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Improving Health in Salem County: Analysis of Local Data and Stakeholder Input

Final Report

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Improving Health in Salem County: Analysis of Local Data and Stakeholder Input – Final Report

Jennifer Farnham, M.S.

Executive Summary

This project was designed to identify strategies to improve the health of Salem County residents through the analysis of existing data, interviews with local key informants and the evaluation of the anticipated effectiveness of potential program interventions. As a result of the extensive county-level information already published, we sought to identify data below the county level to pinpoint more local areas of need within the county wherever possible.

We examined demographic survey data for residents of Salem County municipalities and hospital utilization data by residents in all New Jersey hospitals for the years 2009-2013 (data from Pennsylvania and Delaware were not available—some residents do travel outside the state for hospital care, although people with Medicaid are generally limited to in-state hospitals). We also examined a selection of other data sources, including data on federally qualified health care centers, crime data, and county health ranking data. In addition, we conducted telephone interviews with 17 individuals who live and/or work in the county and reviewed local press and social media throughout the project.

Demographic and hospital utilization data highlighted Salem City and Penns Grove as particular areas of need, with high poverty, high unemployment, high levels of disability and family stress, and high levels of both inpatient and emergency hospital care that could be prevented or avoided with better primary care. For example, conditions such as diabetes or asthma can be controlled through the use of medications and lifestyle changes, reducing the need for emergency department visits or hospitalizations. Salem City and Penns Grove both showed elevated rates of Medicare-paid preventable hospitalizations for adults 18-64—adults under 65 are not generally on Medicare unless they are severely disabled or have been disabled for an extended period of time. Pennsville was slightly higher than average on this measure as well. When designing programs, this may be a cohort that could be targeted for improved care management.

Penns Grove and Carneys Point had the highest number of avoidable emergency department (ED) visits, followed by Salem City (Salem City and Penns Grove had the highest rates, though Carneys Point was close to Penns Grove with respect to avoidable ED visits for people ages 0-18). The Penns Grove/Carneys Point area appears to be the most promising target for new primary care clinic development in the county (an idea on which we were asked to comment). However, further exploration would be required in order to assess what would be necessary to allow or motivate residents to use such a clinic, or whether there are alternative approaches that would be preferable (e.g., clinical staff placed at or visiting existing organizations that residents currently frequent, home visiting, etc.).

Interviews suggested that a lack of resident motivation or prioritization of health concerns was a key factor undermining the health status of local residents throughout the county. Unemployment, poverty, absence of transportation options, lack of activities for youth outside school and organized sports and a shortage of health care providers were also identified by interviewees as important factors driving poor health outcomes in the county. We examine several types of programs addressing these issues in this report.

Hospital utilization also showed significant racial disparities in most county municipalities whereby black residents were more likely than white residents to visit the emergency department (ED) or have an inpatient admission for conditions that could be treated or prevented with better primary care. We have provided information on several evidence-based programs currently operating in the state that target the African-American population.

This report is divided into several sections. Section 1 covers demographic and crime information by municipality. Section 2 addresses hospital utilization and primary care coverage. Section 3 documents pregnancy-related hospital utilization specifically. Section 4 explores themes from the key informant interviews. Section 5 offers a discussion of the overall findings. Potential programs or resources are listed wherever they are most relevant to the discussion, and then catalogued in the appendices. Appendix C contains a list of data resources that we hope can be useful to organizations applying for funding to sponsors outside the county. Appendix D contains a list of programs that interviewees and/or CSHP thought could potentially be beneficial to Salem County residents.

There are numerous health and social issues that could be addressed in Salem County, and the specific program selected is less important than the implementation of that program by committed staff who have the required resources to be successful. There are a number of general principles, listed below, that are espoused by highly-regarded programs treating clients with complex health and social needs. We think these principles may be relevant for programs

serving Salem County residents because of high levels of poverty and avoidable/preventable hospital usage in some areas coupled with a frequent lack of resident engagement with wellness as described by several interviewees. Appendix D contains links to all of these resources.

- Recognizing the significance of adverse child experiences (ACEs), which include child abuse, neglect, and a variety of toxic stresses in households/families (American Academy of Pediatrics 2014). Programs in some areas are seeking to prevent or mitigate the effect of ACEs at the community level (Verbitsky-Savitz et al. 2016). Other programs seek to address ACEs at the individual level through the kinds of techniques described below.

- Trauma-informed care for clients as well as service providers—complex clients have often experienced ACEs or other forms of trauma. Serving complex clients is difficult work that can often involve trauma for service providers (including police and emergency response personnel, school staff, etc.—not just staff in programs dedicated to complex clients) who need support for the stress they experience in helping others. Trauma-informed care involves understanding the impact of trauma, recognizing trauma, responding to trauma and actively avoiding retraumatizing clients (SAMHSA 2015). Researchers have distilled best practices for implementing trauma-informed care (Menschner and Maul 2016). Several interviewees mentioned awareness of this concept, particularly as it related to serving clients.

- Motivational interviewing—a method of interacting with clients designed to elicit the client's own motivation to improve health (Kruszynski et al 2012, SAMHSA 2012).

- Patient activation measurement and support—researchers have distilled a series of questions that measure the extent to which patients feel empowered to manage their health (Hibbard et al 2005), established that these measures affect health outcomes (Greene and Hibbard 2011) and summarized approaches used by clinicians whose patients have increased activation (Greene et al 2016, Hibbard 2015 & 2016). These strategies are a practical application of motivational interviewing techniques. Organizations can license software with the measure and coaching information.

We hope that this information can be useful to SHWF and other organizations working within the county as they seek to design and target programs and to attract external funding to support the area.

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Introduction

The project described in this report was designed to identify strategies to improve the health of Salem County residents through the analysis of existing data, interviews with local key informants and the evaluation of the anticipated effectiveness of potential interventions. There are a number of existing analyses of data at the county level (Holleran 2016, Walter Rand Institute for Public Affairs 2014a, Cumberland/Salem Health & Wellness Alliance and Inspira 2013, Cumberland/Salem Public Health 2007) and detailed municipal profiles (Walter Rand Institute for Public Affairs 2014b). Because of the amount of county-level information available, we sought to identify data below the county level to pinpoint areas of need within the county wherever possible. Because of the small population counts of Salem area municipalities, we generally pooled five years of data when looking at survey data from the American Community Survey about population characteristics and New Jersey hospital use data describing the frequency and reasons for hospitalizations and emergency department (ED) visits. These sources and key informant interviews are the largest sources of data for this report. In addition to talking with Foundation staff and board members and key informants, we also examined local press sources and social media postings by Salem County organizations throughout the course of the project to get a flavor for the local context.

It was impossible not to admire the thoughtfulness of interviewees and the level of commitment that many Salem County residents have to their community and the extensive efforts they have made to improve the quality of life in their areas. Many of the organizations we interviewed operate with a substantial fraction of volunteers in their workforce, and those employed there often donate free time as well. The summer of 2014 saw several violent incidents in Salem City that were traumatic to the community—a media description of the first city council meeting after the incidents noted that local government set up a task force to address the roots of violence and that residents offered help (Young 2014). We can see from social media postings that these residents and others are still involved in organizing community efforts. There is always some level of disagreement about where to focus efforts to best support a community, and two municipalities in Salem County (Salem City and Penns Grove)

have levels of poverty as high as any municipality in New Jersey (see Table 5.1 and discussion), so the level of need is high in these areas, as demographic and hospital utilization data show in Sections 1-3 and interviews confirmed. One interviewee noted what they felt was fragmentation of local efforts and lack of state/federal resources or foundations other than SHWF coming into the area, perhaps because it is smaller than and not as well-known as other high-poverty urban areas in the state such as Newark or Camden. Together, this fragmentation and lack of external resources pose a barrier to the social change this interviewee sees as within reach: *"in a city as small as Salem … we've got to stop being so fragmented. I mean, if we all worked together … we're talking about a few thousand people—a handful of people… It's really difficult, we just don't know where the funding is in Salem. Where are the resources?"*

This report is divided into several sections. Section 1 covers demographic and crime information by municipality. Section 2 addresses hospital utilization and primary care coverage. Section 3 documents pregnancy-related hospital utilization specifically. Section 4 explores themes from the key informant interviews. Section 5 offers a discussion of the overall findings. Potential programs or resources are listed wherever they are most relevant to the discussion, and then catalogued in the appendices.

There are several appendices to this report. Appendix A contains a listing of the number of emergency department visits for county residents in all New Jersey hospitals by detailed clinical category over a five year period (2009-2013). Appendix B lists the interview questions used with key informants. Appendix C lists a variety of data resources for the county. Appendix D lists programs mentioned by interviewees or identified by the Center for State Health policy (CSHP) as potentially relevant for the Salem Health and Wellness Foundation (SHWF) or other organizations in the Salem County area.

We hope that this information can be useful to SHWF and other organizations working within the county as they seek to design and target programs and to attract external funding to support the area.

Section 1: Demographic and Crime Information by Municipality

Overview and Summary of Findings

This section contains data and discussion regarding demographic (2009-2013 combined estimates) and crime information (2013) for Salem County municipalities and the extent to which these findings may suggest a need for social or health interventions. Salem City, Penns Grove and to a lesser extent Carneys Point stand out as the municipalities most likely to benefit from programmatic interventions. This is similar to findings from the needs assessment prepared by the Walter Rand Institute for Public Affairs for the United Way of Salem County (2014a).

Salem City and Penns Grove have the highest percent of their population under 18 years of age and the lowest percent of their population identifying as white. Their populations have the lowest levels of formal educational attainment and the highest levels of people with disabilities, and they have the highest rates of unemployment. Salem City appears higher than the county in the percent of workers who do not have a vehicle available to them. Salem City and Penns Grove were above both county and state averages for the percent of grandparents responsible for their grandchildrens' basic needs.

Both Salem City and Penns Grove have higher levels of poverty than the county, with Penns Grove close to twice the county average and Salem City at more than three times the county average. An estimated 61 percent of children in Salem City are living in poverty, compared with about 36 percent in Penns Grove and 21 percent in the county. Poverty rates among Black/African American people and people of Hispanic or Latino origin are higher in Salem City than the corresponding county and state rates for comparable groups. Salem City exceeds both county and state levels of poverty for each level of education below a bachelor's degree, and by an increasing margin for increased levels of education. The percent of Salem City residents with less than a high school degree in poverty is twice the level of Salem County residents with the same level of education in poverty (all responses are for the civilian noninstitutionalized population age 25 and over). For those with a high school degree or equivalency, the poverty rate for Salem City residents is 2.4 times the county level. For those with some college or an associate's degree, the poverty rate for Salem City residents is 4.5 times the county level.

Prior to the implementation of the Affordable Care Act requiring all individuals to secure health insurance, Upper Pittsgrove, Penns Grove and Carneys Point had higher rates of uninsured people than the county average. Penns Grove had a much higher rate of employed people (age 16 and over) who were uninsured than the county or state. Salem City and Penns Grove were higher than the county average with respect to people covered under Medicaid and lower than average with respect to people covered by employment-based insurance.

Salem City had the highest rates of both violent and nonviolent crime in 2013. Carneys Point was second for violent crime and Penns Grove for nonviolent crime. For overall crime, Salem City was the highest, followed by Penns Grove and then Pennsville, with Carneys Point ranking fourth.

In Salem County as a whole, the unemployment rate for Black/African American people and people of Hispanic or Latino ethnicity is much higher than for comparable groups at the state level (and larger than the county/state differential for the white population). Looking at unemployment by educational level for Salem County compared with the state, it appears that Salem County residents with either low (less than a high school degree or equivalent) or a moderate (some college or Associate's degree) level of education are at a disadvantage compared to those with a similar level of education at the state level.

Methods

We have put together a series of tables describing Salem County municipalities and we discuss the data sources and tables in the text below. Where possible, we have provided an approximate ranking of the municipalities from least in need of intervention (ranked as a one), to most in need of intervention (ranked as a 15). So, for example, the municipality with the highest average educational attainment is ranked one while the municipality with the lowest average educational attainment is ranked 15. Not all measures have a clear direction with respect to a need for intervention, and in these cases we do not provide a rank. In addition, in some cases estimates are too imprecise, as shown by the margin of error,[1] to approximate a ranking. Such estimates are shown in italics in the table. Even where we do provide rankings, there are often cases where the margins of error overlap between some of the municipalities, meaning that the rankings are an approximation and should be interpreted cautiously. In

[1] The margins of error for the American Community Survey are calculated by the Census Bureau. When applied to the estimate, they describe the range within which 90 percent of the population is estimated to fall. We judge the precision of the estimate by comparing the margin of error to the estimate. If the margin of error is less than 30 percent of the estimate, we consider that to be reasonably precise. Estimates with a margin of error greater than 30 percent are shown in italics in the tables. As the margin of error is shown along with the estimate in the table, readers can see for themselves how precise the estimate is.

addition, in the final table of Section 1 we provide a grand overall ranking showing how each municipality has ranked on all individual measures in all the previous tables.

American Community Survey

The American Community Survey is an annual survey collecting demographic, economic, and housing information about the population in the United States. To calculate estimates for Salem County municipalities, we have used the most recent 5 year estimates based on annual surveys conducted from 2009-2013.[2]

Salem County Municipalities

Figure 1.1 shows a map of the municipalities in Salem County. Unless otherwise noted, these are the municipalities referred to in this report.

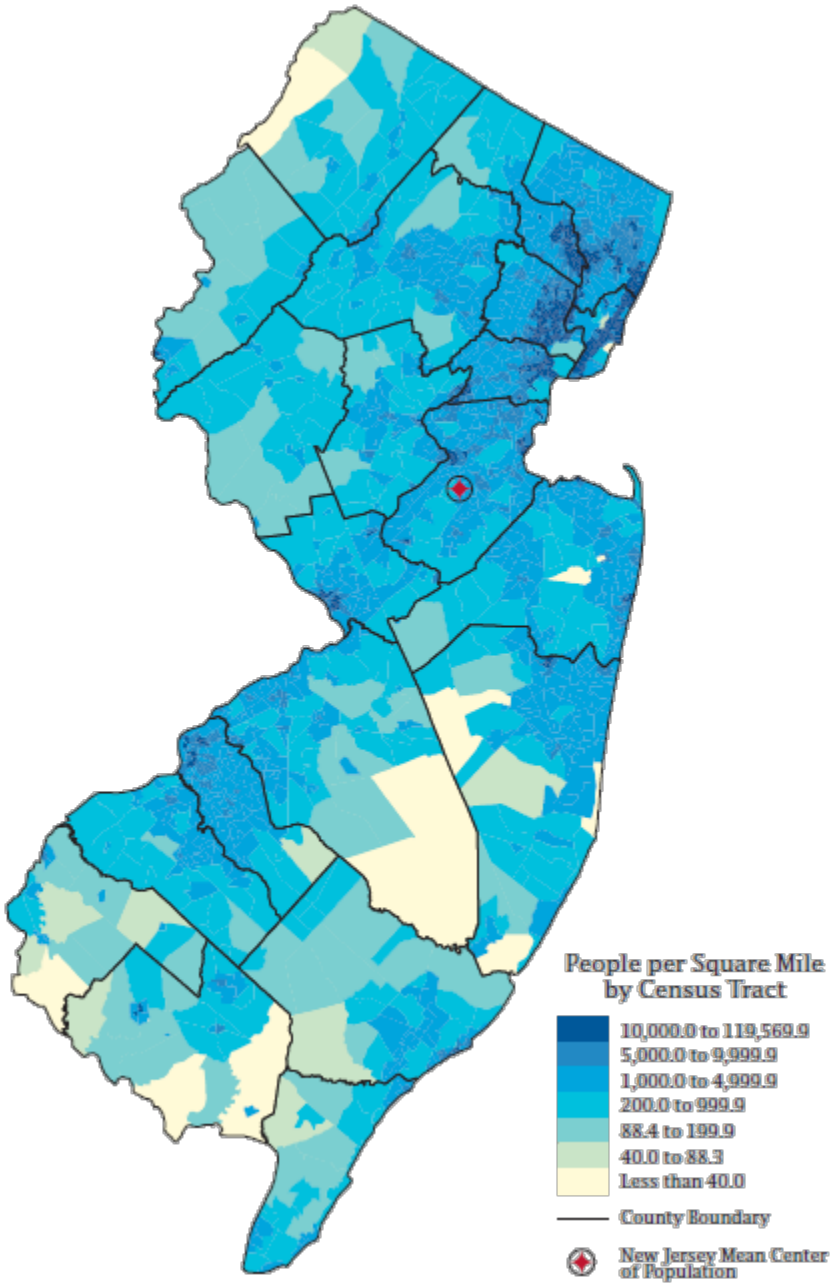
Figure 1.1: Map of Salem County Municipalities

Source: Municipalities of New Jersey, New Jersey State Plane NAD83. Trenton, NJ: NJ Office of Information Technology, Office of Geographic Information Systems. March 5, 2014. Current version available at https://njgin.state.nj.us/NJ_NJGINExplorer/DataDownloads.jsp

[2] The estimates from the survey are based on samples of between 269 cases over 5 years in Elsinboro to about 1,113 in Pennsville, with the number of cases roughly proportional to the population (American Community Survey 2009-2013, Table B00001). The surveys tend to have a good response rate because those receiving them are required by law to return them (United States Census Bureau, American Community Survey: Design and Methodology, January 2014).

Figure 1.2 shows the population density in among state census tracts. Salem is in the southwest corner of the state and is less densely populated than most New Jersey counties.[3]

Figure 1.2: Population Density by Census Tract, New Jersey Counties, 2010



Source: NJ Department of Labor, accessed October 26, 2016 from http://lwd.dol.state.nj.us/labor/lpa/content/NJProfileMap.pdf

[3] See Salem County Planning Board (2013, p.16) for a list of population densities by municipality (http://www.salemcountynj.gov/?wpfb_dl=1121).

Population, Age Distribution and Race/Ethnicity

Tables 1.1a and 1.1b show the population numbers, age distribution and racial/ethnic makeup of the 15 municipalities in Salem County. Pennsville, Carneys Point/Penns Grove and Pittsgrove/Elmer have the highest shares of the population in Salem County, followed by Salem City and Woodstown/Pilesgrove. Generally speaking, those under age 18 and over age 65 are more likely to need some kind of assistance than adults 18 to 64 years of age, so the municipalities are ranked accordingly. Penns Grove and Salem City have the highest shares of their population under age 18 while Elsinboro and Pilesgrove have the highest shares over age 65. With respect to race and ethnicity, we have provided one ranking only for the percent of the population identifying as white. Nonwhite individuals may be subject to racial/ethnic-based bias or discrimination (either current or through historical legacy). Salem and Penns Grove have a much larger percent of their populations identifying as Black or African-American than other municipalities, around half or more. Mannington, Woodstown and Carneys Point also have higher shares of Black/African-American people, around 20 percent of their populations. Penns Grove has a much larger share (around 25 percent) of Hispanic/Latino people in its population, more than twice as many as the next highest municipality.

Table 1.1a: Population and Age Distribution

Municipality	Population	Percent of County Population	Percent 18 years and over	Margin of Error 18 years and over	Rank 18 and over	Percent 65 years and over	Margin of Error 65 years and over	Rank 65 and over
Alloway	3,450	5.2%	73.6	4.4	12	*8.8*	2.8	1
Carneys Point	8,020	12.2%	79.9	1.8	3	17.2	2.1	9
Elmer	1,322	2.0%	77.9	3.2	8	15.3	2.4	6
Elsinboro	1,046	1.6%	81.7	3.8	1	22.1	4.2	15
Lower Alloways Cr.	1,719	2.6%	73.6	3.9	13	17.2	2.3	10
Mannington	1,769	2.7%	81.4	4.4	2	19.0	3.5	13
Oldmans	1,940	2.9%	77.8	4.4	9	16.1	2.5	7
Penns Grove	5,100	7.7%	69.9	4.4	15	11.3	2.2	2
Pennsville	13,310	20.2%	79.9	1.6	4	16.7	1.3	8
Pilesgrove	4,031	6.1%	78.1	2.8	7	20.9	2.3	14
Pittsgrove	9,345	14.2%	78.2	1.4	6	14.0	1.3	4
Quinton	2,655	4.0%	78.3	3.0	5	17.6	2.4	11
Salem	5,111	7.8%	70.3	3.3	14	12.1	2.2	3
Upper Pittsgrove	3,500	5.3%	75.4	3.5	10	14.9	2.1	5
Woodstown	3,507	5.3%	74.5	2.8	11	18.7	2.8	12

Municipality	Population	Percent of County Population	Percent 18 years and over	Margin of Error 18 years and over	Rank 18 and over	Percent 65 years and over	Margin of Error 65 years and over	Rank 65 and over
County	65,825		76.9	0.1		15.6	0.2	
State			76.8	0.1		13.8	0.1	

Source: American Community Survey 5 year estimates, 2009-2013, DP05 (Demographic and Housing Estimates)
Note: italics means the margin of error is greater than 30 percent of the estimate (conventional reliability standard)

Table 1.1b: Race/Ethnicity

Municipality	Percent White	Margin of Error White	Rank percent white	Percent Black or African American	Margin of Error Black or African American	Percent Hispanic or Latino (of any race)	Margin of Error Hispanic or Latino (of any race)
Alloway	96.9	1.9	1	*2.5*	1.6	*1.5*	1.0
Carneys Point	77.9	3.8	12	18.0	3.2	*11.9*	4.4
Elmer	92.3	4.3	6	*6.1*	4.5	*3.1*	2.2
Elsinboro	93.4	4.8	5	*6.4*	5.1	*1.1*	1.6
Lower Alloways Cr.	94.4	4.3	3	*5.6*	4.4	*0.5*	0.6
Mannington	74.8	8.8	13	*22.5*	8.5	*10.0*	4.2
Oldmans	90.5	2.9	7	*9.0*	3.0	*3.6*	2.5
Penns Grove	44.2	6.6	14	49.1	6.7	24.7	6.8
Pennsville	95.6	1.6	2	*2.1*	1.4	*4.0*	2.0
Pilesgrove	94.4	2.5	4	*3.7*	2.3	*3.0*	2.3
Pittsgrove	90.3	2.3	8	8.1	1.6	*4.4*	2.0
Quinton	88.9	4.1	9	*12.2*	4.3	*3.0*	3.6
Salem	43.1	6.0	15	57.3	5.7	*7.9*	4.0
Upper Pittsgrove	85.5	7.2	10	*2.5*	1.9	*12.1*	7.7
Woodstown	78.4	5.7	11	21.8	5.7	*4.5*	3.8
County	82.1	0.8		15.4	0.4	7.2	
State	71.1	0.1		14.8	0.1	18.2	

Source: American Community Survey 5 year estimates, 2009-2013, DP05 (Demographic and Housing Estimates)
Note: italics means the margin of error is greater than 30 percent of the estimate (conventional reliability standard)

Educational Attainment and Language

Table 1.2 shows the educational attainment of people in Salem County's 15 municipalities and also the percent saying they speak English less than very well. These measures may relate to health literacy (i.e., the ability to process health-related information and navigate the health system), and the need for materials in other languages or providers who speak other languages. With respect to formal educational attainment, Salem City and Penns Grove lag the other municipalities in the percent of the population who have graduated high school (or equivalent) and those with a bachelor's degree. Woodstown and Alloway stand out with the highest level of formal educational attainment. Penns Grove appears to stand out with the highest proportion of people who speak English less than very well (the vast majority of these people speak Spanish), though with the margin of error it cannot be distinguished from Carneys Point and Mannington.

Table 1.2: Educational Attainment and English-Speaking

Municipality	Percent high school graduate or higher, age 25+	Margin of Error, HS grad or higher	Rank, HS Grad	Percent bachelor's degree or higher, age 25+	Margin of Error, Bachelor's or higher	Rank, Bachelor's	Average rank, education	Speak English less than "very well" (5yrs and over)	Margin of Error, English-speaking	% limited English who are Spanish speakers
Alloway	93.9	3.0	2	30.3	8.3	3	3	*0.8*	1.0	100.0
Carneys Point	82.6	3.3	13	14.0	2.6	13	13	*6.5*	2.6	87.2
Elmer	92.8	2.4	3	20.3	5.2	7	5	*0.4*	0.4	60.0
Elsinboro	92.5	3.0	4	16.3	3.7	10	7	*2.2*	2.6	0.0
Lower Alloways Cr.	86.2	3.7	11	16.8	3.7	9	10	*0.4*	0.4	0.0
Mannington	84.4	4.8	12	16.2	4.2	11	12	*5.4*	2.9	100.0
Oldmans	89.7	3.4	6	22.4	3.8	5	6	*3.0*	2.4	85.7
Penns Grove	67.8	5.7	15	*6.1*	2.8	15	15	*11.7*	4.2	97.4
Pennsville	89.4	2.1	7	20.6	3.0	6	7	*1.9*	0.8	40.7
Pilesgrove	90.7	4.0	5	32.1	5.3	2	4	*0.6*	0.8	100.0
Pittsgrove	87.4	2.6	9	24.7	2.9	4	7	*2.1*	1.1	64.9
Quinton	87.5	2.9	8	14.5	4.3	12	10	*0.4*	0.4	55.6
Salem	74.9	5.4	14	*8.9*	2.9	14	14	*2.4*	1.4	55.0
Upper Pittsgrove	86.4	4.4	10	19.2	4.4	8	9	*2.4*	1.9	69.1
Woodstown	93.9	3.2	1	41.6	6.4	1	1	*1.4*	1.6	100.0
County	86.0	1.1		20.4	1.2			3.1	0.4	
State	88.1	0.1		35.8	0.2			12.4	0.1	

Source: American Community Survey 5 year estimates, 2009-2013, DP02 (Selected Social Characteristics)
Note: italics means the margin of error is greater than 30 percent of the estimate (conventional reliability standard)

Disability

People with disabilities may have a higher need for health care services and may also need more assistance in accessing services. Salem and Penns Grove have the highest share of the population with a disability overall and for adults 18-64 (there weren't enough people under 18 to produce any reliable estimates at the municipality level). They do not stand out with respect to their population 65 and over with a disability, although they are on the higher side here as well.

Table 1.3: Disability by Age Group

Municipality	Percent with a disability	Margin of Error, Disability	Under 18 years, percent with a disability	Margin of Error, Under 18 w/ disability	18-64, percent with a disability	Margin of Error, 18-64 w/ disability	65+, With a disability	Margin of Error, 65+ w/ disability
Alloway	*6.4*	8.3	0	3.6	*5.2*	2.8	*33.8*	17.9
Carneys Point	13.2	2.6	*5*	3.3	9.6	2.2	40.1	10.0
Elmer	*13.4*	5.2	*1*	1.2	*11.0*	5.2	41.1	12.2
Elsinboro	*12.1*	3.7	0	15.6	*4.2*	2.1	43.7	11.4
Lower Alloways Cr.	14.5	3.7	*2.6*	2.7	*11.2*	3.7	43.4	7.2
Mannington	*12.5*	4.2	*7.2*	5.3	*8.9*	3.5	31.8	8.5
Oldmans	*12.1*	3.8	0	7.3	11.4	3.2	31.3	7.9
Penns Grove	18.5	2.8	*6*	3.7	20.3	5.6	*42.7*	14.9
Pennsville	15.2	3.0	*3.9*	2.2	13.3	3.1	35.9	6.2
Pilesgrove	*10.9*	5.3	0	3.6	*8.2*	3	*31.1*	11.8
Pittsgrove	12.6	2.9	*5.9*	3.1	9.9	2	36.9	7.0
Quinton	*14.1*	4.3	*2.4*	2.2	*10.9*	3.8	39.5	9.8
Salem	22.2	2.9	*7.9*	5.0	25.7	4.9	40.9	8.6
Upper Pittsgrove	*11.6*	4.4	*6.3*	4.4	11.3	3.3	*22.1*	8.7
Woodstown	*9.0*	6.4	*2.1*	2.4	*5.4*	2.6	*28.8*	12.1
County	13.9	0.8	4.2	0.9	12.1	0.9	36.1	2.7
State	10.1	0.1	3.6	0.1	7.6	0.1	33.1	0.3

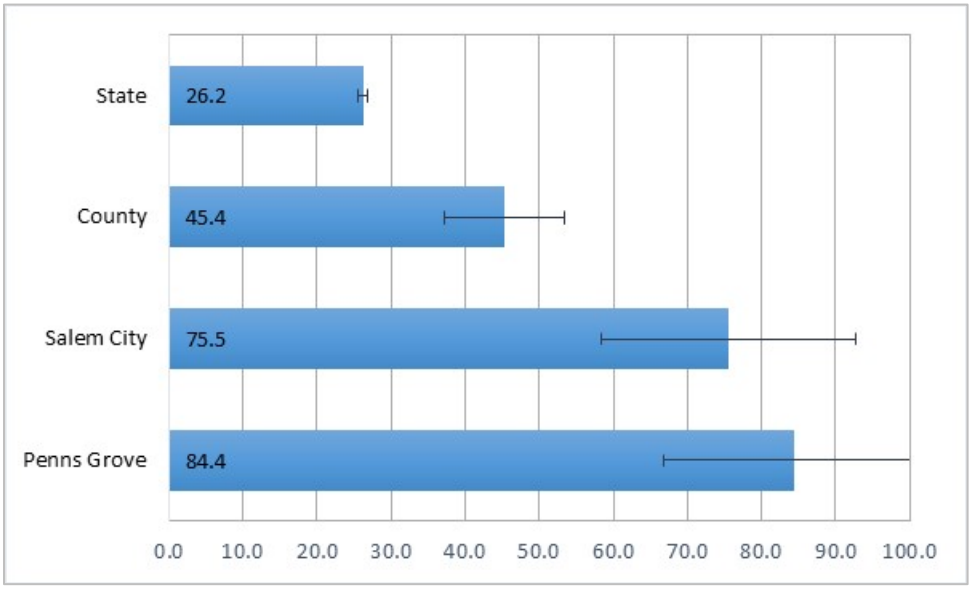
Source: American Community Survey 5 year estimates, 2009-2013, DP02 (Selected Social Characteristics)
Note: italics means the margin of error is greater than 30 percent of the estimate (conventional reliability standard)

Grandparents Responsible for Grandchildrens' Needs

In Salem County, there are an estimated 1,949 grandparents living with their grandchildren who are under 18 years old, and about 45 percent, or 885 of them, say they are responsible for most of the basic needs of their grandchildren (higher than the 26 percent who say this in all of New Jersey). Among Salem County municipalities, only Penns Grove and Salem City had reliable

estimates of the percent of grandparents who are responsible for their grandchildren, and each of them were higher than the county and state averages, as shown in Figure 1.3. Calculated as a percentage of households, households with a grandparent responsible for children under 18 are about 20% of all households with children under 18 in Salem, 17% in Penns Grove, 11% in the county and 4.5% in the state.[4] Grandparents may be facing their own health problems and a limited income, and may benefit from additional services to help with children in their care.

Figure 1.3: Percent of Grandparents Living with Their Grandchildren Who are Responsible for Most of Their Grandchildren's Basic Needs



Source: American Community Survey 5 year estimates, 2009-2013, DP02

Unemployment

Estimates of the unemployment rate were largely unreliable when broken out by municipality, as shown in Table 1.4a. However, we can tell that Salem City, Penns Grove and Carneys Point have unemployment rates higher than the county average. In Carneys Point, the unemployment rate among white people is higher than for white people in the county. In Salem City, the unemployment rate for Black/African American people and for people of Hispanic or Latino ethnicity (of any race) is higher than for those comparable groups in the county.

[4] Calculated from numbers in American Community Survey 5 year estimates, 2009-2013, DP02.

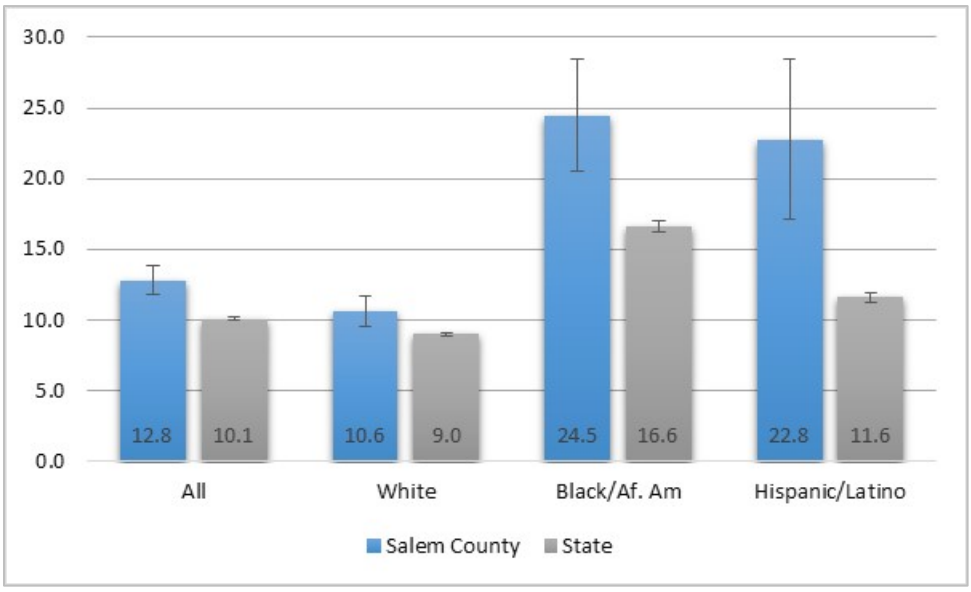
Table 1.4a: Unemployment Overall and by Race and Ethnicity, 16 Years and Over

Municipality	Unemp-loyment rate	Margin of Error, Unemp-loyment rate	Unemp-loyment rate, White	Margin of Error, Unemp-loyment rate, White	Unemp-loyment rate, Black or African American	Margin of Error, Unemp-loyment rate, Black or African American	Unemp-loyment rate, Hispanic or Latino origin (any race)	Margin of Error, Unemp-loyment rate, Hispanic or Latino origin
Alloway	*9.5*	4.9	*9.7*	5.1	*0.0*	100.0	*0.0*	59.3
Carneys Point	18.1	3.9	15.9	4.4	*23.3*	8.8	*27.8*	13.8
Elmer	*11.7*	3.9	*13.2*	4.5	*0.0*	50.9	*17.6*	17.6
Elsinboro	*13.5*	4.7	*9.8*	3.1	*81.5*	27.4	-	**
Lower Alloways Cr.	*10.5*	4.1	*9.0*	4.1	*42.1*	49.2	*0.0*	100.0
Mannington	*10.0*	4.4	*9.6*	4.9	*11.6*	12.4	*24.5*	34.3
Oldmans	*7.8*	2.8	*7.7*	2.7	*9.6*	20.0	*0.0*	63.2
Penns Grove	21.0	6.2	*13.2*	6.8	*26.5*	12.0	*22.6*	13.6
Pennsville	10.6	2.3	10.5	2.2	*0.0*	22.0	*22.2*	23.1
Pilesgrove	*10.8*	3.5	*11.3*	3.6	*0.0*	44.2	*0.0*	76.6
Pittsgrove	8.7	2.4	8.4	2.4	*20.7*	18.3	*20.3*	22.0
Quinton	*7.1*	2.8	*7.3*	3.3	*4.7*	7.3	*0.0*	53.3
Salem	28.9	6.6	*19.8*	8.2	35.1	9.4	*51.2*	23.4
Upper Pittsgrove	*7.9*	2.9	*6.9*	2.9	*0.0*	46.9	*11.0*	11.4
Woodstown	*9.7*	3.5	*8.4*	3.8	*14.7*	10.4	*0.0*	35.7
County	12.8	1.0	10.6	1.1	24.5	4.0	22.8	5.7
State	10.1	0.1	9.0	0.1	16.6	0.4	11.6	0.3

Source: American Community Survey 5 year estimates, 2009-2013, S2301
Notes: italics means the margin of error is greater than 30 percent of the estimate (conventional reliability standard); - and ** mean there were no observations data to compute a rate or error margin

Figure 1.4 compares the unemployment rates between Salem County and the state. Among the white population, the unemployment rate is 18 percent higher in Salem County compared with the white population in New Jersey as a whole. Among Black/African American people, the unemployment rate is 48 percent higher in Salem County compared with Black/African American people at the state level. Among people of Hispanic or Latino ethnicity (who may be of any race), the unemployment rate is 97 percent higher than for the same group at the state level.

Figure 1.4: Unemployment Rate, Ages 16+, All and by Race/Ethnicity



Source: American Community Survey 5 year estimates, 2009-2013, S2301

Considering unemployment in adults ages 25-64 by various levels of educational attainment at the municipal level produced unreliable estimates. Comparing the county and the state, the unemployment rate for those with less than a high school education and for those with some college or an Associate's degree were higher for Salem County than for the state, and the unemployment rate for those with a Bachelor's degree were lower for Salem County than for the state. These relationships are shown in Table 1.4b and Figure 1.5. It appears that, for Salem County residents ages 25-64, investing in education beyond a high school degree or equivalent may not result in employment gains unless the individual gets a Bachelor's degree. However, it may also be that Salem County students currently getting a post-secondary education are more likely to be working or seeking employment than similar students at the state level. In some places in the US, some unscrupulous schools, particularly for-profit schools, may market themselves to students with few resources, offering high-priced degrees with little hope of employment. Community leaders in Salem County may want to watch out for news of Salem County residents attending such schools in or out of the area. When asked about this pattern in an interview, a person who works with young people in Salem County noted that this pattern could be due to people attempting college but dropping out because they weren't well-prepared: *"there's such a high rate of failure in school and people who never really master the standards. Even if you matriculate successfully … not prepared to compete…. clearly the public education system is not preparing people well…. That's one thing we'd like to do more of—how do you complete that FAFSA application, when do you start preparing for college, how could you pay for it? There's easily 1,200 people just in the communities that we're in in Salem who could*

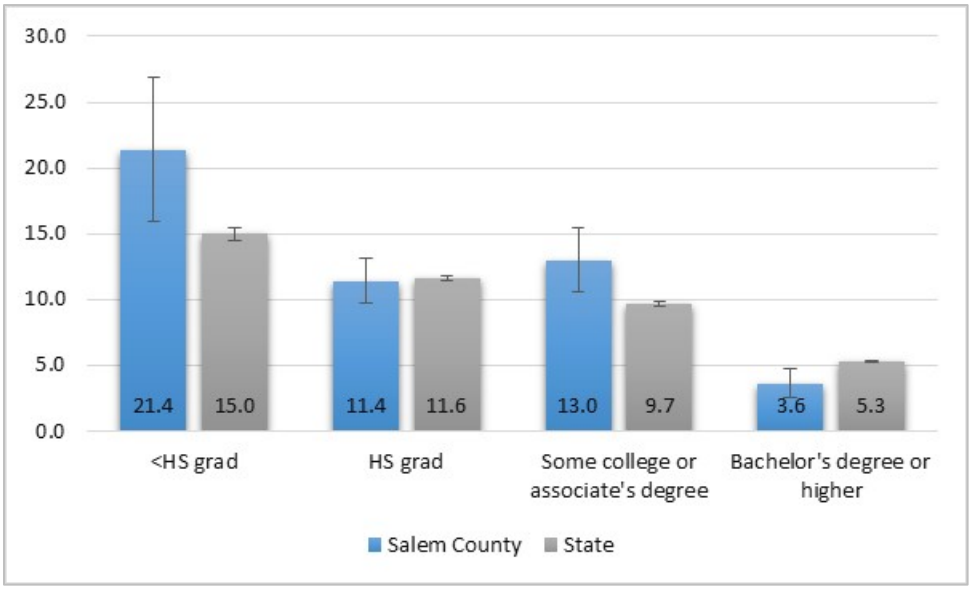
go to college for free ... and they probably don't even realize it, or know how to get started with that process."

Table 1.4b: Unemployment Rate by Educational Attainment, Adults 25-64

	<HS grad	Margin of Error, <HS grad	HS grad	Margin of Error, HS grad	Some college or Associate's degree	Margin of Error, some college ...	Bachelor's degree or higher	Margin of Error, Bachelor's degree or higher
Salem County	21.4	5.5	11.4	1.7	13.0	2.4	3.6	1.1
State	15.0	0.5	11.6	0.2	9.7	0.2	5.3	0.1

Source: American Community Survey 5 year estimates, 2009-2013, S2301

Figure 1.5: Unemployment Rates, Adults 25-64, by Educational Attainment



Source: American Community Survey 5 year estimates, 2009-2013, S2301

Travel to Work

Is the lack of a vehicle a barrier to working? The American Community Survey does not ask this question directly, but it does ask people 16 and over who are working about the vehicles available to them. None of the municipalities had reliable estimates for the percent of workers 16 years and over who had no vehicles available to them. However, it does appear that Salem City (9.5 percent +/-3.8 percent) is higher than the county (3 percent +/- 0.8 percent).[5]

[5] American Community Survey 5 year estimates 2009-2013, Table S0802

Poverty

Estimates of poverty at the municipal level are largely unreliable, as shown in Table 1.5a, but we can see that Salem City and Penns Grove are higher than the county average. Penns Grove is close to twice the county average with nearly one-quarter of people living in poverty and Salem City is more than three times the county average with close to four in ten people living in poverty. Poverty in Salem County is almost 20 percent higher than the state as a whole. Sixty-one percent of children in Salem City are living in poverty, as compared with about 36 percent in Penns Grove, 21 percent in the county and 15 percent in the state. Among those 18-64, 34 percent are living in poverty in Salem City compared with 20 percent in Penns Grove, 11 percent in Pennsville and 10 percent in Carneys Point. Poverty is lowest among those ages 65 and over, with no reliable estimates among Salem County municipalities. Whereas poverty among those under 18 and those 18-64 is higher in Salem County than the state as a whole, the poverty rate in Salem County for those ages 65 and over is lower than the corresponding state rate.

Table 1.5a: Percent below Poverty, Overall and by Age Group

Municipality	Overall	Margin of Error, Overall	Under 18	Margin of Error, Under 18	18-64	Margin of Error, 18-64	65+	Margin of Error, 65+
Alloway	*5.0*	3.2	*3.2*	5.0	*4.4*	3.5	*14.9*	15.4
Carneys Point	*12.6*	3.8	*24.1*	9.8	10.4	3.0	*6.5*	3.7
Elmer	*10.4*	4.0	*15.4*	9.3	*9.8*	3.4	*5.9*	5.6
Elsinboro	*6.4*	4.6	*19.3*	18.7	*4.3*	2.3	*1.7*	2.3
Lower Alloways Cr.	*9.2*	4.6	*17.4*	12.7	*6.1*	2.6	*6.8*	5.0
Mannington	*10.7*	6.0	*14.8*	18.4	*10.6*	4.9	*5.8*	3.9
Oldmans	*5.1*	2.8	*5.1*	4.5	*4.8*	2.8	*6.4*	5.6
Penns Grove	23.4	6.2	*36.0*	11.5	20.3	5.6	*6.9*	7.8
Pennsville	12.3	3.6	*22.8*	10.1	10.9	3.1	*4.7*	2.5
Pilesgrove	*8.1*	6.1	*16.9*	18.1	*5.7*	3.6	*4.9*	5.0
Pittsgrove	*5.1*	2.2	*7.0*	6.0	*4.8*	1.9	*3.6*	3.1
Quinton	*8.2*	3.8	*12.5*	10.2	*7.9*	3.4	*4.1*	3.5
Salem	39.4	6.1	60.7	10.9	34.1	5.8	*13.3*	6.2
Upper Pittsgrove	*7.2*	4.5	*6.6*	8.1	*8.8*	4.9	*1.7*	2.6
Woodstown	*5.5*	3.1	*9.7*	8.0	*3.7*	2.0	*5.0*	3.9
County	12.4	1.5	21.4	3.7	10.7	1.2	5.7	1.3
State	10.4	0.2	14.9	0.3	9.3	0.1	7.8	0.2

Source: American Community Survey 5 year estimates, 2009-2013, S1701
Note: italics means the margin of error is greater than 30 percent of the estimate (conventional reliability standard)

Looking at poverty rates by racial or ethnic groups, several municipalities have higher poverty rates for white people than the county or state averages for white people, though only Pennsville's estimate meets conventional reliability standards. Salem City is above the county and state averages when it comes to poverty among Black/African American people (by 1.8 and 2.4 times, respectively) and also with poverty among people of Hispanic or Latino origin (by 2.8 and 3.9 times, respectively), as shown in Table 1.5b.

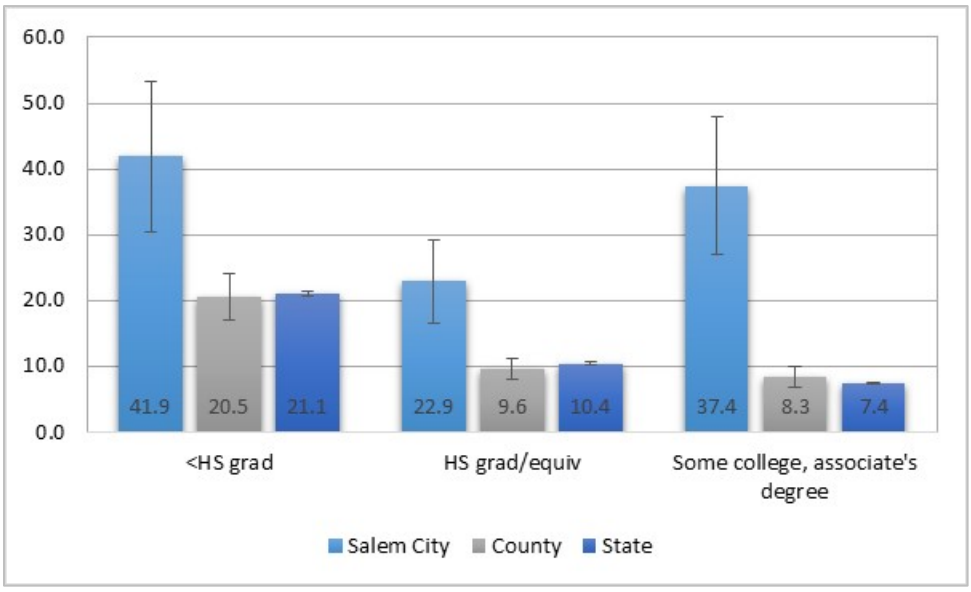
Table 1.5b: Percent below Poverty by Racial or Ethnic Group, Selected Municipalities

Municipality	White	Margin of Error, White	Black or African American	Margin of Error, Black or African American	Hispanic or Latino origin (any race)	Margin of Error, Hispanic or Latino origin
Carneys Point	*13.1*	4.5	*14.0*	7.9	*32.4*	19.4
Penns Grove	*19.8*	9.8	*27.5*	8.5	*19.3*	13.7
Pennsville	12.7	3.8	*5.7*	9.7	*23.4*	21.7
Salem	*23.8*	9.7	47.9	9.1	76.8	17.0
County	9.5	1.5	27.3	3.7	27.1	7.6
State	7.7	0.2	20.0	0.5	19.8	0.5

Source: American Community Survey 5 year estimates, 2009-2013, S1701
Note: italics means the margin of error is greater than 30 percent of the estimate (conventional reliability standard)

Only Salem City has reliable estimates for poverty by level of educational attainment. As shown in Figure 1.6, Salem City exceeds both county and state levels of poverty for each level of education below a bachelor's degree, and by an increasing margin for increased levels of education. For example, the percent of Salem City residents with less than a high school degree in poverty is twice the level of Salem County residents with the same level of education in poverty (all responses are for the civilian noninstitutionalized population age 25 and over). For those with a high school degree or equivalency, the poverty rate for Salem City residents is 2.4 times the county level. For those with some college or an associate's degree, the poverty rate for Salem City rates is 4.5 times the county level.

Figure 1.6: Percent below Poverty Level, by Educational Attainment



Source: American Community Survey 5 year estimates, 2009-2013, S1701

Health Insurance (prior to the 2014 implementation of the Affordable Care Act)

Table 1.6a shows the number and percent uninsured for each municipality in Salem County. Among municipalities with reliable estimates, Upper Pittsgrove, Penns Grove, and Carneys Point had higher rates of people without health insurance than the county average. Estimates of rates for different age or racial/ethnic categories were not reliable. Most estimates of lack of insurance by employment status were also unreliable, except that Penns Grove had a much higher rate of employed people 16 and over who were uninsured than did the county or state (29 percent +/-8.4 percent, versus 10.7 percent +/- 1.4 percent for the county and 14.4 percent +/-0.2 percent for the state).[6]

Table 1.6a: Health Insurance--Uninsured Overall, Civilian Noninstitutionalized Population

Municipality	Number Uninsured	Margin of Error, Number Uninsured	Percent Uninsured	Margin of Error, Percent Uninsured
Alloway	*256*	146	*7.6*	4.3
Carneys Point	1,067	315	13.8	4.0
Elmer	*144*	45	*10.9*	3.3
Elsinboro	*64*	24	*6.1*	2.2
Lower Alloways Cr.	*82*	35	*4.8*	2.0
Mannington	*216*	92	*14.6*	6.1

[6] American Community Survey 2009-2013, Table S2701

Municipality	Number Uninsured	Margin of Error, Number Uninsured	Percent Uninsured	Margin of Error, Percent Uninsured
Oldmans	*116*	61	*6.0*	3.1
Penns Grove	907	236	17.8	4.6
Pennsville	1,311	259	9.8	1.9
Pilesgrove	*399*	210	*10.2*	5.4
Pittsgrove	*652*	198	7.1	2.1
Quinton	*234*	83	*8.8*	3.1
Salem	553	154	10.8	3.0
Upper Pittsgrove	750	225	21.8	6.5
Woodstown	*262*	121	*7.5*	3.4
County	7,013	630	10.8	1.0
State			12.8	0.2

Source: American Community Survey 5 year estimates, 2009-2013, S2701
Note: italics means the margin of error is greater than 30 percent of the estimate (conventional reliability standard)

Table 1.6b shows the source of health insurance coverage for Salem County residents with insurance. The percent covered by employment-based health insurance is significantly lower than state and county averages in Salem City and Penns Grove, and the percent covered by Medicaid is higher in these two municipalities (50 percent in Salem City and 38 percent in Penns Grove). They are the only two municipalities that are higher than the county average for the percent covered by Medicaid.

Table 1.6b: Health Insurance, Source of Coverage

Municipality	Percent Insured by Employment-based health insurance	Margin of Error, Percent Insured by Employment-based health insurance	Percent Insured by Direct-purchase health insurance	Margin of Error, Percent Insured by Direct-purchase health insurance	Percent Insured by Medicare	Margin of Error, Percent Insured by Medicare	Percent Insured by Medicaid /means-tested public coverage	Margin of Error, Percent Insured by Medicaid /means-tested public coverage
Alloway	72.7	8.0	*13.3*	6.5	*10.9*	3.3	*5.4*	4.0
Carneys Point	61.5	5.0	9.7	2.4	17.7	1.9	15.5	2.9
Elmer	64.5	5.6	16.3	4.9	18.7	3.8	*11.3*	3.9
Elsinboro	77.6	6.3	11.4	2.9	22.8	4.4	*8.0*	5.7
Lower Alloways Cr.	72.6	6.6	12.5	3.5	19.7	2.8	*11.9*	7.0
Mannington	60.5	7.7	*12.9*	4.1	18.5	2.8	*12.4*	5.3
Oldmans	73.1	5.6	*17.9*	6.0	18.1	2.8	*7.4*	2.6

Municipality	Percent Insured by Employment-based health insurance	Margin of Error, Percent Insured by Employment-based health insurance	Percent Insured by Direct-purchase health insurance	Margin of Error, Percent Insured by Direct-purchase health insurance	Percent Insured by Medicare	Margin of Error, Percent Insured by Medicare	Percent Insured by Medicaid/means-tested public coverage	Margin of Error, Percent Insured by Medicaid/means-tested public coverage
Penns Grove	38.4	5.7	*6.6*	3.0	17.3	3.7	37.9	5.7
Pennsville	66.1	4.5	13.8	2.4	19.3	1.5	16.1	3.3
Pilesgrove	66.8	6.6	*12.5*	3.9	21.6	2.5	*11.3*	6.5
Pittsgrove	69.9	4.2	13.0	3.1	15.4	1.6	9.9	2.4
Quinton	68.3	5.4	*15.3*	5.2	21.7	2.8	*13.7*	4.9
Salem	34.3	5.9	*6.6*	2.6	18.2	2.6	50.2	6.0
Upper Pittsgrove	61.7	7.5	*10.8*	3.3	16.0	2.2	*7.4*	3.4
Woodstown	69.3	7.2	*14.3*	5.3	19.9	2.9	*11.7*	3.8
County	62.2	1.9	12	1.1	18	0.5	17.2	1.1
State	63.6	0.2	11.3	0.1	14.8	0.1	13.4	0.1

Source: American Community Survey 5 year estimates, 2009-2013, S2701

Note: italics means the margin of error is greater than 30 percent of the estimate (conventional reliability standard)

Uniform Crime Report, 2013

The Uniform Crime Report is published annually by New Jersey's Attorney General, and is based on crime statistics submitted to the New Jersey Uniform Crime Reporting System by every New Jersey law enforcement agency. Crime in Salem County declined slightly in the 2012 to 2013 period. Rates by municipality are shown in Table 1.7. With respect to overall crime per 1,000 residents, Salem City is by far the highest at 71.2, followed by Penn's Grove at 31.8, Pennsville at 28.3 and Carneys Point at 27.4. With respect to violent crime, Salem City is again the highest at 10.5 incidents per 1,000 residents, followed by Carneys Point at 4.0 and Penns Grove at 3.5.

Table 1.7: Crime Rates, 2013

Municipality	Violent Crime Rate per 1,000 residents	Rank, Violent Crime	Nonviolent Crime rate per 1,000 residents	Rank, Nonviolent Crime	Crime Rate per 1,000 residents	Rank, Overall Crime
Alloway	1.2	7	7.5	2	8.7	1
Carneys Point	4.0	14	23.4	12	27.4	12
Elmer	0.7	2	11.6	5	12.3	4
Elsinboro	0.0	1	14.6	8	14.6	7
Lower Alloways Cr.	1.7	10	7.4	1	9.1	2

Municipality	Violent Crime Rate per 1,000 residents	Rank, Violent Crime	Nonviolent Crime rate per 1,000 residents	Rank, Nonviolent Crime	Crime Rate per 1,000 residents	Rank, Overall Crime
Mannington	2.8	12	10.5	4	13.3	5
Oldmans	1.1	4	19.1	11	20.1	11
Penns Grove	3.5	13	28.3	14	31.8	14
Pennsville	0.9	3	27.4	13	28.3	13
Pilesgrove	1.5	9	13.4	7	14.9	8
Pittsgrove	1.2	8	15.6	9	16.8	9
Quinton	1.1	5	9.8	3	10.9	3
Salem	10.5	15	60.8	15	71.2	15
Upper Pittsgrove	1.1	6	18.3	10	19.4	10
Woodstown	2.0	11	12.5	6	14.5	6
County	2.5		22.3		24.7	
State	2.9		18.9		21.8	

Source: NJ Uniform Crime Report, 2013, http://nj.gov/oag/newsreleases15/2013_Uniform-Crime-Report.pdf

Overall Ranking

From the ranked measures, as well as many that proved too unreliable for an overall ranking, we see that Salem City and Penns Grove appear to have the highest level of need. Carneys Point follows, mainly due to a high crime rate and somewhat lower educational attainment among its population.

Table 1.8: Ranking Summary and Average Overall Ranking

Municipality	Table 1			Table 2		Table 7			Average rank, all measures
	Rank 18 and over	Rank 65 and over	Rank percent white	Rank, HS Grad or higher	Rank, Bachelor's degree or higher	Rank, Violent Crime	Rank, Non-violent Crime	Rank, Overall Crime	
Alloway	12	1	1	2	3	7	2	1	4
Carneys Point	3	9	12	13	13	14	12	12	11
Elmer	8	6	6	3	7	2	5	4	5
Elsinboro	1	15	5	4	10	1	8	7	6
Lower Alloways Cr.	13	10	3	11	9	10	1	2	7
Mannington	2	13	13	12	11	12	4	5	9
Oldmans	9	7	7	6	5	4	11	11	8
Penns Grove	15	2	14	15	15	13	14	14	13
Pennsville	4	8	2	7	6	3	13	13	7
Pilesgrove	7	14	4	5	2	9	7	8	7

Municipality	Table 1			Table 2		Table 7			Average rank, all measures
	Rank 18 and over	Rank 65 and over	Rank percent white	Rank, HS Grad or higher	Rank, Bachelor's degree or higher	Rank, Violent Crime	Rank, Non-violent Crime	Rank, Overall Crime	
Pittsgrove	6	4	8	9	4	8	9	9	7
Quinton	5	11	9	8	12	5	3	3	7
Salem	14	3	15	14	14	15	15	15	13
Upper Pittsgrove	10	5	10	10	8	6	10	10	9
Woodstown	11	12	11	1	1	11	6	6	7

Sources: American Community Survey 5 year estimates, 2009-2013 (Tables 1-3); NJ Uniform Crime Report, 2013 (Table 7)

Section 2: Hospital Utilization and Primary Care Data

Data Sources and Notes on Presentation

New Jersey Hospital Discharge Data Collection System

This project utilizes the non-confidential data made available to the public by the New Jersey Department of Health.[7] Data are reported by each hospital in New Jersey, but do not include out of state hospitals such as those in Delaware or Pennsylvania that may be used by Salem County residents. We have included the years 2009 to 2013 (the most recent five years available). All individual identifiers are removed from the data. Because of this, it is not possible to calculate the number of unique individuals admitted using this data. In other words, if one person had multiple visits over the period examined, each visit is counted in the data we present. Data are suppressed when there are fewer than 15 cases to protect the privacy of individuals. Readers should exercise caution in interpreting findings for small subgroups. Findings for individual municipalities and demographic subgroups are based on relatively small numbers of individuals and are thus potentially subject to substantial random variability. In addition, we were not able to verify municipality of residence with address information, so in some cases we have combined municipalities where we thought there may be uncertainty as to the accuracy of the hospital data.

American Community Survey

The American Community Survey is an annual survey collecting demographic, economic, and housing information about the population in the United States. To calculate estimates for New Jersey, Salem County, and local municipalities, we have used the most recent 5 year estimates based on annual surveys conducted from 2009-2013.[8]

Uniform Data System

The Uniform Data System describe utilization at Federally Qualified Health Centers. These data are provided by the Bureau of Primary Health Care, part of the Health Resources and Services

[7] See http://www.state.nj.us/health/healthcarequality/ub/ub92intro.shtml (accessed October 26, 2015).

[8] The estimates from the survey are based on samples of between 269 cases over 5 years in Elsinboro to about 1,113 in Pennsville, with the number of cases roughly proportional to the population (American Community Survey 2009-2013, Table B00001). The surveys tend to have a good response rate because those receiving them are required by law to return them (United States Census Bureau, American Community Survey: Design and Methodology, January 2014).

Administration, which is an agency of the US Department of Health and Human Services. For this report we have used the UDS Mapper,[9] which combines utilization data with population data.

Combining Municipalities

In some cases municipalities have been combined together for analysis purposes because of unusual patterns when they were analyzed separately, combined with stakeholder feedback that residents in some municipalities may have a mailing address with the name of another municipality (i.e., Pilesgrove and Woodstown; Elmer and the Pittsgroves; Salem and Elsinboro, Lower Alloways Creek, Quinton and Mannington). Thus, some may have been characterized incorrectly by hospital staff. The American Community Survey, on the other hand, is careful to define municipal boundaries by street address.

Hospital Utilization by Municipality

Tables 2.1 and 2.2 show the population of Salem County municipalities along with their inpatient and emergency department admissions from 2009-2013. These data do not include hospitals in Delaware or Pennsylvania. Particularly for residents who live near the Delaware Memorial Bridge, there are reports in our interviews that people utilize Delaware hospitals. Christiana Care, a Delaware health system, has practices located in Carneys Point and Woodstown. We do not know how the addition of out-of-state hospital data might change these data. However, the patterns in Tables 1 and 2 are largely what we would expect given the population characteristics of the municipalities. People generally went to the hospital closest to where they lived, particularly for ED visits—57 percent of inpatient admissions for Salem County residents were at Salem Memorial Hospital and 13 percent were at Inspira-Elmer. For ED visits for Salem County residents, where proximity may be more pressing, 67 percent were at Salem Memorial and 19 percent at Inspira-Elmer.

For inpatient admissions, Salem, Woodstown, Penns Grove and Carneys Point are above the county average admission rate—together, they constitute 60 percent of admissions in the county while only holding 33 percent of the population. This is expected because Salem and Penns Grove have the highest poverty in the county. Salem, Woodstown and Carneys Point all have long-term care facilities within their boundaries that may lead to higher inpatient admissions. Woodstown and Carneys Point also have a larger than average (for the county) share of their population over age 65.

[9]See http://www.udsmapper.org/index.cfm (accessed October 10, 2016).

Table 2.1: Salem County Inpatient Admissions in State of New Jersey Hospitals, 2009-2013

Municipality	Pop-ulation	Percent of County Population	Inpatient Admissions, All NJ Hospitals	Percent of County Inpatient Admissions	Inpatient Admissions per 1,000 population	Percent at Salem Memorial	Percent at Elmer	Percent at Cooper	Percent at Vineland	Percent at Wood-bury
Alloway	3,450	5.2%	824	2.1%	238.8	35.4%	20.5%	7.2%	6.3%	6.7%
Carneys Point	8,020	12.2%	5,589	14.0%	696.9	79.0%	6.0%	0.0%	2.8%	1.7%
Elmer, Pittsgrove, Upper Pittsgrove	14,167	21.5%	5,852	14.6%	413.1	2.4%	34.5%	9.6%	25.6%	4.5%
Elsinboro	1,046	1.6%	**	0.0%	**					
Lower Alloways Cr.	1,719	2.6%	163	0.4%	94.8	65.0%	8.6%	9.2%	**	**
Mannington	1,769	2.7%	309	0.8%	174.7	4.9%	0.0%	0.0%	0.0%	88.0%[10]
Oldmans	1,940	2.9%	655	1.6%	337.6	55.4%	7.5%	10.5%	2.7%	2.3%
Penns Grove	5,100	7.7%	5,363	13.4%	1051.6	63.4%	1.0%	16.9%	0.7%	11.6%
Pennsville	13,310	20.2%	7,039	17.6%	528.9	77.3%	3.9%	6.9%	2.1%	0.4%
Pilesgrove	4,031	6.1%	707	1.8%	175.4	73.0%	1.7%	0.0%	**	1.8%
Quinton	2,655	4.0%	387	1.0%	145.8	61.5%	11.9%	9.0%	5.4%	4.9%
Salem	5,111	7.8%	9,079	22.7%	1776.4	71.5%	7.0%	7.8%	4.8%	2.2%
Woodstown	3,507	5.3%	4,044	10.1%	1153.1	30.4%	34.3%	10.3%	4.5%	9.7%
County	65,825		40,023		608.0	56.6%	12.5%	8.1%	6.4%	4.9%

**Numbers suppressed when less than 15.

Sources: American Community Survey Table DP05, 5 year estimates 2009-2013, NJ Hospital Discharge Data 2009-2013

[10] This seems odd given the distance between Mannington and Woodbury. It could be due to a small number of people with multiple admissions/visits or a data entry error mischaracterizing the municipality.

For ED visits, Salem, Penns Grove and Woodstown are above the average admission rate for the county. Together, they account for 52 percent of ED visits in the county, while only constituting 21 percent of the population. Elevated rates for Salem and Penns Grove would be expected due to high levels of poverty; Woodstown is more of a mystery—it may have to do with its age structure—it has both a relatively high percentage of older adults and younger people, each of whom may be more likely to have an ED visit. It also may be that some in the surrounding Pilesgrove Township have a Woodstown mailing address, which is why we have combined them in many analyses.

Table 2.2: Salem County Emergency Department (ED) Visits in State of New Jersey Hospitals, 2009-2013

Municipality	Population	Percent of County Population	ED Admissions, All NJ Hospitals	Percent of County ED Admissions	ED Admissions per 1,000 population	Percent at Salem Memorial	Percent at Elmer	Percent at Woodbury	Percent at Vineland
Alloway	3,450	5.2%	2,420	2.1%	701.4	46.3%	34.4%	1.4%	1.9%
Carneys Point	8,020	12.2%	12,434	10.9%	1550.4	79.4%	9.0%	3.9%	0.9%
Elmer, Pittsgrove, Upper Pittsgrove	14,167	21.5%	16,707	14.7%	1179.3	2.7%	63.8%	2.3%	17.3%
Elsinboro	1,046	1.6%	32	0.0%	30.6	**	**	0.0%	0.0%
Lower Alloways Cr.	1,719	2.6%	429	0.4%	249.6	78.3%	9.3%	**	**
Mannington	1,769	2.7%	383	0.3%	216.5	20.4%	0.0%	74.9%[10]	**
Oldmans	1,940	2.9%	1,919	1.7%	989.2	69.3%	10.1%	6.1%	1.1%
Penns Grove	5,100	7.7%	18,401	16.1%	3608.0	82.8%	1.2%	8.9%	0.1%
Pennsville	13,310	20.2%	18,245	16.0%	1370.8	85.6%	7.2%	1.0%	0.7%
Pilesgrove	4,031	6.1%	1,669	1.5%	414.0	77.8%	2.7%	4.4%	0.0%
Quinton	2,655	4.0%	1,039	0.9%	391.3	69.1%	19.3%	1.1%	1.7%
Salem	5,111	7.8%	30,005	26.3%	5870.7	85.5%	7.4%	1.8%	1.4%
Woodstown	3,507	5.3%	10,289	9.0%	2933.8	43.2%	41.9%	6.4%	1.5%
County	65,825		113,972		1731.4	66.8%	18.6%	3.9%	3.4%

**Numbers suppressed when less than 15.

Sources: American Community Survey Table DP05, 5 year estimates 2009-2013, NJ Hospital Discharge Data 2009-2013

Preventable Hospitalizations

The Agency for Healthcare Research and Quality (AHRQ), part of the US Department of Health & Human Services, has defined Prevention Quality Indicators, or PQIs for short. These are "a set of measures that can be used with hospital inpatient discharge data to identify quality of care for … conditions for which good outpatient care can potentially prevent the need for hospitalization or for which early intervention can prevent complications or more severe disease."[11] Examples would be the management of chronic diseases such as diabetes, heart disease and asthma as well as acute measures such as dehydration, pneumonia and urinary tract infections. These indicators are often used to identify problem areas where primary health care services or people's adherence to treatment may be lacking or where there may be environmental issues such as lack of access to quality food or contamination that may cause asthma exacerbations.

Conditions Leading to Preventable Hospitalization (PQI Type)

Table 2.3 shows the average annual number of preventable hospitalizations in the county for residents ages 18 and over, broken out by type of PQI admission. Admissions for chronic conditions averaged 850 per year over the period 2009-2013 and constituted 63 percent of all preventable admissions. Salem, Penns Grove and Carneys Point were above average in admissions for chronic conditions of all kinds. These same municipalities plus Pilesgrove/Woodstown were above average for preventable acute admissions such as bacterial pneumonia, dehydration and urinary tract infections, which accounted for an average 506 admissions per year on average from 2009-2013. Pilesgrove/Woodstown were also above average for heart disease-related admissions, while Pennsville was above the county average for asthma/COPD-related admissions.

Table 2.3: Average Annual Preventable Hospitalizations among Salem County Residents 18+, by PQI Type, 2009-2013

PQI Type	Number	% of All PQI Admissions	% of Acute or Chronic PQI Admissions	Municipalities Above County Average PQI Admission Rate
All	1,356	100%	n/a	Salem City, Penns Grove, Carneys Point
Chronic*	850	63%	n/a	Salem City, Penns Grove, Carneys Point
Acute**	506	37%	n/a	Salem City, Penns Grove, Carneys Point, Pilesgrove/Woodstown

[11] Agency for Health Care Research and Quality, Prevention Quality Indicators Overview, accessed September 1, 2016 from http://www.qualityindicators.ahrq.gov/modules/pqi_resources.aspx

PQI Type	Number	% of All PQI Admissions	% of Acute or Chronic PQI Admissions	Municipalities Above County Average PQI Admission Rate
Heart disease-related	336	25%	40%	Salem City, Penns Grove, Carneys Point, Pilesgrove/Woodstown
Asthma/COPD-related	336	25%	40%	Salem City, Penns Grove, Carneys Point, Pennsville
Bacterial Pneumonia	203	15%	40%	Salem City, Penns Grove, Carneys Point, Pilesgrove/Woodstown
Diabetes-related	178	13%	21%	Salem City, Penns Grove, Carneys Point
Dehydration	161	12%	32%	Salem City, Penns Grove, Carneys Point, Pilesgrove/Woodstown, Pennsville
Urinary Tract Infection	142	10%	28%	Salem City, Carneys Point, Penns Grove, Pilesgrove/Woodstown

Note: the Salem area (Salem City, Elsinboro, LAC, Mannington and Quinton) was always above the county average, though it was not always the highest.
*Chronic = Heart disease, Asthma/COPD, Diabetes
**Acute = Bacterial pneumonia, Dehydration, UTI
Sources: American Community Survey, 5 year estimates 2009-2013, NJ Hospital Discharge Data 2009-2013

Payer for Preventable Hospitalizations

Table 2.4 shows the payer for preventable hospitalizations. The majority of the time the payer is Medicare, with private insurance coming in second, self-pay (generally uninsured) third and Medicaid last. This indicates that more than 90 percent of the preventable hospitalizations involved people who had insurance and thus should, in theory, be able to access preventive care. However, we heard from our interviews that transportation barriers are a factor for many in the county—while one can call an ambulance to get to the hospital, one cannot call an ambulance for a doctor's appointment. In addition, interviews suggested that many people may not have the motivation to maintain their health.

Table 2.4: Payer for Preventable Hospitalizations among Salem County Residents 18+, by PQI Type, 2009-2013

Municipality	Overall composite admissions	Medicare	Percent Medicare	Medicaid	Percent Medicaid	Private Insurance	Percent Private Insurance	Self-Pay	Percent self-pay
Alloway	100	65	65.0%	**		29	29.0%	**	
Carneys Point	1,157	810	70.0%	39	3.4%	242	20.9%	61	5.3%
Elmer, Pittsgrove, Upper Pittsgrove	691	467	67.6%	28	4.1%	145	21.0%	47	6.8%
Oldmans	101	65	64.4%	**		29	28.7%	**	
Penns Grove	941	546	58.0%	42	4.5%	250	26.6%	100	10.6%
Pennsville	1,373	867	63.1%	23	1.7%	392	28.6%	88	6.4%
Pilesgrove & Woodstown	733	521	71.1%	**		164	22.4%	41	5.6%
Quinton	47	25	53.2%	**		17	36.2%	**	
Salem	1,588	932	58.7%	77	4.8%	415	26.1%	163	10.3%
County	6,780	4,329	63.8%	223	3.3%	1,698	25.0%	511	7.5%

**Numbers suppressed when less than 15.

Sources: American Community Survey, 5 year estimates 2009-2013, NJ Hospital Discharge Data 2009-2013

Age of People Hospitalized for Preventable Conditions

Pediatric Quality Indicators

Over the period 2009-2013, there were only 47 hospitalizations in the county for preventable conditions in children ages 6 to 17 years (asthma, diabetes, gastroenteritis and urinary tract infection).[12] No municipality had 15 or more hospitalizations, so we cannot present numbers. Patterns presented elsewhere generally hold here as well—Salem City had the largest number of admissions and the highest relative to its population of children in that age range (from the 5 year estimates of the 2009-2013 American Community Survey). Carneys Point, Alloway, Woodstown and Penns Grove also had more admissions than the county average, though the numbers are very small and thus subject to substantial variation over time.

Preventable Hospitalizations in Adults

Table 2.5 shows admissions by age group (18-64 and 65+) and municipality. Salem City has higher rates of preventable hospitalization for both age groups compared with the county average. Adding in the areas around Salem (given the uncertainty of mailing addresses, which could be artificially inflating the Salem rate somewhat) reduces the rate, though it is still above the county average. Penns Grove and Carneys Point are also above the county average for both younger and older adults.

Table 2.5: Overall Preventable Hospitalizations, Number and Rate per 100,000 by Age and Municipality, 2009-2013

Municipality	Total admissions	Rate per 100,000 ages 18+	Admissions, ages 18-64	Rate per 100,000 ages 18-64	Admissions, ages 65+	Rate per 100,000 ages 65+
Alloway	100	788	39	349	61	4,040
Carneys Point	1,157	**3,612**	454	**1,806**	703	**10,196**
Elmer, Pittsgrove, Upper Pittsgrove	691	1,259	247	552	444	4,361
Lower Alloways Cr.	29	458	**	**	**	**
Mannington	20	278	**	**	**	**
Oldmans	101	1,339	36	602	65	4,153
Penns Grove	941	**5,278**	522	**3,492**	419	**14,549**
Pennsville	1,373	2,582	588	1,398	785	7,056
Pilesgrove & Woodstown	733	2,543	230	1,078	503	6,716
Quinton	47	452	25	310	22	944

[12] See http://www.qualityindicators.ahrq.gov/Downloads/Modules/PDI/V50/TechSpecs/PDI_90_Pediatric_Quality_Overall_Composite.pdf

Municipality	Total admissions	Rate per 100,000 ages 18+	Admissions, ages 18-64	Rate per 100,000 ages 18-64	Admissions, ages 65+	Rate per 100,000 ages 65+
Salem	1,588	**8,837**	821	**5,514**	767	**24,903**
Salem Area*	1,684	**3,648**	866	**2,377**	818	**8,416**
County	6,780	2,678	2,982	1,478	3,798	7,394

Bold where greater than county rate for age group
*Salem Area = Elsinboro, Lower Alloways Creek, Mannington, Quinton, Salem City
**too few cases to calculate reliable estimate
Sources: American Community Survey, 5 year estimates 2009-2013, NJ Hospital Discharge Data 2009-2013

Table 2.6 shows the number of preventable Medicare hospitalizations that are for adults 18-64 who are on Medicare (for the municipalities with more than 15 occurrences). People under 65 are on Medicare only in special circumstances of prolonged or severe disability. For all towns, the majority of preventable Medicare hospitalizations occur in people 65 and over. However, Penns Grove and Salem City have a much higher percentage of preventable Medicare hospitalizations among adults under 65 than the rest of the county. This is not due to a different age structure, as the rate of preventable Medicare hospitalizations among adults 18-64 is also much higher in these municipalities. Looking at the broader Salem area (Elsinboro, Lower Alloways Creek, Mannington, Quinton, Salem City), the population rate is lower than the Salem City rate but still much higher than the county average. What is likely driving this is the higher percentage of residents with disabilities in these municipalities as shown in Table 1.3—this indicates that their health needs are not being met. Targeting for this group could possibly be done through the Board of Social Services, since this population is probably eligible for benefits other than Medicare.

Table 2.6: Preventable Medicare Hospitalizations among Adults 18-64, by Municipality, 2009-2013

Municipality	Number of Medicare Preventable Hospitalizations among Adults 18-64	Total Medicare Preventable Hospitalizations	Percent of Medicare Preventable Hospitalizations among Adults 18-64	Medicare Preventable Hospitalizations per 100,000 people ages 18-64
Carneys Point	61	810	7.5%	1,213
Elmer, Pittsgrove, Upper Pittsgrove	52	467	11.1%	581
Penns Grove	150	546	27.5%	5,017
Pennsville	149	867	17.2%	1,771
Pilesgrove & Woodstown	61	521	11.7%	1,430
Salem City	205	932	22.0%	6,884

Municipality	Number of Medicare Preventable Hospitalizations among Adults 18-64	Total Medicare Preventable Hospitalizations	Percent of Medicare Preventable Hospitalizations among Adults 18-64	Medicare Preventable Hospitalizations per 100,000 people ages 18-64
Salem Area*	**	**	21.5%	2,909
County	697	4329	16.1%	1,727

*Salem Area = Elsinboro, Lower Alloways Creek, Mannington, Quinton, Salem City
**not shown because difference between Salem City and Salem area is 15 or less
Sources: American Community Survey, 5 year estimates 2009-2013, NJ Hospital Discharge Data 2009-2013

Preventable Hospitalizations by Race

Table 2.7 shows the preventable hospitalization rate per 100,000 residents 18 and over for all residents as well as residents of different racial and ethnic groups. White residents in Salem City, Penns Grove, Carneys Point, and the Salem area have rates higher than the county average. Black residents of all municipalities where a rate could be calculated, other than the Elmer/Pittsgrove/Upper Pittsgrove area, had rates higher than the county average. The county average rate of preventable hospitalizations for black residents was more than twice the county rate for white residents. Hispanic/Latino residents had rates below the county average, which probably reflects the younger ages of these residents and possibly a reluctance to seek care (see Guarnaccia et al., 2016 for a discussion of Latinos in New Jersey).

Table 2.7: Preventable Hospitalization Rate per 100,000 Residents Overall, Ages 18 and Over by Race/Ethnicity and Municipality, 2009-2013

Municipality	All Residents	White Residents	Black Residents	Hispanic/Latino Residents
Alloway	788	728	**	**
Carneys Point	**3,612**	**3,568**	**4,204**	1,045
Elmer, Pittsgrove, Upper Pittsgrove	1,259	1,209	2,355	**
Lower Alloways Cr.	458	486	0	**
Oldmans	1,339	1,322	**	**
Penns Grove	**5,278**	**5,755**	**5,911**	2,402
Pennsville	2,582	2,607	**6,118**	**
Pilesgrove & Woodstown	2,543	2,363	**4,172**	**
Quinton	452	479	**	**
Salem City	**8,837**	**10,681**	**7,836**	2,487

Municipality	All Residents	White Residents	Black Residents	Hispanic/Latino Residents
Salem Area	**3,648**	**2,937**	**5,957**	1,813
County	2,678	2,381	**5,015**	1,260

Bold where greater than rate for all residents in county
*Salem Area = Elsinboro, Lower Alloways Creek, Mannington, Quinton, Salem
**too few cases to calculate reliable estimate
Sources: American Community Survey, 5 year estimates 2009-2013, NJ Hospital Discharge Data 2009-2013

Avoidable Emergency Department (ED) Use

To calculate avoidable ED visits, we used the NYU Billings Algorithm developed in the 1990s using 5,700 full ED records from six Bronx, New York hospitals.[13] ED and primary care physicians determined the percentage of each diagnosis code that was 1) Nonemergent, meaning that medical care was not required within 12 hours; 2) Primary care treatable, meaning that care was needed within 12 hours but could have been provided in a primary care setting; 3) ED care needed, but preventable/avoidable with proper treatment (e.g., complications from asthma, diabetes, or other conditions); 4) Emergent, ED care needed, not preventable/avoidable (e.g., trauma, appendicitis, etc.). They have continued to update the classifications as diagnosis codes have changed over the years. We have included a detailed breakdown of the types of conditions in several of these categories in Appendix A. A number of codes remained uncategorized—for example, most of the codes we discuss in the section on non-traumatic oral care are not categorized.

There weren't remarkable differences by payer across municipalities with respect to avoidable ED use. Overall, Medicare had the lowest percentage of avoidable admissions (39 percent), with other payers (private insurance, Medicaid and self-pay) at 47 to 48 percent.

Table 2.8 shows the total ED admissions as well as those considered avoidable (categories 1, 2, or 3 above) for each municipality. Penns Grove, Salem City and the Salem Area show elevated numbers of total and avoidable admissions when calculated as a percentage of admissions that were avoidable or as a population-based rate. This indicates that these areas have larger numbers of true emergencies (for example, traumatic injuries) as well as conditions that are preventable with more primary care use or treatable in a primary care setting.

[13] See http://wagner.nyu.edu/faculty/billings/nyued-background (accessed September 8, 2016) or Billings et al (2000).

Table 2.8: Total and Avoidable ED Admissions by Municipality, 2009-2013

Municipality	Total ED Admissions	Avoidable ED Admissions	Percent ED Admissions Avoidable	Population	ED Admissions per 1,000 population	ED Admission Rate as Percent of County Rate	Avoidable ED Admissions per 1,000 population	Avoidable ED Admission Rate as Percent of County Rate
Alloway	2,358	797	33.8%	3,450	136.7	39.9%	46.2	30.0%
Carneys Point	12,366	5,427	43.9%	8,020	308.4	90.0%	135.3	87.8%
Elmer, Pittsgrove, Upper Pittsgrove	16,277	6,702	41.2%	14,167	229.8	67.0%	94.6	61.4%
Elsinboro	31	**	**	1,046	**	**	**	**
Lower Alloways Cr.	424	149	35.3%	1,719	49.3	14.4%	17.4	11.3%
Mannington	382	161	42.3%	1,769	43.2	12.6%	18.3	11.8%
Oldmans	1,904	774	40.7%	1,940	196.3	57.3%	79.8	51.8%
Penns Grove	18,357	9,423	**51.3%**	5,100	**719.9**	210.0%	**369.5**	239.6%
Pennsville	18,158	7,767	42.8%	13,310	272.8	79.6%	116.7	75.7%
Pilesgrove & Woodstown	11,873	4,812	40.5%	7,538	315.0	91.9%	127.7	82.8%
Quinton	1,020	460	45.1%	2,655	76.8	22.4%	34.6	22.5%
Salem City	29,669	14,266	**48.1%**	5,111	**1,161.0**	338.7%	**558.2**	362.0%
Salem Area*	31,526	15,049	**47.7%**	12,300	**512.6**	149.5%	**244.7**	158.7%
County	112,819	50,751	45.0%	65,825	342.8		154.2	

Bold where greater than rate for all residents in county

*Salem Area = Elsinboro, Lower Alloways Creek, Mannington, Quinton, Salem

**too few cases to calculate reliable estimate

Sources: American Community Survey, 5 year estimates 2009-2013, NJ Hospital Discharge Data 2009-2013

Table 2.9 shows the average estimated annual number of ED visits by municipality as well as the average number that are non-emergent and emergent but primary care treatable. There has been some discussion of trying to get an urgent care center somewhere in the county to prevent unnecessary ED visits. These data may show where the demand has been in the last several years. Penns Grove and Carneys Point combined have the highest number (2,539), followed by Salem City. Interviewees report that people dislike traveling much between towns, so it's not clear how far residents would be willing to go for an urgent care center compared with an ED visit.

Table 2.9: Average Estimated Annual Number of ED Visits by Municipality, 2009-2013

Municipality	Total Visits	Non-emergent	Emergent, Primary Care Treatable	NE + EPCT	NE + EPCT As % of Total
Alloway	484	70	72	142	29.2%
Carneys Point	2,487	447	479	927	37.3%
Elmer, Pittsgrove, Upper Pittsgrove	3,341	583	594	1,176	35.2%
Lower Alloways Creek	86	12	14	26	30.3%
Mannington	77	13	15	28	35.9%
Oldmans	384	65	70	135	35.1%
Penns Grove	3,680	765	847	1,612	43.8%
Pennsville	3,649	667	676	1,343	36.8%
Pilesgrove & Woodstown	2,392	388	421	810	33.8%
Quinton	208	37	41	78	37.4%
Salem City	6,001	1,175	1,271	2,446	40.8%
County	*22,794*	*4,222*	*4,501*	*8,723*	*38.3%*

Note: Estimated annual means we have divided the total over the 5 year period by 5.
Source: NJ Hospital Discharge Data 2009-2013, NYU/Billings Algorithm classification

More local research would be needed to see if an urgent care center would be successful. Only some fraction of the visits noted in Table 9 would go to an urgent care center even if every person who knew their case wasn't a true emergency went to urgent care instead of the ED, because some visits can only be defined as a non-emergency retrospectively (e.g., abdominal pain, which may seem like a potential emergency to patients and providers until the cause can be determined, which may involve imaging equipment only available in a hospital). In addition, interviewees indicated to us that some people use the ED because they can get ambulance transportation there—this would not be available for an urgent care center. Other factors that may influence whether residents would use an urgent care center are its location and

accessibility/comfort (both physically and socially), its days and hours of operation, the services offered, the kinds of payments and insurance plans accepted, and the languages spoken and credentials of practitioners.

There are questions about how an urgent care center would affect other providers in the area. For instance, would it reduce the ability of local primary care physicians to coordinate care for their patients by reducing their revenue/capacity or reducing their knowledge about their patients' care? Salem Memorial Hospital has been noted in the press to be struggling with financial sustainability[14]—would an urgent care center harm the hospital? On the other hand, it might provide a welcome respite for primary care practices and the ED, or help the hospital if the hospital was expanding its own operations in a cost-effective way. Both Inspira and Christiana, other health systems in the region, operate urgent care centers. There are also a number of other organizations operating urgent care centers or retail clinics in the state, though none are in Salem County.[15] A clinic operating in three Newark public sites with local community health workers might be a different kind of model to consider (Shahidi et al. 2015).[16] This program took a long time to develop and required a committed medical director to build the necessary relationships, but has trained and employed a number of health workers and empowered the local residents.

One interviewee, commenting on why some Salem County residents may go to the hospital rather than visit a doctor, said: *"When they go to the hospital, they know they're going to … get treated … whereas … if they go to a doctor, maybe not so much … and whether they have a relationship with a doctor … County Health Rankings, number of doctors in Salem County, less doctors in our area … and the hospital's on the bus route, it's a place they know how to get to … by the time they go, it's a substantial health issue, or they feel like it is."*

This interviewee is correct in their interpretation of the County Health Rankings. The 2016 rankings show that Salem has the highest ratio of population to providers of all counties in New Jersey for primary care practitioners and dentists and the fourth highest for mental health providers. Table 2.10 shows the number of practitioners, the number of residents per practitioner and the ranking based on the number of residents per practitioner for each county. Salem County's nearest neighbors, Cumberland and Gloucester, also are not highly ranked,

[14] A Khemlani reports that Salem Memorial Hospital has the lowest operating margin of all hospitals in the state, at -41.6% in 2014 and -37.5% in 2015—see http://www.njbiz.com/article/20160427/NJBIZ01/160429807/inside-the-data-part-1-operating-margins-are-key-to-nonprofit-hospitals-property-tax-concerns (accessed September 8, 2016).

[15] See Baumgarten 2015 (http://www.rwjf.org/en/library/research/2015/06/recent-changes-in-primary-care-delivery-and-health-provider-syst.html); https://www.urgentcarelocations.com/nj/new-jersey-urgent-care; http://www.njspotlight.com/stories/15/06/03/walk-in-clinics/# (all accessed September 8, 2016).

[16] See http://nursing.rutgers.edu/jhchc/ (accessed November 4, 2016).

meaning that Salem County residents cannot easily travel to areas with more practitioners. Those with the resources to obtain care out of state may in some cases find practitioners more easily in Delaware or Pennsylvania.

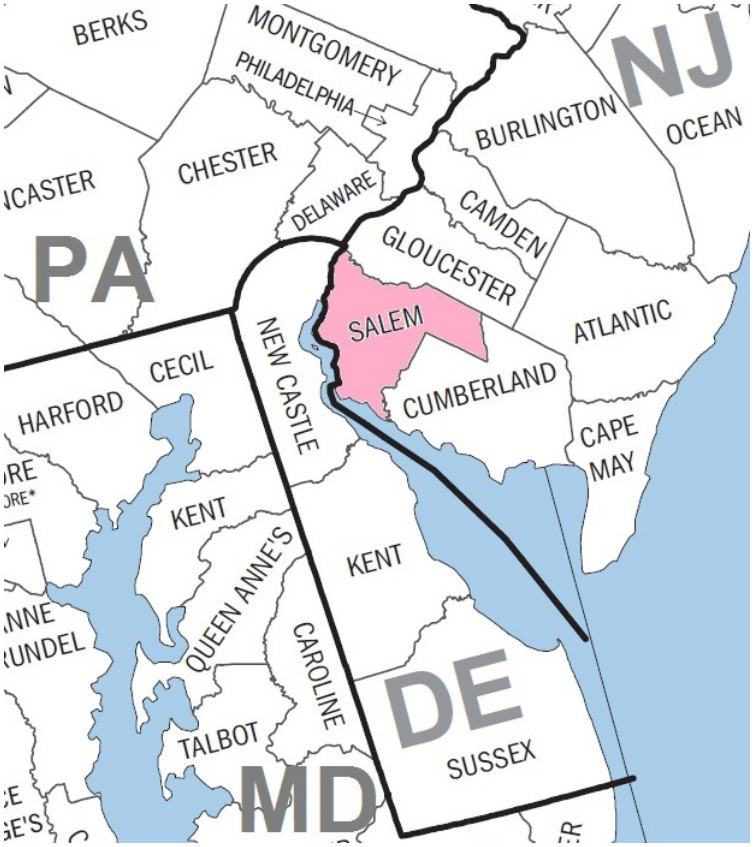
Table 2.10: Residents per Health Practitioner by County

County	Residents per PC Physician (2013)	NJ Rank	Residents per Dentist (2014)	NJ Rank	Residents per MH provider (2015)	NJ Rank
Atlantic	1320	11	1860	18	855	15
Bergen	803	1	800	1	460	6
Burlington	1180	9	1410	12	422	5
Camden	968	7	1348	10	403	2
Cape May	1809	16	1869	19	1048	17
Cumberland	*2185*	*20*	*1730*	*17*	*1290*	*19*
Essex	1196	10	1107	4	538	9
Gloucester	*1728*	*14*	*2273*	*20*	*1360*	*20*
Hudson	1865	17	1716	16	1890	21
Hunterdon	865	2	1224	8	485	8
Mercer	947	5	1295	9	353	1
Middlesex	1052	8	1214	6	638	12
Monmouth	870	3	1018	3	460	7
Morris	957	6	919	2	413	4
Ocean	2099	19	1585	15	782	14
Passaic	1738	15	1446	13	893	16
Salem	**2414**	**21**	**3236**	**21**	**1221**	**18**
Somerset	926	4	1112	5	406	3
Sussex	1947	18	1407	11	707	13
Union	1450	12	1215	7	591	10
Warren	1652	13	1506	14	633	11
New Castle (DE)	*1195*	*(9)*	*1733*	*(17)*	*365*	*(1)*
Delaware (PA)	*924*	*(4)*	*1285*	*(9)*	*423*	*(5)*

Notes: Counties adjacent to Salem shown in *italics*; rates for DE and PA counties are the closest NJ county rank.
Source: 2016 County Health Rankings, measure definitions available at http://www.countyhealthrankings.org/our-approach/health-factors/access-care (accessed October 12, 2016)

Figure 2.1 shows Salem County's location in New Jersey and nearby counties in neighboring states.

Figure 2.1: Map, Salem County and Neighboring Counties



Source: Cropped from https://familysearch.org/wiki/en/File:Njsalem.jpg (accessed October 26, 2016)

Primary Care Coverage of Low-Income People by Federally Qualified Health Centers

Salem County residents are served by federally qualified health centers (FQHCs) where residents can go for primary health care (well visits and nonemergent care as well as dental care). Such visits can reduce ER visits and hospitalizations by controlling chronic medical conditions or treating some conditions in a lower-intensity setting. Southern Jersey Family Medical Centers, Inc. has a clinic in Salem City.[17] Other than Quinton and the Elmer area, most Salem County residents who visit an FQHC seem to use this location. However, as shown in Table 2.11, some Salem County residents visit CompleteCare, with locations in Cumberland and

[17] See http://www.sjfmc.org/locations/salem-center

Gloucester Counties,[18] and a few visit CamCare, which has locations in Paulsboro (Gloucester County) and Clementon (Camden County) in addition to several Camden Locations.[19]

Table 2.11: Salem County Residents Served at Federally Qualified Health Centers

ZCTA*	Place Name**	Population 2010-14	Low-Income Population 2010-14	# of Health Center patients, 2015	Percent served at: (2015)		
					S Jersey Family Medical Center	Community Health Care (Cumberland)	Camcare (Camden)
08001	Alloway	1,125	132	117	85.4%	14.5%	
08023	Deepwater	498	109	0			
08318	Elmer	12,171	2,699	924	11.1%	88.8%	
08038	Hancock's Bridge	75	17	0			
08069	Penn's Grove	12,970	5,337	1,481	89.2%	7.4%	3.3%
08070	Pennsville	12,822	2,736	542	94.6%	5.3%	
08072	Quinton	266	25	20		100.0%	
08079	Salem	10,588	4,425	2,751	92.9%	6.4%	0.5%
08098	Woodstown	9,213	1,667	444	72.2%	27.7%	
Total		59,728	17,147	6,279			

Source: http://www.udsmapper.org/ (accessed October 10, 2016)

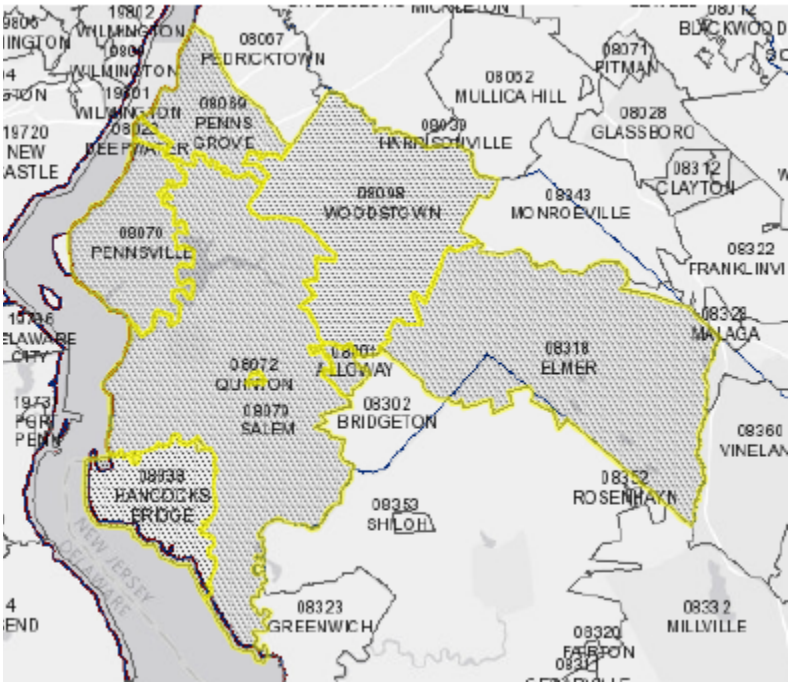
*"ZIP Code Tabulation Areas (ZCTAs) are … built by aggregating Census 2010 blocks .... not all ZIP Codes have their own ZCTA. For more information, see http://www.census.gov/geo/reference/zctas.html.... UDS patients are not lost due to new or changed ZIP Codes." (http://www.udsmapper.org/FAQs.cfm)

**These places differ from official municipal boundaries--see Figure 2.2 for the geographic area included. Specifically, Penns Grove is combined with Carneys Point, Woodstown with Pilesgrove, Elmer with Pittsgrove and Upper Pittsgrove and Salem with Mannington, Elsinboro, part of Lower Alloways Creek and part of Quinton. In addition, small parts of Salem and neighboring counties are included or excluded.

[18] See http://completecarenj.org/#

[19] See https://www.camcare.net/

Figure 2.2: UDS Mapper Areas Included, Salem County



Source: http://udsmapper.org/mapESA.cfm (accessed August 11, 2016)

The UDS Mapper (FQHC data system) shows that the largest numbers of low-income people not served by an FQHC in Salem County for 2015 are in Penns Grove, with the second largest number in Pennsville, followed by Elmer, Salem and Woodstown (shown in Table 2.12). The most notable increases in the low-income population not served by FQHCs from 2013 to 2015 were in Elmer and Woodstown. For now, it would seem that the best single location for a clinic that could serve as an alternative to the ED would be in the Carneys Point/Penns Grove area.

Table 2.12: Federally Qualified Health Center Coverage 2013 and 2015, Salem County

ZCTA*	Place Name**	2013		2015		Increase / (Decrease) 2013-2015	
		% of the Low-Income population served	Low-income population not served by Health Centers	% of the Low-Income population served	Low-income population not served by Health Centers	% of the Low-Income population served	Low-income population not served by Health Centers, 2013-2015
08001	Alloway	104.8%	0	88.6%	15	-16.2%	15
08023	Deepwater	0.0%	142		109	0.0%	-33
08318	Elmer	43.5%	1,163	34.2%	1,775	-9.3%	612
08038	Hancock's Bridge	0.0%	36		17	0.0%	-19

ZCTA*	Place Name**	2013		2015		Increase / (Decrease) 2013-2015	
		% of the Low-Income population served	Low-income population not served by Health Centers	% of the Low-Income population served	Low-income population not served by Health Centers	% of the Low-Income population served	Low-income population not served by Health Centers, 2013-2015
08069	Penn's Grove	29.2%	3,927	27.7%	3,856	-1.4%	-71
08070	Pennsville	24.0%	2,080	19.8%	2,194	-4.2%	114
08072	Quinton	65.2%	8	80.0%	5	14.8%	-3
08079	Salem	60.9%	1,757	62.2%	1,674	1.3%	-83
08098	Woodstown	41.3%	708	26.6%	1,223	-14.7%	515
Total		40.0%	9,821	36.6%	10,868	-3.3%	1,047

Source: http://www.udsmapper.org/ (accessed October 10, 2016 and August 18, 2015)
*"ZIP Code Tabulation Areas (ZCTAs) are … built by aggregating Census 2010 blocks .... not all ZIP Codes have their own ZCTA. For more information, see http://www.census.gov/geo/reference/zctas.html.... UDS patients are not lost due to new or changed ZIP Codes." (http://www.udsmapper.org/FAQs.cfm)
**These places differ from official municipal boundaries--see Figure 1 for the geographic area included. Specifically, Penns Grove is combined with Carneys Point, Woodstown with Pilesgrove, Elmer with Pittsgrove and Upper Pittsgrove and Salem with Mannington, Elsinboro, part of Lower Alloways Creek and part of Quinton. In addition, small parts of Salem and neighboring counties are included or excluded.

ED Visits by Age and Municipality

Tables 2.13a and 2.13b show ED visits (total and avoidable) by age and municipality. To give a sense of the magnitude of avoidable ED visits, we have presented both the percent of ED visits that are avoidable as well as a comparison between the population-based rate of avoidable ED visits for the age group in question with the county rate for that age group. A high percentage of avoidable ED visits suggests that a relatively high share of people who go to the ED could be treated successfully in a lower intensity setting or their condition could be preventable with better primary care. A high population rate relative to the county average for avoidable visits means that a high number of people (relative to the population) are visiting the ED with conditions that could be prevented or treated in lower intensity settings. If, however (as appears to be the case in Salem), there are a large number of people visiting the hospital for non-avoidable reasons as well, the percentage of visits that are avoidable may not be as high. So, Penns Grove comes in higher than Salem across all age groups with respect to the share of ED visits that are avoidable, but Salem City has a consistently higher population based rate. In addition to Penns Grove and Salem City (including the larger Salem area), Carneys Point stands out with high population-based rates of avoidable ED use as well as the share of visits that are avoidable with respect to young children and older children.

Table 2.13a: ED Visits by Age and Municipality, 2009-2013

	Ages 0-4				Ages 5-17			
Municipality	**Total ED Admissions**	**Avoidable ED Admissions**	**Avoidable ED rate per resident as % of County rate**	**Percent ED Admissions Avoidable**	**Total ED Admissions**	**Avoidable ED Admissions**	**Avoidable ED rate per resident as % of County rate**	**Percent ED Admissions Avoidable**
Alloway	111	46	42.5%	41.4%	712	162	74.3%	22.8%
Carneys Point	968	605	169.9%	**62.5%**	1,530	655	210.3%	**42.8%**
Elmer, Pittsgrove, Upper Pittsgrove	1,129	557	134.4%	49.3%	2,608	836	112.1%	32.1%
Lower Alloways Cr.	34	17	8.0%	50.0%	47	**		
Mannington	43	22	6.9%	51.2%	37	**		
Oldmans	171	87	27.4%	50.9%	284	101	33.8%	35.6%
Penns Grove	2,395	1,549	173.7%	**64.7%**	2,799	1,352	210.8%	**48.3%**
Pennsville	1,125	594	26.6%	52.8%	2,203	817	38.8%	37.1%
Pilesgrove/Woodstown	858	434	71.9%	50.6%	1,767	654	71.8%	37.0%
Quinton	85	47	42.4%	55.3%	179	68	57.2%	38.0%
Salem	3,299	2,041	644.7%	**61.9%**	3,975	1,701	564.6%	**42.8%**
Salem Area*	3,462	2,128	198.4%	**61.5%**	4,240	1,798	153.5%	**42.4%**
County	10,219	6,000		58.7%	16,143	6,403		39.7%
State				56.0%				39.9%

Bold where greater than rate for all residents in county

*Salem Area = Elsinboro, Lower Alloways Creek, Mannington, Quinton, Salem

**too few cases to calculate reliable estimate

Sources: NJ Hospital Discharge Data 2009-2013, NYU/Billings Algorithm classification, American Community Survey, 5 year estimates 2009-2013

Table 2.13b: ED Visits by Age and Municipality, 2009-2013

	Ages 18-64				Age 65+			
Municipality	**Total ED Admissions**	**Avoidable ED Admissions**	**Avoidable ED rate per resident as % of County rate**	**Percent ED Admissions Avoidable**	**Total ED Admissions**	**Avoidable ED Admissions**	**Avoidable ED rate per resident as % of County rate**	**Percent ED Admissions Avoidable**
Alloway	1,275	486	25.7%	38.1%	260	103	80.9%	**39.5%**
Carneys Point	8,246	3,649	86.0%	44.2%	1,622	518	89.2%	31.9%
Elmer, Pittsgrove, Upper Pittsgrove	10,480	4,462	59.1%	42.6%	2,060	847	98.8%	**41.1%**
Lower Alloways Cr.	293	108	13.2%	36.8%	50	**		
Mannington	277	113	12.2%	40.9%	25	**		
Oldmans	1,288	519	51.4%	40.3%	161	67	50.9%	**41.7%**
Penns Grove	12,155	6,100	241.7%	**50.2%**	1,008	423	174.2%	**41.9%**
Pennsville	12,946	5,699	80.3%	44.0%	1,884	656	70.0%	34.8%
Pilesgrove/Woodstown	7,445	3,049	84.7%	41.0%	1,803	674	106.8%	37.4%
Quinton	658	304	22.3%	**46.2%**	98	40	20.6%	**41.3%**
Salem	19,961	9,572	380.8%	**48.0%**	2,434	952	367.0%	**39.1%**
Salem Area*	21,214	10,107	164.3%	**47.6%**	2,610	1,015	124.1%	**38.9%**
County	75,049	34,070		45.4%	11,408	4,325		37.9%
State				47.8%				40.1%

Bold where greater than rate for all residents in county

*Salem Area = Elsinboro, Lower Alloways Creek, Mannington, Quinton, Salem

**too few cases to calculate reliable estimate

Source: NJ Hospital Discharge Data 2009-2013, NYU/Billings Algorithm classification, American Community Survey, 5 year estimates 2009-2013

Avoidable ED Visits by Race/Ethnicity and Municipality

Table 2.14 shows population-based avoidable ED visit rates for Salem County municipalities where it was possible to calculate a rate. On average throughout the county, the rate for black residents was nearly three times the rate for white residents, and the rate for Hispanic or Latino residents (who may also be included in the black or white columns depending on how they identified their race) was almost 40 percent higher than the rate for white residents. Black residents had higher population based rates of avoidable ED admissions than white or Hispanic/Latino residents in every municipality. Hispanic/Latino residents were generally higher than white residents, except in Pennsville and the Elmer area. This pattern was different when it came to the percent of visits that were avoidable—this was generally highest for Hispanic/Latino residents of the county, for whom 3,887 out of 7,108 ED visits (55 percent) could be considered avoidable. This rate was 50 percent for black residents (16,435 out of 32,589 visits) and 42 percent for white residents (31,527 out of 74,864 visits). There were two municipalities where population-based rates of avoidable ED visits for white residents were larger than the overall county average: Penns Grove and Salem City. For the greater Salem area, the population-based rate of avoidable ED visits was larger than the county average for white residents, but was not greater than the county average for all residents. In sum, the overall pattern is that black residents in particular and Hispanic/Latino residents to a lesser but still elevated extent had higher rates of avoidable ED visits throughout the county. White residents in Penns Grove and Salem City appear to have rates of avoidable ED admissions comparable to black residents of these municipalities, though in Salem the addition of surrounding municipalities greatly reduces the rate for white residents (by 72 percent) while only reducing the rate for black residents by 22 percent.

Table 2.14: Avoidable ED Visits by Race/Ethnicity and Municipality, 2009-2013

	Avoidable ED Admissions per 1,000 Population			
Municipality	**All Residents**	**White Residents**	**Black Residents**	**Hispanic/Latino Residents**
Alloway	46	40	**224**	**
Carneys Point	135	114	**210**	125
Elmer, Pittsgrove, Upper Pittsgrove	95	89	**181**	71
Lower Alloways Cr.	17	18	**	**
Mannington	18	23	**	**
Oldmans	80	69	**176**	**185**
Penns Grove	**370**	**431**	**371**	**296**
Pennsville	117	115	**313**	70
Pilesgrove & Woodstown	128	109	**241**	**182**
Quinton	35	31	70	85

Municipality	Avoidable ED Admissions per 1,000 Population			
	All Residents	White Residents	Black Residents	Hispanic/Latino Residents
Salem	**558**	**546**	**604**	**272**
Salem Area	**245**	152	**473**	**173**
County	154	119	**350**	**165**

Bold where greater than rate for all residents in county
*Salem Area = Elsinboro, Lower Alloways Creek, Mannington, Quinton, Salem City
**too few cases to calculate reliable estimate (15 or fewer estimated avoidable ED visits)
Source: NJ Hospital Discharge Data 2009-2013, NYU/Billings Algorithm classification, American Community Survey, 5 year estimates 2009-2013

Non-Traumatic Oral Care in the Emergency Department

Following earlier work done by Rutgers CSHP (Lloyd, DeLia & Cantor 2014), we examined ED visits for oral care-related reasons. We included all cases where the primary ICD-9 diagnosis code was within the range of 520 to 529.9, as visits for these conditions should be preventable with regular dental and primary medical care. There were 500 to 600 visits of this kind per year in the county in the 2009 to 2013 period, 32 percent of which were from Salem City. Visits of this type were most common among young adults (there were only 52 such visits for people ages 65 and over in the county). The most common diagnoses were dental caries, abscesses and unspecified dental disorders. The majority of visits were paid by private insurance—generally around half—except in the area of Elmer and the Pittsgroves, which had the highest percent of any municipality paid by self-pay as well as by Medicaid (this area was close to the state average in this regard, while other areas had less Medicaid and more private insurance than in the state as a whole). Table 2.15 shows the breakout of visits and payer by municipality.

Table 2.15: ED Oral Care Visits by Payer and Municipality, 2009-2013

Municipality	Total Oral Care ED Visits	Percent Medicare	Percent Medicaid	Percent Private	Percent Self Pay
Alloway	60	**	**	46.7%	38.3%
Carneys Point	287	**	7.3%	49.1%	40.1%
Elmer, Pittsgrove, Upper Pittsgrove	264	9.5%	18.9%	27.7%	43.2%
Oldmans	28	**	0.0%	57.1%	**
Penns Grove	542	5.4%	6.6%	56.5%	31.4%
Pennsville	424	9.9%	7.1%	42.7%	38.9%
Pilesgrove & Woodstown	242	**	12.8%	50.4%	31.8%
Quinton	26	**	**	61.5%	**
Salem City	931	3.3%	8.1%	57.7%	30.7%

Municipality	Total Oral Care ED Visits	Percent Medicare	Percent Medicaid	Percent Private	Percent Self Pay
County	2,926	5.4%	8.5%	48.8%	33.5%
State	248,944	6.3%	18.7%	30.1%	44.0%

**too few cases to calculate reliable estimate (15 or fewer estimated avoidable ED visits)
Source: NJ Hospital Discharge Data 2009-2013

This raises a few questions. First, do Salem County residents with private health insurance have less dental coverage than people throughout the state, or perhaps lower access to dentists as suggested by the resident to practitioner ratios shown in Table 2.10 (particularly outside the Elmer area, where payer patterns are most similar to the statewide average)? Either of these situations could lead to greater utilization of the ED for dental issues. Second, are there dentists in the Elmer area who do not accept Medicaid, leading residents in that area with Medicaid to visit the ED for dental issues?

Table 2.16 shows visits per 100,000 residents by municipality broken out by the age groups most likely to have this type of visit (younger people). The county was higher than the state in all age categories, but the difference was largest in the 18-34 age group. Salem (both the city and the larger area) and Penns Grove had the highest rates within the county for all age groups examined. Carneys Point was above the state average for all age groups examined; Pennsville for adults 18 and over and Pilesgrove/Woodstown for adults 18-34.

Table 2.16: ED Oral Care Visits per 100,000 Residents, by Age and Municipality, 2009-2013

Municipality	Ages 0-17	Ages 18-34	Ages 35+
Alloway	**	1,348	**
Carneys Point	**236**	**1,835**	**434**
Elmer, Pittsgrove, Upper Pittsgrove	94	1,099	258
Oldmans	**	1,042	**
Penns Grove	***717***	***5,656***	***1,366***
Pennsville	150	**1,838**	**415**
Pilesgrove & Woodstown	192	***2,653***	293
Quinton	**	**	208
Salem City	***1,160***	***8,342***	***2,539***
Salem Area*	***580***	***4,455***	***928***
County	**290**	**2,582**	**496**
State	234	1,399	377

Bold where greater than state average; ***bold & italic*** where greater than county average
*Salem Area = Elsinboro, Lower Alloways Creek, Mannington, Quinton, Salem City
**too few cases to calculate reliable estimate
Source: NJ Hospital Discharge Data 2009-2013, American Community Survey, 5 year estimates 2009-2013

Table 2.17 shows visits per 100,000 residents by municipality broken out by race and ethnicity. County rates were higher than state rates for all groups—51 percent higher for white residents, 61 percent higher for black residents, and 15 percent higher for Hispanic/Latino residents compared with the rates for those racial/ethnic groups at the state level. Salem City and Penns Grove stand out as higher than average for residents of all races/ethnicities. Across the state, ED visit rates for oral care are higher for black residents than others. In Salem County, rates for black residents of Salem City, Penns Grove, the Salem Area, Pennsville, and Pilesgrove/Woodstown are higher than for black residents statewide. The black population of Pennsville at this time was around 200; other municipalities shown were above 800. Rates in Elmer and the Pittsgroves are better than the state and county rates for both white and black residents.

Table 2.17: ED Oral Care Visits per 100,000 Residents, by Race/Ethnicity and Municipality, 2009-2013

Municipality	Total oral care ED visits per 100,000	White oral care ED visits per 100,000	Black oral care ED visits per 100,000	Hispanic oral care ED visits per 100,000
Alloway	348	295	**	0
Carneys Point	**716**	**598**	***1,171***	462
Elmer, Pittsgrove, Upper Pittsgrove	373	360	**706**	**
Oldmans	289	255	**	**
Penns Grove	***2,125***	***2,210***	***2,589***	***998***
Pennsville	**637**	**638**	***1,792***	**
Pilesgrove & Woodstown	**642**	523	***1,514***	**
Quinton	196	188	**	0
Salem City	***3,643***	***2,950***	***4,494***	**741**
Salem Area	***1,592***	**836**	***3,511***	441
County	**859**	**610**	***2,396***	544
State	564	404	***1,492***	475

Bold where greater than all residents in state (546 visits per 100,000); *italic* where greater than all residents in county (859 visits per 100,000)

*Salem Area = Elsinboro, Lower Alloways Creek, Mannington, Quinton, Salem City

**too few cases to calculate reliable estimate

Sources: NJ Hospital Discharge Data 2009-2013, American Community Survey, 5 year estimates 2009-2013

Asthma-Related Visits to the Emergency Department

There were about 400 ED visits on average per year in the 2009-2013 period where the primary diagnosis code was for asthma (all ICD-9 codes beginning with 493). More than half of these (240, on average per year) were among working age adults (18-64), 31 percent of whom were

from Salem City. Table 2.18a shows the number of asthma-related ED visits compared with the population count over the 2009-2013 period.

Table 2.18a: Average Annual Asthma-Related ED Visits and Population Composition, 2009-2013

Municipality	Asthma ED visits	% of County ED visits	% of County population
Alloway	27	1%	5%
Carneys Point	169	8%	12%
Elmer, Pittsgrove, Upper Pittsgrove	321	16%	22%
Oldmans	35	2%	3%
Penns Grove	**329**	**16%**	**8%**
Pennsville	221	11%	20%
Pilesgrove & Woodstown	**286**	**14%**	**11%**
Quinton	19	1%	4%
Salem City	**628**	**31%**	**8%**
Salem Area*	**662**	**32%**	**18%**
County	2,050		

Bold where percent of County ED visits exceeds percent of County population
*Salem Area = Elsinboro, Lower Alloways Creek, Mannington, Quinton, Salem City
Sources: NJ Hospital Discharge Data 2009-2013, American Community Survey, 5 year estimates 2009-2013

Looking at asthma-related ED visits rates by age, Salem City, Penns Grove and Pilesgrove/Woodstown had elevated rates for adults, while Salem City, Carneys Point and Penns Grove had the highest rates for children. Table 2.18b shows the population-based rates by age group for municipalities where that could be calculated.

Table 2.18b: Asthma-Related ED Visits per 100,000 Residents, by Age and Municipality, 2009-2013

Municipality	Ages 0-4	Ages 5-17	Ages 18-64	Ages 65+
Carneys Point	*1,129*	***789***	358	**
Elmer, Pittsgrove, Upper Pittsgrove	*939*	*526*	463	*167*
Penns Grove	*1,105*	*648*	***1,151***	**
Pennsville	128	186	285	**
Pilesgrove/Woodstown	602	270	***975***	107
Salem City	***4,057***	***2,974***	***2,351***	***844***
Salem Area*	*1,246*	***825***	**1,007**	***278***
County	649	429	**594**	162

Municipality	Ages 0-4	Ages 5-17	Ages 18-64	Ages 65+
State	*1,464*	*780*	563	176

Bold where greater than state average for age group; *italics* where greater than county average for age group
*Salem Area = Elsinboro, Lower Alloways Creek, Mannington, Quinton, Salem City
**too few cases to calculate reliable estimate
Sources: NJ Hospital Discharge Data 2009-2013, American Community Survey, 5 year estimates 2009-2013

Looking at asthma-related ED visits by race/ethnicity, rates were elevated for black and Hispanic/Latino residents in all areas with a significant population of these groups, and for white residents in Salem City , Penns Grove and (to a lesser extent) Pilesgrove/Woodstown. White residents in the greater Salem area had rates higher than white residents in the county as a whole and the state, but not as high as white residents in Salem City. Table 2.19 shows the population-based rates by race/ethnicity where these could be calculated.

Table 2.19: Asthma-Related ED Visits per 100,000 Residents, by Race and Municipality, 2009-2013

Municipality	All Residents	White Residents	Black Residents	Hispanic /Latino Residents
Alloway	157	133	**	**
Carneys Point	421	331	**734**	**651**
Elmer, Pittsgrove, Upper Pittsgrove	453	360	**1,486**	**709**
Oldmans	361	336	**	**
Penns Grove	**1,290**	**1,280**	**1,520**	**998**
Pennsville	332	328	**	**
Pilesgrove & Woodstown	**759**	**683**	**1,379**	**
Salem City	**2,457**	**1,871**	**3,113**	**1,481**
Salem Area*	**1,076**	530	**2,450**	**910**
County	**623**	435	**1,703**	**765**
State	601	358	**1,789**	**614**

Bold where greater than all residents in state.
*Salem Area = Elsinboro, Lower Alloways Creek, Mannington, Quinton, Salem City
**too few cases to calculate reliable estimate
Sources: NJ Hospital Discharge Data 2009-2013, American Community Survey, 5 year estimates 2009-2013

Section 3: Pregnancy-Related Hospital Utilization

Overview and Summary of Findings

Because reducing rates of teen pregnancy is an issue of interest to county stakeholders and an objective of the Foundation, we have conducted an analysis of pregnancy-related hospital utilization (inpatient admissions and ED visits) among female residents ages 20 and younger in Salem County over the years 2009 to 2013. It is important to note that utilization is not the same as pregnancy or births—one pregnancy may result in multiple visits or admissions.

Utilization has declined over this period in both the county and the state—pregnancy-related ED visits by young women in Salem County have declined more than similar visits at the state level over this period.

Salem City and Penns Grove stand out with the highest utilization and the youngest average ages of affected patients. Pennsville, Woodstown and Carneys Point are in some cases above either county or state levels of utilization.

White young women in Salem County have the largest number of inpatient admissions and ED visits. However, on a per population basis, black young women have the largest rate of both pregnancy-related inpatient admissions and ED visits. White and black residents of Salem County have higher pregnancy-related hospital utilization rates (inpatient and ED) than the rates for these racial groups of the same ages in the state as a whole. In the municipalities where pregnancy-related utilization is high, all racial and ethnic groups tend to be above their respective county and state averages. Further, it appears that the highest rates are in municipalities on the western side of the county. This could indicate barriers to pregnancy prevention or care on this side of the county.

Salem County has a higher percentage of both pregnancy-related inpatient admissions and ED visits paid for with private insurance, as compared with Medicaid or self-pay. This pattern occurs across municipalities and racial/ethnic groups. The average age of patients does not show a large difference for any payer, though the general pattern is that private insurance patients through age 20 with pregnancy-related utilization (inpatient or ED) in Salem County are slightly younger than patients using other types of payers, and these patients are also slightly younger than similar private insurance patients at the state level.

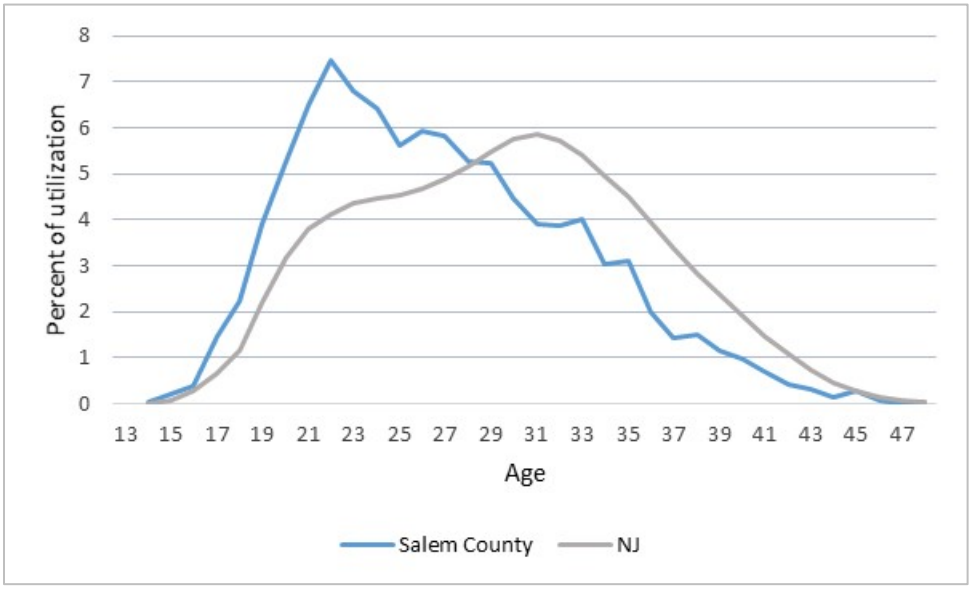
Methods

We searched each individual's first five diagnoses codes for hospital admissions and ED visits for any of around 1,104 ICD-9 diagnosis codes from 630 through 679.1420 that describe any condition related to pregnancy. Individuals who have multiple visits will be included multiple times in the data, and a visit related to a pregnancy does not mean that a birth has occurred. For these reasons, this analysis is not the same as a description of the number of births.

Age of Patients with Pregnancy-Related Hospital Utilization

Figure 3.1 shows the ages of female patients with any type of pregnancy-related hospital utilization (including both inpatient admissions and ED visits) in Salem County and the State of New Jersey from 2009 to 2013.[21] Salem County shows more utilization among younger patients, with the most common age being 21. For the state as a whole, the most common age is 30.

Figure 3.1: All Types of Pregnancy-Related Hospital Utilization, by Age, 2009-2013



Source: NJ Hospital Discharge Data 2009-2013

[20] The exact number of codes may vary by year as codes may be added or retired. In 2013, there were 1,104 potentially relevant codes. See https://www.cms.gov/medicare/coding/ICD9providerdiagnosticcodes/codes.html for a list of the active codes for various time periods (accessed November 5, 2015).

[21] We also calculated utilization per population of women in various age groups using the American Community Survey 5 year estimates for 2009-2013 in case the age distribution of Salem County was different. These figures look similar. The population data groups ages together in different-sized categories that do not present as well as the graph used.

Trend over Time

Table 3.1 shows the number of pregnancy-related inpatient admissions and ED visits for women 20 and under as well as the number of female residents ages 10 to 20 in Salem County for the years 2009 to 2013.

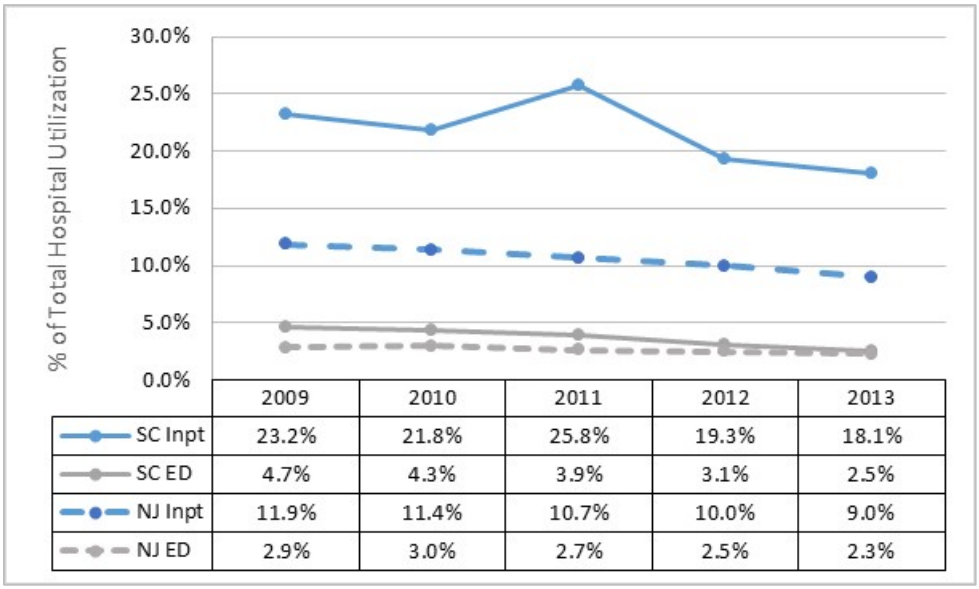
Table 3.1: Population and Hospital Utilization for Female Salem County Residents Ages 10-20, 2009-2013

Year	Female residents ages 10-20	Pregnancy-related utilization		Other utilization	
		Inpatient admissions	ED visits	Inpatient admissions	ED visits
2009	5,450	135	175	447	3,584
2010	5,686	115	145	413	3,237
2011	4,585	120	132	345	3,230
2012	5,207	77	95	321	2,977
2013	4,371	72	75	326	2,887

Sources: American Community Survey Table B01001, 1 year estimates 2009-2013, NJ Hospital Discharge Data 2009-2013

As shown in Figures 3.2 and 3.3, pregnancy-related hospital admissions for young women 20 and under appear to be declining over time in both Salem County and the state as a whole, whether measured in comparison to total hospital utilization or as a population-based rate. Pregnancy-related ED visits appear to have declined more in the county than in the state over time. Pregnancy-related utilization is higher among women 20 and under in Salem County compared with the state. However, of those 20 and under, there weren't any notable trends in the county or the state with respect to the average age over time, or any marked difference between the county and the state.

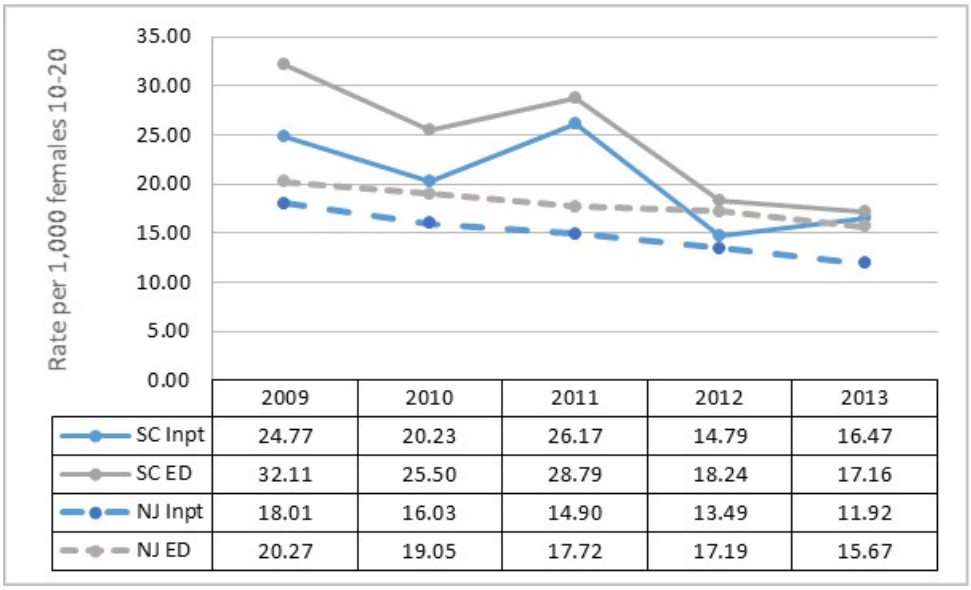
Figure 3.2: Pregnancy-Related Hospital Utilization as a Percent of Total Hospital Utilization, Female Residents Ages 20 and Under, 2009-2013, Salem County and State of NJ



	2009	2010	2011	2012	2013
SC Inpt	23.2%	21.8%	25.8%	19.3%	18.1%
SC ED	4.7%	4.3%	3.9%	3.1%	2.5%
NJ Inpt	11.9%	11.4%	10.7%	10.0%	9.0%
NJ ED	2.9%	3.0%	2.7%	2.5%	2.3%

Source: NJ Hospital Discharge Data 2009-2013

Figure 3.3: Pregnancy-Related Hospital Utilization per 1,000 Female Residents Age 20 and Under, 2009-2013, Salem County and State of NJ



	2009	2010	2011	2012	2013
SC Inpt	24.77	20.23	26.17	14.79	16.47
SC ED	32.11	25.50	28.79	18.24	17.16
NJ Inpt	18.01	16.03	14.90	13.49	11.92
NJ ED	20.27	19.05	17.72	17.19	15.67

Sources: American Community Survey Table B01001, 1 year estimates 2009-2013,
NJ Hospital Discharge Data 2009-2013

Differences by Municipality

Table 3.2 shows pregnancy-related inpatient admissions and ED visits for women ages 20 and younger compared with population levels for Salem County municipalities and the state. Salem City accounts for 29 percent of the inpatient admissions and 36 percent of the ED visits, with population rates three (inpatient) and four times (ED) the county rate and five (inpatient) and six times (ED) the state rate. Penns Grove and Pennsville are the only other municipalities that exceed the county rate. Woodstown exceeds the state rate for both inpatient admissions and ED visits and Carneys Point exceeds the state rate for ED visits. The average patient age is a bit lower for inpatient pregnancy-related admissions among women 20 and under in Salem City and Penns Grove than for other municipalities. For pregnancy-related ED visits in women ages 20 and under, Penns Grove has the lowest average age. Table 3.2 appears to indicate that the highest rates of pregnancy-related utilization are in municipalities on the western side of the county. This could indicate barriers to pregnancy prevention or care on this side of the county. However, there is a great deal of variation among the municipalities on the western side of the county as well.

Table 3.2: Pregnancy-Related Hospital Utilization by Female Salem County Residents Ages 20 and Under, 2009-2013

Municipality	Population--female residents ages 10-20	Percent of County Population	Inpatient pregnancy-related admissions				ED pregnancy-related visits			
			Number of admissions	Percent of County admissions	Admissions per 1,000 population	Average patient age	Number of visits	Percent of County visits	Visits per 1,000 population	Average patient age
Alloway	428	8.9%	**				**			
Carneys Point	531	11.0%	45	8.7%	16.95	18.82	44	7.1%	16.57	18.68
Elmer, Pittsgrove, Upper Pittsgrove	1,026	21.3%	66	12.7%	12.87	18.89	63	10.1%	12.28	18.68
Elsinboro	56	1.2%	0		0.00		0		0.00	
Lower Alloways Cr.	203	4.2%	0		0.00		**			
Mannington	107	2.2%	**				0		0.00	
Oldmans	170	3.5%	**				**			
Penns Grove	407	8.4%	121	23.3%	59.46	18.50	152	24.4%	74.69	18.24
Pennsville	683	14.2%	80	15.4%	23.43	18.94	86	13.8%	25.18	18.48
Pilesgrove	330	6.8%	**				**			
Quinton	161	3.3%	**				0		0.00	
Salem City	413	8.6%	150	28.9%	72.64	18.47	221	35.5%	107.02	18.48
Woodstown	309	6.4%	28	5.4%	18.12	18.89	32	5.1%	20.71	18.69
County	4,824		519		21.52	18.66	622		25.79	18.46
State	627,120		46,372		14.79	18.63	56,079		17.88	18.63

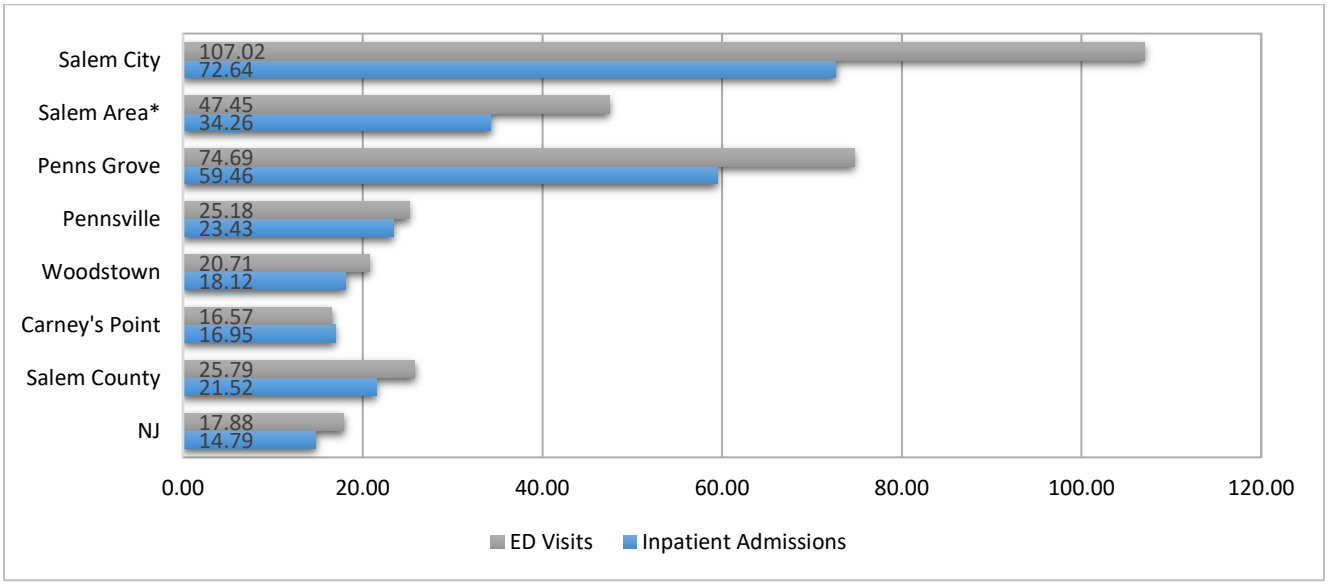
**Numbers suppressed when less than 15.

Sources: American Community Survey Table B01001, 5 year estimates 2009-2013, NJ Hospital Discharge Data 2009-2013

Notes: 1) population rates are less reliable at smaller population levels; 2) combining Woodstown with Pilesgrove brings the admissions per population below the county and state averages. In other hospital/ED analyses in this report we have combined them because Woodstown looked unusually high while Pilesgrove looked unusually low—this was not the case here; 3) combining the Salem area municipalities lowers the population rate, but not below state or county averages—see Figure 3.4.

Figure 3.4 shows the municipalities that exceed either the state or the county rate for inpatient admissions or ED visits.

Figure 3.4: Pregnancy-Related Hospital Utilization per 1,000 Female Residents Ages 10-20, 2009-2013



Sources: American Community Survey Table B01001, 5 year estimates 2009-2013, NJ Hospital Discharge Data 2009-2013
*Salem Area = Elsinboro, Lower Alloways Creek, Mannington, Quinton, Salem City

Differences by Payer

Table 3.3 shows admissions and the average age of the patient for different payer types for both Salem County and the State of New Jersey. Compared with the state, Salem County has a higher percentage of both pregnancy-related inpatient admissions and ED visits paid for with private insurance, as opposed to with Medicaid or self-pay. The average age of patients does not show a large difference for any payer, though the general pattern is that private insurance patients through age 20 with pregnancy-related utilization (inpatient or ED) in Salem County are slightly younger than patients using other types of payers, and these patients are also slightly younger than similar private insurance patients at the state level.

Table 3.3: Pregnancy-Related Hospital Utilization by Payer for Salem County Female Residents Ages 10-20, 2009-2013

Payer Type	Inpatient Admissions					ED Visits				
	Salem County			State of NJ		Salem County			State of NJ	
	Number of Admissions	%	Avg Age	%	Avg Age	Number of ED Visits	%	Avg Age	%	Avg Age
Medicaid	120	23.1%	18.79	49.7%	18.61	142	22.8%	18.82	39.2%	18.56
Private Insurance	374	72.1%	18.59	39.0%	18.61	386	62.1%	18.19	31.8%	18.47
Self Pay	19	3.7%	18.89	9.9%	18.66	88	14.1%	19.01	27.2%	18.91
Other	**					**				
Total	519				18.63	622				18.63

**Numbers suppressed when less than 15.
Source: NJ Hospital Discharge Data 2009-2013

Differences by Race/Ethnicity

White residents have the largest number of inpatient admissions and ED visits, followed by black residents. On a per population basis, black female residents ages 10-19 have the largest rate of both pregnancy-related inpatient admissions and ED visits. White and black residents of Salem County have higher pregnancy-related hospital utilization rates (inpatient and ED) than the rates for these racial groups of the same ages in the state as a whole. In the municipalities where pregnancy-related utilization is high, all racial and ethnic groups tend to be above their respective county and state averages. As was found in the overall results, it appears that the highest rates are in municipalities on the western side of the county, but there is large variability here. Finally, the payer patterns mentioned earlier with respect to young Salem County residents being more likely to pay for pregnancy-related utilization with private insurance holds for all major racial and ethnic groups.

Table 3.4 shows the number of pregnancy-related inpatient admissions and emergency department visits by race and ethnicity for Salem County female residents ages 10-19.[22]

[22] The American Community Survey Population estimates for racial and ethnic categories are not as detailed as the estimates for the entire population, so it was not possible to include residents who were age 20. In addition, population estimates were not easily available for all racial categories other than black and white. Finally, the non-Hispanic estimates are for whites only, which we did not think was valid for this analysis.

Table 3.4: Pregnancy-Related Hospital Utilization by Race/Ethnicity for Salem County Female Residents Ages 10-19, 2009-2013

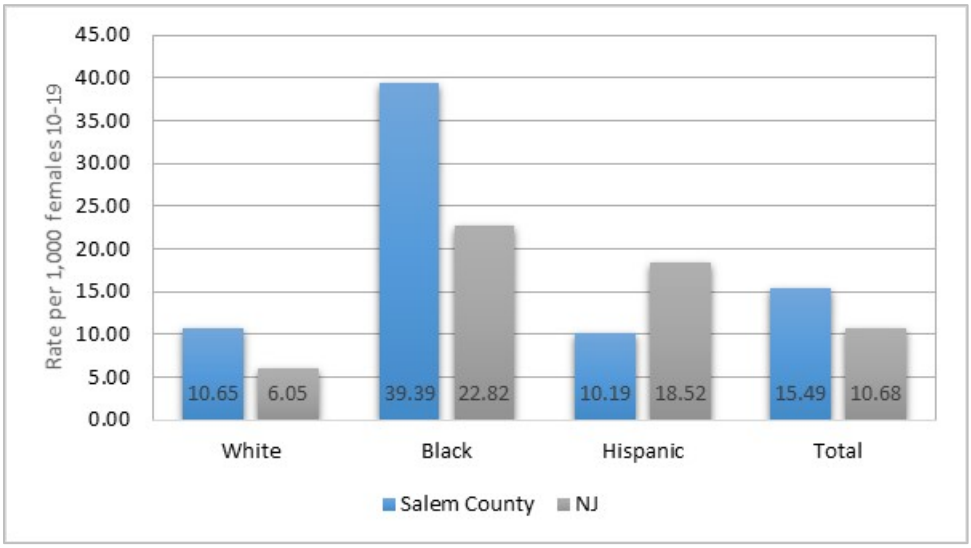
	Female Population ages 10-19	Number of Inpatient admissions	Number of ED visits
Race			
White	3,100	165	214
Black	721	142	186
Other		31	30
Ethnicity			
Hispanic/Latino	569	29	49
Non-Hispanic/Latino		309	381
Total	**4,364**	**338**	**430**

Source: American Community Survey Tables B01001A, B01001B and B01001I,[23]
5 year estimates 2009-2013; NJ Hospital Discharge Data 2009-2013

On a population basis, the rates of pregnancy-related inpatient admissions are highest for young black women at 39.39 admissions per 1,000 individuals, followed by 10.65 admissions per 1,000 individuals for young white women and 10.19 per 1,000 for Hispanic/Latino young women. Figure 3.5 shows the inpatient pregnancy-related admission rate per 1,000 female residents ages 10 to 19 for Salem County and the State of New Jersey. The rates for both white and black women ages 19 and under in Salem County are higher than their corresponding state rates, as is the rate for all women in this age group. For Hispanic/Latino women, however, the Salem County rate is lower than the state rate.

[23] B01001A is those who identify as white alone, B01001B is black alone and B01001I is Hispanic or Latino (any race).

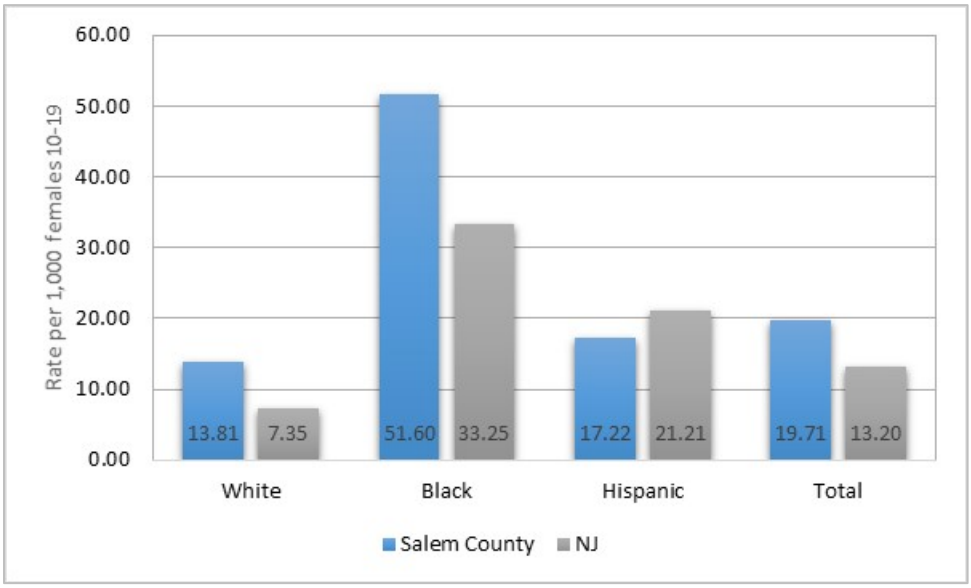
Figure 3.5: Pregnancy-Related Hospital Admissions by Race/Ethnicity for Salem County Female Residents Ages 10-19, 2009-2013



American Community Survey Tables B01001A, B01001B and B01001I,
5 year estimates 2009-2013; NJ Hospital Discharge Data 2009-2013

The rate of pregnancy-related ED visits in Salem County is highest for young black women at 51.60 admissions per 1,000 individuals, followed by 17.22 per 1,000 for Hispanic/Latino young women and 13.81 admissions per 1,000 individuals for young white women. Figure 3.6 shows the pregnancy-related ED visit rate per 1,000 female residents ages 10 to 19 for Salem County and the State of New Jersey. As with the rates of pregnancy-related inpatient admissions, the rates for white women and black women ages 19 and under in Salem County are higher than the corresponding state rates, as is the rate for all women in this age group. For Hispanic/Latino women, however, the Salem County rate is lower than the corresponding state rate.

Figure 3.6: Pregnancy-Related ED Visits by Race/Ethnicity for Salem County Female Residents Ages 10-19, 2009-2013



American Community Survey Tables B01001A, B01001B and B01001I,
5 year estimates 2009-2013; NJ Hospital Discharge Data 2009-2013

Table 3.5 shows pregnancy-related inpatient admissions by municipality and racial/ethnic group and Table 3.6 shows pregnancy-related ED visits. Population estimates by race and age category at the municipality level are less precise with smaller numbers, but we wanted to get a sense of whether pregnancy-related utilization varied by race to help with targeting interventions. On a population-rate basis, Salem City appears to have the highest rates of pregnancy-related utilization for young white and black residents. Penns Grove also has high rates for young white, black and Hispanic/Latina residents. Pennsville (inpatient and ED) and Carneys Point (ED visits only) had higher than average pregnancy-related utilization for young white residents. It does not appear that any racial or ethnic group stands out at the municipality level—instead, it appears that where pregnancy-related utilization is higher than average in a municipality, it is higher than average across different racial and ethnic groups. As with the overall results, it appears that the highest rates are in municipalities on the western side of the county. This could indicate barriers to pregnancy prevention or care on this side of the county. However, there is substantial variability on the western side of the county.

Table 3.5: Pregnancy-Related Hospital Admissions for Female Residents Ages 10-19 by Municipality and Race/Ethnicity, 2009-2013

Municipality	Population estimates, number of female residents ages 10-19				Estimated rate of inpatient pregnancy-related admissions per 1,000 female residents ages 10-19			
	All	White	Black	His-panic/ Latina	All residents	White residents	Black residents	Hispanic/ Latina residents
Carneys Point	378	226	92	74	14.29			
Elmer, Pittsgrove, Upper Pittsgrove	1,005	789	38	206	8.16	7.10	**	
Penns Grove	367	94	159	138	43.60	78.72	36.48	24.64
Pennsville	629	587	0	21	14.63	14.65	**	
Salem City	380	47	299	34	56.84	85.11	58.19	
Salem Area*	856	407	357	63	27.10	12.78	49.86	
County	4,364	3,100	721	569	15.49	10.65	39.39	10.19
State	570,560	371,216	91,726	120,722	10.68	6.05	22.82	18.52

**Numbers suppressed when less than 15 or where inclusion would allow readers to calculate residual amounts where less than 15.

*Salem Area = Elsinboro, Lower Alloways Creek, Mannington, Quinton, Salem City

Sources: American Community Survey Tables B01001, B01001A, B01001B and B01001I, 5 year estimates 2009-2013; NJ Hospital Discharge Data 2009-2013

Table 3.6: Pregnancy-Related ED Visits for Female Residents Ages 10-19 by Municipality and Race/Ethnicity, 2009-2013

Municipality	Population estimates, female residents ages 10-19				Inpatient pregnancy-related ED visits per 1,000 female residents ages 10-19			
	All	White	Black	His-panic/ Latina	All Residents	White residents	Black residents	Hispanic/ Latina residents
Carneys Point	378	226	92	74	15.34	15.93		
Elmer, Pittsgrove, Upper Pittsgrove	1,005	789	38	206	8.56	5.83		
Penns Grove	367	94	159	138	60.49	127.66	57.86	33.33
Pennsville	629	587	0	21	18.44	18.74		
Salem City	380	47	299	34	77.89	148.94	72.24	
Salem Area*	856	407	357	63	35.05	18.18	60.50	
Woodstown	300	212	68	24	16.00			
County	4,364	3,100	721	569	19.71	13.81	51.60	17.22
State	570,560	371,216	91,726	120,722	13.20	7.35	33.25	21.21

**Numbers suppressed when less than 15 or where inclusion would allow readers to calculate residual amounts where less than 15.

*Salem Area = Elsinboro, Lower Alloways Creek, Mannington, Quinton, Salem City

Sources: American Community Survey Tables B01001, B01001A, B01001B and B01001I, 5 year estimates 2009-2013; NJ Hospital Discharge Data 2009-2013

The payer patterns mentioned earlier hold true for all major racial and ethnic groups, as shown in Figures 3.7 and 3.8. Young women in Salem County are more likely to pay for pregnancy-related hospital utilization with private insurance than women of the same racial or ethnic group statewide.

Figure 3.7: Pregnancy-Related Admissions Paid with Private Insurance by Race/Ethnicity for Female Residents Ages 10-19, 2009-2013

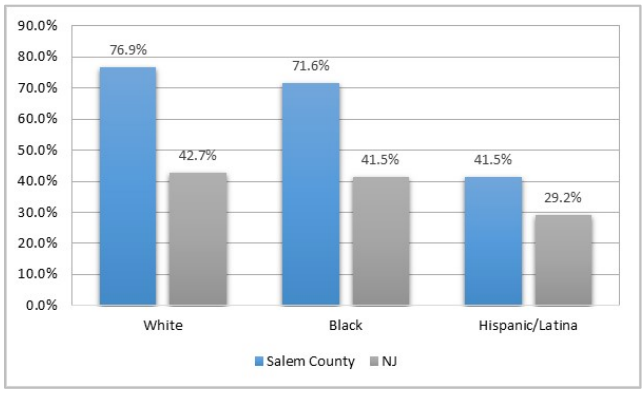
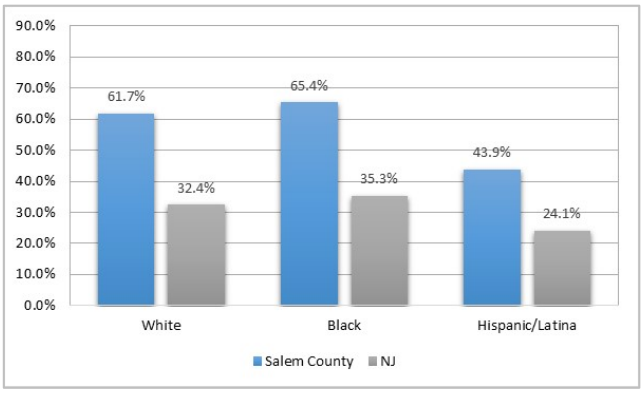


Figure 3.8: Pregnancy-Related ED Visits Paid with Private Insurance by Race/Ethnicity for Female Residents Ages 10-19, 2009-2013



Source: NJ Hospital Discharge Data 2009-2013

Questions and Potential Interventions: Pregnancy

Background

In 2013, Family Health Initiatives conducted a comprehensive assessment of adolescent sexual health issues and resources in Salem County. Their assessment examined epidemiological data, existing resources and activities, and stakeholder input--including teens, parents, resource providers, and other community members (Hannigan and Rojas 2013). Recommendations centered on increasing knowledge, adult supportive capacities, and youth-driven planning. In October 2015, the Salem Health and Wellness Foundation funded teen pregnancy prevention programs: one located in Penns Grove Middle School; the other a countywide effort to improve family communication.[24]

Questions Not Addressed by Hospital Utilization Data

This analysis provides some information about who is utilizing hospital services for pregnancy-related conditions and tells us that any broadly effective strategy will need to target all racial and ethnic groups and people with all types of health insurance. It also suggests some potential geographic areas of focus. However, there are many other questions about what drives pregnancy-related hospital utilization and how to reach potentially-affected young people:

[24] "SHWF & CFNJ Grants for Teen Pregnancy Prevention Programs" Posted October 12, 2015. Accessed November 10, 2015 from http://salemwellnessfoundation.org/shwf-cfnj-grants-for-teen-pregnancy-prevention-programs/

- Motivation to avoid/delay pregnancy—our interviews suggest that some young people are not motivated to avoid or delay pregnancy. One interviewee said: *"it's almost a cultural phenomenon at this point … I don't think our girls … see a lot of futures for themselves, in some of our poorer neighborhoods, and so they live what they learn, and their mothers were young mothers and their grandmothers were young mothers and so it just sort of becomes a self-fulfilling prophecy … local high school … this girl got pregnant … and it was sort of celebrated … it wasn't seen as a big deal for their teen daughters to become pregnant... For the boys … there was even less … opportunity."*
- Existence of services—to what degree do pregnancy prevention/pregnancy care services exist at all, and what are their hours and locations?
- Access to services—can potentially-affected young people reach the services (e.g., transportation) and pay for them (out of pocket costs, accessibility of insurance benefits if in parents' names)? Are there other factors such as a fear of being seen or stigma of going to particular places or purchasing over the counter contraception or related items such as pregnancy tests?
- Knowledge of how to prevent or care for pregnancy—are there gaps in knowledge of young people? The areas with the highest per population pregnancy-related utilization are also the areas with the lowest levels of educational attainment (see Section 1, Table 1.2). The 2013 work by Family Health Initiatives indicated some lack of effectiveness in school-based education on sexuality. The foundation is currently funding work in this area.
- Poorer health may lead to more problematic pregnancies—it may be that poorer overall health is driving some pregnancy-related utilization. That is, even if two geographic areas have the same rate of pregnancies, pregnancy-related hospital utilization would probably be higher in the area with poorer health, assuming access to services in both areas.
- Extent of sexual activity among young people—are there sufficient social and recreational activities for young people that may provide an alternative to sexual activity? Our interviews and other assessments in the area suggest that there are a lack of activities for young people outside school hours and organized sports. The greater frequency of private insurance in paying for pregnancy-related hospital utilization in Salem County versus the rest of the state probably to some degree reflects the younger age of those utilizing services in Salem County, but it may also reflect that those providing the insurance are more likely to be working, which may reduce the time available for supervision of young people. Given the greater frequency of pregnancy-related utilization in municipalities that tend to have higher poverty and unemployment, it may be that parents in these areas are working multiple jobs, lower wage jobs or are

less securely employed, which may reduce the opportunity for parents to finance or supervise activities for young people.

- How to reach at-risk youth—are potentially-affected young people in school, or are they frequently absent, dropping out or pursuing some kind of alternative study? Table 3.7 shows chronic absenteeism rates and suspension rates for middle and high schools in Salem County for 2014-2015. Salem City and Penns Grove are higher than other municipalities. Flanagan (2016) and Advocates for Children of New Jersey (2015) profile several New Jersey schools that have addressed chronic absenteeism, and examples can be found in other states as well (Nadworny 2016, 2015). Some advocate for chronic absenteeism as a measure of school success (Schanzenbach, Bauer and Mumford 2016). New Jersey is conducting stakeholder outreach to design its response to the Every Student Succeeds Act.[25] The New Jersey School Boards Association recently shared an article on restorative justice practices as a way to reduce suspension rates (Healy 2016; see also Mirsky 2011).[26]

Table 3.7: Chronic Absenteeism and Student Suspension Rates, 2014-2015

District	Middle School Chronic Absenteeism	Suspension Rates	
		Middle School	High School
Penns Grove	22.10%	19.10%	8.80%
Pennsville	5.40%	6.30%	5.30%
Pittsgrove	2.50%	14.00%	5.90%
Salem City	24.70%	89.80%*	17.80%
Woodstown	4.90%	8.50%	9.90%

*This is much larger than the three preceding years, which range from 15.3%-34.4%.
Source: New Jersey Department of Education 2014-2015 School Performance Reports Database
http://www.nj.gov/education/pr/1415/database.html

Additional Intervention Opportunities

- Addressing gaps in services/access? The Family Health Initiatives assessment appears to highlight gaps in available health-related services for sexually active teens as well as barriers in accessing those services. However, its recommendations do not address these gaps, focusing instead on "where the greatest impact could be made and what was most realistic given the community's readiness for change" (Hannigan and Rojas 2013: 25). This may indicate some resistance to making services accessible to teens, which can be controversial if parents feel it undermines their authority in the family or

[25] See http://www.state.nj.us/education/ESSA/
[26] The International Institute for Restorative Practices summarizes research on interventions http://www.iirp.edu/what-we-do/share and offers guides in various practice areas (school, community, family, etc.) http://store.iirp.edu/practice-areas/

when people feel that health-related services conflict with religious values. What would stakeholders think about revisiting this issue now?

- Increase use of long-acting reversible contraception (LARCs). There have been several studies noting success in reducing rates of pregnancy, birth and abortion in Iowa (Biggs 2015, Philliber Research and Bixby Center 2012), St. Louis (Secura et al. 2014 and 2012), and Colorado (Lindo and Packham 2015, Ricketts et al. 2014, Office of Colorado Governor 2014) by increasing access to long-acting reversible contraception (LARCs) such as contraceptive implants (a hormone based rod implanted in the upper arm) and intra-uterine devices (IUDs). These forms of contraception have the highest efficacy rates but can involve upfront costs for users and providers as well as training investments for providers. Also, it should be noted that these devices do not prevent sexually-transmitted disease, which is another important priority in Salem County. New Jersey officials have reportedly expressed interest in the Colorado Initiative (Vestal 2015), and the state of Delaware is devoting funds to an effort there (Markell 2016). Would the foundation and other stakeholders be interested in increasing the availability of these devices?
    - The St. Louis study found that rates of pregnancy, birth and abortion were cut in half or more compared with the US population for 18-19 year old women enrolled in the study who were provided free contraception, including LARCs. Rates for young women ages 15-17 were lower than those in the US population, but the difference was not as large as that for 18-19 year olds (Secura et al. 2014).
    - In the Iowa initiative, the number of clients served by Title X Family Planning agencies[27] increased by 11%, use of LARCs increased by 218% for IUDs and 829% for implants, the percent of unintended pregnancies in the state dropped by 5% and abortions dropped 19% (Philliber Research and Bixby Center 2012). A published analysis found reduced odds of abortion with LARC use (Biggs et al. 2015).
    - In Colorado, the teen birth rate dropped 40 percent from 2009 through 2013, creating an estimated savings of $42.5 million in 2010 health care expenditures associated with teen births and moving Colorado from having the 29th lowest teen birth rate in the US in 2008 to having the 19th lowest in 2012. Declines in births among young women served by the Colorado Family Planning Initiative accounted for three-quarters of the decline. The teen abortion rate dropped 35 percent from 2009 to 2012 in counties served by the initiative, and the WIC caseload fell 23 percent from 2008 to 2013. The $23 million initiative used a

[27] There is one Title X provider in Salem County, FamCare (See http://www.hhs.gov/opa/title-x-family-planning/initiatives-and-resources/title-x-grantees-list/ , accessed November 12, 2015).

private foundation to fund LARCs at Title X-funded family planning clinics to eliminate the cost barriers for clients and clinics and also provided general clinic support and training and technical assistance to clinics on issues such as counseling strategies and coding/billing requirements. An economic analysis comparing general drops in fertility across all US counties with Title X clinics with comparison to relevant counties in Colorado estimates that the initiative was responsible for at least a 5 percent relative decline in teen births, with unquantified effects on other age groups (Lindo and Packham 2015, Ricketts et al. 2014, Office of Colorado Governor 2014).

- Curriculum resources. A review article published in 2007 on effective curricula in sex and HIV education programs may be helpful to the foundation in evaluating proposals (Kirby et al 2007: 213).
- Evaluation of adolescent pregnancy prevention approaches. Mathematica Policy Research has evaluated seven models of pregnancy prevention approaches across seven sites in the United States (Mathematica Policy Research 2016).
- Increasing community engagement of youth and families. Interventions mentioned elsewhere in this report that increase the community engagement of youth and/or families could have an effect on pregnancy or STI prevention if they increase the goals that young people have for their futures or increase communication within families.

Section 4: Key Informant Interviews

Interviewees

Sixteen confidential interviews with 17 individuals were conducted in June and July of 2016. Key informants were identified from a list provided by the Foundation. Interviewees work in health, social services, or education in Salem County and work with a variety of populations, from children to seniors. Many also live in the county. CSHP did not provide names of the individual interviewees or the organizations interviewed to the Foundation and will not attribute information directly in this report. Where interviewees suggested other key informants, CSHP communicated these suggestions (though not the identity of the interviewee naming them) to the Foundation.

Interview Methods

Interviews ranged in length from 40 minutes to over two hours, with an average of about one hour. The interview guide is shown in Appendix B. Interviews were audio-recorded and notes were taken during each interview. To analyze the interviews, a table was created showing the topics discussed with the interview responses for each interviewee, which allowed us to see areas of commonality. These themes are discussed below. They are not in order of importance or frequency of mention (such attempts at tabulation are ill-advised with this type of data), but rather reflect the order within the interviews that the topic was discussed because of the structure of the interview guide.

Theme 1: Geographic Areas of Need

The general consensus was that Salem City and Penns Grove are the defined areas that stand out to everyone as most in need of intervention. There are people in need throughout the county (migrant farmworkers and people who have aged and grown frail in their homes were mentioned). However, Salem City and Penns Grove were the only places that people thought it made sense to concentrate on with any programs having a fixed geographic emphasis. Some expressed that Salem City seemed to have more resources for residents, particularly the funds from the Forman S. Acton Educational Foundation. Others felt that a meaningful share of the Salem City activity was fairly superficial or not targeted toward the neediest residents, such that the benefits may accrue mostly to those who already have resources. There was not agreement on this issue—for example, some felt that municipal beautification projects were not a

meaningful improvement for those in poverty, but others disagreed and noted that anything that improved the business or residential climate in the city would influence economic development, which affects the resources available to all.

Theme 2: Resident Lack of Motivation for Health/Wellness

Interviewees generally thought that Salem County residents, particularly those residents who are economically and socially vulnerable, are not currently motivated to take care of their health, and that this is driving the preventable/avoidable use and disparities as well as teen pregnancies as discussed in Section 3. One interviewee thought the best hope for changing this was efforts SHWF is already pursuing with young people in the county, as it may be more difficult to create change in adults' behavior. The economic woes of the area are a large factor in this in terms of creating stress for residents. That is, people who are worried about their employment, housing, and paying for necessities like food are not able to make health a priority. In addition, several interviewees thought that many residents are unable to envision a positive future for themselves, and that this prevents them from pursuing opportunities available to them such as funds for education.

One interviewee noted, *"It seems as though people in Salem County have low self-esteem, and it's hard to pull them out of that... this is where I live, this is the neighborhood I grew up in and this is the way I'm gonna live … You do get people … who … do better … but it seems like the population of people who are not doing better … is more than 50%."* It seemed from the interviews that a number of stakeholders felt this way (see quote on p. 64 regarding teen pregnancy) and that this can be discouraging for staff and volunteers who work with residents. Another interviewee noted the dynamic of successful young people leaving the community because of a lack of jobs and not being able to serve as a mentor or example: *"Salem County has a serious problem with our own kids who go away to college—they don't come back here. You can see what that can do to your community … weren't jobs here for them … isn't a cool place to live for young hip people … there's not a mix … anymore. … they get caught up in stuff… younger people get caught up with them … this whole culture … people who do more … don't stay … don't come back, so they're not people that others in their neighborhood say 'oh, did you see what so-and-so's doing … what accomplishments and successes they have' … I don't think it's part of everyday conversation around here."*

Theme 3: Few Activities for Young People Other Than Organized Sports

The lack of activities for young people during non-school hours other than organized sports was the most common thing mentioned when interviewees were asked for potential interventions

to improve resident health and wellness, even when interviewees didn't work exclusively with children. This was also a prominent theme in a comprehensive needs assessment done in 2014 (Walter Rand Institute for Public Affairs 2014a). A lack of activities for kids can lead to idle time that can be used for activities leading to negative outcomes for both the individuals involved and the community at large (for example, drug use, sexual activity, and crimes like vandalism). A 2012 survey of middle school students (7th and 8th graders) showed Salem County youth less likely than youth statewide to have used marijuana, but more likely to have used prescription drugs, and more likely to have been suspended from school, involved in a gang, carry a handgun or attempt to steal a vehicle (Bloustein Center for Survey Research 2013).

There was no consensus among interviewees about how such activities should be organized (e.g., located in schools or sites outside schools; or what the focus of activities should be). There are many potential ways to approach activities like this—a few examples given were self-development, leadership development and wellness education. There were several comments that identifying mentors and organizing trips to take kids out to see areas beyond the county are highly valued by kids and valuable experiences for them. Herrera (2012) offers a guide for funders on youth mentoring and Sipe (2002) summarizes research on adolescent mentoring. Isles, Inc. is a central New Jersey nonprofit that has a youth institute, among other programs.[28] Another central New Jersey organization offers a variety of learning experiences for youth that could potentially be a model for efforts in Salem County.[29]

Theme 4: Behavioral Health

Behavioral health (including both mental health and substance use) was another common need discussed in all kinds of populations, with some examples given of law enforcement trainings that people thought had been helpful. Behavioral health has consistently been identified as an important issue in county assessments and work plans (Holleran 2016, Live Healthy Salem County 2016, Walter Rand Institute for Public Affairs 2014a, Cumberland/Salem Health & Wellness Alliance and Inspira 2013, Cumberland/Salem Public Health 2007). Lower-income people in the county are subject to a variety of stressors that can drive or exacerbate behavioral health issues, and dementia is more common among older adults now that people are living longer. This could be addressed through training for personnel who deal with low income populations—such as schools, law enforcement/first responders, and social services. There are ongoing efforts in this area, so further work would be needed to identify the best targets for future interventions (Live Healthy Salem County 2016).

[28] See https://isles.org/services/isles-youth-institute/about#.WBi_4vkrLcs (accessed November 1, 2016).
[29] See http://princetonblairstown.org/ (accessed November 1, 2016). Salem appears to have many areas of ecological and historical significance that could potentially serve as sites for programs like this.

Recent data on Narcan deployments in 2016 show that Salem has the 8th highest rate in the state by population (Stirling 2016). A recent New Jersey Hospital Association Report shows that ED visits during 2015 with behavioral health diagnoses as the primary diagnosis are more common in Salem County than statewide (21.2 visits per 1,000 residents for Salem versus 18.5 statewide) (New Jersey Hospital Association 2016).

The New Jersey Substance Abuse Monitoring System (NJSAMS) data for 2015 shows that Salem County residents are more likely to be referred to treatment by the criminal justice system or DYFS than in the state as a whole (36% for Salem versus 29% statewide for criminal justice; 10% for Salem versus 3% statewide for DYFS) and less likely to be self-referred or referred by family/friends (22% for Salem; 30% statewide). Salem County admissions were also less likely to be under age 18 than in the state as a whole (0.9% for Salem; 2.6% statewide).[30] This may indicate a lack of awareness of and/or access to treatment for substance use disorders, such that issues are not addressed until there is a family crisis and/or criminal justice involvement. Among Salem County residents discharged from substance abuse treatment, about 20% had a significant mental health problem, similar to the rate statewide (Zhu 2016a, 2016b). People with mental illness that is not treated successfully may develop substance use disorders, so access to treatment for mental health is important to prevent substance abuse.

Theme 5: Social Isolation/Lack of Community Cohesion

"We get a lot of people, that … who can we call for you? 'Oh, I don't, I don't, I don't have anybody to call.' Well, is there a relative? 'No.' How about a neighbor? 'No.' A friend, a church person? I mean, we get a lot of people that don't have … another contact person, there's not a whole lot of support."

Social isolation could be caused by a variety or combination of factors, including poverty and disability, and reduces the resources residents have to draw upon for support. Several interviewees mentioned older adults throughout the county who may be in declining health and not have people to assist them. Some feel the county Office on Aging is under-resourced in terms of serving as a one-stop location for resident needs including programs seniors may qualify for as well as help advocating with landlords who are not making repairs and the like. A health care provider described difficulty finding the right placement for older patients they see: *"our social workers certainly try to get help … but a lot of … these older patients are certainly very isolated … many of them don't drive or don't have a car, and that makes it very hard for them to get places … we see quite a number of elderly patients who … you feel like … I don't think I can send you home but I don't have a reason to admit you … trying to find something …*

[30] Accessed June 3, 2016 from https://njsams.rutgers.edu/NJSAMS/Reports/SummaryReport/StateSummaryReportMenu.aspx

so that they can be placed in subacute rehab just to gain some strength back and some mobility or possibly for longer term."

In addition to isolation, one interviewee talked about a decline in the sense of community over time: *"30 years ago, the town had a lot of homeowners who lived in their homes … a lot of multigenerational … my parents live three houses down from me, and my aunt and uncle live across the street … they all knew each other, and they knew each other's kids, and they … helped raise each other's kids … somebody else's mom is yelling at you if you're doing something wrong … it was just a neighborhood feel. It's not like that now … difference … is significant…. We have a lot of … people who have come from other places … think it's a huge challenge... problems in those other places that weren't here before are here now … violence …. when you have that going on around you … scary for everybody."*

Property owners not maintaining rental properties was mentioned by a few interviewees as an issue in both Salem City and Penns Grove and can affect renters of any age. SHWF has recently funded Habitat for Humanity to provide needed repairs to owners in need of help. Enforcement issues with landlords are considerably more complex—while SHWF could look into the issue further, this could require policy change and a willingness by government to enforce regulations and/or educate property owners. There may be room for some advocacy work through organizations that interact with seniors to help them access benefits to which they may be entitled, refer them to legal services for landlord issues, etc., as well as expanding what those organizations can do in terms of providing meals or other services to older adults. The National Center for Medical-Legal Partnership (2015) provides a toolkit for how health care and legal professionals can partner to serve vulnerable populations and has a website to show programs by state.[31]

Theme 6: Transportation/Communication Infrastructure

There is a lack of transportation options for many county residents which poses a barrier to accessing employment, health care and wellness services/activities, and medications. The Foundation has supported efforts in this area by subsidizing some forms of transportation. However, the lack of population density in the area limits the success of any mass transit effort. One interviewee noted, with respect to health care:

"there's a lot of problems with following up on their health care … because there's, like, no transportation in Salem County. There's a bus, but it only runs during certain times, so transportation is a problem for all age groups, especially the elderly—they can't get on the bus

[31] See http://medical-legalpartnership.org/ (accessed December 16, 2016).

… a lot of disability, young and old. There's a lot of problems with poor compliance for many reasons—getting their medications, and following up with physicians, because they don't have transportation."

For people who are physically and legally able to drive, programs designed to increase their financial well-being could increase their savings and/or their ability to obtain a loan to purchase a vehicle (Landgraf 2015).

In some areas of the county there is limited communication due to inadequate maintenance of phone wiring while new fiber optic wiring has not been installed (Barlas 2015). This limits emergency response and economic development in these areas.

Theme 7: Evidence-Based Program Cautions

Interviewees had two cautions regarding evidence-based programs: 1) programs designed elsewhere, especially in large cities, may not translate well to Salem County; 2) implementation, particularly staffing, is critical for all programs. The consensus was that evidence-based is best if there is a proven program in the target subject, but that the selection of an evidence-based program is not sufficient to ensure success and may limit participation by dedicated but smaller organizations who cannot afford to purchase access to models: *"to purchase an evidence based model and train your staff and implement it with fidelity and do all of the data tracking, it costs thousands of dollars … it's a real financial commitment that's required, and a lot of times …. individuals and communities who are being very effective … will never be able to compete for federal or state or even foundation dollars … and no one ever comes out to see if it's being implemented with fidelity, or if it's working … there's no accountability for outcomes."* These cautions echoed those raised by scholars of human services programming (Silverstein & Maher 2008; Smyth & Schorr 2009).

Theme 8: Fragmented Communication

Finally, there were a number of comments that communication and staffing can be a bit limited or siloed across organizations in the county. This is common in most places, but some felt the foundation could be a good neutral convener to bring people together and possibly provide technical assistance (as with capacity building grants the foundation has offered) or be a catalyst for resource-sharing (shared space/services among organizations). It may be that the RWJ Culture of Health grant is doing some of this (Live Healthy Salem County 2016). There is also the interagency council.[32]

[32] See http://www.sc-iac.org/29101.html (accessed November 2, 2016).

Notable Mentions

Some topics discussed were not necessarily common among interviewee responses, but seemed worthy of mention.

Books for low-income schoolchildren. Education is seen by most as a way out of poverty, and reading is an important part of overall literacy. Many schools and organizations serving low-income children would like to have books to give their students who may not have access to reading materials at home.

Restructuring grantmaking toward a long-term partnership model, with longer-term grant funding and in-person, on-site evaluation by funders. Many foundations operate on a fairly short grantmaking cycle. However, grant recipients often feel that they need several years to show results when they are trying to staff up and build relationships with high-need, vulnerable populations. They feel that their level of engagement with the people they work with is best seen in person rather than in written reports, and would like funders to talk with their program participants. In addition, sometimes funders have restrictions on funds such that they may not be used to cover staff salaries. While oversight of spending, including staff time, is necessary, restrictions like these may hamper programs looking to serve higher need areas where there aren't many available volunteers who are culturally similar to program participants. A careful investment in staff can create jobs in distressed communities as well as services to residents. This is similar to calls among human services scholars for funding that rewards programs that build robust relationships with clients (Smyth and Schorr 2009), and was mentioned by Family Health Initiatives as a recommendation to support change over time (Hannigan and Rojas 2013: 25).

Section 5: Discussion of Findings

Small Population/Low Population Density

Salem County, unlike many areas in New Jersey, has fairly low population density (See Figure 1.2). The areas that are more densely populated have small populations. This has implications for the staffing of programs in that it generally precludes narrowly targeted interventions because there would not be enough cases to create a sustainable program. This isn't necessarily a problem as many programs serving complex patients find it necessary to provide holistic services rather than being narrowly targeted.

Geographic Areas of Need

The examination of census data, hospital utilization data, and key informant interviews in this report consistently showed that the areas with the highest levels of social needs and avoidable hospital utilization within Salem County are Salem City and Penns Grove.

With respect to health in particular, Salem City and Penns Grove stood out in every measure analyzed for avoidable hospital use, suggesting a widespread lack of preventive care in these areas. Lack of access to care in terms of funds, transportation and the fewer providers per resident in the county compared with neighboring counties are all factors in this. Interviewees felt that resident motivation was also a factor with respect to residents' orientation toward their health and their futures in general.

It is likely that the low ranking of Salem County on many health measures is in large part due to these two municipalities. A comprehensive needs assessment done in 2014 (Walter Rand Institute for Public Affairs 2014a) noted that the dropout rate for Salem City was inflating the county's dropout rate significantly.

A few other municipalities came up in specific analyses: Carneys Point stands out with high population-based rates of avoidable ED use as well as the share of visits that are avoidable with respect to young children and older children. Carneys Point and Pilesgrove/Woodstown showed elevated rates of ED visits for oral care that could have been prevented with quality primary dental care—particularly for black residents but also for white residents. For asthma-related ED visits, Carneys Point had the second highest rate (after Salem City) for youth ages 5 to 17. The rate of asthma-related ED visits for adults ages 18-64 in Pilesgrove/Woodstown was close to the rate in Penns Grove (which was about twice the rate in Salem City).

In addition, there are vulnerable residents in poor health throughout the county. Targeting residents in need anywhere throughout the county is a worthwhile endeavor, but it is unlikely that the low ranking of the county with respect to health measures will change markedly without a serious effort by multiple organizations to address issues in Salem City and Penns Grove.

The issues in Salem City and Penns Grove are likely driven by poverty. Several interviewees raised the point that Salem and Penns Grove have very high poverty rates, but do not get the attention from state and philanthropic funders that more populous high poverty areas of the state get. A recent analysis shows that South Jersey gets less state aid than Central or North Jersey, even after controlling for various factors that influence aid (Hurdle 2016, Shames & Clayton 2016). Section 1 discussed various rates (poverty, unemployment, etc.) among Salem County municipalities only. Table 5.1 shows the ranking of Salem County municipalities among all New Jersey municipalities with respect to the percent of people in poverty from 2010 to 2014. Salem City ranks 1st out of all 565 municipalities in New Jersey and Penns Grove ranks 14th. The ranking is of point estimates--taking into account the margin of error, Salem City and Penns Grove cannot be distinguished from each other or from other high poverty municipalities such as Camden and Atlantic City. For many smaller municipalities, the point estimate of poverty is uncertain because the sample is too small. The Live Healthy New Jersey Blueprint for Action (2016) discusses advocacy to bring attention to the resource issues in Salem and Cumberland Counties. As a county, Salem County ranks 6th (of 21) with respect to the percent of people in poverty, while Cumberland ranks 1st.[33] Thus, Salem County is not well-positioned to distribute county resources to these two very high-poverty areas.

Table 5.1: Percent of People in Poverty and Ranking among All NJ Municipalities, Salem County Municipalities, 2010-2014

Municipality	Percent of People in Poverty	Margin of Error	Rank among NJ Municipalities (n=565)
Alloway	*6.9*	4.4	245
Carneys Point	12.4	2.8	89
Elmer	*14.1*	6.1	68
Elsinboro	*8.6*	3.6	177
Lower Alloways Creek	*8.0*	4.8	202
Mannington	*10.7*	6.6	121
Oldmans	*6.6*	3.6	260
Penns Grove	28.7	7.6	14
Pennsville	11.0	2.7	114
Pilesgrove	*11.7*	7.9	96

[33] American Community Survey 5 year estimates, 2010-2014, DP03

Municipality	Percent of People in Poverty	Margin of Error	Rank among NJ Municipalities (n=565)
Pittsgrove	*7.3*	3.1	232
Quinton	*8.1*	3.8	197
Salem City	41.0	6.4	1
Upper Pittsgrove	*5.6*	4.0	312
Woodstown borough	*9.7*	4.6	137

Source: American Community Survey 5 year estimates, 2010-2014, DP03
Note: italics means the margin of error is greater than 30 percent of the estimate (conventional reliability standard)

Racial Disparities

The analysis in this report showed that most municipalities had significant racial disparities where black residents were more likely to have preventable hospitalizations or avoidable emergency room visits than white residents.[34] These patterns are found at larger geographic levels as well (Kelly 2015, Davis 2011). Interviewees did not know the specific reasons for this. Outreach to the black community can be conducted in a variety of ways. Some examples are through churches, schools, community based organizations and businesses that may cater to black clientele.[35]

An evidence-based initiative called Faith in Prevention (New Jersey Department of Health 2014)[36] is underway in Camden,[37] Newark and Trenton (Stainton 2016b), with Medicaid Accountable Care Organizations (ACOs) coordinating the work. There is not yet a Medicaid ACO in the Salem area, though Inspira Health Networks has a Medicare ACO[38] and participates in a Medicaid ACO learning network.[39] Faith in Prevention uses a curriculum developed in North Carolina called "Faithful Families: Eating Smart and Moving More."[40] It also plans to implement the "Congregational Health Network"[41] a model where churches and hospitals work together to transition congregation members from a hospital stay back to a community setting (Agency for

[34] In New Jersey hospitals only (not Delaware or Pennsylvania) for the years 2009-2013. If there is a racial difference in the extent to which residence travel out of state for hospital care, this could mean that the actual racial disparity is less than reported here. However, for emergency care it is likely that residents stay fairly close to home. For some residents, travel to hospitals in other states may be as close as hospitals in New Jersey, but there is likely still a disparity (as is true within the state and around the country).
[35] For example, the Black Barbershop Heath Outreach program, which has "screened over 30,000 African American men for diabetes and high blood pressure … in 26 cities" http://blackbarbershop.org/ (accessed October 12, 2016).
[36] NJ Department of Health Request for Applications can be found at http://www.nj.gov/health/fhs/documents/faith_in_pre_rfa.pdf (accessed October 26, 2016).
[37] See materials at https://www.camdenhealth.org/faithinprevention/ (accessed October 14, 2016).
[38] See http://www.inspirahealthnetwork.org/accountable-care-organization (accessed October 13, 2016).
[39] See http://www.njbiz.com/article/20150120/NJBIZ01/150129973/Inspira-Thomas-Jefferson-team-up-to-boost-specialty-health-care-in-S-Jersey (accessed October 13, 2016).
[40] See http://www.faithfulfamiliesesmm.org/resources.html
[41] See http://www.methodisthealth.org/about-us/faith-and-health/community/

Healthcare Research and Quality 2014, Halperin 2013, Methodist Healthcare 2016, Stakeholder Health 2016). This requires hospital participation. At least one church in Salem County has implemented an evidence-based program called "Body and Soul"[42] that emphasizes healthy eating.[43] This church could be a starting point for examining the potential for additional interventions (building on what they have already done) as well as a resource for other organizations that may want to explore implementation. Salem County appears to have a robust faith community.

Engaging Residents in Wellness

There wasn't any particular health condition that stood out more than others in our analysis of hospital data. Our interviews suggested that programs targeted narrowly at improving health may not be effective unless they succeed in motivating people to prioritize health. The theme of fragmentation of services suggests that existing programs may not be adequately addressing residents in a holistic way. This is a common problem in social services, as articulated by Smyth and Schor (2009: 4): "The siloing of services may help providers rationalize the mess, but it often diminishes the services' power and undermines needed supports, paralyzing those whose lives are messy. Efforts to integrate and coordinate services (often through "one-stop shopping" centers that house multiple providers) also fall short, in part because they don't view people's problems as being interconnected (as opposed to simply co-occurring). As such, a host of proven interventions may not add up to a proven whole." The Robert Wood Johnson Foundation has been working to encourage a broader culture of health, with examples of community (Plough et al. 2015) and hospital-specific (Health Research and Educational Trust 2014) interventions. Salem County is one of ten initial grantees in New Jersey (Live Healthy Salem County 2016).

Interventions to Address Isolation and Lack of Transportation

Home visiting programs may be a possibility in some cases. Some home visits happen already with home health and meals on wheels for people with limited mobility. In some cases these programs can be enhanced to provide additional supports. One interviewee mentioned that that Ocean County's Meals on Wheels provider has additional services, such as benefits screening and help linking with other agencies for both clients and caregivers as well as nutrition counseling and education.[44] Recent regulatory changes allow for certified

[42] See https://innovations.ahrq.gov/profiles/church-based-program-encourages-african-american-congregants-increase-consumption-fruits

[43] See http://www.inspirahealthnetwork.org/news/region10cancerandchronicdiseasecoalitionpartnerswithmt.zionchurchtoimprovephysicalandspiritualhealthandwellnessofmembers

[44] See http://www.csimow.org/senior-support/ (accessed November 11, 2016).

homemaker-home health aides to take on additional responsibilities in supporting client health (Cantor and Farnham 2016). There are longstanding home visiting programs nationwide, including Salem County, for maternal and child health (we did not specifically ask about this in the interviews and this program was not mentioned by interviewees).[45] Home visiting programs targeting families with pregnant women and young children have recently been reviewed for effectiveness (U.S. Department of Health and Human Services, Administration for Children and Families 2016).[46] There have also been programs for home visits for older children with asthma (Horner 2006). The Centers for Medicare & Medicaid Services has funded 15 "Independence at Home" demonstrations to provide chronically ill patients care through home visits, including one at Christiana Care in Wilmington[47] (Klein et al. 2016). Telehealth programs have also gotten attention recently in more rural parts of the country (Hostetter et al. 2016). New Jersey has not yet defined regulations for telemedicine, though there are some telehealth projects in the state (Stainton 2016a). New Jersey is served by two telehealth resource centers,[48] both of which presented at the state's first rural health symposium in April 2016.[49]

Finding Evidence-Based Initiatives for Salem County

Research on programs that are effective in working with complex participants shows that they emphasize an investment in building trusting relationships and a real partnership between staff and participants, have flexibility to take into account the context of participants' lives, and drive accountability through a strong commitment to participants over time combined with judicious use of data and reflection on the effectiveness of program strategies and tactics (Smyth and Schorr 2009; Schorr 1997; Schorr 1988).

In order for program staff to be effective, they must be stably employed, able to work with participants over an extended period of time, and knowledgeable about additional resources for their participants. Many low-income families face a variety of issues that mutually reinforce one another in a negative way and it takes skill and patience to work with participants to identify their priorities (to ensure their active participation) and to figure out in what order to pursue issues. For example, giving people healthy food may not be effective if they do not have

[45] See http://mchb.hrsa.gov/maternal-child-health-initiatives/home-visiting-overview, http://www.state.nj.us/dcf/families/early/visitation/ and http://www.nj.gov/dcf/families/dfcp/DFCPdirectorySalem.pdf (accessed November 9, 2016).
[46] See http://homvee.acf.hhs.gov/ (accessed December 6, 2016).
[47] See https://innovation.cms.gov/initiatives/Independence-at-Home/ and https://innovation.cms.gov/initiatives/map/index.html#model=independence-at-home-demonstration (accessed November 9, 2016).
[48] See http://www.matrc.org/ and http://netrc.org/ (accessed November 9, 2016).
[49] Agenda available at http://c.ymcdn.com/sites/www.njpca.org/resource/resmgr/Rural_Health_Symp_/FINAL_PROOF_RHS_BROCHURE.pdf (accessed November 9, 2016).

functioning equipment to store and prepare food, or the knowledge of how to do so, or if they are distracted by another crisis.

There are many kinds of issues that could be addressed in Salem County, and exactly what program is selected is not as important as the implementation of that program by committed staff who have the resources necessary to succeed. We have mentioned potential models for the Salem County area throughout this report. Appendix D summarizes the list of program resources mentioned by interviewees or identified by CSHP as potentially relevant for SHWF. We also list below and in Appendix D some more general principles espoused by highly-regarded programs treating complex clients.

Selected Principles/Techniques for Working with Complex Clients

The principles/techniques discussed below may be relevant for programs serving Salem County residents who could benefit from initiatives to improve their health, including those who provide services or interventions. Service providers, particularly those serving residents in crisis, may experience high levels of stress and need support. Several resources discuss these as a group (Camden Coalition n.d., Thomas-Henkel et al. 2015, Chase 2011). We have highlighted those we think may be particularly relevant for Salem County practitioners.

- Recognizing the significance of adverse child experiences (ACEs), which include child abuse, neglect, and a variety of toxic stresses in households/families (American Academy of Pediatrics 2014). Programs in some areas are seeking to prevent or mitigate the effect of ACEs at the community level (Verbitsky-Savitz et al. 2016). Other programs seek to address ACEs at the individual level through the kinds of techniques described below.

- Trauma-informed care for clients as well as service providers—complex clients have often experienced ACEs or other forms of trauma. Serving complex clients is difficult work that can often involve trauma for service providers (including police and emergency response personnel, school staff, etc.—not just staff in programs dedicated to complex clients) who need support for the stresses they experience in helping others. Trauma-informed care involves understanding the impact of trauma, recognizing trauma, responding to trauma and actively avoiding retraumatizing clients (SAMHSA 2015). Researchers have distilled best practices for implementing trauma-informed care (Menschner and Maul 2016). Several interviewees mentioned awareness of this concept, particularly as it related to serving clients.

- Motivational interviewing—a method of interacting with clients designed to elicit the client's own motivation to improve health (Kruszynski et al 2012, SAMHSA 2012).

- Patient activation measurement and support—researchers have distilled a series of questions that measure the extent to which patients feel empowered to manage their health (Hibbard et al 2005), established that these measures affect health outcomes (Greene and Hibbard 2011) and summarized approaches used by clinicians whose patients have increased activation (Greene et al 2016). Five key strategies were emphasizing patient ownership of health, partnering with patients to set goals and strategies for meeting them, identifying small steps patients could take to meet goals, scheduling frequent follow-up with patients to problem solve and build on successes and showing care for patients. These strategies are a practical application of motivational interviewing techniques. Clinicians also used team members to support patients. Successful clinicians reported spending counseling and education as taking up at least half the time with patients, and also reported a more positive attitude toward patients (Greene et al 2016). Two presentations by the measure's designer contain concrete tips on how to increase activation, emphasizing a "high-touch," or personnel-intensive strategy for patients with low activation, beginning with a focus on whatever the patient decides is the most important life goal, whether or not that goal is health-related (Hibbard 2015, 2016). Organizations can license software with the measure and coaching information from Insignia Health.[50]

These concepts are not limited to health care providers, but can also be used by social service providers, educators, clergy and others who work with people over time.

[50] See http://www.insigniahealth.com/ (accessed November 9, 2016).

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Appendix A: Emergency Department Use by Clinical Category, Salem County Residents (all NJ hospitals), 2009-2013

This appendix describes encounters from Uniform Billing Data classified by Clinical Classifications Software (CCS) for ICD-9-CM, single level diagnosis[51] as applied to the primary diagnosis code. The CCS collapses over 14,000 diagnosis codes into about 300 clinically meaningful categories.

It further delineates the visits with reference to categories developed by the NYU Center for Health and Public Services Research to estimate, by looking at the primary diagnosis code, whether ED visits are:[52]

- Non-emergent –medical care not required within 12 hours
- Emergent/Primary Care Treatable - required within 12 hours, but care could have been provided effectively and safely in a primary care setting
- Emergent - ED Care Needed - Preventable/Avoidable - Emergency department care was required, but the emergent nature of the condition was potentially preventable/avoidable if timely and effective ambulatory care had been received during the episode of illness (e.g., the flare-ups of asthma, diabetes, congestive heart failure, etc.)
- Emergent - ED Care Needed - Not Preventable/Avoidable - Emergency department care was required and ambulatory care treatment could not have prevented the condition (e.g., trauma, appendicitis, myocardial infarction, etc.)

Table A.1 combines Non-emergent and Emergent/Primary Care Treatable visits, which are the type of visits that could potentially be served by an urgent care center. Table A.2 adds the Emergent but avoidable with primary care treatment. Table A.3 includes all 4 categories.

Table A.1: All Non-emergent and Emergent/Primary Care Treatable ED Visits by Clinical Classification, 2009-2013

Sorted by frequency (Total 58,822—included only if 15 or more visits)

Clinical Classification	Number of Visits	Percent of Visits
Other upper respiratory infections	5,601	9.52
Skin and subcutaneous tissue infections	3,239	5.51

[51] https://www.hcup-us.ahrq.gov/toolssoftware/ccs/ccs.jsp
[52] http://wagner.nyu.edu/faculty/billings/nyued-background

Clinical Classification	Number of Visits	Percent of Visits
Spondylosis; intervertebral disc disorders; other back problems	3,009	5.12
Abdominal pain	2,917	4.96
Headache; including migraine	2,797	4.76
Acute bronchitis	2,783	4.73
Urinary tract infections	2,677	4.55
Allergic reactions	2,062	3.51
Asthma	2,050	3.49
Nonspecific chest pain	1,825	3.1
Otitis media and related conditions	1,771	3.01
Disorders of teeth and jaw	1,448	2.46
Noninfectious gastroenteritis	1,345	2.29
Nausea and vomiting	1,287	2.19
Viral infection	1,214	2.06
Calculus of urinary tract	1,176	2
Other connective tissue disease	1,140	1.94
Essential hypertension	1,006	1.71
Other non-traumatic joint disorders	1,005	1.71
Other lower respiratory disease	998	1.7
Other gastrointestinal disorders	862	1.47
Pneumonia (except that caused by tuberculosis or sexually transmitted disease)	861	1.46
Intestinal infection	859	1.46
Conditions associated with dizziness or vertigo	753	1.28
Other ear and sense organ disorders	738	1.25
Gastritis and duodenitis	649	1.1
Syncope	618	1.05
Chronic obstructive pulmonary disease and bronchiectasis	588	1
Inflammation; infection of eye (except that caused by tuberculosis or sexually transmitted disease)	574	0.98
Hemorrhage during pregnancy; abruptio placenta; placenta previa	564	0.96
Menstrual disorders	521	0.89
Other skin disorders	498	0.85
Ovarian cyst	473	0.8
Other upper respiratory disease	472	0.8
Cardiac dysrhythmias	470	0.8
Other complications of pregnancy	460	0.78
Mycoses	380	0.65
Administrative/social admission	357	0.61
Epilepsy; convulsions	349	0.59

Clinical Classification	Number of Visits	Percent of Visits
Other female genital disorders	346	0.59
Diabetes mellitus with complications	340	0.58
Other nervous system disorders	296	0.5
Inflammatory diseases of female pelvic organs	294	0.5
Esophageal disorders	291	0.49
Diabetes mellitus without complication	263	0.45
Biliary tract disease	250	0.43
Malaise and fatigue	247	0.42
Other bone disease and musculoskeletal deformities	243	0.41
Residual codes; unclassified	210	0.36
Influenza	195	0.33
Osteoarthritis	175	0.3
Other aftercare	169	0.29
Sexually transmitted infections (not HIV or hepatitis)	169	0.29
Hemorrhoids	153	0.26
Lymphadenitis	151	0.26
Other infections; including parasitic	147	0.25
Nonmalignant breast conditions	146	0.25
Immunizations and screening for infectious disease	138	0.23
Gout and other crystal arthropathies	125	0.21
Acute and chronic tonsillitis	121	0.21
Diseases of mouth; excluding dental	119	0.2
Inflammatory conditions of male genital organs	116	0.2
Abdominal hernia	113	0.19
Other eye disorders	112	0.19
Coronary atherosclerosis and other heart disease	99	0.17
Genitourinary symptoms and ill-defined conditions	96	0.16
Gastrointestinal hemorrhage	95	0.16
Congestive heart failure; nonhypertensive	82	0.14
Regional enteritis and ulcerative colitis	78	0.13
Spontaneous abortion	68	0.12
Deficiency and other anemia	67	0.11
Gastroduodenal ulcer (except hemorrhage)	64	0.11
Medical examination/evaluation	62	0.11
Benign neoplasm of uterus	60	0.1
Other male genital disorders	54	0.09
Other inflammatory condition of skin	51	0.09

Clinical Classification	Number of Visits	Percent of Visits
Miscellaneous disorders	49	0.08
Normal pregnancy and/or delivery	44	0.07
Sickle cell anemia	42	0.07
Thyroid disorders	39	0.07
Other diseases of veins and lymphatics	37	0.06
Other endocrine disorders	31	0.05
Septicemia (except in labor)	30	0.05
Joint disorders and dislocations; trauma-related	26	0.04
Delirium, dementia, and amnestic and other cognitive disorders	26	0.04
Hypertension with complications and secondary hypertension	25	0.04
Anal and rectal conditions	23	0.04
Other screening for suspected conditions (not mental disorders or infectious disease)	21	0.04
Other diseases of kidney and ureters	20	0.03
Open wounds of head; neck; and trunk	20	0.03
Parkinson`s disease	19	0.03
Fluid and electrolyte disorders	18	0.03
HIV infection	17	0.03
Intestinal obstruction without hernia	16	0.03

Table A.2 adds in the Preventable/Avoidable visits to the Nonemergent and Emergent but Primary Care Treatable visits noted in Table 1.

Table A.2: All Avoidable and Preventable ED visits by Clinical Classification, 2009-2013

Sorted by frequency (Total 59,355—included only if 15 or more visits)

Clinical Classification	Number of Visits	Percent of Visits
Other upper respiratory infections	5,601	9.44
Skin and subcutaneous tissue infections	3,239	5.46
Spondylosis; intervertebral disc disorders; other back problems	3,009	5.07
Abdominal pain	2,917	4.91
Urinary tract infections	2,890	4.87
Headache; including migraine	2,797	4.71
Acute bronchitis	2,783	4.69
Allergic reactions	2,062	3.47
Asthma	2,050	3.45
Nonspecific chest pain	1,825	3.07
Otitis media and related conditions	1,771	2.98
Disorders of teeth and jaw	1,448	2.44
Noninfectious gastroenteritis	1,345	2.27
Nausea and vomiting	1,287	2.17
Viral infection	1,214	2.05
Calculus of urinary tract	1,176	1.98
Other connective tissue disease	1,140	1.92
Essential hypertension	1,006	1.69
Other non-traumatic joint disorders	1,005	1.69
Other lower respiratory disease	1,001	1.69
Other gastrointestinal disorders	862	1.45
Pneumonia (except that caused by tuberculosis or sexually transmitted disease)	861	1.45
Intestinal infection	859	1.45
Conditions associated with dizziness or vertigo	753	1.27
Other ear and sense organ disorders	738	1.24
Gastritis and duodenitis	649	1.09
Syncope	618	1.04
Chronic obstructive pulmonary disease and bronchiectasis	588	0.99
Inflammation; infection of eye (except that caused by tuberculosis or sexually transmitted disease)	574	0.97
Hemorrhage during pregnancy; abruptio placenta; placenta previa	564	0.95
Menstrual disorders	521	0.88
Other skin disorders	498	0.84

Clinical Classification	Number of Visits	Percent of Visits
Ovarian cyst	473	0.8
Other upper respiratory disease	472	0.8
Cardiac dysrhythmias	470	0.79
Other complications of pregnancy	460	0.77
Diabetes mellitus with complications	443	0.75
Mycoses	380	0.64
Administrative/social admission	357	0.6
Epilepsy; convulsions	349	0.59
Other female genital disorders	346	0.58
Coronary atherosclerosis and other heart disease	305	0.51
Other nervous system disorders	296	0.5
Inflammatory diseases of female pelvic organs	294	0.5
Esophageal disorders	291	0.49
Diabetes mellitus without complication	263	0.44
Biliary tract disease	250	0.42
Malaise and fatigue	247	0.42
Other bone disease and musculoskeletal deformities	243	0.41
Residual codes; unclassified	210	0.35
Influenza	195	0.33
Osteoarthritis	175	0.29
Other aftercare	169	0.28
Sexually transmitted infections (not HIV or hepatitis)	169	0.28
Hemorrhoids	153	0.26
Lymphadenitis	151	0.25
Other infections; including parasitic	147	0.25
Nonmalignant breast conditions	146	0.25
Immunizations and screening for infectious disease	138	0.23
Gout and other crystal arthropathies	125	0.21
Acute and chronic tonsillitis	121	0.2
Diseases of mouth; excluding dental	119	0.2
Inflammatory conditions of male genital organs	116	0.2
Abdominal hernia	113	0.19
Other eye disorders	112	0.19
Genitourinary symptoms and ill-defined conditions	96	0.16
Gastrointestinal hemorrhage	95	0.16
Congestive heart failure; nonhypertensive	82	0.14
Regional enteritis and ulcerative colitis	78	0.13

Clinical Classification	Number of Visits	Percent of Visits
Spontaneous abortion	68	0.11
Deficiency and other anemia	67	0.11
Gastroduodenal ulcer (except hemorrhage)	64	0.11
Medical examination/evaluation	62	0.1
Benign neoplasm of uterus	60	0.1
Other male genital disorders	54	0.09
Other inflammatory condition of skin	51	0.09
Miscellaneous disorders	49	0.08
Normal pregnancy and/or delivery	44	0.07
Sickle cell anemia	42	0.07
Thyroid disorders	39	0.07
Other diseases of veins and lymphatics	37	0.06
Other endocrine disorders	31	0.05
Septicemia (except in labor)	30	0.05
Joint disorders and dislocations; trauma-related	26	0.04
Delirium, dementia, and amnestic and other cognitive disorders	26	0.04
Hypertension with complications and secondary hypertension	25	0.04
Anal and rectal conditions	23	0.04
Other screening for suspected conditions (not mental disorders or infectious disease)	21	0.04
Other diseases of kidney and ureters	20	0.03
Open wounds of head; neck; and trunk	20	0.03
Parkinson`s disease	19	0.03
Fluid and electrolyte disorders	18	0.03
HIV infection	17	0.03
Intestinal obstruction without hernia	16	0.03

Table A.3 includes all ED visits from all categories.

Table A.3: All ED Visits by Clinical Classification, 2009-2013

Sorted by frequency (Total 113,972—included only if 15 or more visits)

Clinical Classification	Number of Visits	Percent of Visits
Sprains and strains	9,607	8.43
Superficial injury; contusion	7,540	6.62
Other upper respiratory infections	5,656	4.96
Open wounds of extremities	3,875	3.4
Spondylosis; intervertebral disc disorders; other back problems	3,357	2.95
Skin and subcutaneous tissue infections	3,299	2.89
Headache; including migraine	2,980	2.61
Abdominal pain	2,918	2.56
Urinary tract infections	2,902	2.55
Acute bronchitis	2,783	2.44
Disorders of teeth and jaw	2,627	2.3
Other injuries and conditions due to external causes	2,541	2.23
Allergic reactions	2,483	2.18
Open wounds of head; neck; and trunk	2,406	2.11
Asthma	2,050	1.8
Nonspecific chest pain	1,825	1.6
Other gastrointestinal disorders	1,801	1.58
Otitis media and related conditions	1,801	1.58
Fracture of upper limb	1,791	1.57
Mood disorders	1,691	1.48
Other connective tissue disease	1,687	1.48
Other nervous system disorders	1,638	1.44
Other complications of pregnancy	1,553	1.36
Noninfectious gastroenteritis	1,345	1.18
Viral infection	1,306	1.15
Nausea and vomiting	1,287	1.13
Anxiety disorders	1,257	1.1
Calculus of urinary tract	1,192	1.05
Other lower respiratory disease	1,118	0.98
Inflammation; infection of eye (except that caused by tuberculosis or sexually transmitted disease)	1,073	0.94
Fracture of lower limb	1,058	0.93
Other non-traumatic joint disorders	1,051	0.92
Essential hypertension	1,006	0.88

Clinical Classification	Number of Visits	Percent of Visits
Pneumonia (except that caused by tuberculosis or sexually transmitted disease)	927	0.81
Epilepsy; convulsions	911	0.8
Intestinal infection	870	0.76
Residual codes; unclassified	857	0.75
Intracranial injury	845	0.74
Conditions associated with dizziness or vertigo	836	0.73
Schizophrenia and other psychotic disorders	765	0.67
Other ear and sense organ disorders	749	0.66
Chronic obstructive pulmonary disease and bronchiectasis	699	0.61
Other aftercare	678	0.59
Gastritis and duodenitis	656	0.58
Other upper respiratory disease	635	0.56
Cardiac dysrhythmias	630	0.55
Syncope	618	0.54
Fever of unknown origin	615	0.54
Substance-related disorders	587	0.52
Fluid and electrolyte disorders	582	0.51
Hemorrhage during pregnancy; abruptio placenta; placenta previa	574	0.5
Genitourinary symptoms and ill-defined conditions	571	0.5
Other skin disorders	551	0.48
Menstrual disorders	529	0.46
Alcohol-related disorders	486	0.43
Ovarian cyst	474	0.42
Poisoning by nonmedicinal substances	474	0.42
Joint disorders and dislocations; trauma-related	466	0.41
Diabetes mellitus with complications	466	0.41
Mycoses	414	0.36
Osteoarthritis	407	0.36
Burns	403	0.35
Other fractures	400	0.35
Other female genital disorders	385	0.34
Complications of surgical procedures or medical care	376	0.33
Administrative/social admission	375	0.33
Coronary atherosclerosis and other heart disease	352	0.31
Skull and face fractures	347	0.3
Inflammatory diseases of female pelvic organs	346	0.3
Other screening for suspected conditions (not mental disorders or infectious	342	0.3

Clinical Classification	Number of Visits	Percent of Visits
disease)		
Medical examination/evaluation	336	0.29
Crushing injury or internal injury	335	0.29
Esophageal disorders	308	0.27
Diabetes mellitus without complication	286	0.25
Hypertension with complications and secondary hypertension	266	0.23
Biliary tract disease	260	0.23
Other bone disease and musculoskeletal deformities	254	0.22
Malaise and fatigue	247	0.22
Poisoning by other medications and drugs	244	0.21
Sexually transmitted infections (not HIV or hepatitis)	232	0.2
Delirium, dementia, and amnestic and other cognitive disorders	219	0.19
Hemorrhoids	211	0.19
Diseases of mouth; excluding dental	211	0.19
Other infections; including parasitic	204	0.18
Influenza	202	0.18
Immunizations and screening for infectious disease	201	0.18
Abdominal hernia	194	0.17
Gastrointestinal hemorrhage	190	0.17
Diverticulosis and diverticulitis	186	0.16
Lymphadenitis	182	0.16
Inflammatory conditions of male genital organs	179	0.16
Complication of device; implant or graft	170	0.15
Screening and history of mental health and substance abuse codes	168	0.15
Nonmalignant breast conditions	163	0.14
Gout and other crystal arthropathies	162	0.14
Acute cerebrovascular disease	161	0.14
Other eye disorders	151	0.13
Cardiac arrest and ventricular fibrillation	150	0.13
Spontaneous abortion	148	0.13
Adjustment disorders	147	0.13
Other perinatal conditions	144	0.13
Miscellaneous disorders	143	0.13
Acute myocardial infarction	141	0.12
Other complications of birth; puerperium affecting management of mother	135	0.12
Other male genital disorders	132	0.12
Acute and chronic tonsillitis	122	0.11

Clinical Classification	Number of Visits	Percent of Visits
Other circulatory disease	118	0.1
Pleurisy; pneumothorax; pulmonary collapse	111	0.1
Pancreatic disorders (not diabetes)	110	0.1
Phlebitis; thrombophlebitis and thromboembolism	103	0.09
Other inflammatory condition of skin	99	0.09
Transient cerebral ischemia	98	0.09
Attention-deficit, conduct, and disruptive behavior disorders	94	0.08
Congestive heart failure; nonhypertensive	91	0.08
Regional enteritis and ulcerative colitis	87	0.08
Deficiency and other anemia	86	0.08
Anal and rectal conditions	83	0.07
Gastroduodenal ulcer (except hemorrhage)	71	0.06
Coagulation and hemorrhagic disorders	71	0.06
Poisoning by psychotropic agents	67	0.06
Thyroid disorders	67	0.06
Hyperplasia of prostate	65	0.06
Benign neoplasm of uterus	60	0.05
Other diseases of veins and lymphatics	55	0.05
Other liver diseases	54	0.05
Intestinal obstruction without hernia	51	0.04
Chronic ulcer of skin	49	0.04
Rheumatoid arthritis and related disease	49	0.04
Other hereditary and degenerative nervous system conditions	48	0.04
Normal pregnancy and/or delivery	45	0.04
Other diseases of kidney and ureters	42	0.04
Sickle cell anemia	42	0.04
Endometriosis	41	0.04
Other endocrine disorders	41	0.04
Other nutritional; endocrine; and metabolic disorders	37	0.03
Blindness and vision defects	35	0.03
Septicemia (except in labor)	33	0.03
Conduction disorders	32	0.03
Lung disease due to external agents	32	0.03
Aortic; peripheral; and visceral artery aneurysms	31	0.03
Varicose veins of lower extremity	30	0.03
Bacterial infection; unspecified site	29	0.03
Respiratory failure; insufficiency; arrest (adult)	27	0.02

Clinical Classification	Number of Visits	Percent of Visits
Systemic lupus erythematosus and connective tissue disorders	27	0.02
Other and unspecified benign neoplasm	27	0.02
Disorders of lipid metabolism	27	0.02
Suicide and intentional self-inflicted injury	26	0.02
Other disorders of stomach and duodenum	25	0.02
Developmental disorders	25	0.02
Postabortion complications	24	0.02
Pathological fracture	22	0.02
Appendicitis and other appendiceal conditions	20	0.02
HIV infection	20	0.02
Impulse control disorders, NEC	20	0.02
Peripheral and visceral atherosclerosis	19	0.02
Chronic kidney disease	19	0.02
Parkinson`s disease	19	0.02
Ectopic pregnancy	17	0.01
Diseases of white blood cells	17	0.01
Infective arthritis and osteomyelitis (except that caused by tuberculosis or sexually transmitted disease)	15	0.01
Personality disorders	15	0.01

Appendix B: Interview Questions

1. For my background, can you briefly tell me about your history with Salem County and how you interact with Salem County residents now? [Examples—live and work there, community/school related activities in addition to work?]

2. The Foundation is interested in addressing the needs of people throughout the county. Salem City and Penns Grove tend to show up in census statistics as the highest needs areas in the county (poverty, employment, disability, education, preventable hospital use). Are there areas of high need outside these places that you encounter? Please describe the issues you see and the people affected. Within Salem City and Penns Grove, where are particular areas of need that you encounter, and what issues and affected populations do you see there?

3. For these issues that you encounter, do you have suggestions of evidence based interventions that might help to address them?

4. I did a preliminary analysis of hospital use data and found, as is true state and nation-wide, that there are racial disparities throughout the county where Black residents are more likely to be treated in the emergency room or hospital for conditions that are preventable with regular medical care. Are you aware of successful interventions that reduce ER use or improve primary care or resident wellness? These initiatives could work directly with the African-American population or could involve outreach/education to providers about issues affecting African-Americans.

5. Do you have ideas or suggestions for initiatives to address any issues you see with other racial or ethnic groups (such as the Latino/Hispanic population), or other demographic groups (older adults, people with disabilities, etc.)?

6. Where do you think the areas of greatest opportunity are to address the current needs in the county?
    a. Are there areas where the Foundation could build on something that shows promise but needs to scale up?
    b. Who are other community stakeholders that the Foundation should be working with?

7. Are there things to avoid with the kinds of programs we've discussed?

8. As I think about creating a report for the Foundation summarizing data for the county, are there particular questions you have or data I could try to gather that would be useful for you in securing funds from sponsors other than the Foundation?

9. Are there other people you'd particularly recommend I speak with about these issues? After completing the interviews, we're planning to do a couple of community meetings to gather more detailed ideas for local interventions—for the ideas you've mentioned, do you have thoughts on how to recruit participants, where to hold meetings, and how to get people comfortable sharing information?

10. Anything else you think is important that we haven't discussed?

Appendix C: Data Resources for Salem County

Assets and Opportunity http://localdata.assetsandopportunity.org/map

Maps by city or other geographic levels showing rates of asset poverty, liquid assets poverty, and lacking a bank account or using alternative financial services (payday loans, etc.)

Centers for Disease Control and Prevention: http://www.cdc.gov/DataStatistics/

County Health Rankings:[53] http://www.countyhealthrankings.org/

A Robert Wood Johnson Foundation program, with data analysis by the University of Wisconsin Population Health Institute

Kids Count Data Center:[53] http://datacenter.kidscount.org/

"A project of the Annie E. Casey Foundation, KIDS COUNT is the premier source for data on child and family well-being in the United States. Access hundreds of indicators, download data and create reports and graphics on the KIDS COUNT Data Center that support smart decisions about children and families."

Monarch Housing: NJCounts (count of homeless people)

- 2016 http://monarchhousing.org/njcounts-2016-reports/
- 2015 http://monarchhousing.org/nj-counts-2015-executive-summary/
- 2014 http://monarchhousing.org/njcounts-2014-reports/

NJ Department of Children and Families: http://www.nj.gov/dcf/childdata/continuous/

NJ Department of Community Affairs: List of Affordable Developments by County
http://www.state.nj.us/dca/divisions/codes/publications/developments.html

NJ Department of Education: [53] http://www.nj.gov/education/data/

NJ Department of Health:

- Licensed facilities:
  http://www.state.nj.us/health/healthfacilities/about-us/facility-types/index.shtml

[53] The Walter Rand Institute for Public Affairs has results specifically for Southern NJ:
https://rand.camden.rutgers.edu/publications/

- NJ State Health Assessment Data: https://www26.state.nj.us/doh-shad/home/Welcome.html
- Office of Health Care Quality Assessment: http://nj.gov/health/healthcarequality/index.shtml
- Report cards: NJ State Health Assessment Data: http://www.state.nj.us/health/healthfacilities/reportcards.shtml

NJ Department of Human Services:

- Division of Family Development (DFD): Current Program Statistics http://www.nj.gov/humanservices/dfd/news/cps.html (county level data on participation in Work First New Jersey welfare (Temporary Assistance for Needy Families, General Assistance, and Emergency Assistance) program, NJ SNAP, and Child Support Services.
- Division of Medical Assistance and Health Services (DMAHS): Monthly Medicaid/Family Care enrollments http://www.state.nj.us/humanservices/dmahs/news/reports/index.html
- Division of Mental Health and Addiction Services (DMHAS):
    - Epidemiological Reports: http://www.nj.gov/humanservices/dmhas/publications/epidemiological/ (detailed data by municipality)
    - Statistical Reports, Substance Abuse Overview: http://www.nj.gov/humanservices/dmhas/publications/statistical/#1 (detailed data by municipality on types of admissions)
    - Surveys: http://www.nj.gov/humanservices/dmhas/publications/surveys/ (county-level)

NJ Department of Labor

- County Labor Market Information Snapshot (February 2016 for Salem): http://lwd.state.nj.us/labor/lpa/pub/regfocus-index.html
- Regional Community Fact Books (June 2014, Salem County): http://lwd.state.nj.us/labor/lpa/pub/factbook/factbook_index.html

NJ State Police: http://www.njsp.org/ucr/crime-reports.shtml

NJ Substance Abuse Monitoring System (NJSAMS): https://njsams.rutgers.edu/NJSAMS/Reports/SummaryReport/StateSummaryReportMenu.aspx

Salem County Historical Society: http://salemcountyhistoricalsociety.com/

- The library has a collection of many types of historical records. There is a report online about the history of Marshalltown (http://salemcountyhistoricalsociety.com/wp-content/uploads/2015/01/Sheridan-Marshalltown-Survey.pdf) done by a cultural heritage consultant located in Salem http://downjerseyheritage.com/contact-us-and-links.html

Salem County Planning Board: http://www.salemcountynj.gov/departments/planning-board/ , especially resources http://www.salemcountynj.gov/departments/planning-board/documents/

Uniform Data System (Federally Qualified Health Centers):

- NJ Health Center Profiles: http://bphc.hrsa.gov/uds/datacenter.aspx?q=d&year=2015&state=NJ#glist
- UDS Mapper: http://www.udsmapper.org/index.cfm
  Utilization of Federally Qualified Health Centers mapped and with population information

United Way of Northern NJ: ALICE: Asset Limited, Income Constrained, Employed: Study of Financial Hardship (October 2015)
http://www.unitedwaynnj.org/documents/14UW%20ALICE%20Report_NJ_Lowres_10.24.15.pdf

US Census Bureau: http://factfinder.census.gov/faces/nav/jsf/pages/index.xhtml
Information by state, county, municipality, and zip code

Walter Rand Institute for Public Affairs:
County and municipal-level reports for 8 counties in Southern NJ - https://rand.camden.rutgers.edu/southern-nj/
South Jersey Publications - https://rand.camden.rutgers.edu/publications/

Appendix D: Potential Program Resources for Salem County

General Resources

AHRQ Health Care Innovations Exchange https://innovations.ahrq.gov/

-Contains articles and a database of projects with explanation and evidence ratings searchable by keyword (or downloadable to customize searches). Those wanting to create a program can search to see if there are evidence based approaches in similar programs. When scrutinizing ratings, it is important to keep in mind what outcome was evaluated. For example, it may be more difficult to show long-term improvements in health than to show short-term changes in eating habits.

Databases of Best Practices, University of Kansas, Work Group for Community Health and Development http://ctb.ku.edu/en/databases-best-practices

-Contains listings of comprehensive resource databases as well as those targeted to particular categories of people or intervention types.

Specific Resources, Presented Alphabetically by Topic:

Behavioral Health

***Minding Your Mind** http://mindingyourmind.org/

-Behavioral health prevention, awareness

***Partners in Prevention** http://www.partners-in-prevention.com/

-Source of information about drug/alcohol prevention programs for various age groups

Church-Based

***Body and Soul** https://innovations.ahrq.gov/profiles/church-based-program-encourages-african-american-congregants-increase-consumption-fruits

-A church-based program emphasizing nutrition

Congregational Health Network http://www.methodisthealth.org/about-us/faith-and-health/community/

-Churches and hospitals work together to transition congregation members from a hospital stay back to a community setting (Agency for Healthcare Research and Quality 2014, Halperin 2013, Methodist Healthcare 2016, Stakeholder Health 2016).

Faithful Families: Eating Smart and Moving More
http://www.faithfulfamiliesesmm.org/resources.html

Clinical Engagement Techniques

Motivational Interviewing

General Information: SAMHSA (Substance Abuse and Mental Health Services Administration) http://www.integration.samhsa.gov/clinical-practice/motivational-interviewing

Tool: MI Reminder Card (Am I Doing This Right?). Cleveland, OH: Center for Evidence-Based Practices at Case Western Reserve University. Description at http://www.centerforebp.case.edu/resources/tools/mi-reminder-card; Tool at http://www.centerforebp.case.edu/client-files/pdf/miremindercard.pdf

Patient Activation Measure

Article containing 13 survey items (see Table 1, p.1923)
https://www.ncbi.nlm.nih.gov/pmc/articles/PMC1361231/pdf/hesr_438.pdf

Two recent presentations summarizing the measure and approach:
https://symposium.ccmcertification.org/sites/default/files/docs/2016/hibbardpowerpoint.pdf ; http://www.oregon.gov/oha/Transformation-Center/ComplexCareMeetingDocs/Keynote-Hibbard-Patient-Activation-Health-Outcomes.pdf

Organization providing survey and coaching information: http://www.insigniahealth.com

Collection of research articles on the measure:
http://www.insigniahealth.com/research/archive/

Trauma Informed Care

Overview: SAMHSA (Substance Abuse and Mental Health Services Administration). "Trauma-Informed Approach and Trauma-Specific Interventions."
http://www.samhsa.gov/nctic/trauma-interventions

Best Practices for Implementation: Center for Health Care Strategies, Key Ingredients for Successful Trauma-Informed Care Implementation
http://www.chcs.org/media/ATC_whitepaper_040616.pdf

Report Describing Community-Level Interventions: https://www.mathematica-mpr.com/our-publications-and-findings/publications/final-report-preventing-and-mitigating-the-effects-of-aces-by-building-community-capacity

Community-Based Clinics

Jordan and Harris Community Health Center http://nursing.rutgers.edu/jhchc/

-Located in 3 public housing developments in Newark, engaged the residents in a partnership with the local medical/nursing schools to select community health workers who are employed by the center (Shahidi et al. 2015).

Culture of Health

From Vision to Action: a Framework and Measures to Mobilize a Culture of Health. Robert Wood Johnson Foundation http://www.rwjf.org/content/dam/COH/RWJ000_COH-Update_CoH_Report_1b.pdf (see how Salem County is implementing its grant: http://www.njhi.org/projects/salem-community-health-coalition/)

Financial Well-Being and Health

Treating Financial Well-being as a Public Health Issue: Lessons from Delaware http://www.strongfinancialfuture.org/essays/treating-financial-well-being-as-a-public-health-issue/ -- could the kind of training Delaware is offering be paired with the Forman S. Action Foundation grants and/or tax preparation assistance provided by the United Way or other area nonprofits?

General Wellness

***Shaping NJ** https://www.nj.gov/health/fhs/shapingnj/index.shtml

-A program of the NJ Department of Health, providing grants and technical assistance on nutrition, physical activity and obesity prevention

Home Visiting

Children with asthma: Horner SD. 2006. Home Visiting for Intervention Delivery to Improve Rural Family Asthma Management. J Community Health Nursing 23(4): 213-223. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2824896/pdf/nihms173297.pdf

Maternal and child health - Federal http://mchb.hrsa.gov/maternal-child-health-initiatives/home-visiting-overview, State http://www.state.nj.us/dcf/families/early/visitation/ and local http://www.nj.gov/dcf/families/dfcp/DFCPdirectorySalem.pdf

- Evaluation of effectiveness information at http://homvee.acf.hhs.gov/ (Brief rating 19 programs at http://homvee.acf.hhs.gov/HomVEE_Brief_2016_B508.pdf#Brief1)

***Meals on Wheels of Ocean County** - http://www.csimow.org/senior-support/

- Extended services such as information and assistance, benefits screenings, nutrition counseling and education, friendly visitor and telephone reassurance

Primary care home visits: The Centers for Medicare & Medicaid Services has funded 15 "Independence at Home" demonstrations to provide chronically ill patients care through home visits, including one at Christiana Care in Wilmington. See https://innovation.cms.gov/initiatives/Independence-at-Home/ and https://innovation.cms.gov/initiatives/map/index.html#model=independence-at-home-demonstration

Recognizing the Key Role of Home Care Aides

-Horizon NJ Health/Bayada Home Health Care Pilot – slide 5 of http://www.cshp.rutgers.edu/Resources/EventPresentations/Manger_Advancing%20Delivery%20System%20Transformation.pdf (aide indicates any change in condition during visit, which triggers follow-up from care manager)

-Nurse delegation of health maintenance tasks to aides - http://www.njspotlight.com/stories/16/01/06/opinion-regulatory-change-could-improve-care-for-many-of-nj-s-most-vulnerable/

Hospital-Based Strategies

Hospital-based Strategies for Creating a Culture of Health http://www.rwjf.org/content/dam/farm/reports/reports/2014/rwjf416021

Law Enforcement Engagement

***Cumberland County Law Enforcement Advisory and Planning Board's "Community Engagement Series**" particularly the incarceration/re-entry/expungement session held July 13, 2016 http://njccpo.org/community/

Legal/Health Partnerships

National Center for Medical-Legal Partnership http://medical-legalpartnership.org/ (download toolkit for forming partnership and see examples of existing partnerships by state—NJ's project has received additional funding from the Robert Wood Johnson Foundation—see http://www.rwjf.org/en/library/grants/2013/12/expanding-the-legal-assistance-to-medical-patients--lamp--projec.html)

Reproductive Health

Characteristics of Effective Curricula for Sex/HIV Education: Figure 2 in Kirby DB et al. 2007. "Sex and HIV Education Programs: Their Impact on Sexual Behaviors of Young People throughout the World." *Journal of Adolescent Health* 40: 206–217. (http://www.sciencedirect.com/science/article/pii/S1054139X0600601X)

Evaluation of Adolescent Pregnancy Prevention Approaches, 2008-2016: https://www.mathematica-mpr.com/our-publications-and-findings/projects/adolescent-pregnancy-prevention-approaches

Long-Acting Reversible Contraception (see report pages 66-67):

Delaware: 2016, April 12. "What States Can Do on Birth Control." New York Times, The Opinion Pages. http://www.nytimes.com/2016/04/12/opinion/what-states-can-do-on-birth-control.html?_r=2

Colorado:

Lindo JM and A Packham. 2015, June. "How Much Can Expanding Access to Long-Acting Reversible Contraceptives Reduce Teen Birth Rates?" NBER Working Paper 21275.

Ricketts S, Klingler G & R Schwalberg. 2014. "Game Change in Colorado: Widespread Use of Long-Acting Reversible Contraceptives and Rapid Decline in Births among Young, Low-Income Women." Perspectives on Sexual and Reproductive Health, 46(3):125–132.

Office of Colorado Governor John Hickenlooper. 2014, July 3. "Colorado teen birth rate plummets." https://www.colorado.gov/pacific/governor/news/colorado-teen-birth-rate-plummets

St Louis, Missouri: Secura GM et al. 2014. "Provision of No-Cost, Long-Acting Contraception and Teenage Pregnancy." N Engl J Med 371:1316-23

Iowa:

Biggs MA et al. 2015. "Did increasing use of highly effective contraception contribute to declining abortions in Iowa?" Contraception 91:167-173.

Philliber Research Associations and Bixby Center for Global Reproductive Health. 2012, January. "Reducing Unintended Pregnancies in Iowa by Investing in Title X Clinics." Accessed November 10, 2015 from http://www.astho.org/Maternal-and-Child-Health/Long-Acting-Reversible-Contraception/Iowa-Initiative-Title-X-Issue-Brief/

Telehealth

Telehealth resource centers serving New Jersey: http://www.matrc.org/ and http://netrc.org/

Telehealth regulatory status/pilots in New Jersey: http://www.njspotlight.com/stories/16/09/25/urgency-to-define-telemedicine-for-new-jersey/

Youth Programming/Engagement

Chronic Absenteeism

NJ Example Programs:

NJTV, September 2016: http://www.njtvonline.org/news/video/factors-behind-chronic-absenteeism-nj/

Advocates for Children of New Jersey. 2015, August. Showing Up Matters: The State of Chronic Absenteeism in New Jersey. Accessed November 4, 2016 from http://acnj.org/downloads/2015_09_08_chronic_absenteeism.pdf

Examples in Other States:

Nadworny E. 2016, May 30. "What One District's Data Mining Did For Chronic Absence." NPR: All Things Considered. http://www.npr.org/sections/ed/2016/05/30/477506418/what-one-districts-data-mining-did-for-chronic-absence

Nadworny E. 2015, December 7. "How A School's Attendance Number Hides Big Problems." NPR. http://www.npr.org/sections/ed/2015/12/07/456208805/how-a-schools-attendance-number-hides-big-problems

Policy Discussions, 2016:

- Advocates for chronic absenteeism as a measure of school success - Schanzenbach, Bauer & Mumford. 2016, October. Lessons for Broadening School Accountability under the Every Student Succeeds Act. Washington, DC: The Hamilton Project, Brookings. http://www.hamiltonproject.org/assets/files/lessons_broadening_school_accountability_essa.pdf

New Jersey stakeholder outreach to design its response to the Every Student Succeeds Act http://www.state.nj.us/education/ESSA/

Mentoring: Herrera (2012) offers a guide for funders on youth mentoring and Sipe (2002) summarizes research on adolescent mentoring.

Sample NJ Programs:

- Isles, Inc. Youth Institute (Trenton, NJ) https://isles.org/services/isles-youth-institute/about#.WBi_4vkrLcs - academic, career and life skills preparation
- Princeton-Blairstown Center (Blairstown, NJ-- Warren County) http://princetonblairstown.org/ offers a variety of learning experiences and leadership training for youth that could potentially be a model for efforts in Salem County—it appears from their programming that Salem County could offer ecological/historical sites of potential interest.

**=mentioned by Salem County stakeholder or in some use in Salem County*

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