



Believing is Seeing

Wills Eye Hospital

Community Health Needs Assessment

June 2022



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I. EXECUTIVE SUMMARY

Wills Eye Hospital is a non-profit specialty hospital in Philadelphia, Pennsylvania that is dedicated to improving vision health. Wills Eye Hospital provides a full range of ophthalmic sub-specialty services and is home of one of the few Eye Emergency Departments in the country. Founded in 1832, Wills Eye Hospital is the oldest eye hospital in the nation and played a vital role in pioneering advances in the prevention and treatment of eye diseases. Wills Eye's mission is to serve as a comprehensive center of ophthalmology and make eye care accessible and responsive to the needs of underserved children and adults in the local community.

The 2022 Wills Eye Hospital Community Health Needs Assessment (CHNA) was conducted to identify vision health issues in Philadelphia. To assess the unmet vision needs in Philadelphia, input was solicited from individuals with expertise in Philadelphia's public health issues and individuals from medically underserved, low-income, and minority populations in Philadelphia. Data reported by the U.S. Census Bureau, 2019 and 2020 Health of the City reports from the Department of Public Health of Philadelphia, and 2020 and 2021 Philadelphia State of the City reports from the PEW Charitable Trusts were used to describe the geography and demographics of Philadelphia.

The following vision health needs of children and adults in underserved areas of Philadelphia were identified based on the results of this assessment in order of priority:

1. Low awareness of vision threatening conditions and associated risk factors and the importance of routine eye exams
2. Creating a sustainable model for vision screenings and adherence to follow-up care in community centers in underserved areas
3. Routine pediatric vision screenings in children under 17 and low adherence to obtain glasses or follow-up care with a pediatric ophthalmologist
4. Lack of city-specific data on eye and vision health for residents of Philadelphia

II. INTRODUCTION

Vision impairment or loss can have a substantial impact on economic and social aspects of a person's life including loss of job and income and diminished quality of life. In the United States, approximately 12 million people 40 years and older have some sort of vision impairment with about 1 million people who are blind and 3 million people who have permanent vision impairment even after intervention.¹ The number of Americans who are blind or have uncorrectable vision impairment is predicted to double by the year 2050 due to an increase in the aging population and increasing epidemic of chronic illnesses such as diabetes that are associated risk factors for vision threatening conditions.¹ Fortunately, the majority cases of vision impairment in the United States is caused by uncorrected refractive error including myopia (near-sightedness), hyperopia (farsightedness), astigmatism (distorted vision at all distances), and presbyopia (lose the ability to focus up close) and can be corrected by eyeglasses or contact lenses however access to affordable eye care is still a barrier to many people, particularly those in underserved areas.

The major causes of uncorrectable vision loss is due to age-related macular degeneration, diabetic retinopathy, and glaucoma.¹ In most cases, vision loss can be prevented with early detection and treatment for these conditions, however many Americans omit annual eye screenings and care usually due to lack of awareness, high costs of eye care and lack of adequate health insurance.¹ For these reasons, underserved populations are the most at risk for uncorrectable vision impairment and vision loss. Therefore, this report will focus on assessing and prioritizing the vision and eye health needs of the underserved populations of Philadelphia and implementing strategies to address these needs.

A. Overview of Wills Eye Hospital

Wills Eye Hospital is a non-profit specialty hospital in Philadelphia, Pennsylvania that is devoted to vision and eye health. James Wills, Jr., a Quaker merchant, was instrumental in the founding of Wills Eye Hospital through his bequest of \$116,000 to the City of Philadelphia to establish the "Wills Hospital for the Relief of the Indigent Blind and Lamé" in 1832. The establishment of Wills Eye Hospital played a vital role in instituting ophthalmology as a distinct branch of medicine in the United States and pioneering advances in the prevention and treatment of eye diseases.

Today, Wills Eye Hospital's dedication to improving the vision health of all residents in Philadelphia and around the world stays true to its founder's vision. Wills Eye Hospital is composed of 140,000 square foot facility that houses inpatient beds, operating rooms, examination rooms, state of the art diagnostic testing facilities, an ophthalmic library, teaching facilities including a surgical training lab, research spaces and the Vickie and Jack Farber Vision Research Center. Wills Eye Hospital is recognized as one of the best eye hospitals in the United States according to the U.S. News and World Report's Best Hospitals, ranking #2 for years 2015 through 2021 and #1 for ophthalmology residency

programs in 2018-2021. Wills Eye Hospital provides primary and subspecialty eye care including clinical expertise in cataracts, cornea, glaucoma, retinal disease, neuro-ophthalmology, oculoplastic surgery, ocular oncology, pediatric ophthalmology, and ocular pathology. The breadth of clinical expertise and surgical capabilities makes Wills Eye Hospital a worldwide referral center.

The governing body of Wills Eye Hospital is the Board of Directors of City Trusts, which was established in 1869 by Pennsylvania legislature to administer all funds left in trust to the City of Philadelphia, including the bequest from James Wills, Jr. Thus, Wills Eye Hospital's legal title is, "City of Philadelphia Trustee, acting by the City of Philadelphia, doing business as Wills Eye Hospital". The Wills Eye Committee of the Board of Directors of City Trusts is responsible for overseeing all matters relating to Wills Eye Hospital and works closely with the Executive Director and Ophthalmologist-in-Chief of Wills on all policy, organizational changes, and major operational matters.

B. Wills Eye Hospital's Mission

"Skill with Compassion", Wills Eye Hospital's long standing motto, represents the hospital's commitment to improve the quality of life for all persons affected by vision impairment and pathology in the community and around the world. Wills Eye's mission is to serve as a comprehensive center of ophthalmology and make eye care accessible and responsive to the needs of the community by:

- Providing excellent patient care to all of those in need
- Supporting our medical staff
- Educating healthcare professionals and the community
- Participating in medical research

Wills Eye is committed to preserving and protecting vision. For decades, Wills Eye Hospital has engaged the local community to identify eye health issues and implement strategies to address the needs of the community and provide eye care to underserved children and adults.

C. Wills Eye Hospital and the COVID-19 Pandemic

In 2019, a new coronavirus known as severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) was identified as the cause of the coronavirus disease 2019 (COVID-19) outbreak originating in China.² The COVID-19 outbreak was declared a pandemic by the World Health Organization (WHO) in March 2020, impacting and disrupting the lives of everyone around the world. Wills Eye Hospital was with the first hospitals in the city of

Philadelphia to suspend all but urgent and emergency patient care. In constant communication with local, state and federal authorities, Wills Eye Hospital instituted stringent safety measures to allow the highest standards of care to continue while prioritizing the safety of patients and staff. During Philadelphia's surge in COVID-19 cases from March 15 through May 15, 2020, Wills surgeons were able to perform almost 700 urgent and emergency surgical procedures, saw thousands of patients, and completed thousands of less invasive procedures, such as intravitreal injections, all while maintaining a 100 percent safety record.

Lockdown restrictions were lifted May 15, 2020 and Wills Eye diligently addressed the backlog of patients with time-sensitive medical conditions while maintaining strict safety protocols. While the full impact of the COVID-19 pandemic on vision and eye health will take years to assess, many consequences of delayed care due to closed offices and limited resources or fear of visiting a healthcare facility has been observed in several patients. Thus it is extremely important to have patients return to an eye care routine with regularly scheduled vision screenings and follow-up and/or treatment for an existing or newly diagnosed eye pathology.

D. Purpose and Impact of the Community Health Needs Assessment

The goal of the Community Health Needs Assessment (CHNA) is to help hospitals improve or create new programs aimed at alleviating health care barriers in the communities they serve. Federal law mandates that all not-for-profit hospitals must conduct a CHNA every 3 years and adopt an Implementation Strategy that will address the most significant needs of their community.³

The CHNA for each hospital must:³

- Describe the community served by the hospital and how it was determined
- Explain the process and methods used to conduct the assessment including the sources used and how data was collected and analyzed
- Obtain input from persons who represent the broad interests in the community, including those with special knowledge of or expertise in public health
- Prioritize the community health needs identified in the CHNA
- Make the report widely available to the public

E. Review of the Impact of Wills Eye Hospital Implementation Plan Addressing the Priority Areas Identified in the 2019 CHNA

The priority areas identified in the CHNA conducted by Wills Eye Hospital in June 2019 were 1) low awareness of ocular diseases that cause vision loss such as diabetic retinopathy and age-related macular degeneration, 2) pediatric vision screenings and low adherence to obtain glasses or follow-up with a pediatric ophthalmologist, and 3) developing a sustainable model for vision screening and adherence to follow-up care in community centers in underserved areas. The following describes the Implementation Strategy Wills Eye Hospital adopted to address these unmet needs and outcomes.

FY2020 – FY2023 Wills Eye Hospital Implementation Strategy Overview and Results

Priority #1: Low awareness of ocular diseases that cause vision loss such as diabetic retinopathy and age-related macular degeneration among adults in underserved areas

Lack of awareness of risk factors and ocular diseases that cause vision impairment and loss is one of the reasons most Americans do not seek eye care.¹ To bring awareness of ocular diseases that cause vision loss, the *Wills Eye Telemedicine* program aimed to reduce barriers and increase eye health awareness to patients by providing telemedicine eye screening services. *Wills Eye Telemedicine* worked with partners on creating rural, national and international telemedicine collaborations to support regions with lower socioeconomic status, lower healthcare scores, and barriers to care. Telemedicine eye screenings involves fundus imaging (photo of the back of the eye) that shows the microvasculature and the health surrounding the optical nerve and macula (posterior pole), which could show signs of eye disease and health issues such as diabetic retinopathy, hypertension, macular degeneration, glaucoma, cardiovascular disease, thyroid disease, and cancer/tumors. Early detection and timely treatment of eye disease can often delay or prevent severe vision loss. Telemedicine diabetic retinopathy eye screenings is a proactive approach that supports global and nationwide efforts to reduce costs and improve care management of persons with diabetes. Diabetic retinopathy is one of the leading causes of blindness in the United States and early detection and annual undilated fundus examinations are recommended to preserve vision and prevent blindness.

Priority #1 Results:

Wills Eye Telemedicine continued to re-evaluate and adjust delivery of diabetic retinopathy screening services to the public in order to comply with the fluctuating federal, state, and local mandates and other barriers as a result of the COVID-19 pandemic. Many specific goals were postponed indefinitely as the COVID-19 pandemic continued to surge through FY2021 and FY2022. Below are some of the key achievements during FY2019 and FY2020, prior to the COVID-19 pandemic.

- Telemedicine diabetic retinopathy screening services expansion with collaboration between Wills Eye, Independence Blue Cross, LabCorp and

Professional Technicians Inc., to provide asynchronous diabetic retinopathy screening services in the IBC/LabCorp diabetic member's home.

- Expanded telemedicine services with Keystone First in partnership with Independence Blue Cross and LabCorp offering Keystone members retinal screening services in three beta site LabCorp blood draw centers.
- Collaborated with Jefferson Northeast and Abington Hospital to add six Jefferson primary care offices in the rural or underserved area offering diabetic retinopathy eye screenings in the office.

Priority #2: Pediatric vision screenings in children under 17 and low adherence to obtain glasses or follow-up with a pediatric ophthalmologist

The American Academy of Ophthalmology recommends yearly pediatric vision screenings starting at ages 1-3, prior to children starting school.⁴ These screenings are important for identifying any correctable refractive errors or risk factors for amblyopia (also known as lazy eye), the leading cause of vision impairment in children. Long-term vision problems due to amblyopia can be prevented with early detection and treatment.

Wills Eye Vision Screening Program for Children

The *Wills Eye Vision Screening Program for Children* was established in partnership with the School District of Philadelphia to help conduct in-school vision screenings for children in grades K-5, provide free glasses to children with refractive error, help children with suspected non-refractive eye disease(s) to be evaluated by a pediatric ophthalmologist and provide vision screening trainings for school nurses. Additionally, The *Wills Eye Vision Screening Program for Children* conducts summer vision screenings at Boys and Girls Clubs of Philadelphia and Chester, PA and children receive free glasses before returning to school in the fall. The *Wills Eye Vision Screening Program for Children* team consists of a pediatric ophthalmologist, project director, project manager, optometrist, vision screeners, optician, and social worker. A school nurse coordinator is appointed by the School District of Philadelphia to select the schools each semester, attend screenings, and manage parental/guardian consent form return. The majority of chosen schools are in underserved areas of Philadelphia. The *Wills Eye Vision Screening Program for Children* also works closely with the school nurses, teachers, school staff and parents to educate about the importance of vision screening, glasses and follow-up care for their children.

Give Kids Sight Day

Give Kids Sight Day provides free eye care and glasses to children 17 years and under living in Philadelphia and the surrounding suburbs. Additionally, pediatric

ophthalmologists are present to provide immediate care or an appointment is scheduled if non-refractive eye disease(s) is suspected. The child and family will work with a social worker to set up follow-up visits with the pediatric ophthalmologist if non-refractive eye disease is confirmed. Efforts were made to spread awareness about Give Kids Sight Day to maximize participation including increased advertising on multiple websites and social media and distributing flyers in 13 different languages to schools in the Philadelphia and surrounding suburbs.

Priority #2 Results:

Wills Eye Vision Screening Program for Children

The changing landscape of the government COVID-19 safety restrictions, precautions, and in-person school closures prevented the Wills Eye team from assisting the large numbers of children serviced in previous years.

- From July 1, 2019 to December 31, 2021 (screening for the 2021 spring-term is ongoing):
 - A total of 6,099 children were screened
 - 2,173 children needed and received two pairs of eyeglasses
 - Follow up care with an ophthalmologist was needed for 167 children

Give Kids Sight Day

Partnering with Children First (formally Public Citizens for Children and Youth (PCCY)), Give Kids Sight Day was held annually in October 2019-2021. Give Kids Sight Day in 2020 and 2021 went virtual to adhere to COVID-19-related social distancing guidelines and vision screenings were conducted over the phone by volunteer vision screeners. Children who did not pass the vision screening were invited to attend an in-person eye exam at Wills Eye Hospital. The main outcomes of each Give Kid Sight Day is listed below.

2019 Give Kids Sight Day (October 5, 2019); event held in-person

- 1,162 children received services
- 675 children (58%) were prescribed two free pair of eyeglasses
- 234 children (20.1%) had no insurance
- 387 children (33.4%) were from an immigrant family (i.e. another language other than or in addition to English was spoken in their home).
 - Other than English, Spanish was the top language spoken (130 children), second were Chinese languages (129 children), and third was Indonesian (19 children)

2020 Give Kids Sight Day Virtual Screening (October 10, 2020); Invited in-person exam (October 17, 2020)

- 478 children scheduled for virtual vision screenings
- 346 (72%) children attended their Sight Day appointment.
- 212 (61%) did not pass the vision screening, and 2 were unable to be screened.
- 166 appointments were made for in-person eye exams at Wills Eye Hospital
- There was an overflow of 84 children who also needed in-person eye exams and those children were provided with a voucher for a free exam at Wills at a later date.
- 161 children (45%) were prescribed two free pairs of eyeglasses.
- 160 children (33.3%) had no insurance
- 175 children (36.5%) were from an immigrant family (i.e. another language other than or in addition to English was spoken in their home).
 - Other than English, Spanish was the top language spoken (106 children), second were Chinese languages (30 children), and third was Indonesian (9 children).

2021 Give Kids Sight Day Virtual Screening (October 9, 2021); Invited in-person exam (October 16, 2021)

- 690 children scheduled for virtual vision screenings
- 460 (66%) children attended their Sight Day appointment
- 322 (70%) children did not pass the vision screening and In Person Appointments made
- 255 children attended their in-person appointment
- 221 (48%) children were given prescriptions for glasses
- 44 children were scheduled for follow up with an ophthalmologist
- 223 (48%) children did not have insurance
- 253 (55%) children were from an immigrant family (i.e. another language other than or in addition to English was spoken in their home).
 - Other than English, Spanish was the top language spoken (128) , second were Mandarin or Cantonese (31) , and third was Portuguese (16)

Priority #3: A sustainable model for vision screenings and adherence to follow-up care in community centers in underserved areas

To develop a sustainable model for vision screenings and adherence to follow-up care in a community center setting, a partnership between the Vickie and Jack Farber Vision

Research Center at Wills Eye and the Stephen Klein Wellness Center was established to work towards the goal of eliminating correctable and avoidable vision impairment, and achieving eye and vision health equity in an at risk, underserved population. The Stephen Klein Wellness Center is located in North Philadelphia and dedicated to providing health care services including medical and psychiatric care as well as individual, group or legal counseling to men, women and children who are currently or formally homeless. They also provide these services to the residents of the North Philadelphia community. The vision screening model should be efficiently integrated into the routine care provided to clients of the Stephen Klein Wellness Center.

The Vickie and Jack Farber Vision Research Center in collaboration with the Stephen Klein Wellness Center conducted a pilot study where a vision and eye health program was successfully implemented at the Stephen Klein Wellness Center and 239 participants were screened from 3/20/2019 – 6/27/2019. Highlights of the pilot study results are listed below:

- 22% of the 239 participants screened were referred for eye exam for possible eye pathology leading to
 - 10 newly diagnosed cases of diabetic retinopathy
 - 12 newly diagnosed cases of glaucoma
 - 12 newly diagnosed cases of macular degeneration
- Almost 80% of participants were referred for glasses
 - 26% of patients screened had uncorrected refractive error (persons needing glasses) at level of driving vision or worse
- While most participants were aware of glaucoma, cataracts and myopia, fewer were aware of diabetic retinopathy, despite the high frequency of diabetes in this community. This finding corroborates the need for more awareness of vision threatening conditions as outlined in Priority #1.

While these results imply that the vision screening program implemented at the Stephen Klein Wellness Center was feasible and a number of challenges were identified that needs to be addressed in the next phase.

*No written comments regarding the FY2020 – FY2023 Implementation Strategy were received.

F. 2022 CHNA Process and Methods

The following process and sources were used to conduct the 2022 Wills Eye Hospital CHNA:

i. Identify and describe area and community served

Although patients come from around the world to see the ophthalmologists at Wills Eye Hospital, the primary service area is Philadelphia, Pennsylvania. Wills

Eye Hospital is located in the Central District which is adjacent to several underserved areas and populations in Philadelphia. Information describing Philadelphia's area by population and demographics, and general health was obtained from the data reported by the U.S. Census Bureau, 2019 and 2020 Health of the City reports from the Department of Public Health of Philadelphia, and 2020 and 2021 Philadelphia State of the City reports from the PEW Charitable Trusts.

ii. Assess the unmet vision needs in Philadelphia and the target populations

This assessment focused on the underserved areas and populations of Philadelphia in order to have the biggest impact on addressing unmet vision needs in the community. Compliance with eye health care has been shown to be poor for populations that are in underserved areas with limited health care access and for populations vulnerable to eye disease due to the conditions of their current life situation of having addictions, a low-income status or are homeless. Many individuals in this setting have disparities that without the help of dedicated services would most likely result in having a higher level of health issues with frequent ER visits and healthcare issues that require treatment at a higher cost. Currently, there is no city specific data on eye and vision health for the city of Philadelphia. For this reason, surrogate data reported by the U.S. Census Bureau, 2019 and 2020 Health of the City reports from the Department of Public Health of Philadelphia, and 2020 and 2021 Philadelphia State of the City reports from the PEW Charitable Trusts describing Philadelphia's area population and demographics, income, and general health was used to identify the areas that are at the highest risk for vision threatening conditions.

Additionally, persons who have broad interests and special knowledge of or expertise in Philadelphia's public health provided input on the underserved areas and populations in Philadelphia. **Frank A. Franklin, PhD, JD, MPH**, Deputy Commissioner of Health at the Philadelphia Department of Public Health provided insight for Wills Eye Hospital's 2022 CHNA. The Philadelphia Department of Public Health collects, analyzes and reports on Philadelphia's public health data in order to provide services, set policies, and enforce laws that protect and promotes the health of all Philadelphia residents.⁵

Marc Altshuler, MD, Director of the *Jefferson Center for Refugee Health* also provided input particularly from the health disparities, or social determinants of health standpoint and specific experiences from the **Wyss Wellness Center**. The Jefferson Center for Refugee Health mission is to deliver compassionate, comprehensive, longitudinal clinical care to refugees and asylees in the community and to advocate for these populations at the local, state and federal

levels. The Center educates medical students, residents and clinicians on cultural awareness and how to provide evidence based care for the socio-medically complex population. The Wyss Wellness Center is the clinical center for the Jefferson Center for Refugee Health and provides comprehensive family medicine to immigrants and refugees in South Philadelphia.⁶

Additionally, Wills Eye Hospital partnered with **Children First** (formally Public Citizens for Children and Youth (PCCY)) to gain input on the unmet vision needs of the pediatric population in Philadelphia. PCCY is an organization that promotes the success of all children in Philadelphia by offering direct help and providing research to inform communities and government officials and advocate solutions to children's unmet needs (<https://www.childrenfirstpa.org/>).⁷

To assess the vision needs of the diabetic population in Philadelphia, Wills Eye partnered **Keystone First**. Keystone First is Pennsylvania's largest Medical Assistance (Medicaid) managed care health plan.⁸ A diabetic awareness and wellness event was hosted by Keystone First and Wills Eye Hospital on February 28, 2022.

Wills Eye also collaborated with **The Courtyard Mentoring Program**, a program developed by The Courtyard, an affordable housing community in Queen Village, which helps adolescent males in Philadelphia develop long-term career goals and provides support to help achieve those goals. The Courtyard and the Mentoring Program provided input on ways to address racial and socio-economic disparities that affect adolescences growing up in Philadelphia.

iii. Identify and prioritize vision health needs in Philadelphia

The vision health needs of children and residents of underserved areas of Philadelphia were identified based on the results of this assessment. Needs were prioritized based upon the resources available at Wills Eye Hospital.

III. IDENTIFICATION AND DESCRIPTION OF AREA AND COMMUNITY SERVED

Patients travel locally and from across the United States and other countries to be seen by physicians at Wills Eye Hospital. For the purpose of this report, Wills Eye Hospital's primary service area is Philadelphia, Pennsylvania. Data on population, age, race/ethnicity, poverty, income, chronic health conditions and health insurance status in the Philadelphia Districts is described below to identify the areas that are most at risk for vision threatening conditions.

COVID-19 disclosure: Many of the information in this section relies on data that is collected and analyzed by the Census Bureau. The 2020 Census was delayed due to COVID-19 thus much of the information below does not include the impact of the COVID-19 pandemic.

A. Geographical Area

Philadelphia is the largest city in Pennsylvania and the sixth largest city in the United States. Philadelphia has an estimated population of 1,603,737 according to the 2020 Census.⁹

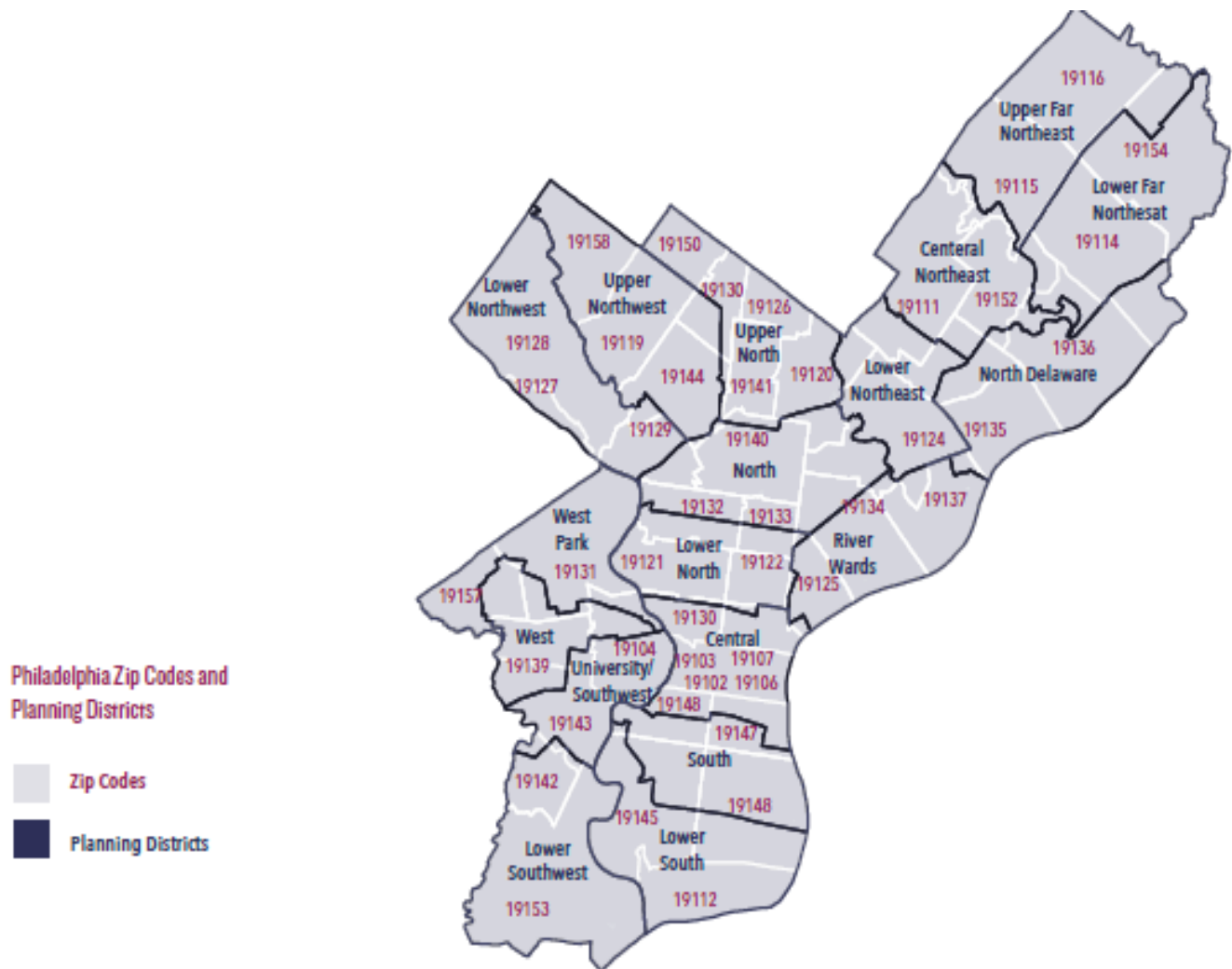


Figure 1. Philadelphia Zip Codes and Planning Districts.

Source: Department of Public Health City of Philadelphia 2017 Health of the City, Philadelphia's Community Health Assessment p. 3

Wills Eye Hospital is located in the Central District, more commonly known as Center City, which is one of eighteen planning districts in Philadelphia (Figure 1).¹⁰ Each planning district is characterized by distinct geographical and economic factors, and social determinants of health. In addition to Central Philadelphia, the most heavily populated districts include South, West, and North (including lower and upper North) Philadelphia (Figure 2).¹⁰

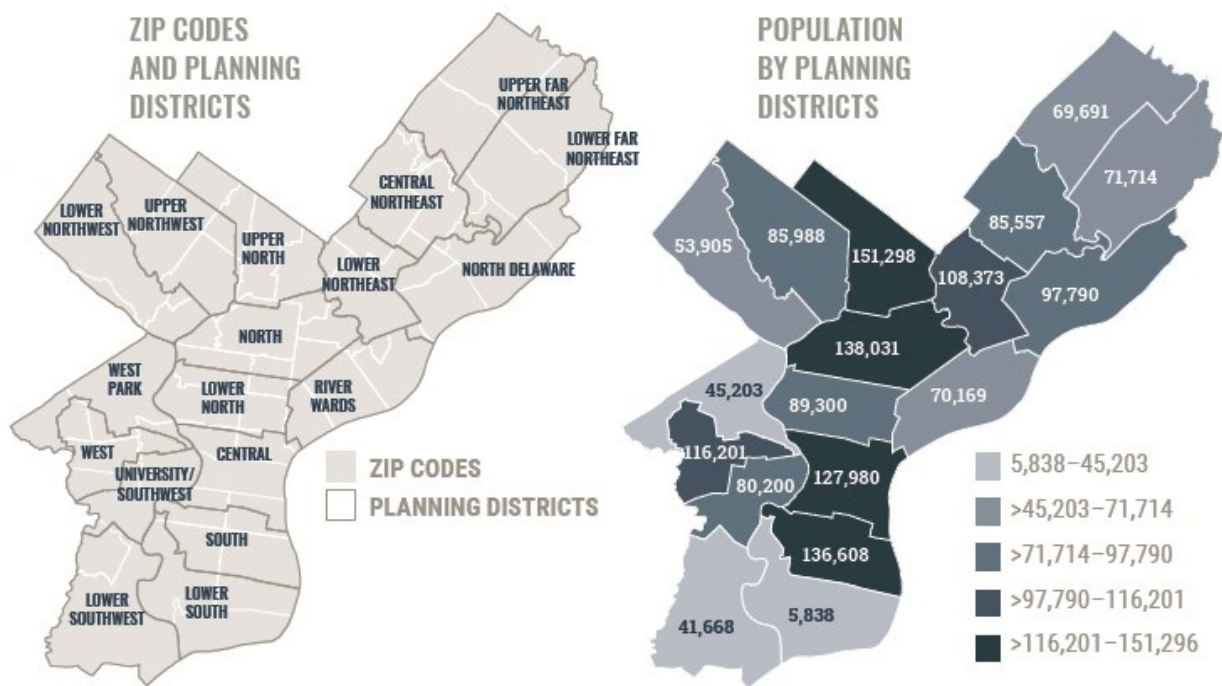


Figure 2. 2018 Population Estimates by Philadelphia Planning Districts
Source: Department of Public Health City of Philadelphia 2020 Health of the City, p. 5

B. Population and Demographics

Philadelphia is among the oldest and most historic cities in the United States but demographically Philadelphia is a young city. The largest portion of Philadelphia's population is comprised of young adults between the ages of 20 to 34 and this young adult population continues to grow (Figure 3).¹⁰ In 2019, it was estimated that 24% of Philadelphia's population was under the age of 20 and 26% were 55 or older.¹¹ The number of females slightly outnumbered males with approximately 53% of the population identified as female.¹¹

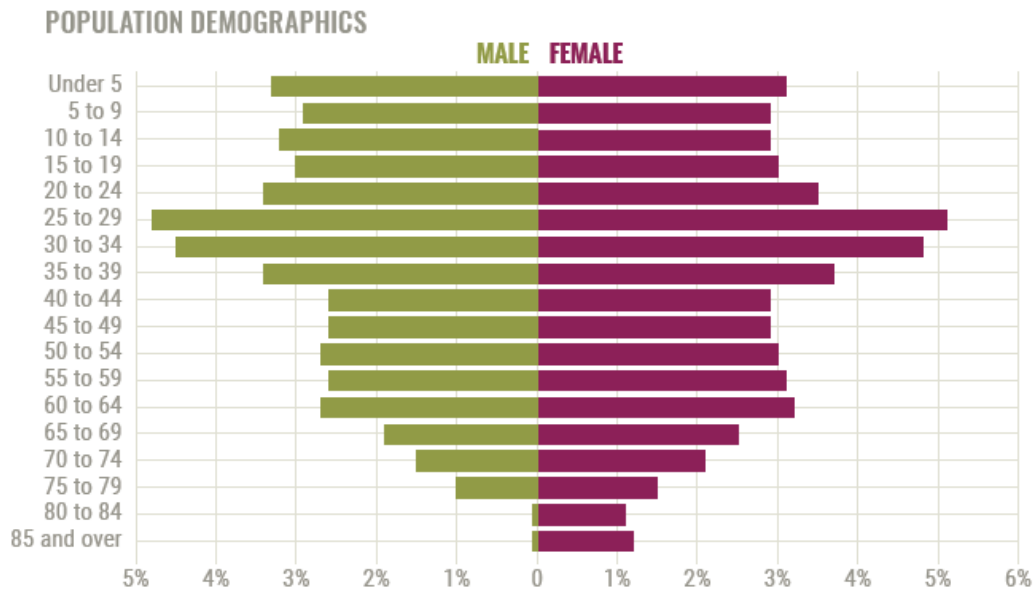


Figure 3. Population Estimates by Age Group in 2018

Source: Department of Public Health City of Philadelphia 2020 Health of the City, p. 5

Philadelphia is an ethnically diverse city with 40% of individuals identifying as non-Hispanic Black, 34% as non-Hispanic White, 15% as Hispanic, 7.5% as Asian, and 3% as other (includes Naïve Hawaiian and other Pacific Islander, American Indian, Alaska Native, and individuals identifying as two or more races) (Figure 4).¹⁰

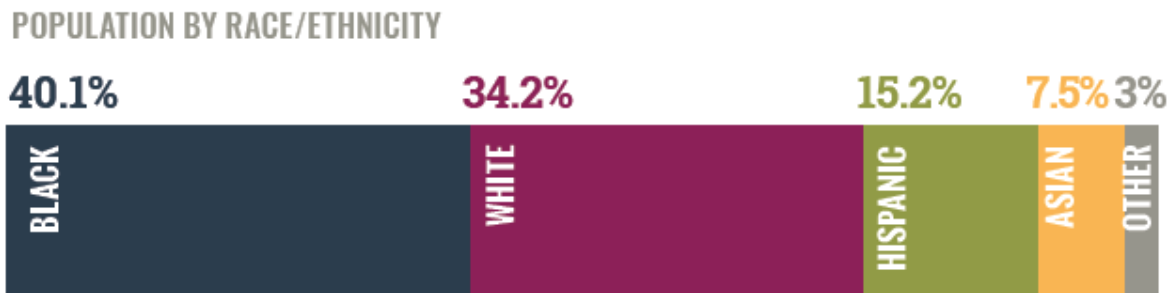


Figure 4. 2019 Philadelphia Population Estimates by Race/Ethnicity

Source: Department of Public Health City of Philadelphia 2020 Health of the City, p. 5

There has been an increase in the immigrant population as 14% of Philadelphia's residents were immigrants in 2019, an increase of 2.4 percentage points since 2010 and comparable to the national rate (Figure 5).¹¹

Percentage of Philadelphia Residents Born Outside the U.S., 1970-2019

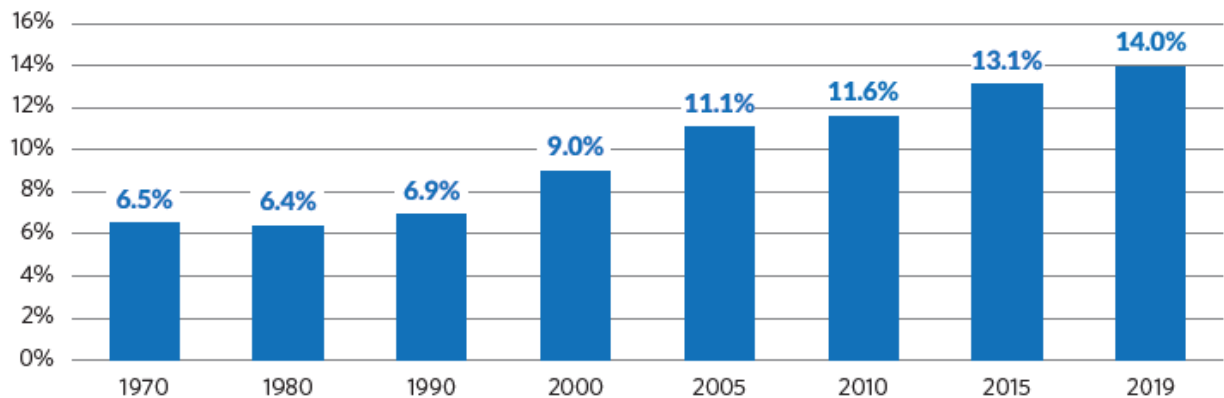


Figure 5. Percentage of Philadelphia Residents Born Outside the US 1970-2019

Source: PEW Charitable Trusts Philadelphia 2021 State of the City Report p. 21; used with written permission

While Philadelphia is ethnically diverse, it remains a largely segregated city with one race or ethnic group representing 83% of the city's 372 residential census tracts.^{10, 11} Individuals that identify themselves as Non-Hispanic White are the largest population in several Philadelphia districts including Northeast and Northwest Philadelphia. Non-Hispanic Black is the most largely represented population in the West and North districts of Philadelphia whereas Hispanic/Latinos are concentrated in North Philadelphia and a high Asian population is localized in Central Philadelphia (Figure 6).¹¹

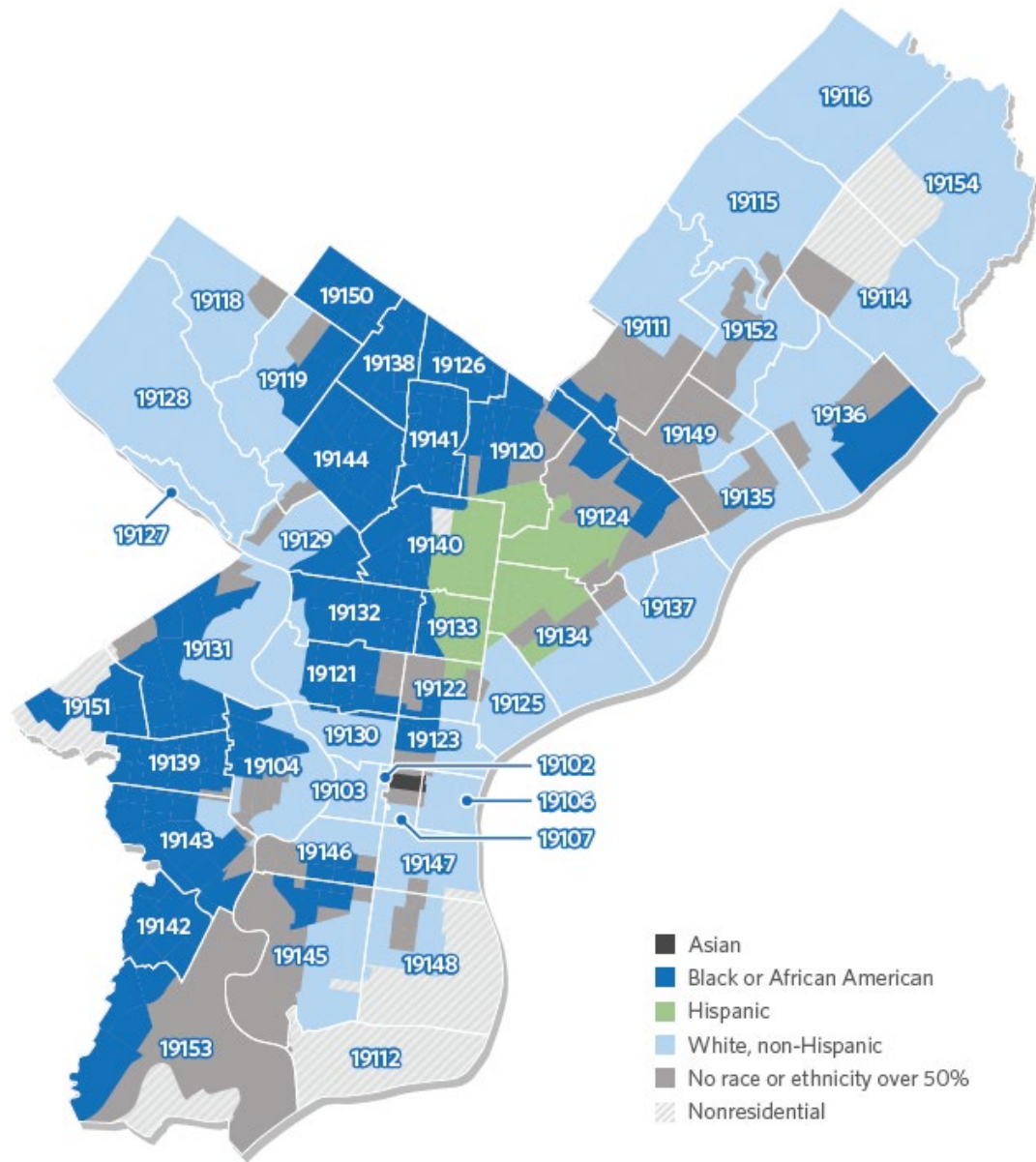


Figure 6. Racial and Ethnic Distributions by Philadelphia Planning District

Source: PEW Charitable Trusts Philadelphia 2021 State of the City Report p. 20; used with written permission

C. Social and Economic Determinants

Poverty is a widespread problem in Philadelphia and it greatest in the North and West Districts of Philadelphia with over 45% of individuals in these areas living below the poverty line in 2019 (Figure 7).¹¹

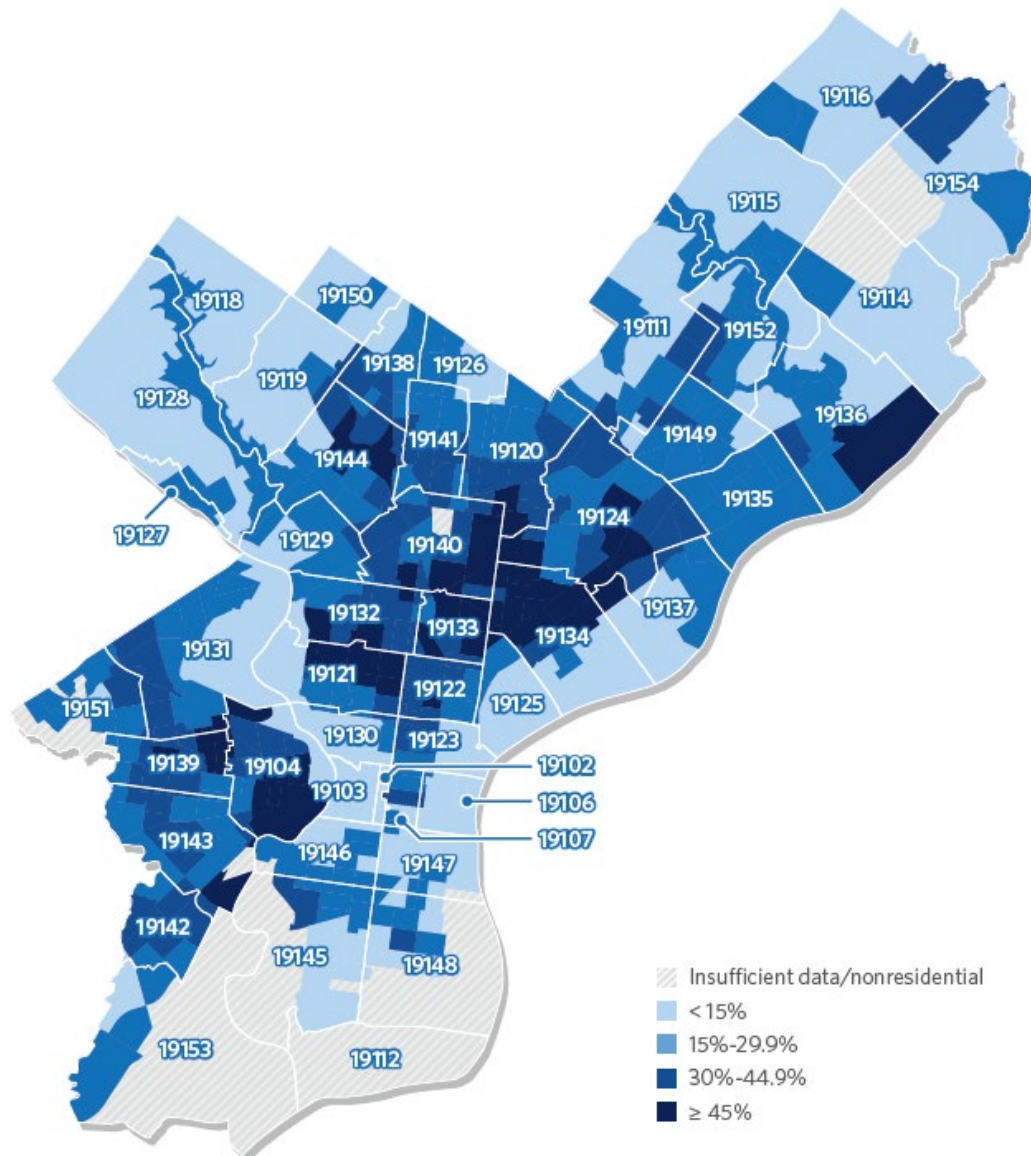


Figure 7. Percentage of Philadelphians Living Below the Federal Poverty Line

Source: PEW Charitable Trusts Philadelphia 2021 State of the City Report p. 22; used with written permission

The highest rates of poverty among the different racial/ethnic groups are among the Hispanics (40%) followed by Non-Hispanic Blacks (27%), Asians (23%) and Non-Hispanic

Whites (13%).¹¹ In 2019, 32% of children, regardless of race, were living in households below the federal poverty level (Figure 8).¹⁰

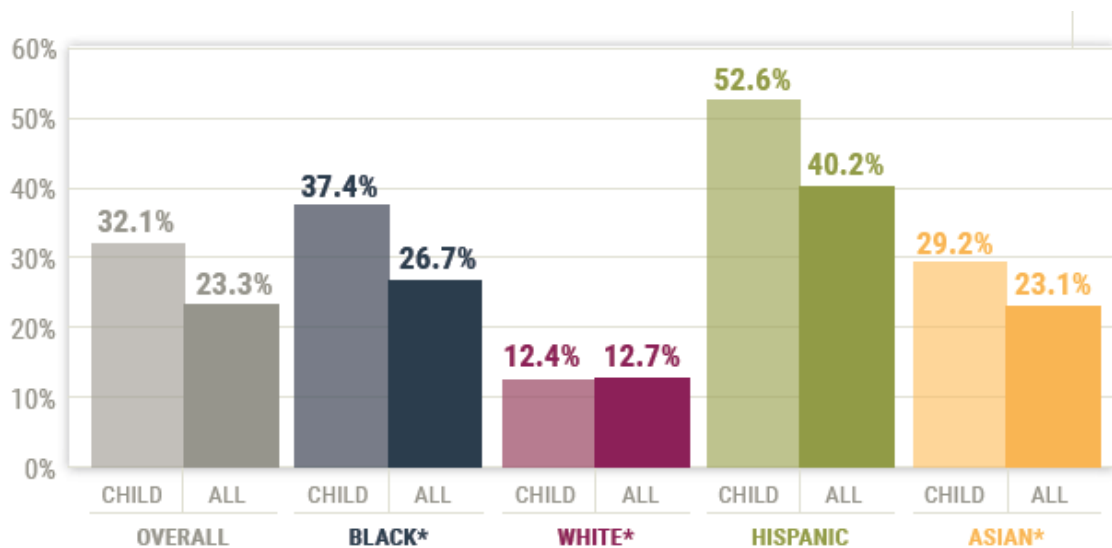


Figure 8. Poverty Among All Residents and Children by Race/Ethnicity

Source: Department of Public Health City of Philadelphia 2020 Health of the City, p. 48

The impact of the COVID-19 pandemic on factors such as poverty are still being determined, however the stay at home orders in early 2020 did have a drastic impact on unemployment rates as businesses were forced to close. Philadelphia's unemployment rate remained steady from 2018 to 2019 and sharply rose in 2020, averaging 12.2% for the year, and the highest it has been in decades (Figure 9).¹¹

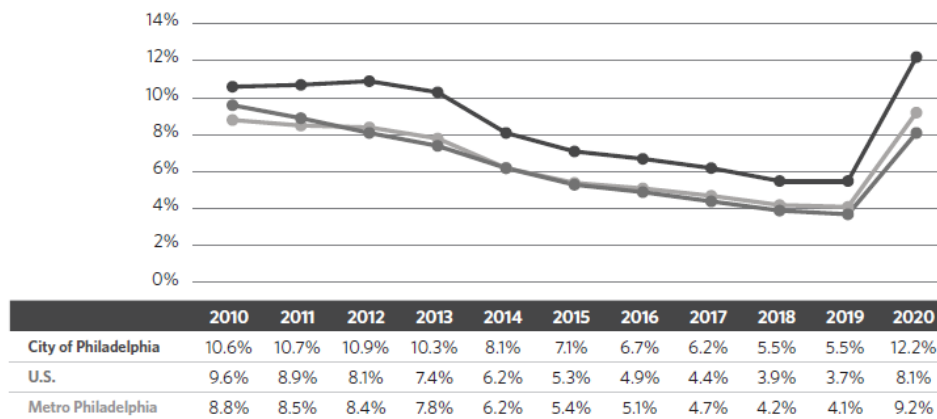


Figure 9. Unemployment Rate in Philadelphia, 2010-2020

Source: PEW Charitable Trusts Philadelphia 2021 State of the City Report p. 70; used with written permission

Compared to other cities in the United States, Philadelphia had the third-highest unemployment rate, behind Detroit and Cleveland.¹¹ Similarly, Philadelphia was among the lowest city for median household income in 2019 at \$47,474 (Figure 10). Hispanic and Non-Hispanic Blacks had median incomes lower than the city median at \$36,601 and \$32,425, respectively. On the other hand, Non-Hispanic Whites had much higher median household incomes at \$70,034 (Figure 11). *Note that these numbers do not reflect the impact on household income due to the COVID-19 pandemic.*

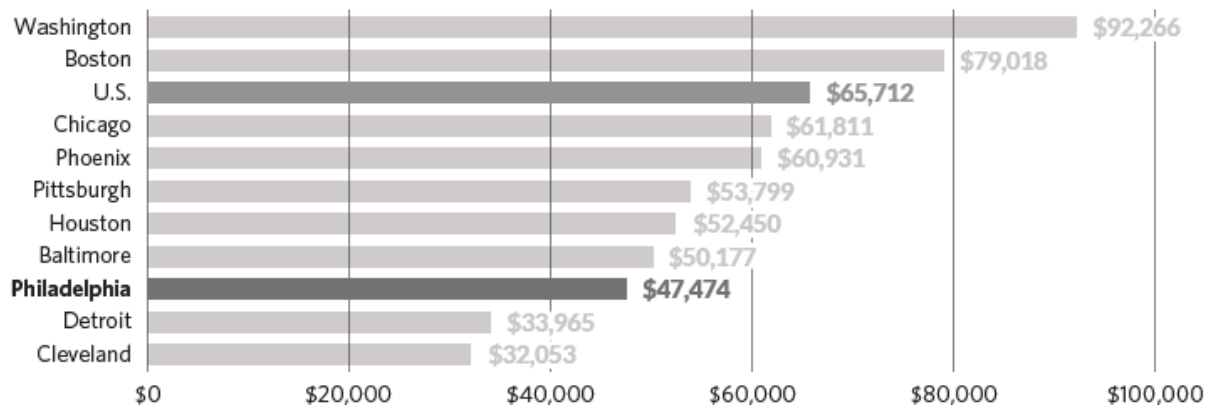


Figure 10. Median Household Income, Compared with other cities, 2019

Source: PEW Charitable Trusts Philadelphia 2021 State of the City Report p. 73; used with written permission

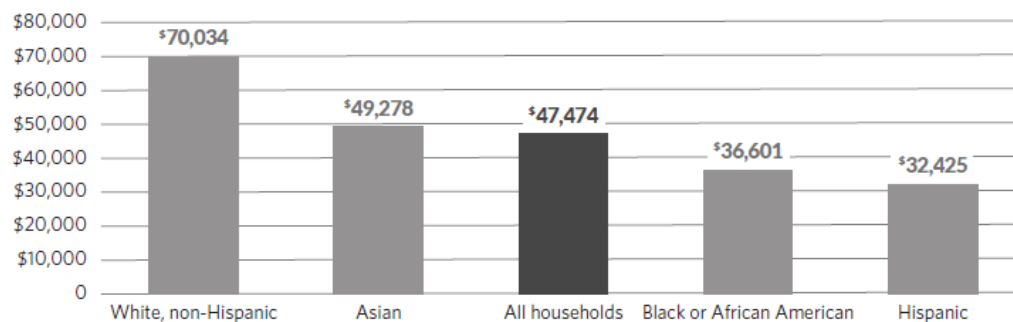


Figure 11. Median Household Incomes by Race/Ethnicity, 2019

Source: PEW Charitable Trusts Philadelphia 2021 State of the City Report p. 75; used with written permission

D. Chronic Health Conditions

Low income and poverty has a significant role in many of the racial/ethnic health disparities in Philadelphia as areas with the highest rates of unemployment and poverty correspond with lowest access to clinical services and healthy lifestyle choices. The prevalence of obesity, a risk factor for many chronic health conditions such as cardiovascular disease and diabetes, has remained relatively stable with about 1/3 of

adults being diagnosed as obese (Figure 12). Similarly, other chronic conditions such as hypertension and type 2 diabetes rates also remained stable from 2017-2019. The rate of adult obesity and diabetes is highest among non-Hispanic Blacks and Hispanics. Non-Hispanic Blacks had the highest prevalence of hypertension and type 2 diabetes (Figure 13).¹⁰

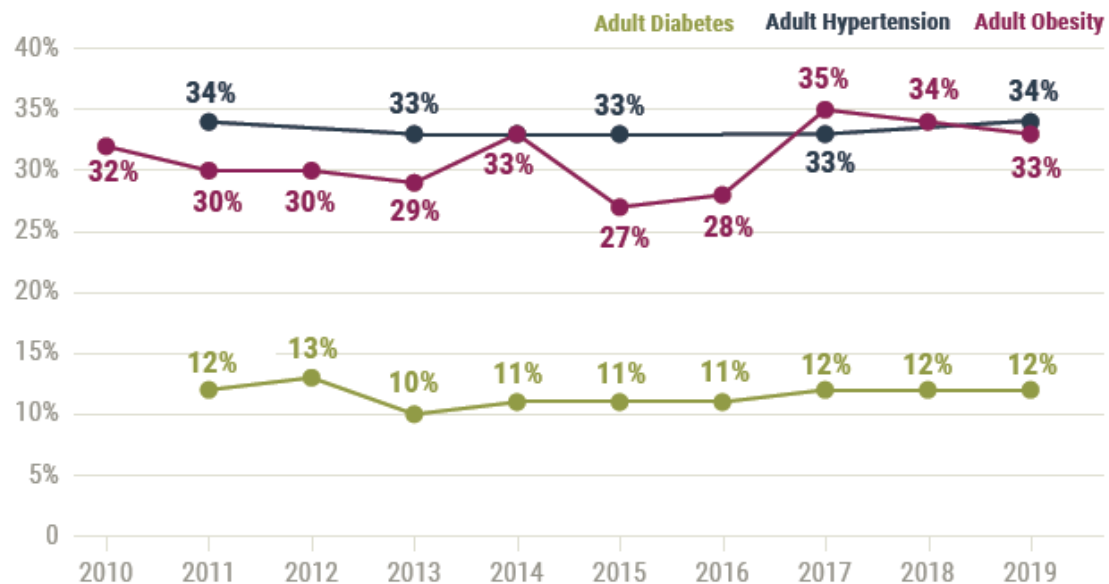
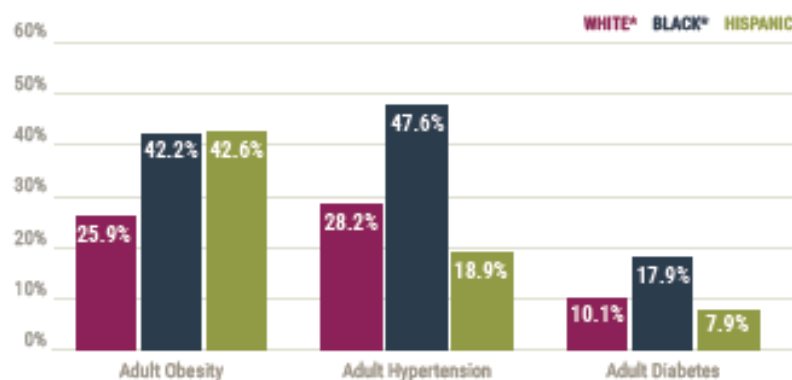


Figure 12. Prevalence of Adult Diabetes, Hypertension, and Obesity (2010-2019)

Source: Department of Public Health City of Philadelphia 2020 Health of the City, p. 11



SOURCES: Obesity and diabetes: 2018 – 2019 PA Behavioral Risk Factor Surveillance System, *Non-Hispanic
Hypertension: 2017 – 2019 PA Behavioral Risk Factor Surveillance System

Figure 13. Prevalence of Adult Obesity, Hypertension, and Diabetes by Race/Ethnicity

Source: Department of Public Health City of Philadelphia 2020 Health of the City, p. 11

In 2019, prior to the COVID-19 pandemic, heart disease, cancer and drug overdose were the leading causes of death in Philadelphia (Figure 14).¹⁰ In 2020, there were 96,000 reported cases of COVID-19 and 2,500 deaths due to the COVID-19 virus. The older population (80+ years old) suffered the highest COVID-19-related mortality rate.^{10, 11}

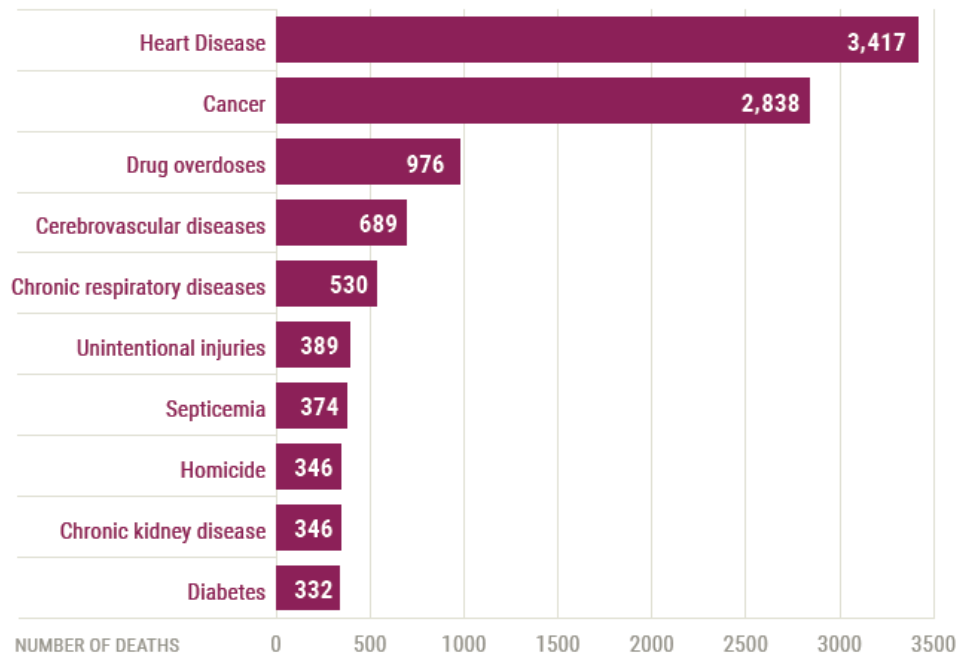


Figure 14. Leading Causes of Death in Philadelphia in 2019

Source: *Department of Public Health City of Philadelphia 2020 Health of the City*, p. 7

Already existing health disparities became more prevalent during the COVID-19 pandemic as Hispanics and Blacks were approximately 1.5 times more likely to contract COVID-19 compared to Whites. The death rate of Black Philadelphians was also higher as they were 50% more likely to die of COVID-19 when compared to White Philadelphians. The Hispanic population was also disproportionately affected by the pandemic (Figure 15). Please note that the numbers reported here only include cases and deaths from March 2020 through September 30, 2020. This unequal distribution can be caused by several things such as living in poverty and in close quarters with other individuals, working at jobs that are unable to be conducted remotely or cannot afford to take time off, more likely to have a chronic illness which is a risk factor for COVID-19 complications, and less resources and access to appropriate medical care.¹⁰

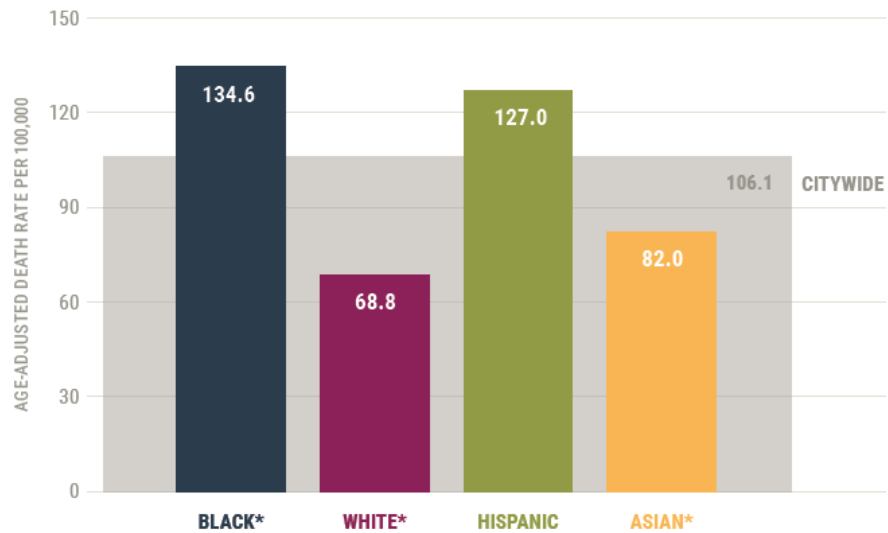


Figure 15. Mortality Rates by Race/Ethnicity 3/1/2020 – 9/30/2020

*Non-Hispanic

Source: *Department of Public Health City of Philadelphia 2020 Health of the City*, p. 24

Life expectancy has slightly increased in 2019 for both men and women in Philadelphia from 2017. Life expectancy varies considerably depending on the neighborhood/district and is directly correlated to poverty rates and low income status. Many of the lower income neighborhood's which are concentrated in North and West Districts of Philadelphia have increased violence and drug use which contributes to a shorter lifespan (Figure 16).¹⁰

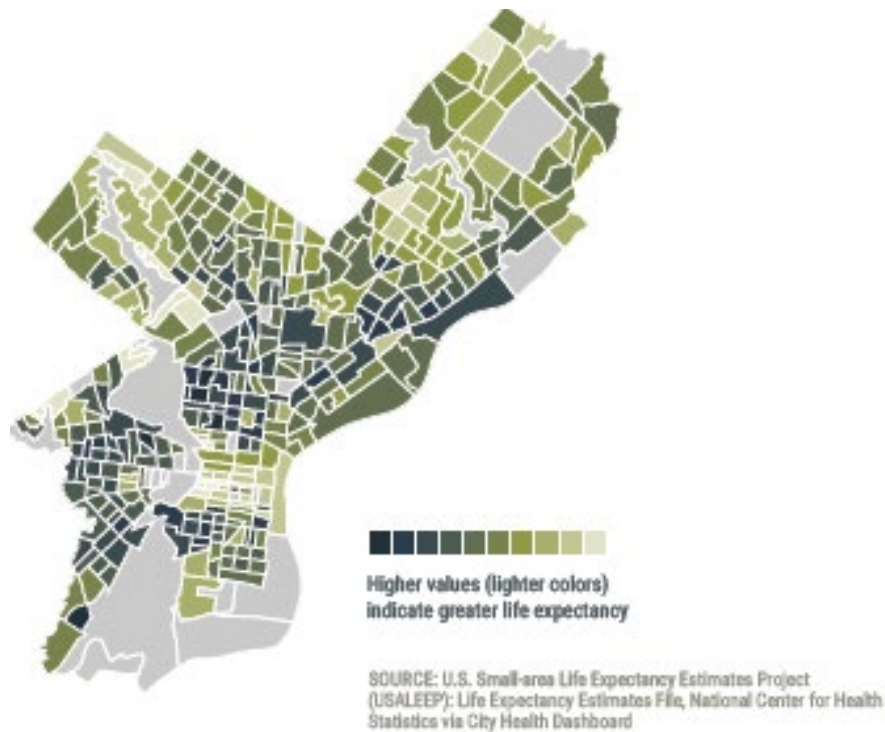


Figure 16. Life expectancy by Neighborhood in Philadelphia

Source: *Department of Public Health City of Philadelphia 2020 Health of the City*, p. 9

E. Insurance Coverage and Cost of Care

The rate of uninsured Philadelphia adults remained stable with 11% adults being uninsured in 2019 compared 2017 (Figure 17). Hispanic adults still have the highest uninsured rate at 25% compared to Whites, Blacks and Asians at 8.0%, 9.5% and 10%, respectively (Figure 18).¹⁰ Subsequently, the percent of adults avoiding health care due to cost has also remained stable in 2019 with 13% of adult avoiding health care due to cost. Rates of uninsured children in Philadelphia are lower than the national average with only 4% being uninsured in 2019.¹⁰

TRENDS IN UNINSURED AND MEDICAID AMONG ADULTS (19-64)

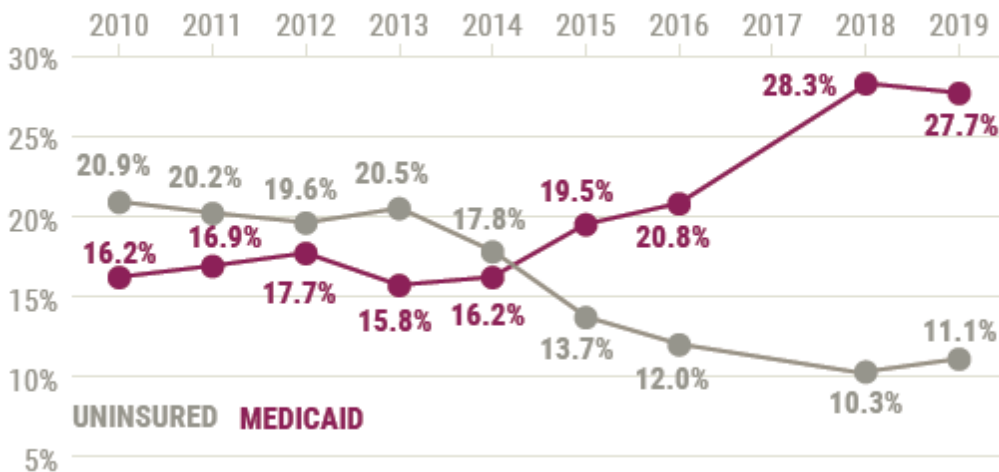


Figure 17. Trends in Uninsured Adults (2010-2019)

Source: Department of Public Health City of Philadelphia 2020 Health of the City, p. 40

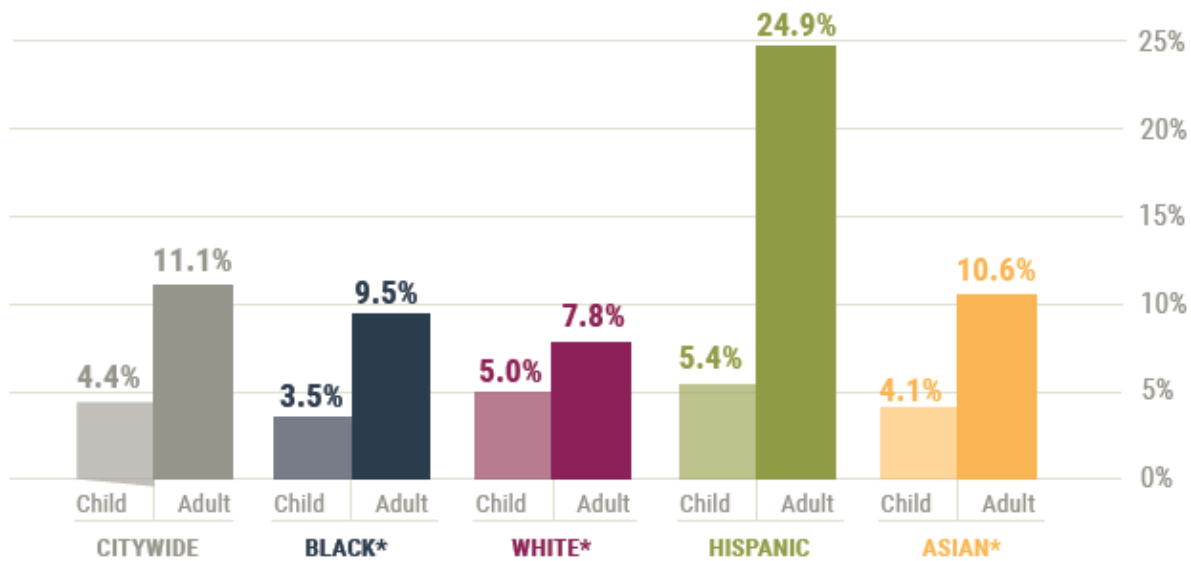


Figure 18. Uninsured Adults and Children by Race/Ethnicity, 2019

Source: Department of Public Health City of Philadelphia 2020 Health of the City, p. 40

IV. ASSESMENT OF UNMET VISION NEEDS IN PHILADELPHIA

This assessment only focuses on unmet vision needs in Philadelphia as Wills Eye Hospital is a dedicated facility for treating patients with vision issues and/or ocular pathologies. Input from public health experts and officials knowledgeable in the health status of Philadelphia and members of medically underserved, low income, and minority populations in Philadelphia was requested to aid in assessing the community for unmet vision needs.

A. Input from individuals with expertise in Philadelphia's public health issues

In order to gain insight on the health needs of Philadelphia, advice was solicited from **Frank A. Franklin, PhD, JD, MPH**, Deputy Commissioner of Health at the Philadelphia Department of Public Health. Dr. Franklin gave important insight into the communities and populations with the greatest health care barriers. Most health assessments focus on life-threatening diseases such as heart disease, diabetes, and cancer and ways to implement preventative measures and there is not a current comprehensive assessment on vision and eye health in Philadelphia. Dr. Franklin believes that Wills Eye can create an overview of the city's eye health and this will fill an important gap in assessing the health status in Philadelphia.

B. Input from Medically Underserved, Low-Income, and Minority Populations in Philadelphia

To assess the unmet vision needs of adults and children in Philadelphia, Wills Eye collaborated with and/or solicited information from several organizations that work with the populations at highest risk for vision threatening conditions.

i. Collaboration with Children First to assess Pediatric Vision and Eye Care Needs

Wills Eye Hospital partnered with Children First (formally Public Citizens for Children and Youth (PCCY)), and Essilor Vision Foundation for the 2021 Give Kids Sight Day. Give Kids Sight Day provides free eye care and glasses to children 17 years and under living in Philadelphia and the surrounding suburbs. While vision screenings are performed on children in the Philadelphia school system, many children who fail the screenings do not follow up with an ophthalmologist.⁷ This is particularly problematic for children who need glasses, potentially leading to problems in school, or have an ocular condition or pathology that needs treatment before having a permanent effect on vision.

Pediatric vision screenings were even more important this year as more children have been remote learning due to the COVID-19 pandemic. The increased screen time has raised possible vision concerns in addition to children missing critical wellness check-ups. The virtual nature of the 2021 Give Kids Sight Day allows parents to feel comfortable attending the appointment from their own homes and also have their children properly screened. The most recent Give Kids Sight Day was held on October 9,

2021 and serviced 460 children via telemedicine appointments with the volunteered efforts from the PCCY staff, Wills Eye ophthalmologists, optometrists and staff, and community members.

In addition to providing vision services (results listed in Section D page 9-11), Give Kids Sight Day participants were surveyed on insurance coverage, primary language spoken at home and the main reason(s) for attending the event. **Colleen McCauley, RN, BSN, MPH, Health Policy Director at Children First**, provided the 2021 outcome summary and survey responses to be included in this report.

The majority of the children screened at this most recent Give Kids Sight Day were from Philadelphia (86%) and the remaining children were from the Philadelphia suburbs including Delaware County, Montgomery County, Chester County, and Bucks County. Of the 460 children screened, **70% of the children needed a prescription for glasses and 17% were identified as having serious ocular issues and required a follow-up visit with a pediatric ophthalmologist at Wills Eye Hospital.**

In 2021, **48% of the participants were uninsured, which has been the largest group of uninsured children since 2013!** It is unclear why there is such an increase in uninsured children this year but it demonstrates the importance of community events such as Give Kids Sight Day.

In 2021, the majority of participants only spoke English at home (63%) and the remaining 37% spoke another language other than or in addition to English and a reminder that language is still a barrier to receiving adequate health care. The most commonly spoken language other than English was Spanish followed by Mandarin, Chinese and Indonesian.

The parents of the children in attendance at 2021 Give Kids Sight Day glasses pick up day were surveyed about their experience with using the virtual platform for Give Kids Sight Day. Of the 92 people surveyed, 44% indicated that this was their child's first eye exam. A majority of people liked the virtual format for the vision screening where 85% strongly agreed that the screener instructions were clear and easy to follow, 88% strongly agreed that their child could successfully follow the virtual screening process and 78% strongly agreed to use telehealth for vision screenings again in the future. Overall, the event was very successful, even with the obstacles imposed by the COVID-19 pandemic, as 95% of families surveyed would strongly recommend Give Kids Sight Day to other families. Below lists some specific quotes of gratitude received from some of the 2021 Give Kids Sight Day participants:

- *"Thank you for making it possible for my 2 kids to see better <3"*
- *"This was the easiest and best experience especially for a family who didn't know where to go and how to afford our child's glasses, thank you"*

- *“Fantastic opportunity for families to ensure all their children receive proper eye care.”*

ii. Assessing Vision and Eye Care Needs in the Immigrant and Refugee Population in Philadelphia

The **Hansjörg Wyss Wellness Center**, or **Wyss Wellness Center**, opened its doors April 2021 and provides inpatient and outpatient comprehensive family medicine to immigrants and refugees in South Philadelphia and beyond. Patients have access to newborn care, pediatrics, women’s health, adult medicine, geriatrics as well as laboratory, radiology and subspecialty services at Thomas Jefferson Hospital. Currently vision screenings are not provided. Hundreds of refugees resettle in Philadelphia and these number continue to rise each year. In 2019, 14% of Philadelphians were born outside of the United States, a 2% increase since 2010.¹¹ Both immigrants and refugees face many challenges in accessing and receiving medical care so a center such as the Wyss Wellness Center is needed for the growing immigrant and refugee population in Philadelphia.

Marc Altshuler, MD, Director of the Jefferson Center for Refugee Health and clinical leader of the Wyss Wellness Center explained that there are many barriers that complicate this particular population from getting appropriate medical care. First, about 30% of the patients do not have medical insurance and about 50% are on Medicare. Additionally a number of these patients are undocumented. Access to care is also a huge barrier as many live in the Northeast and South Districts of Philadelphia¹¹, thus it is important that care is brought to those communities rather than make that population seek care elsewhere. Language is also a significant barrier for this population as most patients do not speak English so having interpreters for many different languages as well as educational materials on health conditions in different languages is very important.

iii. Assessing the Vision Needs of the Diabetic Population in Philadelphia

An inaugural diabetic awareness and wellness event was hosted by Keystone First and Wills Eye Hospital on February 28, 2022. Keystone First invited 351 of their diabetic members to participate in this event and get a vision screening as they are at risk for diabetic retinopathy. 90 members took advantage of this invitation and scheduled an appointment to be seen at this event however only 34 members showed for their appointment. A majority of the participants were from the North and South Districts of Philadelphia and 77% were Black or African-American. Of the 30 patients who received eye exams, at least 1 participant needed a follow up appointment with a retina specialist. Increased efforts are needed to encourage more people to attend these types of wellness events. Several patients that received vision screenings expressed their

main concerns about receiving routine eye care were the cost of copays, cost of medication, language barriers and access to good care.

iv. Partnership with Courtyard Mentoring Network

Wills Eye partnered with the Courtyard, an affordable housing community in Queen Village, and The **Courtyard Mentor Network** formed by the Queen Village Neighbors Association, to assess health disparities on adolescents. As described in the above sections of this report, income/poverty is directly correlated to life expectancy. **The Courtyard Mentor Network** mentors young adolescent black males on different career paths and helps guide them in fulfilling their goals. On November 2, 2021, Wills Eye hosted boys ages 11 to 15 years of age from **The Courtyard Mentor Network**. The boys took a field trip to Wills, had presentations from our very own doctors, and received some real hands-on experience in the MOST Surgical Training Laboratory. They were given their very own scrubs provided by Wills and then prepped for the laboratory. The trainings included suturing with artificial skin, inserting an artificial lens into a model eye, viewing eyes through a slit lamp, and taking fundus photos. We had a couple technicians, a resident doctor, and two attending doctors to educate them on ophthalmology. Dr. Walter Harris provided his story about his career titled: 'My Journey to becoming an Eye MD'. The students were also provided dinner and Dr. Doug Wisner finished the evening with a presentation of his experience internationally and world teaching opportunities in developing countries. It was a robust and exciting event that hopefully will plant seeds in the minds of the boys about how ophthalmology and the different career paths in eye care could be a future path to follow, particularly since many positions such as optical technicians, optical photographers, and opticians do not require a college degree.

Senator John Kane expressed how education on non-collegiate jobs needs to be more accessible to communities with a lower rate of college enrollment as well as to those students who do not have the financial ability. Programs like the partnership with the Courtyard Mentoring Network is one way to help the younger Philadelphian population set attainable goals to set them up for the future.

V. IDENTIFY AND PRIORITIZE PHILADELPHIA'S VISION HEALTH NEEDS

The needs were prioritized based on the resources and programs that are currently established at Wills Eye Hospital making possible interventions more feasible and effective.

The following are vision health needs identified from the 2022 assessment in order of priority:

1. Low awareness of vision threatening conditions and associated risk factors and the importance of routine eye exams

2. Creating a sustainable model for vision screenings and adherence to follow-up care in community centers in underserved areas
3. Routine pediatric vision screenings in children under 17 and low adherence to obtain glasses or follow-up care with a pediatric ophthalmologist
4. Lack of city-specific data on eye and vision health of the residents of Philadelphia

These priorities will be the focus areas for the FY2023 – FY2026 Implementation Plan (to be published November 2022). Potential interventions that may address the identified vision health needs are as follows:

1. Priority #1: Low awareness of vision threatening conditions and associated risk factors and the importance of routine eye exams
 - Partner with community centers or other community outreach organizations to provide educational materials on vision threatening diseases and associated risk factors in several different languages and literacy levels.
 - Partner with community centers or other community outreach organizations to provide seminars and/or forums led by ophthalmologists to educate on vision threatening conditions and associated risk factors.
 - Increase the number of participants in wellness events such as the Keystone First diabetes awareness and wellness event
 - Educate the next generation about the importance of the field of ophthalmology and eye and vision care by working with adolescent mentoring programs or job fairs and exposing adolescents to the colligate and non-colligate career opportunities in ophthalmology.

Priority #2: A sustainable model for vision screenings and adherence to follow-up care in community centers in underserved areas

- Partner with community centers such as the Wyss Wellness Centers that provide routine primary health care to underserved populations and develop a vision screening model that:
 - Can be Integrated into routine care provided by community centers or primary care offices in underserved areas of Philadelphia

- Is cost-effective and sustainable so that all patients can receive appropriate follow-up care even if they are uninsured or underinsured
- Ensures adherence to follow-up for failed screenings with an ophthalmologist

Priority #3: Pediatric vision screenings in children under 17 and low adherence to obtain glasses or follow-up with a pediatric ophthalmologist

- Continue the Wills Eye Vision Screening Program for Children to screen school-age children
- Raise awareness among schools and parents that children's eye glasses and replacement glasses are covered by most insurances
- Work to increase adherence to follow-up with a pediatric ophthalmologist for abnormal findings or if the child needs glasses
- Increase awareness of the Annual Give Kids Sight Day

Priority #4: Lack of city-specific data on eye and vision health of the residents of Philadelphia

A comprehensive profile of vision health and eye pathologies city - wide would be an excellent resource for providers, organizations, policy makers, and Philadelphia residents. While not all Philadelphians receive eye care from Wills Eye, many patients are referred to Wills Eye for complex cases, surgery and ocular pathologies such as glaucoma, cancer, and retinal disease. On average, Wills Eye has about 90,000 patient visits and 10,000 surgeries each year (Table 1).

Table 1. Wills Eye patient visits, diagnostic testing, surgeries and inpatient admission for FY2020 and FY2021.

	Physician Patient Visits	Non-surgical procedures and Diagnostic testing	Hospital Outpatient Surgeries	Inpatient Admissions
FY2020	82,018	55,191	9,818	158
FY2021	111,058	85,268	10,845	161

Start to explore the feasibility of gathering city specific data on eye and vision health

- Use the patient records to assess basic demographic and trends in ocular pathologies of patients that visit the Wills Eye resident clinics and the Wills Eye Emergency Room.
- Use the patient records to assess basic demographic and trends in ocular pathologies of patients that visit Wills Eye specialty clinical services and surgeries.
- Combine efforts and partner with other ophthalmologists and optometrists in Philadelphia's major health systems such as Temple University and University of Pennsylvania

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