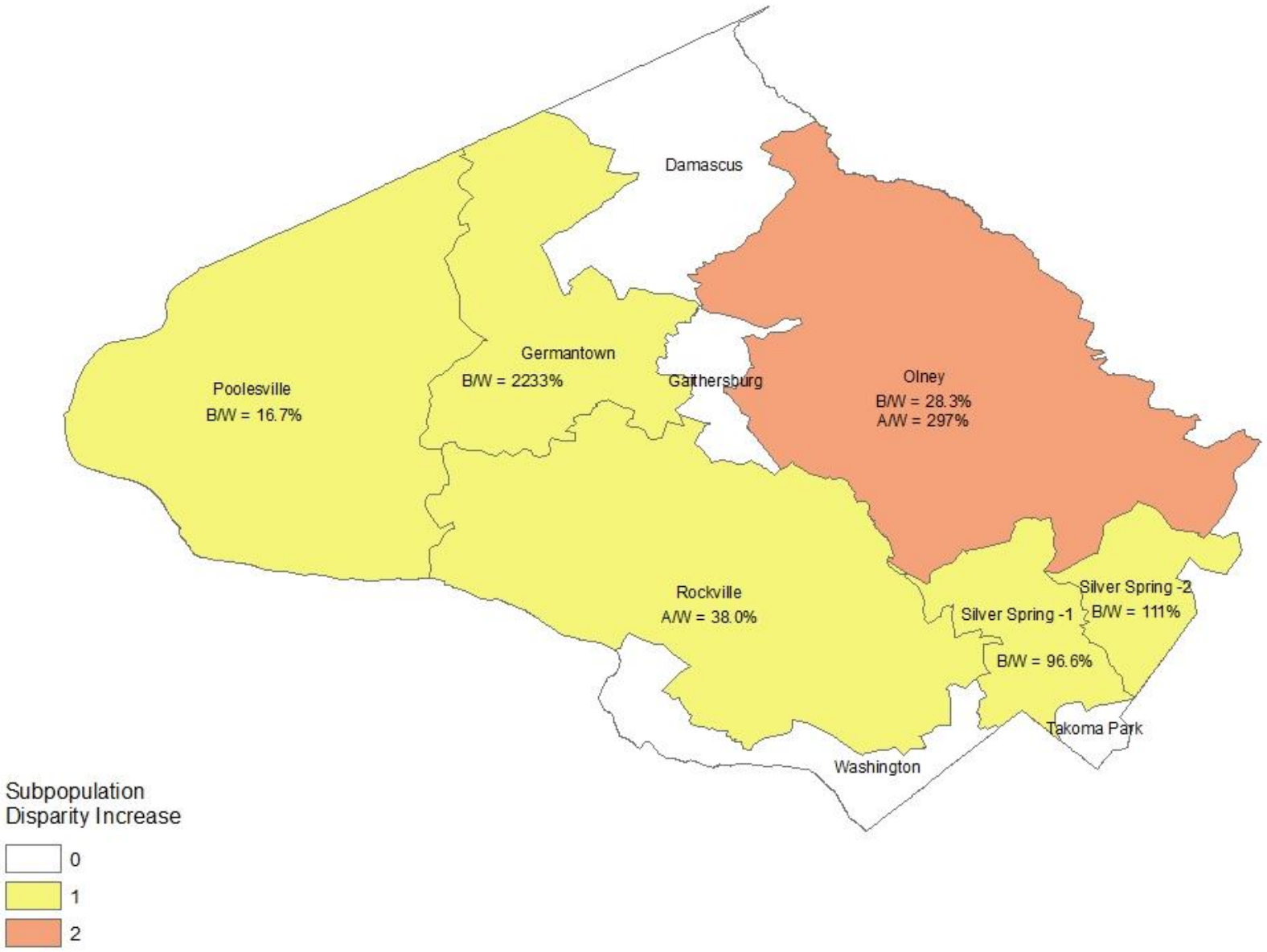
Map 11. Change in Equity for Heart Disease Mortality by PCSA



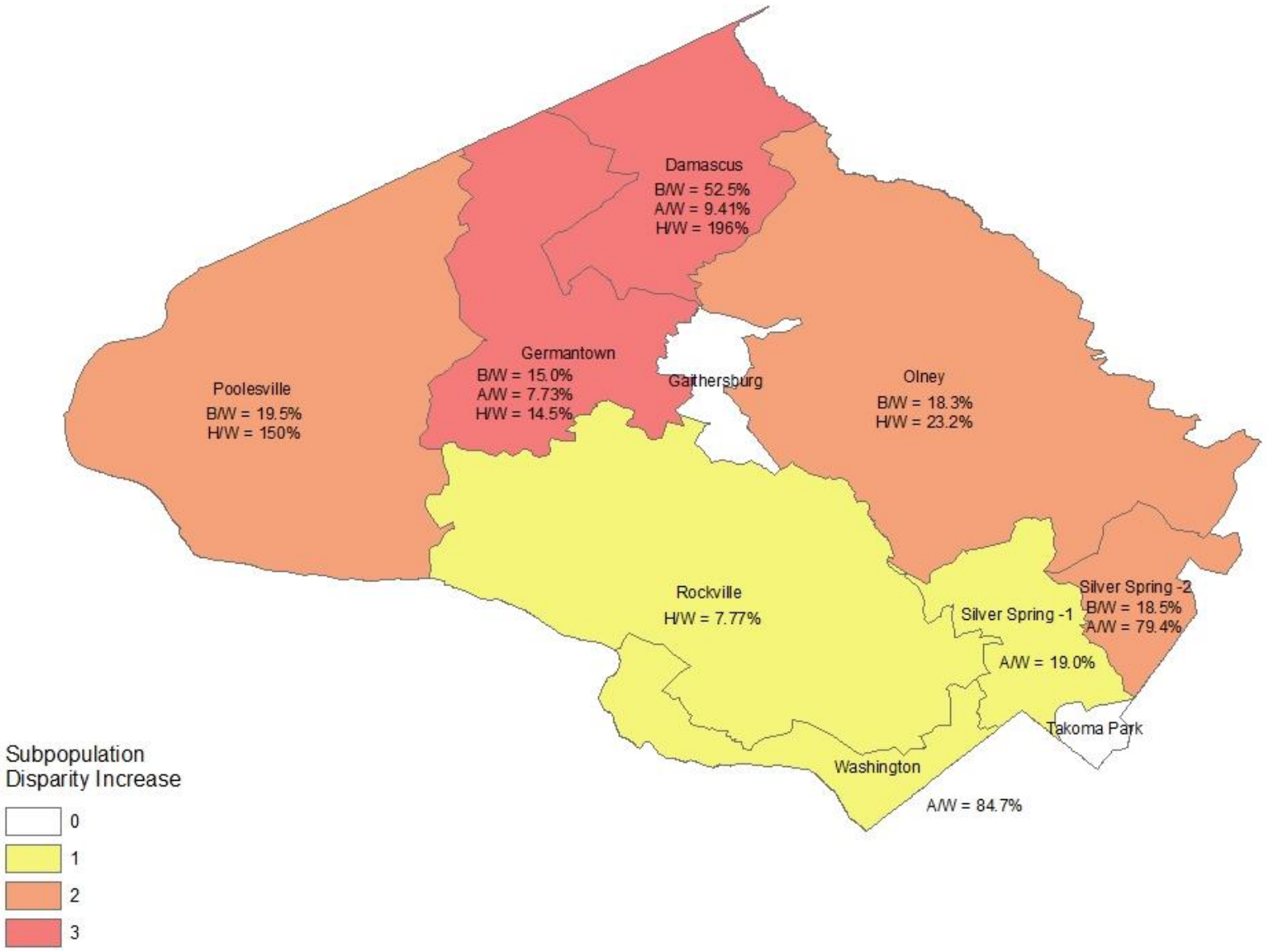
Map 12. Change in Equity for Heart Disease ER Visit by PCSA



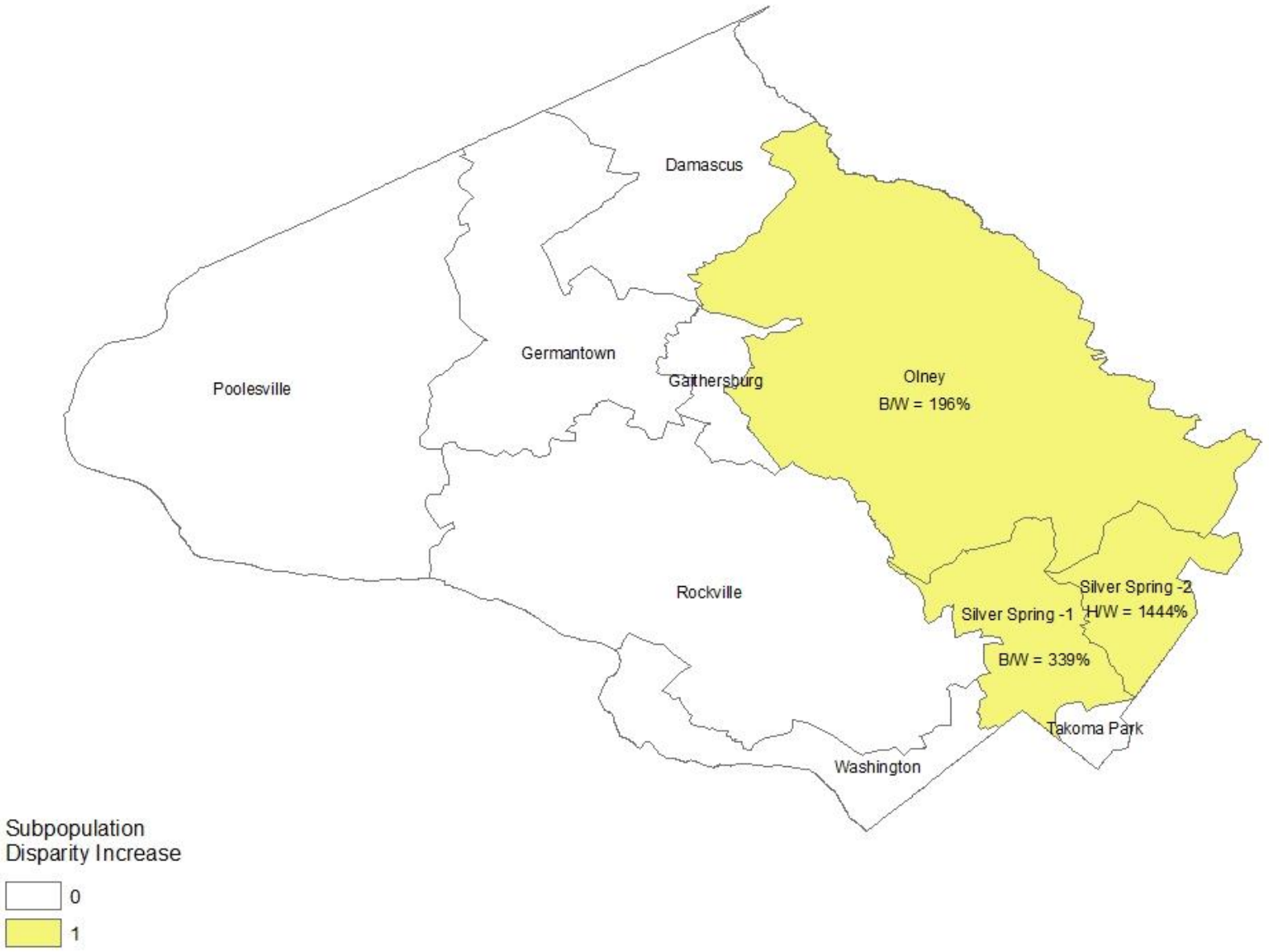
Map 13. Change in Equity for Chronic Lower Respiratory Disease Mortality by PCSA



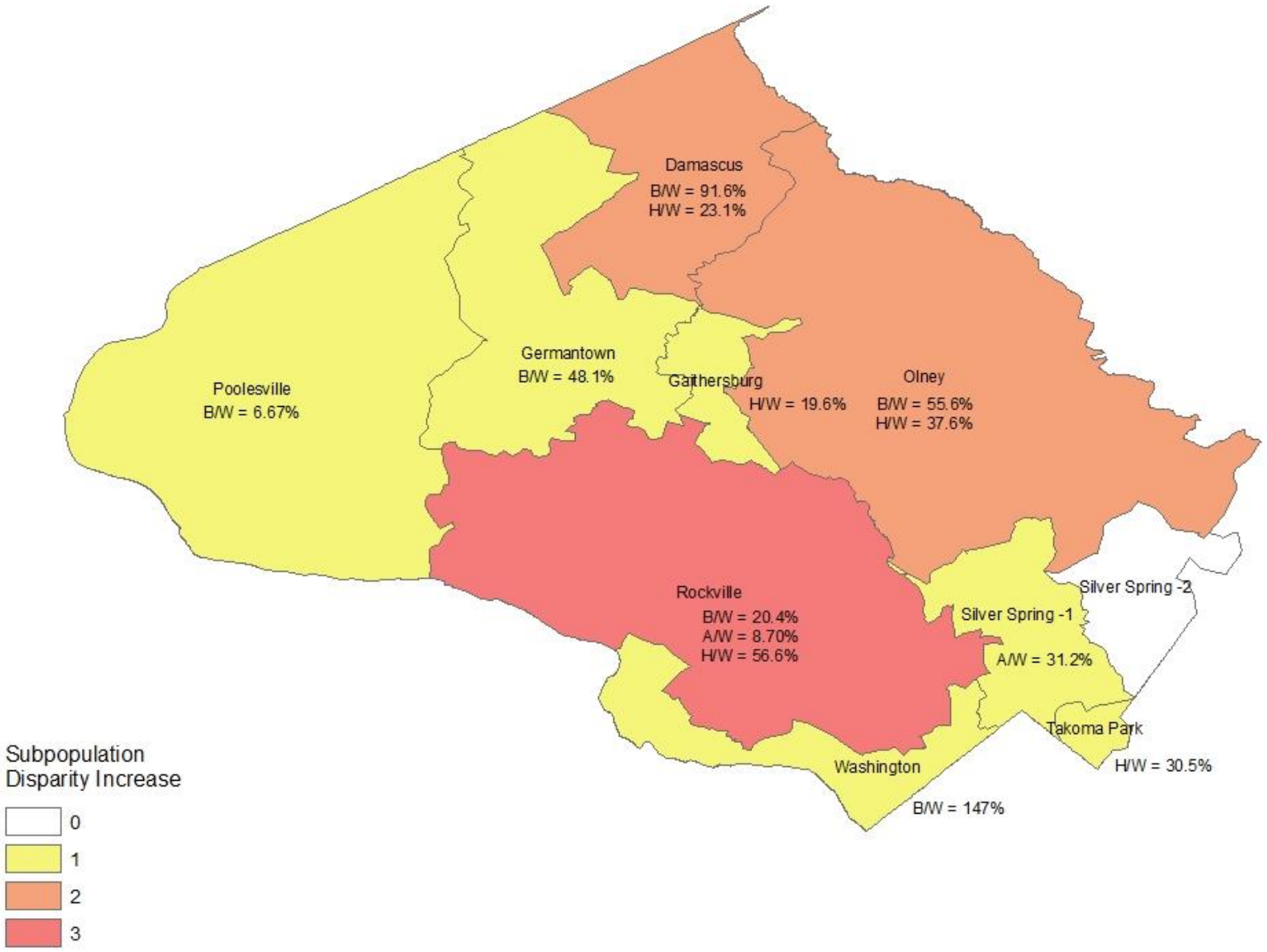
Map 14. Change in Equity for Chronic Lower Respiratory Disease ER Visit by PCSA



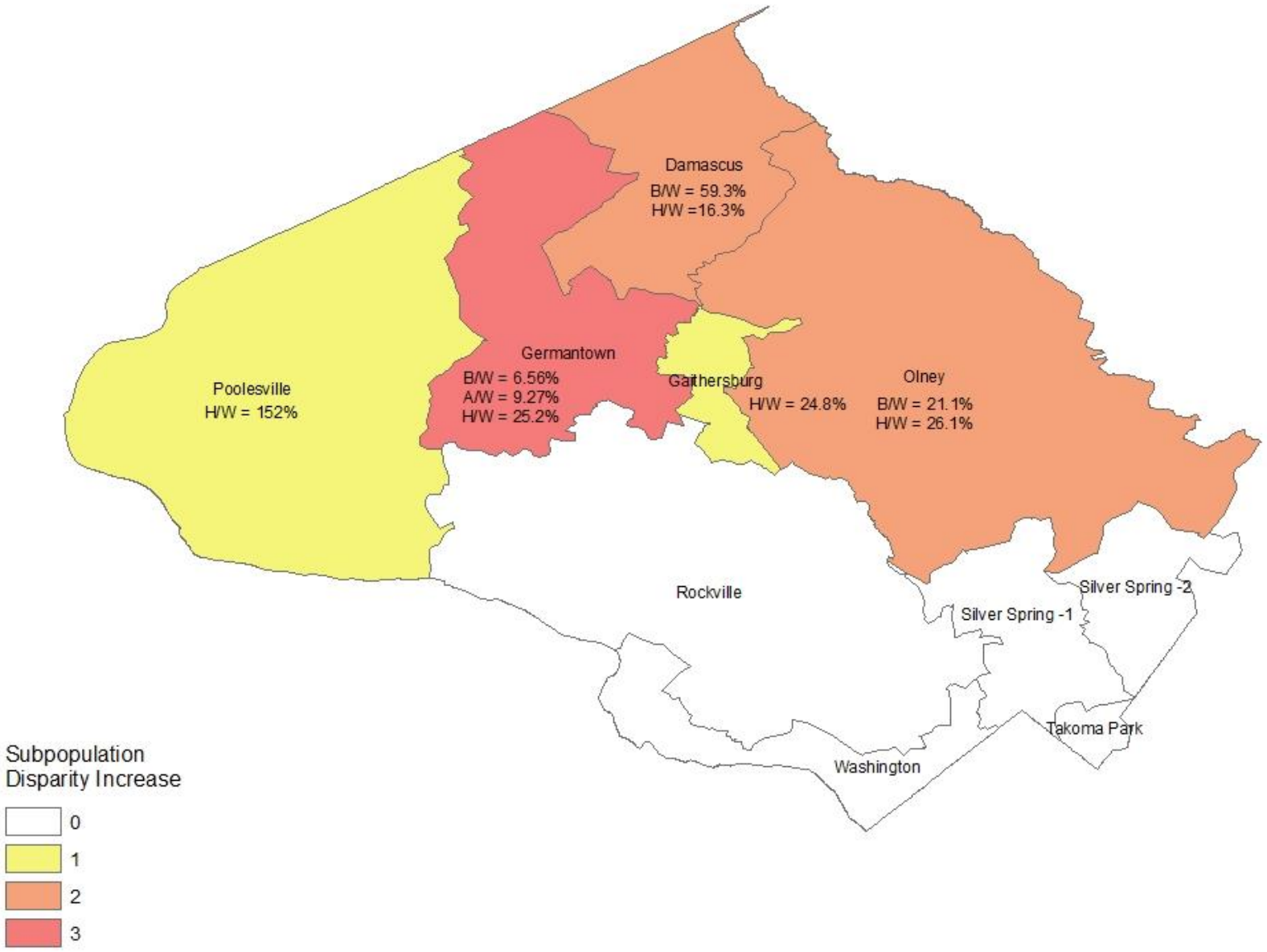
Map 15. Change in Equity for Fall Mortality by PCSA



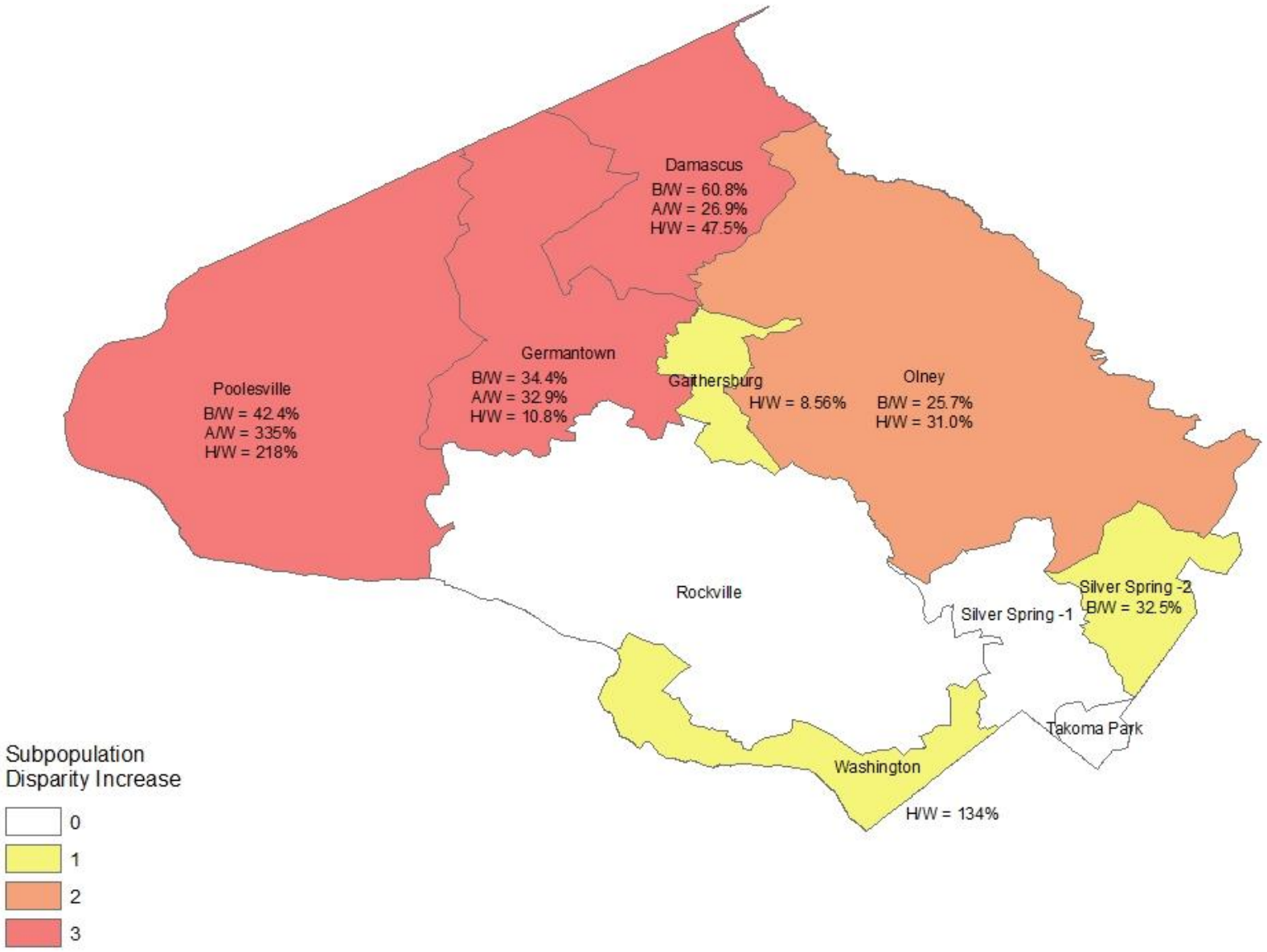
Map 16. Change in Equity for Fall Hospitalization by PCSA



Map 17. Change in Equity for Fall ER Visit by PCSA



Map 18. Change in Equity for Motor Vehicle ER Visit by PCSA



Technical Notes

1. - : No Data/Not included in comparison
2. A change of less than ±5% was considered no change.
3. The Overall Population Index of Disparity (ID) is a measure of how much disparity exists in the overall population, summarizing how far each group is from the population average, higher values of ID indicate increasing levels of disparity in the population.
4. Maps depict the number of racial subpopulation (NH-Black, Asian/PI, Hispanic) that showed an increase in disparity change compared to NH-White by PCSA.