DOYLESTOWN HOSPITAL

2019

Community Health Needs Assessment

Doylestown Health

THE COMMUNITY WE SERVE

Population Size**

The Doylestown primary service area population size is estimated at 371,362 residents and the secondary service area at 441,771 residents, with approximately one-third of the residents living in Montgomery County.
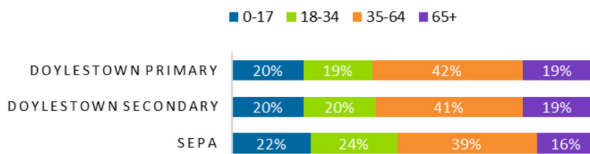
Doylestown Health Service Area Map
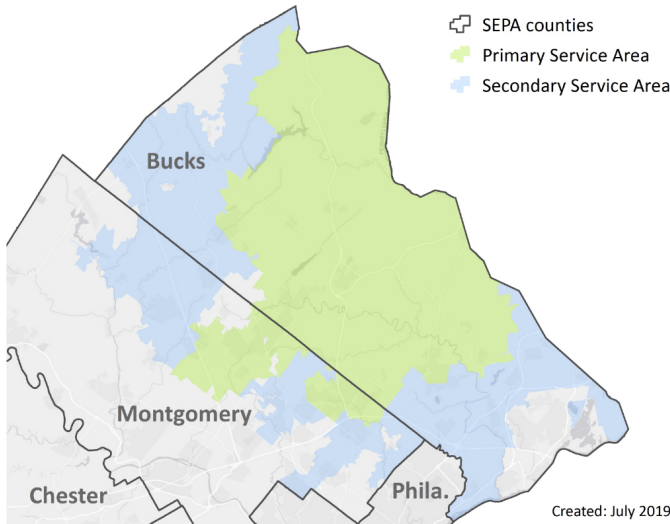
- SEPA counties
- Primary Service Area
- Secondary Service Area

Created: July 2019

Service Layer Credits: Esri, HERE, Garmin ©OpenStreetMap contributors, and the GIS user community

Community Characteristics**

Age Distribution in Doylestown Service Areas and SEPA

Legend: ■ 0-17 ■ 18-34 ■ 35-64 ■ 65+

	0-17	18-34	35-64	65+
DOYLESTOWN PRIMARY	20%	19%	42%	19%
DOYLESTOWN SECONDARY	20%	20%	41%	19%
SEPA	22%	24%	39%	16%

Doylestown Health service areas are racially homogenous compared to SEPA

- 87% of primary service area residents self-identify as White
- 84% of secondary service area residents self-identify as White
- 64% of residents in SEPA self-identify as White

Doylestown Median household income is higher than SEPA

- $100,424 in Doylestown Primary
- $90,353 in Doylestown Secondary
- $70,807 in SEPA

Insurance Status*

The primary service area is closest to meeting the Healthy People 2020 Goal (HP 2020) of 0% uninsured

HP 2020 Goal, 0%
Doylestown Primary, 5%
Currently Uninsured
Doylestown Secondary, 11%
SEPA, 11%
0%   2%   4%   6%   8%   10%   12%
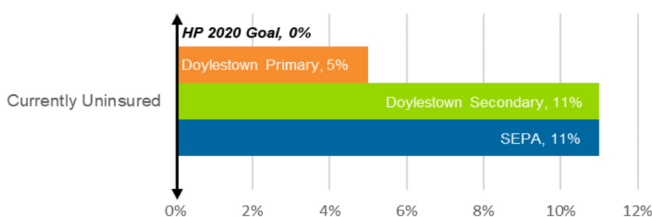
KEY HEALTH FINDINGS

Populations of Interest

Older Adults

- Between 2018-2023, the older adult population (65+) is expected to increase up to 16% in the primary service and 14% in the secondary service area**

- 84% of older adults in the primary service area reported good to excellent health, compared to 81% in the secondary service area*

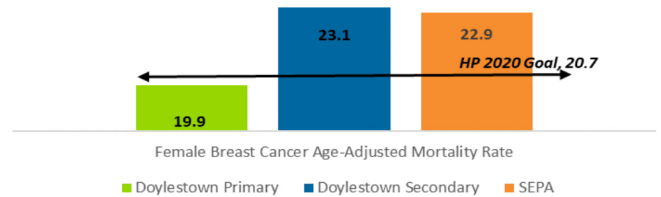- 11% of Doylestown Primary older adults have an ADL limitation, compared to 10% of Doylestown Secondary

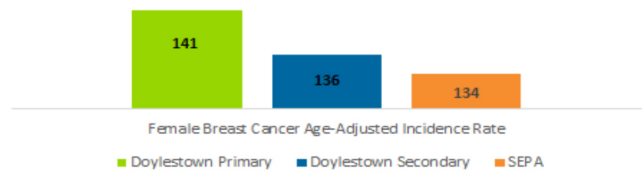- 23% of older adults in Doylestown Primary have an IADL limitation, compared to 28% of Doylestown Secondary*

Cancer

Cancer is the first leading cause of death in Doylestown's primary and secondary service areas, which differs from the US overall, where heart disease is the first leading cause.

- Doylestown Primary met the HP 2020 Goal for breast cancer mortality

Female Breast Cancer Age-Adjusted Mortality Rate
- 19.9 Doylestown Primary
- 23.1 Doylestown Secondary
- 22.9 SEPA
- HP 2020 Goal, 20.7

Legend: ■ Doylestown Primary ■ Doylestown Secondary ■ SEPA

- The rate of new breast cancer diagnoses is *higher* in Doylestown Primary than in Secondary and SEPA

Female Breast Cancer Age-Adjusted Incidence Rate
- 141 Doylestown Primary
- 136 Doylestown Secondary
- 134 SEPA

Legend: ■ Doylestown Primary ■ Doylestown Secondary ■ SEPA

- The primary service area has the highest percent of women ages 50-74 not receiving a mammogram in the past two years (25%) followed by the secondary service area (22%) than the remainder SEPA region (20%)

Doylestown Service Areas and SEPA: Select Health Indicators*

Doylestown service areas are performing <u>better</u> along a number of health indicators compared to the remainder SEPA region.

Health Indicator	Doylestown Primary	Doylestown Secondary	SEPA
In "fair" or "poor" health	13%	15%	20%
Ever been diagnosed with mental health condition	20%	18%	23%
Having low social capital	16%	22%	31%
Currently obese (BMI 30+)	23%	29%	31%
Have or had high blood pressure	19%	22%	32%
Did not fill a prescription in the past year due to costs	10%	10%	14%

RESEARCH & EVALUATION GROUP at PHMC

TABLE OF CONTENTS

EXECUTIVE SUMMARY

Community Definition

This report presents the findings from the Doylestown Health Community Health Needs Assessment (CHNA) for FY2020-FY2022. This CHNA was conducted to inform population health and social services planning across the communities Doylestown Health serves, as well as to satisfy the requirements for non-profit community hospitals via the Affordable Care Act (ACA).

Doylestown Health represents a healthcare network that has delivered high quality care to its service area residents for over 90 years, with governance from the same organization, The Village Improvement Association of Doylestown, which has served the community for over 120 years. Doylestown Health is a community-focused healthcare network serving generations of patients and families in the northern suburban communities of Philadelphia, including Bucks and Montgomery Counties in Pennsylvania, and Hunterdon and Mercer Counties in New Jersey. Doylestown Health offers top doctors in primary, specialty, urgent, and emergent care services.

The Doylestown Health primary service area population size is estimated at 371,362 residents and the secondary service area at 441,771 residents, with approximately two-thirds of residents in each area living in Bucks County and one-third in Montgomery County. This CHNA focuses on the primary market area (defined below and excludes ZIP codes in New Jersey) while also giving an overview of the secondary market area, and compares how the two service areas perform along important health indicators. The Southeastern Pennsylvania (SEPA) region performance is also assessed.

Community Health Priority Needs

Using multiple data sources, methods and techniques, including engagement with community members directly, this CHNA report outlines a set of community health priority needs, or key areas where Doylestown Health can develop implementation strategies and focus efforts to maintain and elevate its area residents' health status collectively, including in:

- **Access to care,** which remains a persistent barrier for individuals initially seeking health care, in receiving adequate health care ongoing, and utilizing healthcare regularly. There are noteworthy differences in the Doylestown primary and secondary service areas in terms of access to care. For example, adult residents in the Doylestown secondary service area are more likely to be uninsured (11%) when compared to adult residents in the primary service area adults (5%), which can impact all areas of access to care. For example, frequency of emergency room visits and utilization is higher among the uninsured (which leads to higher costs and insufficient quality of care). Also, 23% of adult residents in the Doylestown primary service area visited the ER in the past year compared to 26% of secondary service area residents
- **Health behaviors,** such as smoking, nutrition, and exercise, were identified as a community health need given their relationship to cancer and heart disease morbidity and mortality generally. Cancer and heart disease are also the two leading causes of death in the Doylestown service areas. For example, the percent of adult smokers (14%) in the

Doylestown secondary service area does not meet the Healthy People 2020 (HP2020) goal[1], 52% did not try to quit in the past year, and 7% an e-cigarette in the past month.

- **Behavioral health** (mental health, drug overdose, suicide, prescription pain medication misuse) was identified as an unmet need and growing health need impacting the Doylestown community as stated by community constituents themselves. The prevalence of a diagnosed mental health condition is similar across the service areas (20% of adults in the primary and 18% of adults in the secondary service area). Among those diagnosed with a mental health condition, 60% are receiving treatment in the Doylestown primary service area and slightly less, (56%) in the secondary service area.
- **Screenings** for heart disease and cancer are key in early diagnosis and initiating proper care. The number of females in the Doylestown primary service area receiving pap tests and mammograms within the recommended amount of time increased from 2012 to 2015, and has decreased slightly since then (see Table 11 in Appendix F). In 2018, 25% of women age 50-74 in the Doylestown primary service area and 22% in the secondary service area did not receive a mammogram in the past two years, compared to 20% in the remainder SEPA region.
- **Older adult health** was identified as a need for Doylestown service areas since the 65+ older adult population is projected to increase by up to 16% in the primary service area and 14% in the secondary service area between 2018-2023, underscoring the need and likely increase in demand for expansion of partnerships, services and programming focused on aging and older adult well-being as well as social support system planning and respite care. In particular, mortality rates due to Alzheimer's disease is higher for Doylestown Health compared to SEPA -Alzheimer's disease mortality rate in the primary service area (17.0 deaths per 100,000 residents), secondary service area (15.6 deaths per 100,000 residents) and SEPA (14.1 deaths per 100,00 residents), underscoring the need for enduring support systems in and out of the hospital environment.

There are important areas where Doylestown Health community health needs are being met, and for which, opportunities to replicate services for example, or further expand resources and/or partnerships in these areas may be considered. For example, 13% of Doylestown primary service area adult residents and 15% in the secondary service area report being in fair or poor health, compared to 20% of adult area residents in the remainder SEPA region.[2] As a second example, body mass index (BMI) has been a major predictor of overall health, with a BMI of 25-29.9 considered overweight, and 30+ considered obese. Overweight and obesity are strongly correlated with high blood pressure, diabetes, cancer, heart disease, and asthma. The HP 2020 goal for obesity is 30.5% (or less) of adults age 20+.[3] Both the Doylestown primary and secondary service areas exceed the HP 2020 goal for obesity.

- In the Doylestown primary service area, 23% (age-adjusted) of adults (age 18+) are obese and in the Doylestown secondary service area 29% (age-adjusted) of adults (age 18+) are obese, compared to the remainder SEPA region (31%).

---

[1] Healthy People 2020 [Internet]. Washington, DC: U.S. Department of Health and Human Services [cited April 23, 2019]. Available from: https://www.healthypeople.gov/2020/topics-objectives/topic/Tobacco-Use/objectives#5287
[2] Pearson chi square p<.001
[3] Healthy People 2020 [Internet]. Washington, DC: U.S. Department of Health and Human Services [cited April 23, 2019]. Available from: https://www.healthypeople.gov/2020/leading-health-indicators/2020-lhi-topics/Nutrition-Physical-Activity-and-Obesity/data#NWS-9

- Doylestown primary area also has a lower percentage of adults either overweight or obese (64%) compared to Doylestown secondary service area (67%); these differences are not statistically significant and comparable to the remainder SEPA region (64%).

CHNA's create an opportunity for Doylestown Health to have the information it needs to develop programs, services and partnerships for the communities it serves; and to assess these activities ongoing. These programs and services are aimed at improving community health through direct allocation of resources and investment in wellness and prevention in the communities served. The information from this CHNA report is also used by Doylestown Health to inform development of a community health implementation plan (CHIP).

MISSION AND VISION

Mission

The mission of Doylestown Health is to continuously improve the quality of life and proactively advocate for the health and well-being of the individuals we serve. With a vision to enthusiastically pursue healthcare excellence through collaboration and innovation, we strive to inspire a more vibrant and healthier world for our patients and our community.

In pursuit of this mission, Doylestown Health combines the creative energies of Medical Staff, Board, Associates and Volunteers to make Doylestown Hospital a place where each patient and family feels healed and whole, even when disease cannot be cured.

Governing Board Review

These findings were reviewed by Doylestown Health Board of Directors and accepted on **June 20, 2019.** With this information, Doylestown Health will develop community benefit programs and services to address the top three prioritized health and social influencers of health needs that are within our area of expertise as well as our mission to serve the vulnerable and underserved in our area.

Communication

For further information on how Doylestown Health will address unmet health and social influencers of health needs, we invite you to review our Community Health Implementation Plan this fall at Doylestown Hospital on Tuesday, October 8th at 11am, in Conference Room J.

Written comments and feedback on this CHNA can be sent to Allyson Gilmore, Director of Strategic Innovations & Outreach, at 595 West State Street Doylestown, PA 18901 or e-mail Agilmore@dh.org

INTRODUCTION

Doylestown Health regularly maintains and develops strong community-based partnerships, offers a variety of classes, support groups and health screenings, and is highly committed to the communities it serves. Additional information about Doylestown Health and its services is available at https://www.doylestownhealth.org/

As mentioned, the Doylestown Health primary service area population size is estimated at 371,362 residents and the secondary service area at 441,771 residents.[4] For this CHNA report, the Doylestown Health service area, also referred to as the Doylestown Health *community,* includes 45 ZIP codes in Bucks and Montgomercy counties separated into a primary and secondary market area.

ZIP codes in the primary service area include: 18913, 18933, 18902, 18923, 18949, 18926, 18921, 18901, 18912, 18963, 18947, 18950,18920, 18972, 18928, 18914, 18934, 18938, 18916, 18925, 18953, 18942, 18917, 18931, 18911, 19454, 18915, 18927, 18962,18944, 19446, 18940, 18943,18946, 18980, 18956, 18922, 18930, 19040, 18974, 18976, 19044, 18929,18954

ZIP codes in the secondary service area include: 18951,18960, 18966, 18964, 19002, 18969, 19438, 19053, 18077, 19090, 19067, 19006, 19047, 19020, 19001, 19038, 18910, 18977, 18054

---

[4] Based on 2018 population estimates derived from Claritas Pop Facts Database.

Doylestown Hospital Service Area

◻ SEPA counties
▢ Primary Service Area
▢ Secondary Service Area

Bucks

Montgomery

Chester

Del.

Phila.

Created: July 2019

Service Layer Credits: Esri, HERE, Garmin, © OpenStreetMap contributors, and the GIS user community
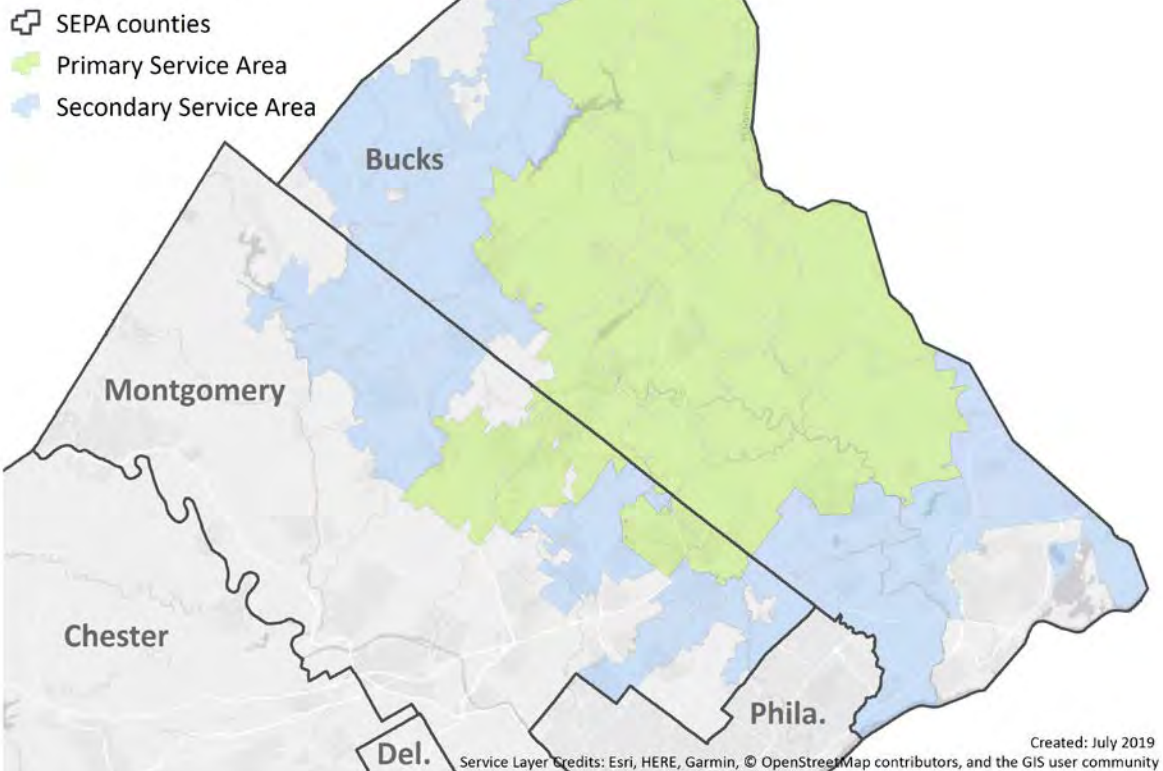
<u>Service area key demographic information</u>

- The Doylestown Health primary service area includes:
    - Fifty-one percent females (n = 190,137) and 49% males (n = 181,225)
    - Eighty-seven percent of primary service area residents who identify as white, 7% Asian, 3% black, and 3% other; 4% identify as Latino ethnicity
    - A median household income of $100,424

- The Doylestown Health secondary service area includes:
    - Fifty-two percent females (n = 227,512) and 49% males (n = 214,259)
    - Eighty-four percent of secondary service area residents who identify as white, 6% Asian, 6% black, and 4% other; 5% identify as Latino ethnicity
    - A median household income of $90,353

METHODOLOGY & DATA SOURCES

This CHNA was completed using a data- and partnership-driven approach to inform its development. As part of this process, Doylestown Health contracted with Public Health Management Corporation's (PHMC) Research & Evaluation Group (REG), to develop this CHNA report, including administering and analyzing data from the 2018 Southeastern Pennsylvania Household Health Survey (SEPA

HHS) and describing engagement of community area residents (PHMC qualifications in Appendix B).

This CHNA incorporates broad measures related to health and well-being, a combination of evidence-based sources, methods and approaches, including:

- Administering the **2018 SEPA HHS** to:
  - 588 adult residents in the Doylestown Health primary service area (including 254 older adults, 65+ years old) and comparing the results with the remainder SEPA region (N = 6,842, including 2,833 older adults, 65+ years old)
  - 791 adult residents in the Doylestown Health secondary service area (including 348 older adults, 65+ years old) and comparing the results with the remainder SEPA region (N = 6,639, including 2,739 older adults, 65+ years old)
  - Then analyzing and comparing responses between Doylestown Health's primary and secondary service areas

In addition, this report is informed by:

- Assessing patterns over time in the Doylestown service area, looking at data from the 2008, 2012, and 2015 HHS with select indicators (e.g. prevalence of high blood pressure, diabetes, overweight/obesity, and receipt of blood pressure screenings, mammograms, pap tests, colon/sigmoidoscopy, and PSA/rectal exams)
- Comparing **Healthy People 2020** (HP 2020; national benchmark data) to mortality rates and birth outcomes from **vital statistics** data from the Pennsylvania Department of Health[5]
- Use of **Claritas Pop-Facts® Premier 2018** for United States Census data estimates identifying state level demographic indicators (such as race, income, employment status) to inform demographic determinants known to disproportionately impact certain communities
- Results from 3 distinct **community forums** conducted by Doylestown Health with organizations serving the general population, seniors, and children (0-18 years old); these forums each explored community perception about timely and pressing healthcare issues (such as access and quality of healthcare and services, mental health, nutrition)

Data sources and more detail on methods can be found in Appendix C.

COMMUNITY HEALTH PRIORITY NEEDS

Access to Health Care

Access to health care remains a persistent barrier (i.e., socio-economic status, educational attainment, ZIP code) or facilitator to affordable and adequate care. Inadequate and limited access to healthcare leads to poorer health outcomes, lower quality of life, and disparate morbidity and mortality outcomes for some communities, (i.e., racial/ethnic minorities, disabled, older adults, Veterans).

Health insurance also provides individuals with the ability to access the healthcare system regularly. Without health insurance, individuals may face barriers to accessing care ongoing and may also
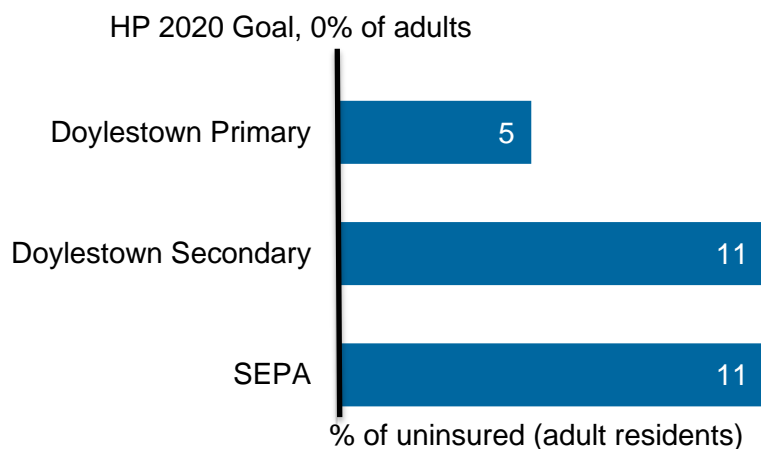
---

[5] Pennsylvania Department of Health, Bureau of Health Statistics and Registries. (2018). *2012-2016 Mortality* [Data file]. Calculations by PHMC.

incur significant personal costs when they do receive health care (such as by increased emergency room utilization).

- The Doylestown service areas do not meet the HP 2020 goal of having health insurance coverage for *all* adults (i.e., 0% uninsured)

Doylestown primary service area has the lowest percent of uninsured adults compared to the remainder SEPA region and the secondary service area.[6]

HP 2020 Goal, 0% of adults

Region	% of uninsured (adult residents)
Doylestown Primary	5
Doylestown Secondary	11
SEPA	11

% of uninsured (adult residents)

Regular Source of Health Care

Those with a regular source of health care (e.g., a primary care provider or network) are typically able to obtain care quicker and easier compared to those without a regular source of care.[3] In addition, when care is sought at a place where the individual has an established relationship with the provider and/or network, the care provided can be offered in view of the patient's history (e.g., medical records) and ideally with a trusted provider. Having a usual source of health care is associated with better health outcomes, lower costs, and fewer health disparities.[7]

- Fourteen percent of Doylestown primary service area adults are without a regular source of care, which is the same for the secondary service area as well as the remainder SEPA region.

Access and Utilization of Care

Delaying or putting off obtaining health care (including obtaining prescription medications on schedule) due to cost can impact both immediate and long-term health outcomes. Also related to access, increased ED utilization results in higher costs to and inefficiencies in the health care system, particularly for conditions preventable or treatable with appropriate primary care.[8]

---

[6] Pearson chi-square, p<.001

[7] Healthy People 2020. (2019). Access to health services. Retrieved from https://www.healthypeople.gov/2020/topics-objectives/topic/Access-to-Health-Services

[8] Behr, J.G., & Diaz, R. (2016). Emergency department frequent utilization for non-emergent presentments: Results from a regional urban trauma center study. *PLoS ONE,* 11(1): e0147116. DOI:10.1371/journal.pone.0147116

- Eight percent of adults in the Doylestown primary service area (and 9% of adults in the secondary service area) did not seek care due to cost, compared to 11% of adults in the remainder SEPA region and 10% of adults across Pennsylvania[9]
- Ten percent of adults in the primary as well as secondary Doylestown service areas reported not buying prescription medication due to cost, compared to 14% in the remainder SEPA region[10]
- Twenty three percent of adults in the Doylestown primary service area and 26% of adults in their secondary service area visited the ER in the past year, compared to 28% of adults in the remainder SEPA region[11]

Fewer adults reported visiting the ER in the past year in the Doylestown primary service area when compared to the secondary service area and the remainder SEPA region.

% ED visits past year (adults residents)
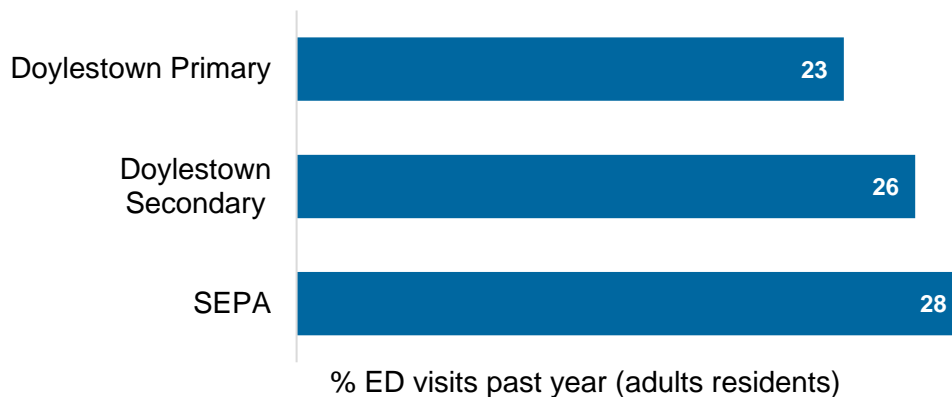
Health Behaviors

Smoking

Smoking is a neurologically addictive habit that creates immediate and sustained health challenges for individuals who smoke and those who inhale secondhand smoke regularly. Neither Doylestown service area meets' the HP 2020 goal, which is 12% of adults (age adjusted prevalence rate; adults 18+ years old) smoke cigarettes.[12]

---

[9] Pennsylvania Department of Health. (2017). Health Care Access, Pennsylvania Adults. Retrieved from https://www.health.pa.gov/topics/HealthStatistics/BehavioralStatistics/BehavioralRiskPAAdults/Documents/State%20 Report/2017/2017trends.aspx#trends

[10] Primary service area and remainder SEPA comparison Pearson chi-square , p<.05; Secondary service area and remainder SEPA comparison Pearson chi-square, p<.01

[11] Primary service area and remainder SEPA comparison Pearson chi-square , p<.01; Secondary service area and remainder SEPA comparison Pearson chi-square, not significant

[12] Healthy People 2020. (2019). Tobacco Use. Retrieved from https://www.healthypeople.gov/2020/topics-

- Sixteen percent of Doylestown primary service area adult residents as well as 16% of remainder SEPA region area residents smoke cigarettes; 19% of secondary service area adults currently smoke cigarettes[13]

Attempting to quit smoking is often a precursor to actually quitting. Forty-seven percent of smokers in the Doylestown primary service area, 52% in the secondary service area, and 49% of remainder SEPA region area residents did _not_ attempt to quit in the past year.

While the Doylestown primary service area has slightly fewer adult residents who currently smoke compared to the secondary service area, both service areas have yet to meet the HP 2020 target goal (12% current smokers).

HP 2020 Goal, 12% current smokers

Doylestown Primary	16
Doylestown Secondary	19
SEPA	16

% current smokers, (adult residents, age adjusted)
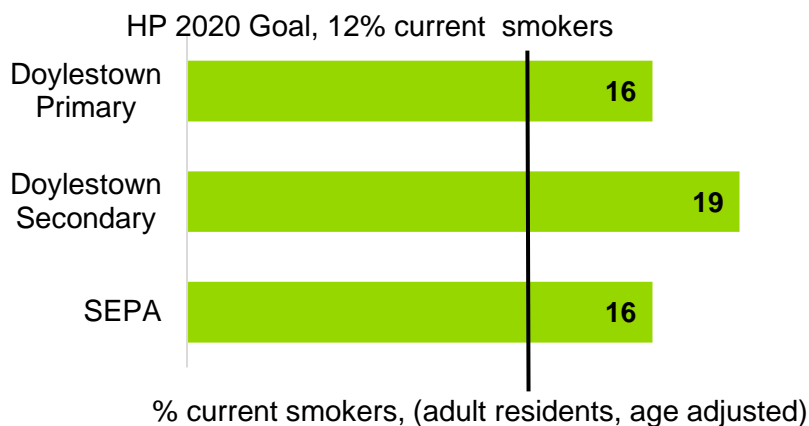
With the introduction of e-cigarettes to the market, smoking patterns have changed. Smoking is now on the rise in younger adult populations due to the introduction and marketing of e-cigarettes, vapes, and Juuls. These e-cigarette devices typically carry more nicotine than traditional cigarettes and are sold in fruity flavors, often attracting a younger audience. Current cigarette smokers may use both e-cigarettes and traditional cigarettes. Among current (cigarette) smokers (adult residents, age adjusted) in the Doylestown primary and secondary service area, 6% and 7% respectively also used an e-cigarette in the past month, compared to 8% in the remainder SEPA region (age 18+).

A higher percentage of current smokers aged 18-34 in the Doylestown primary service area also used e-cigarettes at least once in the past month, compared to the secondary service area and the remainder SEPA region.[14]

---

objectives/topic/tobacco-use/objectives

[13] Age-adjusted prevalence rate adults, age 18+

[14] The prevalence of e-cigarette use is consistently lower in older age groups. In Doylestown primary service area 6% of smokers aged 35-49, 1% of aged 50-64, and 1% of aged 65+ used e-cigarettes in the past month. Prevalence in Doylestown secondary service area is similar- 6% of smokers aged 35-49, 5% of aged 50-64, 3% of aged 65+. To compare, the prevalence in the remainder SEPA - 8% of smokers aged 35-49, 5% of aged 50-64, 2% of aged 65+.

Doylestown Primary	22
Doylestown Secondary	15
SEPA	17

% current smokers and concurrent e-cigarette use past month
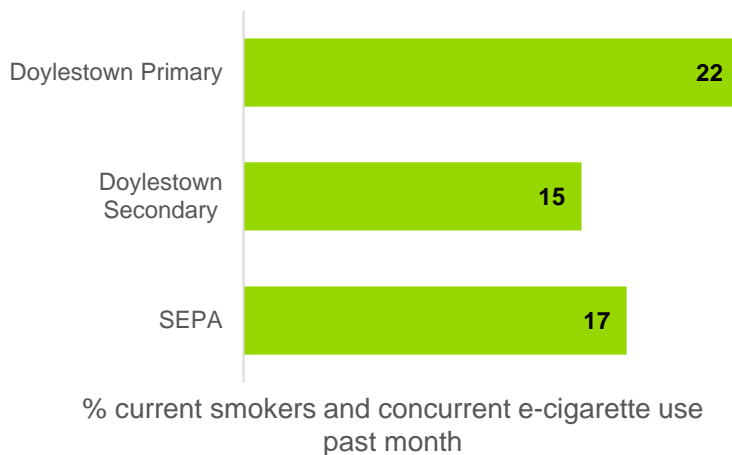
Nutrition

"Good" nutrition and regular physical activity are important parts of leading a healthy lifestyle and healthy living broadly. Relatedly, there is consensus that for example:

- Regular consumption of sugary sweetened beverages (SSB), such as soda, sports drinks, sweetened teas, and fruit drinks, is associated with obesity and other poor health outcomes such as type-2 diabetes, and cardiovascular disease
- Lack of exercise predisposes adults to related health issues such as obesity, hypertension, diabetes, depression, and cardiovascular disease
- Eating a vegetable- and fruit-rich diet as part of an overall healthy diet may help protect against certain types of cancers as well as reduce risk for heart disease, including heart attack and stroke[15]

Overall, "combined with physical activity, your diet can help you to reach and maintain a healthy weight, reduce your risk of chronic diseases, and promote your overall health."[16]

- Seventy-seven percent of Doylestown primary service area adult residents eat less than 4 servings of fruits and vegetables per day, which is the same for secondary service area adult residents and remainder SEPA region area residents

Fewer adult residents consumed at least one sugary drink per day in the past month in the Doylestown primary service area compared to the secondary service area and the remainder SEPA region.[17]

---

[15] United States Department of Agriculture. (2016). Retrieved from www.choosemyplate.gov/vegetables-nutrients-health

[16] President's Council on Sports, Fitness, & Nutrition. (2017). Retrieved from https://www.hhs.gov/fitness/eat-healthy/importance-of-good-nutrition/index.html

[17] The difference in sugary drink consumption between Doylestown primary service area and Doylestown secondary service area is statistically significant (p=0.05), however, both Doylestown service areas do not statistically differ from the SEPA region.

Doylestown Primary	22
Doylestown Secondary	30
SEPA	27

% of adult residents having at least 1 sugary drink a day
in the past month
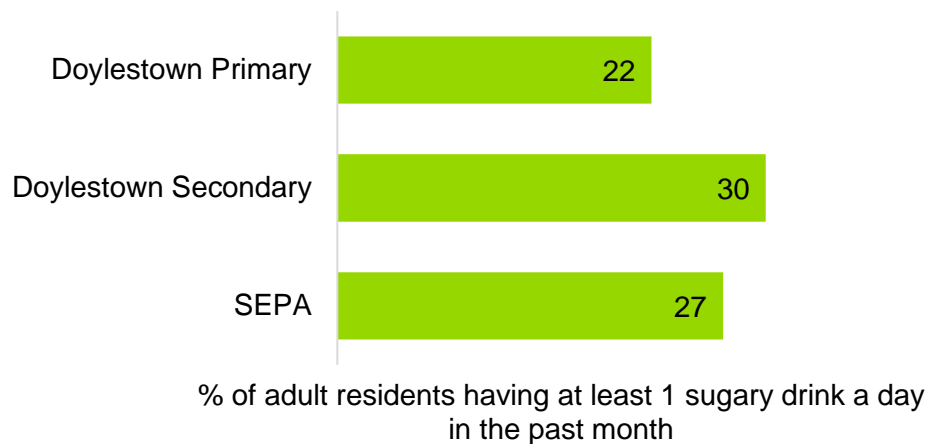
Exercise

The U.S. Department of Health and Human Services' Physical Activity Guidelines for Americans 2nd Edition recommends that adults (ages 18-64) get 2.5 hours of moderate aerobic physical activity each week.[18]

- Thirty-seven percent of Doylestown primary service area adult residents reported exercising for 30+ minutes _less than_ three days a week, compared to 41% of secondary service area residents and 43% of remainder SEPA region area residents.[19]

Behavioral Health

Mental Health

Mental health and wellness are increasingly important to address for individuals and communities given impact on healthcare system and health outcomes. For example, depression increases the risk for chronic health conditions, including stroke, type 2 diabetes, and heart disease. Likewise, poor physical health can impact mental health. Chronic health conditions, such as cancer, diabetes, Alzheimer's disease, and coronary heart disease increase the risk for social isolation and subsequent depression.[20] Additionally, seeking mental health treatment for those diagnosed with a mental health condition is challenging for a variety of reasons, including stigma and discrimination which can lead to increased isolation and loneliness, access to mental health care and resources, as well as social supports.

- In the Doylestown primary service area, 20% of adults reported having been diagnosed with a mental health condition and 40% of those with a confirmed mental health diagnosis are currently _not_ receiving treatment. In the secondary service area, 18% of adults reported

---

[18] U.S. Department of Health and Human Services. (2018). Physical Activity Guidelines for Americans 2nd Edition.
[19] While the difference in exercising between the primary and secondary service area is not statistically significant, the difference between Doylestown primary service area and remainder SEPA region is (p=0.01).
[20] National Institute of Mental Health. Chronic Illness & Mental Health. Retrieved from https://www.nimh.nih.gov/health/publications/chronic-illness-mental-health/index.shtml

having been diagnosed with a mental health condition and 44% of those with a confirmed mental health diagnosis are currently *not* receiving treatment

**The percent of adult residents that have been diagnosed with a mental health condition is highest in the remainder of SEPA region and significantly higher when compared to the Doylestown secondary service area.**
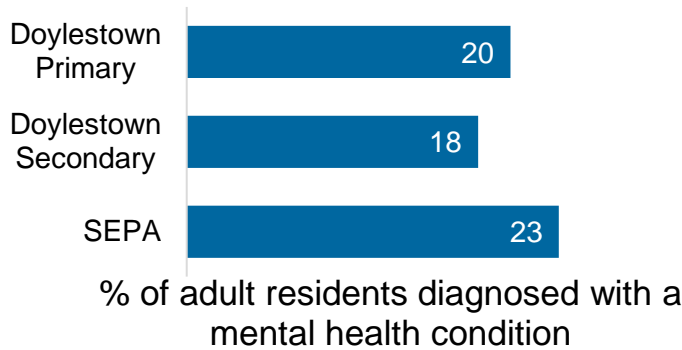
Doylestown Primary	20
Doylestown Secondary	18
SEPA	23

% of adult residents diagnosed with a mental health condition

The percent of adult residents diagnosed with a mental health condition and not receiving treatment is highest in Doylestown secondary area, despite having the lowest percentage of adults having been diagnosed with a mental health condition.

Doylestown Primary	40
Doylestown Secondary	44
SEPA	43

% of adult residents diagnosed with a mental health condition AND not receiving treatment
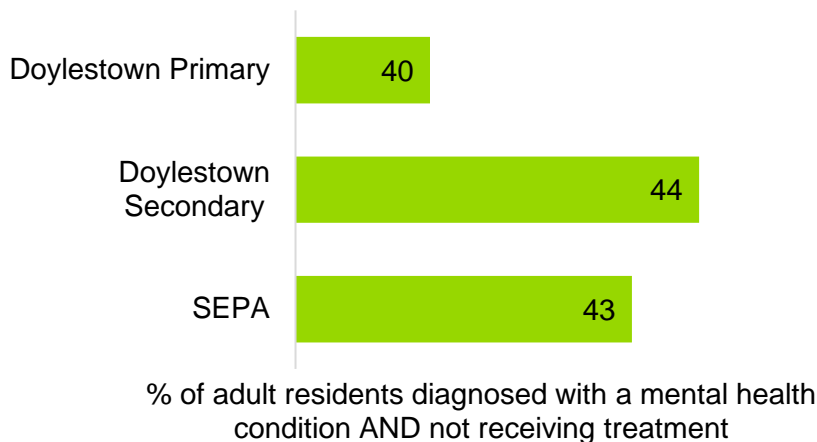
Drug overdose and mortality rates

Co-occurring mental illness and substance use disorders are increasing substantially in the US, with deaths due to suicide and overdose posing a major and increasing public health concern.[21] The Doylestown secondary service area performed worse than the primary service area, but better than SEPA regarding drug overdose (all substances).

- Drug overdose accounted for 20.8 deaths per 100,000 residents in the Doylestown secondary service area, higher than that of the primary service area (18.8 deaths per 100,000 residents) but lower than SEPA (26.0 deaths per 100,000 residents)

---

[21] Bohnert, A., & Ilgen, M. (2019). Understanding links among opioid use, overdose, and suicide. *The New England Journal of Medicine, 380*, 71-79.

- In the Doylestown primary service area 30% of adults who used prescription pain medication in the past year did so without a personal prescription. This percentage is slightly higher in the secondary service area, where 33% used without a prescription.

Suicide

Untreated or undetected mental health conditions may lead to violent or self-destructive behavior, such as suicide. Suicide is a leading cause of death for all Americans, with no single factor contributing to its cause, indicating a vital need for prevention efforts across the SEPA region. Considering all forms of suicide, between 2012-2016, the HP 2020 goal of 10.2 deaths per 100,000 people is not being met in the:

- Doylestown secondary service area (10.8 suicide deaths per 100,000 residents)
- US overall (13.5 suicide deaths per 100,000 residents)
- SEPA (10.6 suicide deaths per 100,000 residents)

The Doylestown primary service area meets the HP 2020 goal of suicide deaths and has the fewest suicide deaths when compared to Doylestown secondary service area and the remainder SEPA region.

HP 2020 Goal, 10.2 suicide

Doylestown Primary	9.9
Doylestown Secondary	10.8
SEPA	10.6

Age-adjusted suicide deaths per 100,000 residents
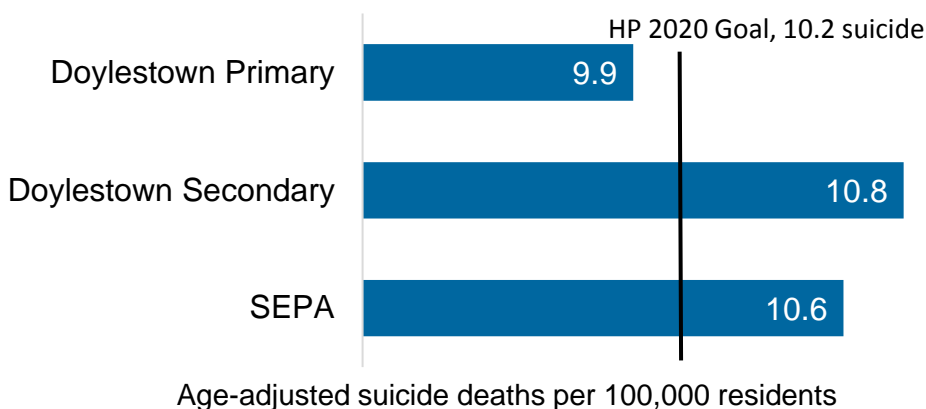
Of suicide deaths, suicide by firearm occurs at slightly higher rates in each service area:

- Primary: 4.3 deaths per 100,000 residents in primary service area
- Secondary: 4.2 deaths per 100,000 residents
- SEPA: 4.0 firearm deaths per 100,000 residents

Since the 2016 CHNA, (includes 2008-2012 mortality statistics), the suicide rate in the Doylestown primary service area has decreased from 11.6 to 9.9 deaths per 100,000 residents (current CHNA 2012-2016 mortality statistics); meanwhile, SEPA has remained nearly the same (10.9 deaths per 100,000 residents in 2008-2012; 10.6 deaths per 100,000 residents in 2012-2016).

Screenings

Cancer incidence and screenings

Between 2012-2016, the age-adjusted cancer incidence rate for the Doylestown primary service area was 472 cases per 100,000 residents compared to 480 cases per 100,000 residents in the secondary service area, which are both lower than the SEPA region (491 cases per 100,000 residents) during the same period.

Unlike other types of cancer, female breast cancer incidence is highest in the Doylestown primary service area than in the secondary service area and SEPA (134 per 100,000).

CANCER INCIDENCE

	Female breast	Prostate	Lung
Doylestown Primary	141	103	53
Doylestown Secondary	136	115	55
SEPA	134	117	64

Age-adjusted per 100,000

■ Doylestown Primary ■ Doylestown Secondary ■ SEPA
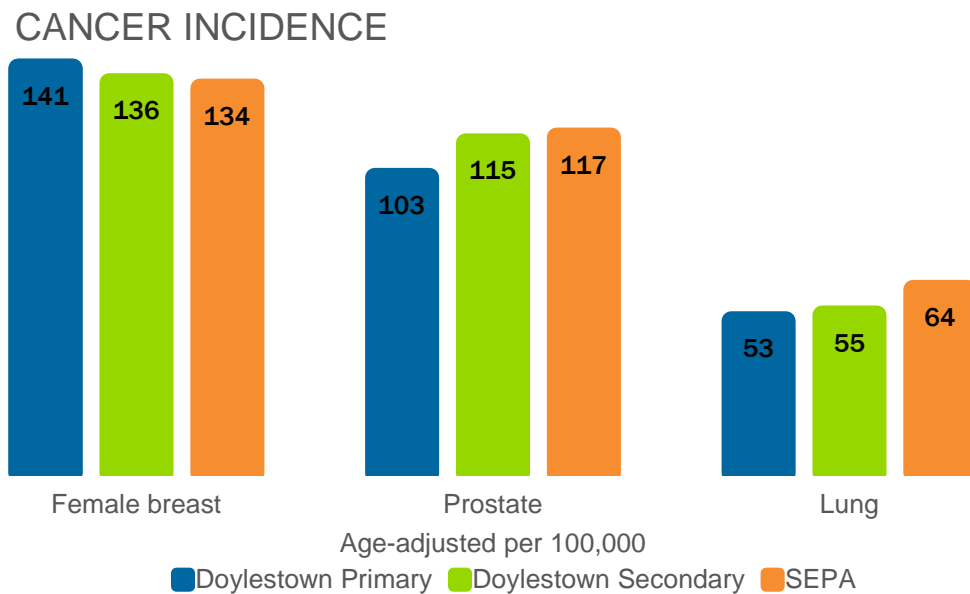
Screenings are key in early diagnosis and initiating proper care.

- In 2018, 25% of women age 50-74 in the Doylestown primary service area and 22% in the secondary service area did not receive a mammogram in the past two years, compared to 20% in the remainder SEPA region[22]
- Rates of mammogram screening increased between 2008-2015 though remain low for both the service areas and SEPA region

---

[22] PHMC's 2018 Southeastern Pennsylvania Household Health Survey
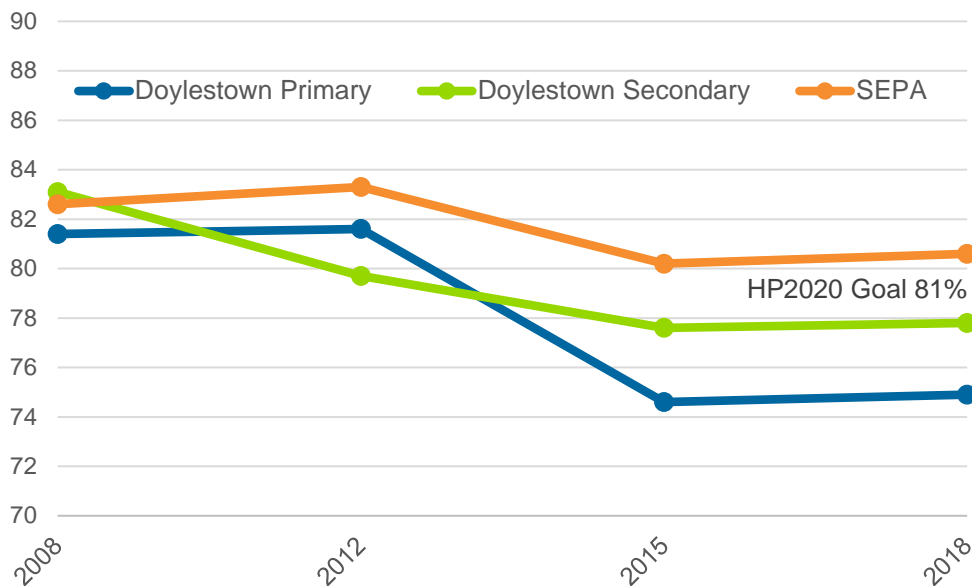
Heart disease and high blood pressure screenings

HP 2020 goals identify screening for high blood pressure as an objective towards reducing the impact of heart disease.[23]

- Ten percent of Doylestown secondary service area adults have not had a blood pressure screening in the past year, which is larger than the remainder SEPA region (7%) and the Doylestown primary service area (7%)[24]

In the U.S. 33% of adults have high blood pressure (or hypertension), which is slightly higher than the SEPA region (32%), the Doylestown primary service area (19%) and the Doylestown secondary service area (22%).[25,26] The primary and secondary service areas meet the HP 2020 goal for the percentage of adults diagnosed with hypertension (27%).[27]

DEMOGRAPHIC INDICATORS

Population size and trends impact the number of persons using and needing services in an area and

---

[23] Healthy People 2020. Heart Disease and Stroke. Retrieved from https://www.healthypeople.gov/2020/topics-objectives/topic/heart-disease-and-stroke/objectives

[24] Secondary service area and remainder SEPA comparison Pearson chi-square, p<.01. Primary and secondary service area comparison Pearson's chi-square, p<.05

[25] The lower percentage of adults that have high blood pressure (or hypertension) in Doylestown primary service area is statistically significant from Doylestown secondary service area and the SEPA region (p=0.05 and 0.01, respectively).

[26] Centers for Disease Control and Prevention. National Center for Health Statistics (2016). Table 53. Selected health conditions and risk factors by age: United States, selected years 1988-1994 through 2015-2016. Available at: https://www.cdc.gov/nchs/data/hus/2017/053.pdf

[27]Healthy People 2020. Heart Disease and Stroke. Retrieved from https://www.healthypeople.gov/2020/topics-objectives/topic/heart-disease-and-stroke/objectives

are important to consider in characterizing and prioritizing health needs. Relatedly, demographic characteristics such as age, gender, race/ethnicity, educational attainment and language can affect the prevalence of specific diseases as well as disparate barriers to care and health outcomes based on these factors. Key demographic characteristics of Doylestown primary and secondary service areas are highlighted below.

Population Size

The estimated population size of the Doylestown primary service area is 371,362 and 441,771 for the secondary service area. The estimated population of Doylestown primary service area increased between 2010 and 2018 by about 3%, while the Doylestown secondary service area population negligibly decreased (-0.2%).

Among all age groups, the older adult (OA) population (65+ years old) is projected to increase substantially by 2023:

- 16% for the Doylestown primary service area
- 14% for the secondary service area

Gender, Race/ethnicity, Age distribution

Age and Gender

The age breakdown in the Doylestown primary and secondary service areas is comparable. Twenty percent of residents in Doylestown primary service area are between 0-17 years old, 19% are 18-34 years old, 42% are 35-64 years old and 19% are 65+ years old.

Likewise, gender is similar for Doylestown primary (49% males; 51% females), Doylestown secondary (49% males; 52% females) and SEPA region (48% males; 52% females).

■ 0-17 ■ 18-34 ■ 35-64 ■ 65+

	0-17	18-34	35-64	65+
Doylestown Primary	20	19	42	19
Doylestown Secondary	20	20	41	19
SEPA	22	24	39	16

% of residents in each age group
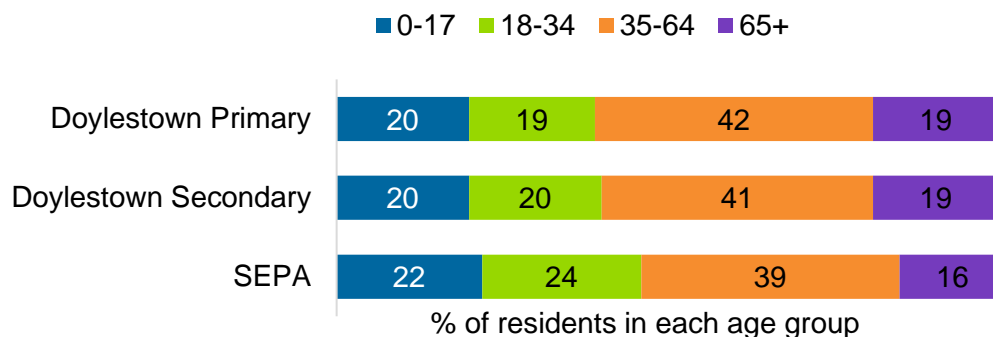
Race and ethnicity

Racially and ethnically, there are some differences between Doylestown primary service area and Doylestown secondary service area; however, the population is homogenous when compared to the SEPA region.[28] The majority of residents in the Doylestown primary and secondary service areas identify as white (87% and 84%, respectively). Doylestown primary service area has fewer residents that identify as black (3%) compared to Doylestown secondary service area (6%). Seven percent of Doylestown primary service area residents identify as Asian, 3% identify as "other race" and 4%

---

[28] The 2010 U.S. Census report that people of Hispanic origin may be of any race. For the U.S. Census, ethnic origin is considered to be a separate concept from race.

identify as Latino ethnicity. Six percent of Doylestown secondary service area residents identify as Asian, 4% identify as "other" race and 5% identify as Latino ethnicity. The SEPA region has more minority residents, notably black (22%) and Latino (9%).

	White	Black	Asian	Other	Latino
Doylestown Primary	87%	3%	7%	3%	4%
Doylestown Secondary	84%	6%	6%	4%	5%
SEPA	64%	22%	7%	7%	9%

■White ■Black ■Asian ■Other ■Latino
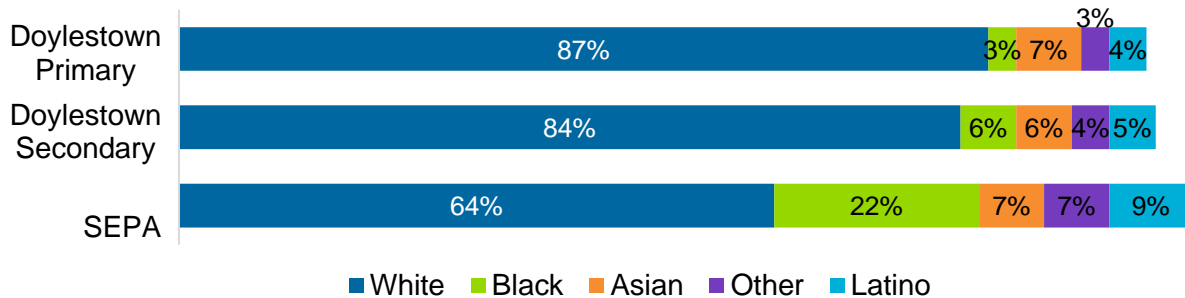
Income, Poverty, Employment, Education

Socioeconomic characteristics such as educational attainment, employment, and income impact health status and access to care. High levels of educational attainment are related to increased health literacy, healthier behaviors, and improved health status. Employment and income affect insurance status and the ability to pay out-of-pocket for health care expenses. Overall, Doylestown service area residents have higher educational attainment, lower unemployment, less families in poverty and greater household income compared to SEPA. There are some differences in socioeconomic characteristics between the Doylestown primary and secondary service areas.

Income and Poverty
The median household income in 2018 was:

- $100,424 in the Doylestown primary service area
- $90,353 in the Doylestown secondary service area
- $70,807 in the SEPA region

The percentage of families living in poverty with children and without children in Doylestown primary service area in 2018 was 5% and 2%, respectively. In Doylestown secondary service area, 6% of families with children lived in poverty and 3% of families without children lived in poverty. Comparatively, 16% of families with children lived in poverty and 5% of families without children lived in poverty in the SEPA region.

Doylestown Primary	2%	
	5%	
Doylestown Secondary	3%	
	6%	
SEPA	5%	
		16%

■ % of Families in Poverty without Children   ■ % of Families in Poverty with Children
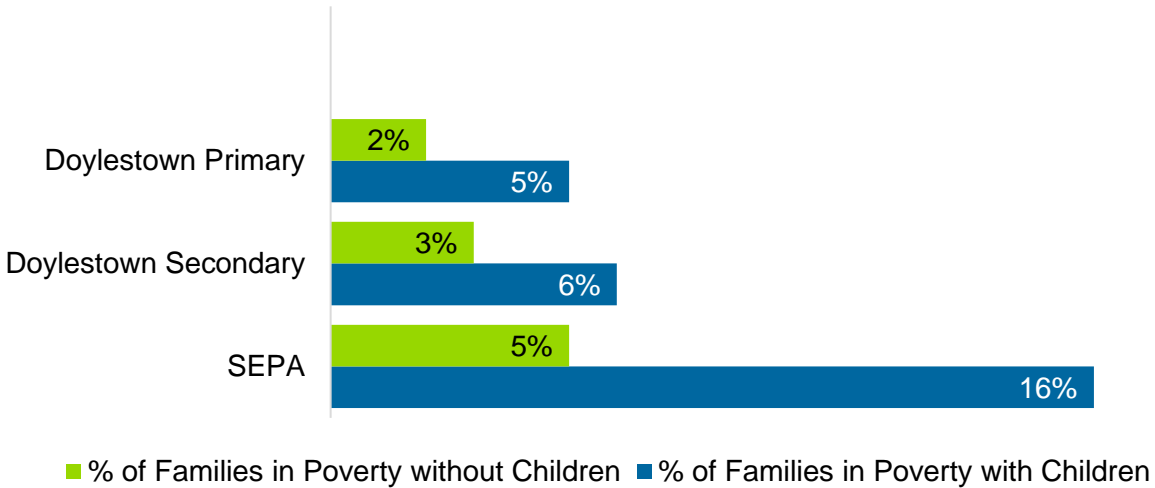
Employment

In 2018, 5% of residents in Doylestown primary service area were unemployed, 6% of residents in Doylestown secondary service area were unemployed, and 8% of residents in the remainder SEPA region were unemployed.

Education

Forty-seven percent of Doylestown primary service area residents have at least a college degree, compared to 42% of residents in the secondary service area and 37% in the remainder SEPA region

	Less than HS	HS Graduate	College +
Doylestown Primary	5%	48%	47%
Doylestown Secondary	6%	52%	42%
SEPA	11%	52%	37%

■ Less than HS   ■ HS Graduate   ■ College +
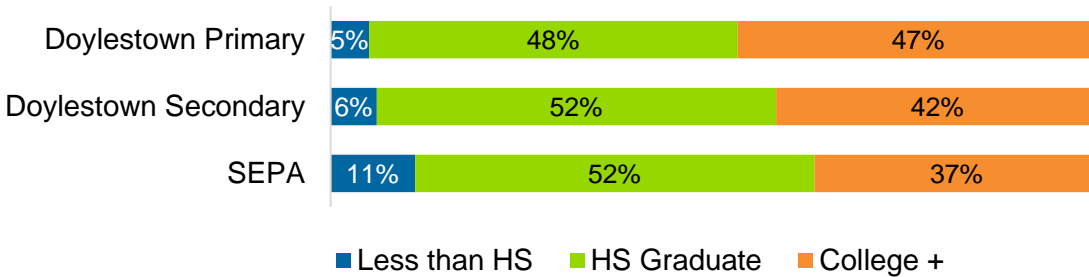
HEALTH STATUS AND MORTALITY

Health Status

Self-assessed health is a commonly used measure of quality of life and a predictor for mortality. The percentage of Doylestown secondary service area adults who rate their health as fair or poor is higher (15%) compared to adults in the primary service area (13%). Both Doylestown service areas

perform significantly better than the remainder of SEPA (20%) in self-reported health ratings.[29] However, a higher percentage of adults in the Doylestown secondary service area rated their health as fair or poor compared to the U.S. (15% secondary service area versus 12% U.S.).[30,31]

Mortality and Leading Causes of Death

Doylestown Primary Service Area Leading Causes of Death | 2012-2016

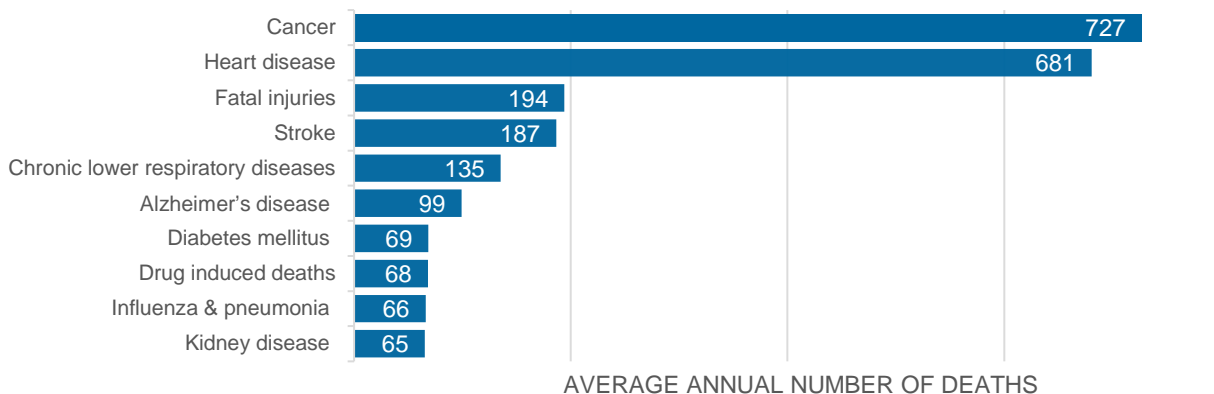| Cause	Average Annual Number of Deaths
Cancer	727
Heart disease	681
Fatal injuries	194
Stroke	187
Chronic lower respiratory diseases	135
Alzheimer's disease	99
Diabetes mellitus	69
Drug induced deaths	68
Influenza & pneumonia	66
Kidney disease	65

AVERAGE ANNUAL NUMBER OF DEATHS

Between 2012-2016, cancer and heart disease were the top two causes of death for both Doylestown service areas. Cancer was the first leading cause of death in the Doylestown primary and secondary service areas, which is different from the U.S. as a whole where heart disease accounts for the most deaths.[32] The Doylestown primary service area had a lower age-adjusted death rate due to all causes (599.9 deaths per 100,000 residents) than in the secondary service area (640.9 deaths per 100,000) and in SEPA (732.4 deaths per 100,000).[33]

Cancer
- The age-adjusted cancer mortality rate in the Doylestown primary (142 deaths per 100,000 residents) and secondary (150 deaths per 100,000 residents) service areas are lower than SEPA (169 deaths per 100,000 residents) and meet the HP2020 goal, suggesting that care is on target
- In regards to breast cancer mortality(see graph below), however, only Doylestown primary service area (19.9 deaths per 100,000 residents) has a lower rate than SEPA (22.9 deaths per 100,000 residents), while Doylestown secondary service area (23.1 deaths per 100,000 residents) matches SEPA

---

[29] Pearson's chi square, p<.001
[30] Blackwell, D.L., & Villarroel, M.A. (2018). Tables of Summary Health Statistics for U.S. Adults: 2017 National Health Interview Survey. National Center for Health Statistics. Available from http://www.cdc.gov/nchs/nhis/SHS/tables.htm. SOURCE: NCHS, National Health Interview Survey, 2017.
[31] The comparison of self-assessed health status rating with the U.S. involved age-adjusted self-assessed health.
[32] Heron, M. (2018). Deaths: Leading causes for 2016. *National Vital Statistics Reports*, 67(6).
[33] Age-adjusted death rates allow for comparison between populations that vary in age distribution. This can lead to changed rank orders of leading causes of death as causes that are influenced by older age typically are adjusted downward due to age-adjustment based on the 2000 standard national population distribution.

Female Breast Cancer Age-Adjusted Mortality Rate

■ Doylestown Primary   ■ Doylestown Secondary   ■ SEPA
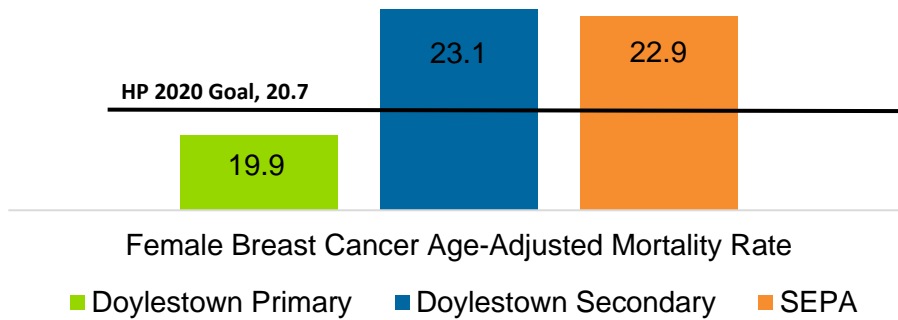
Cancer mortality rates in the Doylestown primary (142.4 deaths per 100,000 residents) and secondary (150 deaths per 100,000 residents) service areas are lower than in SEPA (168.4 deaths per 100,000 residents) meet the HP2020 goal (less than 161.4 deaths per 100,000 residents)
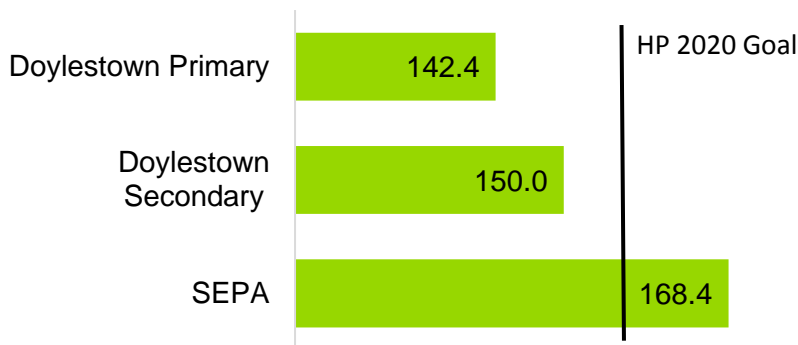
Age-adjusted cancer deaths per 100,000 residents

Heart Disease

Heart disease mortality rates in the Doylestown primary (121.3 deaths per 100,000 residents) and secondary (132.4 deaths per 100,000 residents) service areas are lower than in SEPA (167.8 deaths per 100,000 residents)

Age-adjusted heart disease deaths per 100,000 residents

Doylestown Primary	121.3
Doylestown Secondary	132.4
SEPA	167.8

POPULATIONS OF INTEREST

Older Adults

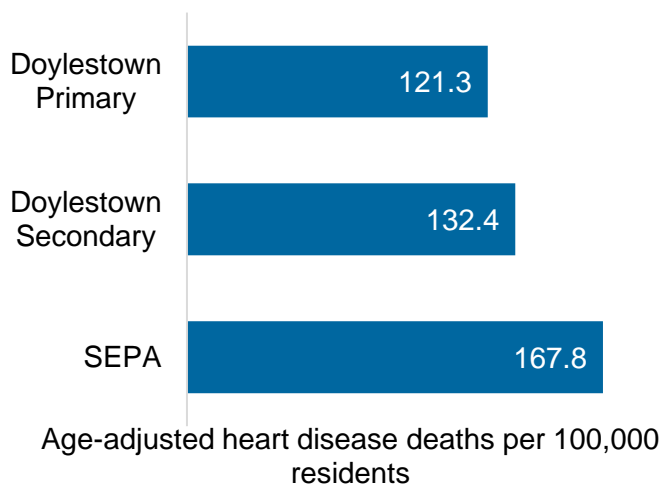Identified as a health need for the Doylestown service area since the 65+ older adult population is projected to increase 16% in the primary and 14% in the secondary service area between 2018-2023- underscoring the need and likely increase in demand for expansion of partnerships, services and programming focused on aging and older adult health. 84% of Doylestown primary and 80% of secondary service area older adults reported good to excellent health, compared to 77% of the remainder SEPA region[34]

Additionally, 11% of Doylestown primary and 10% of secondary service area older adults have an Activities of Daily Living (ADL) limitation (e.g., eating, bathing, dressing). ADLs contribute to the health status and well-being of older adults. 23% of older adults in Doylestown primary service area have an Instrumental Activities of Daily Living (IADL) limitation, compared to 28% of secondary service area older adults (e.g., cleaning and maintaining a home, managing money).

Adults with ADLs and IADLs often receive informal help with their personal care needs, such as eating, dressing, bathing, and going to the bathroom. This informal help can come from family members, friends, neighbors, or others. When informal assistance from family or friends is not available or otherwise insufficient to meet their needs, older adults may opt to pay for formal care services in their home. This can be from someone from an agency or hired support, and these services may include medical injections, bandage changes, grooming, cooking, or shopping. Additional disparate impact can occur because of co-experiencing ADL limitations with socioeconomic constraints. For example, formal care services are often expensive, making it difficult

---

[34] Due to HHS sampling of older adult variables, the remainder SEPA region includes only Bucks, Montgomery, and Philadelphia counties.

for low-income individuals with ADL limitations without family or other informal social supports in place to access.

Regardless of whether or not assistance is formal or informal, support can be valuable for older adults living independently and for those who wish to return to or maintain independence, and to mitigate increased risk of social isolation or depression among older adults. Additionally, 10% of older adults in the Doylestown primary service area and 11% of those in the secondary service area reported having four or more signs of depression.

As Doylestown service area residents are generally healthy and living longer, in addition to the larger older adult population overall, the burden of Alzheimer's disease deaths in the Doylestown service areas is uniquely higher, underscoring the need to consider more deliberately, support system planning, including, mitigating caregiver burn out and increasing access to older adult caregivers, also echoed in community member discussions.

- The age-adjusted Alzheimer's disease mortality rate in 2012-2016 was 17.0 deaths per 100,000 residents in the primary service area and 15.6 deaths per 100,000 residents in the secondary service area, compared to 14.1 deaths per 100,000 residents in SEPA[35]
- Of the primary service area's Alzheimer deaths, 4% occurred to adults under age 75, compared to 6.6% in the secondary service area and 5.5% in SEPA. This higher percentage in the secondary service area suggests that resources for Alzheimer patients may be most needed there, due to more earlier age deaths from Alzheimer's than SEPA.

During the community discussion with older adults, participants expressed concerns about
- Caregiver burn out
- Lack of availability of and need for [paid] adult caregivers
- Navigating cognitive issues ("*You don't know what you don't know; what do you ask, where do you turn?*")
- Discrimination (for those struggling with memory loss/challenges)
- Long wait-lists for homecare services (such as support with shopping, laundry, meals, cleaning)
- Access to care ("*Medicare does not pay for home care; Medicaid will cover some*")

Maternal Health

Eighty percent of women from the Doylestown primary service area and 76% from the secondary service area initiated on-time prenatal care, or first trimester of pregnancy. This is comparable to women across the US (77%)[36] and a higher percentage than women in SEPA (62%). Both Doylestown service areas meet the HP 2020 goal that 78% of women who deliver a live birth receive prenatal care beginning in the first trimester.[37]

---

[35]The true burden of disease is more pronounced in the following crude Alzheimer's disease mortality rates: 27.1 per 100,000 in the primary service area, 22.9 per 100,000 in the secondary service area, and 18.0 per 100,000 in SEPA.
[36] Osterman, M.J.K., & Martin, J.A. (2016). Timing and adequacy of prenatal care in the United States. *National Vital Statistics Reports*, 67(3). Hyattsville, MD: National Center for Health Statistics. 2018. Retrieved from: https://www.cdc.gov/nchs/data/nvsr/nvsr67/nvsr67_03.pdf
[37] U.S. Department of Health and Human Services, Office of Disease Prevention and Health Promotion. Healthy People 2020. Maternal, Infant, and Child Health Objectives. Retrieved from https://www.healthypeople.gov/2020/topics-objectives/topic/maternal-infant-and-child-health/objectives

Fewer women in the Doylestown secondary service area receive on-time prenatal care compared to women in the primary service area. This percentage is still higher than SEPA.

% of Women Receiving On-Time Prenatal Care in First Trimester
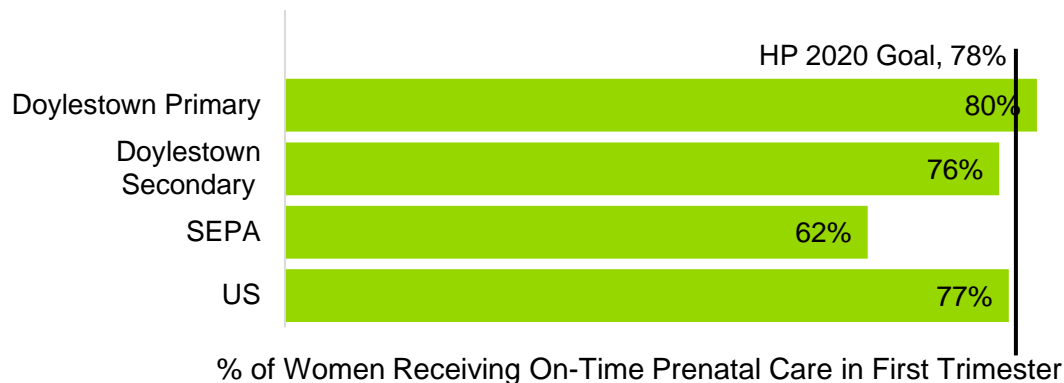
In the Doylestown primary and secondary service areas, white women have met the HP 2020 goal related to prenatal care, but black, Asian, and Latina women have not. Among white women in the primary service area, 84% started prenatal care in the first trimester. Among black women, 64% started prenatal care in the first trimester, while 74% of Asian women and 48% of Latina women initiated prenatal care during this time.

% of Women Receiving On-Time Prenatal Care in First Trimester in Doylestown Primary
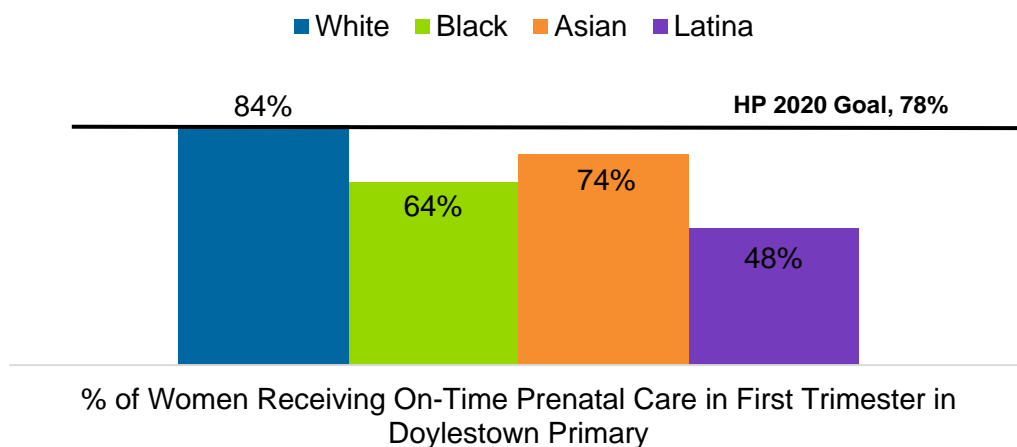
The percentage of infants born preterm (less than 37 weeks completed of gestation) in the Doylestown primary and secondary service areas (9% in each service area) is comparable to SEPA (10%) and the U.S. (10%). Overall, the primary and secondary service areas have met the HP 2020 goal of no more than 9.4% of live births born preterm; however, this goal is not met among black infants in the secondary service area (12% born premature).

The percentage of infants born low birth weight (LBW) (born at less than 2,500 grams or 5 pounds) in the Doylestown primary service area (7%) and secondary service area (8%) are comparable to SEPA (9%) and the U.S. (8%).

When looking at LBW by race and ethnicity in the primary service area, the percentage of Asian and black infants born LBW <u>do not meet</u> the HP 2020 goal of no more than 7.8% of infants born low birth weight. In the Doylestown primary service area there were 71.8 LBW births per 1,000 white infant births and 90.3 LBW births per 1,000 among black infant births. Additionally, among Asian women there were 80.1 LBW births per 1,000 infant births.

The percentage of Asian and Black LBW infants in the Doylestown primary service area <u>did not meet</u> the HP 2020 goal of no more than 7.8% of infants born low birth weight.

White	7%
Black	9%
Asian	8%
Latina	7%

HP 2020 Goal,

RECOMMENDATIONS AND NEXT STEPS

Doylestown Health is well positioned to focus efforts at enhancing community health (including ongoing implementation strategy development and planning) to maintain and elevate its area residents' health status. To better address health needs for area residents, Doylestown Health should consider:

- Assessing priorities around access to affordable healthcare and identifying areas of opportunity and partnerships to increase access to care for uninsured and under-insured Doylestown service area residents
- Strengthening cross-sector collaborations and partnerships with local health departments, police force, schools, transportation, non-profit employers, schools, etc., to leverage shared assets across the community
- Increasing partnerships with national guiding bodies (such as the American Heart Association and American Cancer Society) to provide education around healthy living globally and cancer risk and early detection specifically; provide resources to those living with heart disease or cancer (focus on prevention and harm reduction)
- Educating patients about risk factors for heart disease and cancer, such as smoking and high blood pressure

- Program development and community program expansion around healthy living across life span, or partnerships with other civic- and/or community-based organizations to do so, with special attention given to patients with Alzheimer's disease and their families
- Assessing Doylestown Health service area infrastructure and local resources, and expanding prevention services (particularly to areas or sub-populations disproportionately impacted by sociodemographic or other health disparities)
- Invest financial and non-financial resources into strengthening and expanding behavioral health services, training, and educational opportunities
    - Mental health was spotlighted by focus group participants across the community groups, with one participant noting that mental health is "*everywhere*" in "*every age group*" from children to adults and seniors and others noting that it's important to address because "*we see so much more than we've ever seen*"; participants also expressed concern about the "*lack of resources*" able to meet the needs of the "*whole community*" and also that people are "*becoming more insular*" which can lead to feelings of anxiety or depression or substance use
- Consider ways to strengthen partnerships and resource coordination across institutions in the community (such as with schools, churches, libraries, parks and recreation, etc.…)
    - During one of the focus group conversations, participants, in discussing behavioral health, noted that in [the Doylestown Health] community "*as years passed people are not as connected to their neighbors, schools, and churches and that makes [health and social] problems worse then there are.*"

A 2018 report in Modern Healthcare also spotlights some important, broader concepts:[38]
- Efforts to improve communities have largely been siloed across the country and little collaboration exists; hospitals would benefit from a cooperative approach
- Evidence shows that health fairs and screenings don't make a big difference, but working on access and health equity and impacting social conditions does
- Hospitals are doing a better job of communicating with the community through these CHNAs, though without frequent re-assessments, "the disconnect between a hospital's mission and the community's expectations will likely grow"

Doylestown Health can consider, a closer examination of patterns over time in HHS health indicators in its service areas, and assess ongoing targeting of services and programming, and expansion of partnerships and programming accordingly. Given that Doylestown Health area residents are generally "healthy" and living longer, it is well-positioned to model and replicate existing programming and consideration cross-utility and value in other areas (such as heart disease), and also assess locally, existing programs and implementation strategies. Additionally, in between CHNA cycles, conduct more deliberate and ongoing evaluation of its programs to understand program effectiveness, impact, and potential to be replicated and/or sustained across broader geographic areas. Doylestown Health may also want to consider priority areas and opportunities to develop multiple metrics assessing areas where the needle may be moved overall, though thoughtfully balancing in accord with unique primary and secondary service area needs.

---

[38] Kacik, A. (2018). Flaws in reporting create knowledge vacuum regarding community benefits. *Modern Healthcare InDepth*, 20-26.

Appendix A. List of tables and figures in CHNA report

Appendix B. PHMC qualifications

Public Health Management Corporation (PHMC) is a 501(c)(3) non-profit corporation founded in 1972. PHMC serves as a facilitator, developer, intermediary, manager, advocate, innovator, and researcher in the field of public health.

The Research & Evaluation Group (R&E Group) at PHMC has extensive experience working in applied research and evaluation of health services, public health, social services, and education systems in the Southeastern Pennsylvania region. With more than 50 successfully completed Community Health Needs Assessments (CHNA) since 2013, R&E Group brings a wealth of expertise and content knowledge to the CHNA process.

R&E Group develops CHNAs in partnership with our clients, using a number of data-oriented approaches, to best integrate secondary and primary data in order to describe the most pressing health-related needs of hospitals' service populations. We leverage data to produce actionable CHNAs that detail the health-related characteristics, real world implications, and community health needs of hospitals' communities. For more information about R&E Group, please visit us at www.phmcresearch.org

Core CHNA Team
Diana Harris, MBe, PhD, CHNA Director – gave oversight to the CHNA process, including, budget management, as well leading the data collection and analytic processes, and guiding the overarching architecture and design of all CHNA report writing from pre-to post-production. Dr. Harris is a Research Scientist with 15+ years of combined professional work experience in nationally ranked academic medical settings, as well as public and private industry sectors. She is a health disparities researcher with excellent qualitative data and research design skills; an ability to conceptualize, initiate, and foster R&E collaborations with multiple stakeholders and constituents; as well as disseminate data orally and through peer reviewed publications to wide-ranging audiences. Dr. Harris has a PhD in Public Health from Temple University and a Masters in Bioethics from University of Pennsylvania.

Gary Klein, Senior Data Analyst, PhD – responsible for creating all data files and performing all statistical analyses of the quantitative data. Dr. Klein has over 25 years of experience working on diverse research and evaluation projects, including the Southeastern Pennsylvania Household Health Survey and supportive demographic-based files. He specializes in programming tasks to clean, merge, aggregate and analyze data as well as weighting survey data. Dr. Klein has a PhD in Sociology from Temple University.

Sarah String, M.P.H., Project Manager- earned her M.P.H. from Arcadia University in 2016; she also has a B.S. in Biology with a minor in Chemistry from Houghton College. Sarah has worked on the Community Health Database team since 2015, processing data and working with members to conduct meaningful program evaluations using the Southeastern Pennsylvania Household Health Survey data and supportive demographic files.

Darion Porter, Research Assistant, B.A. – assisted with the logistics of CHNA implementation, including developing flyers and recruitment materials, screening and tracking participants, and scheduling focus groups. He assisted with focus group and interview development, facilitation, analysis, and report writing. Mr. Porter assisted Dr. Klein in secondary data file preparation and analysis and prepared maps that describe geovisualization of data findings. Mr. Porter also has experience in qualitative research including developing interview guides; conducting interviews, focus groups, and observations; and coding and analyzing data. Mr. Porter has a BA in Environmental Studies from Temple University.

Andrew Jones, MPA - assisted with report writing, copy editing, and will support data visualization development and report building. He earned his M.P.A. and Certificate in Nonprofit Management from Villanova University.

Acknowledgements:

Shyanne Ruiz, Operations Assistant (formatting and visualization)

Appendix C. Methodology and data sources: Full text

This CHNA was completed using a data and partnership driven approach to inform its development. As part of this process, Doylestown Health contracted with Public Health Management Corporation's (PHMC) Research & Evaluation Group (REG), to collect and analyze data, as well as engage the community residents and key stakeholders serving the community. Multiple data sources and a variety of data collection methods were used to comprehensively characterize the populations and inform understanding of community health needs. Data sources included:

- **The 2018 Southeastern Pennsylvania Household Health Survey (SEPA HHS)**, R&E Group developed and has fielded the SEPA HHS for the past 35 years. The 2018 SEPA HHS was administered to 7,501 households, using a random-digit dial phone survey method, across Montgomery, Chester, Delaware, Philadelphia, and Bucks Counties. The SEPA HHS provides a unique and comprehensive source of health-related data, solely focused on the SEPA region. Additionally, the SEPA HHS offers unique insights into the local health and social services issues and landscapes, and includes questions unavailable from other sources. It is the principal data source for this CHNA report. In-depth survey methodology and accompanying documentation can be found at http://www.chdbdata.org/

  Since the HHS is sample based, statistical significance tests were conducted to compare areas where Doylestown Health might perform better or worse than the *remainder SEPA region*. To run such tests, cases cannot be in both the Doylestown Health service area and the comparison group, so we made comparisons to the portion of SEPA that excluded the Doylestown service area.

- **2018 United States Census** data estimates provided by Claritas Pop-Facts® Premier provided a picture of the socioeconomic and demographic characteristics of Doylestown Health's service area. Census-based demographic data are derived from 2018 Claritas Pop-Facts® Premier and processed by PHMC. Claritas Pop-Facts® Premier is a proprietary database comprised of demographic data adapted from the U.S. Census, American Community Survey (ACS) and other known and highly utilized data sources, such as residential data from the U.S. Postal Service, utility companies and marketing firms.

- **Vital Statistics** data from the Pennsylvania Department of Health details trends in leading causes of death, cancer incidence, and birth outcomes.[39] Vital statistics in SEPA are for the entire region and does not exclude Doylestown service area zip codes.

- **Community forum** data from key community members and constituents was also collected from stakeholders in the Doylestown Health service area. Doylestown Health staff identified a list of potential participants based on their knowledge and involvement in the community. Thematic and descriptive analysis of data elucidated additional, unique health-related barriers, needs, resources, and strengths of prominent population subgroups for example, otherwise limited in scope or unable to be captured by broadband, quantitative means.

---

[39] Pennsylvania Department of Health, Bureau of Health Statistics and Registries. (2018). *2012-2016 Mortality* [Data file] and *2012-2016 Birth outcomes* [Data file]. *These data were provided by the Pennsylvania Department of Health. The Department specifically disclaims responsibility for any analyses, interpretations, or conclusions.*

The CHNA additionally incorporates broad measures related to health and well-being, including Healthy People 2020 goals, as a comparator for findings from secondary data analyses, and to assist with prioritization of health needs in the Doylestown Health community.

ZIP codes in the primary service area include: 18913, 18933, 18902, 18923, 18949, 18926, 18921, 18901, 18912, 18963, 18947, 18950,18920, 18972, 18928, 18914, 18934, 18938, 18916, 18925, 18953, 18942, 18917, 18931, 18911, 19454, 18915, 18927, 18962,18944, 19446, 18940, 18943,18946, 18980, 18956, 18922, 18930, 19040, 18974, 18976, 19044, 18929,18954

ZIP codes in the secondary service area include: 1895, 18960, 18966, 18964, 19002, 18969, 19438, 19053, 18077, 19090, 19067, 19006, 19047, 19020, 19001, 19038, 18910, 18977, 18054

Health needs were identified and prioritized by chi-square tests of significance comparing the health status, access to care, health behaviors, and utilization of services for residents to results for SEPA in the 2018 SEPA HHS. Mortality and indicators from the HHS were compared to state and national benchmarks, such as Healthy People 2020 (HP 2020) goals, where possible. Input from community stakeholders was used to fill information gaps and to further identify and prioritize unmet needs, particularly for populations of interest.

Appendix D. Impact statement from 2016 CHNA

As previous 2016 needs assessment by Doylestown Hospital used data from PHCM's 2016 Household Health Survey, the U.S. Census, PA vital statistics, and other information to identify and prioritize community health needs.

Even though most of the health status indicators for the DH area were statistically better than the Southeastern PA region, there were still some opportunities for improvement.

As a result of the 2016 Community Health Needs Assessment, Doylestown Hospital adopted "support for cancer and heart disease prevention programs, including screening and health education outreach," as a primary focus area.

DH increased the number of free health screenings for cancer and heart disease, screening more than 7500 people over the period 2016-2018 and increasing community-based educational programs. An average of 125 community education programs per year were offered, with an emphasis on managing know risk factors for cancer and heart disease. Programs on nutrition, exercise and medication management topped the list.

The assessment also showed a lack of resource awareness, so the hospital increased its emphasis on social media and technology solutions to complement traditional outlets for information sharing. The hospital increased DH's audience on popular social media channels like Facebook, Twitter, and LinkedIn by nearly 50%, with more than 1500 impressions per day in 2018.

Raising awareness of cancer risk and facilitating early detection was a key to many of our outreach programs. Cancer screenings were offered for breast cancer, prostate cancer and colon cancer, with just over 800 free screenings performed. There were also nearly 400 lose dose CT Scans for lung cancer and over 100 genetic mutation tests performed.

We supported meetings for community support groups such as Alcoholics Anonymous, MS Support, Leukemia and Lymphoma, etc., with nearly 1,000 people per year attending meetings on our campus.

Our pediatric outreach programs continue to reach kids and parents across the service area through some unique partnerships with the local school district. Nearly 5,000 children were served through awareness and education events on a variety of pediatric topics, presented by our Pediatric Outreach RN.

DH purposefully used the same zip code-defined service area in 2019 that was used in 2013 and 2016, so that we can compare results. DH will review the 2019 results of the Household Health Survey for changes in status, awareness and improvement opportunity areas, and these findings will inform the hospital's 2019 implementation plan.

Appendix E. Chi-square tests of significance data tables

**DOYLESTOWN PRIMARY SERVICE AREA &
REMAINDER OF SOUTHEASTERN PENNSYLVANIA (SEPA) COMPARISON**

KEY: ns = not significant, **.05** = statistically significant,
.01 = highly statistically significant, **.001** = very highly statistically significant
Green = Region is statistically significant in a perceived better direction than the other
Red = Region is statistically significant in a perceived worse direction than the other

Health Measure	Doylestown Primary Service Area	Remainder of SEPA	P Value
ADULT (18 – 64)	**N=588**	**N=6,842**	
In fair or poor health	**12.9**	**19.8**	**.001**
Has ever been told by a health professional they have or had high blood pressure	**25.4**	**32.0**	**.01**
Has ever been told by a health professional they have or had Diabetes	**10.0**	**12.6**	**ns (p=.095)**
Has ever been told by a health professional they have or had Asthma	**16.3**	**18.3**	**ns**
Currently overweight or obese (BMI 25+) compared to neither (BMI < 25)	**63.5**	**64.1**	**ns**
Currently obese (BMI 30+) compared to not obese (BMI < 30)	**23.8**	**30.6**	**.001**
Ever been diagnosed with a mental health condition	**20.0**	**22.5**	**ns**
Is NOT currently receiving treatment for said mental health condition	**40.0**	**43.3**	**ns**
Did NOT seek health care due to the cost during a time they were sick or injured in the past year	**8.1**	**10.6**	**ns (p=.051)**
Did NOT fill a prescription due to the cost in the past year	**10.2**	**13.5**	**.05**
Currently uninsured	**5.2**	**11.3**	**.001**

Does NOT have a USUAL person or place of care to go when they are sick or need health advice	14.0	13.4	ns
Has NOT visited a healthcare provider in the past year	9.6	12.7	.05
Has NOT seen a dentist in the past year	24.2	30.4	.001
Has visited the emergency room in the past year	22.6	27.6	.01
Has NOT had a blood pressure reading in the past year	6.8	7.4	ns
Adult 50 years or older that has NOT had a sigmoid/colonoscopy in the past 10 years	29.4	26.5	ns
Women 18 to 64 years old that have NOT had a pap test in the past 3 years	20.3	18.0	ns
Women ages 50 to 74 that have NOT had a mammogram in the past 2 years	25.1	19.3	ns (p=.058)
Men over the age of 45 that have NOT had a prostate exam in the past year	49.7	48.7	ns
Usually has LESS than 4 servings of fruits or vegetables a day	77.2	77.2	ns
Usually exercises for 30+ minutes LESS than 3 days a week	37.2	42.8	.01
Currently smokes cigarettes	12.0	15.6	.05
Smokes and has NOT tried to quit in the past year	47.2	49.6	ns
Smokes and has used an e-cigarette in the past month	6.2	8.2	ns (p=.082)
Rated as having low social capital	15.6	30.9	.001
Has drank soda, a fruit drink, or bottled tea once or more a day in the past month	22.0	27.0	ns (p=.052)
CHILDREN (0-17)	N=93	N=1,060	
In fair or poor health	7.8	3.3	.05
Participates in physical activity LESS than 3 times per week (Ages 3+)	5.2	13.3	.05

Currently obese (BMI 95-100 percentile) (Ages 6+)	**17.6**	**26.6**	**ns**
Currently overweight (BMI 85-94 percentile) (Ages 6+)	**16.0**	**27.1**	**ns (p=.089)**
Has NOT seen a dentist in the past year	**8.9**	**18.3**	**.05**

DOYLESTOWN SECONDARY SERVICE AREA &
REMAINDER OF SOUTHEASTERN PENNSYLVANIA (SEPA) COMPARISON

KEY: ns = not significant, **.05** = statistically significant,
.01 = highly statistically significant, **.001** = very highly statistically significant
Green = Region is statistically significantly better than the other
Red = Region is statistically significantly worse than the other

Health Measure	Doylestown Secondary Service Area	Remainder of SEPA	P Value
ADULT (18 – 64)	**N=791**	**N=6,639**	
In fair or poor health	**15.2**	**19.8**	**.001**
Has ever been told by a health professional they have or had high blood pressure	**30.7**	**31.6**	**ns**
Has ever been told by a health professional they have or had Diabetes	**10.9**	**12.6**	**ns**
Has ever been told by a health professional they have or had Asthma	**14.3**	**18.7**	**.01**
Currently overweight or obese (BMI 25+) compared to neither (BMI < 25)	**66.7**	**63.7**	**ns (p=.096)**
Currently obese (BMI 30+) compared to not obese (BMI < 30)	**30.6**	**30.0**	**ns**
Ever been diagnosed with a mental health condition	**18.4**	**22.8**	**.01**
Is NOT currently receiving treatment for said mental health condition	**43.9**	**43.1**	**ns**
Did NOT seek health care due to the cost during a time they were sick or injured in the past year	**9.1**	**10.5**	**ns**
Did NOT fill a prescription due to the cost in the past year	**10.2**	**13.7**	**.01**
Currently uninsured	**10.9**	**10.8**	**ns**
Does NOT have a USUAL person or place of care to go when they are sick or need health advice	**13.7**	**13.5**	**ns**
Has NOT visited a healthcare provider in the past year	**15.4**	**12.1**	**.01**
Has NOT seen a dentist in the past year	**27.7**	**30.2**	**ns**
Has visited the emergency room in the past year	**25.5**	**27.4**	**ns**

Has NOT had a blood pressure reading in the past year	9.9	7.0	.01
Adult 50 years or older that has NOT had a sigmoid/colonoscopy in the past 10 years	26.5	26.7	ns
Women 18 to 64 years old that have NOT had a pap test in the past 3 years	22.1	17.7	.05
Women ages 50 to 74 that have NOT had a mammogram in the past 2 years	22.2	19.4	ns
Men over the age of 45 that have NOT had a prostate exam in the past year	43.8	49.5	ns (p=.086)
Usually has LESS than 4 servings of fruits or vegetables a day	76.9	77.3	ns
Usually exercises for 30+ minutes LESS than 3 days a week	41.4	42.5	ns
Currently smokes cigarettes	14.0	15.5	ns
Smokes and has NOT tried to quit in the past year	51.7	49.1	ns
Smokes and has used an e-cigarette in the past month	6.5	8.2	ns (p=.088)
Rated as having low social capital	21.9	30.6	.001
Has drank soda, a fruit drink, or bottled tea once or more a day in the past month	29.8	26.5	ns
CHILDREN (0-17)	N=125	N=1,028	
In fair or poor health	0.8	4.0	ns (p=.077)
Participates in physical activity LESS than 3 times per week (Ages 3+)	11.5	12.8	ns
Currently obese (BMI 95-100 percentile) (Ages 6+)	8.8	19.8	.05
Currently overweight (BMI 85-94 percentile) (Ages 6+)	36.3	37.8	ns
Has NOT seen a dentist in the past year	17.9	17.5	ns

KEY: ns = not significant, **.05** = statistically significant,
　　　.01 = highly statistically significant, **.001** = very highly statistically significant
　　　Green = Region is statistically significantly better than the other
　　　Red = Region is statistically significantly worse than the other

Health Measure	Doylestown Primary Service Area	Doylestown Secondary Service Area	P Value
ADULT (18 – 64)	**N=588**	**N=791**	
In fair or poor health	**12.9**	**15.2**	**ns**
Has ever been told by a health professional they have or had high blood pressure	**25.4**	**30.7**	**.05**
Has ever been told by a health professional they have or had Diabetes	**10.0**	**10.9**	**ns**
Has ever been told by a health professional they have or had Asthma	**16.3**	**14.3**	**ns**
Currently overweight or obese (BMI 25+) compared to neither (BMI < 25)	**63.5**	**66.7**	**ns**
Currently obese (BMI 30+) compared to not obese (BMI < 30)	**23.8**	**30.6**	**.01**
Ever been diagnosed with a mental health condition	**20.0**	**18.4**	**ns**
Is NOT currently receiving treatment for said mental health condition	**40.0**	**43.9**	**ns**
Did NOT seek health care due to the cost during a time they were sick or injured in the past year	**8.1**	**9.1**	**ns**
Did NOT fill a prescription due to the cost in the past year	**10.2**	**10.2**	**ns**
Currently uninsured	**5.2**	**10.9**	**.001**
Does NOT have a USUAL person or place of care to go when they are sick or need health advice	**14.0**	**13.7**	**ns**
Has NOT visited a healthcare provider in the past year	**9.6**	**15.4**	**.001**
Has NOT seen a dentist in the past year	**24.2**	**27.7**	**ns**
Has visited the emergency room in the past year	**22.6**	**25.5**	**ns**

Has NOT had a blood pressure reading in the past year	6.8	9.9	.05
Adult 50 years or older that has NOT had a sigmoid/colonoscopy in the past 10 years	29.4	26.5	ns
Women 18 to 64 years old that have NOT had a pap test in the past 3 years	20.3	22.1	ns
Women ages 50 to 74 that have NOT had a mammogram in the past 2 years	25.1	22.2	ns
Men over the age of 45 that have NOT had a prostate exam in the past year	49.7	43.8	ns
Usually has LESS than 4 servings of fruits or vegetables a day	77.2	76.9	ns
Usually exercises for 30+ minutes LESS than 3 days a week	37.2	41.4	ns
Currently smokes cigarettes	12.0	14.0	ns
Smokes and has NOT tried to quit in the past year	47.2	51.7	ns
Smokes and has used an e-cigarette in the past month	6.2	6.5	ns
Rated as having low social capital	15.6	21.9	.05
Has drank soda, a fruit drink, or bottled tea once or more a day in the past month	22.0	29.8	.05
CHILDREN (0-17)	**N=93**	**N=125**	
In fair or poor health (*too few in fair/poor for analysis*)	.	.	.
Participates in physical activity LESS than 3 times per week (Ages 3+)	5.2	11.5	ns
Currently obese (BMI 95-100 percentile) (Ages 6+)	13.8	8.8	ns
Currently overweight (BMI 85-94 percentile) (Ages 6+)	26.6	36.3	ns
Has NOT seen a dentist in the past year	8.9	17.9	ns (p=.062)

Appendix F. Data tables: Demographics, birth outcomes, mortality, and select health indicators

Table 1. 2018 U.S. Census Socio-Demographic Indicators: Doylestown Health Service Areas

	Doylestown Primary	Doylestown Secondary	SEPA
Total Population N(%)	371,362	441,771	4,111,194
Age			
0-17	75,386 (20.3)	89,238 (20.2)	897,970 (21.8)
18-34	1,674 (19.3)	86,587 (19.6)	968,461 (23.6)
35-64	154,486 (41.6)	182,451 (41.3)	1,592,845 (38.7)
65+	69,816 (18.8)	83,936 (19.0)	651,918 (15.9)
Gender			
Male	181,225 (48.8)	214,259 (48.5)	1,981,595 (48.2)
Female	190,137 (51.2)	227,512 (51.5)	2,129,598 (51.8)
Race/Ethnicity*			
White	321,228 (86.5)	369,762 (83.7)	2,622,941 (63.8)
Black	10,769 (2.9)	26,948 (6.1)	916,796 (22.3)
Asian	27,109 (7.3)	27,340 (6.2)	279,561 (6.8)
Other	12,626 (3.4)	18,113 (4.1)	287,783 (7.0)
Latino	15,968 (4.3)	21,647 (4.9)	374,118 (9.1)

Note: *Race is defined as a person's self identified social group. Ethnicity determines whether a person is of Hispanic or Latino descent.
Source: Claritas 2018 Pop-Facts Data Base. Calculations prepared by PHMC.

Table 2. 2018 U.S. Census Socio-Economic Indicators: Doylestown Health Service Areas

	Doylestown Primary	Doylestown Secondary	SEPA
Total Population	371,362	441,771	4,111,194
Income			
Median Household Income	$100,424	$90,353	$70,807

Source: Claritas 2018 Pop-Facts Data Base. Calculations prepared by PHMC.

Table 2.1 2018 U.S. Census Socio-Economic Indicators: Doylestown Health Service Areas

	Doylestown Primary	Doylestown Secondary	SEPA
Total Population 25+ N(%)	263,329	315,355	2,824,892
Education			
Less than HS	13,098 (5.0)	20,187 (6.4)	302,263 (10.7)
HS Graduate/GED	125,579 (47.7)	164,067 (52.0)	1,474,593 (52.2)
College Grad	124,652(47.3)	131,101 (41.6)	1,048,034 (37.1)

Note: Educational attainment refers to the highest level of education completed in terms of the highest degree or the highest level of schooling completed, and is asked of all civilians 25 years old and over.

Source: Claritas 2018 Pop-Facts Data Base. Calculations prepared by PHMC.

Table 2.2 2018 U.S. Census Socio-Economic Indicators: Doylestown Health Service Areas

	Doylestown Primary	Doylestown Secondary	SEPA
Total Population 16+ N(%)	207,461	247,722	3,317,575
Employment			
Employed	196,892 (94.9)	233,555 (94.3)	3,062,122 (92.3)
Unemployed	10,569 (5.1)	14,167 (5.7)	255,453 (7.7)

Note: Employment is calculated as all civilians 16 years old and over who were either (1) "at work" or (2) "with a job but not at work."

Source: Claritas 2018 Pop-Facts Data Base. Calculations prepared by PHMC.

Table 2.3 2018 U.S. Census Socio-Economic Indicators: Doylestown Health Service Areas

	Doylestown Primary	Doylestown Secondary	SEPA
Total Families with children n(%)	44,034	51,521	478,192
Poverty Status			
Families living in poverty WITH children	2299 (5.2)	3009 (5.8)	77,947 (16.3)
	Doylestown Primary	**Doylestown Secondary**	**SEPA**
Total Families without children n(%)	56,828	68,895	535,454
Poverty Status			
Families living in poverty WITHOUT children	1037 (1.8)	1621 (2.4)	26,855 (5.0)

Source: Claritas 2018 Pop-Facts Data Base. Calculations prepared by PHMC.

Table 2.4 2018 U.S. Census Socio-Economic Indicators: Doylestown Health Service Areas

	Doylestown Primary	Doylestown Secondary	SEPA
Total Households N(%)	141,718	169,603	1,582,081
Housing Unit Type			
Renter-occupied	30,753 (21.7)	41,213 (24.3)	537,681 (34.0)
Owner-occupied	110,965 (78.3)	128,389 (75.7)	1,044,400 (66.0)

Note: Household Type is calculated from all occupied housing units.
Source: Claritas 2018 Pop-Facts Data Base. Calculations prepared by PHMC.

Table 3. 2018 U.S. Census Language Spoken at Home: Doylestown Health Service Areas

	Doylestown Primary	Doylestown Secondary	SEPA
Total Population 5+ N(%)	371,362	441,771	3,864,457
Language Spoken at Home			
English	327,541 (88.2)	386,108 (87.4)	3,249,121 (84.1)
Spanish	10,398 (2.8)	11,928 (2.7)	231,712 (6.0)
Asian Language	13,369 (3.6)	13,695 (3.1)	154,549 (4.0)
Indo-European Language	18,939 (5.1)	27,831 (6.3)	193,466 (5.0)
Other Language	1,114 (0.3)	2,209 (0.5)	35,609 (0.9)

Note: Language spoken at home is calculated for all citizens 5 years and over.

Source: Claritas 2018 Pop-Facts Data Base. Calculations prepared by PHMC.

Table 4. 2012-2016 Fertility Rates for Women 15-44 Years by Race and Ethnicity: Doylestown Health Service Areas

	Doylestown Primary	Doylestown Secondary	SEPA
All Women 15-44 N (Rate per 1,000)	3,086 (49.4)	3,930 (50.3)	47,453 (58.9)
Race/Ethnicity*			
White	2,471 (46.3)	3,088 (48.5)	24,426 (48.2)
Black	95 (49.0)	250 (48.5)	13,289 (64.7)
Asian	304 (59.0)	307 (50.9)	3,526 (55.1)
Other	164 (79.4)	224 (69.8)	4,582 (19.6)
Latina	207 (68.6)	292 (66.0)	6,060 (75.9)

Note: The fertility rate is calculated per 1,000 women 15-44 years of age. White, Black, Asian and Other races include Latinas. *Unknown race and ethnicity appear only for the total.

Sources: Pennsylvania Department of Health, Bureau of Health Statistics and Research. Calculations prepared by PHMC.

Table 5. 2012-2016 Fertility Rates for Women 15-19 Years by Race and Ethnicity: Doylestown Health Service Areas

	Doylestown Primary	Doylestown Secondary	SEPA
All Women 15-19	49 (4.0)	83 (6.1)	2591 (19.3)
N (Rate per 1,000)			
Race/Ethnicity*			
White	36 (3.3)	54 (4.8)	541 (6.6)
Black	.	12 (12.2)	1,377 (40.4)
Asian	.	.	43 (5.1)
Other	7 (12.9)	15 (19.1)	495 (11.1)
Latina	13 (27.0)	20 (31.3)	686 (50.5)

Note : The fertility rate is calculated per 1,000 women 15-19 years of age. White, Black, Asian and Other races include Latinas. . =Not Displayed. Rates are not calculated when there are less than 5 occurrences of the event over the course of 2012-2016. *Unknown race and ethnicity appear only for the total.

Sources: Pennsylvania Department of Health, Bureau of Health Statistics and Research. 2010 U.S. Census. Calculations prepared by PHMC.

Table 6. 2012-2016 Percentage of Women Receiving Late or No Pre-natal Care by Race and Ethnicity: Doylestown Health Service Areas

	Doylestown Primary	Doylestown Secondary	SEPA
All Live Births	609 (20.3)	931 (24.3)	16,946 (37.6)
N (%)			
Race/Ethnicity*			
White	391 (16.2)	630 (20.9)	6,430 (27.0)
Black	33 (35.6)	100 (41.1)	6,302 (52.0)
Asian	76 (26.1)	81 (27.1)	1,244 (36.9)
Other	89 (58.0)	96 (44.0)	2,213 (51.5)
Latina	103 (52.5)	120 (42.6)	2,851 (50.0)

Note : White, Black, Asian, and Other races include Latina/os. *Unknown race and ethnicity only appear for the total. The percentage of women receiving late or no pre-natal care is calculated as the percentage of all live births that have birth certificate data on receipt of prenatal care. Late prenatal care is defined as not having a recorded prental care visit in the 1st or 2nd trimesters, or none at all.

Sources: Pennsylvania Department of Health, Bureau of Health Statistics and Research. Calculations prepared by PHMC.

Table 7. 2012-2016 Low Birth Weight Births by Race and Ethnicity: Doylestown Health Service Areas

	Doylestown Primary	Doylestown Secondary	SEPA
All Live Births	227 (73.2)	297 (75.3)	4,329 (90.9)
N (Rate per 1,000)			
Race/Ethnicity*			
White	178 (71.8)	219 (70.6)	1,686 (68.7)
Black	9 (90.3)	30 (120.2)	1,779 (133.3)
Asian	24 (80.1)	25 (82.5)	282 (79.7)
Other	10 (62.0)	15 (68.6)	406 (88.3)
Latino/a	14 (68.5)	20 (69.7)	527 (86.7)

Note : White, Black, Asian and Other races include Latino/as. Low birth weight is defined as an infant weighing less than 2500 grams (5.5 lbs.) at birth. The low birth weight rate is calculated per 1,000 live births. *Unknown race and ethnicity appear only for the total.

Sources: Pennsylvania Department of Health, Bureau of Health Statistics and Research. Calculations prepared by PHMC.

Table 8. 2012-2016 Percentage of Infants Born Prematurely by Race and Ethnicity: Doylestown Health Service Areas

	Doylestown Primary	Doylestown Secondary	SEPA
All Live Births	263 (8.5)	335 (8.5)	4,622 (9.7)
N (%)			
Race/Ethnicity*			
White	217 (8.8)	259 (8.4)	2,041 (8.4)
Black	7 (7.4)	29 (11.6)	1,703 (12.8)
Asian	21 (7.1)	21 (6.9)	256 (7.3)
Other	11 (6.5)	18 (8.0)	434 (9.5)
Latino/a	15 (7.4)	23 (8.0)	576 (9.5)

Note : Prematurity is defined as the birth of an infant before 37 weeks gestation. The percentage of infants born prematurely is calculated as a percentage of all live births that have birth certificate data on gestational age. White, Black, Asian and Other races include Latino/as.*Unknown race and ethnicity appear only for the total.

Sources: Pennsylvania Department of Health, Bureau of Health Statistics and Research. Calculations prepared by PHMC.

Table 9. 2012-2016 Infant Mortality Rate by Race and Ethnicity: Doylestown Service Area

	Doylestown Primary	Doylestown Secondary	SEPA
All Live Births	12 (4.0)	16 (4.1)	315 (6.6)
N (Rate per 1,000)			
Race/Ethnicity*			
White	9 (3.7)	11 (3.5)	92 (3.8)
Black	·(4.2)	2 (8.7)	148 (11.1)
Asian	1 (2.0)	1 (2.6)	11 (3.0)
Other	1 (7.3)	· (0.9)	28 (6.0)
Latino/a	1 (6.8)	1 (4.1)	35 (5.7)

Note : Infant mortality is defined as the death of an infant within the first year of birth and is calculated per 1,000 live infant births. White, Black, Asian and Other races include Latino/as. *Unknown race and ethnicity is included only in the total. 5 year averages are rounded; · = averages that would round to zero.

Sources: Pennsylvania Department of Health, Bureau of Health Statistics and Research. Calculations prepared by PHMC.

Table 10. 2012-2016 Age-Adjusted Annualized Mortality Rates for Selected Causes of Death: Doylestown Health Service Areas

	HP 2020 Goal	Doylestown Primary	Doylestown Secondary	SEPA
All Causes of Death (Rate per 100,000)		599.9	640.9	732.4
All Cancers	161.4	142.4	150.0	168.4
Female Breast Cancer	20.7	19.9	23.1	22.9
Lung Cancer	45.5	33.4	36.9	43.2
Colorectal Cancer	14.5	12.0	13.6	15.2
Prostate Cancer	21.8	20.3	17.1	21.6
Cervical Cancer	2.2	.	.	2.2
Heart Disease	.	121.3	132.4	167.8
Stroke	34.8	33.5	34.7	39.2
Diabetes	66.6*	13.3	15.6	17.9
Kidney Disease	.	11.6	12.6	15.5
Liver Disease	.	5.3	5.9	7.1
Chronic Lower Respiratory Disease	.	25.2	30.1	34.1
Influenza and Pneumonia	.	11.7	11.9	13.7
Septicemia	.	9.2	12.8	14.3
HIV/AIDS	3.3	.	.	2.6
Alzheimer's Disease	.	17.0	15.6	14.1
Homicide	5.5	1.4	1.7	8.7
Homicide by firearm	.	.	.	7.0
Firearm Deaths	9.3	5.3	5.3	11.4
Suicide	10.2	9.9	10.8	10.6
Suicide by Firearm	.	4.3	4.2	4.0
Fatal Injuries	53.7	48.1	54.4	65.7
Drug Overdose (all substances)	.	18.8	20.8	26.0
Drug-Induced Causes	11.3	20.0	22.5	26.8
All Accidents (Unintentional injuries)	36.4	35.5	40.1	44.9
Motor Vehicle Accidents	.	5.3	6.5	5.9

Note: *Diabetes-related mortality data are derived from the multiple-cause-of-death files. Data include all mentions of diabetes on the death certificate, whether as an underlying cause or a multiple cause of death. Diabetes is approximately three times as likely to be listed as multiple cause of death than as underlying cause. Mortality rates are calculated per 100,000 population. Denominators to calculate age-adjusted rates to the Standard 2000 population derive from 2010 Census Zip Code Tabulation Area data broken down into 11 age groups. .=Not displayed.

Source: Pennsylvania Department of Health, Bureau of Health Statistics and Research. Calculations prepared by PHMC.

Table 11. Select Age Adjusted Health Indicators in the Doylestown Primary and Secondary Markets, 2012-2018

	2012		2015		2018	
	Primary %	**Secondary %**	**Primary %**	**Secondary %**	**Primary %**	**Secondary %**
Diagnosed with high blood pressure	21.7	24.2	23.4	22.5	18.7	22.4
Obese (BMI 30+)	23.4	27.0	20.8	28.9	22.7	28.7
Females age 50-74 with a mammogram in the past 2 years	79.8	76.9	82.4	77.8	74.6	77.6
Females age 18-64 with a pap test in the past 3 years	86.9	89.4	90.5	87.2	89.9	83.4

Note: Variables age-adjusted to the U.S. 2000 standard population in order to account for differences in age distribution across years. Associated Healthy People 2020 Goals - 30.5% of adults age 20+ are obese, 81.1% of women age 50-74 have a mammogram in the past 2 years. *Source* : PHMC's 2018 Southeastern Pennsylvania Household Health Survey

Table 12. Select Health Indicators, Non age-adjusted, in the Doylestown Primary and Secondary Markets, 2012-2018

	2012		2015		2018	
	Primary %	**Secondary %**	**Primary %**	**Secondary %**	**Primary %**	**Secondary %**
Had a blood pressure screening in the past year	91.8	91.4	92.4	90.1	93.2	90.1
Overweight or obese (BMI 25+)	58.9	61.0	61.5	62.7	63.5	66.7
Diagnosed with diabetes	8.9	11.5	9.7	10.4	10.0	10.9
Adults age 50+ with a colonoscopy/sigmoidoscopy in the past 10 years	73.3	73.5	72.2	68.4	70.6	73.5
Males 45+ with a PSA or rectal exam in the past year	50.5	57.0	50.9	48.3	50.3	56.2

Note: Percents represent crude prevalence. Source: PHMC's 2018 Southeastern Pennsylvania Household Health Survey

Appendix G. Community resource index

In order to identify any existing community health resources throughout the Doylestown service area, organizations were identified using 2-1-1 SEPA, an online database of health services and providers. The following is a list of community health resources with the highest total referrals in their respective zip codes, along with a list of services they offer taken directly from the 2-1-1 SEPA database. This list is not exhaustive, but rather a snapshot of other organizations meeting community needs. A complete listing and further information is available online at http://211sepa.org/.

1. **18976 – Toys for Tots (USMC) (2 total referrals)**
    (No Address), Warrington
    - Food stamps/SNAP
2. **18974 – Bucks County Housing Group (28 total referrals)**
    626 Jacksonville Road, Warminster
    - Adults
    - Children
    - Homeless shelter
    - Homeless women
    - Supportive housing residents
    - Public housing
    - Transitional housing/shelter
    - Automobiles
    - Vehicle donation programs
3. **18954 – Hearing Loss Association of America – Pennsylvania State Office (2 total referrals)**
    25 Upper Holland Road, Richboro
    - Advocacy
    - Audiology
    - Deafness/hearing loss
    - Speech and hearing volunteer opportunities
    - Speech and language pathology
4. **18940 – Chandler Hall (1 total referral)**
    99 Barclay Street, Newtown
    - Adolescent/adult immunizations
    - Adult day health programs
    - Bereavement counseling
    - Case/care management
    - Health care
    - Health education
    - Health screening/diagnostic services
5. **18901 – Bucks County Opportunity Council (67 total referrals)**
    1282 Almshouse Road, Doylestown
    - Electric, gas, and heating service payment assistance
    - Low-income
    - Rental deposit assistance

- Rent payment assistance
- Trash/recycling service payment assistance
- Water service payment assistance
- Food pantries; Hunger/food issues
- Economic self-sufficiency programs

6. **18902 – Health Quality Partners (1 total referral)**
875 North Easton Road, Suite 10, Doylestown
- Case Care Management

7. **18912 – Coalition to Shelter and Support the Homeless (7 total referrals)**
2631 Durham Road, Trinity Buckingham Episcopal Church, Buckingham
- Extreme Weather Shelters

8. **18928 – Bucks County Transport (5 total referrals)**
P.O. Box 510, Holicong
- Medical Public Assistance Programs
- Non-Emergency Medical Transportation
- Public Assistance Issues
- Adults with Disabilities/Health Conditions
- Disability Related Transportation
- Local Bus Transit Services