COMMUNITY HEALTH NEEDS ASSESSMENT

GEISINGER MEDICAL CENTER

GEISINGER-HEALTH SOUTH REHABILITATION HOSPITAL

GEISINGER-SHAMOKIN AREA COMMUNITY HOSPITAL

May 22, 2015

GEISINGER

GEISINGER HEALTHSOUTH REHABILITATION HOSPITAL

TrippUmbach
Research • Strategy • Impact

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Introduction

Geisinger Medical Center, Geisinger Shamokin Area Community Hospital, and Geisinger-HealthSouth Rehabilitation, in response to their community commitment, contracted with Tripp Umbach to facilitate a comprehensive Community Health Needs Assessment (CHNA). Geisinger Medical Center (GMC) is a 547-bed community hospital located in Danville, PA. Geisinger Shamokin Area Community Hospital (GSACH) is a campus of Geisinger Medical Center located in Shamokin, PA. Geisinger HealthSouth (GHS) is a 42-bed rehabilitation hospital located on the Geisinger Medical Center campus in Danville, PA. The community health needs assessment was conducted between October 2014 and March 2015. As a partnering hospital of a regional collaborative effort to assess community health needs; Geisinger Medical Center, GSACH, and GHS collaborated with hospitals and outside organizations across a 13-county region (i.e., Centre, Columbia, Juniata, Lackawanna, Luzerne, Lycoming, Mifflin, Montour, Northumberland, Schuylkill, Snyder, Sullivan, and Union Counties) during the community health needs assessment process. The following is a list of organizations that participated in the community health needs assessment process in some way:

- A Community Clinic
- Advocacy Alliance
- Agape
- Allied Services Foundation
- Area Agency on Aging
- Bloomsburg Area School District
- Bloomsburg University
- Buffalo Valley Recreation Authority
- Caring Communities for Aids
- Catholic Social Services
- Central PA Clinic
- Central PA Food Bank
- Central Susquehanna Community Foundation
- Central Susquehanna Opportunities CMSU
- CMSU
- Columbia County
- Columbia County Volunteers in Medicine
- Columbia Montour Agency on Aging
- Columbia Montour Chamber of Commerce
- Columbia Montour Family Health
- Columbia-Sullivan Head Start
- Dental Health Clinic
- Department of Health
- Evangelical Community Hospital
- Family Health Council of Central PA-Selinsgrove
- Geisinger Health System
- GHS Family
- Greater Susquehanna Valley United Way
- Greater Susquehanna Valley YMCA
- HandUP Foundation
- Higher Hope h2 Church
- Juniata Behavioral & Developmental Services
- Juniata County
- Juniata County Commissioners
- JV Tri-County Drug & Alcohol
- Lackawanna County Medical Society
- Middlecreek Area Community Center
- Mifflin County Commissioners

- Mifflin County Industrial Development Corporation
- Mifflin-Juniata Special Needs Center
- Montour County Head Start
- NHS Human Services
- Northeast Pennsylvania Initiative
- Northeastern Pennsylvania Healthcare Foundation
- Northern Columbia Community & Cultural Center
- Nurse Family Partnership
- PA Dept. of Health
- PA Office of Rural Health
- PA Office of Rural Health
- Panuska College for Professional Studies
- Penn State Cooperative Extension
- Pennsylvania Department of Health, Northeast District
- Sacred Heart Catholic School
- Scranton Chamber of Commerce
- Scranton School District
- Shikellamy School District
- Snyder County Children and Youth Services
- Snyder/Union Community Action
- St. Paul's UCC
- State Health Center
- SUM Child Development Center
- Susquehanna University
- Tapestry of Health
- The Edward R. Leahy Jr. Center Clinic for the Uninsured
- The Wright Center
- The Wright Center Healthy
- Trehab
- Union-Snyder Agency on Aging Inc.
- United Neighborhood Centers
- United Way of Lackawanna & Wayne Counties
- United Way of Mifflin-Juniata
- United Way of Wyoming Valley
- United Way of Wyoming Valley
- Volunteers in Medicine Free Clinic
- Wayne County CareerLink
- Wilkes-Barre City Health Department
- Williamsport/Lycoming Chamber of Commerce
- Women's Center

This report fulfills the requirements of the Internal Revenue Code 501(r)(3); a statute established within the Patient Protection and Affordable Care Act (ACA) requiring that non-profit hospitals conduct community health needs assessments every three years. The community health needs assessment process undertaken by Geisinger Medical Center, GSACH, and GHS, with project management and consultation by Tripp Umbach, included extensive input from persons who represent the broad interests of the community served by the hospital facility, including those with special knowledge of public health issues, data related to vulnerable populations and representatives of vulnerable populations served by the hospital. Tripp Umbach worked closely with leadership from Geisinger Medical Center, GSACH, and GHS, as well as, a project oversight committee to accomplish the assessment.

Community Definition

The community served by Geisinger Medical Center (GMC), GSACH, and GHS includes Centre, Columbia, Juniata, Lackawanna, Luzerne, Lycoming, Mifflin, Montour, Northumberland, Schuylkill, Snyder, Sullivan, and Union Counties. The primary service area includes 74 populated zip code areas (excluding zip codes for P.O. boxes and offices) where 80% of the hospital's inpatient discharges originated (see Table 1).

Geisinger Medical Center, GSACH, and GHS Community Zip Codes

Table 1

Zip	Post Office	County
16801	State College	Centre
16803	State College	Centre
16823	Bellefonte	Centre
16841	Howard	Centre
17017	Dalmatia	Northumberland
17044	Lewistown	Mifflin
17051	Mc Veytown	Mifflin
17059	Mifflintown	Juniata
17063	Milroy	Mifflin
17084	Reedsville	Mifflin
17086	Richfield	Juniata
17701	Williamsport	Lycoming
17702	Williamsport	Lycoming
17737	Hughesville	Lycoming
17740	Jersey Shore	Lycoming
17752	Montgomery	Lycoming
17754	Montoursville	Lycoming
17756	Muncy	Lycoming
17772	Turbotville	Northumberland
17777	Watsontown	Northumberland
17801	Sunbury	Northumberland
17813	Beavertown	Snyder
17814	Benton	Columbia
17815	Bloomsburg	Columbia
17820	Catawissa	Columbia
17821	Danville	Montour
17823	Dornsife	Northumberland
17824	Elysburg	Northumberland
17830	Herndon	Northumberland
17832	Marion Heights	Northumberland
17834	Kulpmont	Northumberland
17837	Lewisburg	Union
17841	Mc Clure	Mifflin
17842	Middleburg	Snyder
17844	Mifflinburg	Union
17845	Millmont	Union
17846	Millville	Columbia
17847	Milton	Northumberland
17851	Mount Carmel	Northumberland
17853	Mount Pleasant Mills	Snyder
17856	New Columbia	Union
17857	Northumberland	Northumberland
17859	Orangeville	Columbia
17860	Paxinos	Northumberland
17864	Port Trevorton	Snyder
17866	Coal Township	Northumberland
17870	Selinsgrove	Snyder
17872	Shamokin	Northumberland
17876	Shamokin Dam	Snyder
17878	Stillwater	Columbia
17881	Trevorton	Northumberland
17889	Winfield	Union
17901	Pottsville	Schuylkill
17921	Ashland	Schuylkill
17931	Frackville	Schuylkill
17935	Girardville	Schuylkill
17938	Hegins	Schuylkill
17948	Mahanoy City	Schuylkill
17963	Pine Grove	Schuylkill
17964	Pitman	Schuylkill
17967	Ringtown	Schuylkill
17972	Schuylkill Haven	Schuylkill
17976	Shenandoah	Schuylkill
18201	Hazleton	Luzerne
18202	Hazleton	Luzerne
18222	Drums	Luzerne
18504	Scranton	Lackawanna
18603	Berwick	Columbia

Zip	Post Office	County
18631	Mifflinville	Columbia
18634	Nanticoke	Luzerne
18635	Nescopeck	Luzerne

Zip	Post Office	County
18655	Shickshinny	Luzerne
18702	Wilkes Barre	Luzerne
18704	Kingston	Luzerne

Consultant Qualifications

Geisinger Medical Center, GSACH, and GHS contracted with Tripp Umbach, a private healthcare consulting firm headquartered in Pittsburgh, Pennsylvania to complete the community health needs assessment. Tripp Umbach is a recognized national leader in completing community health needs assessments, having conducted more than 250 community health needs assessments over the past 20 years; more than 50 of which were completed within the last three years. Today, more than one in five Americans lives in a community where Tripp Umbach has completed a community health needs assessment.

Paul Umbach, founder and president of Tripp Umbach, is among the most experienced community health planners in the United States, having directed projects in every state and internationally. Tripp Umbach has written two national guide books[1] on the topic of community health and has presented at more than 50 state and national community health conferences. The additional Tripp Umbach CHNA team brought more than 30 years of combined experience to the project.

[1] A Guide for Assessing and Improving Health Status Apple Book: http://www.haponline.org/downloads/HAP_A_Guide_for_Assessing_and_Improving_Health_Status_Apple_Book_1993.pdf and

A Guide for Implementing Community Health Improvement Programs: http://www.haponline.org/downloads/HAP_A_Guide_for_Implementing_Community_Health_Improvement_Programs_Apple_2_Book_1997.pdf

Project Mission & Objectives

The mission of the CHNA is to understand and plan for the current and future health needs of residents in its community. The goal of the process is to identify the health needs of the communities served by the hospital, while developing a deeper understanding of community needs and identifying community health priorities. Important to the success of the community needs assessment process is meaningful engagement and input from a broad cross-section of community-based organizations, who were partners in the community health needs assessment.

The objective of this assessment is to analyze traditional health-related indicators, as well as social, demographic, economic and environmental factors. Although the consulting team brings experience from similar communities, it is clearly understood that each community is unique. This project was developed and implemented to meet the individual project goals as defined by the project sponsors and included:

- Assuring that community members, including underrepresented residents and those with a broad-based racial/ethnic/cultural and linguistic background are included in the needs assessment process. In addition, educators, health-related professionals, media representatives, local government, human service organizations, institutes of higher learning, religious institutions and the private sector will be engaged at some level in the process.
- Obtaining statistically valid information on the health status and socio-economic/environmental factors related to the health of residents in the community and supplement general population survey data that is currently available.
- Developing accurate comparisons to the state and national baseline of health measures utilizing most current validated data. (i.e., 2013 Pennsylvania State Health Assessment).
- Utilizing data obtained from the assessment to address the identified health needs of the service area.
- Providing recommendations for strategic decision-making regionally and locally to address the identified health needs within the region to use as a baseline tool for future assessments.
- Developing a CHNA document as required by the Patient Protection and Affordable Care Act (ACA).

Methodology

Tripp Umbach facilitated and managed a comprehensive community health needs assessment on behalf of Geisinger Medical Center, GSACH, and GHS— resulting in the identification of community health needs. The assessment process included input from persons who represent the broad interests of the community served by the hospital facility, including those with special knowledge and expertise of public health issues.

Key data sources in the community health needs assessment included:

- **Community Health Assessment Planning:** A series of meetings was facilitated by the consultants and the CHNA oversight committee consisting of leadership from Geisinger Medical Center, GSACH, and GHS and other participating hospitals and organizations (i.e., HealthSouth/Geisinger Health System LLC; Geisinger Wyoming Valley Medical Center; Geisinger South Wilkes-Barre; Geisinger Community Medical Center; Geisinger Lewistown Hospital; Evangelical Community Hospital, and Geisinger Bloomsburg Hospital). This process lasted from October 2014 until March 2015.

- **Secondary Data:** The health of a community is largely related to the characteristics of its residents. An individual's age, race, gender, education and ethnicity often directly or indirectly impact health status and access to care. Tripp Umbach completed comprehensive analysis of health status and socio-economic environmental factors related to the health of residents of the Geisinger Medical Center, GSACH, and GHS community from existing data sources such as, state and county public health agencies, the Centers for Disease Control and Prevention, County Health Rankings, Thompson Reuters, CNI, Healthy People 2020, and other additional data sources. This process lasted from October 2014 until March 2015.

- **Trending from 2012 CHNA:** In 2012, Geisinger Medical Center, GSACH, and GHS contracted with Tripp Umbach to complete a CHNA for the same counties included in the service area (i.e., Centre, Columbia, Juniata, Lackawanna, Luzerne, Lycoming, Mifflin, Montour, Northumberland, Schuylkill, Snyder, Sullivan, and Union Counties). The data sources used where the same data sources from the 2012 CHNA, which made it possible to review trends and changes across the hospital service area. There were several data sources with changes in the definition of specific indicators, which restricted the use of trending in several cases. The factors that could not be trended are clearly defined in the secondary data section of this report. Additionally, the findings from primary data (i.e., community leaders, stakeholders, and focus

groups) are presented when relevant in the executive summary portion. The 2012 CHNA can be found online at:

http://www.geisinger.org/sites/chna

- **Interviews with Key Community Stakeholders:** Tripp Umbach worked closely with the CHNA oversight committee to identify leaders from organizations that 1) Had Public Health expertise; 2) Were Professionals with access to community health related data; and 3) Were Representatives of underserved populations (i.e., children, seniors, low-income residents, homeless individuals, persons with disabilities, Latino(a) residents, Amish residents, Mennonite residents, and residents that are uninsured). Such persons were interviewed as part of the needs assessment planning process. A series of 16 interviews were completed with key stakeholders in the Geisinger Medical Center, GSACH, and GHS community. A complete list of organizations represented in the stakeholder interviews can be found in the "Key Stakeholder Interviews" section of this report. This process lasted from November 2014 until December 2015.

- **Survey of vulnerable populations:** Tripp Umbach worked closely with the CHNA oversight committee to ensure that community members, including under-represented residents, were included in the needs assessment through a survey process. A total of 991 surveys were collected in the Geisinger Medical Center, GSACH, and GHS service area which provides a +/- 3.87 confidence interval for a 95% confidence level. Tripp Umbach worked with the oversight committee to design a 33 question health status survey. The survey was administered by community based organizations (i.e., Central Susquehanna Opportunities, CMSU, Nurse Family Partnership, Montour County Head Start, Columbia-Sullivan Head Start, Agape, Northern Columbia Community & Cultural Center, the Dental Health Clinic, Central PA Food Bank, Union-Snyder Agency on Aging Inc., A Community Clinic, SUM Child Development Center, Family Health Council of Central PA-Selinsgrove, Snyder/Union Community Action, Snyder County Children and Youth Services, HandUP Foundation, Buffalo Valley Recreation Authority, Middlecreek Area Community Center, The Volunteers in Medicine Free Clinic, The Dental Health Clinic, the United Way of Wyoming Valley, Wayne County CareerLink, NHS Human Services, The Edward R. Leahy Jr. Center Clinic for the Uninsured, Trehab, The Wright Center, Mifflin-Juniata Special Needs Center, and Area Agency on Aging) providing services to vulnerable populations in the hospital service area. Community based organizations were trained to administer the survey using hand-distribution. Surveys were administered

onsite and securely mailed to Tripp Umbach for tabulation and analysis. Surveys were analyzed using SPSS software. Vulnerable populations were identified by the CHNA oversight committee and through stakeholder interviews. Vulnerable populations targeted by the surveys were seniors, children, low-income residents, homeless individuals, persons with disabilities, Latino(a) residents, and residents that are uninsured). This process lasted from November 2014 until January 2015.

- **Identification of top community health needs:** Top community health needs were identified and prioritized by community leaders during a series of regional community health needs identification forums held on March 5, March 10, and March 12, 2015. Regional Forums were organized by Northeast, Central and West region of the Geisinger Medical Center, GSACH, and GHS service area and were organized in the following way:
  - ✓ Central Regional Forum: Included community leaders from Columbia, Montour, Schuylkill, Northumberland, Union, Snyder, Lycoming and Sullivan Counties.
  - ✓ Northeast Regional Forum: Included community leaders from Lackawanna, Luzerne, and Wayne Counties.
  - ✓ West Regional Forum: Included community leaders from Juniata, Mifflin, and Centre Counties.

  At each forum, consultants presented to community leaders the CHNA findings from analyzing secondary data, key stakeholder interviews and surveys. Community leaders discussed the data presented, shared their visions and plans for community health improvement in their communities, and identified and prioritized the top community health needs in the Geisinger Medical Center, GSACH, and GHS community. These events took place in March 2015.

- **Public comment regarding the 2012 CHNA and implementation plan:** Tripp Umbach solicited public commentary from community leaders and residents. Commenters were asked to review the CHNA and Action Plan adopted by Geisinger Medical Center, GSACH, and GHS in 2013 and were provided access to each document for review. Commenters were then asked to respond to a questionnaire which provided open and closed response questions. Questionnaires were developed by Tripp Umbach and previously reviewed by the Geisinger Medical Center, GSACH, and GHS advisory committee. The seven question questionnaire was offered in hard copy at two locations inside the hospital as well as electronically using a web-based platform. The CHNA and Action Plan were provided to commenters for review in the same manner (i.e., hard copy at the hospital and electronically). There were no

restrictions or qualifications required of public commenters. Results of the Community Commentary can be found in Appendix A of this report. Flyers were circulated and electronic requests were made for public comment throughout the collection period which lasted from December 2014 until February 2015.

- **Final Community Health Needs Assessment Report:** A final report was developed that summarizes key findings from the assessment process including the priorities set by community leaders. This report is presented from an overall service area perspective with regional (i.e., Northeastern Region, Central Region, and Western Region) differences (where they exist) highlighted.

Key Community Health Priorities

Community leaders reviewed and discussed existing data, in-depth interviews with community stakeholders representing a cross-section of agencies, and survey findings presented by Tripp Umbach in a forum setting during a series of community forums held in March 2015. This process resulted in the identification and prioritization of four community health priorities in the Geisinger Medical Center, GSACH, and GHS community. A regional summary of the top four priorities in the Geisinger Medical Center, GSACH, and GHS community follows:

Key Community Health Priorities of the Central Region:

There was a great deal of agreement among community leaders regarding the health needs across the Northeast, Central and Western Regions of the Geisinger Medical Center, GSACH, and GHS service area, with only slight regional variances (i.e., health literacy related to language barriers) and slight differences in priorities. Community leaders identified the following top community health needs that are supported by secondary and/or primary data:

Table 2: Top Community Health Needs in the Geisinger Medical Center, GSACH, and GHS Service Area by Region

	REGIONAL HEALTH PRIORITIES		
Community Health Priority	**Northeastern Region**	**Central Region**	**Western Region**
Addressing Needs Related To Behavioral Health And Substance Abuse	#1	#1	#1
Increase Access to/Affordability of healthcare	#2	#2	#2
Improving Resource Awareness and Health Literacy	#3	#3	#3
Reducing the Impact of Health Concerns Related to Lifestyle	N/A	#4	#4

Many of the same needs were identified in the 2012 CHNA, with slightly different priorities.

ADDRESSING NEEDS RELATED TO BEHAVIORAL HEALTH AND SUBSTANCE ABUSE

Underlying factors identified by secondary data and primary input from community leaders, community stakeholders, and resident survey respondents:

1. Affordable behavioral healthcare options are needed to meet behavioral health needs (Identified as a need in the Central Region only).

2. Care coordination is needed among behavioral health, substance abuse, and primary care/medical providers (Identified as a need in all three regions).
3. There are not enough providers to meet the demand and the spectrum of services available in most areas is not comprehensive enough to treat individual needs (Identified as a need in all three regions).
4. Substance abuse services are necessary due to the prevalence of substance abuse in local communities (Identified as a need in all three regions).
5. Residents with a history of behavioral health and/or substance abuse needs often have poor treatment outcomes (Identified as a need in all three regions).

Addressing needs related to behavioral health and substance abuse was identified as the top health priority by community leaders at each regional community forum. Discussion centered around the fact that individuals with behavioral health and substance abuse needs often have poor health outcomes. This priority was also, by far, the most discussed health need among stakeholders during one-on-one interviews and survey respondents indicated that 1) they have an above average diagnosis of depression, and 2) they do not have ready access to behavioral health services in many counties served by the hospital.

Community leaders, stakeholders, and survey respondents agree that behavioral health and substance abuse is a top health priority:

- ✓ Mental Health was identified as the most important health-related issue for the entire community (eight of nine stakeholder groups identified this as an important issue) during the Northcentral Health District/Danville stakeholder meeting during which the State Health Assessment was presented and discussed.
- ✓ Secondary data related to provider ratios and suicide rates throughout the region clearly support the need to address needs related to behavioral health and substance abuse.
- ✓ Ninety percent of stakeholders identified a health need related to behavioral health and/or substance abuse services.
- ✓ Survey respondents identified substance abuse and mental health as two of the top five concerns facing their communities; self-reported higher than state and national prevalence rates related to behavioral health; and indicated services were not always available when needed.

Findings supported by study data:

Care coordination is needed among behavioral health, substance abuse, and primary care/medical providers.

- The lack of follow up and failure to comply with treatment regimens are often highest among a population of residents with behavioral health needs due to a resistance to seek treatment because of a fear of stigmatization, inability to afford treatment options, limited capacity, and/or transportation issues.
- Medical health and behavioral health services are fragmented. Residents with behavioral health needs are often not getting their needs met in medical care settings and vice versa.
- The limited integration between behavioral health, medical health, and substance abuse providers presents challenges in the referral and follow up process for residents and providers alike, which make it difficult to treat co-occurring disorders.
- Limited behavioral health services can reportedly lead to an increase in homelessness and substance abuse due to the capacity of residents to function with unmet behavioral health needs.
- Central Region: Pediatric inpatient facilities are not often associated with medical care providers, which causes a challenge in meeting the physical health needs of children including medically frail children in an inpatient psychiatric setting.

There are not enough providers to meet the demand and the spectrum of services available in most areas is not comprehensive enough to treat individual needs:

- The 2012 CHNA completed in the Northeastern Region found that:
  - ✓ Despite differences in the types of stakeholders interviewed, there was consistency when it came to identifying common illnesses. Many agreed that the prevalence of mental illness surpasses physical illnesses. Specifically, there is more depression, anxiety, and bipolar disorder - which are appearing in children.

- A lack of behavioral health providers has been discussed in two previous CHNAs in the Central Region (2009 and 2012 CHNA studies).
  - ✓ The most recent 2012 CHNA completed by Tripp Umbach found that community leaders, stakeholders, and focus group participants felt that there was a shortage of behavioral health services specifically for under/uninsured residents, after-hours care, and pediatric care (i.e., psychiatry, therapy, and inpatient treatment). Additionally stakeholders discussed the resistance of residents to seek behavioral health services due to stigma.
  - ✓ The previous CHNA (completed in 2009) found similar results using a household survey:

    "Behavioral health was identified as a significant need in every community. The household survey indicated that 5.5% of the residents of

the region needed mental health care, but were not able to obtain care and 74% did not obtain this care as the result of not being able to afford the cost of care."[2]

- The 2012 CHNA completed in the Western Region found that:
  - ✓ The lack of adequate mental health services calls for a need to expand mental health options and services to improve access to care. The number of mental health providers in both counties falls well below the state average.

- Behavioral health concerns are growing due to an apparent increase in demand and less available services.
- Depression and a need for mental health treatment were reported by survey respondents as being the top two issues they had ever been told by a healthcare professional they had when compared to every other area (i.e., diabetes, heart problems, and cancer). Survey respondents from every county in the study area reported higher rates of depression diagnosis than is average for the state (18.3%) and nation (18.7%). Columbia and Lycoming County respondents reported higher rates of depression (50%, and 51% respectively) and need for mental health treatment (43.8% and 443.1% respectively); almost double the rates of any other county surveyed.
- More than one third of respondents in Snyder County indicated that they needed and could not secure counseling services in the past year, with one in 10 respondents in Columbia, Lackawanna, Luzerne, Northumberland, and Schuylkill Counties indicating the same.
- Approximately one in four respondents in Snyder and Lycoming Counties indicated they could not secure services for a mental health condition (i.e., depression, bipolar, etc.) at a time it was needed within the last year (23.2% and 25.9% respectively). One in 10 respondents in Northumberland County (11.9%), Montour County (11.2%), and Schuylkill County (11.5%) indicated the same.
- While there are services, there are not enough providers to meet the demand among residents. Where there are services, the wait times can be lengthy to secure initial appointments. Several specific areas where services are lacking were discussed in each region:
  - ✓ <u>Northeastern Region:</u> Treatment for adults and children alike; the wait times for behavioral health services (i.e., treatment for low-income populations, psychiatry in general, and, inpatient and outpatient treatment), can cause residents to lose motivation to seek treatment.

[2] 2009 CHNA Rural Pennsylvania Counts: A Community Needs Assessment of Five Counties

- ✓ Central Region: Treatment for co-occurrence, treatment for low-income populations, geriatric psychiatry, child psychiatry and inpatient treatment, play therapy for young children, and student counseling at local universities
- ✓ Western Region: Treatment for co-occurrence, treatment for low-income populations, geriatric psychiatry, child psychiatry and inpatient treatment.

Table 3: County Health Rankings –Mental Health Providers (Count/Ratio) by Region and County

Northeastern Region			
Measure of Mental Health Providers*	**PA**	**Lackawanna County**	**Luzerne County**
Mental health providers (count)	--	265	300
Mental health providers (ratio Population to provider)	623:01:00	807:01:00	1,067:1

Central Region								
Measure of Mental Health Providers*	**Columbia County**	**Montour County**	**Lycoming County**	**Schuylkill County**	**Sullivan County**	**Northumberland County**	**Snyder County**	**Union County**
Mental health providers (count)	34	71	135	84	1	28	17	59
Mental health providers (ratio Population to provider)	1,965:1	261:1	865:1	1,749:1	6,351:1	3,360:1	2,345:1	760:1

Western Region			
Measure of Mental Health Providers*	**Juniata County**	**Mifflin County**	**Centre County**
Mental health providers (count)	3	38	255
Mental health providers (ratio Population to provider)	8,256:1	1,227:1	609:1

**County Health Ranking 2014*

- The ratio of population to mental health providers in Juniata, Northumberland, and Snyder Counties shows a significantly larger population to provider ratio than the state (623 pop. per provider). While Union, Montour, Centre, Lycoming and Lackawanna Counties are closer to PA ratios; they still show higher population to provider ratios than the state, with the exception of Montour and Centre Counties.

Substance abuse services are necessary due to the prevalence of substance abuse in local communities:

- Substance abuse has remained a health concern in the hospital service area that depends on engaging hard-to-engage residents in solutions.

- While there are services, there are not enough providers to meet the demand among residents. Several specific areas where services are lacking were discussed: local treatment for co-occurrence, inpatient treatment without a waiting list, treatment for low-income residents, methadone clinics, and transitional services and housing.
- The most commonly discussed drugs were:
  - ✓ Northeastern Region: Methamphetamines, heroine, alcohol, marijuana, and tobacco
  - ✓ Central Region: Methamphetamine, heroin, marijuana, and prescription narcotics
  - ✓ Western Region: Heroin, tobacco, and prescription narcotics

Regional Variance:

Northeastern Region:

- Treatment for substance abuse is not readily available and there are lengthy waiting lists for inpatient treatment. Additionally, if an individual is known as a "repeat consumer" they may have a more difficult time securing inpatient treatment locally.
- Substance abuse treatment options are often unaffordable for residents with substance abuse issues due to limited income and a lack of insurance coverage.
- The 2012 CHNA completed in the hospital service area found that:
  - ✓ Focus groups felt that much of the region's substance abuse is "generational". They agreed that families engaging in substance abuse together transfer those habits to their children, and that treatment should also include parenting skills. The group also agreed that one of the region's biggest problems is that, while programs to address these issues are offered, they are not attracting those who would benefit from them the most.
- Often services are underfunded (i.e., behavioral health and substance abuse). Stakeholders indicated that there is a disconnect between funding and service providers that are providing necessary services to the extent that programs are not being fully funded to allow residents to receive evidence-based care to effectively treat common health issues (i.e., smoking, behavioral health, substance abuse, etc.). Residents are not receiving treatments that are long enough or intense enough to fully resolve their issues (i.e., inpatient treatments). Stakeholders questioned whether or not adequate resources exist to meet health needs in their communities.

Central Region:

- Location makes drug trafficking more prevalent due to Interstate 80 connecting communities to much larger metropolitan areas.

Western Region:

- There are limited treatment models. There are reportedly, not enough resources to fund treatment for substance abuse at the level it would be necessary in the community.

Residents with a history of behavioral health and/or substance abuse needs often have poor treatment outcomes:

- Poorer health outcomes related to behavioral health and substance abuse are often heavily correlated to the duration of disorder/illness.
- There are limited services for residents that have been previously incarcerated due to behavioral health and/or substance abuse. Previously incarcerated residents struggle securing employment, housing, and many other necessities. This often leads to homelessness and poor health outcomes. There is often reported frustration among providers that struggle to connect residents in recovery to employment opportunities because; employment is one factor that influences recidivism rates.
- Children being hospitalized for inpatient behavioral health treatment a great distance from home may be negatively impacted by the absence of their family in treatment and visitation opportunities, which may cause poor treatment outcomes.
- Lackawanna, Luzerne, and Schuylkill Counties show higher deaths due to drug poisoning (21.9, 18, and 20.6 per 100,000 pop. respectively) than the state (17.5 per 100,000 pop.), and the nation (12.9 per 100,000 pop.).
- All counties with data reported show higher deaths due to suicide than state and national rates (12.5 and 12.3 per 100,000 pop. respectively).

Regional Variance:

Central Region Only: Residents need more affordable behavioral healthcare options to meet behavioral health needs:

- Residents are not always able to afford behavioral health care when it is needed due to the lack of insurances and cost of care. This is compounded with the lack of transportation because outpatient treatment options often require regular visits.
- Behavioral health treatments (inpatient, outpatient, medications, etc.) are often expensive and not often covered by insurances leaving many residents of various income levels unable to afford behavioral health services.

Behavioral health has remained a top health priority that appears as a theme in each data source included in this assessment. The underlying factors include: affordability, care coordination, Workforce supply vs. resident demand, and resident engagement of treatment options. Primary data collected during this assessment from community leaders and residents

offered several recommendations to address the need for behavioral health and substance abuse. Some of which included:

- ***Continue to collaborate to address substance abuse issues.*** Law enforcement, primary care physicians, and substance abuse specialists could collaborate to identify gaps in resources and a strategic plan to reduce the prevalence of drug trafficking and addiction in the area. Some areas where supply does not meet demand according to stakeholders are: prevention education, funding, and inpatient/outpatient services. Physicians could be better educated about substance abuse issues in the community (i.e., prescription drug abuse) through professional certifications, trainings, and continuing education credentials.
- ***Provide evidence-based practices*** when investing in programs and services.
- ***Rotate mental health care professionals through medical care settings:*** Community leaders recommended rotating behavioral health professionals through local primary care settings. Residents would see behavioral health professionals where they receive primary care, which could reduce stigma and increase access to behavioral health care.
- ***Increase the use of telemedicine:*** particularly to cover the areas of greatest shortage where telemedicine can be effectively implemented (i.e., behavioral health).
- ***Preventive screening:*** Integration of addiction services as a normal component of care reduces stigma of the question and the illnesses of behavioral health. Same as tobacco screenings and referral processes in the ER. Providers have to increase their capacity and partnerships to be able to provide care when screenings turn up issues for patients.
- ***Integration of service lines including behavioral health*** is untapped potential in patient improvement and population health. Change the culture of health care delivery to a team-based delivery system which maximizes patient engagement and minimizes co-dependence with integration of service lines including behavioral health.
- ***There is a need to increase culturally competent outreach education***: it is recommended that professionals are culturally competent to disseminate health education outreach in a culturally sensitive way in order for it to be effective.

INCREASING ACCESS TO HEALTHCARE

Underlying factors identified by secondary data and primary input from community leaders, community stakeholders and resident survey respondents:

1. Provider to population ratios that are not adequate enough to meet the need (Identified as a need in all regions).

2. Poverty increases the barriers to accessing healthcare (Identified as a need in all regions).
3. Residents need solutions that reduce the financial burden of health care. (Identified as a need in all regions).
4. Limited access to healthcare as a result of the location of providers coupled with transportation issues. (Identified as a need in all regions).

Increasing access to healthcare is identified as the second community health priority by community leaders. Access to health care is an ongoing health need in rural areas across the U.S. Apart from insurance issues, access to healthcare in the hospital services area is limited by provider to population ratios that cause lengthy wait times to secure appointments, location of providers, transportation issues, limited awareness of residents related to the location and eligibility of health programs as well as ways to be healthier.

During the 2012 CHNA, community leaders, key stakeholders, and focus group participants gave the impression that the limited access some residents have to medical, mental, and dental health care may cause: an increase in the utilization of emergency medical care for non-emergent issues; waiting times for healthcare services; an increase in travel distance and time for under/uninsured residents as well as resistance to seek health services; patients presenting in a worse state of health than they may have with greater access to services, and a general decline in the health of residents.

Additionally, socio-economic status creates barriers to accessing health care (e.g., lack of health insurance, inability to afford care, transportation challenges, poor housing stock, etc.), which typically have a negative impact on health outcomes. Often, there is a high correlation between poor health outcomes, consumption of healthcare resources, and the geographical areas where socio-economic indicators (i.e., income, insurance, employment, education, etc.) are the poorest.

- ✓ Secondary data related to provider ratios, disease prevalence rates, socio-economic barriers to accessing healthcare (i.e., CNI), and poor health outcomes (e.g., amputations, death rates, etc.) support the need to increase access to affordable care options in each region.
- ✓ Community leaders focused forum discussions primarily on:
    - o <u>Western and Central Regions:</u> The limited number of providers, limited transportation options, and limited funding.
    - o <u>Northeastern Region:</u> affordability around Medicaid access issues, issues for undocumented residents, health insurance, and care coordination.

- ✓ Over one-half of stakeholders articulated a lack of availability of health services (medical, dental, behavioral) in the hospital service area. The availability of services was related most often to the number of practicing professionals, acceptance of insurances, and location of providers.
- ✓ Survey respondents reported not having access to their own car as a primary method of transportation and uncertainty related to the availability of services.

Findings supported by study data:

Provider to population ratios that are not adequate enough to meet the need:

- The CHNA completed in the Central Region in 2012 found community leaders, key stakeholders, and focus group participants believed that there were not enough healthcare providers in the area to meet resident demand for under/uninsured and mental health care. While the topic was not as heavily discussed during this needs assessment; a common theme in the discussion about the availability of health services (medical, dental, and behavioral) remains the limited number of providers. While there are providers in the area, there are not enough providers available to meet current demand. There is a concern about an older physician workforce retiring and not being replaced by younger talent due to the difficulty of recruiting and retaining physicians in the rural service area. The shortage of health professionals (i.e., dermatologists, pulmonary specialists, child psychiatrists, pediatric dentists, and dentists accepting Medicaid) serving low-income populations is compounded by the difficulty in recruiting new professionals to the poorest and most rural areas in the hospital service area. Primary care physicians are not always taking new patients, particularly for residents with Medicaid. Also, students with health insurances that are not accepted locally (i.e., United Healthcare Insurance) struggle with securing health services outside of student health providers on college campuses in the area.
- In the CHNA conducted in the Western Region in 2012, access to health care was a key theme and participants throughout the assessment process noted the following issues related to access: 1) Increase the percentage of insured; 2) Increase resources to pay for healthcare services; 3) Increase the number of healthcare providers to raise the availability of receiving appropriate services (primary care, mental health care, dental care). A common theme in the discussion about the availability of health services (medical, dental and behavioral) remains the limited number of providers. While there are providers in the area, there are not enough providers available to meet current demand. There is a concern about an older physician workforce retiring and not being replaced by younger talent due to the difficulty of recruiting and retaining physicians in

the rural service area. The shortage of health professionals (i.e., dentists accepting Medicaid, specialist, and behavioral health professionals) serving low-income populations is compounded by the difficulty in recruiting new professionals to the poorest and most rural areas in the hospital service area. There are specialties that offer office hours in the communities but, appointments are set months out due to limited office hours. Additionally, the previous CHNA found that the need for expanding dental care had been discussed throughout the assessment process. A significant shortage of dentists exists in both counties. Besides the lack of dental providers, the lack of dental insurance and the cost of dental care were other deterrents for individuals seeking dental care. It was noted during the community focus group meeting that many of our local dentists are over the age of 50. As those dentists retire over the next several years this will further increase the shortage of dental providers. According to the Pennsylvania Department of Health, from 1999 to 2001, the number of licensed dentists in the Commonwealth has decreased by 700.

- The CHNA completed in the Central Region in 2012 found that community leaders were under the impression that there was a shortage of dentists in the area to provide both routine and specialty dental care. In 2009, dental care was also frequently mentioned – particularly for Medicaid recipients. In fact, the household survey from the 2009 CHNA found that nearly 26,000 individuals in the region are unable to afford recommended dental care and as many as 10,000 were often or very often unable to afford prescription medication.
- The same is true in each region for dental care today, particularly dental providers that accept Medicaid. Dental providers that will accept Medical Assistance are often great distances apart and the travel/lack of transportation can make it impossible for residents to secure dental care (adult and pediatric). While there is a dental clinic available for uninsured residents in each region; the waiting list is reportedly long.
- Western Region: It is unclear if residents from Plain Communities have ready access to dental care because there used to be a dentist in the Big Valley Area that may not be practicing any longer.
- Secondary data suggests that physician to patient population varies across counties but there are more patients for every one physician than is standard for PA in each county (Primary Care – 92.7 and Dental – 59.1 per 100,000 pop.).
    - Northeastern Region: **Primary Care Providers** – Lackawanna, Luzerne, and Wayne Counties all have fewer primary care providers than is average for PA (92.7 per 100,000 pop.). Lackawanna County shows 85.9 per 100,000 pop. primary care providers; and Luzerne County shows 71.1 per 100,000 pop. primary care providers. **Dental Providers** – Lackawanna and Luzerne Counties have dental provider rates similar to the state. Lackawanna County shows 67.2

per 100,000 pop. dental providers and Luzerne County shows 57.1 per 100,000 pop. dental providers.

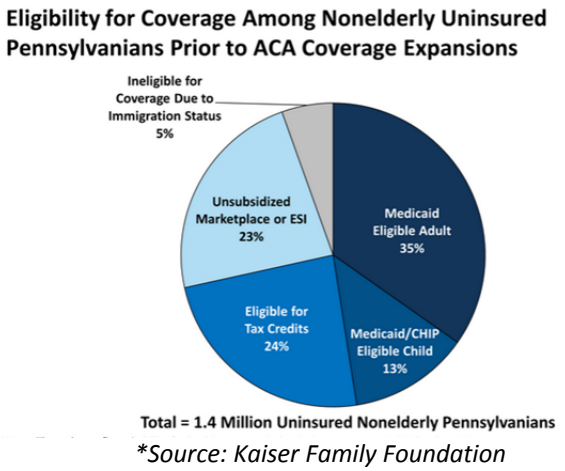
- Central Region: **Primary Care Providers** – Union County is the only county in the service area that has a provider rate similar to the state (87 per 100,000 pop.). Northumberland and Juniata Counties have less than one-third (30.7 and 20.5 per 100,000 pop. respectively) and Schuylkill and Snyder Counties have fewer than half (40.7 and 42.7 per 100,000 pop.) the providers that is average for the state. Columbia County has 60.8 per 100,000 pop. primary care providers and Luzerne County follows with 71.1. Montour County is very small with a major medical center (Geisinger Medical Center, GSACH, and GHS) which drives their provider rates. Sullivan County has the fewest primary care providers in the service area at 0 per 100,000 pop. **Dental Providers** – Union County is the only county in the service area that has a provider rate similar to the state (51.3 per 100,000 pop.). Whereas, again Northumberland and Juniata Counties have the least (31.7 and 8.2 per 100,000 pop. respectively). Snyder and Lycoming Counties have approximately two-thirds the state rate of dental providers (42.7 and 41.1 per 100,000 pop. respectively). Columbia County has 44.5 per 100,000 pop. dental providers and Luzerne County has rates similar to the state (57.1 per 100,000 pop.); while Montour County shows a rate higher than the state (82 per 100,000 pop.). Schuylkill and Sullivan Counties have 37.3 and 15.4 per 100,000 pop. respectively each.
- Western Region: **Primary Care Providers** – Juniata County has less than one-quarter (20.5 per 100,000 pop.) and Mifflin County has half (47 per 100,000 pop.) the providers that is average for the state. **Dental Providers** – Juniata County has a serious dental provider shortage (8.2 per 100,000 pop.) and Mifflin County has half (20.5 per 100,000 pop. respectively) the providers that is average for the state.

- Survey respondents in each county indicated that they were not able to secure dental services:
  - Northeastern Region: 15.5% of respondents in Lackawanna County and 10.4% in Luzerne County indicated they did not secure dental services due to a lack of insurance, with 12% of respondents in Lackawanna County indicating dental services are not available to them.
  - Central Region: With the exception of Union and Lycoming Counties (15.7% and 14.8% respectively); more than one in four respondents in every county in the Central Region indicated that they needed and could not secure dental care in the last year.

- Western Region: One in five (21%) survey respondents in Juniata County and 8.9% in Mifflin County indicated they could not secure dental services.

- While not as clear an indication of limited access to healthcare as provider rates; preventable hospitalizations that are higher than expected rates are usually driven by a lack of securing primary care in the community. The end result is hospitalizations for illnesses that could have been resolved prior to becoming emergency situations. In the Geisinger Medical Center, GSACH, and GHS service area, there are higher rates throughout the study area when compared to the state rate, which varies by region:
  - Northeastern Region: Shows higher PQI for two measures when compared to the state (i.e., Dehydration and Bacterial Pneumonia). There are four PQI measures in the Northeast region that are the highest seen across all regions (13 Counties). They are:
    - Perforated Appendix (PQI2),
    - Uncontrolled Diabetes (PQI14), and
    - Asthma in Younger Adults (PQI15).
  - Central Region: Shows higher PQI for two measures when compared to the state (i.e., Angina Without Procedure and Perforated Appendix). There are six PQI measures in the Central Region that are the highest seen across all regions (13 Counties). They are:
    - Diabetes Short-Term Complications (PQI1),
    - Hypertension (PQI7),
    - Congestive Heart Failure (PQI8).
    - Bacterial Pneumonia (PQI11),
    - Angina Without Procedure (PQI13), and
    - Lower Extremity Amputation Among Diabetics (PQI16),
    -
  - Western Region: Shows higher PQI for more than half of the measures when compared to the state (i.e., Diabetes Long-term Complications, Perforated Appendix, COPD or Adult Asthma, Congestive Heart Failure, Low Birth Weight, Dehydration, Bacterial pneumonia, Urinary Tract Infection, and Angina without Procedure). There are four PQI measures in the Western Region that are the highest seen across all regions (13 Counties). They are:
    - Perforated Appendix (PQI2),
    - Diabetes Long-Term Complications (PQI3),
    - Low Birth Weight (PQI9), and
    - Dehydration (PQI10).

Residents need solutions that reduce the financial burden of health care:



**Source: Kaiser Family Foundation*

This assessment is ending at an interesting point in PA history as Medicaid expansion is being implemented. The expansion waiver should give significantly more residents in PA (including the hospital service area) access to health insurance. Kaiser Family Foundation estimates that 72% of uninsured nonelderly PA residents (1.4 million people) will become eligible for some type of assistance. It is important to note that residents with an immigration status currently causing ineligibility for health insurances will remain ineligible for any type of assistance.[3] Not addressed by the Kaiser Family Foundation in this excerpt is the cost of uninsured care for residents that opt out of participating in the social insurances like Medicaid. Most residents of Plain Communities are uninsured and do not participate in social insurances or formal medical assistance, though many families in these villages would qualify for Medicaid based on family size and income.

Since the 2012 assessment, access to health insurance options seems to have increased; though according to stakeholders the coverage is limited and the copays and/or deductibles are too high for residents to use their benefits.

- Poverty is a barrier to healthcare. There are a limited number of safety net services available for residents earning just above poverty to 250% of poverty. While residents may have health insurance; they cannot always afford to use their health insurance due to unaffordable deductibles and copays. As a result, health services may be becoming unaffordable for families that do not qualify for assistance of any sort. Stakeholders and community leaders discussed the high cost of care, lack of health insurances and unaffordable copays and/or high deductibles as one cause for residents delaying/resisting seeking care. Residents may self-diagnose and attempt to treat their symptoms at home with home remedies and/or old prescriptions, which often leads to worsening symptoms until the issue becomes an emergency and must be treated in an emergency room.
- The population that is unable to afford healthcare and does not qualify for assistance is more of a moderate income earning family. There are residents in the area that earn an income that is high enough to disqualify them from Medical Assistance and at the same time is inadequate to afford private pay health insurance. According to the Kaiser Family Foundation, all adults with a household income above 138% of the federal poverty level

[3] Source: Kaiser Family Foundation analysis based on 2014 Medicaid eligibility levels and 2012-2013 Current Population Survey

(FPL) ($32,913 for a family of four and $16,105 for an individual) are not eligible for Medical Assistance, though eligible for tax assistance up to 400% of FPL ($95,400 for a family of four and $46,680 for an individual). Residents with access to insurances through employers are not eligible for tax credits.[4]

- Poverty seems to be pervasive in the area. Children living with single parents are likely to be living in poverty in most areas, which may impact health outcomes. Uninsured and underinsured residents may resist seeking health services due to the cost of uninsured care, unaffordable copays, and/or high deductibles. Stakeholders felt that residents in poverty are less likely to secure health services prior to issues becoming emergent due to a lack of resources (i.e., time, money, transportation, etc.) and a focus on meeting basic needs, leading to a lower prioritization of health and wellness.
- The average household income in 2014 for the Geisinger Medical Center, GSACH, and GHS study area is $58,469; this is lower than state and national rates ($69,931 and $71,320 respectively).
    - ✓ The lowest average annual household income for the study area is found in Mifflin County ($50,213).
    - ✓ The study area reports more than a quarter of the households earning less than $25K per year (27.7%); this rate is higher than state and national rates (24.0% and 24.5% respectively).
    - ✓ Centre County shows the highest percentage of residents with household incomes less than $15,000 per year and one of the highest percentages of the population earning greater than $100,000 per year.
- Most survey respondents in each of the counties reported never needing health services or needing and having no problem securing those services. However; when respondents reported needing health services and being unable to secure them, two of the three most common reasons were “no insurance” and “couldn’t afford.” This was true for all regions.
- There are indications in the secondary data that the geographic pockets of poverty align with data showing fewer providers and poor health outcomes in the same areas. For example, residents in zip code areas with higher CNI scores (greater socio-economic barriers to accessing healthcare) tend to experience lower educational attainment, lower household incomes, and higher unemployment rates, as well as consistently showing less access to health care due to lack of insurance, lower provider ratios and

[4] Source: Kaiser Family Foundation analysis based on 2014 Medicaid eligibility levels.

consequently poorer health outcomes when compared to other zip code areas with lower CNI scores (fewer socio-economic barriers to accessing healthcare).

- The data suggests that there is an increase in barriers to accessing healthcare for the hospital service area. While the service area increased in size to encompass higher CNI scoring communities since the last assessment (i.e., Luzerne, Lackawanna, and Mifflin, and Juniata Counties; a closer look at the changes in scores for each area shows the areas with higher CNI scores in 2012 saw an increase in barriers and those with lower scores saw a decrease in barriers during the same time period. Meaning, areas with few barriers to accessing healthcare have seen a decrease in barriers and access to healthcare has worsened in areas where it was already poor.
- The highest CNI score for the study area is 4.6 in the town of Hazleton (18201) in Luzerne County. The highest CNI score indicates the most barriers to community health care access. Hazleton (18201) shows the highest rates across the study area for:
  - ✓ Minority population (47.7%)
  - ✓ Limited English proficiency (10.3%)

- Higher CNI scores indicate a greater number of socio-economic barriers to community health. The areas with the highest CNI scores and therefore greatest barriers to accessing healthcare in the Geisinger Medical Center, GSACH, and GHS study area are:

  - ✓ <u>Northeastern Region:</u> Hazleton (18201 and 18202), Wilkes-Barre (18702), Nanticoke (18634), and Kingston (18704) in Luzerne County; and Scranton (18504) in Lackawanna.

  - ✓ <u>Central Region:</u> Sunbury (17801), Shamokin (17872), Milton (17847), Mount Carmel (17851), and Coal Township (17866) in Northumberland County; Shenandoah (17976) and Mahanoy City (17948) in Schuylkill County; Williamsport (17701) in Lycoming County; Bloomsburg (17815) and Berwick (18603) in Columbia County; and Lewisburg (17837) in Union County.

    <u>Western Region:</u> Lewistown (17044) and Reedsville (17084) in Mifflin County; State College (16801) in Centre County; and Mifflintown (17059) and Mifflin (17058) in Juniata County

Regional Variance:

<u>Northeastern Region:</u>

- There is an influx of residents from refugee camps entering the region and struggling with poverty, which can be connected to the inability of residents to secure healthy

produce and make healthy decisions related to nutrition due to limitations related to transportation, finances, and education.

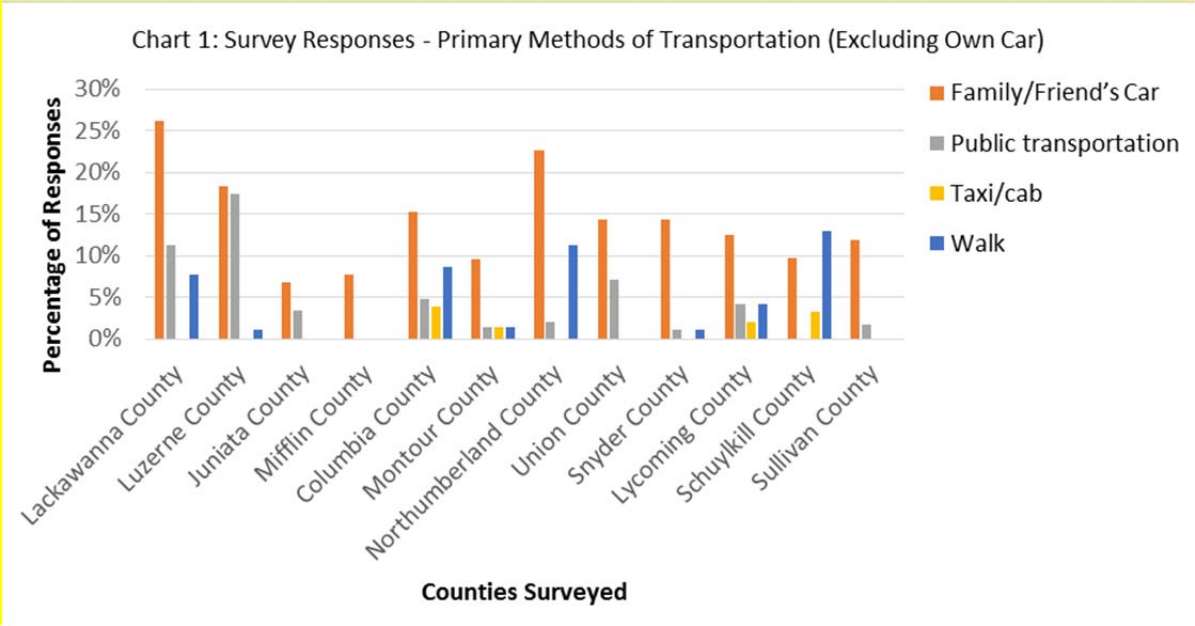
- Residents that do not have citizenship are often ineligible for any type of insurances (including children) due to a lack of documentation for applications, which is also required by many free clinics and FQHCs to qualify for services. Residents without citizenship status may not be able to secure any type of health services in their area. Homeless residents do not always have access to necessary health services (i.e., diabetic treatment options, healthy foods, behavioral health care, dental care, vision, etc.) due to a lack of insurance.
- Children in the mid-income bracket may not have access to insurances that cover primary and preventive care. Residents may not qualify for CHIP and children are left uninsured. There are some clinics that provide care to this population but, if families are not able to access these clinics, then these children are not receiving preventive care, routine care, or any type of care coordination. There is a shortage of providers that offer care to residents with Medicaid insurance.

<u>Western Region:</u>

- Uninsured and underinsured residents may resist seeking health services due to the cost of uninsured care, unaffordable copays and/or high deductibles. This is reportedly true of residents in both Plain Communities where families would qualify for Medicaid if they participated and must often rely on village funds to pay costly uninsured care. As a result these residents may not seek care as often as they otherwise would due to the cost and inability to afford the services.
- Residents from Plain Communities (Belleville and the Big Valley Area) and Latino(a) communities (Mifflin and Mifflintown) in the hospital service area both experience barriers to insurance.
    - ✓ Residents in Plain Communities are not permitted to use health insurances and instead raise funds every year through an auction to support the medical expenses of the village. Reportedly, Plain Communities are often charged at least 35% more for uninsured care than a resident with medical insurance. The rising cost of healthcare, reportedly, has caused Plain Communities to forgo healthcare in many cases (e.g., birthing services, preventive care, and some medications).
    - ✓ Residents in Latino(a) communities do not have access to insurances unless they are U.S. citizens. It is unclear how many residents may be undocumented in this population. Any resident that is undocumented is ineligible for insurances and often free clinic services due to the documentation required by free clinics and FQHCs.

Limited access to healthcare as a result of the location of providers coupled with transportation issues.

- Residents do not always have access to care (including primary, preventive, and dental care) due to a lack of transportation. This is most often true for more rural residents that do not have a private form of transportation. The distance between providers becomes a barrier to accessing healthcare due to the limited transportation options.
- Most residents used their own car as their primary form of transportation; however, some respondents indicated that their primary form of transportation is some method other than their own car in Juniata (10.2%) and Mifflin (7.8%) Counties, using a family/friend's car (6.8% and 7.8% respectively), public transportation in Juniata only (3.4%) were the most common alternatives.



Increasing access to healthcare is an issue that carries forward from previous assessments, though some progress has been made by increasing access to afterhours care through the growth of urgent care and walk in clinics throughout each region. As access to health services continues to grow from resource development coupled with Medicaid expansion taking place throughout 2015, it will be important to ensure care is effectively coordinated and resources are being used in the most efficient way possible. It will also be very important to further understand the access issues related to local issues in each region (regional variance) in the hospital service area. Primary data collected during this assessment from community leaders and residents offered several recommendations to increase access to healthcare. Some of which included:

- While community-based organizations, agencies, and health providers collaborate effectively now; ***insurance companies could incentivize*** more formal collaborations with an aim of improving population health.
- ***Implementing evidence-based medicine to treat health issues*** and address health needs, which will take continued collaboration among community organizations and a commitment to evidence-based practices.
- ***Increase homecare*** and additional support to maintain residents in home settings.
- ***There is a need for education about effective health care*** and focus on patient engagement and building resiliency. Patients crave development and inclusion in the solution and problem-solving.
- ***Employee health programs and school-based health programs*** are multipliers of the benefits of population health practices, and there is not a significant practice of population health among many major employers or public schools.
- ***Enhanced collaboration could help health providers, community-based organizations, and agencies meet the health needs of residents.*** For example, one stakeholder recommended that the CARS Senior program could collaborate with the Department of Human Services to ensure that transportation was available to residents that qualified.
- ***Increase efforts to recruit and retain primary care practitioners:*** Community leaders recommended that local health service providers increase efforts to recruit healthcare professionals while municipal governments work to improve the attractiveness of the towns in order to recruit and retain primary care professionals more successfully.
- ***Educate residents about when it is necessary to seek health services:*** Community leaders recommended launching an educational campaign to provide information about when and where it is appropriate to seek health care in order to reduce preventable hospitalizations. Leaders felt that education is necessary for STI screening, diabetes, and healthy nutrition also***.***
- ***Increase the use of telemedicine:*** particularly to cover the areas of greatest shortage where it can be effectively implemented (i.e., behavioral health).
- ***Increase the access that residents from Plain Communities have to affordable healthcare options:*** There has been industry precedence set for healthcare pricing packages and agreements between Plain Communities and hospital providers, which is most often based on an outright cost of Medicaid + 5% for all health services.
- ***Increase collaboration between lay midwives*** that provide birthing services to Plain Communities and hospital programs.
- ***Increase the use of community health workers:*** Community leaders recommended increasing the use of community health workers to alleviate some of the access issues related to navigation, transportation, and care coordination.

> "Community health workers (CHWs) are frontline public health workers who have a close understanding of the community they serve. This trusting relationship enables them to serve as a liaison/link/intermediary between health/social services and the community to facilitate access to services and improve the quality and cultural competence of service delivery. Community health workers also build individual and community capacity by increasing health knowledge and self-sufficiency through a range of activities such as outreach, community education, informal counseling, social support and advocacy." (American Public Health Association, 2008)

RESOURCE AWARENESS AND HEALTH LITERACY

Underlying factors identified by secondary data and primary input from community leaders, community stakeholders, and resident survey respondents:

1. Presence of barriers related to language (Need identified in the Northeastern and Western Regions only)
   - ✓ System navigation
   - ✓ Need to increase culturally sensitive educational outreach to vulnerable populations
2. Need to increase awareness and care coordination (All regions identified care coordination as a health need)

Improving resource awareness and health literacy is identified as the third health priority for Geisinger Medical Center, GSACH, and GHS. There is a more diverse population in the Northeastern and Western Regions of the hospital service area than is average for the state, making cultural competence important to address. Additionally, there are limited English speaking skills making health literacy and system navigation a health concern. There is agreement across data sources in support of improving resource awareness, health literacy of residents, and cultural sensitivity of providers in the hospital service area.

- ✓ Secondary data shows higher percentages of limited English skills and greater diversity in the Northeastern and Western Regions of the hospital service area.
- ✓ Community leaders focused discussions around issues with special populations, language barriers, and cultural barriers to accessing health care.
- ✓ Survey respondents indicated preferences related to how they prefer to receive information about health services that supports the need to improve resource awareness.

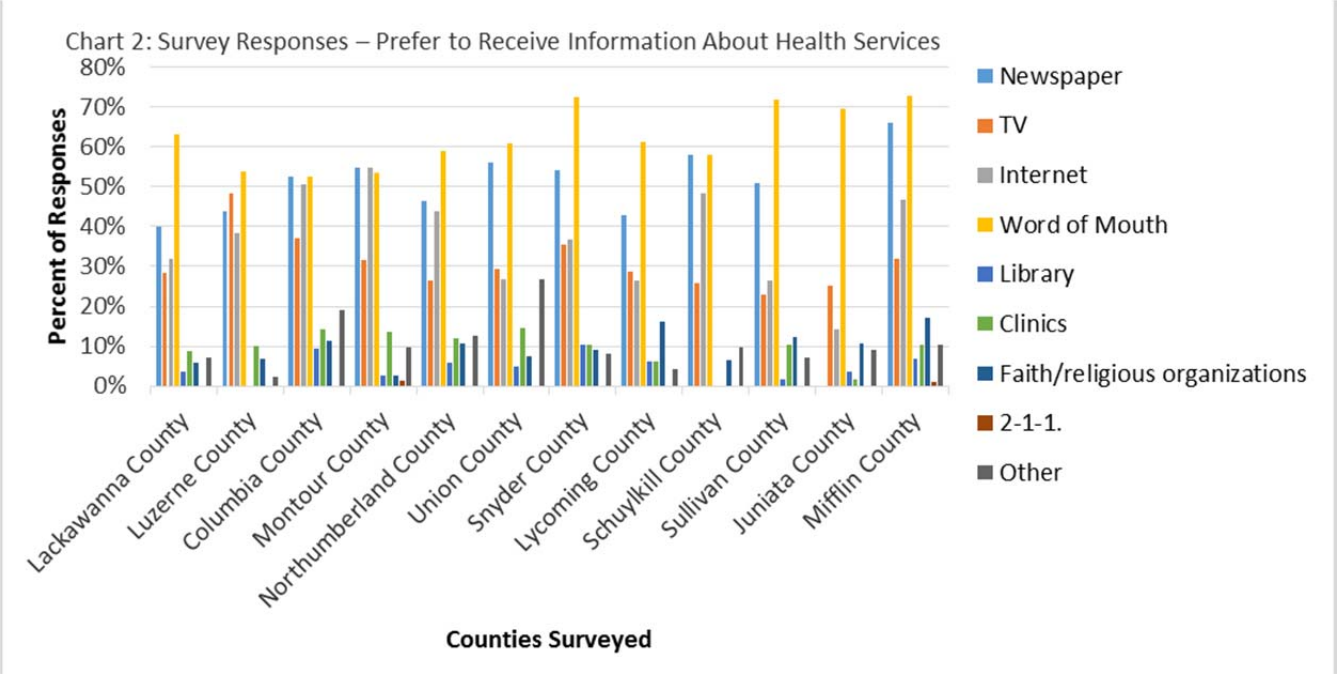
Findings supported by study data:

Need to increase awareness and care coordination

- As rates of insured residents increase, residents will need assistance navigating the health services that exist because there will be some residents that have no experience with the health system. Often services are available, but they are fragmented and many residents may not be aware of what is available. Specific populations impacted by the lack of care coordination are reportedly persons with disabilities, seniors, residents with limited English speaking skills, residents with a history of behavioral health needs, homeless individuals, and persons with a new diagnosis.
- Residents are not always aware of how to navigate the health system, which can be compounded by language, literacy, and cultural challenges. Additionally, residents are not always being assessed to determine their level of understanding and health literacy.
- Care coordination and transitional care are not always available due to lack of funding for these activities, though it is a need among vulnerable residents. While the increase in urgent care clinics/walk-in clinics has provided greater access to health services for insured residents; they have reduced care coordination, medication management (services not practiced by most walk-in clinics), limiting the continuity of care residents are receiving and leading to poorer health outcomes for some residents. Survey respondents echoed the need for care coordination with approximately one in four respondents in each county across the service area indicated that they did not understand what was happening during a time when they (or a loved one) had to transition from one form of care to another. The most common recommendations related to care transitions was better explanation of the process and additional instructions.
- Socio-economic status may pose additional challenges to residents navigating available resources. For example, there are specific physicians that accept Medicaid insurance however; many health care professionals do not accept new patients with Medicaid coverage.
- Residents may have a difficult time navigating health services that are available due to a lack of awareness about what is available and no efficient way to disseminate information in an effective way. Both previous CHNAs have addressed the awareness of residents as a barrier to accessing healthcare. The 2012 CHNA found that there was a need for increased awareness and education related to healthy behaviors. In 2009, Rural Pennsylvania Counts household survey found that there are significant differences in sources of health information by education. Individuals at the lowest end of the educational spectrum are less likely to use the internet or print materials from home in comparison to individuals with higher levels of education including some college or

Bachelor's degree. However, most respondents indicated that they would obtain health information directly from their healthcare provider.

- Similar to the 2009 CHNA, survey respondents indicated they get information about services in their community by word of mouth and newspaper more often than any other option in all counties surveyed.



- Furthermore, when survey respondents reported needing health services and being unable to secure them one of the most common reasons was "unsure where to go".

Language barriers related to accessing care and understanding care provided

<u>Northeastern Region:</u>

- The Northeastern region reports higher rates of Hispanic minorities as compared with the state average; 9.4% of the population identifies as Hispanic, 8.5% of the Luzerne County population, and only 6.5% of the Pennsylvania population identifies as Hispanic. The areas with the greatest concentration of residents with limited English speaking skills are Hazleton 18201 and 18202 where 10.3% and 7.1% of the population respectively report limited English speaking skills. Wilkes-Barre also shows higher percentages of residents reporting limited English skills than is average for the hospital service area.

- The previous CHNA completed in the Geisinger Medical Center, GSACH, and GHS area found in a focus group setting that:

- ✓ All participants agreed that physically or mentally challenged residents need better access to quality health insurance. One woman discussed that she could not find a specialist who was covered by her insurance and said that many physicians "don't accept Medicaid and Medicare because the state requires too much paperwork". All respondents said that they are forced to spend a great deal of time on the phone calling providers to see if they accept their insurance. Many also felt prescription medications are too expensive and have arrived at pharmacies only to find out that their prescriptions are not covered by their health insurance.

- Language barriers cause challenges to the efforts of providers to improve health literacy and awareness of health services and resources. While most respondents did not prefer to receive health services in a language other than English (89.6% and 84.6% respectively); 8.9% of respondents reported this preference in Lackawanna County and slightly more (12.1%) in Luzerne County.
- The previous CHNA completed in the Northeastern region found in a focus group setting that:
  - ✓ The language barrier among this population is also an issue. There are very few or no providers speaking Spanish or any Indian dialects and none able to work with the region's growing Russian and Bhutanese populations. Most state and local government paperwork is in English only. Further, individuals in social services, mental and behavioral services, child protective services, and law enforcement have little or no foreign language skills. A local social service agency has had experiences in problem resolution resulting from a poor translation issue between a hospital and a parent of a patient and in other instances between families and Child Services. One physician indicated that he/she has seen Hispanic and Russian patients and they either bring their children to interpret or have discussions using pictures and pointing.
  - ✓ Focus groups from a Hispanic group agreed that there is a lack of communication, resulting in not knowing about services offered. Participants agreed that there is a lack of communication, resulting in not knowing about services offered. While there are educational programs provided in the community; they lack sensitivity related to literacy, language, lack of documentation, limited financial resources, and the overall understanding of culture. Different approaches are necessary to target vulnerable populations to effectively share information about health conditions and healthy living.

<u>Western Region:</u>

- The hospital service area is fairly homogeneous with only a few exceptions. There is a concentration of Latino(a) residents from El Salvador and Honduras in Mifflin, Reedsville, and Mifflintown, PA. Additionally there is a large Plain Community in the Big Valley Area around Belleville, PA. When we look at the CNI data we see higher percentages of the population that 1) Have limited English skills and 2) Are minority in these areas.
- There are pockets of residents with limited English skills (i.e., Latino(a) residents in Juniata and Mifflin Counties; Plain People (Amish and Mennonite residents) in Mifflin County; and Russian refugees in Centre County). Limited English skills can restrict access to health services due to language barriers, documentation/citizenship issues, and insurance eligibility/desirability.
- Language barriers are an issue for Latino(a) residents from Mifflin and Juniata Counties as well as Russian residents from Centre County seeking healthcare and social services due to limited bilingual staffing and a lack of translation resources. Additionally, there is a Latina provider in Mifflintown that is leaving the practice, which may cause additional barriers in this area.
- Participants agreed that there is a lack of communication, resulting in not knowing about services offered. While there are educational programs provided in the community; they do not offer the sensitivity related to literacy, language, lack of documentation, limited financial resources, competence related to Plain culture, and the overall understanding of culture that is necessary to be effective. Different approaches are necessary to target vulnerable populations to effectively share information about health conditions and healthy living.

Health literacy can impact the level of engagement with health providers at every level limiting the preventive care, emergent care, and ongoing care for chronic health issues, which leads to health disparities among populations with limited English skills and limited literacy skills. Primary data collected during this assessment from community leaders and residents offered several recommendations to improving resource awareness and health literacy. Some of which include:

- ***Increase outreach education***. They recommended professionals that are culturally competent to disseminate health education outreach in a culturally sensitive way in order for it to be effective.
- ***Begin using AHEC groups*** to get people to go into health care professions to represent a cultural competence in order to ensure that minorities are represented in the professionals that are providing services to residents.

- ***Increase care coordination for seniors*** to assist with navigation, medication management, insurance, and health care decision-making.

REDUCING THE IMPACT OF HEALTH CONCERNS RELATED TO LIFESTYLE

Underlying factors identified by secondary data and primary input from community leaders, community stakeholders and resident survey respondents:

1. Increase the access and use of healthy options (Identified need in the Central and Western Regions).
2. Lifestyle has a negative impact on health outcomes and options (Identified need in the Central and Western regions).

Reducing the impact of health concerns related to lifestyle is identified as the fourth community health priority by community leaders. Data shows that there are high-risk behaviors (e.g., smoking, substance abuse, etc.) which contribute to the prevalence of lifestyle related diseases in the area and negatively impact health outcomes. This was also reflected by community leaders, stakeholders, and survey respondents.

The 2012 CHNA completed by Tripp Umbach found that there was a need for increased awareness and education related to healthy behaviors. Community leaders and stakeholders perceived the health status of many residents to be poor due to the perceived prevalence of chronic lifestyle-related illnesses, limited education on how to maintain health, limited awareness about prevention, and limited motivation and/or access to healthy options. Additionally, stakeholders felt that residents make poor lifestyle choices (i.e., smoking, inactivity, substance abuse, and poor nutrition), which contributes to their unhealthy status and often leads to chronic health conditions (i.e., diabetes, obesity, and respiratory issues). Stakeholders felt that residents have a limited understanding about preventive choices and healthy options due to the limited access to preventive healthcare and a lack of prevention education and outreach in their communities.

- ✓ Secondary data related to prevalence rates and death rates of lifestyle related illnesses clearly support the need to reduce the impact of health concerns related to lifestyle.
- ✓ Community leaders identified lifestyle related health concerns as the fourth community health priority.
- ✓ Almost three-quarters of the stakeholders interviewed discussed the impact and primary drivers of lifestyle choices that impact the health status and subsequent health outcomes for residents.

- ✓ Survey respondents identified substance abuse and mental health as two of the top five concerns facing their communities coupled with higher prevalence of lifestyle related diseases.

Findings supported by study data:

There is a presence of conditions that contribute to lifestyle related illness (e.g., inactivity, poor nutrition, smoking, etc.):

- According to the A State Health Assessment (2013), lifestyles that impact the health of residents is a concern across the state with 1) an increase in residents that are obese from 2000 to 2011 (21% and 29% respectively); 2) the percentage of adults who smoked cigarettes in the past 30 days is declining but still high at 22.4%; and 3) residents are not always receiving education and outreach related to healthy behaviors and preventive practices.
- Residents do not always have access to healthy nutrition and may need additional resources (i.e., seniors, homeless people, residents in more rural areas, residents earning a low-income, and children in homes where substance abuse is an issue).
- Residents may not always have complete control over the conditions which lead to unhealthy behaviors (i.e., limited access to healthy produce in poorer rural areas, a lack of education, fear of crime) and a lack of motivation driving obesity rates in the area.
- Family and culture play roles in the lifestyle choices/preferences of residents (e.g., diet, exercise levels, etc.).
- Residents are not always making the healthiest choices on their own behalf.
- Rural residents often do not seek health services until health concerns have become emergencies due to culture, finances, transportation, time, etc.; resulting in poorer health outcomes and higher rates of chronic illnesses.
- Residents do not always have access to physical activities (i.e., homeless people, seniors, etc.) and may not be as active as they need to be to remain healthy which contributes to the rates of diabetes, obesity, and poor health outcomes.

Table 4: Survey Responses – Physical Activity Rates Reported by Survey Respondents

CENTRAL REGION										
Physical Activities	Columbia County	Montour County	Northumberland County	Snyder County	Union County	Lycoming County	Schuylkill County	Sullivan County	PA*	U.S.*
Yes	69.2%	54.5%	59.5%	57%	56.1%	52.7%	80.6%	52.5%	73.7%	74.7%
No	30.8%	45.5%	40.5%	43%	43.9%	47.3%	19.4%	47.5%	26.3%	25.3%

WESTERN REGION				
Physical Activities	Juniata County	Mifflin County	PA*	U.S.*
Yes	54.5%	53.3%	73.7%	74.7%
No	45.5%	46.7%	26.3%	25.3%

** Source: CDC*

- Respondents in all of the counties included in the Central and Western Regions report lower rates of physical activity than those reported for the state and nation (73.7% and 74.7% respectively); except Schuylkill County.
- Secondary data shows a decline in the rates of residents smoking, though rates remain high (around 15%-20% in many counties in the service area). The Healthy People 2020 goal for percentage of population smoking in the U.S. is 12% by the year 2020.[5] Smoking is particularly an issue in Columbia, Montour, Lackawanna and Luzerne Counties.
- Survey respondents from Columbia, Montour, and Schuylkill Counties show the highest rates (20%, 25.3%, and 31.3% respectively).

Lifestyle related illness has a negative impact on health outcomes:

- Obesity, diabetes, and heart disease could be in part connected to the diet of a rural farming culture and sedentary lifestyles.
- Respondents show higher weight and BMI than national and state averages regardless of gender.
- Survey respondents in every county in the study area reported that diabetes, obesity and cancer are among the top five health concerns in their community. All of these health concerns have some connection to lifestyle.
- Survey respondents in every county in the study area report higher diagnosis rates for diabetes than is average for the state and the nation (10.1% and 9.7% respectively).

[5] PA State Health Assessment 2013

Table 5: Survey Responses – Physical Activity Rates Reported by Survey Respondents

CENTRAL REGION										
Ever Diagnosed with Diabetes	Columbia County	Montour County	Northumberland County	Snyder County	Union County	Lycoming County	Schuylkill County	Sullivan County	PA*	U.S.*
Yes	13.20%	12%	12.30%	21.10%	17.10%	52.7%	3.3%	20.7%	10.1%	9.7%

WESTERN REGION				
Ever Diagnosed with Diabetes	Juniata County	Mifflin County	PA*	U.S.*
Yes	20%	21.1%	10.1%	9.7%

** Source: CDC*

- There are higher death rates in the hospital service area for diseases that are typically linked to lifestyle such as, heart disease, coronary heart disease, and diabetes. Additionally, the preventable hospitalizations linked to lifestyle are prevalent throughout the counties in the service area; two of which (COPD and diabetes) increased since the 2012 study. Finally, there have been increases in the rates of lifestyle related illnesses across counties in the service area (e.g., obesity, STIs, diabetes, etc.) since the 2012 study.

- Lifestyle related health concerns are another need that carries forward from the previous assessment. The lifestyles of residents will always drive health outcomes. While lifestyle can be a matter of choice, it is not always; particularly for the more vulnerable population in the service area. Primary data collected during this assessment from community leaders and residents offered several recommendations to address lifestyle related health concerns. Some of which included:

- Health providers, community-based organizations, and agencies should collaborate more to ensure vulnerable populations' needs are identified and met on an ongoing basis. Stakeholders would like to see solutions that are more community-based and less hospital-based. For example, stakeholders recommended that outreach be done at places where residents naturally are (grocery stores, Walmart, post offices, etc.).
- ***Provide evidence-based practices*** when investing in programs and services.
- ***Incentives to changed behaviors:*** Community leaders recommended providing residents with incentives to practice healthier behaviors and improve health status (i.e., smoking cessations, physical activity, etc.).

Community Health Needs Identification Forum

The following qualitative data were gathered during a three regional community planning forums held on March 5, 10, and 12, 2015. Forums were held in:

- ✓ Northeast Forum: March 5, 2015 in Moosic, Pa with more than 40 community leaders from Lackawanna, Luzerne, and Wayne Counties;
- ✓ Central Forum: March 10, 2015 in Danville, PA with more than 50 community leaders from Columbia, Lycoming, Montour, Northumberland, Schuylkill, Snyder, Sullivan, and Union Counties; and
- ✓ West Central Forum: March 12, 2015 in Lewistown, PA with more than 40 community leaders from Centre, Juniata, and Mifflin Counties

Each community planning forum was facilitated by Tripp Umbach and lasted approximately four hours. Community leaders were identified by the community health needs assessment oversight committee for Geisinger Medical Center, GSACH, and GHS. Geisinger Medical Center is a 547-bed community hospital with a 13 county service area.

At each Forum, Tripp Umbach presented the results from the secondary data analysis, community leader interviews, and community surveys. These findings were used to engage community leaders in a group discussion. Community leaders were asked to share their vision for the community, discuss a plan for health improvement in their community, and prioritize their concerns. Breakout groups were formed to pinpoint and identify issues/problems that were most prevalent and widespread in their community. Most importantly, the breakout groups needed to identify ways to resolve the identified problems through innovative solutions in order to bring about a healthier community.

GROUP RECOMMENDATIONS:

Each group of community leaders provided many recommendations to address community health needs and concerns for residents in the Geisinger Medical Center, GSACH, and GHS

service area. Below is a brief summary of the recommendations list in order of forum (Northeast, Central, West-central):

Northeast (Lackawanna, and Luzerne Counties)

- ***Evidence-based, multi-sector programming:*** Community leaders indicated that there are community-based strategies available which are evidence-based practices that address some of the health needs discussed (i.e., tobacco use, health literacy, etc.). Community leaders further stressed that it will be important to focus planning efforts on evidence based strategies to address the health needs in the area.

- ***Align providers and non-profits to action oriented approach:*** Community leaders felt that the health services in the community can ensure progress by developing action plans and establishing shared metrics to measure outcomes while reducing program duplication and maximizing resources.

- ***Additional education and outreach efforts targeting vulnerable populations:*** Community leaders recommended an increase in education and outreach efforts to target vulnerable populations related to common health issues, (i.e., diabetes, COPD, etc.) health services, (i.e., preventive care, screenings, free clinics, etc.), and healthy behaviors (i.e., smoking cessation, nutrition, physical activity, etc.). These programs would be culturally sensitive and aimed at improving health literacy. Additionally, providers need to assess for understanding of information related to health and health literacy.

- ***Risk stratification in behavioral health:*** Community leaders indicated that lower risk behavioral health disorders can be managed in a primary care setting while serious mental illness requires behavioral health professionals to evaluate, manage medications and coordinate care.

- ***Increase the collaboration among providers:*** Community leaders recommended that providers collaborate more in order to maximize resources, reduce duplication in an effort to increase sustainability of programs.

- ***Increase access to dental health services:*** Community leaders recommended increasing the awareness of the dental health services and need for regular oral health care that as well as increasing the number of providers.

- ***Increase the availability of care coordination:*** Community leaders recommended that care coordination and transitional care services be increased in the area.

Central (Columbia, Lycoming, Montour, Northumberland, Schuylkill, Snyder, Sullivan, and Union Counties)

- ***Recruit and retain health service professionals:*** Community leaders indicated that there are not enough healthcare professionals (i.e., medical, behavioral health, and dental). Leaders recommended that additional health professionals be recruited and efforts be made to retain those professionals. Leaders also recommended increasing the free clinic services in the area.

- ***Secure more funding:*** Community leaders discussed at length the need for additional funding dollars to effectively meet community health needs. Leaders felt that federal dollars could be increased in the area through the designation of a rural health county. Additionally, leaders felt that there is a need for funding to increase the number of low-income housing units.

- ***Rotate mental health care professionals through medical care settings:*** Community leaders recommended rotating behavioral health professionals through local primary care settings. Residents would see behavioral health professionals where they receive primary care, which could reduce stigma and increase access to behavioral health care.

- ***Increase the use of community health workers:*** Community leaders recommended increasing the use of community health workers to alleviate some of the access issues related to navigation, transportation, and care coordination.

- ***Collaboration to address transportation issues:*** Community leaders recommended that community leaders develop a collaborative to discuss and plan to effectively address the issues of transportation in the rural areas. Recommendations included the purchase of vans that would be operated by volunteers.

West-Central (Centre, Juniata, and Mifflin Counties)

- ***Increase services for residents with behavioral health related issues:*** Community leaders indicated that there is a need for supportive services for behavioral health issues as well as positive educational opportunities.

- ***Increase efforts to recruit and retain primary care practitioners:*** Community leaders recommended that local health service providers increase efforts to recruit healthcare professionals while municipal governments work to improve the attractiveness of the towns in order to recruit and retain primary care professionals more successfully.

- ***Increase appropriate referrals to in-home services:*** Community leaders recommended increasing referrals for in-home care when it is appropriate in an effort to address transportation, care coordination, and independence for seniors.

- ***Educate residents about when it is necessary to seek health services:*** Community leaders recommended launching an educational campaign to provide information about when and where it is appropriate to seek health care in order to reduce preventable hospitalizations. Leaders felt that education is necessary for STI screening, diabetes, and healthy nutrition also.

- ***Increase resources for diabetic residents:*** Community Leaders recommended that there be additional resources for diabetic residents (i.e., medical supplies, prescriptions, and support groups) to increase successful chronic disease management.

- ***Provide incentives to changed behaviors:*** Community leaders recommended providing residents with incentives to practice healthier behaviors and improve health status (i.e., smoking cessations, physical activity, etc.).

- ***Increase the presents of nurse navigators:*** Community leaders recommended that health providers increase the use of care coordination services like nurse navigators and chronic disease management services.

OVERALL PROBLEM IDENTIFICATION:

There was a great deal of similarities across the three regional forums. Namely, the community leaders at each forum identified behavioral health and substance abuse as the top need followed by access to affordable healthcare across all 13 counties. While community leaders in the Northeast region and West-central region share their third health priority (resource awareness and health literacy); the Central and West-central regions share health concerns related to lifestyle as the fourth priority identified. The Northeast and West Central regions

contain populations with limited English Speaking Skills whereas the Central Region does not have a significant population that does not speak English as a primary language.

NORTHEAST PROBLEM IDENTIFICATION:

During the Northeast community planning forum process, community leaders discussed regional health needs that centered around six themes. These were:

1. **Behavioral Health and Substance Abuse**
2. **Affordability of Care**
3. **Resource Awareness and Health Literacy**
4. **Oral Health (Adults and Pediatric)**
5. **Senior Health**
6. **Healthcare for Persons with Disabilities**

The following summary represents the most important topic areas within the community discussed at the planning retreat in order of priority. Community leaders believe the following concerns are the most pressing problems and are identified as the most manageable to address and tackle.

BEHAVIORAL HEALTH AND SUBSTANCE ABUSE:

Behavioral health and substance abuse services were discussed at the community forum. Community leaders focused their discussions primarily on the impact on child development, the limited number of providers, and the need for care coordination.

Perceived Contributing Factors:

- Behavioral health and substance abuse diagnosis impacts the ability of parents to provide adequate care for children and child development.
- There are gaps in the available services for adults and children related to behavioral health and substance abuse diagnosis and treatment.
- Care coordination is needed among behavioral health and substance abuse providers.

AFFORDABILITY OF CARE:

Community leaders identified affordability of care as a health priority. Leaders focused discussions around Medicaid access issues, issues for undocumented residents, health insurance, and care coordination. Public school nurses perceived that healthy behavior in their communities is limited by resident

Perceived Contributing Factors:

- There are not enough primary care providers accepting new patients with Medicaid.
- There are residents who are not able to afford health insurance.
- There is a population of undocumented residents that do not have access to Medicaid (including children). Many free clinics in the area require specific forms of identification that undocumented residents do not have access to thus causing undocumented residents to have little to no access to affordable healthcare.
- Efforts to address the health needs of working poor residents are not always evidence-based and/or sustainable.
- Care coordination and transitional care are not always available due to lack of funding for these activities, though it is a need among the vulnerable population.

Resource Awareness and Health Literacy:

Community leaders discussed resource awareness and health literacy as a top health priority. Community leaders focused their discussions primarily on language barriers, system navigation issues, the education of vulnerable populations, and the cultural sensitivity of current literature in the community.

Perceived Contributing Factors:

- Language barriers cause challenges to efforts to improve health literacy and awareness of health services and resources.
- Socio-economic status may pose additional challenges to residents navigating - available resources. For example, there are specific physicians that accept Medicaid insurance however, many health care professionals do not accept new patients with Medicaid coverage.
- While there are educational programs provided in the community; they - sensitivity related to literacy, language, lack of documentation, limited financial resources, and the overall understanding of culture, -. -Different approaches are necessary to target vulnerable populations to effectively share information about health conditions and healthy living.

- Residents are not always being assessed to determine their level of understanding and health literacy.

ORAL HEALTH (ADULT AND PEDIATRIC):

Community leaders discussed oral health as a top health priority. Community leaders focused their discussions primarily on the need for additional pediatric and adult dental providers.

Perceived Contributing Factors:

- There is a need for pediatric oral healthcare.
- Residents are not always aware of the dental services available in the community.
- There are insufficient low-cost or reduced dental services to meet the oral health needs of residents.

SENIOR HEALTH:

Community leaders identified senior health as a top health priority. Community leaders focused their discussions primarily on care coordination, supportive services, and the impact of poverty among seniors.

Perceived Contributing Factors:

- Access to services that allow seniors to remain independent (i.e., in home services) may be limited due to insurance status, financial status, availability, etc.
- Families caring for seniors at home may need additional support (i.e., day programs, respite, etc.).
- Poverty among seniors is high, which often leads to difficulty accessing care and effective treatments.
- Transportation is not always readily available to seniors.
- Evidence-based treatment is not always available and/or affordable for vulnerable populations of seniors (i.e., in home care, length of hospital stay, etc.)
- Prescription medication can be expensive causing seniors to - delay medical treatment or not follow treatment recommendations.
- Seniors are not always aware of the existence of different available services and the eligibility requirements. Thus, seniors do not access and utilize what they are qualified for. (
- Community-based care coordination is not always available to seniors.

- Decreased levels of physical activity can lead to poor health outcomes.
- Seniors may have the perspective that health issues are a part of getting old, which can cause a delay in seeking medical care prior to a health concern becoming emergent.

HEALTHCARE FOR PERSONS WITH DISABILITIES:

Community leaders identified healthcare disabled residents as a top health priority. Community leaders focused their discussions primarily on supportive services, available resources, the impact of living in a rural area, care coordination, and the sensitivity of health services.

Perceived Contributing Factors:

- Access to services that allow seniors to remain independent (i.e., in home services) may be limited due to insurance status, financial status, availability, etc.
- Families caring for seniors at home need additional support (i.e., day programs, respite, etc.).
- Definitions of disability are not always standardized across the industry.
- Care coordination and/or transitional care is limited for residents with disabilities who do not have a family support system.
- Transportation can make it difficult to access healthcare in rural areas.
- Dental care may not always be sensitive to the needs of persons with disabilities (i.e., mentally challenged residents are often unable to transition to dentures effectively).
- Employment opportunity is not readily available which limits access to healthy options (i.e., nutrition, preventive care, etc.).
- Mental health services often overlook psychological disorders/symptoms of mentally challenged residents.
- There is a lack of institutional care for the severely disabled residents, which may cause isolation and a lack of supportive services.

CENTRAL PROBLEM IDENTIFICATION:

During the Central community planning forum process, community leaders discussed regional health needs that centered around four themes. These were:

7. **Behavioral health and substance abuse**
8. **Access to healthcare**
9. **The impact of socio-economic status on health outcomes**
10. **Health concerns related to lifestyle**

The following summary represents the most important topic areas within the community discussed at the planning retreat in order of priority. Community leaders believe the following concerns are the most pressing problems and are identified as the most manageable to address and resolve.

BEHAVIORAL HEALTH AND SUBSTANCE ABUSE:

Behavioral health and substance abuse services were discussed at the community forum. Community leaders focused their discussions primarily on the limited number of providers, need for care coordination, and affordability of care.

Perceived Contributing Factors:

- There are not enough providers to meet the demand among residents. Where there are services, the wait times can be lengthy to secure an initial appointment.
- There are gaps in the available services for adults and children related to behavioral health and substance abuse diagnosis and treatment.
- Care coordination is needed among behavioral health and substance abuse providers.
- Substance abuse has remained a health concern in the area that depends on engaging residents in the resolution.
- Behavioral health concerns are growing due to an apparent increase in demand and less available services.
- Residents are not always able to afford behavioral health care when it is needed due to the lack of insurances and cost of care.
- There are limited services for residents that have been previously incarcerated due to behavioral health and/or substance abuse. Previously incarcerated residents

struggle securing employment, housing, and many other necessities. This often leads to homelessness and poor health outcomes.

- Residents with substance abuse history are being returned to areas where they are exposed to the same influences that lead to their initial substance abuse due to a lack of transitional housing and employment opportunities.

ACCESS TO HEALTHCARE:

Community leaders identified access to health care as a top health priority. While community leaders discussed the potential increase in access to care (i.e., preventive care, primary care, etc.) with the expansion of Medicaid; community leaders focused their discussions primarily on care coordination, number of providers, and limited transportation options.

Perceived Contributing Factors:

- Health services (i.e., primary care, dental care, etc.) are not always readily available due to a shortage of providers, which can cause lengthy wait times to secure appointments.
- Primary care physicians are not always taking new patients, particularly for residents with Medicaid.
- Patient-centered care is not as readily available as it once was.
- While residents may have health insurance; they cannot always afford to use their health insurance due to unaffordable deductibles and copays.
- Care coordination and transitional care are not always available due to lack of funding for these activities, though it is a need among vulnerable residents.
- Residents do not always have access to care due to a lack of transportation. This is most often true for more rural residents that do not have a private form of transportation.
- Residents do not always have the ability to secure preventive care due to affordability, lack of insurance, and transportation issues. This was particularly discussed in relationship to residents in poverty and homeless residents.
- Residents are not always able to afford dental care due to the cost and lack of insurance.

THE IMPACT OF SOCIOECONMIC STATUS ON HEALTH OUTCOMES:

Community leaders discussed the impact of socio-economic status on health outcomes as a top health priority. Community leaders focused their discussions primarily on the struggle inherent

in poverty, limited safety net services for residents above the poverty line, and the impact of poverty on children (including educational outcomes).

Perceived Contributing Factors:

- Poverty seems to be pervasive in the area. Leaders felt there are "glass ceilings" that do not allow residents in poverty to improve their financial situations.
- The lack of transportation plays a role in the ability of residents to secure and maintain employment.
- Children living with single parents are likely to be living in poverty in most areas, which may impact health outcomes.
- Poverty is a barrier to healthcare. There are a limited number of safety net services available for residents earning just above poverty to 250% of poverty. Many families are not able to afford health insurances and do not qualify for assistance.
- Youth in the area are not always getting the education they need to be successful.
- Limited education can contribute to lower wages and limit access to health care in a variety of ways.
- There are limited services available for homeless individuals (i.e., shelters, health services, behavioral health services, dental care, medication assistance, etc.).

HEALTH CONCERNS RELATED TO LIFESTYLE:

Community leaders identified lifestyle related health concerns as a health priority. Leaders focused discussions around the access residents have to healthy options as well as the impact to health outcomes.

Perceived Contributing Factors:

- Residents are not as active as they may need to be to remain healthy contributing to the rates of diabetes, obesity, and poor health outcomes.
- The prevalence of diabetes contributes to poor health outcomes in the area.
- Residents do not always have access to healthy nutrition and may need additional resources.
- Residents are not always receiving education and outreach related to healthy behaviors and preventive practices.
- Residents are not always receiving effective education and outreach related to smoking, obesity, etc.

West-central Problem Identification:

During the West-central community planning forum process, community leaders discussed regional health needs that centered around five themes. These were:

11. **Behavioral health and substance abuse**
12. **Access to healthcare**
13. **Resource awareness and health literacy**
14. **Health concerns related to lifestyle**
15. **Care coordination**

The following summary represents the most important topic areas within the community that were discussed at the planning retreat in order of priority. Community leaders believe the following concerns are the most pressing problems , but also the most manageable to address and resolve.

Behavioral Health and Substance Abuse:

Behavioral health and substance abuse services were discussed at the community forum. Community leaders focused their discussions primarily on the limited number of providers, need for care coordination, and affordability of care.

Perceived Contributing Factors:

- There are not enough providers to meet the demand among residents. Where there are services, the wait times can be lengthy to secure initial appointments for behavioral health and substance abuse services.
- Residents that are diagnosed with behavioral health issues do not always have access to healthy options (i.e., positive educational experiences).
- There are gaps in the available services for adults and children related to behavioral health and substance abuse diagnosis and treatment.
- Care coordination is needed among behavioral health and substance abuse providers.
- There are few substance abuse treatment models being practiced among local providers due to a lack of resources.

Access to Healthcare:

Community leaders identified access to health care as a top health priority. Community leaders focused their discussions primarily on the limited number of providers, limited transportation options, and limited funding.

Perceived Contributing Factors:

- There is limited funding for health services.
- Health services (i.e., primary care, dental care, etc.) are not always readily available due to a shortage of providers, which can cause lengthy wait times to secure appointments.
- Residents do not always have access to care due to a lack of transportation. This is most often true for more rural residents and Plain People that do not have a private form of transportation.
- Residents are not always able to afford dental care due to the cost and lack of insurance.
- The lack of dental providers leads to poorer oral health outcomes and medical health outcomes (e.g., heart disease).
- Residents do not always have the ability to secure preventive care due to affordability, lack of insurance, and transportation issues.

RESOURCE AWARENESS AND HEALTH LITERACY:

Community leaders identified awareness of resources as a health priority. Leaders focused discussions around issues with special populations, language barriers, and cultural barriers to accessing health care.

Perceived Contributing Factors:

- There are pockets of residents with limited English skills i.e., Latino(a) residents in Juniata and Mifflin Counties, Plain People (Amish and Mennonite residents) in Mifflin County and Russian refugees in Centre County). Limited English skills can restrict access to health services due to language barriers, documentation/citizenship issues, and insurance eligibility issues.
- Language barriers are an issue for Latino(a) residents and Russian residents seeking healthcare and social services due to limited bilingual staffing and a lack of translation resources. Additionally, there is a Latina provider in Mifflintown that is leaving the practice, which may cause additional barriers in this area. There are churches in Juniata that offer services in Spanish and English as a Second Language (ESL) classes.

- There is disconnect between the health priorities of Plain People and the healthcare industry. Local Plain People host an annual auction in Millroy, PA during the month of August to raise funds which allows each villager to pay cash for healthcare services throughout the year. There is very little preventive care being provided to Plain people by local health service providers. There is a preference for natural remedies offered by local chiropractors and mid-wives. It is believed that Plain people populations are not always aware of what services are available and/or how to navigate the health services that exist.
- Residents are not always seeking care at appropriate times in appropriate venues (i.e., Primary care, urgent care, and emergency care) due to values related to a "walk it off" culture.
- Grandparents raising grandchildren may need information about relevant positive practices and preventive care.
- Education related to prevention is necessary for residents; however, most non-profits are not receiving funding for these services.

Health Concerns Related to Lifestyle:

Community leaders identified lifestyle related health concerns as a health priority. Leaders focused discussions around the access and awareness residents have related to healthy options as well as the impact to health outcomes.

Perceived Contributing Factors:

- Residents do not always have healthy priorities related to nutrition.
- Residents are not always aware of what is available to diabetic residents in the community as well as how to effectively manage chronic health issues.
- There is little focus on community based promotion of overall wellness.

Care Coordination:

Community leaders identified care coordination as a health priority. Leaders focused discussions around the need for care coordination in general.

Perceived Contributing Factors:

- There is a need for care coordination for residents.
- Care coordination and transitional care is not readily available due to a lack of funding and/or payment source for care coordination activities.

- Seniors often need assistance transitioning from one care setting to another in order to understand treatment options and effectively implement treatment regimens.

Secondary Data

Tripp Umbach worked collaboratively with the Geisinger Medical Center, GSACH, and GHS community health needs assessment oversight committee to develop a secondary data process focused on three phases: collection, analysis and evaluation. Tripp Umbach obtained information on the demographics, health status and socio-economic and environmental factors related to the health and needs of residents from the multi-community collective service areas of Geisinger Medical Center, GSACH, and GHS. The process developed accurate comparisons to the state baseline of health measures utilizing the most current validated data. In addition to demographic data, specific attention was focused on two key community health index factors: Community Need Index (CNI) and Prevention Quality Indicators Index (PQI). Tripp Umbach provided additional comparisons and trend analysis for County Health Rankings, Prevention Quality Indicators and CNI data from 2012 to present.

Demographic Profile

The Geisinger Medical Center, GSACH, and GHS study area encompasses Centre, Columbia, Juniata, Lackawanna, Luzerne, Lycoming, Mifflin, Montour, Northumberland, Schuylkill, Snyder, Sullivan, and Union counties, and is defined as a zip code geographic area based on 80% of the hospital's inpatient volumes. The Geisinger Medical Center, GSACH, and GHS community consists of 74 zip code areas.

Demographic Profile – Key Findings:

Overall the Geisinger Medical Center, GSACH, and GHS service area expanded significantly since the last CHNA; resulting in a more complex, diverse service area which includes a variety of health needs.

- The Geisinger Medical Center, GSACH, and GHS study area is very large, including 74 populated zip code areas throughout 13 counties in western Pennsylvania.
- The Geisinger Medical Center, GSACH, and GHS study area is projected to experience a 0.4% population growth over the next five years (2014 – 2019); this equates to approximately 3,508 more people in the primary service area.
    - ✓ The county in the study area with the largest projected population growth rate is Lycoming County at 1.7% with most of the counties in the services area showing some measure of growth.
    - ✓ The county in the study area with the largest projected decline in population is Schuylkill County at -1.2% (losing approximately 1,788 residents) with Columbia and Lackawanna Counties also showing a decline in population.

- The study area shows higher rates of older individuals than state and national norms. The study area has 17.4% of the population aged 65 and older; while PA reports 16.6% and the U.S. reports 14.2%. And the rate of residents aged 65 and older in the study area is projected to rise, from 17.2% to 19.5%.

- All of the counties in the study area are projected to experience increases in the rates of older individuals (65 and older) with a projected decline in populations of residents younger than 24 with the exception of two – Montour, and Northumberland Counties.

- The average household income in 2014 for the Geisinger Medical Center, GSACH, and GHS study area is $58,469; this is lower than state and national rates ($69,931 and $71,320 respectively).

    - ✓ The lowest average annual household income for the study area is found in Mifflin County ($50,213).

    - ✓ The study area reports more than a quarter of the households earning less than $25K per year (27.7%); this rate is higher than state and national rates (24.0% and 24.5% respectively).

    - ✓ Centre County shows the highest percentage of residents with household incomes less than $15,000 per year and one of the highest percentages of the population earning greater than $100,000 per year.

- The study area reports 13.1% of the residents having less than a high school diploma; this is higher than the state rate (11.5%).

- The study area shows less diversity as compared with PA and the United States. 21.9% in PA and 37.9% in the U.S. identify as a race other than White, Non-Hispanic. While there is very little diversity across the study area; there are a few exceptions in each region:

    - ✓ In the Northeast Region: Luzerne County reports the highest rate of diversity with 14.3% of the population self-reporting as a race other than White, Non-Hispanic; 8.5% of which report being Hispanic (higher rate than the state at 6.5%)

    - ✓ In the Central Region: Union County reports the most diversity with 14.9% of the population identifying as a race other than white, Non-Hispanic.

    - ✓ In the Western Region: Centre County reports the most diversity with 15.3% of the population identifying as a race other than white, Non-Hispanic

Community Need Index (CNI)

In 2005 Catholic Healthcare West, in partnership with Thomson Reuters, pioneered the nation's first standardized Community Need Index (CNI).[6] CNI was applied to quantify the severity of health disparity for every zip code in Pennsylvania based on specific barriers to healthcare access. Because the CNI considers multiple factors that are known to limit healthcare access, the tool may be more accurate and useful than other existing assessment methods in identifying and addressing the disproportionate unmet health-related needs of neighborhoods.

The five prominent socio-economic barriers to community health quantified in CNI include: Income, Insurance, Education, Culture/Language and Housing. CNI quantifies the five socio-economic barriers to community health utilizing a five-point index scale where a score of 5 indicates the greatest need and 1, the lowest need.

Overall, the Geisinger Medical Center, GSACH, and GHS zip code areas have a CNI score of 3.1, indicating a higher than average level of community health need in the study area. The CNI analysis lets us dig deeper into the traditional socio-economic barriers to community health and identify areas where the need may be greater than the overall service area.

Table 6: CNI Scores for the Geisinger Medical Center, GSACH, and GHS Service Area by Zip Code

Zip	City	County	% of Pop. Renting	% of Pop. Unemployed	% of Pop. Uninsured	% of Pop. Minority	% of Pop. Limited English	% of Pop. w/ No Diploma	% of 65+ Pop. in Poverty	% of Adults Married w/ Children in Poverty	% of Adults Single w/ Children in Poverty	Income Rank	Insurance Rank	Education Rank	Culture Rank	Housing Rank	2014 CNI Score
18201	Hazleton	Luzerne	43.9%	10.8%	10.7%	47.7%	10.3%	19.8%	14.7%	32.2%	58.3%	5	4	4	5	5	4.6
18702	Wilkes Barre	Luzerne	44.7%	8.6%	11.6%	28.0%	2.1%	13.7%	13.3%	30.7%	55.6%	5	4	3	4	5	4.2
17976	Shenandoah	Schuylkill	30.1%	14.0%	11.9%	18.6%	2.7%	20.2%	10.5%	22.1%	56.5%	4	4	4	4	4	4.0
18202	Hazleton	Luzerne	31.8%	9.4%	9.7%	27.2%	7.1%	14.3%	9.8%	37.7%	66.4%	5	3	3	4	4	3.8
17701	Williamsport	Lycoming	46.9%	10.4%	13.2%	17.2%	0.5%	14.5%	10.8%	25.5%	47.7%	4	4	3	3	5	3.8
17801	Sunbury	Northumberland	38.1%	12.3%	8.8%	9.8%	0.4%	17.9%	9.6%	20.5%	44.6%	4	3	4	3	5	3.8

[6] "Community Need Index." Catholic Healthcare West Home. Web. 16 May 2011. <http://www.chwhealth.org/Who_We_Are/Community_Health/STGSS044508>.

Zip	City	County	% of Pop. Renting	% of Pop. Unemployed	% of Pop. Uninsured	% of Pop. Minority	% of Pop. Limited English	% of Pop. w/ No Diploma	% of 65+ Pop. in Poverty	% of Adults Married w/ Children in Poverty	% of Adults Single w/ Children in Poverty	Income Rank	Insurance Rank	Education Rank	Culture Rank	Housing Rank	2014 CNI Score
17872	Shamokin	Northumberland	35.8%	14.8%	11.5%	5.6%	0.3%	16.6%	10.6%	17.6%	47.6%	4	4	4	2	5	3.8
17948	Mahanoy City	Schuylkill	28.2%	17.7%	11.5%	30.2%	0.6%	20.1%	17.9%	16.1%	35.4%	3	4	4	4	4	3.8
18504	Scranton	Lackawanna	43.4%	7.7%	10.2%	15.9%	1.7%	15.0%	11.7%	18.8%	42.9%	3	3	4	3	5	3.6
17044	Lewistown	Mifflin	34.4%	11.5%	11.0%	5.3%	0.1%	17.1%	10.9%	17.9%	40.1%	3	4	4	2	5	3.6
17847	Milton	Northumberland	32.3%	8.1%	7.4%	9.7%	1.0%	15.0%	5.2%	26.1%	59.2%	5	2	4	3	4	3.6
16801	State College	Centre	62.4%	7.5%	22.1%	19.5%	0.8%	3.9%	5.5%	7.7%	29.0%	2	5	1	4	5	3.4
17815	Bloomsburg	Columbia	38.6%	7.4%	11.4%	9.8%	0.7%	8.9%	10.6%	17.5%	48.2%	4	3	2	3	5	3.4
18634	Nanticoke	Luzerne	37.4%	9.2%	9.9%	6.1%	0.7%	14.0%	10.1%	27.4%	51.5%	4	3	3	2	5	3.4
18704	Kingston	Luzerne	41.0%	8.2%	10.0%	9.2%	0.8%	10.6%	11.9%	23.3%	45.6%	4	3	2	3	5	3.4
18603	Berwick	Columbia	31.4%	6.7%	12.0%	7.4%	1.1%	16.5%	15.5%	19.7%	40.9%	3	3	4	2	4	3.2
17059	Mifflintown	Juniata	27.7%	5.6%	6.5%	7.5%	1.4%	17.4%	9.0%	15.7%	49.2%	4	2	4	2	4	3.2
17084	Reedsville	Mifflin	20.1%	4.7%	10.2%	1.9%	3.9%	21.3%	7.3%	36.4%	50.0%	4	3	5	1	3	3.2
17851	Mount Carmel	Northumberland	26.8%	10.7%	10.7%	4.1%	0.2%	14.0%	15.9%	20.6%	49.0%	4	4	3	1	4	3.2
17866	Coal Township	Northumberland	21.1%	12.5%	9.0%	15.4%	0.3%	16.7%	8.2%	14.2%	40.1%	3	3	4	3	3	3.2
17837	Lewisburg	Union	37.2%	7.2%	7.7%	15.7%	0.7%	11.3%	8.2%	12.0%	37.8%	3	2	3	3	5	3.2
16803	State College	Centre	59.4%	6.8%	13.7%	26.0%	0.7%	3.5%	3.8%	11.1%	17.6%	1	4	1	4	5	3.0
17901	Pottsville	Schuylkill	30.7%	8.5%	8.9%	6.5%	0.4%	12.3%	10.6%	16.9%	33.9%	3	3	3	2	4	3.0
17813	Beavertown	Snyder	22.7%	5.8%	6.9%	2.3%	2.0%	17.9%	11.4%	27.4%	75.0%	5	2	4	1	3	3.0
17820	Catawissa	Columbia	21.4%	6.1%	8.7%	3.1%	0.3%	10.9%	9.0%	22.0%	63.5%	5	2	3	1	3	2.8
17737	Hughesville	Lycoming	22.1%	10.0%	7.9%	3.0%	0.2%	10.0%	11.6%	21.9%	64.4%	5	3	2	1	3	2.8
17740	Jersey Shore	Lycoming	26.5%	9.3%	6.9%	2.5%	0.3%	14.3%	3.5%	18.4%	56.7%	4	2	3	1	4	2.8

Zip	City	County	% of Pop. Renting	% of Pop. Unemployed	% of Pop. Uninsured	% of Pop. Minority	% of Pop. Limited English	% of Pop. w/ No Diploma	% of 65+ Pop. in Poverty	% of Adults Married w/ Children in Poverty	% of Adults Single w/ Children in Poverty	Income Rank	Insurance Rank	Education Rank	Culture Rank	Housing Rank	2014 CNI Score
17017	Dalmatia	Northumberland	20.0%	6.1%	5.2%	2.5%	0.1%	16.9%	6.5%	19.5%	77.3%	5	1	4	1	3	2.8
17857	Northumberland	Northumberland	26.4%	7.1%	5.4%	5.3%	0.1%	10.8%	5.4%	14.1%	38.5%	3	2	3	2	4	2.8
17921	Ashland	Schuylkill	20.8%	11.2%	6.3%	17.5%	0.8%	13.5%	8.5%	13.8%	46.1%	3	2	3	3	3	2.8
17935	Girardville	Schuylkill	22.5%	12.6%	7.9%	3.8%	0.1%	10.9%	8.4%	12.4%	56.5%	4	3	3	1	3	2.8
17972	Schuylkill Haven	Schuylkill	24.5%	8.1%	6.4%	6.8%	0.6%	14.2%	6.5%	14.1%	49.2%	4	2	3	2	3	2.8
17870	Selinsgrove	Snyder	31.3%	6.0%	5.6%	8.9%	0.4%	11.6%	6.2%	11.8%	38.6%	3	1	3	3	4	2.8
17846	Millville	Columbia	22.2%	6.5%	10.1%	3.2%	0.2%	14.3%	18.4%	14.9%	32.6%	3	3	3	1	3	2.6
17702	Williamsport	Lycoming	27.6%	7.4%	7.4%	3.1%	0.4%	14.2%	6.1%	9.5%	35.9%	3	2	3	1	4	2.6
17756	Muncy	Lycoming	20.3%	6.7%	7.3%	7.7%	0.5%	16.2%	7.2%	12.4%	33.9%	2	2	4	2	3	2.6
17051	Mc Veytown	Mifflin	17.2%	8.3%	8.7%	2.8%	0.2%	19.7%	9.0%	16.9%	36.5%	3	3	4	1	2	2.6
17063	Milroy	Mifflin	20.2%	8.8%	7.7%	1.6%	1.2%	19.5%	9.1%	17.2%	44.3%	3	2	4	1	3	2.6
17834	Kulpmont	Northumberland	25.0%	6.8%	8.8%	3.8%	0.2%	12.2%	5.4%	19.0%	29.1%	2	3	3	1	4	2.6
17842	Middleburg	Snyder	22.1%	6.3%	6.6%	3.2%	0.3%	20.7%	12.5%	13.5%	46.2%	3	2	4	1	3	2.6
17864	Port Trevorton	Snyder	17.7%	7.2%	4.8%	2.1%	1.9%	27.4%	5.9%	10.4%	56.0%	4	1	5	1	2	2.6
17876	Shamokin Dam	Snyder	35.2%	6.7%	6.8%	6.0%	0.6%	11.5%	9.4%	9.7%	0.0%	1	2	3	2	5	2.6
17844	Mifflinburg	Union	24.7%	8.4%	5.8%	2.3%	0.4%	19.6%	8.2%	14.0%	45.5%	3	2	4	1	3	2.6
17845	Millmont	Union	19.0%	10.2%	5.1%	2.3%	0.2%	24.2%	3.3%	15.4%	46.6%	3	2	5	1	2	2.6
16823	Bellefonte	Centre	28.8%	5.6%	8.9%	10.0%	0.5%	8.6%	9.0%	6.2%	14.6%	1	2	2	3	4	2.4
17086	Richfield	Juniata	20.3%	7.0%	4.0%	3.4%	0.2%	17.1%	12.2%	8.4%	39.3%	3	1	4	1	3	2.4
18635	Nescopeck	Luzerne	23.3%	5.9%	7.9%	3.1%	0.1%	12.1%	11.8%	16.4%	32.1%	3	2	3	1	3	2.4
17752	Montgomery	Lycoming	24.8%	10.6%	6.6%	3.9%	0.7%	15.2%	7.9%	16.2%	30.0%	2	2	4	1	3	2.4
1784	Mc Clure	Mifflin	19.8%	6.1%	7.2%	3.0%	0.6%	20.4%	5.9%	20.5%	44.3%	3	2	4	1	2	2.4

Zip	City	County	% of Pop. Renting	% of Pop. Unemployed	% of Pop. Uninsured	% of Pop. Minority	% of Pop. Limited English	% of Pop. w/ No Diploma	% of 65+ Pop. in Poverty	% of Adults Married w/ Children in Poverty	% of Adults Single w/ Children in Poverty	Income Rank	Insurance Rank	Education Rank	Culture Rank	Housing Rank	2014 CNI Score
1																	
17821	Danville	Montour	27.0%	5.4%	5.9%	7.5%	1.0%	9.9%	7.6%	10.4%	36.3%	3	1	2	2	4	2.4
17777	Watsontown	Northumberland	26.8%	5.9%	5.9%	3.4%	0.3%	13.8%	11.1%	15.2%	29.4%	2	2	3	1	4	2.4
17881	Trevorton	Northumberland	20.1%	8.1%	6.1%	2.7%	0.1%	15.3%	3.7%	12.0%	32.4%	2	2	4	1	3	2.4
17931	Frackville	Schuylkill	23.2%	9.2%	6.7%	2.7%	0.2%	10.9%	10.4%	16.1%	45.3%	3	2	3	1	3	2.4
17964	Pitman	Schuylkill	16.8%	13.1%	3.9%	3.8%	0.0%	12.4%	5.6%	12.4%	57.1%	4	2	3	1	2	2.4
17853	Mount Pleasant Mills	Snyder	20.1%	6.2%	6.5%	1.8%	0.6%	20.2%	21.1%	14.1%	28.6%	2	2	4	1	3	2.4
18655	Shickshinny	Luzerne	18.6%	7.0%	7.1%	3.0%	0.5%	11.3%	11.3%	12.5%	33.6%	3	2	3	1	2	2.2
17772	Turbotville	Northumberland	15.0%	5.5%	4.6%	2.2%	1.3%	15.7%	10.6%	18.2%	51.9%	4	1	4	1	1	2.2
17823	Dornsife	Northumberland	14.7%	6.9%	5.0%	2.3%	0.0%	13.2%	3.9%	10.1%	66.7%	5	1	3	1	1	2.2
17860	Paxinos	Northumberland	9.9%	8.1%	5.0%	2.2%	0.1%	11.4%	5.0%	12.9%	63.6%	4	2	3	1	1	2.2
17814	Benton	Columbia	17.7%	7.1%	7.6%	2.5%	0.1%	12.6%	7.5%	15.6%	27.2%	2	2	3	1	2	2.0
17859	Orangeville	Columbia	14.5%	6.5%	7.9%	3.0%	0.2%	10.8%	13.1%	11.2%	40.3%	3	2	3	1	1	2.0
17878	Stillwater	Columbia	13.8%	7.3%	6.5%	1.6%	0.1%	11.6%	8.4%	13.9%	44.2%	3	2	3	1	1	2.0
17824	Elysburg	Northumberland	15.0%	7.9%	6.0%	2.8%	0.1%	9.0%	6.1%	14.0%	53.0%	4	2	2	1	1	2.0
17830	Herndon	Northumberland	16.3%	6.6%	4.3%	2.5%	0.6%	14.4%	3.8%	13.4%	42.3%	3	1	3	1	2	2.0
17938	Hegins	Schuylkill	19.5%	8.0%	3.8%	2.5%	0.1%	16.7%	3.3%	5.0%	22.7%	2	1	4	1	2	2.0
17856	New Columbia	Union	18.0%	9.1%	7.2%	3.5%	0.6%	13.2%	13.3%	16.3%	25.9%	2	2	3	1	2	2.0
16841	Howard	Centre	15.6%	5.5%	7.4%	2.7%	0.5%	12.5%	5.7%	12.9%	25.6%	2	2	3	1	1	1.8
17754	Montoursville	Lycoming	21.5%	6.3%	6.0%	4.0%	0.6%	7.2%	4.3%	9.6%	33.6%	2	2	1	1	3	1.8
17832	Marion Heights	Northumberland	10.9%	10.8%	8.4%	1.4%	0.4%	13.3%	6.7%	1.5%	3.6%	1	3	3	1	1	1.8
17963	Pine Grove	Schuylkill	20.4%	7.2%	4.2%	2.9%	0.8%	13.0%	4.5%	9.9%	8.9%	1	1	3	1	3	1.8

Zip	City	County	% of Pop. Renting	% of Pop. Unemployed	% of Pop. Uninsured	% of Pop. Minority	% of Pop. Limited English	% of Pop. w/ No Diploma	% of 65+ Pop. in Poverty	% of Adults Married w/ Children in Poverty	% of Adults Single w/ Children in Poverty	Income Rank	Insurance Rank	Education Rank	Culture Rank	Housing Rank	2014 CNI Score
18222	Drums	Luzerne	15.1%	4.8%	4.5%	9.9%	1.4%	6.8%	2.8%	8.5%	21.4%	2	1	1	3	1	1.6
17967	Ringtown	Schuylkill	13.1%	9.2%	7.5%	2.2%	0.4%	9.3%	8.1%	7.2%	27.8%	2	2	2	1	1	1.6
17889	Winfield	Union	14.3%	4.7%	5.1%	4.2%	0.5%	11.9%	5.9%	6.0%	12.5%	1	1	3	1	1	1.4
Geisinger Medical Center, GSACH, and GHS Community Summary			**34.4%**	**8.3%**	**9.9%**	**12.4%**	**1.2%**	**12.8%**	**9.3%**	**17.5%**	**41.0%**	**3.2**	**2.9**	**2.9**	**2.6**	**4.1**	**3.1**

- Higher CNI scores indicate greater number of socio-economic barriers to community health. The areas with the highest CNI scores and therefore greatest barriers to accessing healthcare in the Geisinger Medical Center, GSACH, and GHS study area are:
    - Northeastern Region: Hazleton (18201 and 18202), Wilkes Barre (18702), Nanticoke (18634), and Kingston (18704) in Luzerne County; and Scranton (18504) in Lackawanna.
    - Central Region: Sunbury (17801), Shamokin (17872), Milton (17847), Mount Carmel (17851), and Coal Township (17866) in Northumberland County; Shenandoah (17976) and Mahanoy City (17948) in Schuylkill County; Williamsport (17701) in Lycoming County; Bloomsburg (17815) and Berwick (18603) in Columbia County; and Lewisburg (17837) in Union County.
    - Western Region: Lewistown (17044) and Reedsville (17084) in Mifflin County; State College (16801) in Centre County; and Mifflintown (17059) and Mifflin (in Juniata County
- The highest CNI score for the study area is 4.6 in the town of Hazleton (18201) in Luzerne County. The highest CNI score indicates the most barriers to community health care access.
- Hazleton (18201) shows the highest rates across the study area for:
    - ✓ Minority population (47.7%)
    - ✓ Limited English proficiency (10.3%)

- The two zip codes areas in State College (16801 and 16803) report the highest rates of rental activity for the study area (62.4% and 59.4% respectively). The same is true for residents in State College being uninsured (22.1% and 13.7% respectively); the highest in the study area.
- The highest unemployment rate in the study area is in Mahanoy City (17948) at 17.7%. For Pennsylvania, the unemployment rate is roughly 5.7% and nationally the unemployment rate is 5.9% (Sept 2014). The unemployment rate in Mahanoy City is three times higher than the national rate.
- Port Trevorton (17964) reports the highest rate of residents without a high school diploma (27.4%), more than one quarter of the population.
- The town of Mount Pleasant Mills (17853) in Snyder County reports the highest rate of residents aged 65 and older living in poverty at a rate of 21.1%.
- Hazleton (18202) reports the highest rate of married parents living in poverty with their children (37.7%).
- Dalmatia (17017) reports the highest rate of single parents living in poverty with their children (77.3%).
- The average CNI score for the Geisinger Medical Center, GSACH, and GHS study area is 3.1; slightly higher than the average for the scale (3.0).
- From 2011 to 2014, the geographic regions (primary service areas) as well as the Tripp Umbach study parameters for Geisinger Medical Center, GSACH, and GHS shifted drastically. The study area defined in 2011 was much smaller than is currently being measured. Of the current 74 zip code areas for the study area; only 40 were zip codes included in the past study.

Table 7: CNI Scores for the Geisinger Medical Center, GSACH, and GHS Service Area by County

County	2014 Tot. Pop.	% of Pop. Renting	% of Pop. Unemployed	% of Pop. Uninsured	% of Pop. Minority	% of Pop. Limited English	% of Pop. w/ No Diploma	% of 65+ Pop. in Poverty	% of Adults Married w/ Children in Poverty	% of Adults Single w/ Children in Poverty	2014 CNI Score
Juniata County Summary	24,353	24.3%	7.3%	6.7%	5.2%	0.8%	18.0%	8.3%	14.3%	49.3%	2.9

Lycoming County Summary	118,838	31.6%	8.9%	9.4%	9.0%	0.5%	13.4%	7.8%	18.7%	45.3%	3.0
Northumberland County Summary	93,017	27.4%	9.7%	7.9%	6.9%	0.4%	14.8%	8.4%	18.0%	46.0%	3.1
Snyder County Summary	35,575	26.1%	6.2%	6.1%	5.3%	0.6%	16.7%	9.8%	13.3%	41.7%	2.7
Union County Summary	47,256	27.8%	7.9%	6.5%	14.9%	1.2%	15.5%	7.9%	12.2%	32.7%	2.8
Columbia County Summary	69,451	31.0%	7.0%	10.7%	7.1%	0.7%	11.9%	12.1%	17.8%	44.5%	3.0
Montour County Summary	19,669	27.0%	5.4%	5.9%	7.5%	1.0%	9.9%	7.6%	10.4%	36.3%	2.4
Schuylkill County Summary	146,592	24.1%	9.6%	7.4%	8.1%	0.6%	13.6%	8.4%	14.1%	34.8%	2.7
Sullivan County Summary	6,398	19.6%	5.8%	6.2%	6.9%	0.6%	13.0%	12.8%	11.3%	39.6%	2.9
Juniata County Summary	24,353	24.3%	7.3%	6.7%	5.2%	0.8%	18.0%	8.3%	14.3%	49.3%	2.9
Mifflin County Summary	47,892	27.2%	9.1%	9.6%	3.9%	1.1%	19.6%	9.4%	20.1%	42.9%	3.2
Centre County Summary	158,127	42.5%	6.3%	13.9%	15.3%	0.7%	6.3%	6.1%	9.2%	22.8%	2.7

There were 31 of the 74 zip code areas that saw an increase in barriers to accessing healthcare and 31 zip code areas that saw a decrease in barriers.

Table 7: CNI Score Trending (2011-2014) for the Geisinger Medical Center, GSACH, and GHS Service Area by Zip Code

Zip	City	County	2011 CNI Score	2014 CNI Score	2011 – 2014 Change
18201	Hazleton	Luzerne	4	4.6	0.6
18702	Wilkes Barre	Luzerne	3.8	4.2	0.4
17976	Shenandoah	Schuylkill	3.6	4	0.4
17701	Williamsport	Lycoming	3.8	3.8	--
17801	Sunbury	Northumberland	3.6	3.8	0.2
17872	Shamokin	Northumberland	3.8	3.8	--
17948	Mahanoy City	Schuylkill	2.8	3.8	1
18202	Hazleton	Luzerne	3.6	3.8	0.2
17044	Lewistown	Mifflin	3.6	3.6	0
17847	Milton	Northumberland	3.2	3.6	0.4
18504	Scranton	Lackawanna	3.8	3.6	-0.2
16801	State College	Centre	3.6	3.4	-0.2
17815	Bloomsburg	Columbia	2.8	3.4	0.6
18634	Nanticoke	Luzerne	3.6	3.4	-0.2
18704	Kingston	Luzerne	3.2	3.4	0.2
17059	Mifflintown	Juniata	2.8	3.2	0.4
17084	Reedsville	Mifflin	2.6	3.2	0.6
17837	Lewisburg	Union	3.4	3.2	-0.2
17851	Mount Carmel	Northumberland	3.2	3.2	--
17866	Coal Township	Northumberland	3.6	3.2	-0.4
18603	Berwick	Columbia	3.2	3.2	--

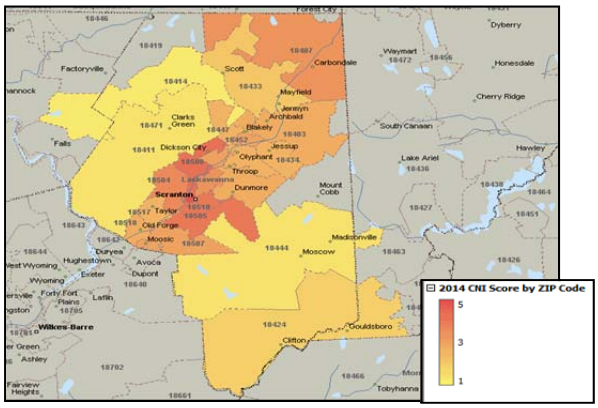
Zip	City	County	2011 CNI Score	2014 CNI Score	2011 – 2014 Change
16803	State College	Centre	3.2	3	-0.2
17813	Beavertown	Snyder	2.6	3	0.4
17901	Pottsville	Schuylkill	3.4	3	-0.4
17017	Dalmatia	Northumberland	2	2.8	0.8
17737	Hughesville	Lycoming	2.2	2.8	0.6
17740	Jersey Shore	Lycoming	2.6	2.8	0.2
17820	Catawissa	Columbia	2.2	2.8	0.6
17857	Northumberland	Northumberland	2.4	2.8	0.4
17870	Selinsgrove	Snyder	3	2.8	-0.2
17921	Ashland	Schuylkill	2.4	2.8	0.4
17935	Girardville	Schuylkill	3	2.8	-0.2
17972	Schuylkill Haven	Schuylkill	2.6	2.8	0.2
17051	Mc Veytown	Mifflin	2.4	2.6	0.2
17063	Milroy	Mifflin	2.8	2.6	-0.2
17702	Williamsport	Lycoming	2.8	2.6	-0.2
17756	Muncy	Lycoming	2.8	2.6	-0.2
17834	Kulpmont	Northumberland	2.4	2.6	0.2
17842	Middleburg	Snyder	2.8	2.6	-0.2
17844	Mifflinburg	Union	2.6	2.6	--
17845	Millmont	Union	2.4	2.6	0.2
17846	Millville	Columbia	2	2.6	0.6
17864	Port Trevorton	Snyder	3	2.6	-0.4
17876	Shamokin Dam	Snyder	2.6	2.6	--
16823	Bellefonte	Centre	2.8	2.4	-0.4
17082	Port Royal	Juniata	2.8	2.4	-0.4
17752	Montgomery	Lycoming	3	2.4	-0.6
17758	Muncy Valley	Sullivan	2.4	2.4	--
17777	Watsontown	Northumberland	2.6	2.4	-0.2
17821	Danville	Montour	2.8	2.4	-0.4
17841	Mc Clure	Mifflin	2.4	2.4	--
17853	Mount Pleasant Mills	Snyder	2.8	2.4	-0.4
17881	Trevorton	Northumberland	2.4	2.4	--
17931	Frackville	Schuylkill	3.4	2.4	-1
17964	Pitman	Schuylkill	2.4	2.4	--
17772	Turbotville	Northumberland	1.6	2.2	0.6
17823	Dornsife	Northumberland	2.4	2.2	-0.2
17860	Paxinos	Northumberland	1.8	2.2	0.4
18655	Shickshinny	Luzerne	2.2	2.2	--
17768	Shunk	Sullivan	1.6	2	-0.4
17814	Benton	Columbia	2.2	2	-0.2
17824	Elysburg	Northumberland	1.6	2	0.4
17830	Herndon	Northumberland	1.8	2	0.2
17856	New Columbia	Union	2.2	2	-0.2
17859	Orangeville	Columbia	1.4	2	0.6

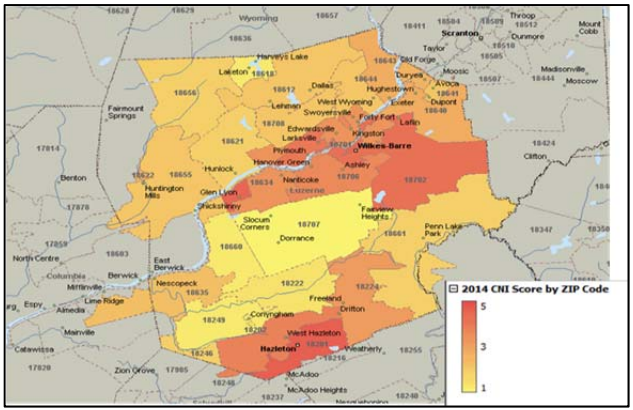
Zip	City	County	2011 CNI Score	2014 CNI Score	2011 – 2014 Change
17878	Stillwater	Columbia	2	2	--
17938	Hegins	Schuylkill	2.4	2	-0.4
18619	Hillsgrove	Sullivan	1.6	2	-0.4
16841	Howard	Centre	1.6	1.8	0.2
17754	Montoursville	Lycoming	1.6	1.8	0.2
17832	Marion Heights	Northumberland	2.6	1.8	-0.8
17963	Pine Grove	Schuylkill	2	1.8	-0.2
17967	Ringtown	Schuylkill	2	1.6	-0.4
18222	Drums	Luzerne	1.8	1.6	0.2
17889	Winfield	Union	1.8	1.4	-0.4

- Of the 74 zip code areas:
  - ✓ 31 increased in CNI score (got worse)
  - ✓ 31 decreased in CNI score (got better)
  - ✓ 12 maintained the same CNI score

- There is very little improvement in barriers to healthcare for CNI scores between 3.2 and 4.6 from 2011 to 2014 with some of the greatest increases we see across the 13 county region.
- One of the greatest increase in barriers to healthcare took place in Mahanoy City (Schuylkill County) at +1.0.
- Frackville (Schuylkill County) showed the greatest improvement in CNI Score from 2011 to 2014 (-1.0) and Marion Heights (Northumberland County) showed the second most improvement.
- Mahanoy City (Schuylkill County) and Dalmatia (Northumberland County) experienced the largest increase in barriers for CNI areas (from 2.8-3.8 and 2-2.8 respectively).

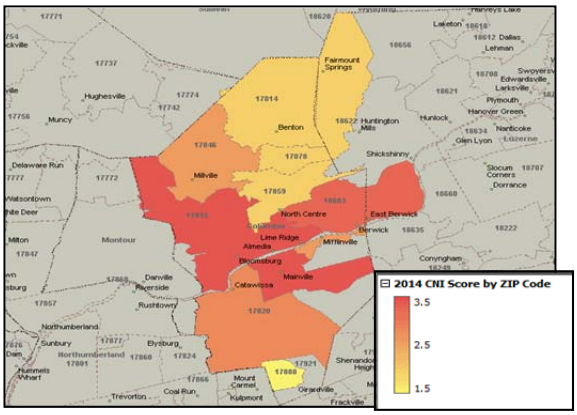
Lackawanna County shows 15 of the 21 zip codes either unchanged or having increased the level of barriers to healthcare with six showing an increase – Archbald (from 2.2 to 2.8); Scranton (from 3.6 to 4); Scranton (from 3.8 to 4.2); Old Forge (from 2.6 to 2.8); Moosic (from 2.8 to 3); and Peckville (from 2.8 to 3). There are seven zip



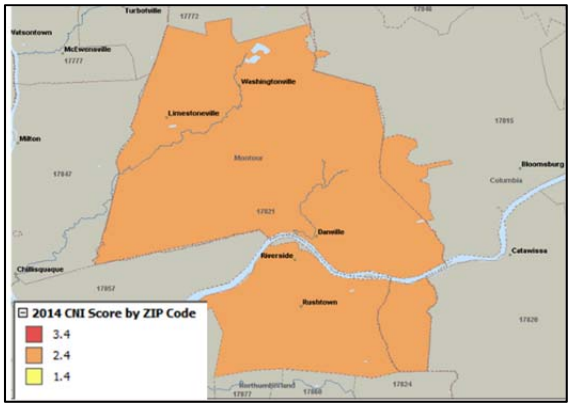


code areas in Lackawanna County showing above average CNI scores; four of which remained unchanged- Scranton (4.8); Scranton (4); Carbondale (3.4); and Scranton (3.4).

Lycoming County shows an increase in barriers in one of the five zip code areas – Montoursville (from 1.6 to 1.8). The zip code areas are all below average for the scale with the exception of Williamsport (3.8), which remained unchanged.

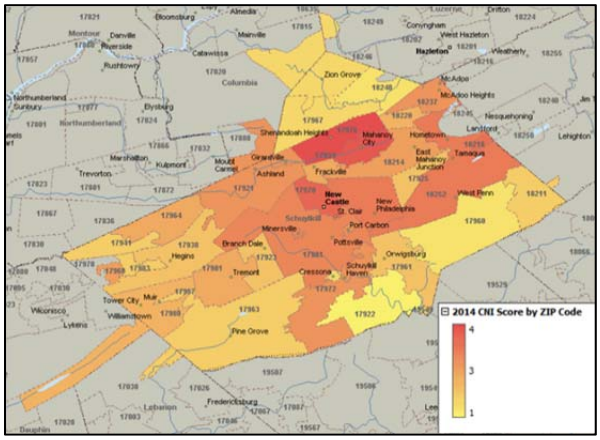


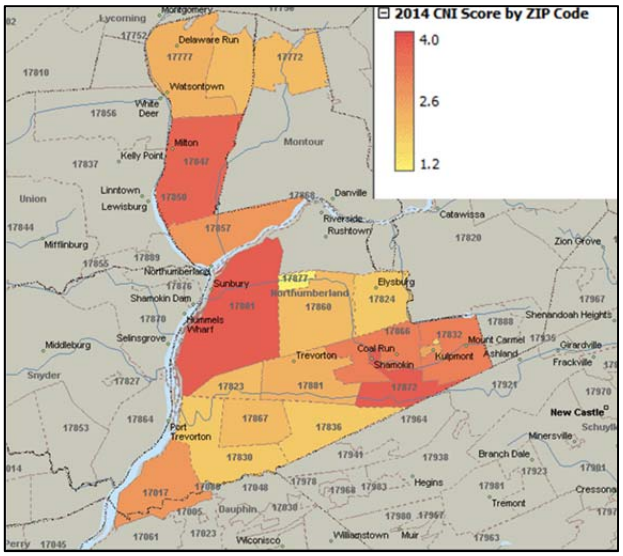
Columbia County shows five zip code areas with some of the greatest increases in barriers (+0.6 and +0.1) and only one zip code area with a decrease in barriers (Benton - 0.2). Scores remain average for the scale with the exception of Bloomsburg.



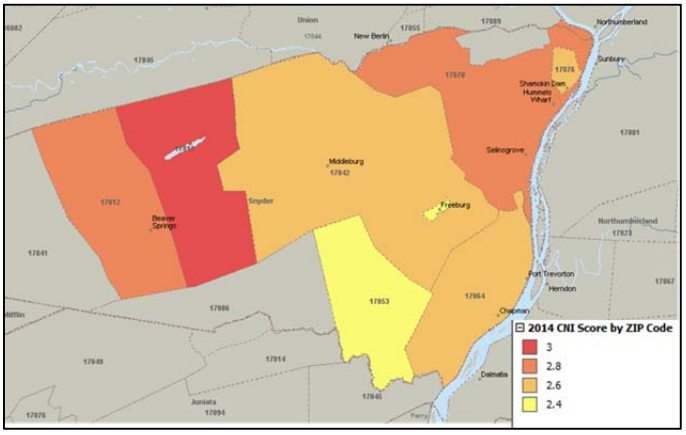
Montour County shows a decrease in already below average barriers (from 2.8 to 2.4).

Schuylkill County shows an increase in barriers in Mahanoy City (from 2.8 to 3.8), Shenandoah (from 3.6 to 4) and, Ashland (from 2.4 to 2.8). Conversely, Schuylkill County shows seven zip code areas with decreases in barriers with one of the greatest decreases in barriers in Frackville (from 3.4 to 2.4).

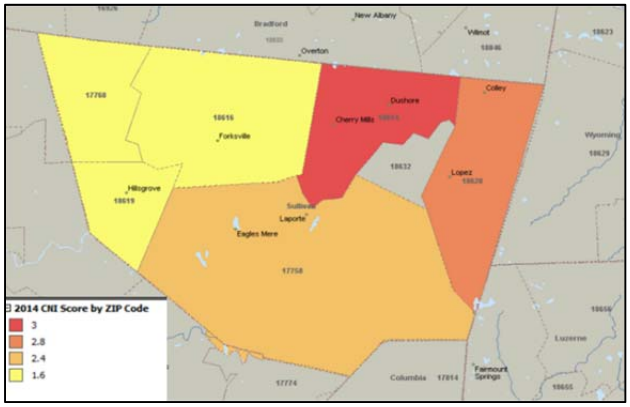




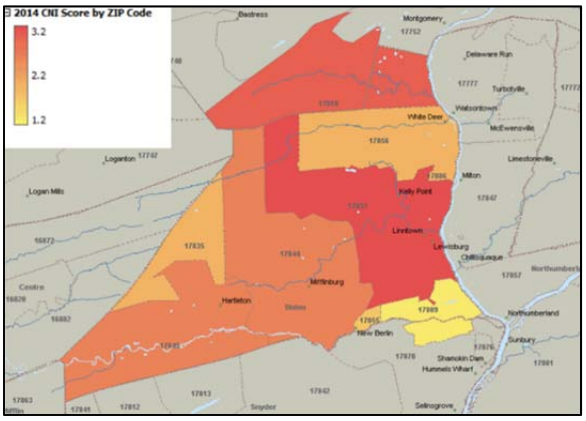
Northumberland County showed some of the highest CNI scores during the 2013 study. Of the six zip codes areas included in the hospital services area, five zip code areas either remained unchanged or showed large increases in barriers to accessing healthcare (between +.02 and +.06). Milton and Sunbury showed above average barriers previously which worsened by +0.4 and +0.2, respectively.



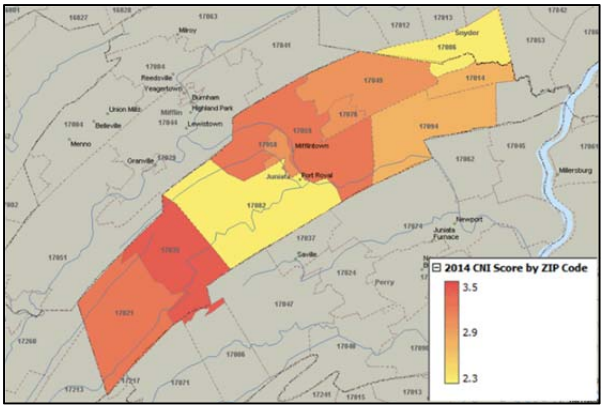
Snyder County shows an increase in barriers in Beaver Springs (from 2.2 to 2.8), Beavertown (from 2.6 to 3), and Freeburg (from 2.2 to 2.4). All of which still hover around average for the scale.



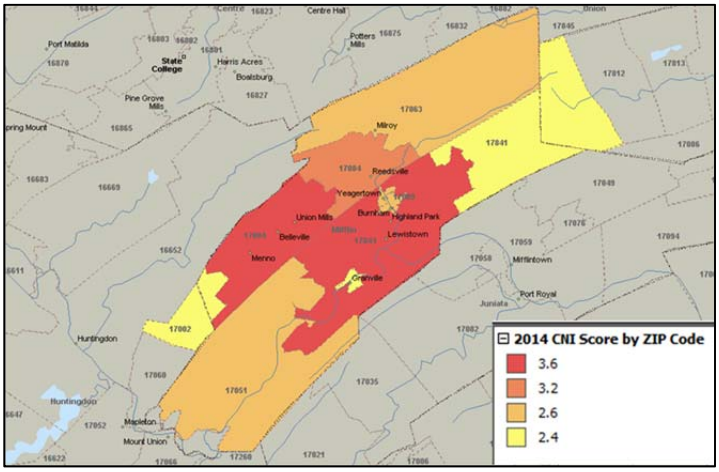
Sullivan County shows an increase in barriers in two of the six zip code areas – Forksville (from 1.6 to 2.6) and Hillsgrove (from 1.6 to 2.0). The zip code areas are all below average for the scale with the highest score found in Lopez (2.8).



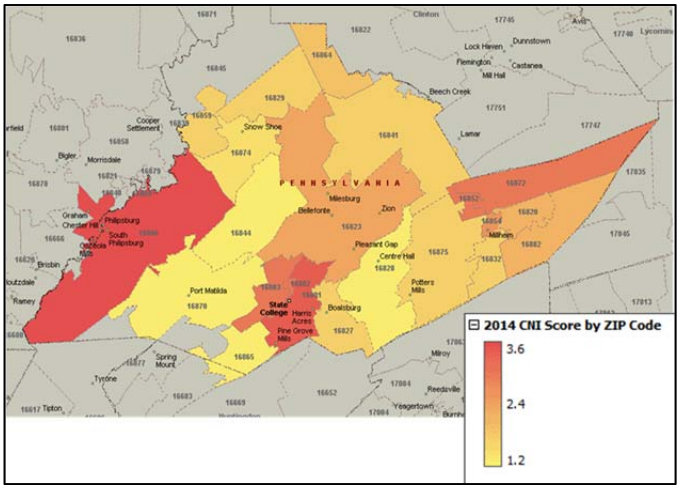
Union County shows the greatest decrease in barriers with one zip code area of nine showing an increase in barriers-Millmont (from 2.4 to 2.6). Laurelton shows one of the greatest decreases in barriers (from 3.0 to 2.0).



Juniata County shows a decrease in the CNI score for the one zip code area included in this study.



Mifflin County shows an increase in barriers in three of the six zip code areas – Reedsville (from 2.6 to 3.2); Mc Veytown (from 2.4 to 2.6); and Belleville (from 3.4 to 3.6). Lewistown (3.6) remained unchanged.



Center County shows three of the four zip code areas with a decrease in barriers – State College (from 3.6 to 3.4) and (3.2 to 3); and Bellefonte (from 2.8 to 2.4). Note that the CNI scores are still above average for the scale but

decreasing. Howard was the only area that showed an increase in barriers (from 1.6 to 1.8).

County Health Rankings

The County Health Rankings show that where we live impacts our health status. The health of a community depends on many different factors – from individual health behaviors, education and jobs, to quality of healthcare and the environment. The rankings help community leaders see that where we live, learn, work and play influences how healthy we are and how long we live.

The County Health Rankings are a key component of the Mobilizing Action Toward Community Health (MATCH) project. MATCH is the collaboration between the Robert Wood Johnson Foundation and the University of Wisconsin Population Health Institute. The rankings identify the multiple health factors that determine a county's health status. Each county receives a summary rank for its health outcomes and health factors – the four different types of health factors include: health behaviors, clinical care, social and economic factors, and the physical environment. The Rankings are a real "Call-to-Action" for state and local health departments to develop broad-based solutions with others in their community so all residents can be healthy. But efforts will also be made to mobilize community leaders outside the public health sector to take action and invest in programs and policy changes that address barriers to good health and help residents lead healthier lives. Other community leaders may include: educators; elected and appointed officials, including mayors, governors, health commissioners, city/county councils, legislators, and staff; business owners; and the healthcare sector.

Counties in each of the 50 states are ranked according to summaries of the 37 health measures. Those having good rankings, e.g., 1 or 2, are considered to be the "healthiest." Counties are ranked relative to the health of other counties in the same state on the following summary measures:

- Health Outcomes — Two types of health outcomes are measured to represent the health of each county: how long people live (mortality) and how healthy people feel (morbidity). These outcomes are the result of a collection of health factors and are influenced by existing programs and policies at the local, state and federal levels.

- Health Factors — A number of different health factors shape a community's health outcomes. The County Health Rankings are based on weighted scores of four types of factors: Health behaviors (six measures), Clinical care (five measures), Social and economic (seven measures), Physical environment (four measures).

Pennsylvania has 67 counties; therefore, the rank scale for Pennsylvania is one to 67 (one being the healthiest county and 67 being the most unhealthy). The median rank is 34.

Data for the County Health Rankings is only defined as far as the county level, zip code level data is not available. Therefore, the county level data has been presented here (no Geisinger Medical Center, GSACH, and GHS service area level data is available).

- Luzerne County ranked the unhealthiest (highest score) for: Health Outcomes (57), Morbidity (55), Social and Economic Factors (63),
- Schuylkill County ranked the unhealthiest (highest score) for: Health factors (59), Health Behaviors (50),
- Montour County ranked the unhealthiest (highest score) for: Mortality (62) – only 5 from the worst in the state. This is assumed to be related to the hospital being the only zip code area in Montour County.
- Mifflin County ranked the unhealthiest (highest score) for: Clinical Care (59).
- Lycoming County ranked the unhealthiest (highest score) for: Physical Environment (23). Overall, the Geisinger Medical Center, GSACH, and GHS study area shows "healthy" rankings for physical environment factors; the highest score being only 23 out of the worst possible 67.
- Luzerne and Schuylkill Counties report the highest adult smoking rates at 25%.
- Northumberland and Snyder Counties report the highest adult obesity rates of 34%.
- Lackawanna County reports the highest rate of excessive drinking at 24%.
- Lycoming County reports the highest rate of sexually transmitted infections (chlamydia rate) of 442 per 100,000 population.
- Mifflin and Snyder Counties report the highest uninsured rates at 15%.
- Juniata County reports the lowest PCP rate at 25 per 100,000 population.
- Luzerne County reported the lowest diabetic screening rate of 79%
- Six counties (Juniata, Lackawanna, Luzerne, Montour, Northumberland, Schuylkill) report 10% of the population as diabetic.
- Schuylkill County reports the lowest mammography screening rate of 55.1%.
- Mifflin and Schuylkill Counties report the highest unemployment rates of 10%.

- Union County reports the highest rate of residents with inadequate social support at 26%.
- Montour County reports the highest violent crime rate of 380 per 100,000 population.
- According to County Health Rankings, Centre and Union counties appear to be the "healthiest" counties each with 5 rankings in the top 5 for the state.

From 2012 to 2014, the counties that saw the largest shifts in county health rankings or data were:

- Union County for Physical Environment – going from 58 in 2011 to 3 in 2014
- Northumberland County for Mortality – going from 52 in 2011 to 21 in 2014
- Luzerne County for Social and Economic Factors – going from 32 in 2011 to 63 in 2014.
- For physical Environment, Centre County went from 57 to 19, Schuylkill County went from 53 to 9, and Union went from 28 to 3.
- All of the 13 counties reported declines in adult smoking rates; Mifflin County showing the largest drop going from 23% to 16%. Though smoking rates remain high across the service area.
- Northumberland County reported the largest rise in the rate of adult obesity going from 28% to 34%.
- Centre County saw the largest decline in uninsured going from 25% to 12%.
- Snyder County saw the largest rise in diabetics going from 9% to 12%.
- Violent crime rates:
  - ✓ Fell the most for Mifflin County, falling 80 cases per 100,000 population.
  - ✓ Rose the most for Snyder County, rising 39 cases per 100,000 population.

Prevention Quality Indicators Index (PQI)

The Prevention Quality Indicators index (PQI) was developed by the Agency for Healthcare Research and Quality (AHRQ). The AHRQ model was applied to quantify the PQI within the Geisinger Medical Center, GSACH, and GHS service area and Pennsylvania. The PQI index

identifies potentially avoidable hospitalizations for the benefit of targeting priorities and overall community health.

The quality indicator rates are derived from inpatient discharges by zip code using ICD diagnosis and procedure codes. There are 14 quality indicators. Lower index scores represent fewer admissions for each of the PQIs.

From 2011 to 2014, there were a handful of data methodology changes. For each, Tripp Umbach went to past data and adjusted as necessary to make comparable. They are as follows:

- In the past, PQI data was presented as a value per 1,000 population. The AHRQ has revised this and the current data is presented as a value per 100,000 population. Tripp Umbach adjusted to match these as needed.
- PQI 2 changed from Perforated Appendix in Males 18+ for the past study to Perforated Appendix in Total 18+ population as a rate per 1,000 ICD-9 code admissions for appendicitis. This shift has changed the values for this measure drastically and therefore, Tripp Umbach did not adjust.
- PQI 5 changed from COPD in 18+ population to COPD or Asthma in "Older adults" 40+ population. Tripp Umbach did not adjust.
- Although not clearly explained by the AHRQ, it would seem that a definition of Newborn population has shifted for PQI 9 because the values are drastically lower in 2014 than in previous years (2011). This has shifted PQI 9 values drastically. Tripp Umbach did not adjust.
- PQI 15 changed from Adult Asthma in 18+ population for past study to Asthma in Younger Adults 18-39 population. Tripp Umbach did not adjust.

OVERALL:

There are higher rates throughout the study area for Angina without Procedure and Perforated Appendix. Juniata, Northumberland, and Lackawanna Counties consistently show poorer health outcomes when compared to the other counties in the service area and the state rate across PQI measures.

Table 8: Northeastern Prevention Quality Indicators – County-by-County Comparison to Pennsylvania

Prevention Quality Indicators (PQI)	Lackawanna County	Luzerne County	Wayne County	PA
Diabetes Short-Term Complications (PQI1)	49.49	62.50	71.99	115.16

Perforated Appendix (PQI2)	200.00	548.57	454.55	343.91
Diabetes Long-Term Complications (PQI3)	116.07	111.32	138.84	119.79
Chronic Obstructive Pulmonary Disease or Adult Asthma(PQI5)	677.59	656.93	358.99	578.80
Hypertension (PQI7)	33.58	38.28	15.43	53.99
Congestive Heart Failure (PQI8)	484.91	440.59	395.96	418.29
Low Birth Weight (PQI9)	39.70	29.94	25.64	37.50
Dehydration (PQI10)	91.92	85.15	66.85	61.90
Bacterial Pneumonia (PQI11)	455.45	401.53	475.66	326.16
Urinary Tract Infection (PQI12)	283.99	219.52	149.13	197.51
Angina Without Procedure (PQI13)	15.91	9.37	15.43	11.80
Uncontrolled Diabetes (PQI14)	15.32	16.01	7.71	14.20
Asthma in Younger Adults (PQI15)	50.25	67.73	36.24	63.34
Lower Extremity Amputation Among Diabetics (PQI16)	28.87	25.78	23.14	26.40

Table 9: Central Prevention Quality Indicators – County-by-County Comparison to Pennsylvania

Prevention Quality Indicators (PQI)	Columbia County	Montour County	Lycoming County	Northumberland County	Schuylkill County	Snyder County	Union County	Sullivan County	PA
Diabetes Short-Term Complications (PQI1)	96.73	70.09	104.59	94.08	85.42	14.30	25.86	708.29	115.16
Perforated Appendix (PQI2)	266.67	400.00	454.55	409.09	388.89	777.78	571.43	500.00	343.91
Diabetes Long-Term Complications (PQI3)	89.69	95.57	88.75	142.46	133.62	46.49	38.79	55.92	119.79
Chronic Obstructive Pulmonary Disease or Adult Asthma(PQI5)	646.83	346.87	357.97	544.03	552.38	295.50	192.54	374.06	578.80
Hypertension (PQI7)	47.49	0.00	47.54	32.25	40.59	39.33	23.28	55.92	53.99
Congestive Heart Failure (PQI8)	457.26	484.23	369.78	548.33	517.57	293.21	266.39	335.51	418.29
Low Birth Weight (PQI9)	43.33	37.84	23.27	20.64	37.93	41.94	16.81	27.03	37.50
Dehydration (PQI10)	54.52	63.71	57.05	59.13	93.03	21.45	25.86	0.00	61.90
Bacterial Pneumonia (PQI11)	365.81	197.52	292.65	439.47	465.99	182.36	75.00	577.82	326.16
Urinary Tract Infection (PQI12)	204.01	172.03	134.18	196.22	193.67	78.67	49.14	55.92	197.51
Angina Without Procedure (PQI13)	22.86	12.74	32.75	32.25	18.61	39.33	18.10	37.28	11.80
Uncontrolled Diabetes (PQI14)	28.14	19.11	9.51	5.38	17.76	0.00	2.59	0.00	14.20
Asthma in Younger Adults (PQI15)	45.94	42.19	30.13	30.03	56.82	9.64	12.65	0.00	63.34

Prevention Quality Indicators (PQI)	Columbia County	Montour County	Lycoming County	Northumberland County	Schuylkill County	Snyder County	Union County	Sullivan County	PA
Lower Extremity Amputation Among Diabetics (PQI16)	35.17	44.60	35.92	44.35	26.22	0.00	15.52	18.64	26.40

- **Columbia County** shows the highest rate for Low Birth Weight (PQI9) in the study area 2nd highest across 13 counties). Columbia shows higher hospitalization rates for seven additional PQI measures when compared to the state:
  - ✓ Chronic Obstructive Pulmonary Disease or Adult Asthma(PQI5)
  - ✓ Congestive Heart Failure (PQI8)
  - ✓ Bacterial Pneumonia (PQI11)
  - ✓ Urinary Tract Infection (PQI12)
  - ✓ Angina Without Procedure (PQI13)
  - ✓ Uncontrolled Diabetes (PQI14)
  - ✓ Lower Extremity Amputation Among Diabetics (PQI16)

- **Montour County** shows the highest rate in the hospital study area for Lower Extremity Amputation Among Diabetics (PQI16). Montour County also shows higher hospitalization rates than the state for six additional PQI measures:
  - ✓ Perforated Appendix (PQI2)
  - ✓ Congestive Heart Failure (PQI8)
  - ✓ Low Birth Weight (PQI9)
  - ✓ Dehydration (PQI10)
  - ✓ Angina Without Procedure (PQI13)
  - ✓ Uncontrolled Diabetes (PQI 14)

- **Union County** shows the fewest PQI rates above PA averages with two measures:
  - ✓ Perforated Appendix (PQI2)
  - ✓ Angina Without Procedure (PQI13)

- **Lycoming County** shows higher hospitalization rates for three PQI measures when compared with PA. None of which are the highest in the area:
  - ✓ Perforated Appendix (PQI2),
  - ✓ Angina Without Procedure (PQI13)- among the highest in the study area
  - ✓ Lower Extremity Amputation Among Diabetics (PQI16)

- **Schuylkill County** shows the second highest rate in the study area for Dehydration (PQI10) and Bacterial Pneumonia (PQI11). Schuylkill County shows higher hospitalization rates for an additional six PQI measures when compared with the state:

  - ✓ Perforated Appendix (PQI2)
  - ✓ Diabetes Long-Term Complications (PQI3)
  - ✓ Congestive Heart Failure (PQI8)
  - ✓ Low Birth Weight (PQI9)
  - ✓ Angina Without Procedure (PQI13)
  - ✓ Uncontrolled Diabetes (PQI14)

- **Snyder County** shows the highest hospitalization rates in the study area for Angina Without Procedure (PQI13) and the second highest rate of hospitalizations for Perforated Appendix (PQI2). Snyder County shows higher hospitalization rates for one additional PQI measure when compared with PA:

  - ✓ Low Birth Weight (PQI9)

- **Sullivan County** shows the highest rate in the study area for Diabetes Short-Term Complications (PQI1); Hypertension (PQI7); and Bacterial Pneumonia (PQI11). Sullivan County shows higher hospitalization rates than the state for two additional PQI measures:

  - ✓ Perforated Appendix (PQI2)
  - ✓ Angina Without Procedure (PQI13)

- **Northumberland County** shows the highest rates in the region for Congestive Heart Failure (PQI8) and the second highest rates for Diabetes Long-Term Complications (PQI3) and Lower Extremity Amputation Among Diabetics (PQI16). Northumberland County shows higher hospitalization rates than the state for three additional PQI measures:

  - ✓ Perforated Appendix (PQI2)
  - ✓ Bacterial Pneumonia (PQI11)
  - ✓ Angina Without Procedure (PQI13)

Table 10: Western Region Prevention Quality Indicators – County-by-County Comparison to Pennsylvania

Prevention Quality Indicators (PQI)	Centre County	Juniata County	Mifflin County	PA
Diabetes Short-Term Complications (PQI1)	62.13	679.44	148.43	115.16
Perforated Appendix (PQI2)	307.69	818.18	687.50	343.91
Diabetes Long-Term Complications (PQI3)	39.67	64.20	156.52	119.79
Chronic Obstructive Pulmonary Disease or Adult Asthma (PQI5)	427.34	357.00	632.10	578.80
Hypertension (PQI7)	26.20	37.45	32.38	53.99
Congestive Heart Failure (PQI8)	202.86	481.49	534.34	418.29
Low Birth Weight (PQI9)	13.45	59.46	40.00	37.50
Dehydration (PQI10)	32.94	74.90	110.65	61.90
Bacterial Pneumonia (PQI11)	159.44	449.39	477.67	326.16
Urinary Tract Infection (PQI12)	82.34	165.85	213.20	197.51
Angina Without Procedure (PQI13)	17.22	10.70	35.08	11.80
Uncontrolled Diabetes (PQI14)	4.49	16.05	13.49	14.20
Asthma in Younger Adults (PQI15)	12.37	49.29	17.50	63.34
Lower Extremity Amputation Among Diabetics (PQI16)	8.23	21.40	35.08	26.40

- **Centre County** shows the fewest PQI rates higher than PA with one PQI measure above the state rate - Angina Without Procedure (PQI13)

- **Juniata County** shows the highest rates in the region for Diabetes Short-Term Complications (PQI1); Perforated Appendix (PQI2); and Low Birth Weight (PQI9). Juniata County shows higher hospitalization rates than the state for four additional PQI measures:

  - ✓ Congestive Heart Failure (PQI8)
  - ✓ Dehydration (PQI10)
  - ✓ Bacterial Pneumonia (PQI11)
  - ✓ Uncontrolled Diabetes (PQI 14)

- **Mifflin County** shows the highest rate across all counties served by Geisinger Medical Center, GSACH, and GHS for Diabetes Long-Term Complications (PQI3); Dehydration (PQI10); Bacterial Pneumonia (PQI11) and the second highest rate for Congestive Heart Failure (PQI8); and Angina Without Procedure (PQI13). Mifflin County shows higher than state hospitalization rates for six additional measures:

- Diabetes Short-Term Complications (PQI1)
- Perforated Appendix (PQI2)
- Chronic Obstructive Pulmonary Disease or Adult Asthma(PQI5)
- Low Birth Weight (PQI9)
- Urinary Tract Infection (PQI12)
- Lower Extremity Amputation Among Diabetics (PQI16)

Table 11: Prevention Quality Indicators – Geisinger Medical Center, GSACH, and GHS Service Area Compared to Pennsylvania with Trending

Prevention Quality Indicators (PQI)	2014 - Geisinger Medical Center, GSACH, and GHS Study Area	PA	Difference	2011 PQI Geisinger Medical Center, GSACH, and GHS	2014 PQI Geisinger Medical Center, GSACH, and GHS	Difference
Diabetes Short-Term Complications (PQI1)	64.83	115.16	- 50.33	58.76	64.83	+ 6.07
Perforated Appendix (PQI2)	443.04	343.91	+ 99.13	0.28	443.04	--
Diabetes Long-Term Complications (PQI3)	98.61	119.79	- 21.18	104.60	98.61	- 5.99
Chronic Obstructive Pulmonary Disease or Adult Asthma (PQI5)	536.06	578.80	- 42.74	295.11	536.06	--
Hypertension (PQI7)	36.35	53.99	- 17.64	36.58	36.35	- 0.23
Congestive Heart Failure (PQI8)	419.85	418.29	+ 1.56	473.03	419.85	- 53.18
Low Birth Weight (PQI9)	30.76	37.50	- 6.74	0.77	30.76	--
Dehydration (PQI10)	66.11	61.90	+ 4.21	90.20	66.11	- 24.09
Bacterial Pneumonia (PQI11)	342.32	326.16	+ 16.16	421.23	342.32	- 78.91
Urinary Tract Infection (PQI12)	168.10	197.51	- 29.41	197.79	168.10	- 29.69
Angina Without Procedure (PQI13)	23.16	11.80	+ 11.36	31.78	23.16	- 8.62
Uncontrolled Diabetes (PQI14)	12.55	14.20	- 1.65	19.03	12.55	- 6.48
Asthma in Younger Adults (PQI15)	36.09	63.34	- 27.25	105.10	36.09	--
Lower Extremity Amputation Among Diabetics (PQI16)	24.45	26.40	- 1.95	37.41	24.45	- 12.96

Source: Calculations by Tripp Umbach

- The Geisinger Medical Center, GSACH, and GHS study area shows five of the 14 PQI measures that are higher than the state PQI value – indicating higher preventable hospital admission rates for the following:
  - PQI 2 – Perforated Appendix (Study Area = 443.04; PA = 343.91)
  - PQI 8 – Congestive Heart Failure (Study Area = 419.85; PA = 418.29)
  - PQI 10 – Dehydration (Study Area = 66.11; PA = 61.90)
  - PQI 11 – Bacterial Pneumonia (Study Area = 342.32; PA = 326.16)
  - PQI 13 – Angina without Procedure (Study Area = 23.16; PA = 11.80)
- The largest PQI difference between the study area and PA is for Perforated Appendix in which PA shows a rate of preventable hospitalizations due to perforated appendix at 343.91 per 100,000 population, whereas the study area shows a rate of 443.04 preventable hospitalizations per 100,000 population (nearly 100 more preventable hospitalization per 100,000 pop.; or 30% more).

From 2011 to 2014, four of the PQI measures definitions changed drastically and, therefore, cannot be accurately compared (PQI 2, PQI 5, PQI 9 & PQI 15).

- Of the 10 remaining PQI measures, nine of the 10 saw reductions in PQI rates from 2011 to 2014. The largest reduction was for Bacterial Pneumonia (going from 421.23 preventable hospitalizations per 100,000 to 342.32 per 100,000).
- One PQI value for the study area saw a rise in preventable hospitalizations, for the following PQI measures:
  - ✓ Diabetes, short-term complications (going from 58.76 per 100,000 pop. to 64.83 pop.).

CDC National Center for Health Statistics:

Centers for Disease Control and Prevention National Center for Health Statistics includes indicators from: County Health Rankings (CHR); Community Health Status Indicators (CHSI); Healthy People 2020; Centers for Medicare & Medicaid Services (CMS) indicators (a set of community-level, Medicare utilization, socio-demographic, patient safety and quality indicators); Health, United States; and additional indicators as determined by the HHS Interagency Governance Group.

Table 12: Northern Region Health Indicators Warehouse – County-Level Indicators Compared to State and National Benchmarks

CDC National Center for Health Statistics (2010-2012)**	HP 2020	U.S.	PA	Lackawanna County	Luzerne County
2011 Primary care providers (per 100,000)	--	--	92.7	85.9	71.1
2011 Dentist rate (per 100,000)	--	--	59.1	67.2	57.1
2012 Acute Hospital Readmissions (%)*	--	18.6%	18.4%	17.9%	18.5%
Births: women under 18 years (%)	--	2.3%	2.3%	2.6%	2.8%
Cancer Death Rate (per 100,000 pop.) *	160.6	169.3	178.3	177.5	177.2
Breast cancer deaths (per 100,000)*	20.6	21.7	23	18.8	20.2
Colorectal cancer deaths (per 100,000)*	14.5	15.3	16.4	15.4	19.1
Alzheimer's disease deaths (per 100,000) *	--	24.5	19.3	21.4	19.3
Chronic lower respiratory disease deaths (per 100,000)*	--	42.1	38.8	40.1	39
Coronary heart disease deaths (per 100,000) *	100.8	105.4	112.4	128.3	146.6
Diabetes deaths (per 100,000) *	--	21.2	21.1	26.4	31.5
Drug poisoning deaths (per 100,000) *	--	12.9	17.5	21.9	18
Fall deaths (per 100,000) *	--	8.1	8.6	6.6	4.7
Heart disease deaths (per 100,000) *	--	174.4	183.5	236.8	213
Influenza and pneumonia deaths (per 100,000) *	--	15.1	14.4	12.6	11.1
Injury deaths (per 100,000) *	53.3	58.1	63	65.1	65.1
Kidney diseases deaths (per 100,000) *	--	13.9	16.8	20.3	14.8
Lung, trachea, and bronchus cancer deaths (per 100,000) *	--	46.1	47.9	47.8	46.8
Motor vehicle traffic deaths (per 100,000) *	--	10.8	10.4	10.8	11.8
Septicemia deaths (per 100,000) *	--	10.5	13.3	16.4	12.7
Stroke deaths (per 100,000) *	33.8	38	38.8	36.6	33.9
Suicide deaths (per 100,000) *	10.2	12.3	12.5	14.5	16.1

The trend in the CDC National Center for Health Statistics data suggests that Lackawanna County consistently shows the poorer health outcomes when compared to Luzerne and Wayne

Counties for lifestyle related death rates (i.e., diabetes, heart disease, etc.); whereas Luzerne and Wayne Counties show higher rates for most everything else when compared to the state and national benchmarks.

- ✓ Lackawanna, Luzerne, and Wayne Counties all have fewer primary care providers than is average for PA (92.7 per 100,000 pop.).
- ✓ **Primary Care Providers** – Lackawanna, Luzerne, and Wayne Counties all have fewer Primary care providers than is average for PA (92.7 per 100,000 pop.).
    - o Lackawanna County shows 85.9 per 100,000 pop. primary care providers
    - o Luzerne County shows 71.1 per 100,000 pop. primary care providers
- ✓ **Dental Providers** – Lackawanna and Luzerne Counties have dental provider rates similar to the state; whereas Wayne County has fewer.
    - o Lackawanna County shows 67.2 per 100,000 pop. dental providers
    - o Luzerne County shows 57.1 per 100,000 pop. dental providers
- ✓ Lackawanna, Luzerne, and Wayne Counties show a percentage of **acute hospital readmissions** (17.9%, 18.5%, and 17.1% respectively) (Inpatient readmissions within 30 days of an acute hospital stay) than is average for the nation and the state (18.6% and 18.4% respectively).
- ✓ The percentage of **live births that are to women below 18 years of age** is similar to the state and national average (2.3% each) for each county.
- ✓ The **deaths due to cancer** are higher in PA than the national average for every type of cancer observed in this study (i.e., overall, breast, and colorectal). Lackawanna, Luzerne, and Wayne Counties show similar death rates to the state with the exceptions:
    - o **Deaths due to breast cancer** where Wayne County shows higher rates (25.7 per 100,000 pop.) than the state or the nation (23 and 21.7 per 100,000 pop. respectively). The Healthy People 2020 goal is set at 20.6 per 100,000 pop.
    - o **Deaths due to colorectal cancer** where Luzerne and Wayne Counties show higher rates (19.1 and 19.5 per 100,000 pop. respectively) than the state or the nation (16.4 and 15.3 per 100,000 pop. respectively). The Healthy People 2020 goal is set at 14.5 per 100,000 pop.
- ✓ Lackawanna and Luzerne Counties show the same as or fewer **deaths related to Alzheimer's disease** (21.4 and 19.3 per 100,000 pop. respectively); whereas, Wayne

County shows much higher rates (32.9 per 100,000 pop.) than the state (19.3 per 100,000 pop.) and national rate (24.5 per 100,000 pop.).

- ✓ Lackawanna, Luzerne, and Wayne Counties show about average or fewer **deaths due to chronic lower respiratory disease** (39 per 100,000 pop.) than the state and nation (38.8 and 42.1 per 100,000 pop. respectively).
- ✓ Luzerne and Wayne Counties show higher **deaths due to coronary heart disease** (146.6 and 145.6 per 100,000 pop. respectively); whereas Lackawanna County shows fewer than Luzerne and Wayne Counties (128.3 per 100,000 pop). All counties remain higher than the state, and the nation (112.4 and 105.4 per 100,000 pop. respectively). The Healthy People 2020 goal is set at 100.8 per 100,000 pop.
- ✓ Lackawanna, Luzerne, and Wayne Counties show higher **deaths due to diabetes** (26.4, 31.5, and 27 per 100,000 pop. respectively) than the state (21.1 per 100,000 pop.), and the nation (21.2 per 100,000 pop.).
- ✓ Lackawanna, Luzerne, and Wayne Counties show higher **deaths due to drug poisoning** (21.9, 18, and 18 per 100,000 pop. respectively) than the state (17.5 per 100,000 pop.), and the nation (12.9 per 100,000 pop.).
- ✓ Lackawanna, Luzerne, and Wayne Counties all have higher **deaths due to heart disease** (236.8, 213, and 234.6 per 100,000 pop.) than the state (183.5 per 100,000 pop.) or nation (174.4 per 100,000 pop.).
- ✓ **Injury death rates** are similar for Lackawanna, Luzerne, and Wayne Counties (65.1, 65.1, and 74.1 per 100,000 pop.) when compared to the state and the national rates (63 and 58.1 per 100,000 pop respectively). The Healthy People 2020 goal is set at 53.3 per 100,000 pop.
- ✓ Lackawanna County has higher **deaths due to kidney diseases** (20.3 per 100,000 pop.) whereas Luzerne and Wayne County have similar rates (14.8 and 15.7 per 100,000 pop.) to the state and nation (16.8 and 13.9 per 100,000 pop.).
- ✓ Lackawanna, Luzerne, and Wayne Counties show slightly higher **deaths due to motor vehicle traffic** (10.8, 11.8, and 12.7 per 100,000 pop.) than state and national rates (10.4 and 10.8 per 100,000 pop. respectively).
- ✓ Lackawanna, Luzerne, and Wayne Counties show higher **deaths due to suicide** (14.5, 16.1, and 22.6 per 100,000 pop) than state and national rates (12.5 and 12.3 per 100,000 pop. respectively). Wayne County's suicide rate is much higher. Healthy People 2020 goal is set at 10.2 per 100,000 pop.

Table 13: Central Region Health Indicators Warehouse – County-Level Indicators Compared to State and National Benchmarks

CDC National Center for Health Statistics (2010-2012)**	HP 2020	U.S.	PA	Columbia County	Montour County	Lycoming County	Northumberland County	Schuylkill County	Snyder County	Union County	Sullivan County
2011 Primary care providers (per 100,000)	--	--	92.7	60.8	726.9	66.8	30.7	40.7	42.7	87	0
2011 Dentist rate (per 100,000)	--	--	59.1	44.5	82	41.1	31.7	37.3	42.7	51.3	15.4
2012 Acute Hospital Readmissions (%)*	--	18.6%	18.4%	18.3%	17.1%	13.8%	17.4%	18.2%	18.8%	14.8%	17.5%
Births: women under 18 years (%)	--	2.3%	2.3%	2.4%	--	2.8%	2.5%	2.5%	1.9%	2.2%	DSU
Cancer Death Rate (per 100,000 pop.) *	160.6	169.3	178.3	177	149.1	180.6	176.2	190	144.8	141.3	182.5
Breast cancer deaths (per 100,000)*	20.6	21.7	23	20.1	--	17.1	22.1	23.6	--	--	DSU
Colorectal cancer deaths (per 100,000)*	14.5	15.3	16.4	12.4	--	17.1	15.7	18.7	--	--	DSU
Alzheimer's disease deaths (per 100,000) *	--	24.5	19.3	18.9	46.7	26.2	26	21.9	14.3	21.2	DSU
Chronic lower respiratory disease deaths (per 100,000)*	--	42.1	38.8	37	31.7	55	44.1	43.4	44	24.3	59.9
Coronary heart disease deaths (per 100,000) *	100.8	105.4	112.4	128.4	98.9	100.5	149.3	158.6	93	102	102.8
Diabetes deaths (per 100,000) *	--	21.2	21.1	15.6	--	32	18.2	29.3	23.4	19.9	DSU
Drug poisoning deaths (per 100,000) *	--	12.9	17.5	12.6	--	10.1	12.3	20.6	--	--	DSU
Fall deaths (per 100,000) *	--	8.1	8.6	7	--	--	9.4	8.1	--	--	DSU
Heart disease	--	174.4	183.5	218.1	178.8	162.1	223.2	235.8	167.9	177.5	217

CDC National Center for Health Statistics (2010-2012)**	HP 2020	U.S.	PA	Columbia County	Montour County	Lycoming County	Northumberland County	Schuylkill County	Snyder County	Union County	Sullivan County
deaths (per 100,000) *											
Influenza and pneumonia deaths (per 100,000) *	--	15.1	14.4	14.6	--	8.7	20.5	13.7	20.4	15.4	DSU
Injury deaths (per 100,000) *	53.3	58.1	63	62.8	40.5	51.2	65.4	76.8	52.1	33.6	128.1
Kidney diseases deaths (per 100,000) *	--	13.9	16.8	15.7	--	13.6	21.4	19	18.6	14.1	DSU
Lung, trachea, and bronchus cancer deaths (per 100,000) *	--	46.1	47.9	43.3	34.4	47.3	50.9	53.1	38.8	41.7	DSU
Motor vehicle traffic deaths (per 100,000) *	--	10.8	10.4	16.1	--	13.8	18.6	17.4	15.4	--	DSU
Septicemia deaths (per 100,000) *	--	10.5	13.3	16.4	--	8.8	17.8	15.1	--	--	DSU
Stroke deaths (per 100,000) *	33.8	38	38.8	36	30.9	35.9	40.7	43.2	39.8	47.7	DSU
Suicide deaths (per 100,000) *	10.2	12.3	12.5	16.2	--	13.7	16.5	17.6	--	--	DSU

*** Source: Centers for Disease Control and Prevention. National Center for Health Statistics. Health Indicators Warehouse. www.healthindicators.gov.*
**Rates are age adjusted to 2000 std. pop.*
-- meaning: data not available

There is a similar trend in the CDC National Center for Health Statistics data that presents in the majority of all other secondary data sources; Union County consistently shows better health outcomes when compared to the other counties in the hospital service area; whereas, Columbia, Northumberland, Schuylkill and Sullivan Counties consistently show the poorest health outcomes.

- ✓ All counties served by the hospital have fewer providers (Primary care and Dental) than is average for PA (Primary Care - 92.7 and Dental – 59.1 per 100,000 pop. respectively).
    - o **Primary Care Providers** – Union County is the only county in the service area that has a provider rate similar to the state (87 per 100,000 pop.). Northumberland and Juniata Counties have less than one-third (30.7 and 20.5 per 100,000 pop. respectively) and Schuylkill and Snyder County have fewer than half (40.7 and 42.7 per 100,000 pop.) the providers that is average for the state. Columbia County has 60.8 per 100,000 pop

primary care providers and Luzerne County follows with 71.1. Montour County is very small with a major medical center (Geisinger Medical Center, GSACH, and GHS) which drives their provider rates. Sullivan County has the fewest PCPs in the service area at 0 per 100,000 pop.

- **Dental Providers** – Union County is the only county in the service area that has a provider rate similar to the state (51.3 per 100,000 pop.). Whereas, again Northumberland and Juniata Counties have the least (31.7 and 8.2 per 100,000 pop. respectively). Snyder and Lycoming Counties have approximately two-thirds the state rate of dental providers (42.7 and 41.1 per 100,000 pop. respectively). Columbia County has 44.5 per 100,000 pop. dental providers and Luzerne County has rates similar to the state (57.1 per 100,000 pop.); while Montour County shows a rater higher than the state (82 per 100,000 pop.). Schuylkill and Sullivan Counties have 37.3 and 15,4 per 100,000 pop each).

- ✓ Most counties in the service area show a lower percentage of **acute hospital readmissions** (Inpatient readmissions within 30 days of an acute hospital stay) than is average for the nation and the state (18.6% and 18.4% respectively) except Snyder County (18.8%).

- ✓ The percentage of **live births to women that are below 18 years of age** is below or similar to the state and national average (2.3% each).

- ✓ The **deaths due to cancer** are higher in PA than the national average for every type of cancer observed in this study (i.e., overall, breast, and colorectal). Where there is data available; Juniata, Lycoming and Northumberland Counties show higher death rates than Snyder and Union Counties. Where there is data available; Columbia and Luzerne Counties show similar death rates to the state which is higher than Montour (where data is available). Schuylkill and Sullivan Counties have much higher death rates than any other county.

- ✓ Juniata, Snyder, and Union Counties shows fewer **deaths related to Alzheimer's disease** than any other county in the service area (21.3, 14.3, and 21.2 per 100,000 pop.), which is higher than the state (19.3 per 100,000 pop.) for all but Juniata County and lower than the national rate (24.5 per 100,000 pop.). Conversely, Lycoming and Northumberland Counties show higher the U.S. averages (26.2 and 26 per 100,000 pop. respectively).

- ✓ Union County has lower **deaths due to chronic lower respiratory disease** than any other county in the service area (24.3 per 100,000 pop.). In fact, every other county has higher death rates for this indicator than the state and nation (38.8 and 42.1 per 100,000 pop. respectively), with Lycoming, Northumberland, Schuylkill, Snyder, and Sullivan Counties showing the highest rates in the service area (55, 44.1, 43.4, 44, and 59.9 per 100,000 pop.).

- ✓ Northumberland and Schulykill Counties show the highest **deaths due to coronary heart disease** (149.3 and 158.6 per 100,000 pop. respectively) than any other county in the services area, the state (112.4 per 100,000 pop.), or the nation (105.4 per 100,000 pop.). Every other county shows lower death rates than the U.S. average.

- ✓ Schulykill and Lycoming Counties show higher **deaths due to diabetes** (2 and 32 per 100,000 pop. respectively) than the state (21.1 per 100,000 pop.), the nation (21.2 per 100,000 pop.), or any other county, with Northumberland, Snyder, and Union Counties showing similar rates to national and state norms (18.2, 23.4, and 19.9 respectively).
- ✓ Schuylkill County has higher **deaths due to drug poisoning** (20.6 per 100,000 pop.) than any other county, the state or the nation (17.5 and 12.9 per 100,000 pop. respectively).
- ✓ Northumberland County has higher **deaths due to falls** (9.4 per 100,000 pop.) than state and national rates (8.6 and 8.1 per 100,000 pop. respectively)
- ✓ Columbia, Northumberland, Schuylkill, and Sullivan Counties have significantly higher **deaths due to heart disease** (218.1, 223.2, 235.8, and 217 per 100,000 pop. respectively) than any other county in the service area, the state (183.5 per 100,000 pop.) or nation (174.4 per 100,000 pop.). Lycoming, Montour, Snyder, and Union Counties are at or below state rates (167, 162.1, 167.9, and 177.5 per 100,000 pop. respectively).
- ✓ Northumberland and Snyder County have more **deaths due to influenza and pneumonia** (20.5 and 20.4 per 100,000 pop. respectively) than the state or national rates (14.4 and 15.1 per 100,000 pop. respectively).
- ✓ **Injury death rates** are similar for all the counties in the service area as state and national rates (63 and 58.1 per 100,000 pop. respectively) except Union County, which is much lower (33.6 per 100,000 pop.), with the exception of Schuylkill and Sullivan Counties (76.8 and 128.1 per 100,000 pop. respectively).
- ✓ **Deaths due to kidney disease** are highest in Northumberland and Snyder Counties (21.4 and 18.6 per 100,000 pop.) when compared to state and national rates (16.8 and 13.9 per 100,000 pop. respectively).
- ✓ All counties with data reported (i.e., Columbia, Lycoming, Northumberland, Schuylkill and Snyder Counties) show higher **deaths due to motor vehicle traffic** (16.1, 13.8, 18.6, 17.4, and 15.4 per 100,000 pop) than state and national rates (10.4 and 10.8 per 100,000 pop. respectively).
- ✓ Northumberland and Schuylkill Counties show higher **deaths due to septicemia** (17.8 and 15.1 per 100,000 pop.) than the state and national rates (13.3 and 10.5 per 100,000 pop. respectively).
- ✓ Northumberland, Schuylkill, Snyder and Union Counties show higher **deaths due to stroke** (40.7, 43.2, 39.8, and 47.7 per 100,000 pop. respectively) than the state and national rates (38.8 and 38 per 100,000 pop. respectively), with Juniata and Lycoming showing fewer deaths (36.9 and 35.9 per 100,000 pop. respectively).

- ✓ All counties with data reported (i.e., Columbia, Lycoming, Schuylkill, and Northumberland Counties) show higher **deaths due to suicide** (16.2, 13.7, 17.6, and 16.5 per 100,000 pop) than state and national rates (12.5 and 12.3 per 100,000 pop. respectively).

Table 14: Western Region Health Indicators Warehouse – County-Level Indicators Compared to State and National Benchmarks

CDC National Center for Health Statistics (2010-2012)**	HP 2020	U.S.	PA	Juniata County	Mifflin County	Centre County
2011 Primary care providers (per 100,000)	--	--	92.7	20.5	47	73
2011 Dentist rate (per 100,000)	--	--	59.1	8.2	29.9	47.8
2012 Acute Hospital Readmissions (%)*	--	18.6%	18.4%	15.4%	17.6%	16.6%
Births: women under 18 years (%)	--	2.3%	2.3%	--	1.7%	0.9%
Cancer Death Rate (per 100,000 pop.) *	160.6	169.3	178.3	167.3	175.3	147.9
Breast cancer deaths (per 100,000)*	20.6	21.7	23	--	19.2	11.6
Colorectal cancer deaths (per 100,000)*	14.5	15.3	16.4	--	17.7	12.7
Alzheimer's disease deaths (per 100,000) *	--	24.5	19.3	21.3	22.3	13.6
Chronic lower respiratory disease deaths (per 100,000)*	--	42.1	38.8	56.2	45.8	34.8
Coronary heart disease deaths (per 100,000) *	100.8	105.4	112.4	87.2	111.1	70.3
Diabetes deaths (per 100,000) *	--	21.2	21.1	33.4	22.2	12.1
Drug poisoning deaths (per 100,000) *	--	12.9	17.5	--	DSU	7.6
Fall deaths (per 100,000) *	--	8.1	8.6	--	10.6	6.8
Heart disease deaths (per 100,000) *	--	174.4	183.5	167	169	173.7
Influenza and pneumonia deaths (per 100,000) *	--	15.1	14.4	--	13.3	17.7
Injury deaths (per 100,000) *	53.3	58.1	63	56.7	61.9	40
Kidney diseases deaths (per 100,000) *	--	13.9	16.8	--	12.1	12.9
Lung, trachea, and bronchus cancer deaths (per 100,000) *	--	46.1	47.9	50	52.1	39
Motor vehicle traffic deaths (per 100,000) *	--	10.8	10.4	--	16.9	8.8
Septicemia deaths (per 100,000) *	--	10.5	13.3	--	15	8.3
Stroke deaths (per 100,000) *	33.8	38	38.8	36.9	32.3	37.4
Suicide deaths (per 100,000) *	10.2	12.3	12.5	--	16.1	11.2

There is a similar trend in the CDC National Center for Health Statistics data that presents in the majority of all other secondary data sources; Mifflin County consistently shows the poorest health outcomes when compared to Juniata County, the state, and the nation.

- ✓ All counties served by the hospital have significantly fewer providers (Primary care and Dental) than is average for PA (Primary Care - 92.7 and Dental – 59.1 per 100,000 pop. respectively).
    - o **Primary Care Providers** –Juniata County has less than one-quarter (20.5 per 100,000 pop.) and Mifflin County has half (47 and 20.5 per 100,000 pop. respectively) the providers that is average for the state.

- **Dental Providers** – Juniata County has a serious dental provider shortage (8.2 per 100,000 pop.) and Mifflin County has half (29.9 and 20.5 per 100,000 pop. respectively) the providers that is average for the state.

- ✓ Most counties in the service area show a lower percentage of **acute hospital readmissions** (Inpatient readmissions within 30 days of an acute hospital stay) than is average for the nation and the state (18.6% and 18.4% respectively).
- ✓ The percentage of **live births to women that are below 18 years of age** is below or similar to the state and national average (2.3% each).
- ✓ The **deaths due to cancer** are higher in PA than the national average for every type of cancer observed in this study (i.e., overall, breast, and colorectal). Where there is data available; Mifflin County shows death rates that are higher than the state for overall deaths due to cancer (175.3 per 100,000 pop.) and Colorectal cancer (17.7 per 100,000 pop.) The state rates are (178.3 and 16.4 per 100,000 pop. respectively).
- ✓ Juniata and Mifflin County shows fewer **deaths related to Alzheimer's disease** than the nation (21.3, 22.3, and 24.5 per 100,000 pop.), which is higher than the state (19.3 per 100,000 pop.).
- ✓ Juniata and Mifflin Counties have higher **deaths due to chronic lower respiratory disease** (56.2 and 45.8 per 100,000 pop.) than the state and nation (38.8 and 42.1 per 100,000 pop. respectively).
- ✓ Mifflin County shows the highest **deaths due to coronary heart disease** (111.1 per 100,000 pop.) the nation (105.4 per 100,000 pop.). The healthy People 2020 goal is 100.8.
- ✓ Juniata and Mifflin Counties show higher **deaths due to diabetes** (33.4 and 22.2 per 100,000 pop. respectively) than the state (21.1 per 100,000 pop.), the nation (21.2 per 100,000 pop.).
- ✓ Mifflin County has higher **deaths due to falls** (10.6 per 100,000 pop.) than state and national rates (8.6 and 8.1 per 100,000 pop. respectively) no data was available for Juniata County.
- ✓ Juniata and Mifflin Counties show fewer **deaths due to heart disease** than the state (183.5 per 100,000 pop.) or nation (174.4 per 100,000 pop.).
- ✓ **Injury death rates** are similar for all the counties in the service area as state and national rates (63 and 58.1 per 100,000 pop. respectively).
- ✓ Mifflin County shows higher **deaths due to motor vehicle traffic** (16.9 per 100,000 pop) than state and national rates (10.4 and 10.8 per 100,000 pop. respectively).
- ✓ Mifflin County shows higher **deaths due to septicemia** (15 per 100,000 pop.) than the state and national rates (13.3 and 10.5 per 100,000 pop. respectively).
- ✓ All counties with data reported (i.e., Mifflin County) shows higher **deaths due to suicide** (16.1 and per 100,000 pop) than state and national rates (12.5 and 12.3 per 100,000 pop. respectively).

Key Stakeholder Interviews

Tripp Umbach conducted interviews with community leaders in the Geisinger Medical Center, GSACH, and GHS combined service area. Leaders who were targeted for interviews encompassed a wide variety of professional backgrounds including 1) Public Health expertise; 2) Professionals with access to community health related data; and 3) Representatives of underserved populations (See Appendix 1 for a list of participating organizations). The interviews offered community leaders an opportunity to provide feedback on the needs of the community, secondary data resources, and other information relevant to the study.
This report represents a section of the overall community health needs assessment project completed by Tripp Umbach.

DATA COLLECTION:

The following qualitative data were gathered during individual interviews with 16 stakeholders of the Geisinger Medical Center, GSACH, and GHS combined service area, as identified by an advisory committee of Geisinger Medical Center, GSACH, and GHS. Geisinger Medical Center is a 547-bed community hospital. Each interview was conducted by a Tripp Umbach consultant and lasted approximately 60 minutes. All respondents were asked the same set of questions developed by Tripp Umbach and previously reviewed by the Geisinger Medical Center advisory committee. The purpose of these interviews was for stakeholders to identify health issues and concerns affecting residents in the Geisinger Medical Center, GSACH, and GHS combined service area, as well as ways to address those concerns.
There was a diverse representation of community-based organizations and agencies among the 16 stakeholders interviewed. Those organizations represented included:

- CMSU
- A Community Clinic
- Danville Child Development Center
- Family Planning Plus (overseen by Family Health Council of Central PA)
- Greater Susquehanna Valley Chamber of Commerce
- Greater Susquehanna Valley United Way
- HandUP Foundation
- Montour county Head Start
- Nurse Family Partnership
- PA Office of Rural Health
- Penn State Cooperative Extension
- Shikellamy School District
- St. Paul's UCC
- Sullivan County Action Board
- The Gate House
- Tioga, Bradford, Sullivan, Susquehanna counties Area Agency on Aging

STAKEHOLDER RECOMMENDATIONS:

The stakeholders provided many recommendations to address health issues and concerns for residents living in the Geisinger Medical Center, GSACH, and GHS combined service area. Below is a brief summary of the recommendations:

- ✓ Stakeholders recommend that behavioral health services (i.e., pediatric psychiatry) provided by health providers begin to partner and collaborate with community-based behavioral health providers.
- ✓ Work with community-based primary care physicians, employers, etc. to educate residents about healthy choices.
- ✓ Increase the use of telemedicine, particularly to cover the areas of greatest shortage where telemedicine can be effectively implemented (i.e., behavioral health).
- ✓ Health providers, community-based organizations, and agencies should collaborate more to ensure vulnerable populations' needs are identified and met on an ongoing basis. Stakeholders would like to see solutions that are more community-based and less hospital-based. For example, stakeholders recommended that outreach be done at places where residents naturally are (grocery stores, Walmart, post offices, etc.).

PROBLEM IDENTIFICATION:

During the interview process, the stakeholders stated six overall health needs and concerns in their community. In order of most discussed to least discussed topics, these were:

1. Behavioral health, including substance abuse
2. Lifestyle of residents
3. Availability of health services
4. Delay/resistance in seeking health services
5. Common health issues
6. Environmental influence

NEED FOR BEHAVIORAL HEALTH INCLUDING SUBSTANCE ABUSE SERVICES:

Behavioral health services and issues were discussed separate from medical or dental health services, with nine out of 10 stakeholders identifying a health need related to behavioral health and/or substance abuse services.

- Care coordination –According to stakeholders, the medical health issues of residents with behavioral health issues are often overlooked in behavioral health settings and vice versa in medical settings, leaving health issues to be untreated for a period of time. Additionally, many pediatric inpatient facilities are not associated with any major medical provider, leaving children with medical and behavioral health dual-diagnoses without local treatment options. Also, stakeholders were under the impression that children are being placed into inpatient treatment centers with adults, which may be detrimental to the children receiving these services.
- Stakeholders also felt that behavioral health services rely on medication, and there are limited professionals to oversee this type of treatment in their communities. Some medications can lead to addiction and subsequent substance abuse issues (i.e., some anti-anxiety medications). Additionally, there are behavioral health medications that are contraindicated for persons with chronic illnesses (i.e., Seroquel).
- Shortage of behavioral health services – Stakeholders recognized that while there are behavioral health services; there is a shortage of services (i.e., treatment for low-income

populations, child psychiatry, psychiatry in general, and inpatient treatment) in relationship to the demand causing lengthy wait times throughout the services area. Inpatient services for children are located a great distance away, which limits the participation of families in treatment and visitation opportunities, and may cause children stress related to placement away from their home. Additional gaps in the continuum of care include: timing of appointments, lengthy waiting lists for initial appointments, and referrals that are difficult to secure. Without a diagnosis, children cannot receive behavioral health treatment or support services.

- While there are multiple private behavioral health providers in Montour County, the wait times for behavioral health services (psychiatry, therapy, and support services) are reported to be as long as three months in Columbia, Montour, Snyder, and Union Counties, which can cause residents to lose motivation to seek treatment. There is a general lack of behavioral health services in many counties in the services area (i.e., Sullivan County with the closest inpatient services being located approximately 45-75 minutes away. The same is true for substance abuse services. Behavioral health services are more difficult to sustain in more rural areas that are less densely populated.
- Poor treatment outcomes – Stakeholders recognized that residents with substance abuse and/or behavioral health issues often have poor treatment outcomes due to a resistance to seek treatment because of a fear of stigmatization, inability to afford treatment options, transportation issues, and/or limited follow through with treatment recommendations. Often, residents are in denial that there is a substance abuse issue and do not seek treatment at all. Stakeholders note that suicide rates are high in the area.
- Substance abuse – Over one-half of stakeholders identified substance abuse as a health need in their communities. Discussions focused on the high rate of addiction, availability of drugs, and lack of local treatment options. While stakeholders recognized substance abuse is a personal choice; they noted that there appears to be a generational influence as well as a higher prevalence among lower-income families. The most common drugs appear to be alcohol, methamphetamine, heroin, marijuana, and prescription narcotics, with the perception that prescription drugs are more prevalent among employed adult residents aged 30-40. Meth labs are being identified in the areas, which leads residents to be at risk of exposure to an explosion. The cost of treatment may make it unaffordable to residents with a history of substance abuse due to limited finances and a lack of insurance coverage.

Stakeholders discussed the following consequences of health needs related to behavioral health and substance abuse services:

- ✓ Poorer health outcomes related to behavioral health and substance abuse.
- ✓ Children being hospitalized for inpatient behavioral health treatment a great distance from home may be negatively impacted by the absence of their family in treatment and visitation opportunities, which may cause poor treatment outcomes.

LIFESTYLES OF RESIDENTS:

Almost three-quarters of the stakeholders interviewed discussed the impact and primary drivers of lifestyle choices that impact the health status and subsequent health outcomes for residents. Stakeholders noted that there are factors related to environment and personal choice that influence the role that lifestyle plays in the health outcomes for residents.

- Generational/cultural influence - Stakeholders discussed the role that familial influence plays in nutritional preferences, and substance abuse and smoking more than any other health issues. Stakeholders indicated that substance abuse is more prevalent among youth. Also, children often adopt the dietary preferences of their culture (i.e., German, Italian, Polish, etc.). Finally, the propensity of residents in a rural area to seek health services is often based in cultural values and beliefs, which may lead to a population of residents with poorer health outcomes.
- Diet - Stakeholders discussed the limited access that some residents have to healthy nutrition. Specifically, lower-income residents may not have access to and/or be able to afford healthier options. This is often the case for several reasons. There are an abundance of fast-food restaurants in some areas served by the hospital. Residents do not always have access to a grocery store that offers healthy options (e.g., some residents live more than 30 minutes from the nearest grocery store). Residents consume diets that are carryovers from the previous farming history. These diets can be detrimental to a sedentary population according to stakeholders. Foods that are more processed are often cheaper and easier to prepare than produce, meats, etc. Also, foods that are more processed tend to be more filling than those that are not because they are higher in carbohydrates. And finally, foods that are more processed tend to have a longer shelf-life than less processed, fresher foods. Unfortunately, foods that are more processed with higher sugars and carbohydrates are also unhealthy to consume in large quantities and can lead to chronic illnesses and obesity. Stakeholders indicated that children in homes where substance abuse is an issue may not be fed regularly or nutritiously. Residents may not know how to prepare healthy, fresh foods due to a lack of experience.
- Smoking - Stakeholders identified smoking as an issue due to residents that still smoke in the area. Additionally, children living in homes where they are exposed to smoking tend to have upper respiratory issues.
- Exercise – Stakeholders indicated that residents may not always exercise to a level that is healthy due to a lack of indoor recreational outlets during the winter months and personal motivation. Also, physical education classes are limited in schools for children.
- Personal choice - While stakeholders recognize the impact that circumstance can have on the decisions of residents to engage in healthy behaviors; they also indicated that personal choice is a significant driver in the health outcomes of residents. Stakeholders recognized the impact of personal choice on the health outcomes of residents. Stakeholders cited the need for residents to engage in behavioral changes that positively impact their health status. Residents must want to change their health status before they will be motivated to do so.

- Isolation – The rural area can lead to isolation as a result of a lack of transportation. There are seniors residing in their own homes in more rural areas that have not been connected to services. Stakeholders also noted that higher rates of obesity can limit the mobility of residents.

Stakeholders discussed the following consequences of the lifestyle of residents on health outcomes of populations served by Geisinger Medical Center, GSACH, and GHS.

- ✓ It can be difficult to improve population health indicators due to the lifestyles and personal preferences/choices of residents.
- ✓ Stakeholders felt that rural residents seek health services much later and have higher chronic illness as a result.

AVAILABILITY OF HEALTH SERVICES:

Over one-half of stakeholders articulated a lack of availability of health services (medical, dental, behavioral) in the hospital service area. The availability of services was related most often to the number of practicing professionals, acceptance of insurances, and location of providers.

- Number of practicing professionals - Physicians are retiring and/or migrating out of the area, reducing the number of available primary care physicians. The shortage of health professionals (i.e., general psychiatrists, child psychiatrists, pediatric dentists, and dentists accepting Medicaid) is compounded by the difficulty in recruiting new professionals to the poorest and most rural areas in the hospital service area. There is a lack of general psychiatry, dental care, and preventive care in the area as well. While there are health services in the Montour County area, there is a notable shortage of emergency medical transportation (EMT), dental care, behavioral health care, and medical services in Sullivan County according to stakeholders. EMT is currently provided by firemen with minimal training with the closest hospitals 45 minutes away. Additionally, general practitioners are managing behavioral health medications and diagnoses in absence of psychiatric services.
- Acceptance of insurances - There are limited health providers offering care (i.e., dental, long-term care, routine/preventive, behavioral) to residents that are uninsured or insured with certain types of insurance (medical access, Medicaid, etc.); leading existing services to be inaccessible to under/uninsured residents. While Geisinger Medical Center operates a dental clinic; the waiting list is long and other clinics have reportedly stopped taking new patients. Stakeholders report that it can take one month or more to secure a dental appointment. Residents will pull their own teeth when they cannot secure dental care. Low-income seniors requiring long-term care options may be placed out of county or state.
- Funding – Stakeholders identified a lack of funding and funding cuts as impacting the services available for preventive health services, public education, substance abuse, and behavioral health services.

- Location of providers - Stakeholders noted that there are pockets of poverty where health services are available but not accessible. Also, stakeholders articulated that there are a lack of providers (i.e., specialists, dentists, etc.) taking new patients that are covered by the type of insurances carried by traditionally low-income populations (i.e., Medicaid). While there is a dental clinic at Geisinger Medical Center; the waiting list is lengthy. Amish and Mennonite residents do not have ready access to preventive care due to a lack of insurance and the resources required to secure care for this population can be significant because they have to pay a driver. Many Mennonite residents seek health services at the public health department. Stakeholders noted that there are areas with limited access to specialty care Stakeholders also noted that the issues with transportation in the area further magnify the impact of the location of the provider (i.e., the distance between providers) on the availability of health services has on the health outcomes of the most rural populations served by Geisinger Medical Center, GSACH, and GHS due to the distances between providers, which tend to be situated in areas with denser populations. There are specialties that offer office hours in the communities, but appointments are set months out due to limited office hours.
- Care coordination – Additionally, seniors are a growing population that will require additional support (i.e., medication management, nutrition, and health care/insurance decisions) in care coordination as the outmigration of young professionals continue and seniors are left without family supports at home. Stakeholders also felt that residents may have a difficult time navigating health services that are available. Stakeholders felt that collaborations to ensure that the health needs of seniors are being met are important.

When services are not available, stakeholders noted that some of the consequences are:

- ✓ Limited appointment availability related to the number of physicians that are able to see patients and the need to triage patients in scheduling procedures, which causes patient to wait for long periods of time to secure appointments for primary care, specialty care, and dental care.
- ✓ Health disparities related to income and insurance status due to providers refusing to accept insurances typically held by lower-income residents (i.e., medical access, catastrophic insurance, etc.).

DELAYED/RESISTANCE SEEKING NEEDED HEALTH SERVICES:

One-half of the stakeholders interviewed articulated that residents either delayed or resisted seeking health services (including medical, mental, and dental) such as preventive care, specialty care, intensive treatment, and follow-up care for a variety of reasons. Specifically, stakeholders indicated that the following were factors in the decisions of residents to delay/resist seeking medical care:

- Cost of care – Stakeholders articulated that uninsured and under-insured residents may resist seeking health services (including medication, preventive, and/or routine care, etc.) due to the cost of uninsured care, unaffordable copays, and/or high deductibles.

Health services may be becoming unaffordable for families that do not qualify for assistance of any sort due to higher copays and deductibles.

- Stigma – Stakeholders articulated a resistance to seek health services (i.e., behavioral health and HIV/AIDS) due to the stigma associated with a diagnosis and treatment. In many of the small towns served by the hospital, the providers for behavioral health services are located in standalone buildings and residents can be identified as having one of these diagnoses if they are entering or exiting these locations. Additionally, parents resist taking their children for mental health evaluations and treatment due to a fear of stigma. Stakeholders indicated that seniors are likely to forego evaluations and treatment due to pride and fear of stigma as well.
- Awareness – Stakeholders discussed the awareness of residents related to the existence and necessity of health services including routine, preventive, and behavioral health care; which can cause residents not to access services they need. It is difficult to disseminate information about services due to the rural nature of the area. This issue is compounded by the ever-changing provider landscape, which makes it difficult for residents to know what services are available in their community. Additionally, residents may not understand their health status enough to know from what services they could benefit.
- Transportation – Over two-thirds of the stakeholders interviewed said that transportation and the location of health services impacts the access that residents have to health services including behavioral health treatment, follow-up, and specialty medical appointments. Residents may not be able to follow through with more intensive treatment regimes (i.e., chemo or dialysis) due to the location of services and lack of transportation.

Stakeholders discussed the following consequences of the local delay/resistance to seeking health services:

- ✓ Late detection/diagnosis of illness and disease, which often leads to poorer health outcomes due to a reduction in treatment options and success rates. For example, stakeholders noted that residents seeking dental care at dental clinics and/or those with Medicaid often have to have all their teeth pulled by the time they seek dental care.
- ✓ Lack of consistency and continuity of care due to limited follow-up, particularly when follow-up is for care coordination purposes with the primary physician.
- ✓ Limited follow through with intensive treatment regimens (i.e., chronic illness) due to unaffordable ongoing costs related to medications (e.g., insulin for diabetics) and/or transportation (e.g., cancer treatments multiple times a week in a location more than 45 minutes away).

COMMON HEALTH ISSUES:

- Oral Hygiene – Stakeholders discussed the impact of transportation issues, limitation of insurance, and the lack of focus on oral hygiene among residents as the greatest factors in poor health outcomes related to dental health. Additionally, stakeholders discussed

the role that poor dental health can play in the ability of residents to secure employment.

- Obesity – Two-thirds of the stakeholders discussed the prevalence and cause of obesity among residents served by Geisinger Medical Center, GSACH, and GHS. Stakeholders identified that there are several factors that perpetuate obesity in their communities. Namely, poor diets, lack of exercise, and limited access to resources and education. Stakeholders discuss the low activity levels among residents (including children) in the services area. When low activity levels are coupled with poor nutrition, there is a greater risk of obesity. Stakeholders cited limited access to healthy produce in poorer rural areas, a lack of education, and a lack of motivation among residents as the factors that drive obesity rates in the area. Stakeholders also noted the role that families and culture can play in establishing both healthy and unhealthy dietary habits. Stakeholders discussed the prevalence of childhood obesity as well, citing the absence of physical education and the teaching of parents as the primary factors in childhood obesity. Stakeholders recognized that perpetual obesity will have an impact on health outcomes for residents.
- Diabetes – Five stakeholders discussed diabetes as a common health issue among residents. Discussion often included reference to obesity as well. Stakeholders identified weight as an underlying cause of the incidents of diabetes that are not the result of a genetic predisposition.
- Heart disease – Four stakeholders discussed the prevalence of heart disease and its connection with the diet of a rural farming culture, sedentary lifestyles, and age.
- Cancer - Four stakeholders felt that the rates of cancer were rising (one of which was a public health professional).
- Senior Health – Stakeholders felt that seniors were at greater risk for certain health issues (i.e., heart disease, diabetes, and pulmonary issues) due to aging.

The impact of common health issues can be poor health outcomes of a population and greater consumption of health care resources.

ENVIRONMENTAL INFLUENCES:

Stakeholders articulated several environmental factors which impact the health of residents, including: infrastructure, the rural nature of the area, and poverty.

- Infrastructure/rural area – More than one-half of stakeholders discussed the role that infrastructure (i.e., transportation, economy, and housing) and the rural nature of the service area has in limiting the access that residents have to health services and perpetuating poor health outcomes. More specifically, the lack of affordable public transportation, concentration of low-income employment opportunities, unemployment, decline of major industry (i.e., farming and manufacturing), and limited white collar employment opportunities often requires that the priorities of residents are focused on survival and basic necessities in many areas throughout the hospital service area. There is limited housing for low-income residents and residents with mental illness with waiting lists for affordable housing in some areas due to funding cuts for subsidies. Homelessness is a growing problem in some areas.

- Stakeholders recognized the impact that the lack of transportation has on the ability of residents to secure health services (medical, dental, and behavioral), employment, and healthy nutrition. While there are places in the service area where there is the low unemployment and higher incomes; there is a contrast with areas that have higher poverty rates. As a result, stakeholders discussed the challenges of unemployment and inability to afford to engage in healthy behaviors for themselves or their families. The rising cost of insurance for local employers is leading many employed residents to be uninsured or under-insured because employers cannot afford to offer insurances and/or employees are hired at part-time hours to avoid the required cost health insurance benefits for full-time employees.
- Similarly, educational outcomes in the area are poor in lower socioeconomic areas according to stakeholders, which lead to low-income wages for residents in these areas. Conversely, there are several areas in the service area where stakeholders see higher educational attainment (i.e., areas of affluence and/or surrounding universities).
- While there are public transit options in Union and Snyder counties, the scope of services provided are limited due to budgeting. The lack of transportation has an impact on the ability of residents to secure health services (medical, dental, and behavioral), employment and healthy nutrition. Challenges of limited transportation options are magnified by disabilities that limit the ability to operate a car.

- Poverty – Over one-half of the stakeholders interviewed discussed the impact of poverty on the health of residents. Specifically, stakeholders felt there were pockets of poverty in the service area where residents are not always able to access the wealth of health services in the area and health disparities exist. In contrast, there are pockets of affluence where stakeholders recognize there are less health disparities. Stakeholders also recognized the impact of stress, limited access to healthy nutrition, and limited access to health services (i.e., medical, dental, and behavioral) experienced by residents in poverty. Stakeholders also articulated the relationship between poverty and behavioral health due to a heightened level of stress and trauma that is often part of the experience of poverty. Stakeholders connect poverty and the inability of residents to secure healthy produce and make healthy decisions related to nutrition due to limitations related to transportation, finances, and education. Additionally, residents in poverty are less likely to secure health services prior to issues becoming emergent due to a lack of resources (i.e., time, money, transportation, etc.) and a focus on meeting basic needs leading to a lower prioritization of health and wellness.

Environmental factors can impact the health status of individuals and the community at large due to the negative health outcomes that result. No matter the level of health services available to the population, if residents do not choose to be healthier, the health outcomes will remain unchanged

Survey of Vulnerable Populations

Tripp Umbach worked closely with the CHNA oversight committee to assure that community members, including under-represented residents, were included in the needs assessment through a survey process.

DATA COLLECTION:

Vulnerable populations were identified by the CHNA oversight committee and through stakeholder interviews. Vulnerable populations targeted by the surveys were seniors, low-income residents, homeless individuals, persons with disabilities, Latino(a) residents, and residents that are uninsured. Survey results are presented here by region.

Tripp Umbach worked with the oversight committee to design a 33 question health status survey. The survey was administered by community based organizations (i.e., Central Susquehanna Opportunities, CMSU, Nurse Family Partnership, Montour county Head Start, Columbia-Sullivan Head Start, Agape, Northern Columbia Community & Cultural Center, the Dental Health Clinic, Central PA Food Bank, Union-Snyder Agency on Aging Inc., A Community Clinic, SUM Child Development Center, Family Health Council of Central PA-Selinsgrove, Snyder/Union Community Action, Snyder County Children and Youth Services, HandUP Foundation, Buffalo Valley Recreation Authority, Middlecreek Area Community Center, The Volunteers in Medicine Free Clinic, The Dental Health Clinic, the United Way of Wyoming Valley, Wayne County CareerLink, NHS Human Services, The Edward R. Leahy Jr. Center Clinic for the Uninsured, Trehab, The Wright Center, Mifflin-Juniata Special Needs Center, and Area Agency on Aging) providing services to vulnerable populations in the hospital service area.

- Community based organizations were trained to administer the survey using hand-distribution.
- Surveys were administered onsite and securely mailed to Tripp Umbach for tabulation and analysis.
- Surveys were analyzed using SPSS software.

Northeast Region:
A total of 266 surveys were collected in the Geisinger Medical Center, GSACH, and GHS service area which provides a +/- 6.01 confidence interval for a 95% confidence level.

Central Region:
A total of 626 surveys were collected in the Central Region of Geisinger Medical Center, GSACH, and GHS service area which provides a +/-3.87 confidence interval for a 95% confidence level.

Western Region:

Tripp Umbach secured 154 surveys, which provides a 95% confidence level with a +/-8 confidence interval.

Limitations of Survey Collection:

There are several inherent limitations to using a hand-distribution methodology when collecting surveys. The demographics of the population are not intended to match the general population of the counties surveyed. Often, the demographic characteristics of populations that are considered vulnerable populations are not the same as the demographic characteristics of a general population. For example vulnerable populations by nature may have significantly less income than a general population. For this reason the findings of this survey are not relevant to the general populations of the counties they were collected in. Additionally, hand-distribution is limited by the locations where surveys are administered. In this case Tripp Umbach asked CBOs to self-select into the study and as a result there are several populations that have greater representation in raw data (i.e., seniors, low-income, etc.).

Demographics:

Survey respondents were asked to provide basic anonymous demographic data.

Northeastern Region Survey Demographics:

- ✓ The majority of the survey respondents for Lackawanna and Luzerne Counties reported their race as White, the next largest racial group was Black and African American and third largest was Hispanic.

- ✓ The household income level with the most responses was $10,000-$19,999 for Lackawanna County (26.7%) and < than $10,000 for Luzerne County (23.1%).

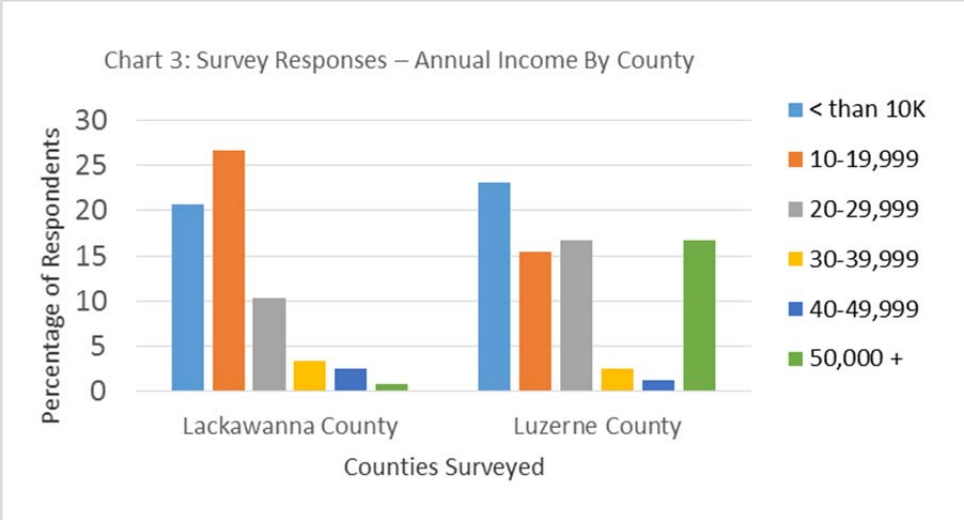


Table 15: Survey Responses – Self-Reported Age of Respondent by County

Age	Lackawanna County	Luzerne County
18-25	4.7%	7.6%
26-35	15.4%	12%
36-45	16.8%	16.3%
46-55	11.4%	20.7%
56-65	22.1%	20.7%
66-75	14.8%	6.5%
76-85	10.7%	9.8%
86+	4%	6.5%

Central Region Survey Demographics:

- ✓ The majority of the survey respondents reported their race as White, the next largest racial group was Black and African American.
- ✓ The household income level reported by most respondents was less than $29,999 a year for all counties represented.

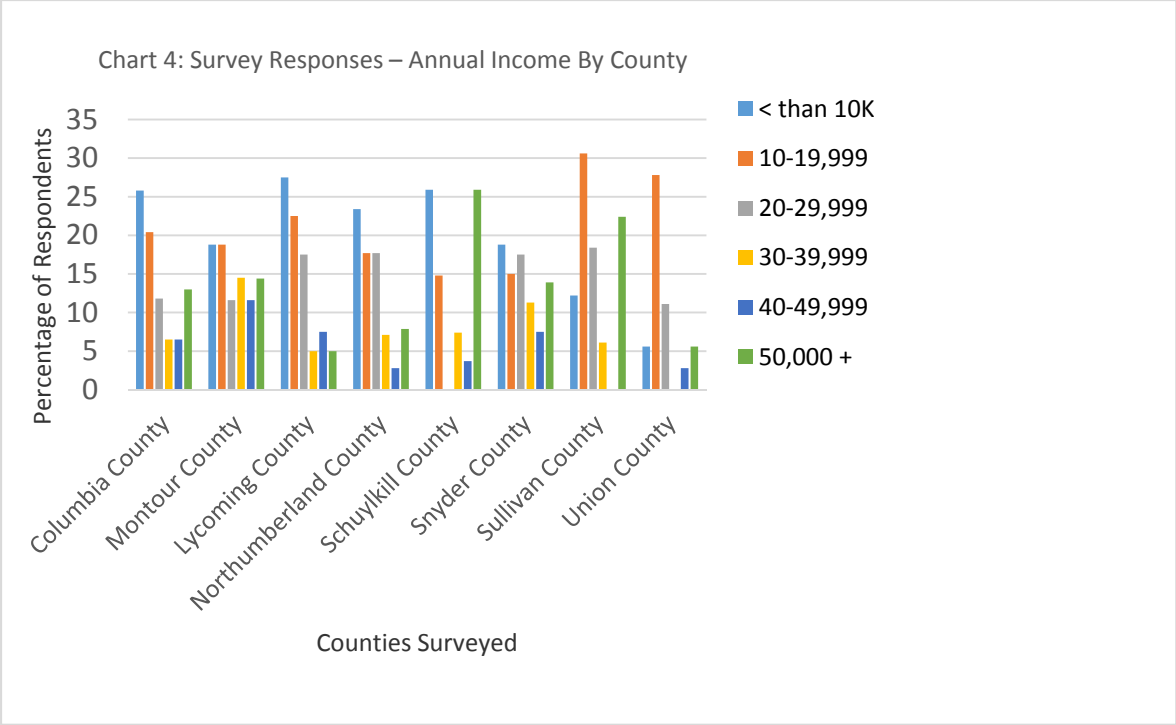


Table 16: Survey Responses – Self-Reported Age of Respondent by County

Age	Columbia County	Montour County	Northumberland County	Snyder County	Union County	Lycoming County	Schuylkill County	Sullivan County
18-25	26.2%	16%	27.5%	17.2%	22%	3.6%	12.9%	1.7%
26-35	29%	58.7%	19%	18.4%	9.8%	23.2%	16.1%	1.7%
36-45	13.1%	13.3%	9.2%	17.2%	12.2%	14.3%	35.5%	13.6%
46-55	12.1%	6.7%	13.1%	10.3%	4.9%	26.8%	22.6%	23.7%
56-65	12.1%	2.7%	12.4%	16.1%	4.9%	12.5%	3.2%	20.3%
66-75	5.6%	1.3%	14.4%	18.4%	19.5%	17.9%	6.5%	20.3%
76-85	1.9%	1.3%	4.6%	1.1%	12.2%	1.8%	3.2%	13.6%
86+	26.2%	16%	--	1.1%	14.6%	--		5.1%

Western Region Survey Demographics:

- ✓ The majority of the survey respondents for Juniata and Mifflin Counties reported their race as White (91.1% and 95.3% respectively).
- ✓ While the majority of respondents did not provide an income level; the household income level with the most responses was $20,000-$29,999 for Juniata County (21.3%) and $10,000 - $19,999 for Mifflin County (17.9%).

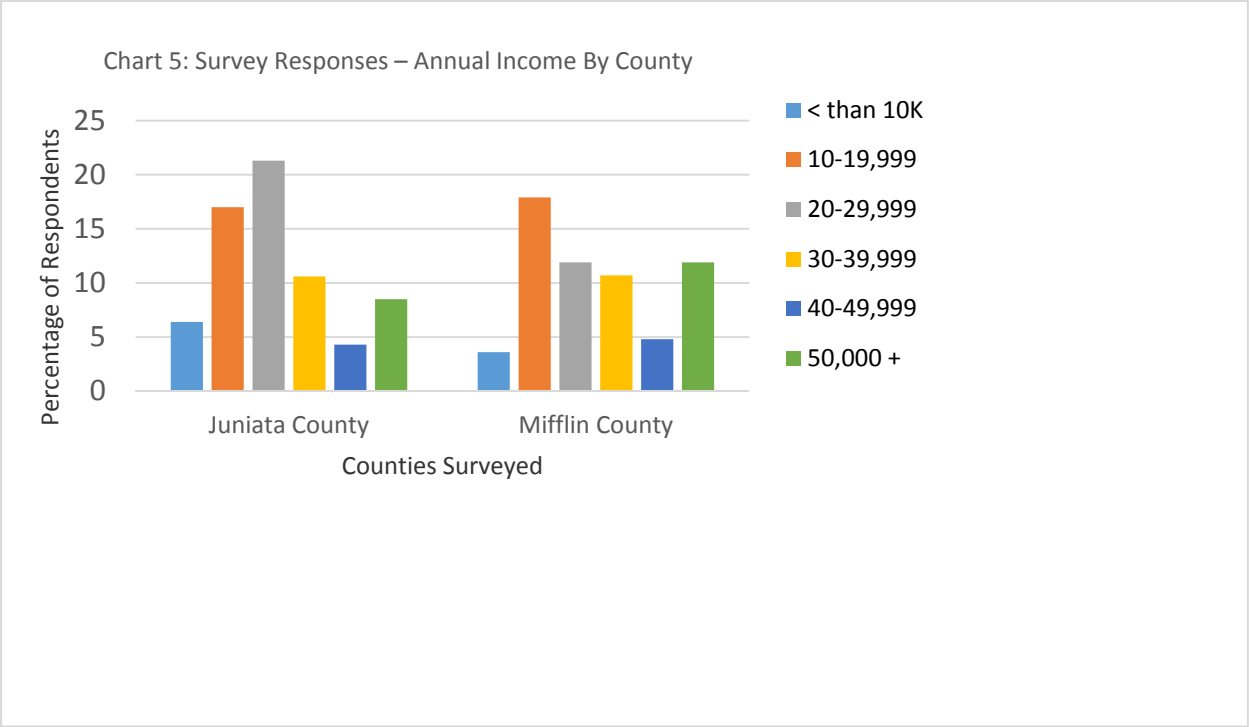


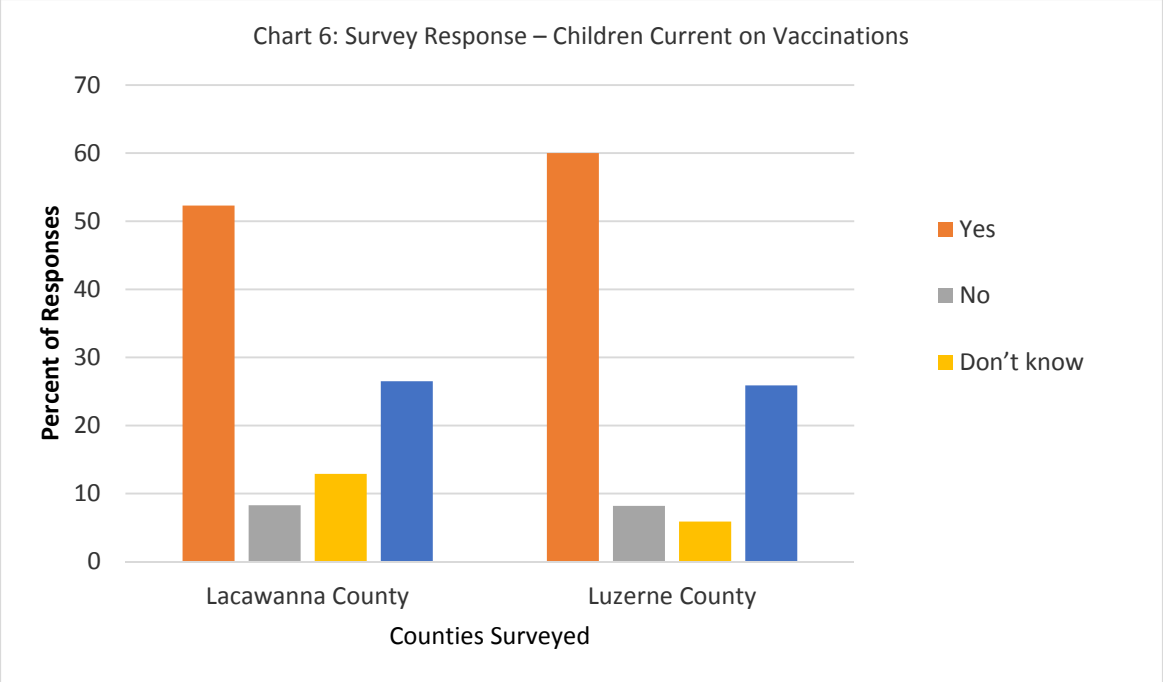
Table 17: Survey Responses – Self-Reported Age of Respondent by County

Age	Juniata County	Mifflin County
18-25	1.7%	8.9%
26-35	--	14.4%
36-45	1.7%	10%
46-55	--	14.4%
56-65	15.5%	21.1%
66-75	39.7%	8.9%
76-85	32.8%	14.4%
86+	8.6%	7.8%

Healthcare in the Northeast Region:

- ✓ The most popular place for residents to seek care is a doctor's office in Lackawanna and Luzerne Counties (70.4% and 70.1% respectively), with the free or reduced cost clinics (14.1% and 24.1%) being popular as well.
- ✓ The most common form of health insurance carried by respondents was Medicare in Lackawanna and Luzerne Counties (38.6% and 30% respectively) with "no insurance" the second most common in Lackawanna County (26.1%) and Private/commercial in Luzerne County (28.9%).

- ✓ The most common reason why individuals indicated that they do not have health insurance was because they can't afford it in Lackawanna and Luzerne Counties (47.2% and 44% respectively) with ineligibility being the second most common reason (30.6% and 24% respectively).
- ✓ Most respondents had been examined by a physician within the last 12 months at least once in Lackawanna and Luzerne Counties (87% and 91.3%); however, 13% of respondents in Lackawanna County and 8.7% of respondents in Luzerne County had not.
- ✓ 33.1% of Lackawanna County respondents and 30.4% of Luzerne County respondents indicated that their health was "fair" or "poor".
- ✓ Adult respondents indicated related children were up-to-date on vaccinations in Lackawanna and Luzerne Counties (52.3% and 60% respectively).



- Many respondents indicated that their primary form of transportation is some method other than their own car in Lackawanna (45.3%) and Luzerne (37.2%) Counties, using a family/friend's car (26.2% and 18.5% respectively), public transportation (11.3% and 17.4 respectively), and walking (7.8% and 1.1% respectively) as an alternative.

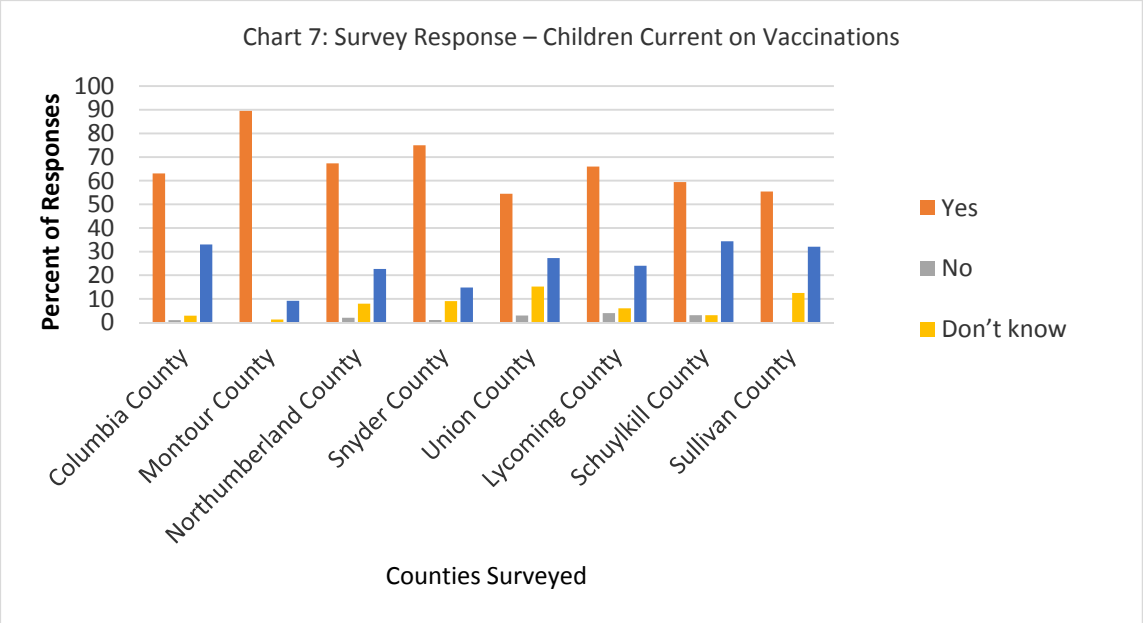
Table 18: Survey Responses Related to HIV/AIDS Testing

Ever Been Tested for HIV	Lackawanna County	Luzerne County	PA	U.S.
Yes	30.7%	32.2%	32.2%	35.2%
No	69.3%	67.8%	67.8%	64.8%

- ✓ Survey respondents from Lackawanna and Luzerne Counties report screening rates (30.7% and 32.2% respectively) similar to state and national norms.

Healthcare in the Central Region:

- ✓ The most popular place for respondents to seek care in Columbia, Montour Northumberland, Union, Snyder, Lycoming, Schuylkill and Sullivan Counties is a doctor's office (79.4%, 60.8%, 60.4%, 79.55%, 87.6%, 77.4%, 83.9%, and 91.5% respectively), with the free or reduced cost clinics being popular in Northumberland County (22.7%) and hospital clinics in Montour (25.7%).
- ✓ The most common form of health insurance carried by respondents was Medicare in Union (42.9%), and Sullivan (44.8%) Counties; Medicaid in Columbia County (37.4%) and Lycoming (34.5%) County; Private in (32.5%), Snyder (29.7%) and Schuylkill (38.7%) County; and no insurance in Northumberland County (36.2%).
- ✓ The most common reason why individuals from Columbia, Montour, Northumberland, Union, Snyder, Lycoming, Schuylkill and Sullivan Counties indicated that they do not have health insurance is because they can't afford it in all counties (69.2%, 62.5%, 58%, 85.7%, 75%, 57.1%, 33.3% and 50% respectively).
- ✓ Most respondents had been examined by a physician within the last 12 months at least once. However, at least 1 in 10 respondents in Columbia (11.2%), Montour (20.5%), Northumberland (10.9%) and Lycoming (10.3%) Counties had not.
- ✓ The most common responses to "how is your health?" were "Good" (42.3%) and "Very Good" (27.6%). This is consistent across the counties with approximately 20% of respondents in each county indicating their health was "fair" or "poor". However; 36.2% of Lycoming County respondents indicated that their health was "fair" or "poor", which is much higher than any other county where surveys were collected.
- ✓ Adult respondents indicated related children were up-to-date on vaccinations, with an average of 87.4% of respondents across all counties surveyed indicating children were either current on vaccinations OR the question did not apply.



- ✓ Many respondents indicated that their primary form of transportation is some method other than their own car in Columbia, Montour, Northumberland, Union, Snyder, Lycoming, Schuylkill, and Sullivan Counties (32.4%, 13.7%, 36%, 21.4%, 16.5%, 23%, 10.2%, 25.8%, and 13.6% respectively).

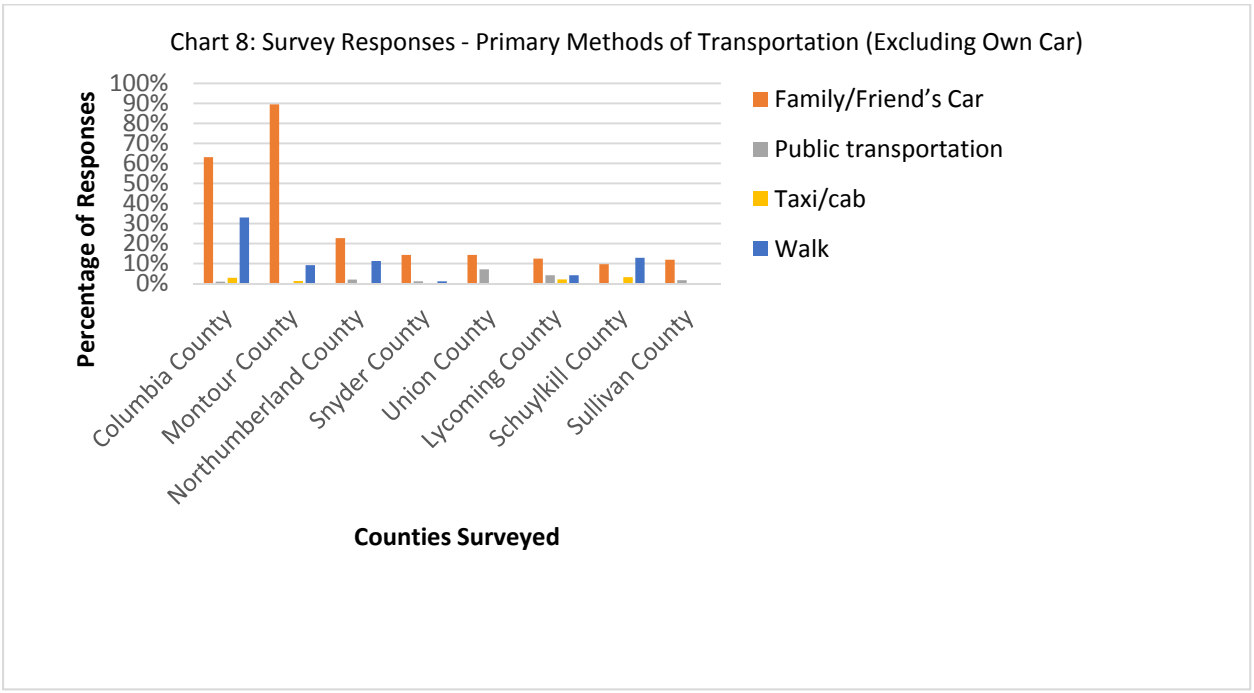


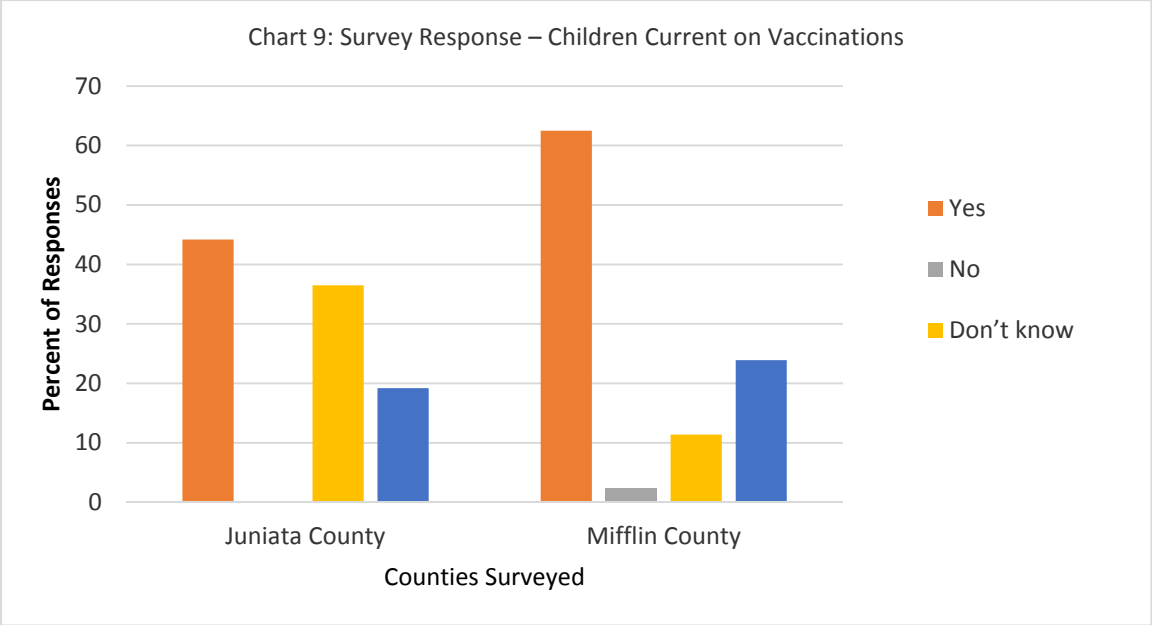
Table 19: Survey Responses Related to HIV/AIDS Testing

Ever Been Tested for HIV	Columbia County	Montour County	Northumberland County	Snyder County	Union County	Lycoming County	Schuylkill County	Sullivan County	PA	U.S.
Yes	42.5%	43.8%	45.1%	29.1%	34.1%	43.8%	30%	33.3%	32.2%	35.2%
No	57.5%	56.2%	54.9%	70.9%	65.9%	56.3%	70%	66.7%	67.8%	64.8%

- ✓ Snyder and Juniata County respondents report much lower HIV screening rates (29.1% and 19.3% respectively) when compared to PA (32.2%) or the U.S. (35.2%). Northumberland, Union, and Lycoming County respondents report screening rates (45.1%, 34.1%, and 43.8%) similar to state and national norms.

Healthcare in the Western Region:

- ✓ The most popular place for respondents from Juniata and Mifflin Counties to seek care is a doctor's office (95% and 94.4% respectively).
- ✓ The most common form of health insurance carried by respondents was Medicare (55.9%) in Juniata and Private/commercial in Mifflin County (61.5%).
- ✓ Most respondents from Mifflin and Juniata Counties had been examined by a physician within the last 12 months at least once (91.9% and 95.6%); however, 8.1% of respondents in Juniata County and 4.3% of respondents in Mifflin County had not.
- ✓ The most common responses to "how is your health?" were "Good" (42.3%) and "Very Good" (27.6%). This is consistent across the counties with approximately 20% of respondents in each county indicating their health was "fair" or "poor". However; 17.7% Juniata County respondents and 10% of Mifflin respondents indicated that their health was "fair" or "poor".
- ✓ Adult respondents from Juniata and Mifflin Counties indicated related children were up-to-date on vaccinations (63.4% and 86.4% respectively).



- ✓ Most residents used their own car as the primary form of transportation; however, some respondents indicated that their primary form of transportation is some method other than their own car in Juniata (10.2%) and Mifflin (7.8%) Counties, using a family/friend's car (6.8% and 7.8% respectively) and public transportation in Juniata only (3.4%) were the most common alternatives.

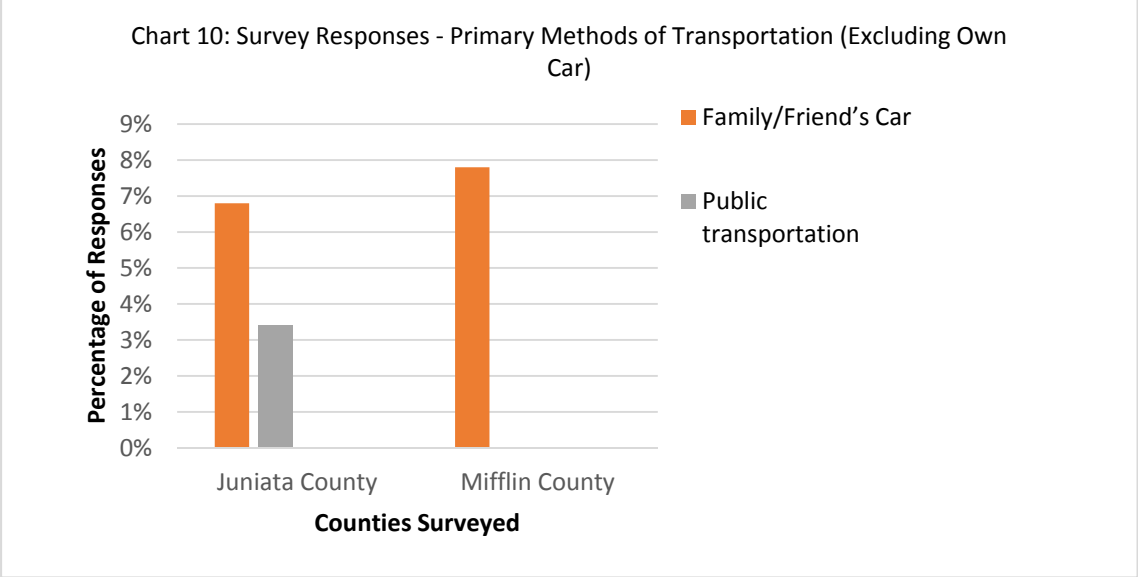


Table 20: Survey Responses Related to HIV/AIDS Testing

Ever Been Tested for HIV	Mifflin County	Juniata County	PA	U.S.
Yes	20.7%	19.3%	32.2%	35.2%
No	79.3%	80.7%	67.8%	64.8%

Juniata and Mifflin County respondents report much lower HIV screening rates (19.3% and 20.7% respectively) when compared to PA (32.2%) or the U.S. (35.2%).

Health Services in the Northeastern Region:

Table 21: Survey Responses – Health Services Received During the Previous 12 Month Period

Test Received	Lackawanna County	Luzerne County
Blood test	66.5%	73.1%
Check up	53.5%	62.4%
Flu shot	45.8%	57%
Cholesterol test	43.2%	53.8%

- Respondents from Luzerne County seemed to have received more testing in general than those in Lackawanna County.
- More respondents indicated they get information about services in their community by word of mouth in both Lackawanna (63%) and Luzerne (53.9%) Counties.
- While most respondents did not prefer to receive health services in a language other than English (89.6% and 84.6% respectively); 8.9% of respondents reported this preference in Lackawanna County and slightly more (12.1%) in Luzerne County.
- Most respondents in both counties reported either never needing health services or needing and having no problem securing those services. However, when respondents reported needing health services and being unable to secure them, the most common reasons were “no insurance”, “couldn’t afford”, and “unsure where to go”.
- 15.5% of respondents in Lackawanna County and 10.4% in Luzerne County indicated they did not secure dental services due to a lack of insurance, with 12% of respondents in Lackawanna County indicating dental services are not available to them.
- 12.7% of respondents indicated that vision services are not available to them in Lackawanna County whereas only 6.2% responded the same in Luzerne County. Notably, more respondents reported that vision services are available to them in Luzerne County (80.2%) than Lackawanna County (72.9%).
- Approximately one in four respondents in both counties indicated that they did not understand what was happening during a time when they (or a loved one) had to

transition from one form of care to another. The most common recommendations related to care transitions was better explanation of the process (33.8% and 34% respectively), and additional instructions (27.3% and 50% respectively).

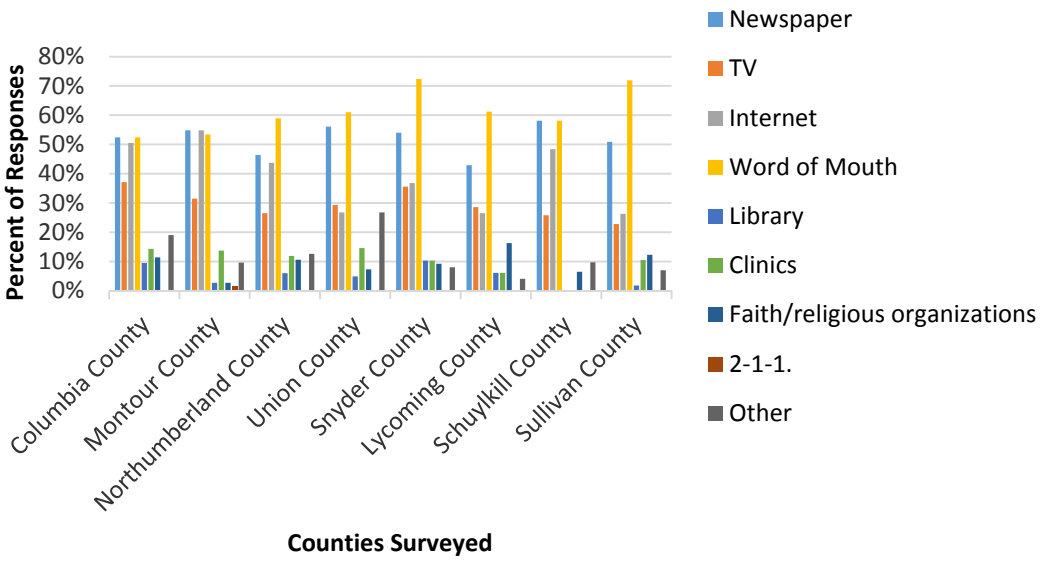
Health Services in the Central Region:

Table 22: Survey Responses – Health Services Received During the Previous 12 Month Period

Test Received	Columbia County	Montour County	Northumber-land County	Snyder County	Union County	Lycoming County	Schuylkill County	Sullivan County
Blood test	54.6%	47.4%	60.5%	59.3%	69%	55.2%	68.8%	66.7%
Check up	58.3%	52.6%	56.7%	56%	71.4%	50%	68.8%	63.3%
Flu shot	46.3%	34.6%	41.4%	41.8%	57.1%	36.2%	43.8%	61.7%
Cholesterol test	25%	21.8%	27.4%	31.9%	33.3%	27.6%	40.6%	50%
Urinalysis	25.9%	20.5%	24.8%	20.9%	26.2%	15.5%	21.9%	26.7%

- ✓ Respondents in Union and Schuylkill Counties appear to report receiving more testing than respondents from other counties.
- ✓ Respondents indicated they get information about services in their community by word of mouth and newspaper more often than any other option in all counties surveyed.

Chart 11: Survey Responses – Prefer to Receive Information About Health Services



- ✓ Most respondents did not prefer to receive health services in a language other than English.
- ✓ Most respondents in each of the counties reported either never needing health services or needing and having no problem securing those services. However; when respondents reported needing health services and being unable to secure them the most common reasons were “no insurance”, “couldn’t afford”, and “unsure where to go”.
- ✓ More than one third of respondents in Snyder County indicated that they needed and could not secure counseling services in the past year, with 1 in 10 respondents in Columbia Northumberland and Schuylkill Counties indicating the same.
- ✓ 34.4% of respondents in Lycoming County indicated that they were unable to secure services of a physical health condition (i.e., injury or illness) in the last year (34.4%)
- ✓ 1 in 10 respondents in Montour County (10.2%) indicated that they needed and could not secure services for a physical health condition (i.e., injury or illness) in the last year.
- ✓ 1 in 10 respondents in Montour County (11.2%) and Schuylkill County (11.5%) indicated that they needed and could not secure services for a mental health condition (i.e., depression, bipolar, etc.) in the past year.
- ✓ With the exception of Union and Lycoming Counties (15.7% and 14.8% respectively); more than one in four respondents in every other county indicated that they needed and could not secure dental care in the last year.

- ✓ Respondents in Northumberland, Snyder and Lycoming Counties indicated they were unable to secure prescription medications when they were needed during the last year (20.10%, 14.1%, and 34.3% respectively).
- ✓ Approximately one in four respondents in Snyder and Lycoming Counties indicated they could not secure services for a mental health condition at a time it was needed within the last year (23.2% and 25.9% respectively). 1 in 10 respondents in Northumberland and County indicated the same (11.9% and 11.2% respectively).
- ✓ One in four female respondents in Sullivan County and 1 in 10 in Northumberland County indicated they needed and could not secure women's health services during the past year.
- ✓ More than 1 in 10 respondents in Montour County (12.7%) indicated that vision services are not available to them.

Health Services in the Western Region:

Table 24: Survey Responses – Health Services Received During the Previous 12 Month Period

Test Received	Mifflin County	Juniata County
Blood test	75%	80.6%
Check up	69.6%	58.1%
Flu shot	58.7%	69.4%
Cholesterol test	45.7%	69.4%
Urinalysis	75%	30.6%

- ✓ Respondents from Juniata County seemed to have received more testing in general than those in Mifflin County.
- ✓ More respondents indicated they get information about services in their community by word of mouth in both Juniata (69.6%) and Mifflin (72.7%) Counties with the newspaper a close second.
- ✓ Most respondents did not prefer to receive health services in a language other than English (93.2% and 96.7% respectively); 3.4% and 3.3% of respondents reported this preference in Juniata County and Mifflin County respectively.
- ✓ Most respondents in each of the counties reported either never needing health services or needing and having no problem securing those services. However; when respondents reported needing health services and being unable to secure them the most common reasons were "no insurance", "couldn't afford", and "unsure where to go".
- ✓ One in five (21%) of respondents in Juniata County and 8.9% in Mifflin County indicated they could not secure dental services.
- ✓ Approximately one in four respondents in Juniata County (7.8% in Mifflin) indicated that they did not understand what was happening during a time when they (or a loved one)

had to transition from one form of care to another. The most common recommendations related to care transitions was better explanation of the process (23.8%), and better explanation of care options (23.8%).

Common Health Issues Northeastern Region:

Table 25: Survey Responses – Health Issues Respondents Reported Ever Diagnosed with

Ever Diagnosed with	Lackawanna County	Luzerne County	PA*	U.S.*
Depression	32.4%	26.9%	18.3%	18.7%
Needing Mental Health Treatment	23.9%	21.7%	--	--
Diabetes	22.9%	19.4%	10.1%	9.7%
Heart Problem	14.9%	23.7%	--	--
Cancer – Types: breast, prostate and skin	8.5%	9.7%	--	--

** Source: CDC*

- ✓ Respondents in Lackawanna and Luzerne Counties report poorer health outcomes than is average for the state or the nation.
- ✓ Depression and the need for mental health treatment are the greatest rates of respondent reported diagnosis when compared to every other area (i.e., diabetes, heart problems, and cancer). Higher rates of depression diagnosis was reported than is average for the state (18.3%) and nation (18.7%).
- ✓ Lackawanna and Luzerne County survey respondents report higher rates of depression diagnosis (32.4% and 26.9% respectively) than is average for the state (18.3%) and nation (18.7%).
- ✓ Respondents in Lackawanna and Luzerne Counties report higher diagnosis rates for diabetes (22.9% and 19.4% respectively) than is average for the state and the nation (10.1% and 9.7% respectively).

Table26: Survey Responses – Top Health Concerns Reported

Health Concern	Lackawanna County	Luzerne County
Cancer	43.7%	55.7%
Drug and Alcohol use	39.7%	54.5%
Diabetes	34.9%	44.3%
Heart Disease	30.2%	36.4%
High Blood Pressure	29.4%	37.5%

- ✓ When asked to identify five of their top health concerns in their communities; respondents chose Cancer, Drug and Alcohol use, Diabetes, Heart Disease, and High Blood Pressure most often. The additional choices that were not as popular were: adolescent health, asthma, mental health, family planning / birth control, flood related health concerns (like mold), hepatitis infections, HIV, obesity, maternal and child health, pollution (e.g., air quality, garbage), sexually transmitted diseases, stroke, teen pregnancy, tobacco use, violence or injury, other, and don't know.

Common Health Issues Central Region:

Table 27: Survey Responses – Health Issues Respondents Reported Ever Diagnosed with

Ever Diagnosed with	Columbia County	Montour County	Northumberland County	Union County	Snyder County	Lycoming County	PA*	U.S.*
Depression	50%	43.40%	38.10%	40%	34.40%	51%	18.3%	18.7%
Needing Mental Health Treatment	43.80%	31.20%	26.50%	29.30%	25.60%	43.10%	--	--
Diabetes	13.20%	12%	12.30%	17.10%	21.10%	9.80%	10.1%	9.7%
Heart Problem	13.20%	6%	16.80%	16.70%	13.50%	27.50%	--	--
Cancer – Types: breast, prostate and skin	8.60%	3.90%	6.50%	14.30%	9%	10%	--	--

** Source: CDC*

- ✓ Respondents in Columbia, Montour, Northumberland, Union, Snyder, Lycoming and Juniata Counties report poorer health outcomes related to depression and diabetes than is average for the state or the nation.
- ✓ Depression and the need for mental health treatment are the greatest rates of respondent reported diagnosis when compared to every other area (i.e., diabetes, heart problems, and cancer). Every county in the study area reports higher rates of depression diagnosis than is average for the state (18.3%) and nation (18.7%) with the highest rate of respondent reported diagnosis in Lycoming County (51%). Lycoming County respondents reported higher rates of depression and need for mental health treatment than any other county surveyed.
- ✓ Respondents in every county in the study area report higher diagnosis rates for diabetes than is average for the state and the nation (10.1% and 9.7% respectively). Lycoming shows the lowest percentage of respondents reporting they were never told by a

healthcare professional that they had diabetes (9.8%) and Snyder County respondents reported the most (21.1%).

Table 28: Survey Responses – Top Health Concerns Reported

Health Concern	Columbia County	Montour County	Northumberland County	Snyder County	Union County	Lycoming County
Cancer	26.3%	34.3%	26.6%	38.4%	52.8%	48.6%
Drug and Alcohol use	59.6%	47.1%	25.9%	45.3%	50%	62.2%
Diabetes	26.3%	35.7%	61.5%	37.2%	47.2%	48.6%
Mental Health	42.4%	31.4%	30.8%	31.4%	19.4%	32.4%
Obesity	37.4%	37.1%	35.7%	31.4%	33.3%	45.9%

- ✓ When asked to identify five of the top health concerns in their communities; there was a great deal of agreement across counties. The additional choices that were not as popular were: adolescent health, asthma, cancer, diabetes, drug and alcohol use, family planning / birth control, flood related health concerns (like mold), heart disease, hepatitis infections, high blood pressure, HIV, maternal and child health, mental health (e.g., depression, suicide), obesity, pollution (e.g., air quality, garbage), sexually transmitted diseases, stroke, teen pregnancy, tobacco use, violence or injury, other, and don't know.

Common Health Issues Western Region:

Table 29: Survey Responses – Health Issues Respondents Reported Ever Diagnosed with

Ever Diagnosed with	Juniata County	Mifflin County	PA*	U.S.*
Depression	27.1%	25.6%	18.3%	18.7%
Needing Mental Health Treatment	18.6%	16.9%	--	--
Diabetes	20%	21.1%	10.1%	9.7%
Heart Problem	33.3%	24.7%	--	--
Cancer – Types: breast, prostate and skin	22%	13.5%	--	--

** Source: CDC*

- ✓ Respondents in Juniata and Mifflin Counties report poorer health outcomes than is average related to depression and diabetes than is average for the state or the nation.
- ✓ Depression is the greatest rate of respondent reported diagnosis when compared to every other area (i.e., need for mental health treatment, diabetes, heart problems, and

cancer). Each county in the study area reports higher rates of depression diagnosis than is average for the state (18.3%) and nation (18.7%) with the highest rate of respondent reported diagnosis in Juniata County (27.1%).

- ✓ Respondents in each county in the study area report higher diagnosis rates for diabetes than is average for the state and the nation (10.1% and 9.7% respectively). With both Juniata and Mifflin County respondents reporting more than double the state and national rates (20% and 21.1% respectively).

Table 30: Survey Responses – Top Health Concerns Reported

Health Concern	Juniata County	Mifflin County
Cancer	66.7%	45%
Drug and Alcohol use	50%	63.7%
Diabetes	63%	35%
Heart Disease	30.2%	36.4%
High Blood Pressure	61.1%	33.8%
Mental Health	25.9%	46.3%
Obesity	50%	41.3%

- ✓ When asked to identify five of the top health concerns in their communities; there was a great deal of agreement across counties. The additional choices that were not as popular were: adolescent health, asthma, family planning / birth control, flood related health concerns (like mold), hepatitis infections, HIV, maternal and child health, pollution (e.g., air quality, garbage), sexually transmitted diseases, stroke, teen pregnancy, tobacco use, violence or injury, other, and don't know.

Survey Response related to Lifestyle – Northeastern Region:

Table 31: Survey Responses – Average Weight and Body Mass Index of Survey Respondents

Weight & BMI	Lackawanna County	Luzerne County	Avg. Female (5'4")*	Avg. Male (5'9")*
Weight	180.5 lbs.	174.89 lbs.	108-144 lbs.	121-163 lbs.
BMI**	28.9	28.36	26.5	26.6

** Source: CDC*

*** Survey Respondents were asked to report their weight and height, from which the BMI calculation was possible.*

- ✓ Respondents show much higher weight and BMI than national and state averages.
- ✓ While most respondents reported having access to fresh fruits and vegetables (87.2% and 96.7% respectively); there were 12.8% of respondents in Lackawanna County and only 3.3% in Luzerne County that indicated they have no access.
- ✓ One in 10 respondents in Lackawanna County and One in 20 respondents in Luzerne County indicated that they do not eat fresh fruits and vegetables.

Table 32: Survey Responses – Smoking Rates Reported by Respondents

Smoking	Lackawanna County	Luzerne County	PA*	U.S.*
Everyday	18.7%	16.3%	15.7%	13.4%
Some days	4.3%	4.3%	5.3%	5.4%
Not at all	74.8%	78.3%	--	--

- ✓ Lackawanna and Luzerne County respondents reported higher rates of smoking everyday (18.7% and 16.3% respectively) than those reported for the state and nation (15.7% and 13.4% respectively).

Table 33: Survey Responses – Physical Activity Rates Reported by Survey Respondents

Physical Activities	Lackawanna County	Luzerne County	PA*	U.S.*
Yes	52.3%	55.4%	73.7%	74.7%
No	47.7%	44.6%	26.3%	25.3%

Respondents in Lackawanna and Luzerne Counties report lower rates of physical activity (52.3% and 55.4% respectively) than those reported for the state and nation (73.7% and 74.7% respectively).

Survey Response related to Lifestyle - Central Region:

Table 34: Survey Responses – Average Weight and Body Mass Index of Survey Respondents

Weight & BMI	Columbia County	Montour County	Northumberland County	Union County	Snyder County	Lycoming County	Schuylkill County	Sullivan County	Avg. Female (5'4")*	Avg. Male (5'9")*
Weight	177.33 lbs.	186.71 lbs.	183.07 lbs.	170.46 lbs.	173.08 lbs.	195.46 lbs.	178.58 lbs.	198.94 lbs.	108-144 lbs.	121-163 lbs.
BMI**	29.17	30.17	29.47	29.1	28.68	31.96	29.11	31.3	26.5	26.6

** Source: CDC*

*** Survey Respondents were asked to report their weight and height, from which the BMI calculation was possible.*

- ✓ Respondents show higher weight and BMI than national and state averages regardless of gender.
- ✓ A resounding majority of individuals report having good access to fresh fruits and vegetables (91.6%); this finding fluctuates across counties – for Lycoming County, only 68.4% of the residents report having access to fresh fruits and vegetables.
- ✓ Slightly fewer residents report eating fresh fruits and vegetables, but it is still a majority (89.9%); this is consistent across the counties.

Table 35: Survey Responses – Smoking Rates Reported by Respondents

Smoking	Columbia County	Montour County	Northumberland County	Snyder County	Union County	Lycoming County	Schuylkill County	Sullivan County	PA*	U.S.*
Everyday	20%	25.3%	1.3%	1.1%	2.4%	4.2%	31.3%	8.5%	15.7%	13.4%
Some days	9.5%	5.3%	2.6%	4.4%	2.4%	--	3.1%	10.2%	5.3%	5.4%
Not at all	67.6%	68%	94.8%	93.4%	95.2%	93.8%	59.4%	81.4%	--	--

**Behavioral Risk Factor Surveillance System*

- ✓ Self-reported smoking rates are lower in several counties and much higher in others studied than is average for the state or the nation. Columbia, Montour, and Schuylkill Counties show the highest rates (20%, 25.3%, and 31.3% respectively).

Table 36: Survey Responses – Physical Activity Rates Reported by Survey Respondents

Physical Activities	Columbia County	Montour County	Northumberland County	Snyder County	Union County	Lycoming County	Schuylkill County	Sullivan County	PA*	U.S.*
Yes	69.2%	54.5%	59.5%	57%	56.1%	52.7%	80.6%	52.5%	73.7%	74.7%
No	30.8%	45.5%	40.5%	43%	43.9%	47.3%	19.4%	47.5%	26.3%	25.3%

**Behavioral Risk Factor Surveillance System*

- ✓ Respondents in Montour, Northumberland, Union, Snyder, Lycoming, and Sullivan Counties report lower rates of physical activity than those reported for the state and nation.

Survey Response related to Lifestyle - Western Region:

Table 37: Survey Responses – Average Weight and Body Mass Index of Survey Respondents

Weight & BMI	Juniata County	Mifflin County	Avg. Female (5'4")*	Avg. Male (5'9")*
Weight	176.45 lbs.	171.39 lbs.	108-144 lbs.	121-163 lbs.
BMI**	28.49	28.53	26.5	26.6

** Source: CDC*

*** Survey Respondents were asked to report their weight and height, from which the BMI calculation was possible.*

- ✓ Respondents in both counties show higher weight and BMI than national and state averages regardless of gender.
- ✓ Most respondents reported having access to fresh fruits and vegetables (98.3% and 96.7% respectively).
- ✓ 10.2% of respondents in Juniata County and 7% of respondents in Mifflin County indicated that they do not eat fresh fruits and vegetables.

Table 38: Survey Responses – Smoking Rates Reported by Respondents

Smoking	Juniata County	Mifflin County	PA*	U.S.*
Everyday	5.1%	7.8%	15.7%	13.4%
Some days	--	6.7%	5.3%	5.4%
Not at all	93.2%	83.3%	--	--

**Behavioral Risk Factor Surveillance System*

- ✓ Self-reported smoking rates are lower in the counties studied than is average for the state or the nation.

Table 39: Survey Responses – Physical Activity Rates Reported by Survey Respondents

Physical Activities	Juniata County	Mifflin County	PA*	U.S.*
Yes	54.5%	53.3%	73.7%	74.7%
No	45.5%	46.7%	26.3%	25.3%

**Behavioral Risk Factor Surveillance System*

Respondents in Mifflin Counties report lower rates of physical activity than those reported for the state and nation and Juniata respondents are in line with state and national respondents.

Conclusions and Recommended Next Steps

The community needs identified through the Geisinger Medical Center, GSACH, and GHS community health needs assessment process are not all related to the provision of traditional medical services provided by medical centers. However, the top needs identified in this assessment do "translate" into a wide variety of health-related issues that may ultimately require hospital services. Each health need identified has an impact on population health outcomes and ultimately to cost of healthcare in the region. For example: unmet behavioral health and substance abuse needs lead to increased use of emergency health services, increased death rates due to suicide, and higher consumption of other human service resources (e.g., the penal system).

Geisinger Medical Center, GSACH, and GHS, working closely with community partners, understands that the community health needs assessment document is only a first step in an ongoing process. It is vital that ongoing communication and a strategic process follow the assessment process – with a clear focus on addressing health priorities for the most vulnerable residents in the hospital service area.

The service area for Geisinger Medical Center, GSACH, and GHS has grown significantly since the last needs assessment. There is a greater diversity in the population being served by Geisinger Medical Center, GSACH, and GHS today. Some of the most common health needs are representative across regions (Northeast, Central, and Western); such as access to affordable healthcare options. Other health needs vary by region (i.e., special populations like residents with limited English speaking skills in the Northeast and residents of a Plain Community in the Western Region). It will be important to provide a good understanding of the complex health needs and the interrelationship among needs, socio-economic status, geography, health services, infrastructure, public policy, etc. prior to developing an effective action plan. Some of the most underserved areas in the hospital service area by region are:

- Northeastern Region: Hazleton (18201 and 18202), Wilkes Barre (18702), Nanticoke (18634), and Kingston (18704) in Luzerne County; and Scranton (18504) in Lackawanna.

- Central Region: Sunbury (17801), Shamokin (17872), Milton (17847), Mount Carmel (17851), and Coal Township (17866) in Northumberland County; Shenandoah (17976) and Mahanoy City (17948) in Schuylkill County; Williamsport (17701) in Lycoming County; Bloomsburg (17815) and Berwick (18603) in Columbia County; and Lewisburg (17837) in Union County.

- Western Region: Lewistown (17044) and Reedsville (17084) in Mifflin County; State College (16801) in Centre County; and Mifflintown (17059) and Mifflin (17058) in Juniata County

These are the areas where disease prevalence rates and the consumption of healthcare resources will be highest. A strategic and targeted investment in these areas will yield the greatest return.

Collaboration and partnership are strong in the regional communities served by Geisinger Medical Center, GSACH, and GHS. It is important to expand existing partnerships and build additional partnerships with multiple community organizations when developing strategies to address the top identified needs. Implementation strategies will need to consider the higher need areas mentioned above. It will be necessary to review evidence-based practices prior to planning to address any of the needs identified in this assessment due to the complex interaction of the underlying factors at work driving this need in local communities.

Tripp Umbach recommends the following actions be taken by the hospital sponsors in close partnership with community organizations over the next six to nine months.

Recommended Action Steps:

- ❑ Maintain a regional approach to planning and implementation that works for the populations and geography being served.
- ❑ Widely communicate the results of the community health needs assessment document to Geisinger Medical Center, GSACH, and GHS staff, providers, leadership and boards.
- ❑ Conduct an open community forum where the community health needs assessment results are presented widely to community residents, as well as through multiple outlets such as: local media, neighborhood associations, community-based organizations, faith-based organizations, schools, libraries and employers.
- ❑ Take an inventory of available resources in the community that are available to address the top community health needs identified by the community health needs assessment.
- ❑ Review relevant evidence-based practices that the community has the capacity to implement.
- ❑ Implement a comprehensive “grass roots” community engagement strategy to build upon the resources that already exist in the community and the energy and commitment of community leaders that have been engaged in the community health needs assessment process.

- Develop "Working Groups" to focus on specific strategies to address the top needs identified in the community health needs assessment. The working groups should meet for a period of four to six months to review evidence based practices and develop action plans for each health priority which should include the following:

  - ✓ Objectives
  - ✓ Anticipated impact
  - ✓ Planned action steps
  - ✓ Planned resource commitment
  - ✓ Collaborating organizations
  - ✓ Evaluation methods
  - ✓ Annual progress

APPENDIX A

Public Commentary Results

GEISINGER MEDICAL CENTER, GSACH, AND GHS
February 26, 2015

Community:

Geisinger Medical Center, GSACH, and GHS service area

INTRODUCTION:

Tripp Umbach solicited feedback related to the community health needs assessment (CHNA) and action plan completed on behalf of Geisinger Medical Center, GSACH, and GHS. Geisinger Medical Center, GSACH, and GHS is a 132-bed community hospital. Feedback was requested in a variety of locations (i.e., on site at the hospital, electronic mail, and at local community based organizations) using a variety of methods (i.e., electronic and hard copy). Requests for community comment offered residents and community leaders the opportunity to react to the methods, findings and subsequent actions taken as a result of the last CHNA and planning process. What follows is a summary of the community response regarding the 2013 CHNA Action Plan for Geisinger Medical Center, GSACH, and GHS.

This report represents a section of the overall community health needs assessment completed for Geisinger Medical Center, GSACH, and GHS.

DATA COLLECTION:

The following qualitative data were gathered during a period of public comment during which Tripp Umbach solicited public commentary from community leaders and residents. Commenters were asked to review the CHNA and Action Plan adopted by Geisinger Medical Center, GSACH, and GHS in 2013 and were provided access to each document for review. Commenters were then asked to respond to a questionnaire which provided open and closed response questions. Questionnaires were developed by Tripp Umbach and previously reviewed by the Geisinger Medical Center, GSACH, and GHS advisory committee. The seven question questionnaire was offered in hard copy at two locations inside the hospital as well as electronically using a web-based platform. The CHNA and Action Plan were provided to commenters for review in the same manner (i.e., hard copy at the hospital and electronically). There were no restrictions or qualifications required of public commenters. Flyers were circulated and electronic requests were made for public comment throughout the collection period which lasted from December 2014 until February 2015.

PUBLIC COMMENTS:

When asked if the CHNA commenters reviewed “included input from community members or organizations” eighty-five percent of commenters replied that it did. Only eight percent of commenters indicated that the assessment they reviewed did not include input from community members and organizations. When asked if there were community members or organizations that should have been included; there was no specific population identified as missing from the assessment. Geisinger Medical Center, GSACH, and GHS’s 2013 CHNA included interviews from 15 stakeholders, three focus groups (one with providers and two with resident populations), as well as input from more than 60 community leaders during a regional community

health needs identification forum. The assessment was collaborative in nature and included more than 24 organizations and agencies from the hospital service area.

In response to the question "Are there needs in the community related to health (e.g., physical health, mental health, medical services, dental services, etc.) that were not presented in the CHNA"; eighty-five percent of commenters did not indicate that there were any needs not represented in the most recent CHNA. Fifteen percent of commenters indicated there was a need that was not presented, which was related to 1) Services related to mental health and 2) Financial education. The needs Identified in the 2013 CHNA were related to:

- Improving access to affordable healthcare related to:
  - Shrinking number of healthcare providers (Physicians, pediatricians and mental health providers)
  - Under/unemployment leading to under/uninsured
  - High cost of health insurance
  - Gap between eligibility for state-funded health insurance
  - Limited acceptance of state-funded health insurance
  - Lack of transportation and rural nature of the region requiring residents to travel a great distance for healthcare.
- Improving healthy behaviors related to:
  - Limited access to healthy options (grocery store, clean environment to exercise in, etc.)
  - Limited awareness/health education regarding healthy choices (i.e., smoking cessation, healthy cooking, etc.)
  - Poor lifestyle choices (smoking, substance abuse, etc.),
  - Limited motivation and/or incentives for the practice of healthy behavior.
- Transportation, specifically to health service providers Access to healthcare including primary care, specialty care, cancer care, dental care, and mental health care
  - Impact on access to health care (i.e., lower attendance for scheduled appointments, and the ability to get to and from clinics for uninsured)

Ninety-one percent of commenters indicated that the Action Plan that resulted from the CHNA was directly related to the needs identified. Nine percent of commenters indicated that the Action Plans that resulted from the CHNA were not directly related to the needs identified because transportation issues were not directly addressed. Furthermore, commenters indicated that the CHNA and Action Plan implemented by Geisinger Medical Center, GSACH, and GHS benefit the community in the following ways:

- Increased public awareness
- Impacted health screenings and programs

There were two additional comments provided. These included:

1. I noted that the barrier of transportation was not directly tackled and I am not sure I understand how Improving Healthy Behaviors is being measured so I cannot say for sure that the action items were directly related

2. Transportation was not addressed; however, it is a complex issue that goes way beyond the hospital.

There was no other additional feedback or comments provided by the public related to Geisinger Medical Center, GSACH, and GHS's CHNA and/or Action Plan.

APPENDIX B

Secondary Data Profile

GEISINGER MEDICAL CENTER, GSACH, AND GHS
March 10, 2015

GEISINGER MEDICAL CENTER (GMC) / GEISINGER SHAMOKIN AREA COMMUNITY HOSPITAL (GSACH) / HEALTH SOUTH REHABILITATION HOSPITAL (HSRH)

COMMUNITY HEALTH NEEDS ASSESSMENT SECONDARY DATA PROFILE

February 2015

TrippUmbach
Research • Strategy • Impact

Overview

- Primary Service Area - Populated Zip Code Areas
- Key Points
- Demographic Trends
- Community Need Index (CNI)
- County Health Rankings
- Prevention Quality Indicators Index (PQI)

Primary Service Area - Populated Zip Code Areas

The community served by GMC/GSACH/HSRH includes Centre, Columbia, Juniata, Lackawanna, Luzerne, Lycoming, Mifflin, Montour, Northumberland, Schuylkill, Snyder, and Union Counties. The GMC/GSACH/HSRH primary service area includes 74 populated zip code areas (excluding zip codes for P.O. boxes and offices).

Zip	City	County
16801	State College	Centre
16803	State College	Centre
16823	Bellefonte	Centre
16841	Howard	Centre
17017	Dalmatia	Northumberland
17044	Lewistown	Mifflin
17051	Mc Veytown	Mifflin
17059	Mifflintown	Juniata
17063	Milroy	Mifflin
17084	Reedsville	Mifflin
17086	Richfield	Juniata
17701	Williamsport	Lycoming
17702	Williamsport	Lycoming
17737	Hughesville	Lycoming
17740	Jersey Shore	Lycoming
17752	Montgomery	Lycoming
17754	Montoursville	Lycoming
17756	Muncy	Lycoming

Zip	City	County
17772	Turbotville	Northumberland
17777	Watsontown	Northumberland
17801	Sunbury	Northumberland
17813	Beavertown	Snyder
17814	Benton	Columbia
17815	Bloomsburg	Columbia
17820	Catawissa	Columbia
17821	Danville	Montour
17823	Dornsife	Northumberland
17824	Elysburg	Northumberland
17830	Herndon	Northumberland
17832	Marion Heights	Northumberland
17834	Kulpmont	Northumberland
17837	Lewisburg	Union
17841	Mc Clure	Mifflin
17842	Middleburg	Snyder
17844	Mifflinburg	Union
17845	Millmont	Union

Primary Service Area - Populated Zip Code Areas (cont'd)

The community served by GMC/GSACH/HSRH includes Centre, Columbia, Juniata, Lackawanna, Luzerne, Lycoming, Mifflin, Montour, Northumberland, Schuylkill, Snyder, and Union Counties. The GMC/GSACH/HSRH primary service area includes 74 populated zip code areas (excluding zip codes for P.O. boxes and offices).

Zip	City	County
17846	Millville	Columbia
17847	Milton	Northumberland
17851	Mount Carmel	Northumberland
17853	Mount Pleasant Mills	Snyder
17856	New Columbia	Union
17857	Northumberland	Northumberland
17859	Orangeville	Columbia
17860	Paxinos	Northumberland
17864	Port Trevorton	Snyder
17866	Coal Township	Northumberland
17870	Selinsgrove	Snyder
17872	Shamokin	Northumberland
17876	Shamokin Dam	Snyder
17878	Stillwater	Columbia
17881	Trevorton	Northumberland
17889	Winfield	Union
17901	Pottsville	Schuylkill
17921	Ashland	Schuylkill
17931	Frackville	Schuylkill

Zip	City	County
17935	Girardville	Schuylkill
17938	Hegins	Schuylkill
17948	Mahanoy City	Schuylkill
17963	Pine Grove	Schuylkill
17964	Pitman	Schuylkill
17967	Ringtown	Schuylkill
17972	Schuylkill Haven	Schuylkill
17976	Shenandoah	Schuylkill
18201	Hazleton	Luzerne
18202	Hazleton	Luzerne
18222	Drums	Luzerne
18504	Scranton	Lackawanna
18603	Berwick	Columbia
18631	Mifflinville	Columbia
18634	Nanticoke	Luzerne
18635	Nescopeck	Luzerne
18655	Shickshinny	Luzerne
18702	Wilkes Barre	Luzerne
18704	Kingston	Luzerne

Key Points – Community Needs for GMC/GSACH/HSRH

- **The GMC/GSACH/HSRH study area is very large, including 74 populated zip code areas throughout 12 counties in western Pennsylvania. With such a large study area comes varying health care needs.**

- **The GMC/GSACH/HSRH study area is projected to experience a 0.4% population growth over the next five years (2014 – 2019); this equates to approximately 3,508 more people in the primary service area.**

- **The GMC/GSACH/HSRH study area shows higher rates (17.4%) of older individuals (aged 65 and older) than state (16.6%) and national (14.2%) norms. This rate is projected to continue to rise over the next five years (2014 to 2019) from 17.2% to 19.5%.**
  - All of the counties in the GMC/GSACH/HSRH study area are projected to experience increases in the rates of older individuals (65 and older).

- **The average household income in 2014 for the GMC/GSACH/HSRH study area was $58,469; this is lower than state and national rates ($69,931 and $71,320 respectively).**
  - The lowest average annual household income for the GMC/GSACH/HSRH study area is found in Mifflin County ($50,213).

- **The GMC/GSACH/HSRH study area reports more than a quarter of the households earning less than $25K per year (27.7%); this rate is higher than state and national rates (24.0% and 24.5% respectively).**

Key Points – Community Needs for GMC/GSACH/HSRH

- **The Community Need Index (CNI) is a measure of the number and strength of barriers to health care access that a specific region (in this case zip code areas) has in the community. Measures include minority population, unemployment, single parents living in poverty with their children or 65 and older residents living in poverty. The scale ranges from 1.0 to 5.0; 1.0 indicating very few barriers to health care access, 5.0 indicating many barriers to health care access.**

- **The highest CNI score for the GMC/GSACH/HSRH study area is 4.6 in the zip code area of 18201-Hazleton in Luzerne County. The highest CNI score indicates the most barriers to community health care access.**
  - **This zip code area holds the highest measures for the study area for:**
    - **Minority population at 47.7%**
    - **Population with limited English proficiency at 10.3%**

- **The overall CNI score for the GMC/GSACH/HSRH study area is 3.1. The average CNI score for the scale is 3.0 (range 1.0 to 5.0). Therefore, according to the overall CNI score, the GMC/GSACH/HSRH study area experiences slightly higher than average barriers to health care access.**

- **From 2011 to 2014, the geographic regions (primary service areas) as well as the Tripp Umbach study parameters for GMC, GSACH, and HSRH shifted drastically. The study area defined in 2011 was much smaller than is currently being measured. Of the current 74 zip code areas for GMC/GSACH/HSRH; only 40 were zip codes included in the past study. Therefore, this has made it difficult to make trending comparisons for the CNI data piece of this service area.**

- **Of the 40 zip code areas that are consistent from the 2011 study to the current study:**
  - **18 increased in CNI score (got worse)**
  - **15 decreased in CNI score (got better)**
  - **7 maintained the same CNI score**

- **Of the 40 zip code areas that stayed consistent from the 2011 to 2014 studies; Mifflinville (18631) saw the largest rise in CNI score (more barriers to health care access); going from a score of 1.6 in 2011 to a score of 2.6 in 2014.**

Key Points – Community Needs for GMC/GSACH/HSRH

- **Counties in each of the 50 states are ranked according to summaries of more than 30 health measures. Those having good rankings, such as 1 or 2, are considered to be the "healthiest." Counties are ranked relative to the health of other counties in the same state.**
  - Due to the fact that the GMC/GSACH/HSRH study area includes 12 counties, there were a number of findings associated with the County Health Rankings database.
  - Of the 12 counties, Luzerne, Northumberland, and Schuylkill counties report some of the highest county health rankings (scores 50 and above).
  - Luzerne County ranked the unhealthiest (highest score) for: Health Outcomes (57), Morbidity (55), and Social and Economic Factors (63) for the GMC/GSACH/HSRH study area.
  - Schuylkill County ranked the unhealthiest (highest score) for: Health Factors (59), and Health Behaviors (50).

- **In 2014:**
  - Luzerne and Schuylkill counties report the highest adult smoking rates at 25% (state rate = 20%).
  - Northumberland and Snyder counties report the highest adult obesity rates of 34% (state rate = 29%).
  - Lackawanna County reports the highest rate of excessive drinking at 24% (state rate = 17%).
  - Juniata County reports the lowest PCP rate at 25 per 100,000 population (state rate = 80.

- **From 2011 to 2014, the counties that saw the largest shifts in county health rankings or data were:**
  - **Union County for Physical Environment – going from 58 in 2011 to 3 in 2014**
  - **Northumberland County for Mortality – going from 52 in 2011 to 21 in 2014**
  - **Northumberland County reported the largest rise in adult obesity for the ECH study area counties; going from 28% to 34%.**
  - **Juniata County reports a large increase in the sexually transmitted infection / chlamydia rate from 2011 to 2014 – going from 52 per 100,000 pop. to 209 per 100,000 pop. (All of the ECH study area counties reported a rise in their chlamydia rate from 2011 to 2014).**

Key Points – Community Needs for GMC/GSACH/HSRH

- **The PQI index identifies potentially avoidable hospitalizations for the benefit of targeting priorities and overall community health. Lower index scores represent less admissions for each of the PQIs. There are 14 quality indicators.**
  - The GMC/GSACH/HSRH study area shows 5 of the 14 PQI measure that are higher than the state PQI value – indicating higher preventable hospital admission rates for: Perforated Appendix, Congestive Heart Failure, Dehydration, Bacterial Pneumonia, and Angina without Procedure.

- **From 2011 to 2014, four of the PQI measures' definitions changed drastically and, therefore, cannot be accurately compared.**

  - Of the 10 remaining PQI measures, **nine of the 10 GMC/GSACH/HSRH study area PQI values saw reductions** from 2011 to 2014. The largest reduction was for Bacterial Pneumonia (going from 421.23 preventable hospitalizations per 100,000 to 342.32 per 100,000).

  - **One PQI value** for the GMC/GSACH/HSRH study area **saw a rise in preventable hospitalizations,** this was for **Diabetes, short-term complications** (going from 58.76 per 100,000 pop. to 64.83 pop.).

Community Demographic Profile

- **The GMC/GSACH/HSRH study area is projected to experience a 0.4% population growth over the next five years (2014 – 2019).**
- **The GMC/GSACH/HSRH study area shows higher rates of older individuals than state and national norms. The GMC/GSACH/HSRH study area has 17.4% of the population aged 65 and older; while Pennsylvania reports 16.6% and the U.S. reports 14.2%.**
- **The average household income in 2014 for the GMC/GSACH/HSRH study area is $58,469; this is lower than state and national rates ($69,931 and $71,320 respectively).**
- **The GMC/GSACH/HSRH study area reports more than a quarter of the households earning less than $25K per year (27.7%); this rate is higher than state and national rates (24.0% and 24.5% respectively).**
- **The GMC/GSACH/HSRH study area reports 13.1% of the residents having less than a high school diploma; this is higher than the state rate (11.5%).**
- **The GMC/GSACH/HSRH study area shows less diversity as compared with Pennsylvania and the United States. Only 12.1% of the population in the GMC/GSACH/HSRH study area identify as a race/ethnicity other than White, Non-Hispanic whereas 21.9% in PA and 37.9% in the U.S. identify as a race other than White, Non-Hispanic.**

Population Trends

	GMC/GSACH / HSRH Study Area	Centre County	Columbia County	Juniata County	Lackawanna County	Luzerne County	Lycoming County	PA
2014 Total Population	847,693	158,127	69,451	24,353	212,039	318,291	118,838	12,791,290
2019 Projected Population	851,201	160,226	69,112	24,621	211,921	318,741	120,811	12,899,019
# Change	+ 3,508	+ 2,099	- 339	+ 268	- 118	+ 450	+ 1,973	+ 107,729
% Change	+ 0.4%	+ 1.3%	- 0.5%	+ 1.1%	- 0.1%	+ 0.1%	+ 1.7%	+ 0.8%

- The GMC/GSACH/HSRH study area is projected to experience a 0.4% population growth over the next five years (2014 – 2019); this equates to approximately 3,508 more people in the primary service area.
- Overall, the State of Pennsylvania is projected to experience population growth at a similar rate (0.8%).
- The county in the GMC/GSACH/HSRH study area with the largest projected population growth rate is Lycoming County at 1.7%.

Source: 2014 The Nielsen Company, 2014 Truven Health Analytics Inc.

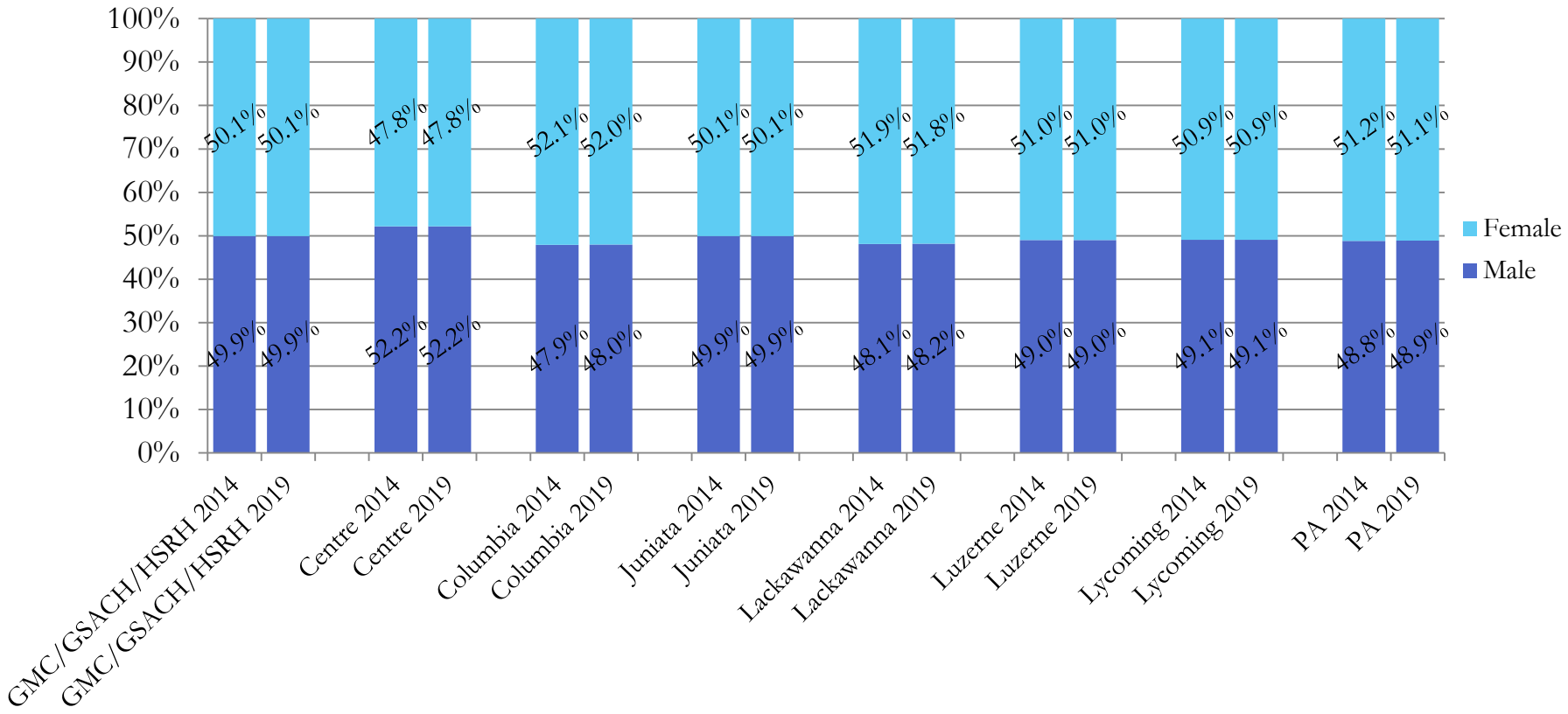
Population Trends

	GMC/GSACH / HSRH PSA	Mifflin County	Montour County	Northumberland County	Schuylkill County	Snyder County	Union County	PA
2014 Total Population	847,693	47,892	19,669	93,017	146,592	35,575	47,256	12,791,290
2019 Projected Population	851,201	48,035	19,780	93,043	144,804	35,644	47,344	12,899,019
# Change	+ 3,508	+ 143	+ 111	+ 26	-1,788	+ 69	+ 88	+ 107,729
% Change	+ 0.4%	+ 0.3%	+ 0.6%	+ 0.0%	-1.2%	+ 0.2%	+ 0.2%	+ 0.8%

- The GMC/GSACH/HSRH study area is projected to experience a 0.4% population growth over the next five years (2014 – 2019); this equates to approximately 3,508 more people in the primary service area.
- Overall, the State of Pennsylvania is projected to experience population growth at a similar rate (0.8%).
- The county in the GMC/GSACH/HSRH study area with the largest projected population decline rate is Schuylkill County at -1.2% (losing approximately 1,788 residents).

Source: 2014 The Nielsen Company, 2014 Truven Health Analytics Inc.

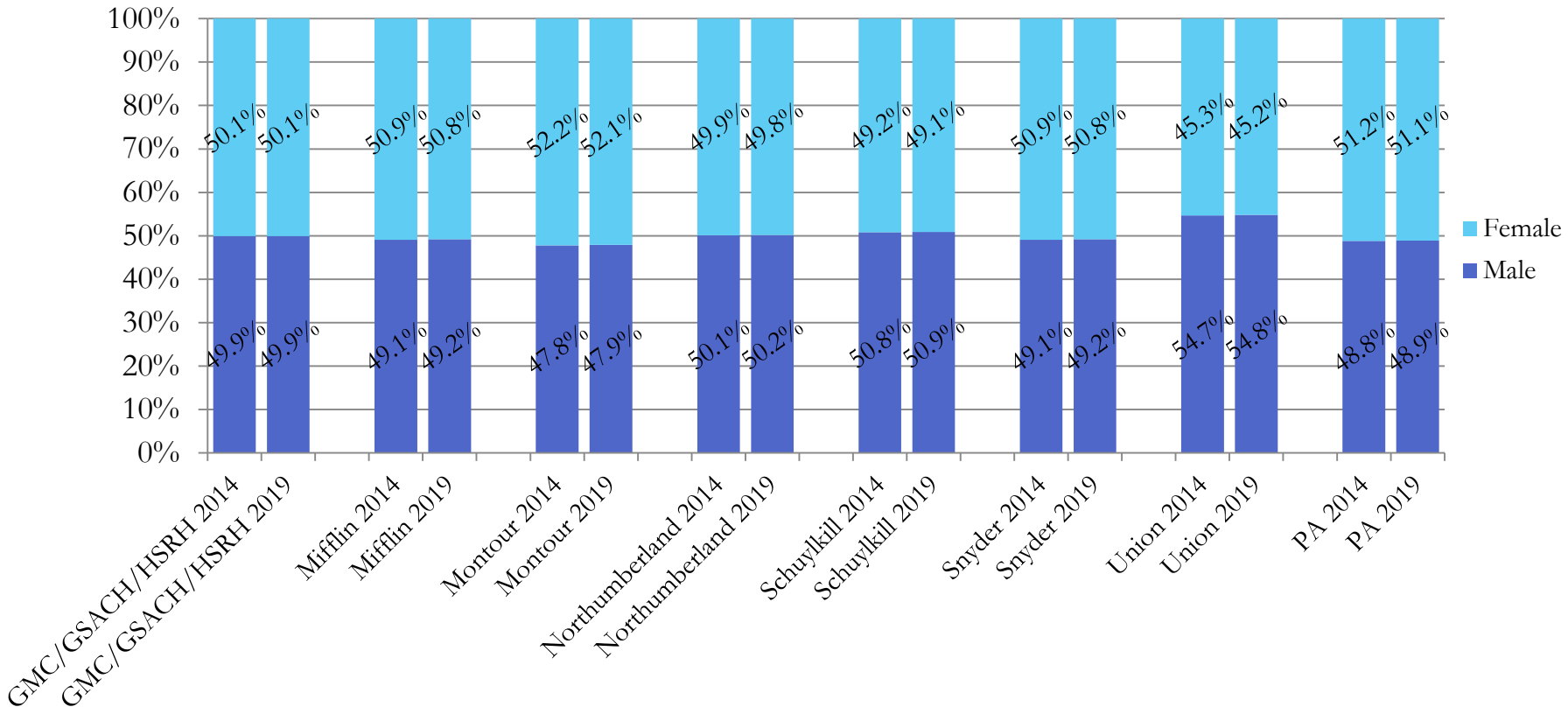
Gender



- The GMC/GSACH/HSRH study area shows slightly higher percentages of women as opposed to men; this is consistent with state and national data.

Source: 2014 The Nielsen Company, 2014 Truven Health Analytics Inc.

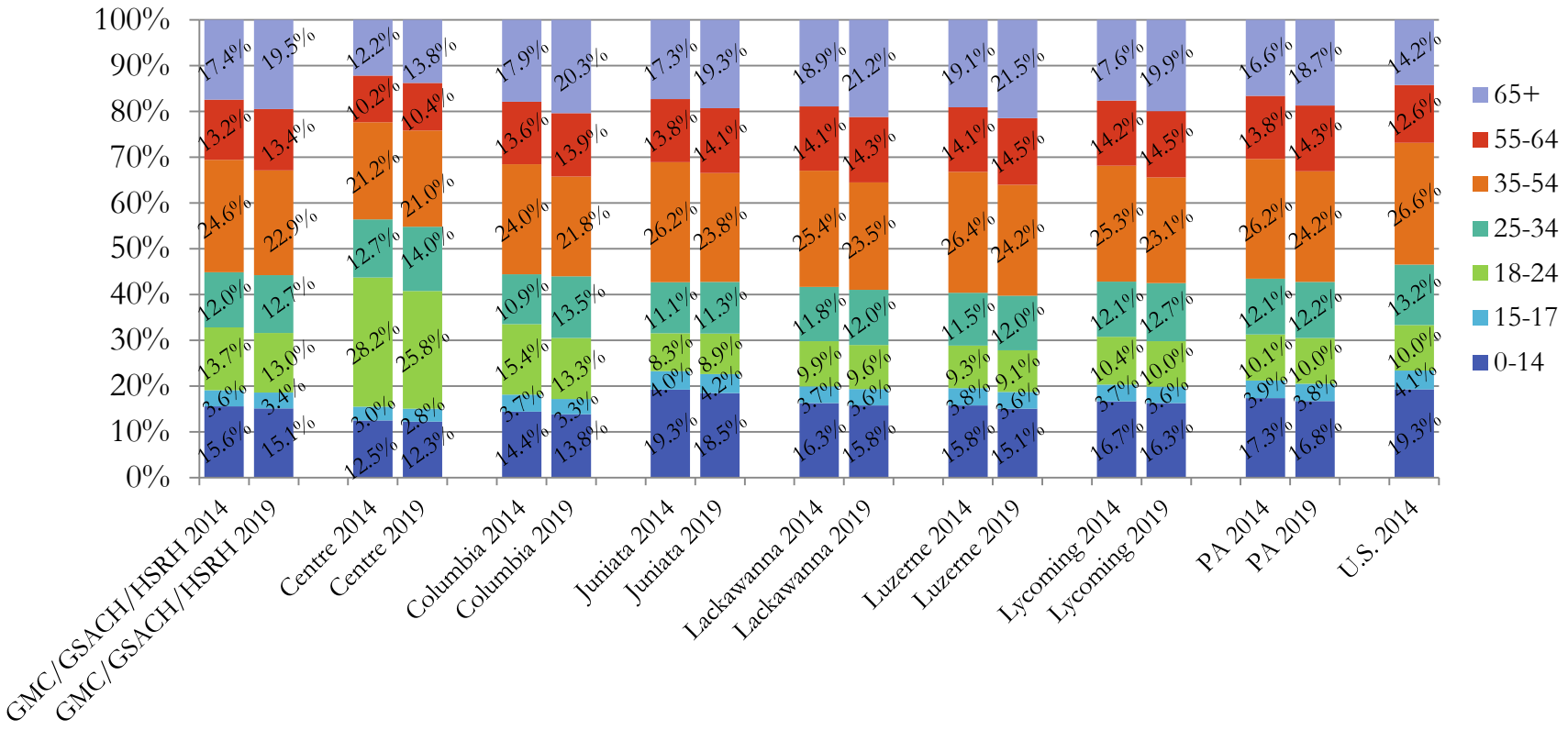
Gender



- For the GMC/GSACH/HSRH study area, the counties are projected to experience either no shift in gender split, or slight normalization (decline in females, rise in males).

Source: 2014 The Nielsen Company, 2014 Truven Health Analytics Inc.

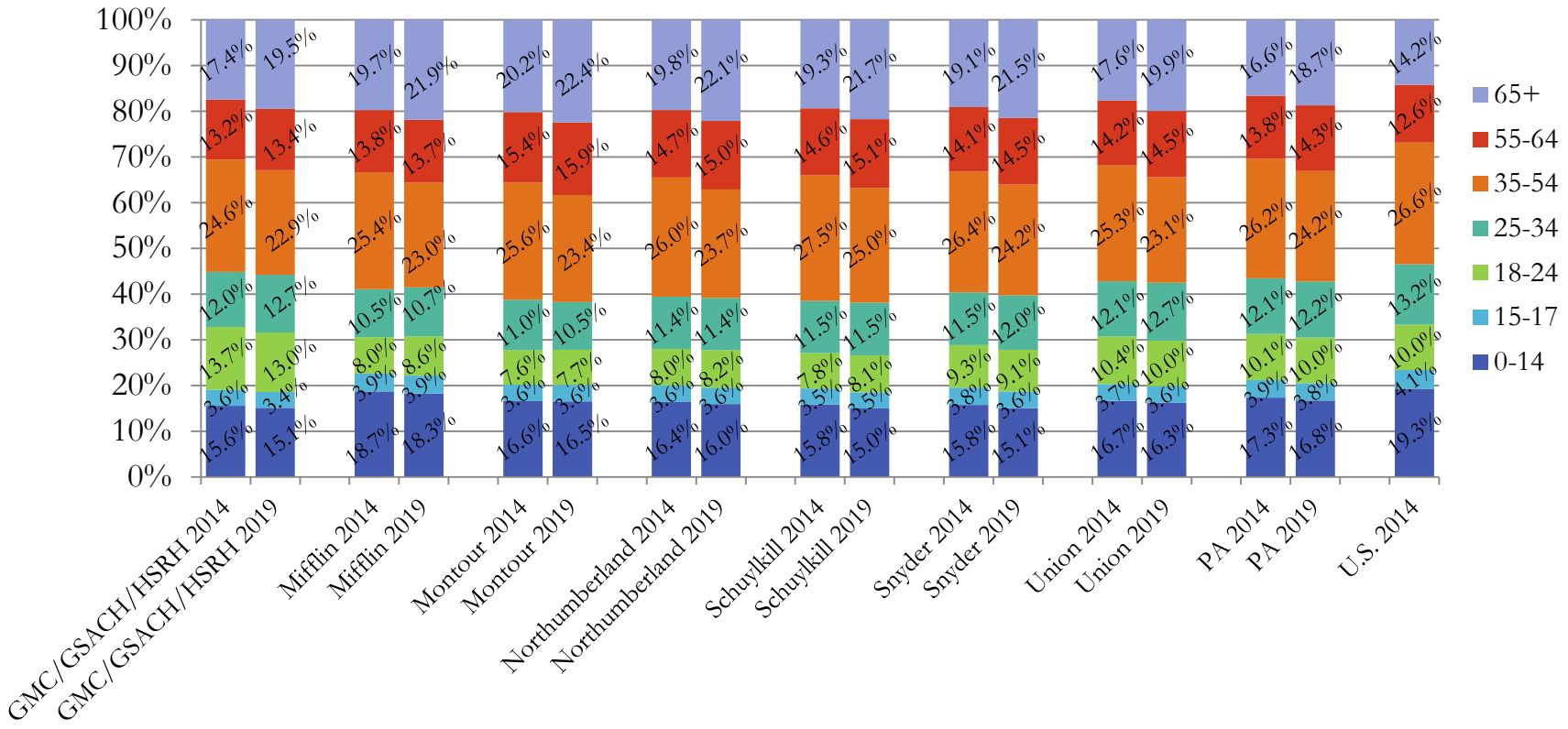
Age



- The GMC/GSACH/HSRH study area shows higher rates of older individuals than state and national norms. The GMC/GSACH/HSRH study area has 17.4% of the population aged 65 and older; while Pennsylvania reports 16.6% and the U.S. reports 14.2%. And the rate of residents aged 65 and older in the GMC/GSACH/HSRH study area is projected to rise, from 17.2% to 19.5%.

Source: 2014 The Nielsen Company, 2014 Truven Health Analytics Inc.

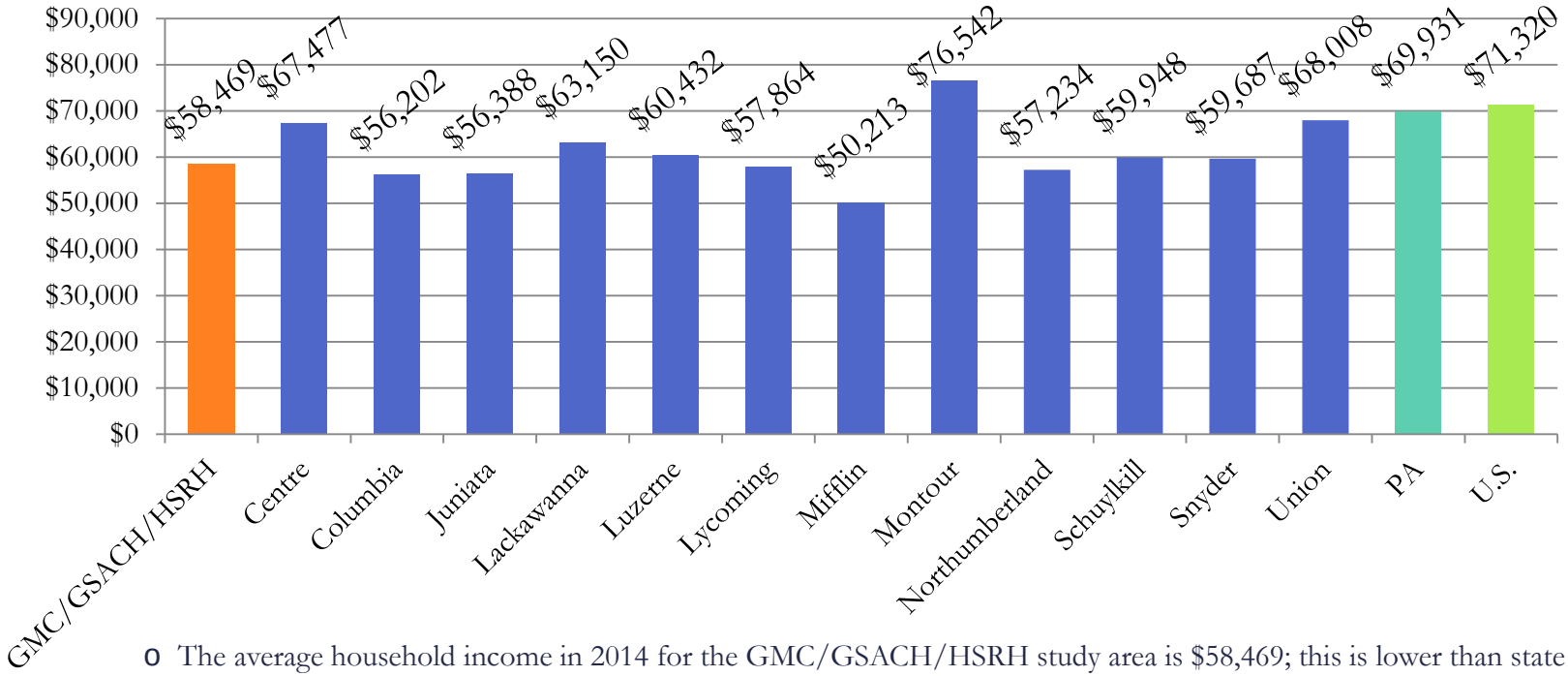
Age



- All of the counties in the GMC/GSACH/HSRH study area are projected to experience increases in the rates of older individuals (65 and older).

Source: 2014 The Nielsen Company, 2014 Truven Health Analytics Inc.

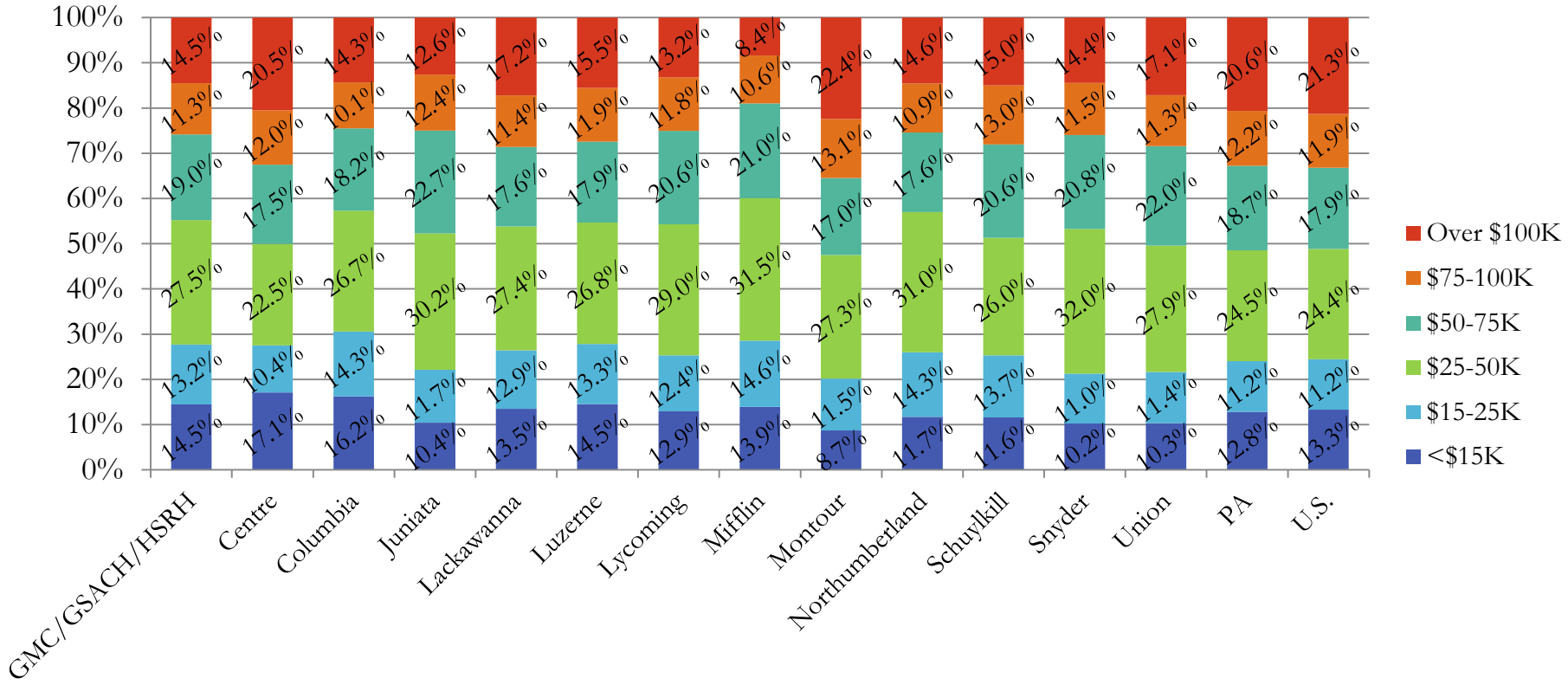
Average Household Income (2014)



- The average household income in 2014 for the GMC/GSACH/HSRH study area is $58,469; this is lower than state and national rates ($69,931 and $71,320 respectively).
- The lowest average annual household income for the GMC/GSACH/HSRH study area is found in Mifflin County ($50,213). The highest average annual household income for the study area is for Montour County at ($76,542).
- Of the 12 counties in the GMC/GSACH/HSRH study area, all but Montour County report lower average annual household incomes as compared with the state and nation.

Source: 2014 The Nielsen Company, 2014 Truven Health Analytics Inc.

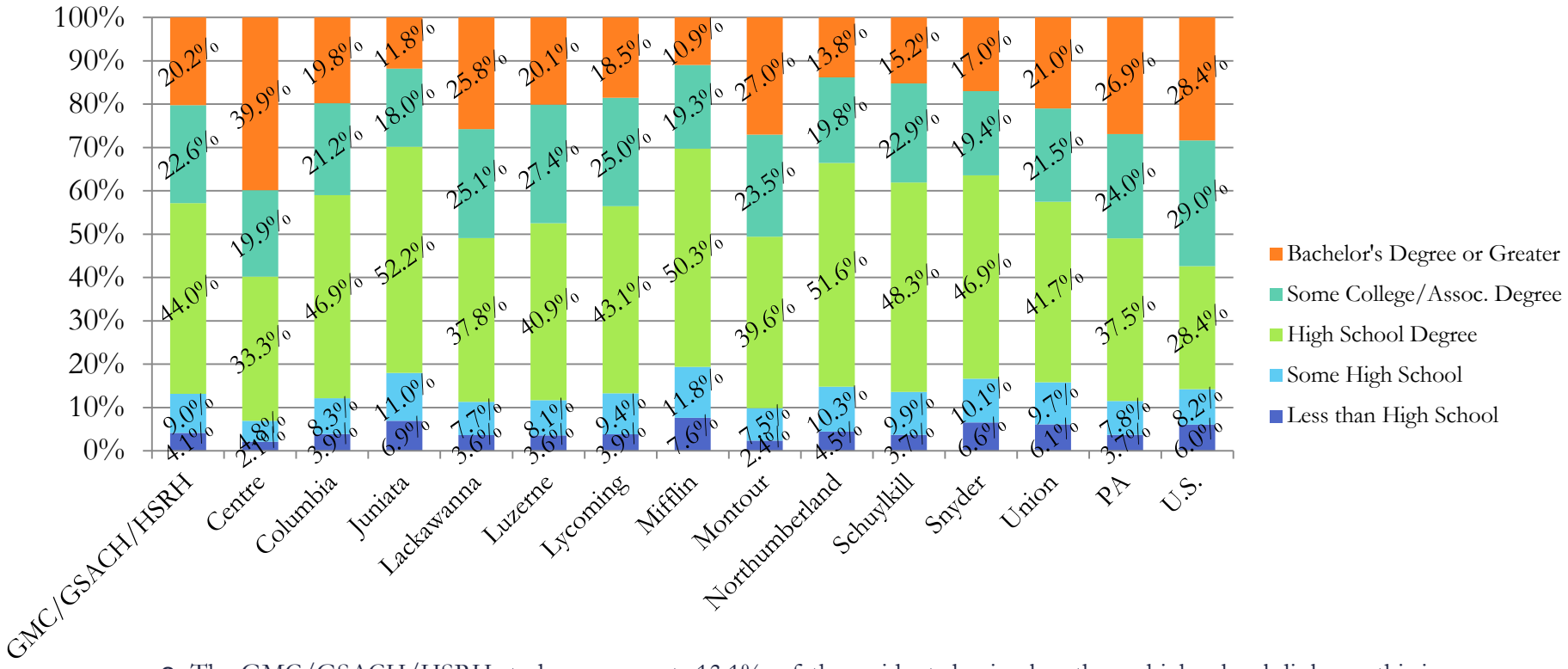
Household Income Detail (2014)



- The GMC/GSACH/HSRH study area reports more than a quarter of the households earning less than $25K per year (27.7%); this rate is higher than state and national rates (24.0% and 24.5% respectively).

Source: 2014 The Nielsen Company, 2014 Truven Health Analytics Inc.

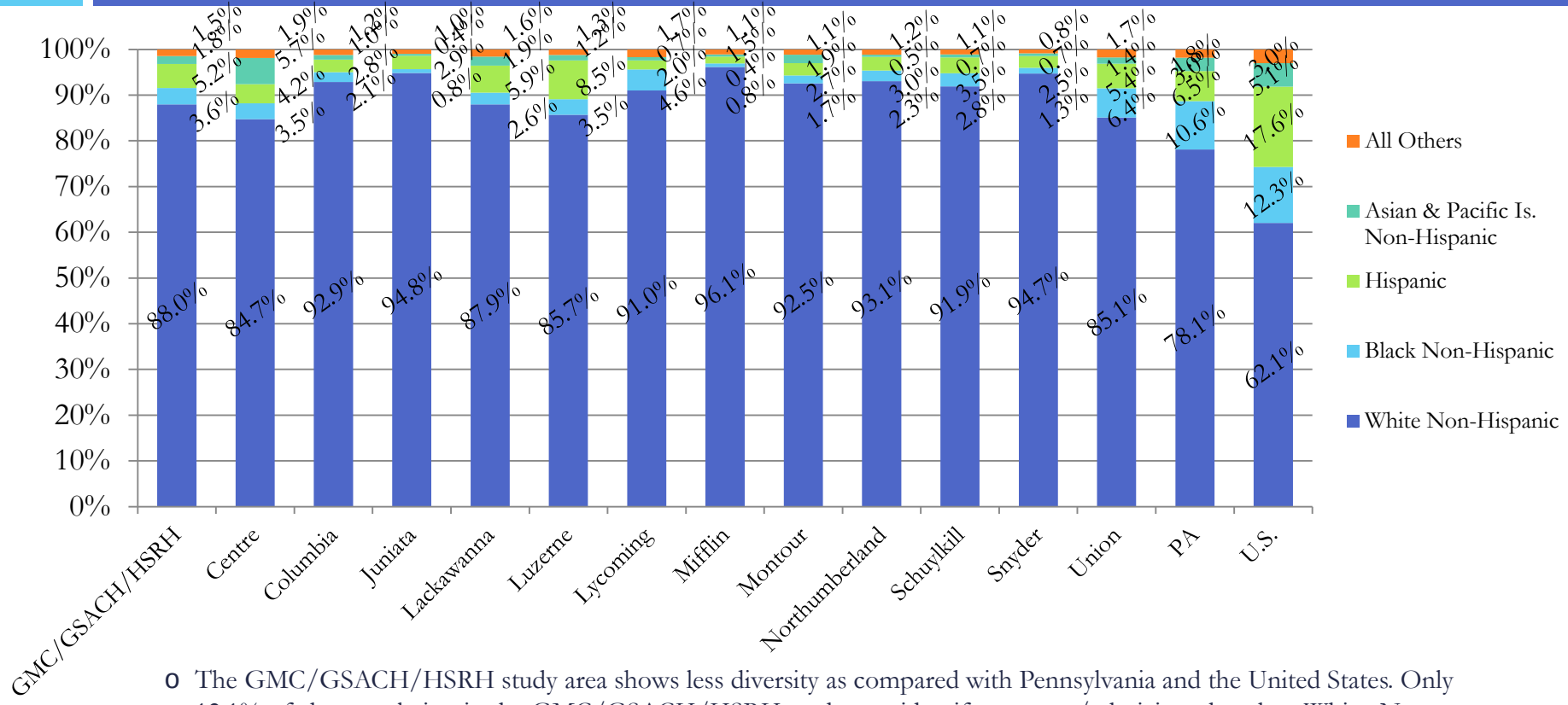
Education Level (2014)



- The GMC/GSACH/HSRH study area reports 13.1% of the residents having less than a high school diploma; this is higher than the state rate (11.5%).
- Centre County reports the lowest rate of residents with less than a high school diploma (only 6.9%); this is correlated to the fact that Centre County reports the highest rate of residents with bachelor's or higher degrees (39.9%).
- Mifflin County reports the lowest rate of residents with a Bachelor's or higher degree (10.9%).

Source: 2014 The Nielsen Company, 2014 Truven Health Analytics Inc.

Race/Ethnicity (2014)



- The GMC/GSACH/HSRH study area shows less diversity as compared with Pennsylvania and the United States. Only 12.1% of the population in the GMC/GSACH/HSRH study area identify as a race/ethnicity other than White, Non-Hispanic whereas 21.9% in PA and 37.9% in the U.S. identify as a race other than White, Non-Hispanic.

- Mifflin County in the GMC/GSACH/HSRH study area shows the least diversity with only 3.9% of the population identifying as a race or ethnicity other than White, Non-Hispanic. Centre County reports the most diversity for the study area with 15.3% identifying as a race other than white, Non-Hispanic.

Source: 2014 The Nielsen Company, 2014 Truven Health Analytics Inc.

Community Need Index

Five prominent socio-economic barriers to community health are quantified in the CNI

- **Income Barriers –**
  Percentage of elderly, children, and single parents living in poverty
- **Cultural/Language Barriers –**
  Percentage Caucasian/non-Caucasian and percentage of adults over the age of 25 with limited English proficiency
- **Educational Barriers –**
  Percentage without high school diploma
- **Insurance Barriers –**
  Percentage uninsured and percentage unemployed
- **Housing Barriers –**
  Percentage renting houses

Assigning CNI Scores

- To determine the severity of barriers to health care access in a given community, the CNI gathers data about the community's socio-economy. For example, what percentage of the population is elderly and living in poverty; what percentage of the population is uninsured; what percentage of the population is unemployed, etc.

- Using this data we assign a score to each barrier condition. A score of 1.0 indicates a zip code area with the lowest socio-economic barriers (low need), while a score of 5.0 represents a zip code area with the most socio-economic barriers (high need). The scores are then aggregated and averaged for a final CNI score (each barrier receives equal weight in the average).

- A CNI score above 3.0 will typically indicate a specific socio-economic factor impacting the community's access to care. At the same time, a CNI score of 1.0 does not indicate the community requires no attention at all, which is why a larger community such as the study area community presents a unique challenge to hospital leadership.

Community Need Index

- The highest CNI score for the GMC/GSACH/HSRH study area is 4.6 in the town of Hazleton (18201). The highest CNI score indicates the most barriers to community health care access.
  - Hazleton (18201) shows the highest rates across the GMC/GSACH/HSRH study area for:
    - Minority population (47.7%)
    - Limited English proficiency (10.3%)
- The two zip codes areas in State College, PA (16801 and 16803) report the highest rates of rental activity for the study area (62.4% and 59.4% respectively). The same is true for residents in State College, PA being uninsured (22.1% and 13.7% respectively); the highest in the study area.
- The highest unemployment rate in the GMC/GSACH/HSRH study area is in zip code area 17948-Mahanoy City at 17.7%. For Pennsylvania the unemployment rate is roughly 5.7% and nationally the unemployment rate is 5.9% (Sept 2014). The unemployment rate in Mahanoy city – 17948 is three times higher than the national rate.
- Port Trevorton (17964) reports the highest rate of residents without a high school diploma (27.4%), more the a quarter of the population.
- The town of Mount Pleasant Mills (17853) in Snyder County reports the highest rate of residents aged 65 and older living in poverty at a rate of 21.1%.

Community Need Index

- Hazleton (18202) reports the highest rate of married parents living in poverty with their children (37.7%) – of the parents married and living with their children, 37.7% of them live in poverty in 18202.
- Dalmatia (17017) reports the highest rate of single parents living in poverty with their children (77.3%) – of the parents single and living with their children, 77.3% of them live in poverty in 17017.
- The average CNI score for the GMC/GSACH/HSRH study area is 3.1; slightly higher than the average for the scale (3.0).
- From 2011 to 2014, the geographic regions (primary service areas) as well as the Tripp Umbach study parameters for GMC, GSACH, and HSRH shifted drastically. The study area defined in 2011 was much smaller than is currently being measured. Of the current 74 zip code areas for GMC/GSACH/HSRH; only 40 were zip codes included in the past study. Therefore, this has made it difficult to make trending comparisons for the CNI data piece of this service area.
- Of the 40 zip code areas that are consistent from the 2011 study to the current study:
  - 18 increased in CNI score (got worse)
  - 15 decreased in CNI score (got better)
  - 7 maintained the same CNI score
- Of the 40 zip code areas that stayed consistent from the 2011 to 2014 studies; Mifflinville (18631) saw the largest rise in CNI score (more barriers to health care access); going from a score of 1.6 in 2011 to a score of 2.6 in 2014.

CNI Scores (Data)

Zip	City	County	2014 Tot. Pop.	Rental %	Unemp %	Uninsu %	Minor %	Lim Eng	No HS Dip	65+ Pov	M w/ Chil Pov	Sin w/ Chil Pov	Inc Rank	Insur Rank	Educ Rank	Cult Rank	Hous Rank	2014 CNI Score
18201	Hazleton	Luzerne	27,534	43.9%	10.8%	10.7%	47.7%	10.3%	19.8%	14.7%	32.2%	58.3%	5	4	4	5	5	4.6
18702	Wilkes Barre	Luzerne	40,096	44.7%	8.6%	11.6%	28.0%	2.1%	13.7%	13.3%	30.7%	55.6%	5	4	3	4	5	4.2
17976	Shenandoah	Schuylkill	7,289	30.1%	14.0%	11.9%	18.6%	2.7%	20.2%	10.5%	22.1%	56.5%	4	4	4	4	4	4.0
18202	Hazleton	Luzerne	13,718	31.8%	9.4%	9.7%	27.2%	7.1%	14.3%	9.8%	37.7%	66.4%	5	3	3	4	4	3.8
17701	Williamsport	Lycoming	45,291	46.9%	10.4%	13.2%	17.2%	0.5%	14.5%	10.8%	25.5%	47.7%	4	4	3	3	5	3.8
17801	Sunbury	Northumberland	16,087	38.1%	12.3%	8.8%	9.8%	0.4%	17.9%	9.6%	20.5%	44.6%	4	3	4	3	5	3.8
17872	Shamokin	Northumberland	9,152	35.8%	14.8%	11.5%	5.6%	0.3%	16.6%	10.6%	17.6%	47.6%	4	4	4	2	5	3.8
17948	Mahanoy City	Schuylkill	7,058	28.2%	17.7%	11.5%	30.2%	0.6%	20.1%	17.9%	16.1%	35.4%	3	4	4	4	4	3.8
18504	Scranton	Lackawanna	21,153	43.4%	7.7%	10.2%	15.9%	1.7%	15.0%	11.7%	18.8%	42.9%	3	3	4	3	5	3.6
17044	Lewistown	Mifflin	21,293	34.4%	11.5%	11.0%	5.3%	0.1%	17.1%	10.9%	17.9%	40.1%	3	4	4	2	5	3.6
17847	Milton	Northumberland	12,222	32.3%	8.1%	7.4%	9.7%	1.0%	15.0%	5.2%	26.1%	59.2%	5	2	4	3	4	3.6
16801	State College	Centre	50,222	62.4%	7.5%	22.1%	19.5%	0.8%	3.9%	5.5%	7.7%	29.0%	2	5	1	4	5	3.4
17815	Bloomsburg	Columbia	30,924	38.6%	7.4%	11.4%	9.8%	0.7%	8.9%	10.6%	17.5%	48.2%	4	3	2	3	5	3.4
18634	Nanticoke	Luzerne	13,344	37.4%	9.2%	9.9%	6.1%	0.7%	14.0%	10.1%	27.4%	51.5%	4	3	3	2	5	3.4
18704	Kingston	Luzerne	31,157	41.0%	8.2%	10.0%	9.2%	0.8%	10.6%	11.9%	23.3%	45.6%	4	3	2	3	5	3.4
18603	Berwick	Columbia	18,794	31.4%	6.7%	12.0%	7.4%	1.1%	16.5%	15.5%	19.7%	40.9%	3	3	4	2	4	3.2
17059	Mifflintown	Juniata	7,360	27.7%	5.6%	6.5%	7.5%	1.4%	17.4%	9.0%	15.7%	49.2%	4	2	4	2	4	3.2
17084	Reedsville	Mifflin	4,437	20.1%	4.7%	10.2%	1.9%	3.9%	21.3%	7.3%	36.4%	50.0%	4	3	5	1	3	3.2
GMC/GSACH/HSRH Community Summary			**768,709**	**34.4%**	**8.3%**	**9.9%**	**12.4%**	**1.2%**	**12.8%**	**9.3%**	**17.5%**	**41.0%**	**3.2**	**2.9**	**2.9**	**2.6**	**4.1**	**3.1**

- The highest CNI score for the GMC/GSACH/HSRH study area is 4.6 in the zip code areas of Hazleton in Luzerne County. The highest CNI score indicates the most barriers to community health care access.
- The overall CNI score for the GMC/GSACH/HSRH study area is 3.1. The average CNI score for the scale is 3.0 (range 1.0 to 5.0).
- There are 21 of the 74 zip code areas that report a higher CNI score than the study area average and higher than the scale average.

Source: Thomson Reuters

CNI Scores (Data)

Zip	City	County	2014 Tot. Pop.	Rental %	Unemp %	Uninsu %	Minor %	Lim Eng	No HS Dip	65+ Pov	M w/ Chil Pov	Sin w/ Chil Pov	Inc Rank	Insur Rank	Educ Rank	Cult Rank	Hous Rank	2014 CNI Score
17851	Mount Carmel	Northumberland	8,304	26.8%	10.7%	10.7%	4.1%	0.2%	14.0%	15.9%	20.6%	49.0%	4	4	3	1	4	3.2
17866	Coal Township	Northumberland	10,379	21.1%	12.5%	9.0%	15.4%	0.3%	16.7%	8.2%	14.2%	40.1%	3	3	4	3	3	3.2
17837	Lewisburg	Union	20,205	37.2%	7.2%	7.7%	15.7%	0.7%	11.3%	8.2%	12.0%	37.8%	3	2	3	3	5	3.2
16803	State College	Centre	29,343	59.4%	6.8%	13.7%	26.0%	0.7%	3.5%	3.8%	11.1%	17.6%	1	4	1	4	5	3.0
17901	Pottsville	Schuylkill	24,661	30.7%	8.5%	8.9%	6.5%	0.4%	12.3%	10.6%	16.9%	33.9%	3	3	3	2	4	3.0
17813	Beavertown	Snyder	2,237	22.7%	5.8%	6.9%	2.3%	2.0%	17.9%	11.4%	27.4%	75.0%	5	2	4	1	3	3.0
17820	Catawissa	Columbia	5,476	21.4%	6.1%	8.7%	3.1%	0.3%	10.9%	9.0%	22.0%	63.5%	5	2	3	1	3	2.8
17737	Hughesville	Lycoming	6,843	22.1%	10.0%	7.9%	3.0%	0.2%	10.0%	11.6%	21.9%	64.4%	5	3	2	1	3	2.8
17740	Jersey Shore	Lycoming	12,923	26.5%	9.3%	6.9%	2.5%	0.3%	14.3%	3.5%	18.4%	56.7%	4	2	3	1	4	2.8
17017	Dalmatia	Northumberland	2,154	20.0%	6.1%	5.2%	2.5%	0.1%	16.9%	6.5%	19.5%	77.3%	5	1	4	1	3	2.8
17857	Northumberland	Northumberland	7,514	26.4%	7.1%	5.4%	5.3%	0.1%	10.8%	5.4%	14.1%	38.5%	3	2	3	2	4	2.8
17921	Ashland	Schuylkill	8,756	20.8%	11.2%	6.3%	17.5%	0.8%	13.5%	8.5%	13.8%	46.1%	3	2	3	3	3	2.8
17935	Girardville	Schuylkill	1,743	22.5%	12.6%	7.9%	3.8%	0.1%	10.9%	8.4%	12.4%	56.5%	4	3	3	1	3	2.8
17972	Schuylkill Haven	Schuylkill	11,314	24.5%	8.1%	6.4%	6.8%	0.6%	14.2%	6.5%	14.1%	49.2%	4	2	3	2	3	2.8
17870	Selinsgrove	Snyder	14,715	31.3%	6.0%	5.6%	8.9%	0.4%	11.6%	6.2%	11.8%	38.6%	3	1	3	3	4	2.8
17846	Millville	Columbia	3,607	22.2%	6.5%	10.1%	3.2%	0.2%	14.3%	18.4%	14.9%	32.6%	3	3	3	1	3	2.6
18631	Mifflinville	Columbia	650	18.8%	3.3%	8.3%	3.5%	0.0%	11.0%	8.2%	23.9%	71.4%	5	2	3	1	2	2.6
17702	Williamsport	Lycoming	10,713	27.6%	7.4%	7.4%	3.1%	0.4%	14.2%	6.1%	9.5%	35.9%	3	2	3	1	4	2.6
GMC/GSACH/HSRH Community Summary			**768,709**	**34.4%**	**8.3%**	**9.9%**	**12.4%**	**1.2%**	**12.8%**	**9.3%**	**17.5%**	**41.0%**	**3.2**	**2.9**	**2.9**	**2.6**	**4.1**	**3.1**

- The GMC/GSACH/HSRH study area includes zip code areas in State College, PA. This means that there are high rates of rental activity and uninsured in zip code areas 16801 and 16803.
- The town of Dalmatia (17017) reports the highest rate of single parents with children living in poverty (77.3%) – of the single parent population 77.3% live in poverty.

Source: Thomson Reuters

CNI Scores (Data)

Zip	City	County	2014 Tot. Pop.	Rental %	Unemp %	Uninsu %	Minor %	Lim Eng	No HS Dip	65+ Pov	M w/ Chil Pov	Sin w/ Chil Pov	Inc Rank	Insur Rank	Educ Rank	Cult Rank	Hous Rank	2014 CNI Score
17756	Muncy	Lycoming	12,925	20.3%	6.7%	7.3%	7.7%	0.5%	16.2%	7.2%	12.4%	33.9%	2	2	4	2	3	2.6
17051	Mc Veytown	Mifflin	4,840	17.2%	8.3%	8.7%	2.8%	0.2%	19.7%	9.0%	16.9%	36.5%	3	3	4	1	2	2.6
17063	Milroy	Mifflin	3,224	20.2%	8.8%	7.7%	1.6%	1.2%	19.5%	9.1%	17.2%	44.3%	3	2	4	1	3	2.6
17834	Kulpmont	Northumberland	3,463	25.0%	6.8%	8.8%	3.8%	0.2%	12.2%	5.4%	19.0%	29.1%	2	3	3	1	4	2.6
17842	Middleburg	Snyder	9,344	22.1%	6.3%	6.6%	3.2%	0.3%	20.7%	12.5%	13.5%	46.2%	3	2	4	1	3	2.6
17864	Port Trevorton	Snyder	2,518	17.7%	7.2%	4.8%	2.1%	1.9%	27.4%	5.9%	10.4%	56.0%	4	1	5	1	2	2.6
17876	Shamokin Dam	Snyder	1,623	35.2%	6.7%	6.8%	6.0%	0.6%	11.5%	9.4%	9.7%	0.0%	1	2	3	2	5	2.6
17844	Mifflinburg	Union	9,929	24.7%	8.4%	5.8%	2.3%	0.4%	19.6%	8.2%	14.0%	45.5%	3	2	4	1	3	2.6
17845	Millmont	Union	2,705	19.0%	10.2%	5.1%	2.3%	0.2%	24.2%	3.3%	15.4%	46.6%	3	2	5	1	2	2.6
16823	Bellefonte	Centre	27,398	28.8%	5.6%	8.9%	10.0%	0.5%	8.6%	9.0%	6.2%	14.6%	1	2	2	3	4	2.4
17086	Richfield	Juniata	2,067	20.3%	7.0%	4.0%	3.4%	0.2%	17.1%	12.2%	8.4%	39.3%	3	1	4	1	3	2.4
18635	Nescopeck	Luzerne	4,467	23.3%	5.9%	7.9%	3.1%	0.1%	12.1%	11.8%	16.4%	32.1%	3	2	3	1	3	2.4
17752	Montgomery	Lycoming	4,612	24.8%	10.6%	6.6%	3.9%	0.7%	15.2%	7.9%	16.2%	30.0%	2	2	4	1	3	2.4
17841	Mc Clure	Mifflin	4,520	19.8%	6.1%	7.2%	3.0%	0.6%	20.4%	5.9%	20.5%	44.3%	3	2	4	1	2	2.4
17821	Danville	Montour	19,669	27.0%	5.4%	5.9%	7.5%	1.0%	9.9%	7.6%	10.4%	36.3%	3	1	2	2	4	2.4
17777	Watsontown	Northumberland	7,432	26.8%	5.9%	5.9%	3.4%	0.3%	13.8%	11.1%	15.2%	29.4%	2	2	3	1	4	2.4
17881	Trevorton	Northumberland	1,885	20.1%	8.1%	6.1%	2.7%	0.1%	15.3%	3.7%	12.0%	32.4%	2	2	4	1	3	2.4
17931	Frackville	Schuylkill	4,992	23.2%	9.2%	6.7%	2.7%	0.2%	10.9%	10.4%	16.1%	45.3%	3	2	3	1	3	2.4
17964	Pitman	Schuylkill	813	16.8%	13.1%	3.9%	3.8%	0.0%	12.4%	5.6%	12.4%	57.1%	4	2	3	1	2	2.4
GMC/GSACH/HSRH Community Summary			**768,709**	**34.4%**	**8.3%**	**9.9%**	**12.4%**	**1.2%**	**12.8%**	**9.3%**	**17.5%**	**41.0%**	**3.2**	**2.9**	**2.9**	**2.6**	**4.1**	**3.1**

- Port Trevorton (17864) reports the highest rate of residents with no high school diploma (27.4%).

Source: Thomson Reuters

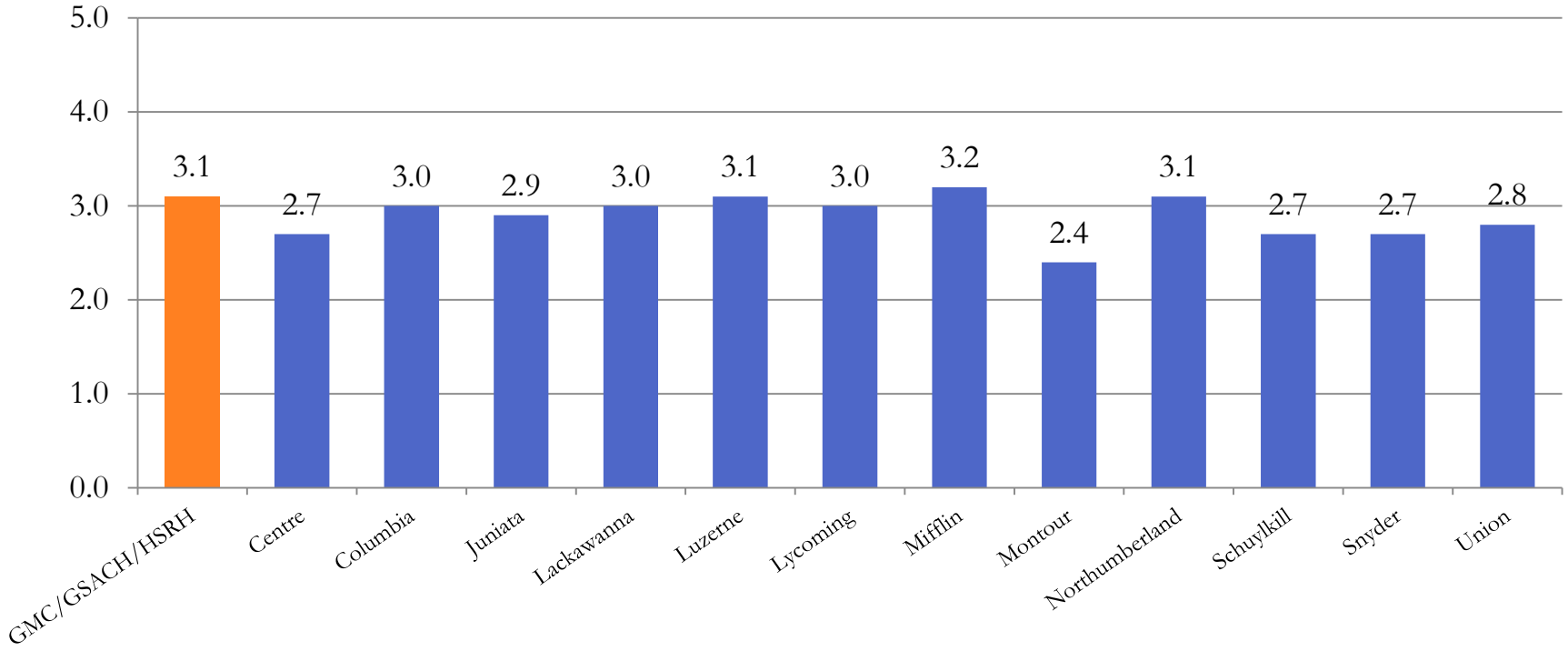
CNI Scores (Data)

Zip	City	County	2014 Tot. Pop.	Rental %	Unemp %	Uninsu %	Minor %	Lim Eng	No HS Dip	65+ Pov	M w/ Chil Pov	Sin w/ Chil Pov	Inc Rank	Insur Rank	Educ Rank	Cult Rank	Hous Rank	2014 CNI Score
17853	Mount Pleasant Mills	Snyder	3,087	20.1%	6.2%	6.5%	1.8%	0.6%	20.2%	21.1%	14.1%	28.6%	2	2	4	1	3	2.4
18655	Shickshinny	Luzerne	6,306	18.6%	7.0%	7.1%	3.0%	0.5%	11.3%	11.3%	12.5%	33.6%	3	2	3	1	2	2.2
17772	Turbotville	Northumberland	2,783	15.0%	5.5%	4.6%	2.2%	1.3%	15.7%	10.6%	18.2%	51.9%	4	1	4	1	1	2.2
17823	Dornsife	Northumberland	919	14.7%	6.9%	5.0%	2.3%	0.0%	13.2%	3.9%	10.1%	66.7%	5	1	3	1	1	2.2
17860	Paxinos	Northumberland	2,349	9.9%	8.1%	5.0%	2.2%	0.1%	11.4%	5.0%	12.9%	63.6%	4	2	3	1	1	2.2
17814	Benton	Columbia	5,014	17.7%	7.1%	7.6%	2.5%	0.1%	12.6%	7.5%	15.6%	27.2%	2	2	3	1	2	2.0
17859	Orangeville	Columbia	3,110	14.5%	6.5%	7.9%	3.0%	0.2%	10.8%	13.1%	11.2%	40.3%	3	2	3	1	1	2.0
17878	Stillwater	Columbia	1,393	13.8%	7.3%	6.5%	1.6%	0.1%	11.6%	8.4%	13.9%	44.2%	3	2	3	1	1	2.0
17824	Elysburg	Northumberland	4,445	15.0%	7.9%	6.0%	2.8%	0.1%	9.0%	6.1%	14.0%	53.0%	4	2	2	1	1	2.0
17830	Herndon	Northumberland	2,009	16.3%	6.6%	4.3%	2.5%	0.6%	14.4%	3.8%	13.4%	42.3%	3	1	3	1	2	2.0
17938	Hegins	Schuylkill	2,496	19.5%	8.0%	3.8%	2.5%	0.1%	16.7%	3.3%	5.0%	22.7%	2	1	4	1	2	2.0
17856	New Columbia	Union	3,857	18.0%	9.1%	7.2%	3.5%	0.6%	13.2%	13.3%	16.3%	25.9%	2	2	3	1	2	2.0
16841	Howard	Centre	6,625	15.6%	5.5%	7.4%	2.7%	0.5%	12.5%	5.7%	12.9%	25.6%	2	2	3	1	1	1.8
17754	Montoursville	Lycoming	12,368	21.5%	6.3%	6.0%	4.0%	0.6%	7.2%	4.3%	9.6%	33.6%	2	2	1	1	3	1.8
17832	Marion Heights	Northumberland	579	10.9%	10.8%	8.4%	1.4%	0.4%	13.3%	6.7%	1.5%	3.6%	1	3	3	1	1	1.8
17963	Pine Grove	Schuylkill	9,595	20.4%	7.2%	4.2%	2.9%	0.8%	13.0%	4.5%	9.9%	8.9%	1	1	3	1	3	1.8
18222	Drums	Luzerne	9,386	15.1%	4.8%	4.5%	9.9%	1.4%	6.8%	2.8%	8.5%	21.4%	2	1	1	3	1	1.6
17967	Ringtown	Schuylkill	2,492	13.1%	9.2%	7.5%	2.2%	0.4%	9.3%	8.1%	7.2%	27.8%	2	2	2	1	1	1.6
17889	Winfield	Union	2,802	14.3%	4.7%	5.1%	4.2%	0.5%	11.9%	5.9%	6.0%	12.5%	1	1	3	1	1	1.4
GMC/GSACH/HSRH Community Summary			**768,709**	**34.4%**	**8.3%**	**9.9%**	**12.4%**	**1.2%**	**12.8%**	**9.3%**	**17.5%**	**41.0%**	**3.2**	**2.9**	**2.9**	**2.6**	**4.1**	**3.1**

- Mount Pleasant Mills (17853) reports the highest rate of residents aged 65 and older living in poverty in the GMC/GSACH/HSRH study area (21.1%).

Source: Thomson Reuters

Community Need Index



- The average CNI score for the GMC/GSACH/HSRH study area is 3.1; slightly higher than the average for the scale (3.0).
- Mifflin County is the only county of the 12 counties included in the study area that reports a CNI score above that of the GMC/GSACH/HSRH overall score; all of the other counties report lower CNI scores. The Mifflin County CNI score is 3.2.
- Montour County reports the lowest CNI score for the study area at 2.4.

Source: Thompson Reuters

CNI Scores (Data)

Zip	City	County	2011 CNI Score	2014 CNI Score	2011 – 2014 Change
18201	Hazleton	Luzerne	4.0	4.6	+ 0.6
18702	Wilkes Barre	Luzerne		4.2	
17976	Shenandoah	Schuylkill		4.0	
18202	Hazleton	Luzerne	3.6	3.8	+ 0.2
17701	Williamsport	Lycoming		3.8	
17801	Sunbury	Northumberland	3.6	3.8	+ 0.2
17872	Shamokin	Northumberland	3.8	3.8	0.0
17948	Mahanoy City	Schuylkill		3.8	
18504	Scranton	Lackawanna		3.6	
17044	Lewistown	Mifflin		3.6	
17847	Milton	Northumberland	3.2	3.6	+ 0.4
16801	State College	Centre		3.4	
17815	Bloomsburg	Columbia	2.8	3.4	+ 0.6
18634	Nanticoke	Luzerne		3.4	
18704	Kingston	Luzerne		3.4	
18603	Berwick	Columbia	3.2	3.2	0.0
17059	Mifflintown	Juniata		3.2	
17084	Reedsville	Mifflin		3.2	
GMC/GSACH/HSRH Community Study Area				**3.1**	

CNI Scores (Data)

Zip	City	County	2011 CNI Score	2014 CNI Score	2011 – 2014 Change
17851	Mount Carmel	Northumberland	3.2	3.2	0.0
17866	Coal Township	Northumberland	3.6	3.2	- 0.4
17837	Lewisburg	Union	3.4	3.2	- 0.2
16803	State College	Centre		3.0	
17901	Pottsville	Schuylkill		3.0	
17813	Beavertown	Snyder	2.6	3.0	+ 0.4
17820	Catawissa	Columbia	2.2	2.8	+ 0.6
17737	Hughesville	Lycoming		2.8	
17740	Jersey Shore	Lycoming		2.8	
17017	Dalmatia	Northumberland	2.0	2.8	+ 0.8
17857	Northumberland	Northumberland	2.4	2.8	+ 0.4
17921	Ashland	Schuylkill		2.8	
17935	Girardville	Schuylkill		2.8	
17972	Schuylkill Haven	Schuylkill		2.8	
17870	Selinsgrove	Snyder	3.0	2.8	- 0.2
17846	Millville	Columbia	2.0	2.6	+ 0.6
18631	Mifflinville	Columbia	1.6	2.6	+ 1.0
17702	Williamsport	Lycoming		2.6	
GMC/GSACH/HSRH Community Study Area				**3.1**	

- Of the 40 zip code areas that stayed consistent from the 2011 to 2014 studies; Mifflinville (18631) saw the largest rise in CNI score (more barriers to health care access); going from a score of 1.6 in 2011 to a score of 2.6 in 2014.

CNI Scores (Data)

Zip	City	County	2011 CNI Score	2014 CNI Score	2011 – 2014 Change
17756	Muncy	Lycoming		2.6	
17051	Mc Veytown	Mifflin		2.6	
17063	Milroy	Mifflin		2.6	
17834	Kulpmont	Northumberland	2.4	2.6	+ 0.2
17842	Middleburg	Snyder	2.8	2.6	- 0.2
17864	Port Trevorton	Snyder	3.0	2.6	- 0.4
17876	Shamokin Dam	Snyder	2.6	2.6	0.0
17844	Mifflinburg	Union	2.6	2.6	0.0
17845	Millmont	Union	2.4	2.6	+ 0.2
16823	Bellefonte	Centre		2.4	
17086	Richfield	Juniata	2.6	2.4	- 0.2
18635	Nescopeck	Luzerne		2.4	
17752	Montgomery	Lycoming		2.4	
17841	Mc Clure	Mifflin		2.4	
17821	Danville	Montour	2.8	2.4	- 0.4
17777	Watsontown	Northumberland	2.6	2.4	- 0.2
17881	Trevorton	Northumberland	2.4	2.4	0.0
17931	Frackville	Schuylkill		2.4	
17964	Pitman	Schuylkill		2.4	
GMC/GSACH/HSRH Community Study Area				**3.1**	

CNI Scores (Data)

Zip	City	County	2011 CNI Score	2014 CNI Score	2011 – 2014 Change
17853	Mount Pleasant Mills	Snyder	2.8	2.4	- 0.4
18655	Shickshinny	Luzerne		2.2	
17772	Turbotville	Northumberland	1.6	2.2	+ 0.6
17823	Dornsife	Northumberland	2.4	2.2	- 0.2
17860	Paxinos	Northumberland	1.8	2.2	+ 0.4
17814	Benton	Columbia	2.2	2.0	- 0.2
17859	Orangeville	Columbia	1.4	2.0	+ 0.6
17878	Stillwater	Columbia	2.0	2.0	0.0
17824	Elysburg	Northumberland	1.6	2.0	+ 0.4
17830	Herndon	Northumberland	1.8	2.0	+ 0.2
17938	Hegins	Schuylkill		2.0	
17856	New Columbia	Union	2.2	2.0	- 0.2
16841	Howard	Centre		1.8	
17754	Montoursville	Lycoming		1.8	
17832	Marion Heights	Northumberland	2.6	1.8	- 0.8
17963	Pine Grove	Schuylkill		1.8	
18222	Drums	Luzerne	1.8	1.6	- 0.2
17967	Ringtown	Schuylkill		1.6	
17889	Winfield	Union	1.8	1.4	- 0.4
GMC/GSACH/HSRH Community Study Area				**3.1**	

- Of the 40 zip code areas that stayed consistent from the 2011 to 2014 studies; Marion Heights (17832) saw the largest decline in CNI score (fewer barriers to health care access); going from a score of 2.6 in 2011 to a score of 1.8 in 2014.

County Health Rankings Data

- The County Health Rankings show that where we live impacts our health status. The health of a community depends on many different factors – from individual health behaviors, education and jobs, to quality of healthcare and the environment. The rankings help community leaders see that where we live, learn, work, and play influences how healthy we are and how long we live.

- The County Health Rankings are a key component of the Mobilizing Action Toward Community Health (MATCH) project. MATCH is the collaboration between the Robert Wood Johnson Foundation and the University of Wisconsin Population Health Institute. The rankings identify the multiple health factors that determine a county's health status. Each county receives a summary rank for its health outcomes and health factors - the four different types of health factors include: health behaviors, clinical care, social and economic factors, and the physical environment. The Rankings are a real "Call to Action" for state and local health departments to develop broad-based solutions with others in their community so all residents can be healthy. But efforts will also be made to mobilize community leaders outside the public health sector to take action and invest in programs and policy changes that address barriers to good health and help residents lead healthier lives. Other community leaders may include: educators; elected and appointed officials, including mayors, governors, health commissioners, city/county councils, legislators, and staff; business owners; and the healthcare sector.

Source: 2014 County Health Rankings
A collaboration of the Robert Wood Johnson Foundation and the University of Wisconsin Population Health Institute

County Health Rankings Data

- Data across 34 various health measures are used to calculate the Health Ranking.
  - The measures include:
    - Mortality – Length of Life
    - Morbidity – Quality of Life
    - Tobacco Use
    - Diet and Exercise
    - Alcohol Use
    - Sexual Behavior
    - Access to care
    - Quality of care
    - Education
    - Employment
    - Income
    - Family and Social support
    - Community Safety
    - Air and Water quality
    - Housing and Transit

- Premature death
- Poor or fair health
- Poor physical health days
- Poor mental health days
- Low birth weight
- Adult smoking
- Adult obesity
- Food environment index
- Physical inactivity
- Access to exercise opportunities
- Excessive drinking
- Alcohol-impaired driving deaths
- Sexually transmitted diseases
- Teen births
- Uninsured
- Primary care physicians
- Dentists
- Mental health providers
- Preventable hospital stays
- Diabetic screening
- Mammography screening

- High school graduation
- Some college
- Unemployment
- Children in poverty
- Inadequate social support
- Children in single-parent households
- Violent crime
- Injury deaths
- Air pollution – particulate matter
- Drinking water violations
- Severe housing problems
- Driving alone to work
- Long commute – driving alone

Source: 2014 County Health Rankings
A collaboration of the Robert Wood Johnson Foundation and the University of Wisconsin Population Health Institute

County Health Rankings Data

- Counties in each of the 50 states are ranked according to summaries of more than 30 health measures. Those having good rankings, such as 1 or 2, are considered to be the "healthiest." Counties are ranked relative to the health of other counties in the same state (Pennsylvania having 67 counties) on the following summary measures:
  - Health Outcomes--We measure two types of health outcomes to represent the health of each county: how long people live (mortality) and how healthy people feel (morbidity). These outcomes are the result of a collection of health factors and are influenced by existing programs and policies at the local, state, and federal levels.
  - Health Factors--A number of different health factors shape a community's health outcomes. The County Health Rankings are based on weighted scores of four types of factors:
    - Health behaviors (9 measures)
    - Clinical care (7 measures)
    - Social and economic (8 measures)
    - Physical environment (5 measures)

Source: 2014 County Health Rankings
A collaboration of the Robert Wood Johnson Foundation and the University of Wisconsin Population Health Institute

County Health Rankings Data

- Pennsylvania has 67 counties; therefore, the rank scale for Pennsylvania is 1 to 67 (1 being the healthiest county and 67 being the most unhealthy).
- Data for the County Health Rankings is only defined as far as the county level, zip code level data is not available. Therefore, the county level data has been presented here (no Evangelical Community Hospital service area level data is available).
- Luzerne County ranked the unhealthiest (highest score) for: Health Outcomes (57), Morbidity (55), Social and Economic Factors (63),
- Schuylkill County ranked the unhealthiest (highest score) for: Health factors (59), Health Behaviors (50),
- Montour County ranked the unhealthiest (highest score) for: Mortality (62) – only 5 from the worst in the state. This is assumed to be related to the hospital being the only zip code area in Montour County.
- Mifflin County ranked the unhealthiest (highest score) for: Clinical Care (59).
- Lycoming County ranked the unhealthiest (highest score) for: Physical Environment (23). Overall, the GMC/GSACH/HSRH study area shows "healthy" rankings for physical environment factors; the highest score being only 23 out of the worst possible 67.

Source: 2014 County Health Rankings

County Health Rankings Data

- Luzerne and Schuylkill counties report the highest adult smoking rates at 25%.
- Northumberland and Snyder counties report the highest adult obesity rates of 34%.
- Lackawanna County reports the highest rate of excessive drinking at 24%.
- Lycoming County reports the highest rate of sexually transmitted infections (chlamydia rate) of 442 per 100,000 population.
- Mifflin and Snyder counties report the highest uninsured rates at 15%.
- Juniata County reports the lowest PCP rate at 25 per 100,000 population.
- Luzerne County reported the lowest Diabetic screening rate of 79%
- Six counties (Juniata, Lackawanna, Luzerne, Montour, Northumberland, Schuylkill) report 10% of the population as diabetic.
- Schuylkill County reports the lowest mammography screening rate of 55.1%.
- Mifflin and Schuylkill counties report the highest unemployment rates of 10%.
- Union County reports the highest rate of residents with inadequate social support at 26%.
- Montour County reports the highest violent crime rate of 380 per 100,000 population.
- According to County Health Rankings, Centre and Union counties appear to be the "healthiest" counties each with 5 rankings in the top 5 for the state.

Source: 2014 County Health Rankings

County Health Rankings Data

- From 2011 to 2014, the counties that saw the largest shifts in county health rankings or data were:
  - Union County for Physical Environment – going from 58 in 2011 to 3 in 2014
  - Northumberland County for Mortality – going from 52 in 2011 to 21 in 2014
  - Luzerne County for Social and Economic Factors – going from 32 in 2011 to 63 in 2014.
  - For physical Environment, Centre County went from 57 to 19, Schuylkill County went from 53 to 9, and Union went from 28 to 3.
  - All of the 14 counties reported declines in adult smoking rates; Mifflin County showing the largest drop going from 23% to 16%.
  - Northumberland County reported the largest rise in the rate of adult obesity going from 28% to 34%.
  - Centre County saw the largest decline in uninsured going from 25% to 12%.
  - Snyder County saw the largest rise in diabetics going from 9% to 12%.
  - Montour County reported the largest decline in mammography screening going from 77.6% to 66.1%.
  - Violent crime rates:
    - Fell the most for Mifflin County, falling 80 cases per 100,000 pop.
    - Rose the most for Snyder County, rising 39 cases per 100,000 pop.

Source: 2014 County Health Rankings

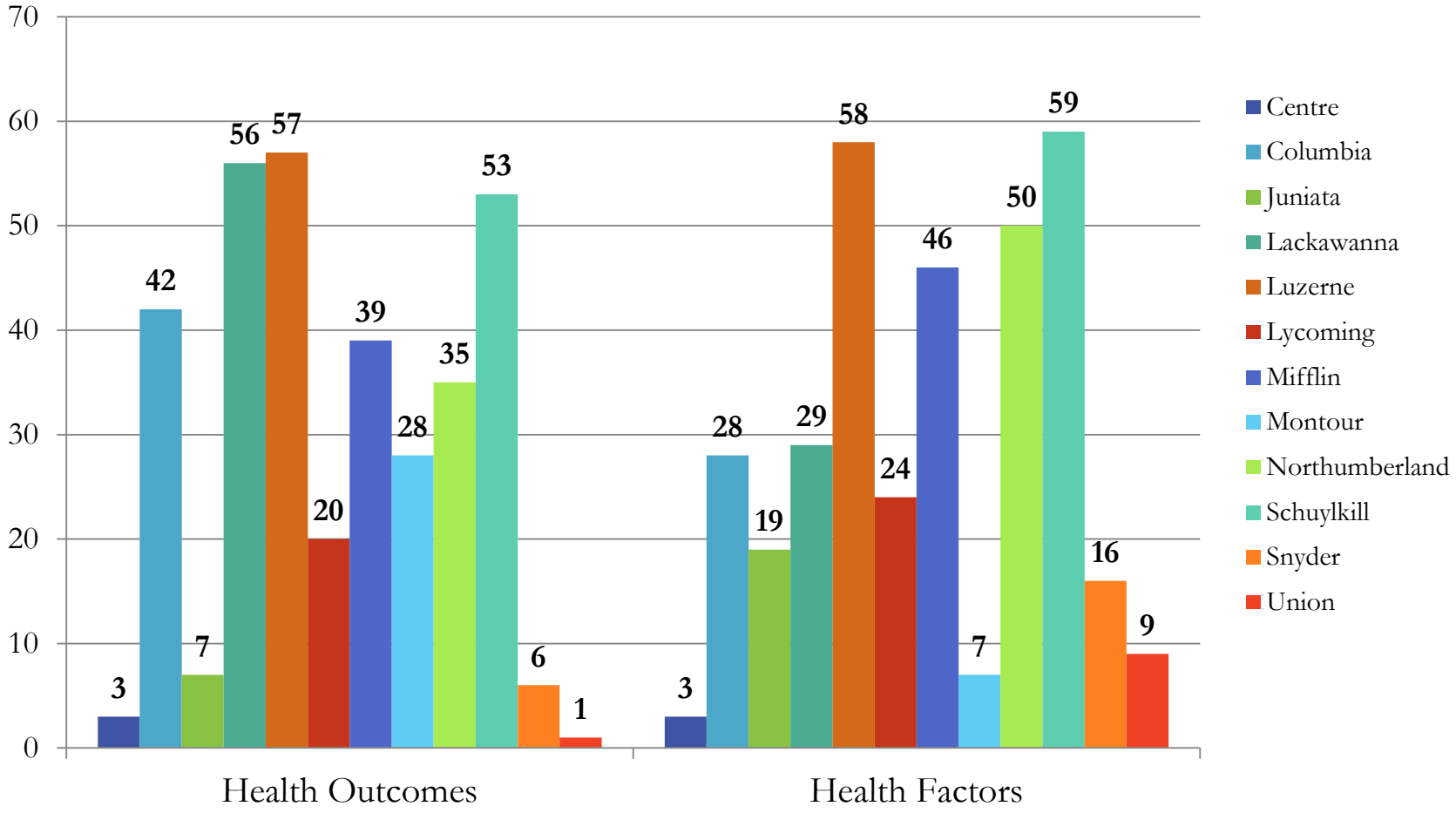
County Health Rankings Data

(2014 ranking on top; 2011 ranking in parentheses)

County	Health Outcomes	Health Factors	Mortality (Length of Life)	Morbidity (Quality of Life)	Health Behaviors	Clinical Care	Social and Economic Factors	Physical Environment
Centre	3 (2)	3 (7)	1 (1)	6 (8)	2 (4)	12 (61)	3 (4)	19 (57)
Columbia	42 (16)	28 (26)	40 (7)	47 (38)	40 (54)	34 (36)	22 (21)	8 (3)
Juniata	7 (9)	19 (25)	31 (20)	1 (4)	24 (30)	42 (39)	16 (20)	2 (31)
Lackawanna	56 (49)	29 (19)	58 (48)	48 (46)	30 (26)	27 (29)	43 (23)	4 (17)
Luzerne	57 (59)	58 (30)	55 (63)	55 (50)	47 (44)	28 (28)	63 (32)	14 (10)
Lycoming	20 (26)	24 (28)	20 (31)	19 (19)	48 (49)	11 (3)	27 (43)	23 (33)
Mifflin	39 (34)	46 (50)	49 (41)	25 (22)	16 (40)	59 (42)	61 (56)	16 (14)
Montour	28 (47)	7 (3)	62 (65)	2 (5)	6 (6)	3 (1)	8 (13)	10 (1)
Northumberland	35 (53)	50 (48)	21 (52)	52 (54)	46 (45)	26 (17)	59 (57)	17 (30)
Schuylkill	53 (56)	59 (61)	57 (59)	33 (49)	50 (60)	41 (46)	62 (54)	9 (53)
Snyder	6 (4)	16 (18)	12 (14)	4 (1)	19 (20)	10 (9)	32 (51)	5 (2)
Union	1 (1)	9 (16)	3 (2)	3 (3)	27 (23)	2 (7)	18 (24)	3 (58)

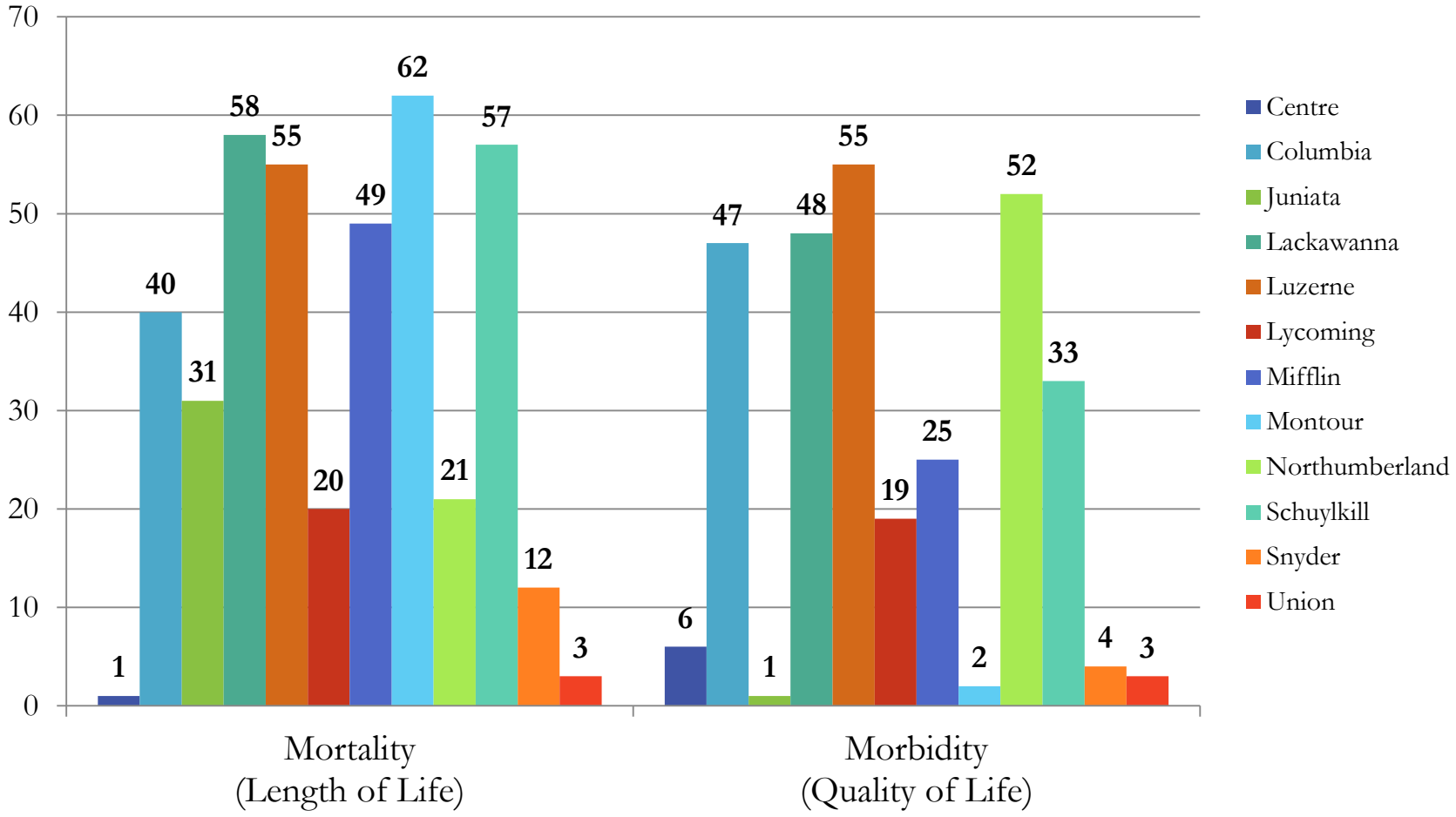
Source: 2014 and 2011 County Health Rankings; Green = top 5 (good ranking). Red = bottom 5 (poor ranking).

County Health Rankings Data (2014)



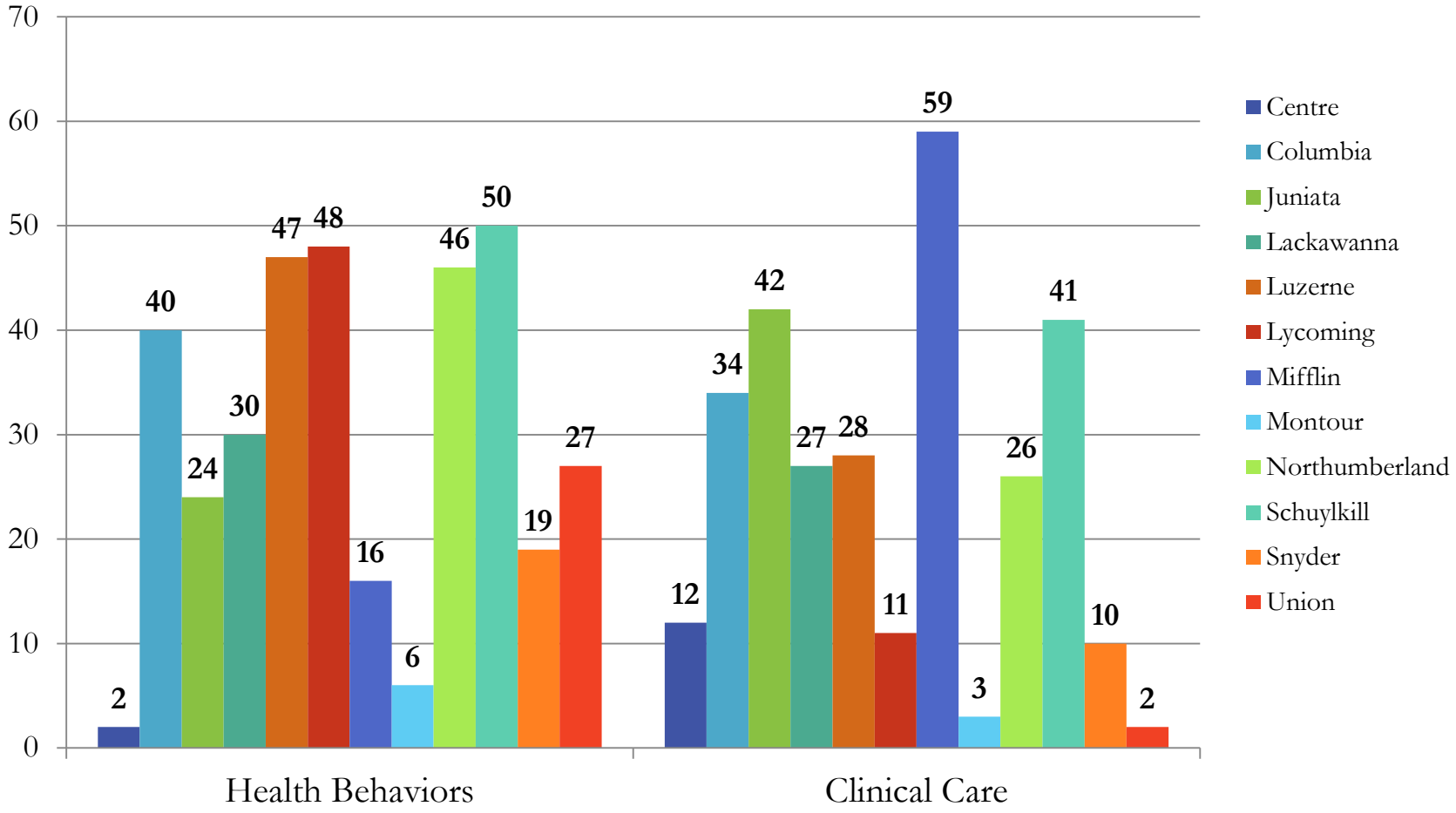
Source: 2014 County Health Rankings

County Health Rankings Data



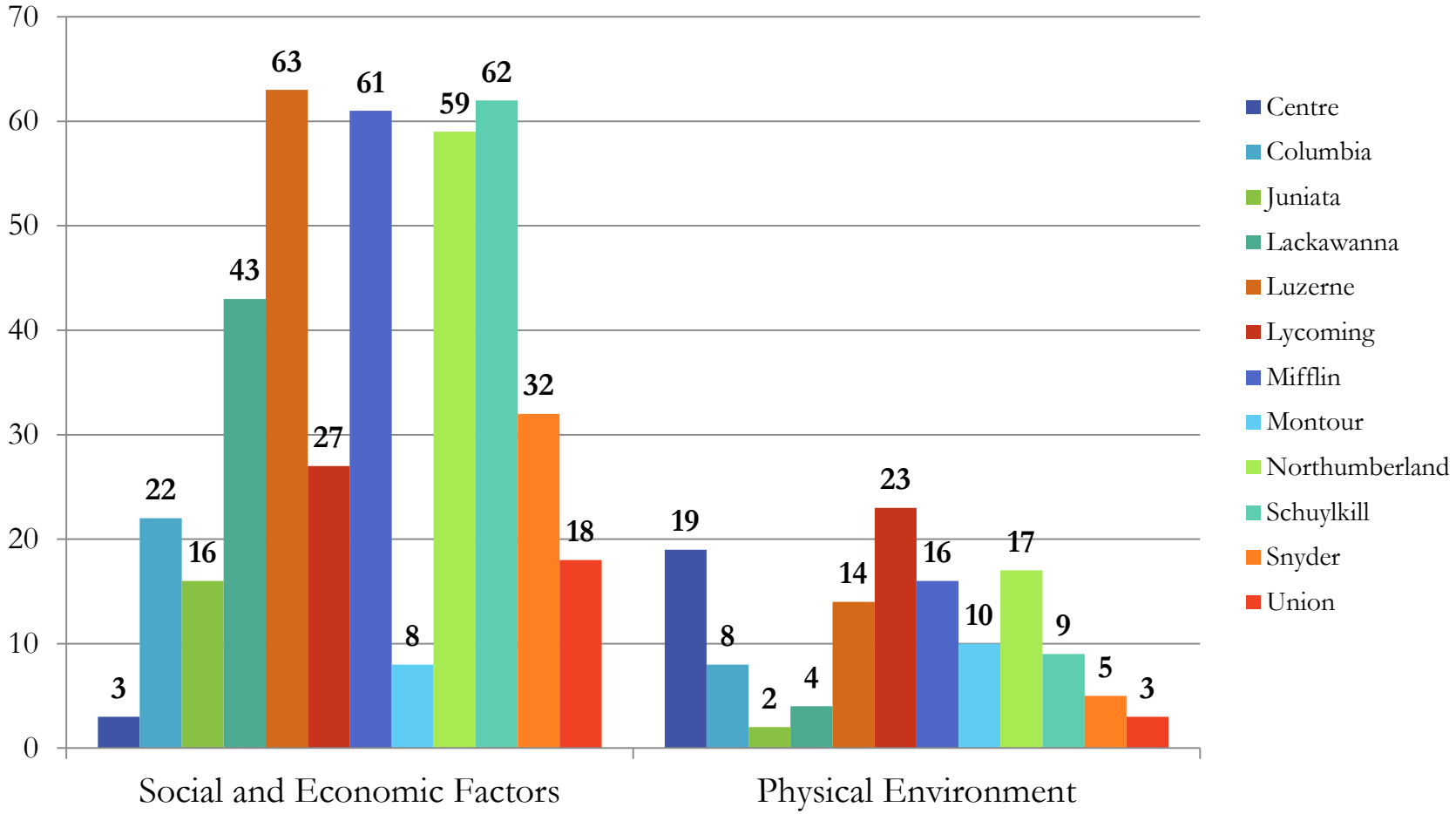
Source: 2014 County Health Rankings

County Health Rankings Data



Source: 2014 County Health Rankings

County Health Rankings Data



Source: 2014 County Health Rankings

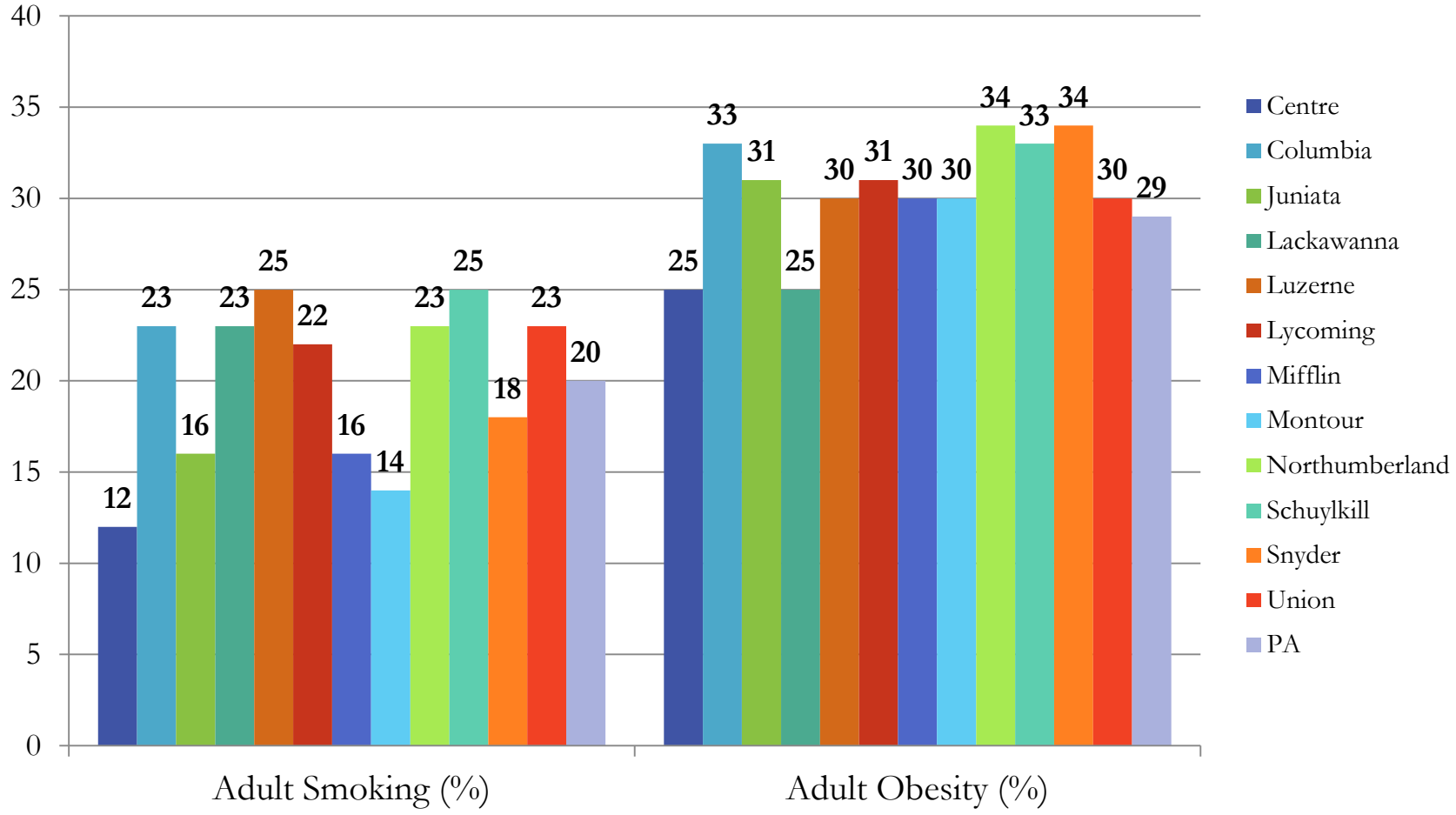
County Health Rankings Data

(2014 data on top; 2011 data in parentheses)

County	Adult Smoking (%)	Adult Obesity (%)	Excessive Drinking (%)	Sexually Transmitted Infections (Chlamydia Rate)	Uninsured (%)	PCP Rate
Centre	12 (14)	25 (28)	14 (15)	245 (160)	12 (25)	69 (72)
Columbia	23 (25)	33 (32)	17 (18)	282 (152)	12 (13)	68 (66)
Juniata	16 (19)	31 (31)	N/A (N/A)	209 (52)	14 (17)	25 (30)
Lackawanna	23 (27)	25 (26)	24 (24)	190 (155)	12 (10)	76 (83)
Luzerne	25 (27)	30 (28)	20 (20)	234 (214)	12 (11)	80 (70)
Lycoming	22 (28)	31 (28)	17 (18)	442 (319)	14 (13)	69 (76)
Mifflin	16 (23)	30 (31)	11 (12)	297 (106)	15 (14)	45 (50)
Montour	14 (14)	30 (28)	11 (11)	164 (119)	11 (10)	508 (599)
Northumberland	23 (26)	34 (28)	16 (18)	231 (188)	13 (12)	37 (36)
Schuylkill	25 (25)	33 (31)	19 (21)	146 (118)	12 (11)	60 (41)
Snyder	18 (20)	34 (31)	15 (9)	161 (139)	15 (15)	58 (36)
Union	23 (23)	30 (29)	13 (13)	185 (128)	12 (18)	80 (89)

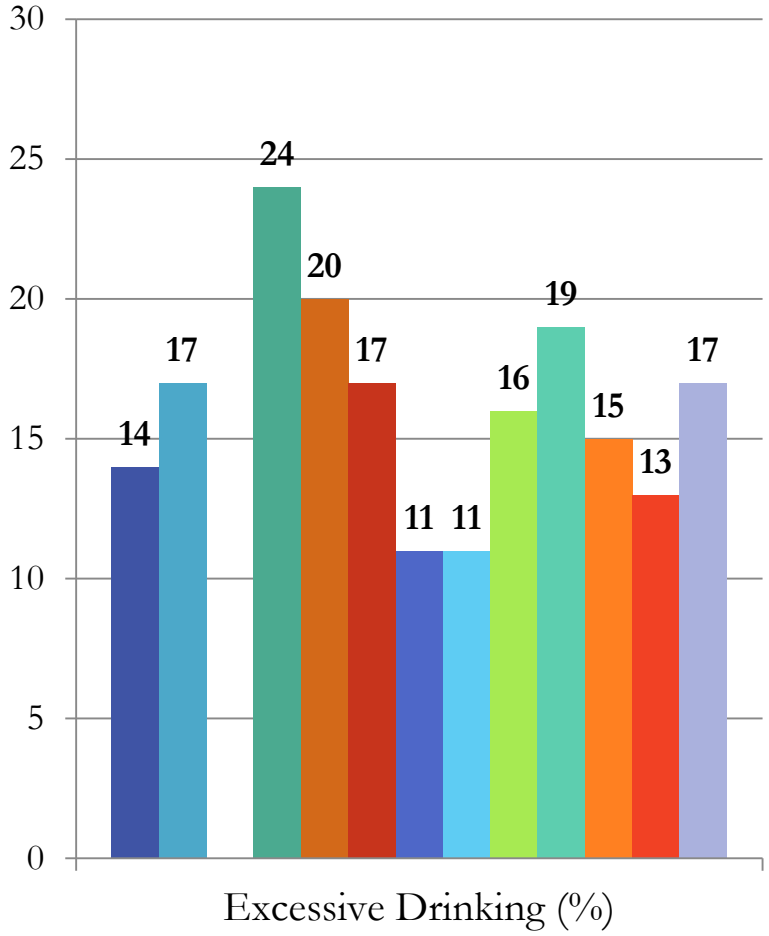
Source: 2014 and 2011 County Health Rankings

County Health Rankings Data

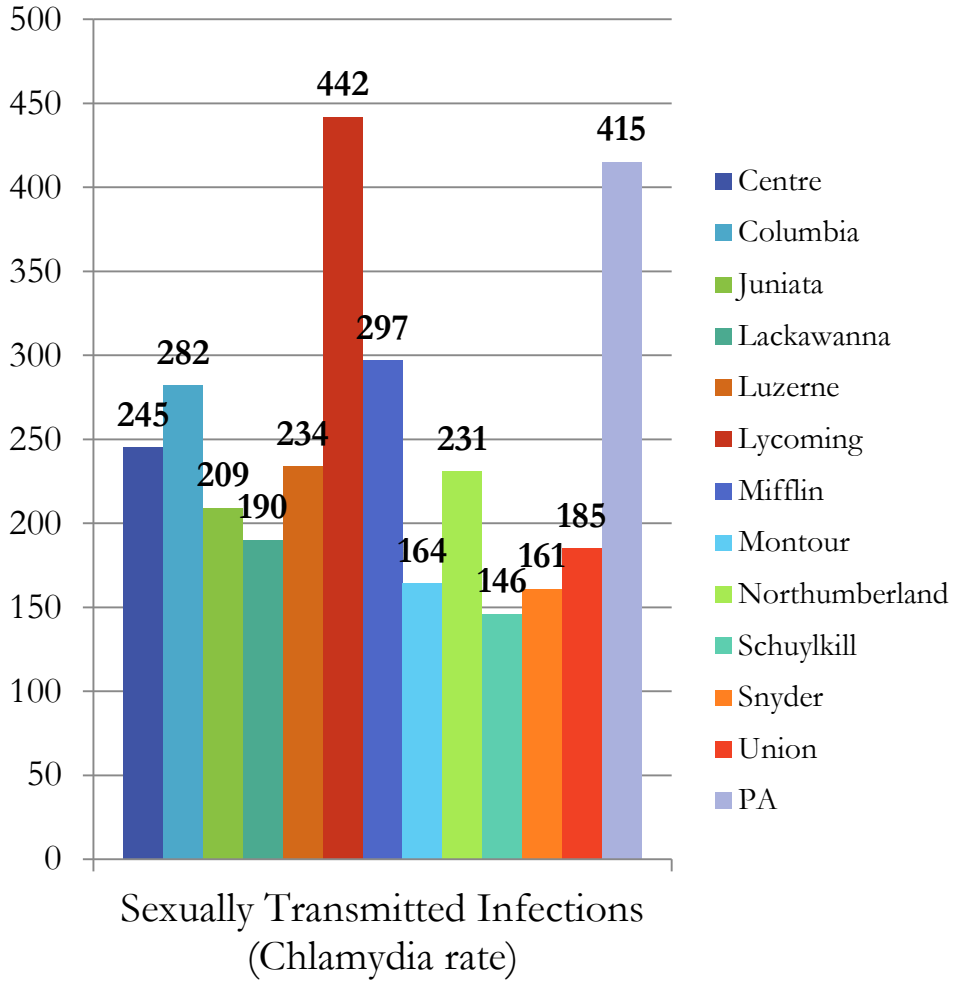


Source: 2014 County Health Rankings

County Health Rankings Data



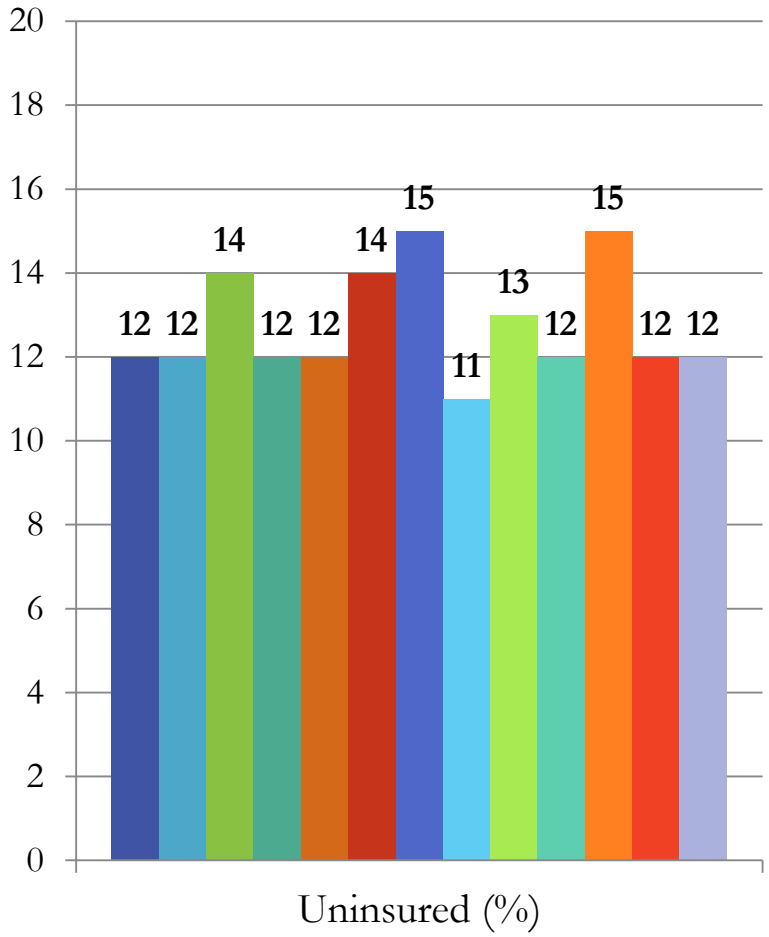
Excessive Drinking (%)

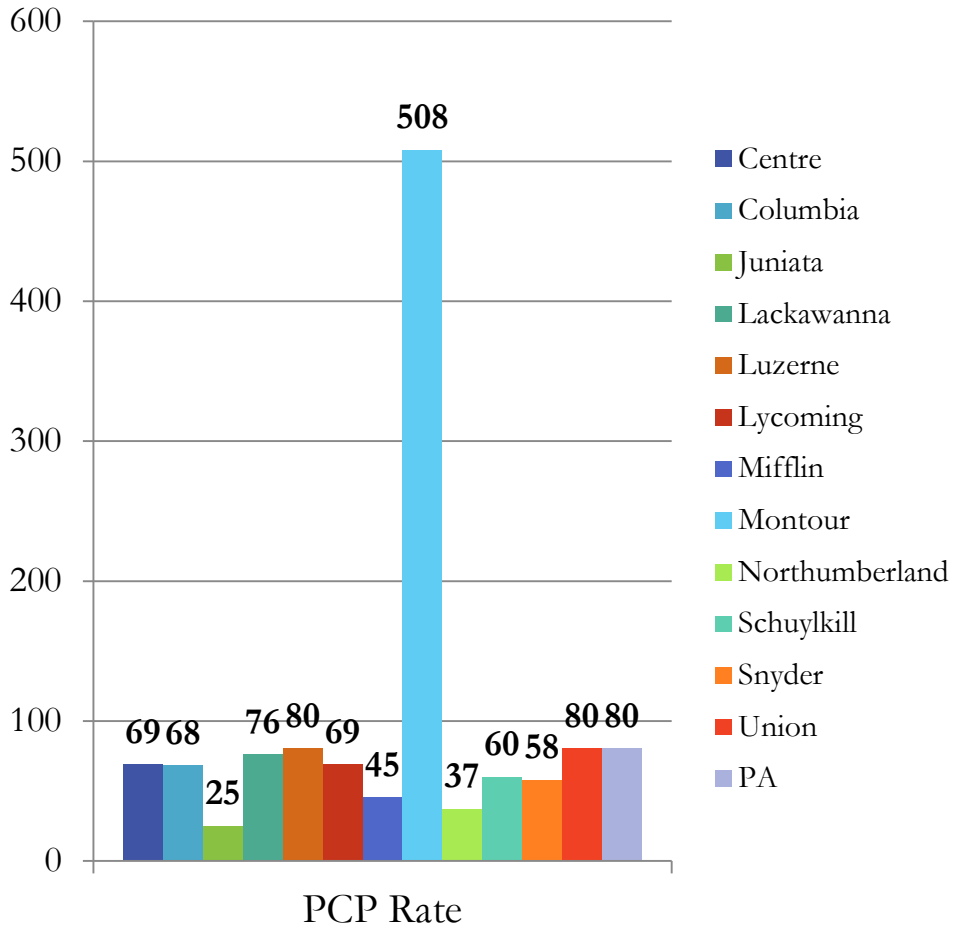


Sexually Transmitted Infections (Chlamydia rate)

Source: 2014 County Health Rankings

County Health Rankings Data





Source: 2014 County Health Rankings

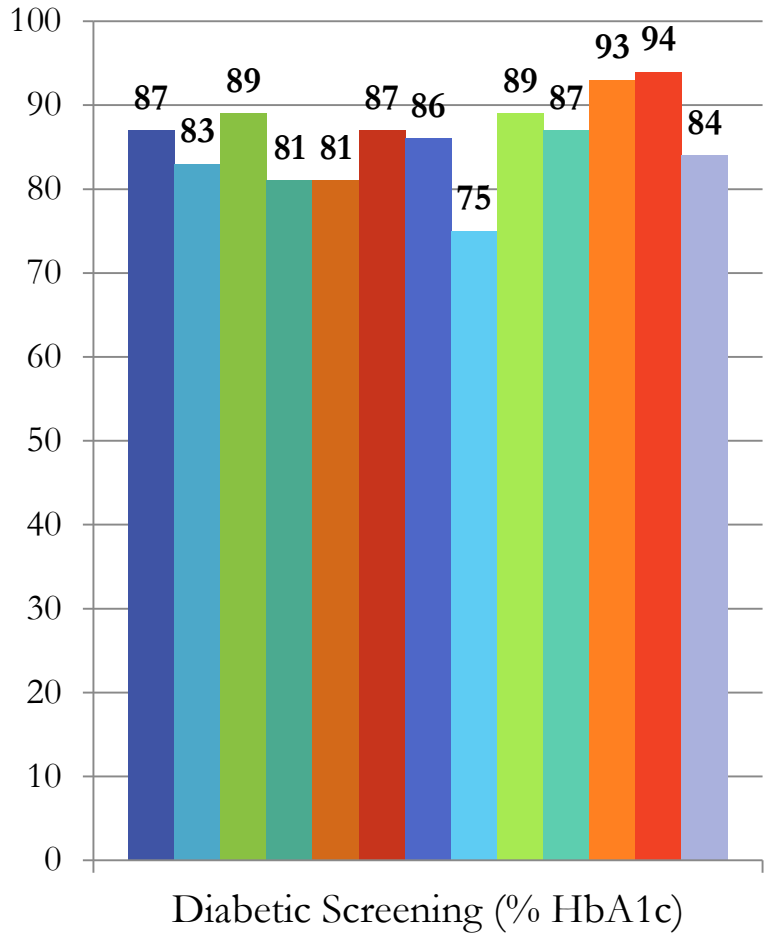
County Health Rankings Data

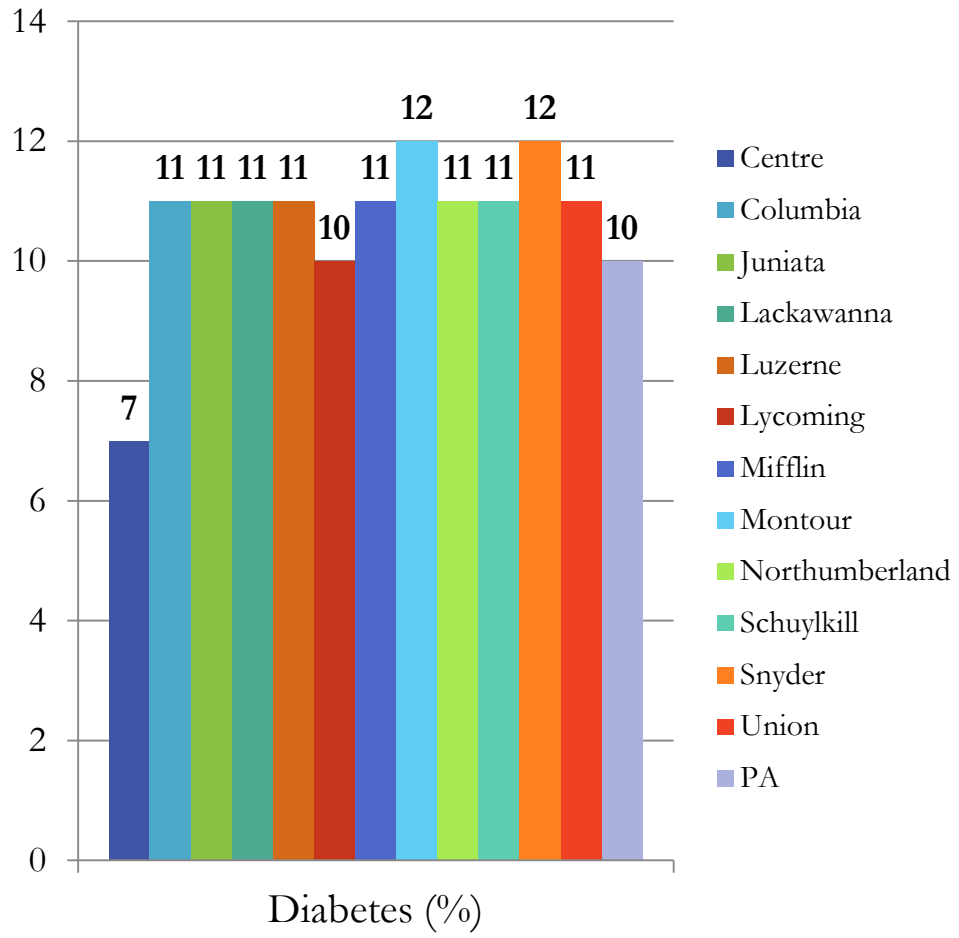
(2014 data on top; 2011 data in parentheses)

County	Diabetic Screening (% HbA1c)	Diabetes (% Diabetic)	Mammography Screening	Unemployment (% unemployed)	Inadequate Social Support (% no social-emotional support)	Violent Crime Rate
Centre	87 (89)	7 (8)	72.1 (70.1)	5.9 (5.8)	18 (20)	113 (91)
Columbia	83 (84)	11 (9)	66.0 (63.2)	8.1 (8.6)	15 (15)	155 (123)
Juniata	89 (88)	11 (10)	73.2 (76.0)	7.3 (8.0)	15 (14)	96 (89)
Lackawanna	81 (80)	11 (10)	67.1 (61.3)	9.0 (8.3)	22 (21)	232 (228)
Luzerne	81 (79)	11 (10)	61.6 (58.6)	9.7 (9.1)	22 (22)	289 (317)
Lycoming	87 (86)	10 (9)	73.9 (74.7)	7.8 (8.9)	22 (22)	177 (152)
Mifflin	86 (85)	11 (9)	74.4 (74.1)	8.3 (10.0)	N/A (N/A)	125 (205)
Montour	75 (82)	12 (10)	66.1 (77.6)	6.0 (6.6)	N/A (N/A)	346 (380)
Northumberland	89 (92)	11 (10)	71.8 (70.6)	9.0 (9.8)	18 (19)	340 (376)
Schuylkill	87 (85)	11 (10)	58.6 (55.1)	9.4 (10.0)	26 (25)	204 (197)
Snyder	93 (95)	12 (9)	78.1 (71.3)	8.2 (9.1)	23 (23)	335 (296)
Union	94 (86)	11 (9)	76.4 (83.8)	7.7 (9.1)	24 (26)	96 (81)

Source: 2014 and 2011 County Health Rankings

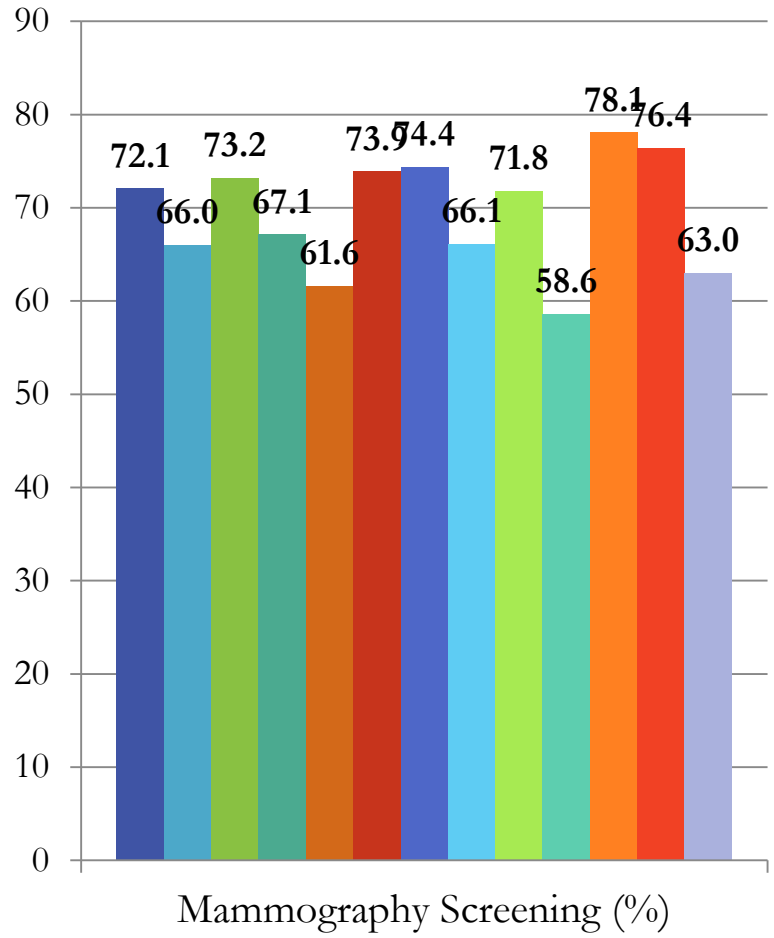
County Health Rankings Data

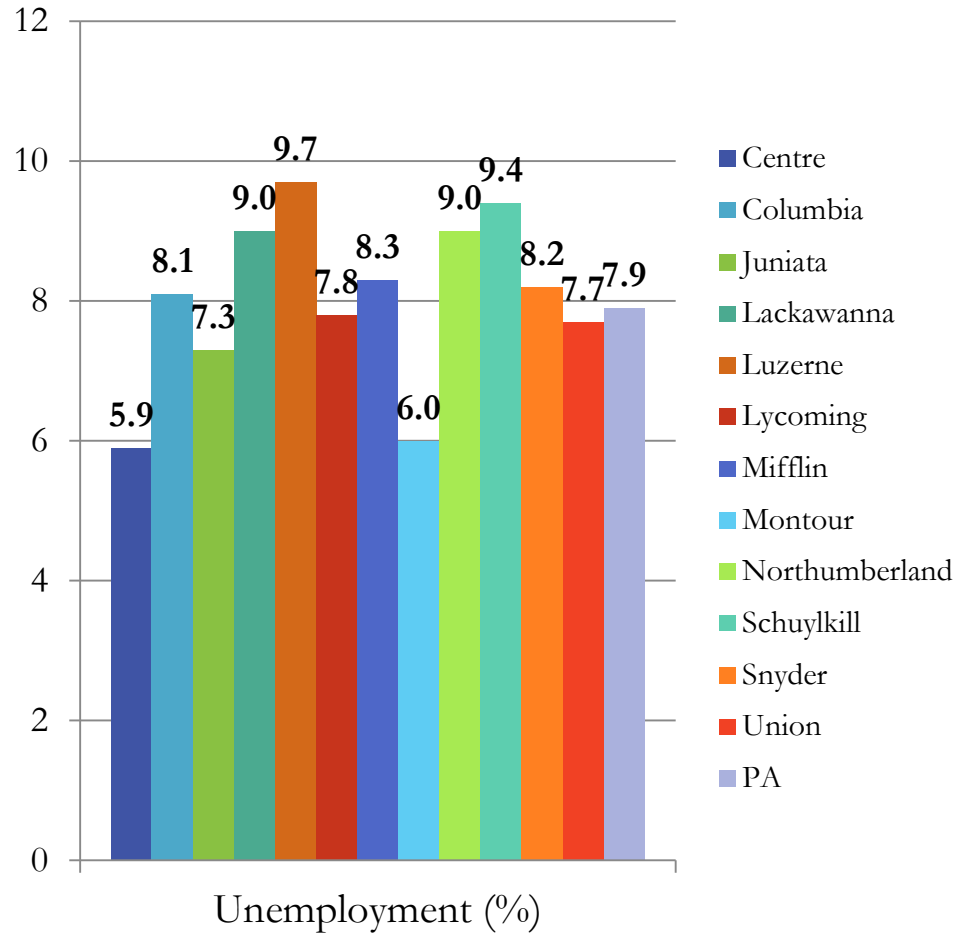




Source: 2014 County Health Rankings

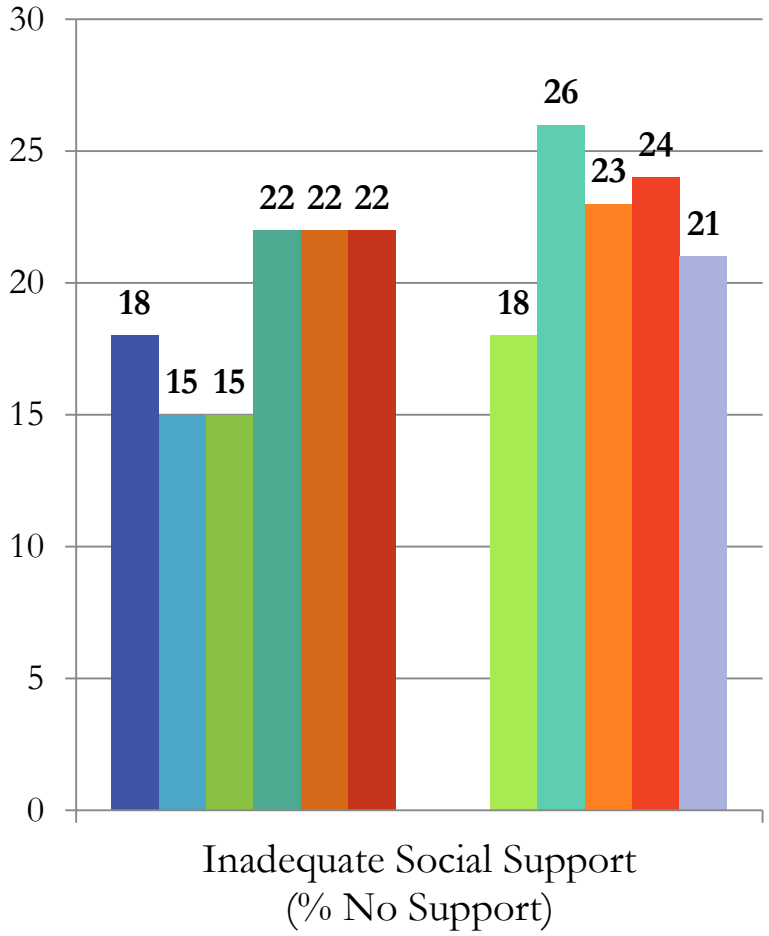
County Health Rankings Data

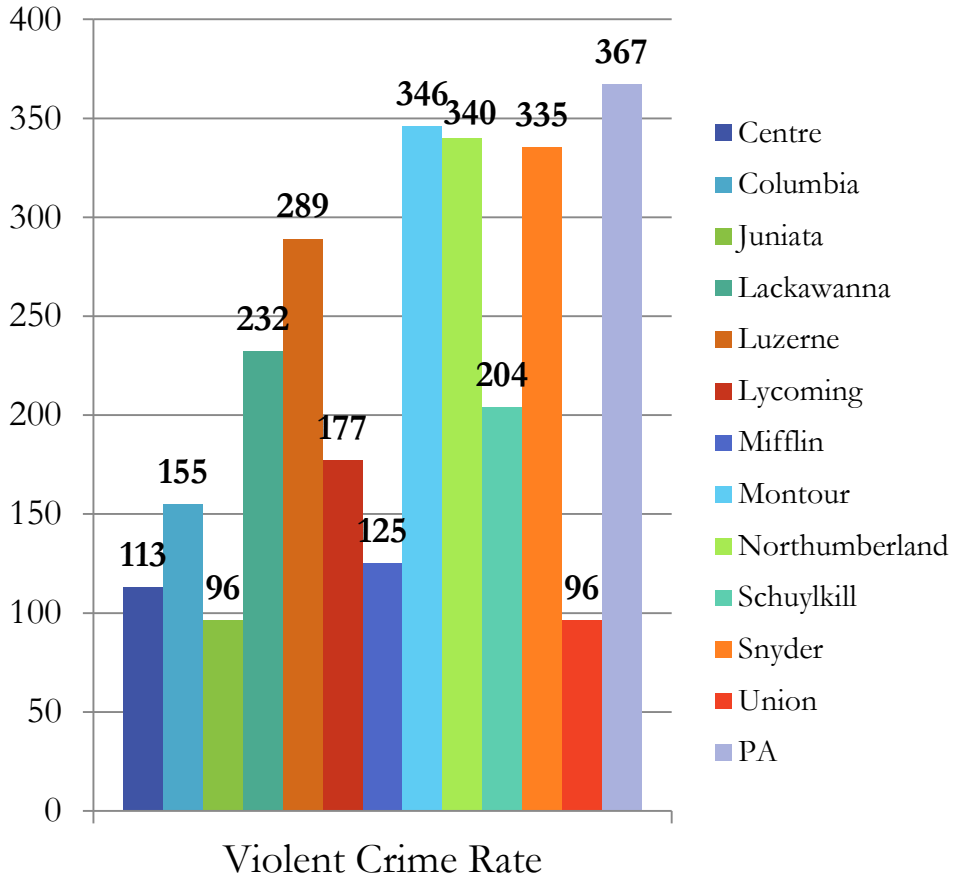




Source: 2014 County Health Rankings

County Health Rankings Data





Source: 2014 County Health Rankings

Prevention Quality Indicators Index (PQI)

- The **Prevention Quality Indicators index (PQI)** was developed by the **Agency for Healthcare Research and Quality (AHRQ)**. PQI is similarly referred to as Ambulatory Care Sensitive Hospitalizations. The quality indicator rates are derived from inpatient discharges by zip code using ICD diagnosis and procedure codes. There are 14 quality indicators.

- The PQI index identifies potentially avoidable hospitalizations for the benefit of targeting priorities and overall community health. **Lower index scores represent less admissions for each of the PQIs.**

Source: AHRQ

Prevention Quality Indicators Index (PQI)

- From 2011 to 2014, there were a handful of data methodology changes. For each, Tripp Umbach went to past data and adjusted as necessary to make comparable. They are as follows:
  - In the past, PQI data was presented as a value per 1,000 population. The AHRQ has revised this and the current data is presented as a value per 100,000 population. Tripp Umbach adjusted to match these as needed.
  - PQI 2 changed from Perforated Appendix in Males 18+ for the past study to Perforated Appendix in Total 18+ population as a rate per 1,000 ICD-9 code admissions for appendicitis. This shift has changed the values for this measure drastically and therefore, Tripp Umbach did not adjust.
  - PQI 5 changed from COPD in 18+ population to COPD or Asthma in "Older adults" 40+ population. Tripp Umbach did not adjust.
  - Although not clearly explained by the AHRQ, it would seem that a definition of Newborn population has shifted for PQI 9 because the values are drastically lower in 2014 than in previous years (2011). This has shifted PQI 9 values drastically. Tripp Umbach did not adjust.
  - PQI 15 changed from Adult Asthma in 18+ population for past study to Asthma in Younger Adults 18-39 population. Tripp Umbach did not adjust.

Source: AHRQ

Prevention Quality Indicators Index (PQI)

PQI Subgroups

- Chronic Lung Conditions
  - PQI 5 Chronic Obstructive Pulmonary Disease (COPD) or Asthma in Older Adults (40+) Admission Rate*
    * PQI 5 for past study was COPD in 18+ population; PQI 5 for current study is now restricted to COPD and Asthma in 40+ population
  - PQI 15 Asthma in Younger Adults Admission Rate*
    * PQI 15 for past study was Adult Asthma in 18+ population; PQI 15 for current study is now restricted to Asthma in 18-39 population ("Younger").
- Diabetes
  - PQI 1 Diabetes Short-Term Complications Admission Rate
  - PQI 3 Diabetes Long-Term Complications Admission Rate
  - PQI 14 Uncontrolled Diabetes Admission Rate
  - PQI 16 Lower Extremity Amputation Rate Among Diabetic Patients
- Heart Conditions
  - PQI 7 Hypertension Admission Rate
  - PQI 8 Congestive Heart Failure Admission Rate
  - PQI 13 Angina Without Procedure Admission Rate
- Other Conditions
  - PQI 2 Perforated Appendix Admission Rate
  - PQI 9 Low Birth Weight Rate
  - PQI 10 Dehydration Admission Rate
  - PQI 11 Bacterial Pneumonia Admission Rate
  - PQI 12 Urinary Tract Infection Admission Rate

Source: AHRQ

Prevention Quality Indicators Index (PQI)

- The GMC/GSACH/HSRH study area shows **5 of the 14 PQI measure that are higher than the state PQI value** – indicating higher preventable hospital admission rates for the following:
  - PQI 2 – Perforated Appendix (Study Area = 443.04; PA = 343.91)
  - PQI 8 – Congestive Heart Failure (Study Area = 419.85; PA = 418.29)
  - PQI 10 – Dehydration (Study Area = 66.11; PA = 61.90)
  - PQI 11 – Bacterial Pneumonia (Study Area = 342.32; PA = 326.16)
  - PQI 13 – Angina without Procedure (Study Area = 23.16; PA = 11.80)

- The **largest PQI difference** between the GMC/GSACH/HSRH study area and PA is **for Perforated Appendix** in which PA shows a rate of preventable hospitalizations due to perforated appendix at 343.91 per 100,000 population, whereas the GMC/GSACH/HSRH study area shows a rate of 443.04 preventable hospitalizations per 100,000 population (nearly 100 more preventable hospitalization per 100,000 pop.; or 30% more).

Source: AHRQ

Prevention Quality Indicators Index (PQI)

- From 2011 to 2014, four of the PQI measures' definitions changed drastically and, therefore, cannot be accurately compared.
- Of the 10 remaining PQI measures, **nine of the 10 saw reductions in PQI rates** from 2011 to 2014. The largest reduction was for Bacterial Pneumonia (going from 421.23 preventable hospitalizations per 100,000 to 342.32 per 100,000).
- **One PQI value** for GMC/GSACH/HSRH **saw a rise** in preventable hospitalizations, this was for diabetes, short-term complications (going from 58.76 per 100,000 pop. to 64.83 pop.).

Source: AHRQ

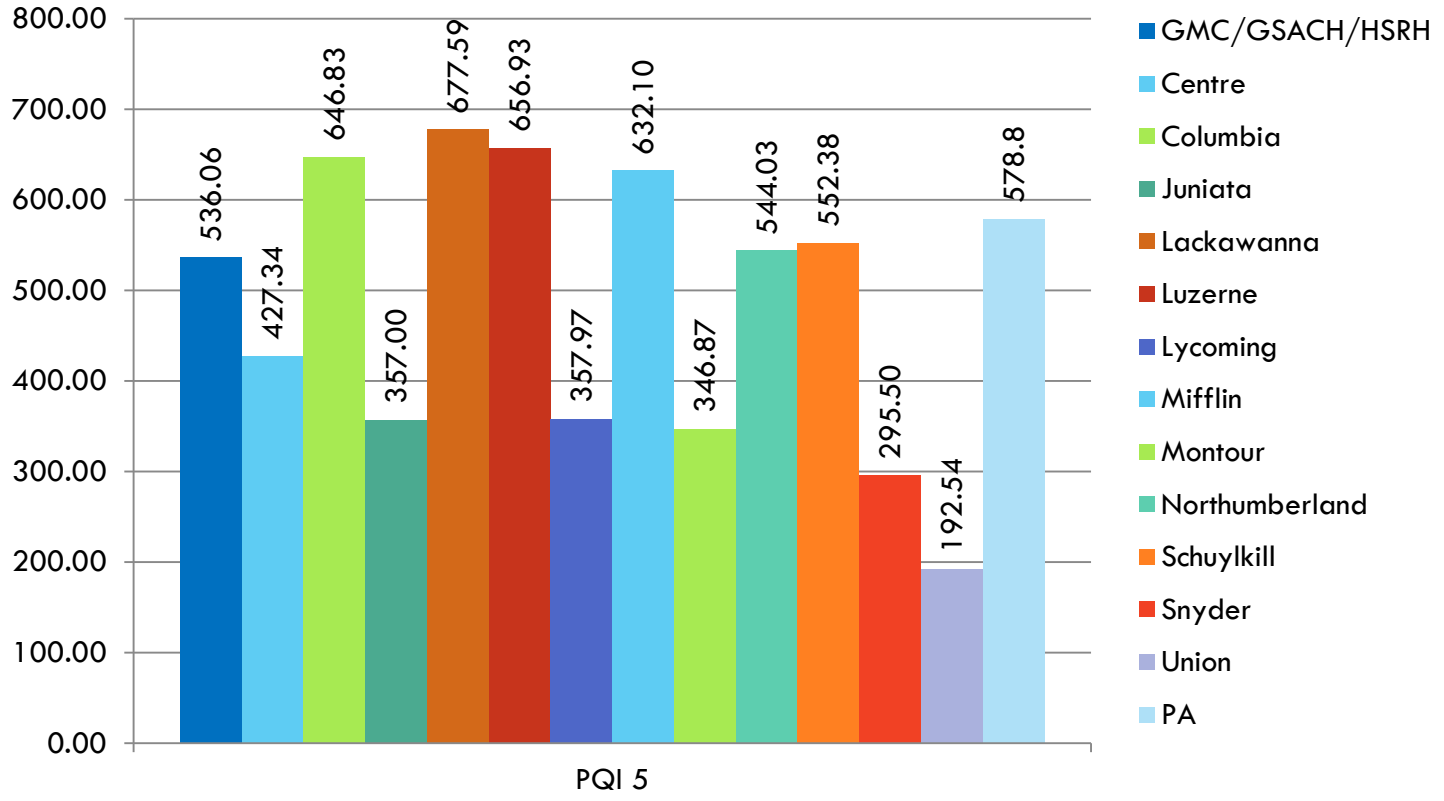
Prevention Quality Indicators Index (PQI)

Prevention Quality Indicators (PQI)	GMC/GSACH /HSRH Study Area	PA	Difference	2011 PQI GMC/GSA CH/HSRH	2014 PQI GMC/GSA CH/HSRH	Difference
Diabetes Short-Term Complications (PQI1)	64.83	115.16	- 50.33	58.76	64.83	+ 6.07
Perforated Appendix (PQI2)	443.04	343.91	+ 99.13	0.28	443.04	--
Diabetes Long-Term Complications (PQI3)	98.61	119.79	- 21.18	104.60	98.61	- 5.99
Chronic Obstructive Pulmonary Disease or Adult Asthma(PQI5)	536.06	578.80	- 42.74	295.11	536.06	--
Hypertension (PQI7)	36.35	53.99	- 17.64	36.58	36.35	- 0.23
Congestive Heart Failure (PQI8)	419.85	418.29	+ 1.56	473.03	419.85	- 53.18
Low Birth Weight (PQI9)	30.76	37.50	- 6.74	0.77	30.76	--
Dehydration (PQI10)	66.11	61.90	+ 4.21	90.20	66.11	- 24.09
Bacterial Pneumonia (PQI11)	342.32	326.16	+ 16.16	421.23	342.32	- 78.91
Urinary Tract Infection (PQI12)	168.10	197.51	- 29.41	197.79	168.10	- 29.69
Angina Without Procedure (PQI13)	23.16	11.80	+ 11.36	31.78	23.16	- 8.62
Uncontrolled Diabetes (PQI14)	12.55	14.20	- 1.65	19.03	12.55	- 6.48
Asthma in Younger Adults (PQI15)	36.09	63.34	- 27.25	105.10	36.09	--
Lower Extremity Amputation Among Diabetics (PQI16)	24.45	26.40	- 1.95	37.41	24.45	- 12.96

*Red values indicate a PQI value for the specific study area that is higher than the PQI for PA or the previous study year.
*Green values indicate a PQI value for the specific study area that is lower than the PQI for PA or the previous study year.

Source: AHRQ

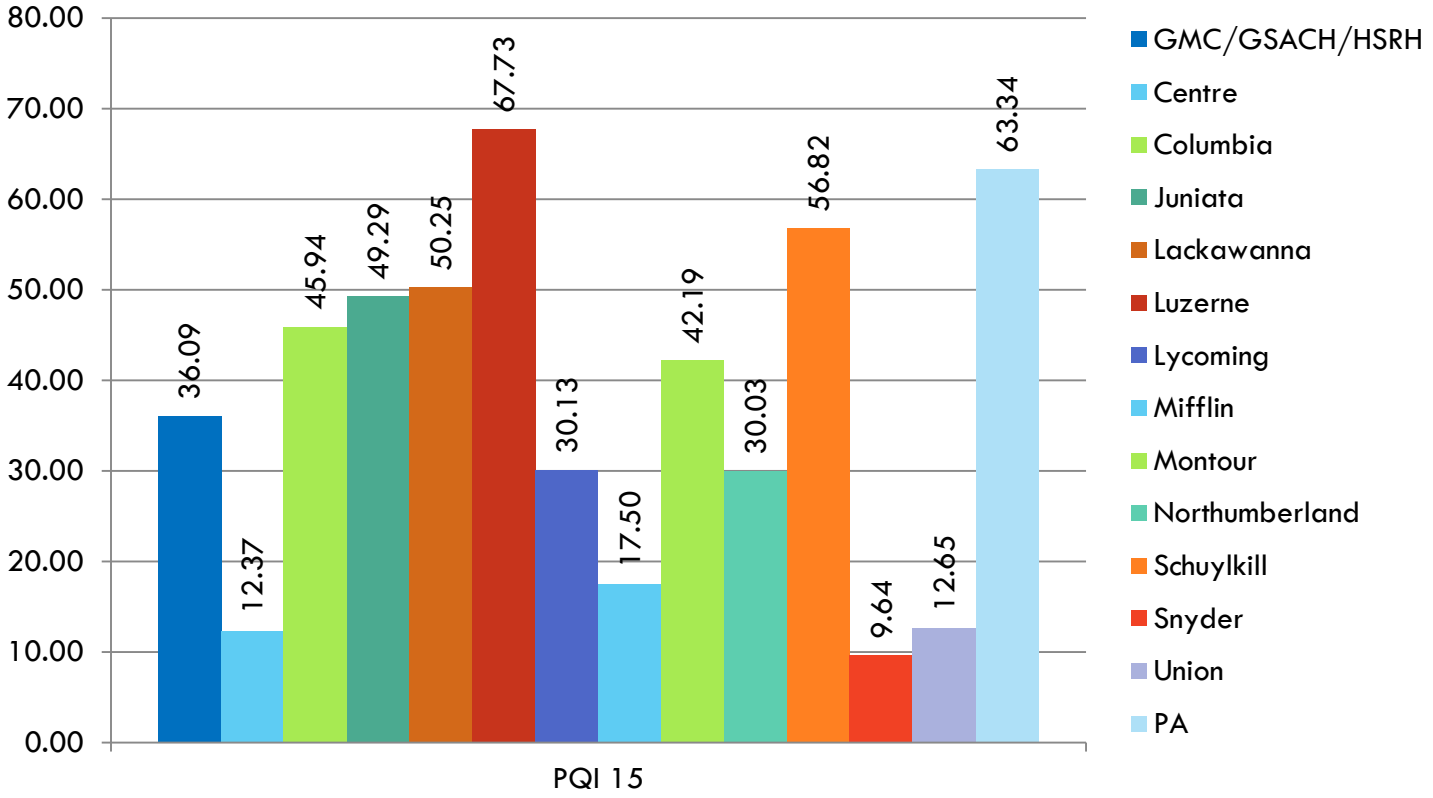
Chronic Lung Conditions



PQI 5 Chronic Obstructive Pulmonary Disease or Asthma in Older Adults Admission Rate

Source: AHRQ

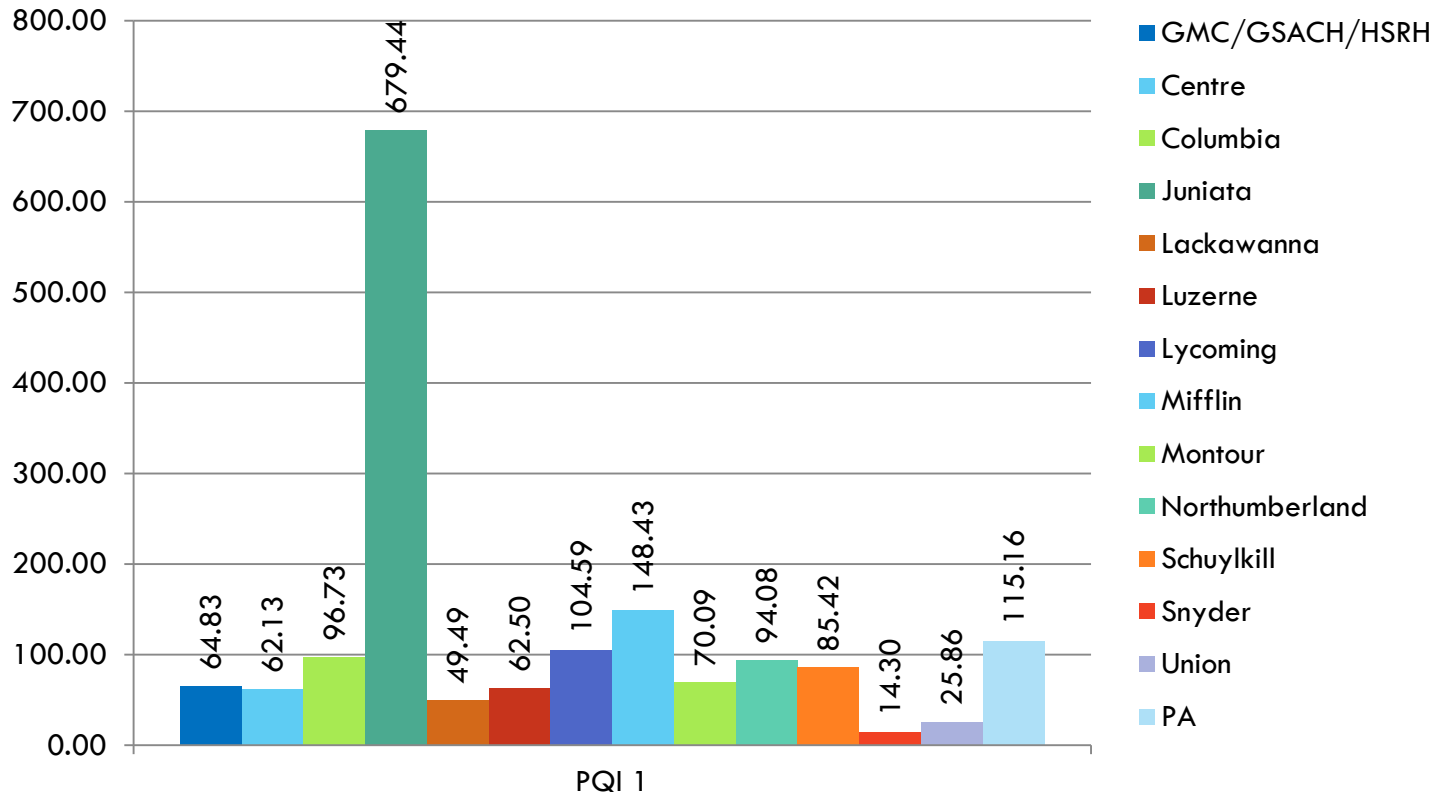
Chronic Lung Conditions (cont'd)



PQI 15 Asthma in Younger Adults Admission Rate

Source: AHRQ

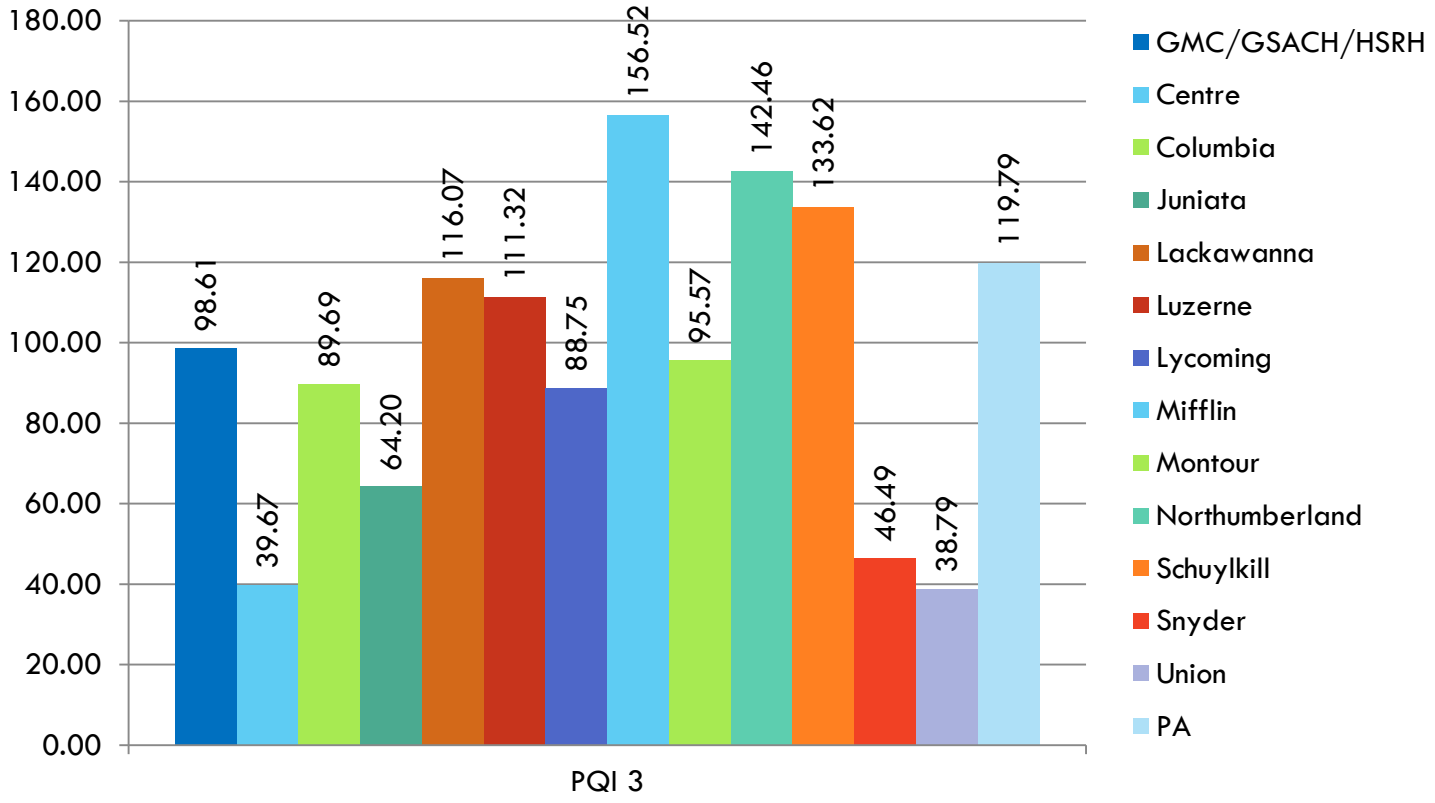
Diabetes



PQI 1 Diabetes Short-Term Complications Admission Rate

Source: AHRQ

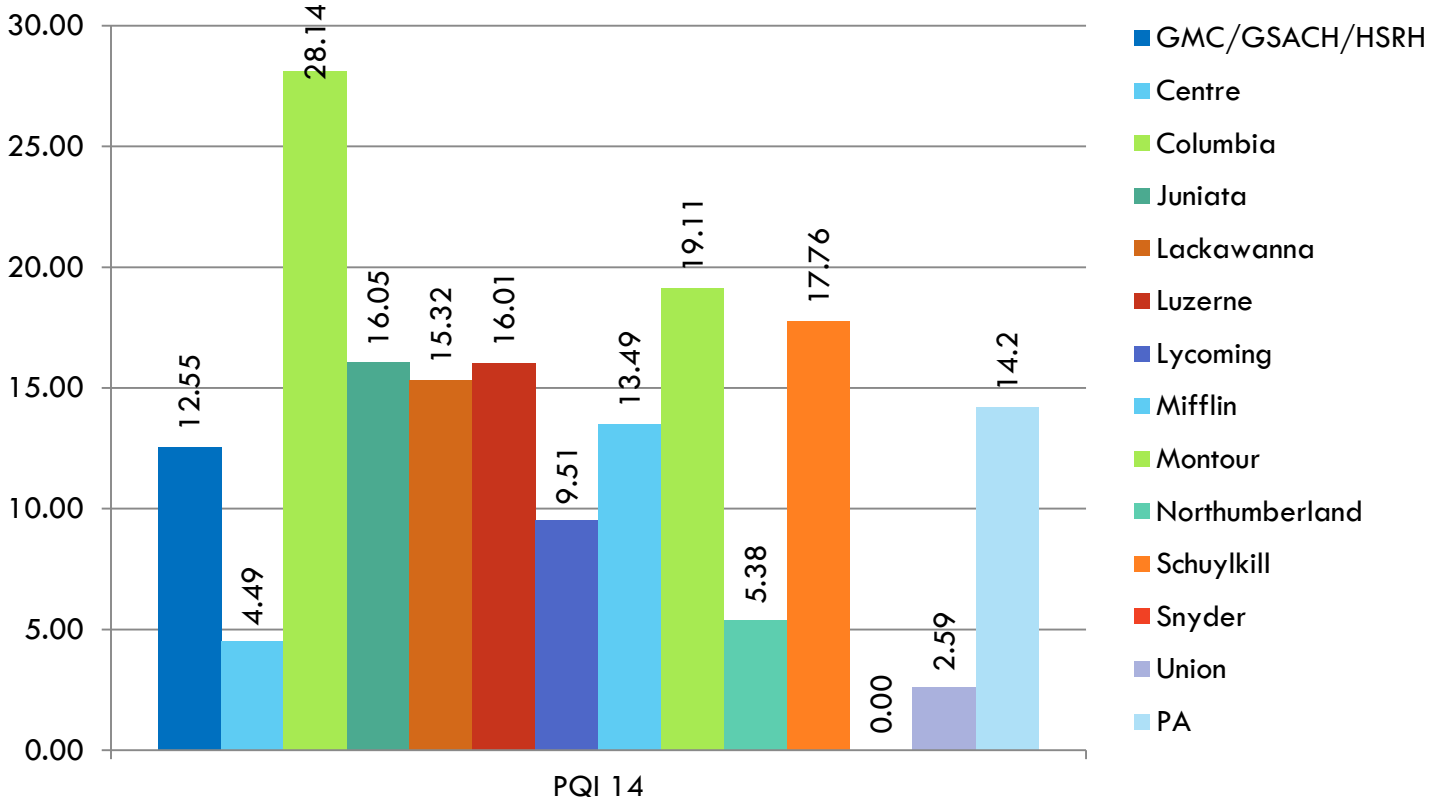
Diabetes (cont'd)



PQI 3 Diabetes Long-Term Complications Admission Rate

Source: AHRQ

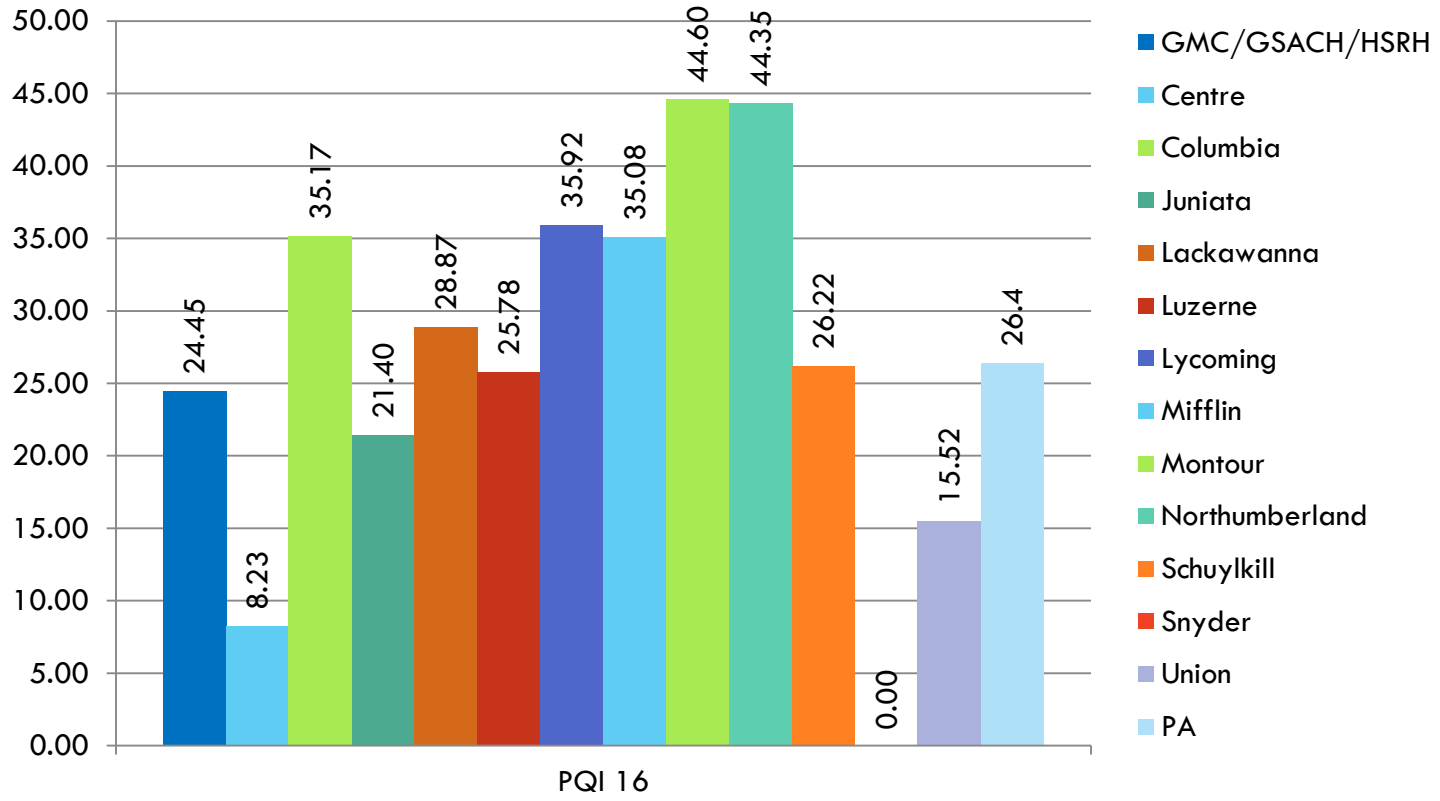
Diabetes (cont'd)



PQI 14 Uncontrolled Diabetes Admission Rate

Source: AHRQ

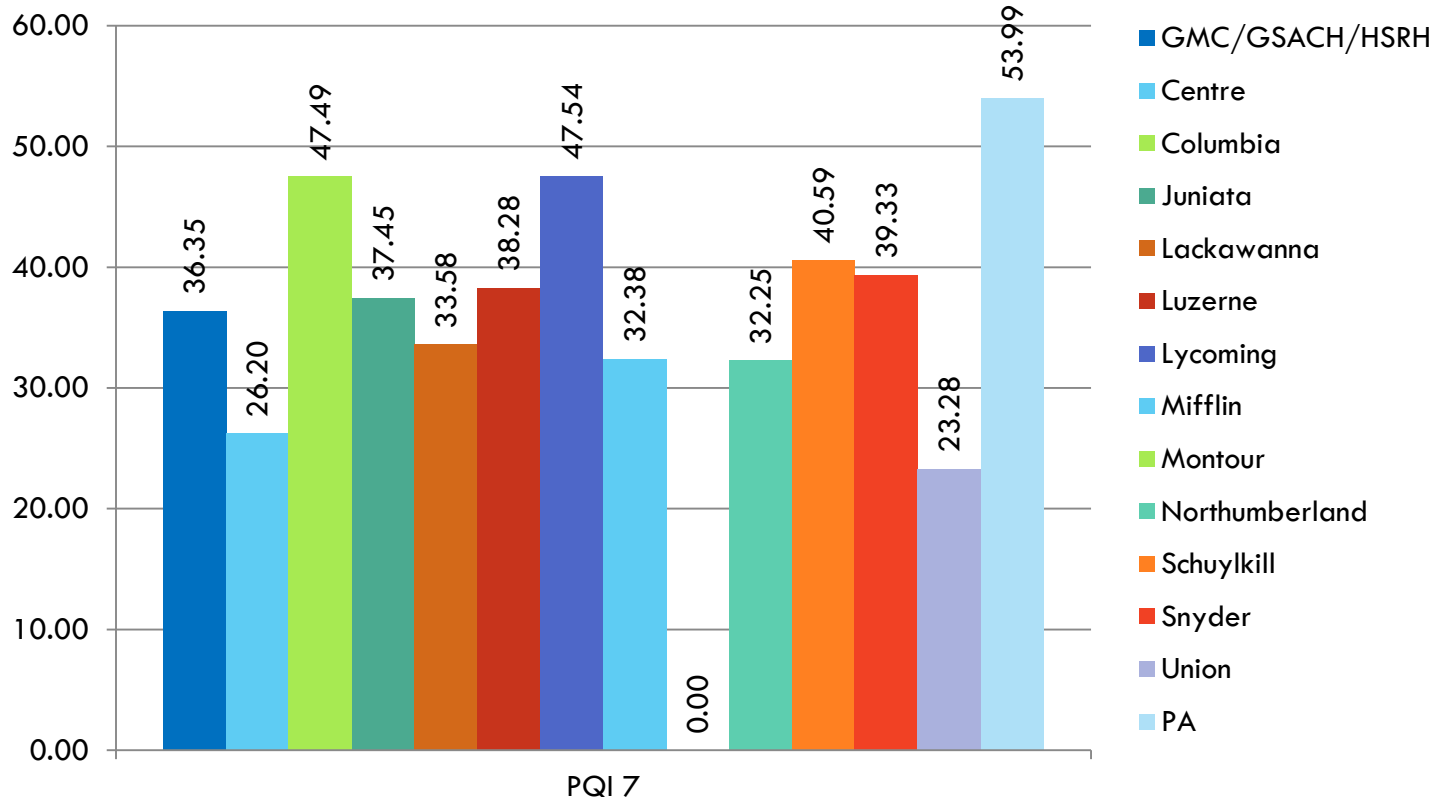
Diabetes (cont'd)



PQI 16 Lower Extremity Amputation Rate Among Diabetic Patients

Source: AHRQ

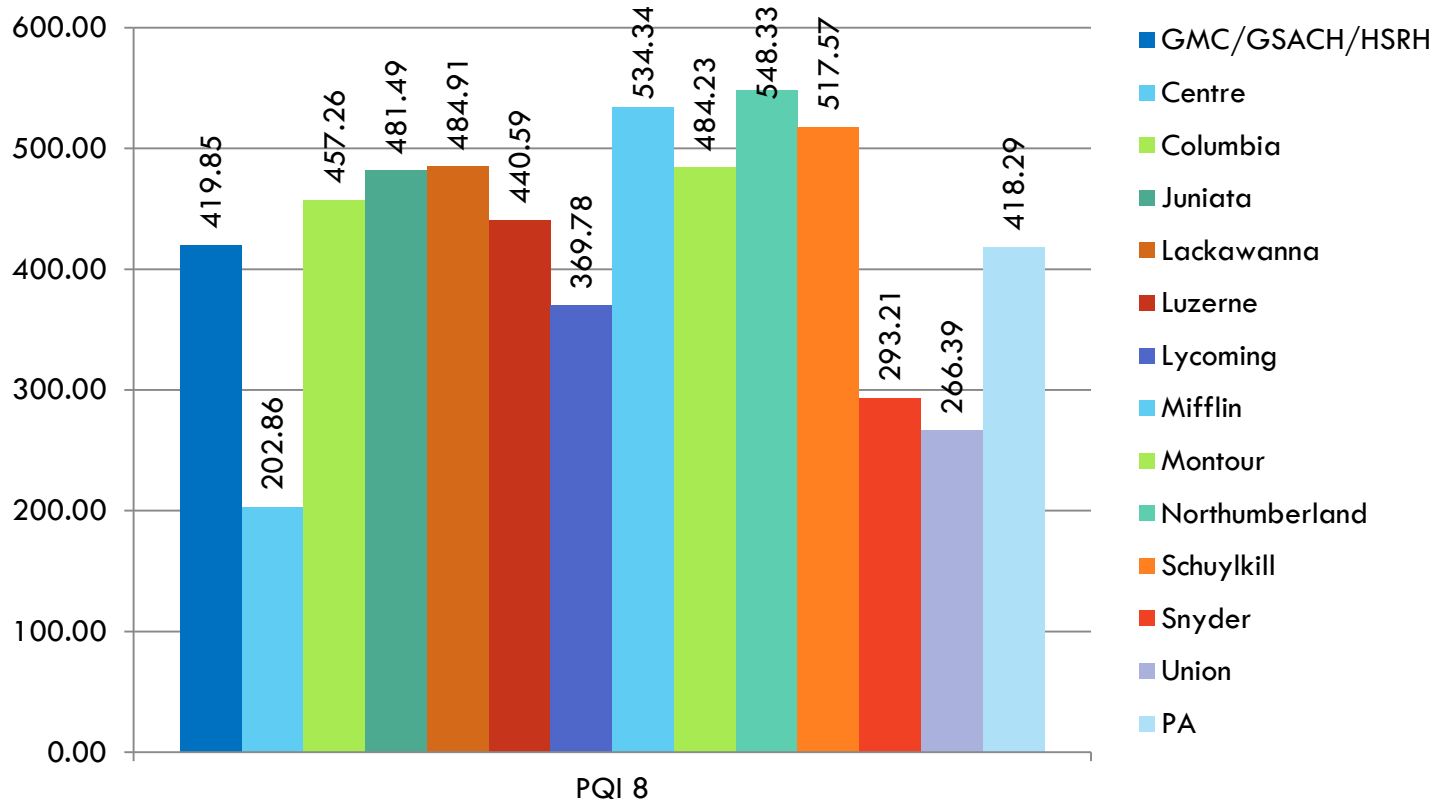
Heart Conditions



PQI 7 Hypertension Admission Rate

Source: AHRQ

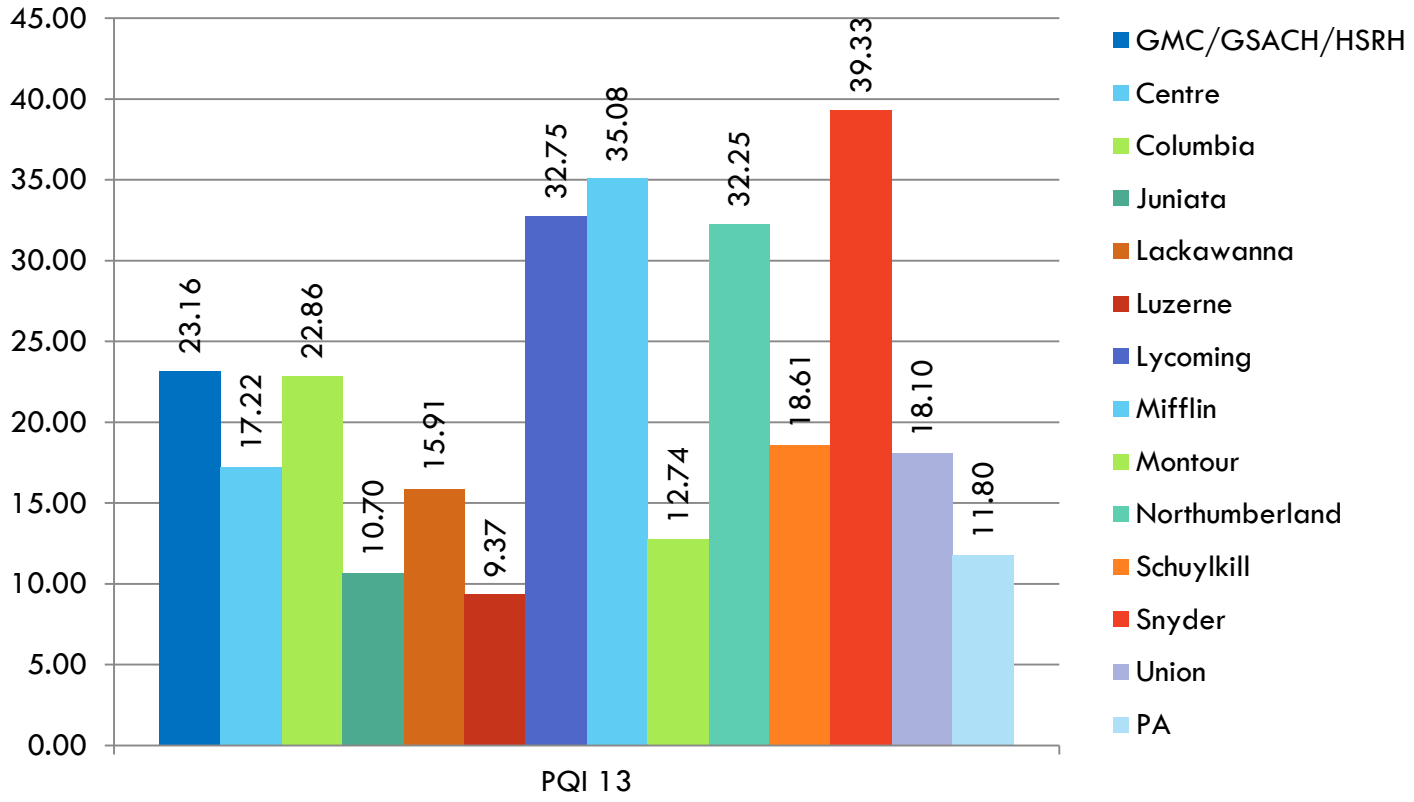
Heart Conditions (cont'd)



PQI 8 Congestive Heart Failure Admission Rate

Source: AHRQ

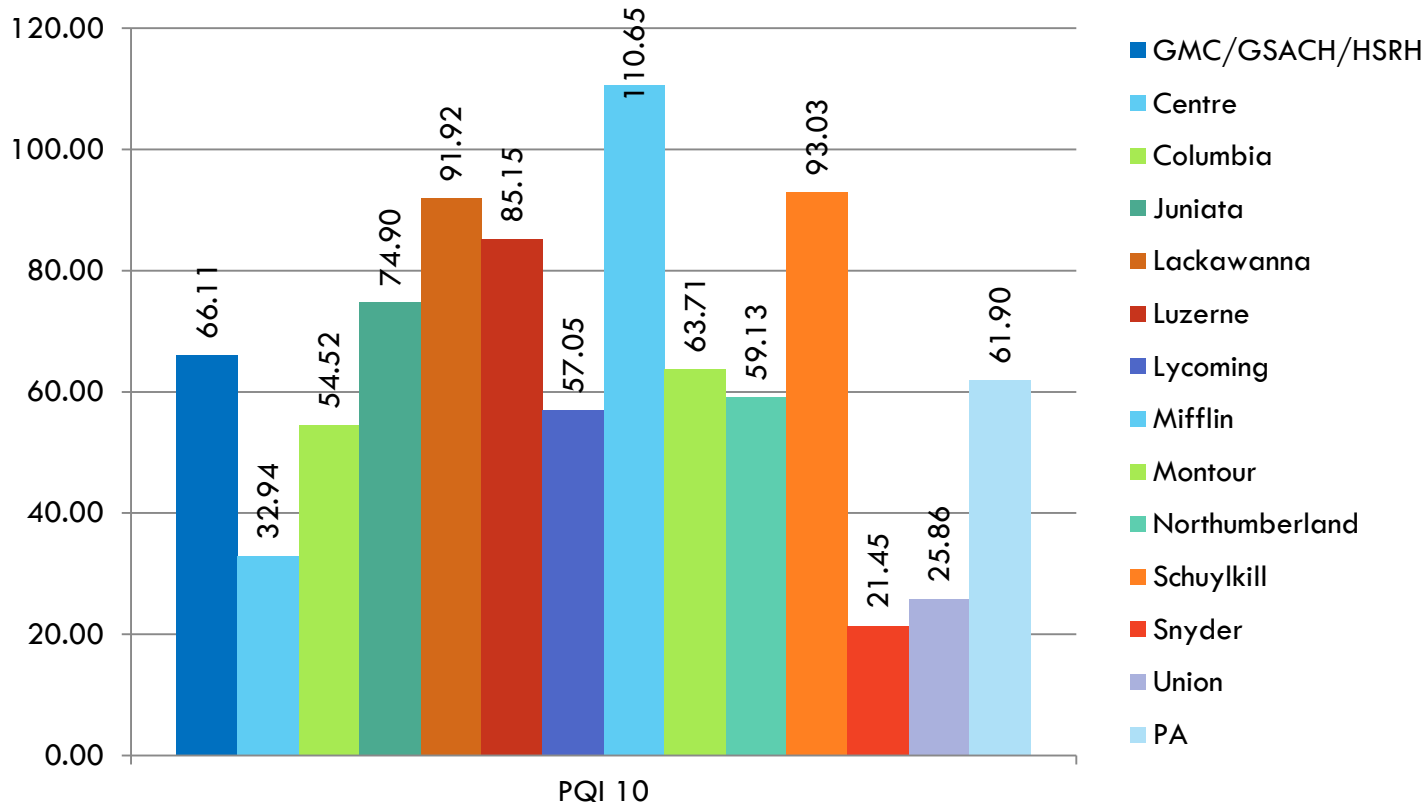
Heart Conditions (cont'd)



PQI 13 Angina Without Procedure Admission Rate

Source: AHRQ

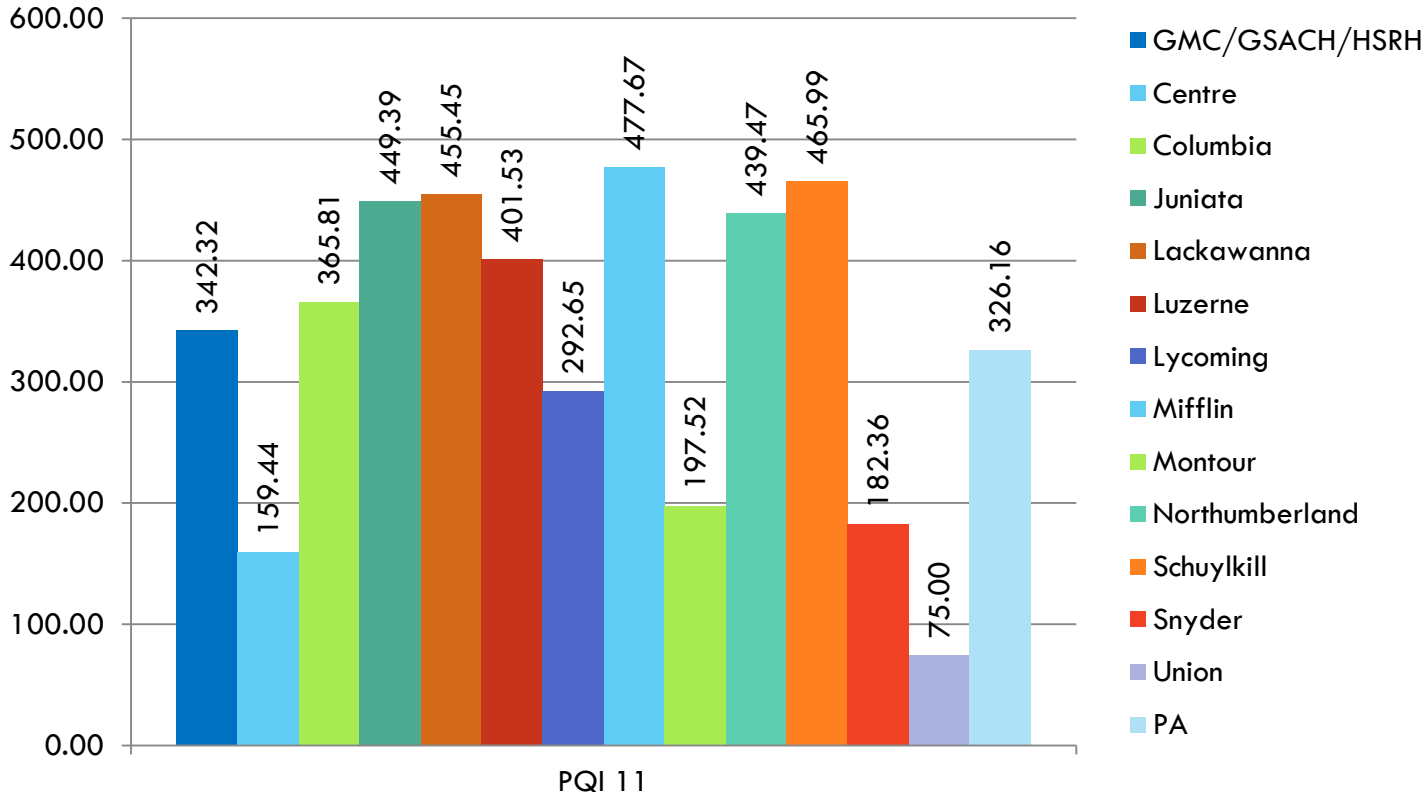
Other Conditions



PQI 10 Dehydration Admission Rate

Source: AHRQ

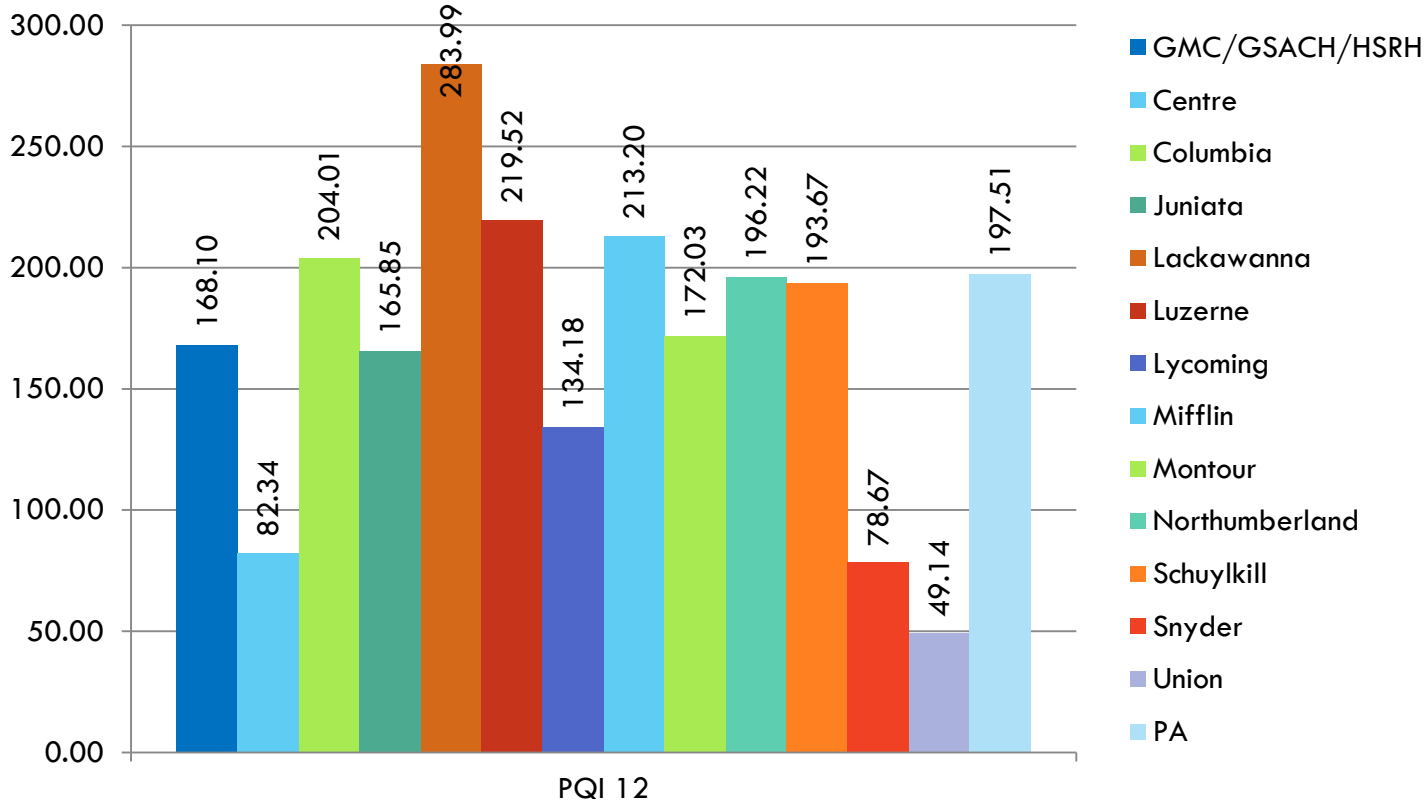
Other Conditions (cont'd)



PQI 11 Bacterial Pneumonia Admission Rate

Source: AHRQ

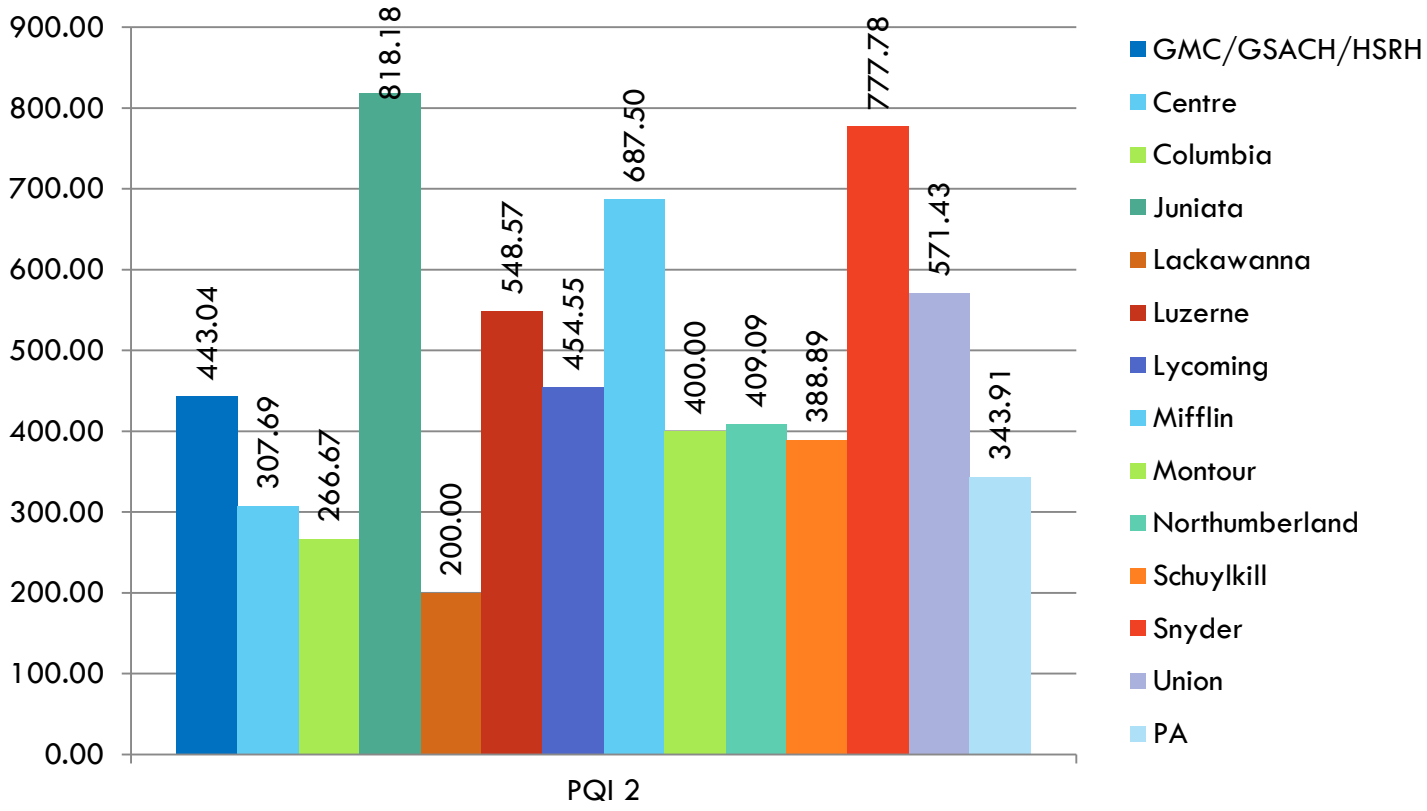
Other Conditions (cont'd)



PQI 12 Urinary Tract Infection Admission Rate

Source: AHRQ

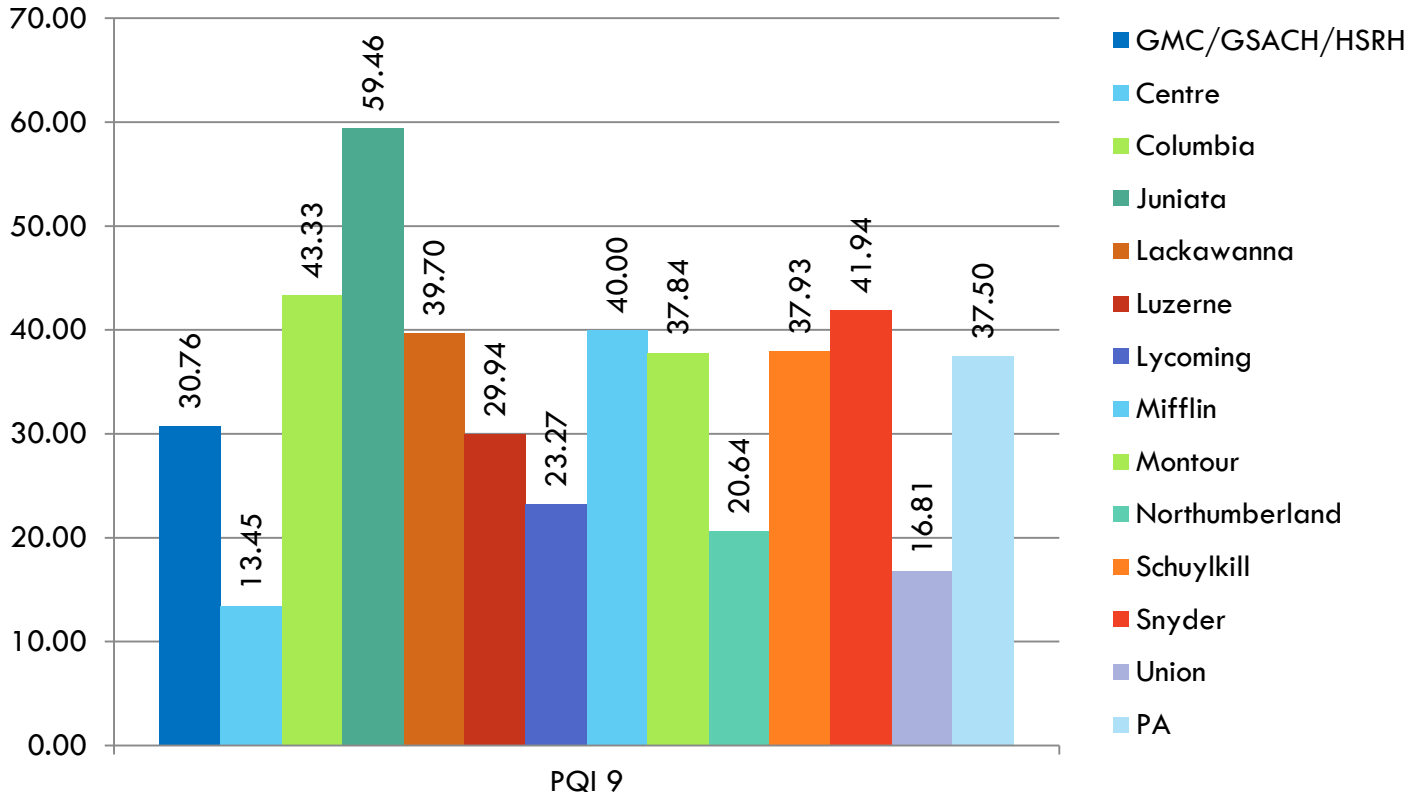
Other Conditions (cont'd)



PQI 2 Perforated Appendix Admission Rate

Source: AHRQ

Other Conditions (cont'd)



PQI 9 Low Birth Weight Rate

Source: AHRQ

GMC/GSACH/HSRH–
Initial Reactions to Secondary Data

- The consultant team has identified the following data trends and their potential impact:
  - Being such a large study area, the GMC/GSACH/HSRH study area includes regions with many and varied health access needs as well as regions with minimal health care access needs.
  - Also, because the study area is so large, with a projected population growth at a rate of 0.4% correlates to more than 3,500 residents over the next five years.
  - The GMC /GSACH/HSRH study area reports a high rate of resident households earning less than $15K per year (14.5%); this is higher than state and national rates (12.8% and 13.3% respectively. Low income correlates to many other measures of residents able to seek and receive adequate health care.
  - The largest minority population in the GMC/GSACH/HSRH study area is in the Hispanic population at 5.2%; however this rate is still below the state and national rates (6.5% and 17.6% respectively).
  - The highest CNI score for the GMC/GSACH/HSRH study area is 4.6 in the town of Hazleton (18201). The highest CNI score indicates the most barriers to community health care access. Hazleton (18201) shows the highest rates across the GMC/GSACH/HSRH study area for Minority population (47.7%) and Limited English proficiency (10.3%).
    - Hazleton was not included as a zip code area in the previous Geisinger /Tripp Umbach study.
    - However, looking at the 40 zip code areas that Tripp Umbach had past data for, the majority of these zip code areas experienced increases (more barriers to health care access) from 2001 to 2014 - 18 increased in CNI score (got worse), 15 decreased in CNI score (got better), and 7 maintained the same CNI score
    - Of the 40 zip code areas that stayed consistent from the 2011 to 2014 studies; Mifflinville (18631) saw the largest rise in CNI score (more barriers to health care access); going from a score of 1.6 in 2011 to a score of 2.6 in 2014.
  - Of the 12 counties in the GMC/GSACH/HSRH study area, Luzerne, Northumberland, and Schuylkill counties report some of the highest county health rankings (scores 50 and above).
    - Luzerne County ranked the unhealthiest (highest score) for: Health Outcomes (57), Morbidity (55), and Social and Economic Factors (63) for the GMC/GSACH/HSRH study area.
    - Schuylkill County ranked the unhealthiest (highest score) for: Health Factors (59), and Health Behaviors (50).
  - From 2011 to 2014, n**ine of the 10 comparable PQI measures saw reductions in PQI rates**. The largest reduction was for Bacterial Pneumonia (going from 421.23 preventable hospitalizations per 100,000 to 342.32 per 100,000). **One PQI value** for GMC/GSACH/HSRH **saw a rise** in preventable hospitalizations, this was for diabetes, short-term complications (going from 58.76 per 100,000 pop. to 64.83 pop.).