



University Healthcare
Community Health Needs Assessment
&
Strategy Implementation Plan

Joy Buck, PhD, APRN

Professor, WVU School of Nursing
Robert C. Byrd Health Sciences Center, Eastern Division
jbuck@hsc.wvu.edu

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2016 Community Health Needs Assessment

Introduction and Background

This Community Health Needs Assessment (CHNA) report provides an analysis of health trends in the communities served by Berkeley Medical Center and Jefferson Medical Center, the two hospitals which comprise WVU Medicine/University Healthcare (UHC). This assessment was conducted to gain insight into the health care needs and priorities in the region, available assets to address identified needs, and to meet IRS regulatory requirements. The findings serve as the basis for strategic thinking and planning for each University Healthcare hospital. The CHNA is augmented by broad community input about unmet needs and priorities. By engaging the community in this assessment and development of strategies to improve community health, the credibility and sustainability of health improvement efforts and the image of University Healthcare and its vital role in the health of the community is enhanced.

In late January 2016, UHC began the assessment phase of CHNA Cycle II (CHNA II) using the 2015 IRS CHNA rules¹ and incorporating lessons from CHNA Cycle I. A modified Mobilizing for Action through Planning and Partnerships (MAPP) framework and ethnographically-informed assessment methods guided the iterative processes of community engagement, data collection, information sharing, strategy development and evaluation.² WVU Medicine/University Healthcare contracted with Dr. Joy Buck, PhD, APRN to facilitate the CHNA Cycle II. Dr. Buck is a professor in the WVU School of Nursing, Eastern Division, with adjunct appointments in the WVU School of Medicine, Department of Family Medicine, and the WVU School of Public Health, Department of Social and Behavioral Sciences. Dr. Buck has expertise in applied ethnography and is an advanced clinical nurse specialist in community-based chronic care with extensive experience with local, state, and regional community-engaged initiatives. She was the lead for CHNA Cycle I assessment, implementation plan and evaluation.

CHNA Cycle II was prepared for the region served by University Healthcare as well as for the communities served by each University Healthcare affiliated hospital. The CHNA *Steering Committee* was comprised of the UHC Executive Team and Dr. Buck. The Steering Committee defined the CHNA scope and framework and met regularly to assure adherence to IRS requirements; provide guidance on assessment/prioritization tools and criteria, data collection and interpretation, prioritization, development of hospital strategies and evaluation plan; and, community benefit determination and reporting. (See Appendix A). The Steering Committee reviewed and discussed the assessment findings, identified gaps and priorities, and hospital strategies already underway to address the gaps. Key findings of the assessment were presented to the WVU Medicine/University Healthcare Board of Directors and the Strategic Planning Committee in early 2017. The Strategy Implementation Plan was presented to and approved by the Board on April 3, 2017.

Dr. Buck served as the Steering Committee liaison to the *CHNA Community Advisory Board* which consisted of members of the Eastern Panhandle Health and Human Services Collaborative (HHSC) Steering Committee and representatives from the Berkeley County and Jefferson County Health Departments. The *HHSC*³ is a

¹ Internal Revenue Service (No date). *New Requirements for 501(c) (3) Hospitals Under the Affordable Care Act*. Retrieved from: <http://www.irs.gov/Charities-%26-Non-Profits/Charitable-Organizations/New-Requirements-for-501%28c%29%283%29-Hospitals-Under-the-Affordable-Care-Act>

² For more information on *Ethnographically-Informed Community Assessment* see: <http://libres.uncg.edu/ir/asu/listing.aspx?id=4421>

³ For more information, see: <http://frnotp.org/hhsc-membership-list/>

voluntary Eastern Panhandle collaborative that brings together health and social service professionals from myriad organizations, agencies, and health care systems for information sharing and action on important concerns in the community. (Appendix B) The HHSC and associated work groups set annual priorities and goals and develops workplans to meet strategic objectives. The *Eastern Panhandle Family Resource Network (FRNOTP)* provides administrative oversight and serves as the HHSC facilitator. The *HHSC Steering Committee* is comprised of representatives from each of standing workgroups, the FRN Executive Director, and the CHNA representative.

The relationship among the HHSC, Community Advisory Board, and CHNA was synergistic and dynamic. The HHSC Steering Committee served in an advisory capacity and assisted with community engagement, distribution of electronic surveys, prioritization processes, and as key informants. Dr. Buck served as the CHNA representative to the HHSC Steering Committee from January 2014 through March 2017. Throughout the 2016 assessment period, the findings of each assessment were discussed with the Community Advisory Board and the HHSC Health and Behavioral Health Workgroups. Key CHNA findings were formally presented and discussed during focus groups with the HHSC Health Workgroup, HHSC Behavioral Health Workgroup, Shenandoah Community Health Board and providers, clients of Jefferson Community Ministries, and the Berkeley County Health Department.⁴ The assessment findings subsequently informed strategic planning, goals setting, and program development. In preparation for the CHNA Strategy Implementation phase, Ms. Dana DeJarnett, MS, UHC Outreach Coordinator was appointed to the HHSC Steering to maximize synergy of CHNA and HHSC initiatives.

Report Methods and Organization

Mobilizing for Action through Planning and Partnerships (MAPP) is a strategic approach to community health improvement. This tool helps communities improve health and quality of life through community-wide strategic planning. Using MAPP, communities seek to achieve optimal health by identifying and using their resources wisely, considering their unique circumstances and needs, and forming effective partnerships for strategic action. The MAPP process was adapted and used as a framework for the UHC CHNA Cycle I and again for Cycle II. The MAPP process consists of four assessment to provide a comprehensive snapshot of community perspectives of quality of life, critical health and safety issues, forces of change, community health status indicators, and health and social service system capacity.

The CHNA draws on qualitative, observational, and quantitative data collected and analyzed over a 12-month period (February 2016- February 2017). The CHNA process involved collecting both primary and secondary data. Primary data were gathered from external and internal stakeholders via interviews, web-based survey instruments, focus groups, formal and informal key informant interviews, and observations of public meetings. The stakeholders represent the broad interests of the communities served by University Healthcare and included public health officials, teachers, school nurses, social service providers, community health center providers, staff, and board member, persons living with chronic health conditions and their families, other community members, and University Healthcare-affiliated executives, clinicians, administrators, and staff. In addition, special outreach efforts were made to be sure that the voices of all persons were heard and included in the development of health priorities and strategies to address those priorities. Dr. Buck partnered with Shepherd University and WVU BSW and MSW students and interns to increase outreach for input from clients of DHHR, Berkeley and Jefferson County Health Departments, Jefferson Community Ministries, Catholic Charities, and other social service agencies and organizations.

⁴ *Shenandoah Community Health (Shenandoah Valley Health Systems, Inc.) is a FQHC that has Behavioral Health, Migrant Health (WV and VA), Adult, Pediatrics, Maternity, and other health and outreach programs.*

Four different assessments were completed: (1) Community Themes and Strengths Assessment (CTSA); (2) Health System Assessment (HSA); (3) Community Health Status Assessment (CHSA); (4) Forces of Change Assessment (FOC). The CHSA and HSA were conducted using survey, focus groups, and key informant interview research methods and secondary analysis of hospital data. The CHSA consisted of a secondary analysis of publicly available health data and Cancer Registry data. The Executive Summary includes highlights of key finding and priorities identified through the CTSA and HSA survey (n=619), CHSA, key informant interviews (n=30) and focus groups (n=10; 180 participants). See Appendix C for CHNA assessment questionnaires and instruments.

CHNA Design

The multi-phase CHNA design was emergent. Each assessment and associated instruments built on the key findings of the previous assessment. Findings from each assessment were shared with the Community Advisory Board, HHSC Health Workgroup and Behavioral Health Workgroup, community partners and experts at various points over a 12-month period. As previously described, the purpose was to disseminate the findings and to solicit feedback and insight into key issues to further explore in the next assessment phase. This approach made assessment findings available to community partners allowing for timely integration of assessment data into ongoing health planning, program development, and advocacy efforts.

World Health Organization Determinants of Health

According to the World Health Organization (WHO), the health of a community is not simply determined by the existence or absence of disease. Rather, it is determined by myriad factors including the social, economic, and physical environments, and a person's individual characteristics, including genetics and behaviors.⁵ These determinants include, but are not limited to the following:

- Income and social status - higher income and social status are linked to better health, and the greater the gap between the richest and poorest people, the greater the differences in health.
- Education – low education levels are linked with poor health, more stress and lower self- confidence.
- Physical environment – safe water and clean air, healthy workplaces, safe houses, communities and roads all contribute to good health. Employment and working conditions – people in employment are healthier, particularly those who have more control over their working conditions.
- Social support networks – greater support from families, friends and communities is linked to better health. Culture - customs and traditions, and the beliefs of the family and community all affect health.
- Genetics - inheritance plays a part in determining lifespan, healthiness and the likelihood of developing certain illnesses.
- Personal behavior and coping skills – balanced eating, keeping active, smoking, drinking, and how we deal with life's stresses and challenges all affect health.
- Health services - access and use of services that prevent and treat disease influences health.
- Sex - Men and women suffer from different types of diseases at different ages. There are also economic and social differences between men and women that lead to health disparities.

These broader determinants of health were used to guide CHNA II data collection and analysis of the current health of the community and the forces that influence it. While Berkeley County and Jefferson County were the primary target for this assessment, when possible, trend and comparative data are

⁵ World Health Organization (WHO), Health Impact Assessment available <http://www.who.int/hia/evidence/doh/en/>, last accessed 11/2/2016

provided for Berkeley, Jefferson, and Morgan counties.

Key Indicators and Data Sources

In addition to the determinants of health, the following topics and data were used:

- Demographics (trends, comparisons, pockets of vulnerable people);
- Economic issues (unique characteristics, strengths and weaknesses, impacts of state and national budget cuts);
- Education issues;
- Family issues (child care, family violence, substance use and abuse);
- Community issues;
- Health status indicators such as:
- Morbidity rates for various diseases and conditions; and
- Mortality rates (leading causes of death);
- Health access indicators (e.g., un-insurance rates, ambulatory care sensitive discharges)
- Health disparities indicators, as available; and,
- Delivery system capacity and characteristics.

The **University Healthcare Executive Team** defined the geographic areas (communities) to be assessed. The assessments focused on each hospital's service area that fall within the 2-county region identified as University Healthcare's core service area. Principal data sets for the quantitative analyses for the CHNA included:

- Demographic, discharge, and ACS data provided by University Healthcare;
- Cancer Registry data 2013-2015 for Berkeley Medical Center and Jefferson Medical Center;
- Health status and access indicators available from the Community Health Status Indicators Project, County Health Rankings, CDC, and SEER;
- Hospital Compare and other CMS data sets;
- Berkeley County and Jefferson County Public Health data; and,
- University Healthcare Community Strengths and Themes Survey
 - Patient Assessment of Chronic Illness Care Sub-scale
 - Community satisfaction with and confidence in selected health and support service
 - Healthcare access barriers
 - Healthcare utilization patterns

The Affordable Care Act has many provisions aimed at improving quality and patient safety. One of the quality indicators used by the Centers for Medicare and Medicaid Services (CMS) is ambulatory care sensitive (ACS) discharges. The ACS discharge methodology quantifies inpatient admissions for diabetes, perforated appendix, chronic obstructive pulmonary disease (COPD), hypertension, congestive heart failure, dehydration, bacterial pneumonia, urinary tract infection, asthma, and other conditions that, in theory, could have been prevented if adequate ambulatory care resources were available and/or were accessed by consumers. High ACS discharge rates are indicators of: (1) access barriers to ambulatory care including affordability, acceptability, and availability of services; and, (2) the quality of ambulatory care. Findings from the ACS analysis for the CHNA are reported at the University Healthcare hospital-level of detail.

The Affordable Care Act also contains provisions that direct hospitals to: "implement activities to prevent hospital readmissions through a comprehensive program for hospital discharge that includes

patient-centered education and counseling, comprehensive discharge planning, and post-discharge reinforcement by an appropriate health care professional.”² All participating hospitals, except those certified as “Critical Access Hospitals” are required to report hospital readmissions within 30 days of discharge and penalties are levied on those hospitals determined by CMS criteria to have “excess” readmission rates. Berkeley Medical Center’s subject to the hospital readmission reduction program requirements.⁶

Jefferson Medical Center is currently classified as being a “Critical Access Hospital” (CAH).⁷ CAHs represent a separate provider type with their own Conditions of Participation (CoP) as well as a separate payment method. As such, Jefferson Medical Center has specific reporting and accountability requirements that differ from Berkeley Medical Center’s and these differences are reflected in Hospital Compare data presented in this report. CAHs must meet the following criteria³:

- Be in a State that has established a State Medicare Rural Hospital Flexibility Program;
- Be designated by the State as a CAH;
- Be in a rural area or an area that is treated as rural;
- Be located either more than 35-miles from the nearest hospital or CAH or more than 15 miles in areas with mountainous terrain or only secondary roads; OR prior to January 1, 2006, were certified as a CAH based on State designation as a “necessary provider” of health care services to residents in the area.
- Maintain no more than 25 inpatient beds that can be used for either inpatient or swing-bed services;
- Maintain an annual average length of stay of 96 hours or less per patient for acute inpatient care (excluding swing-bed services and beds that are within distinct part units);
- Demonstrate compliance with the CAH Medicare Conditions of Participation (CoP) found at 42 CFR Part 485 subpart F; and
- Furnish 24-hour emergency care services 7 days a week.

Centers for Medicare and Medicaid Services (CMS) Hospital Compare

Information from Hospital Compare was also included in this report. Hospital Compare is part of the CMS Hospital Quality Initiative. The Hospital Quality Initiative uses a variety of tools to help stimulate and support improvements in the quality of care delivered by hospitals. The intent is to help improve hospitals’ quality of care by distributing objective, easy to understand data on hospital performance and consumer perspectives of quality. When available, data from both Berkeley and Jefferson Medical Centers were included in this report. CMS measures of quality include:

- Timely and Effective Care (Process of Care Measures)
- Heart Attack (Acute myocardial infarction - AMI)
- Heart Failure
- Pneumonia
- Surgery (Surgical Care Improvement Project)
- Children's Asthma Care
- Readmissions, Complications, and Deaths (Outcome of Care Measures)
- 30-day death (mortality) rates and 30-day readmission rates
- Serious complications - AHRQ Patient Safety Indicators (PSIs)
- Hospital-acquired conditions

⁶ Source: <http://www.gpo.gov/fdsys/pkg/PLAW-111publ148/pdf/PLAW-111publ148.pdf>

⁷ Source: <http://www.cms.gov/Medicare/Provider-Enrollment-and-Certification/CertificationandCompliance/CAHs.html>

- Healthcare-associated infections
- Use of Medical Imaging (Outpatient Imaging Efficiency Measures)
- Survey of Patients' Hospital Experiences (HCAHPS [Hospital Consumer Assessment of Healthcare Providers and Systems])
- Number of Medicare patients
- Spending per hospital patient with Medicare

Data Analysis

To identify the most significant health care needs, statistics for various health status and health access indicators were analyzed and compared to state and national benchmarks or goals. The University Healthcare CHNA also incorporated key stakeholder views and those of the broader community. Thus, objective trending data as well as perspectives of multiple stakeholders were used as an evidence-base for the CHNA and subsequent strategic planning and programmatic response by University Healthcare hospitals both internally and externally.

Instruments. The CTSA/HSA survey and associated subscales have established discriminant or construct validity, internal consistency, reliability, and specificity. The PACIC has been used with diverse populations and chronic illnesses. The CHNA subscale based on the PACIC and other CTSA/HSA subscales were validated for use as outcome measures to evaluate the effectiveness of the Strategy Implementation Plan.

Data Analyses. Frequency distributions and descriptive statistics were used to summarize demographic and patterns of survey responses. Anonymous survey responses were collected and stored in Qualtrics database at the WVU under the firewall protected server. Parameters to identify ranges were used to prevent and monitor missing data. Then data were converted into Statistical Program for Social Sciences (SPSS), version 24 (IBM, Pittsburgh, PA) for analyses. Univariate parametric/non-parametric tests were conducted as appropriate by types of data to address study questions. Correlational analyses were conducted to explore the relationship among demographic variables and survey subscales. Psychometric properties were evaluated, Cronbach's alpha (>.70) indicated acceptable internal reliability of each subscale. Missing data were identified and submitted surveys without any input were excluded from the analysis. Missing data by random were imputed in the analyses using mean replacement methods.

Qualitative data from focus groups, formal and informal key informant interviews, and observation field notes were analyzed thematically. Public databases were gleaned for the most relevant community health status indicators and compiled into the report. Finally, hospital-level and Cancer Registry data were analyzed and compared with 2013 CHNA findings to uncover local trends. Findings from each assessment were synthesized and examined for convergence across assessments.

Priorities, Recommendations and Implementation Plan

Recommendations for priorities and target populations were determined by the scope of the problem, extent of impact or burden associated with the problems, system capacity to address problems, and opportunities for key partnerships. The "cost burdens" were determined by examining the direct, indirect, and intangible costs associated with health problems and their societal impacts. *Direct costs* are the costs of medical care in relation to prevention, diagnosis and treatment of disease. They include costs such as ambulances, inpatient or outpatient care, rehabilitation, community health services, and medication. They also include costs associated with self-management of disease and informal caregiving. Out-of-pocket costs are not always considered in cost analyses, but they are a barrier to healthcare. These include costs incurred

by individuals for insurance premiums, co-pays and deductibles for hospital and home care, medical equipment and supplies, and other services such as physical and occupational therapy, chiropractic care, and other similar services to manage health conditions.

Indirect costs are focused on the loss of human resources caused by morbidity or premature death. They center on either the working population, i.e. the costs associated with loss of life and productivity or “willingness to pay” analyses, that captures what people are willing to pay for reductions in the risk of death. *Intangible costs* capture the psychological dimensions of illness including pain, bereavement, anxiety and suffering.⁸

In this report, recommendations for targeted interventions are framed in terms of primary, secondary, and tertiary prevention. *Primary prevention* aims to prevent disease or injury before it ever occurs. *Primary prevention* includes:

- Preventing exposure to hazards (e.g. strategies to reduce environmental exposure to toxins and workplace safety programs);
- Promoting healthy behaviors (e.g. nutrition, physical activity, safe driving);
- Increasing resistance to injury if exposure might occur (e.g. workplace training, body mechanics when lifting, etc.);
- Policy mandating safety and health practices (e.g. seatbelts, bike helmets, milk pasteurization, exposure to second hand smoke).
- Education about healthy and safe habits (e.g. eating well, exercising regularly, not smoking); and,
- Immunization against infectious diseases.

Secondary prevention aims to reduce the impact of a disease or injury that has already occurred. This is done by early detection and intervention to treat disease or injury as soon as possible to halt or slow its progress, education about strategies to prevent re-injury or recurrence, and implementing programs to return people to their original health and function to prevent long-term problems. Examples include:

- Regular exams and screening tests to detect disease in its earliest stages (e.g. mammograms to detect breast cancer);
- Daily, low-dose aspirins and/or diet and exercise programs to prevent further heart attacks or strokes;
- Suitably modified work so injured or ill workers can return safely to their jobs.

Tertiary prevention aims to soften the impact of an ongoing illness or injury that has lasting effects. This is done by helping people manage long-term, often-complex health problems and injuries (e.g. chronic diseases, permanent impairments) to improve as much as possible their ability to function, their quality of life and their life expectancy. Examples include:

- Cardiac or stroke rehabilitation programs, chronic disease management programs (e.g. CDSMP and DSMP for diabetes, arthritis, depression, etc.);
- Support groups that allow members to share strategies for living well;
- Vocational rehabilitation programs to retrain workers for new jobs when they have recovered as much as possible.
- Palliative care programs to reduce symptom and caregiver burden in progressive and serious illness.

⁸ <http://www.who.int/management/programme/ncd/Chronic-disease-an-economic-perspective.pdf?ua=1>

Community Health Needs Assessment Cycle I

Community health assessment is an important component of health planning. Every three years, not-for-profit health care facilities are required to conduct assessments of the communities with the purpose of identifying significant community health needs, prioritizing health needs, and linking persons with unmet health needs to community resources. In July 2013, the WVU Medicine/University Healthcare (UHC) Board of Directors (Board) approved the UHC Community Health Needs Assessment (CHNA) and specific health priorities to be addressed. The CHNA identified the following areas for community outreach and planning: (1) collaboration with public health and community-based initiatives to address emergent regional health trends; (2) chronic illness self-management, particularly in community-based diabetes, heart failure, and COPD care; (3) early detection and timely intervention in cancer targeting breast and lung cancer; and, (4) access to and the quality of behavioral health services. The 2013 CHNA Final Report was approved by the Board in December 2015.

The Board further approved the creation of CHNA Implementation Teams (IT) to be chaired by clinical champions. Three teams in the areas of chronic disease, cancer, and behavioral health were created and co-chaired by clinical champions from each hospital. In addition to the champions, IT included representatives from UHC and key stakeholders from the community. Their charge was to further refine priorities, identify root causes, develop and/or enhance existing collaborative initiatives to improve access to high value healthcare based on the priorities and community assets identified by the CHNA. A liaison from UHC leadership was appointed to each IT. The overall process was guided by a CHNA Steering Committee comprised of champions, team liaisons, and Dr. Joy Buck, PhD, APRN, who served as a consultant to the process.

Activities since CHNA Cycle I

Berkeley and Jefferson Medical Centers worked collaboratively on strategies and their implementation but priorities for each hospital differed slightly. These differences reflected the unique attributes of the hospitals, services each hospital provides, and the communities they serve. The CHNA identified initiatives that were underway through UHC, JMC, and BMC, Berkeley and Jefferson County Health Departments, the Health and Human Services Collaborative (HHSC) and Family Resource Network (FRN), United Way of the Eastern Panhandle, DHHR, and WVU. The list of regional assets and initiatives included in the CHNA report was extensive. The CHNA report identified gaps in communication among the initiatives and interface with UHC hospitals.

Berkeley County priorities included: (1) improved access to high quality healthcare across the continuum and behavioral health services; (2) reduced costs associated with health care; (3) initiatives to improve dietary habits and decrease use of tobacco; and, (4) strategies to reduce illicit drug use. Hospital-specific priorities for Berkeley Medical Center were: (1) diabetes management in acute and community-based settings; (2) primary and secondary prevention of cancer, particularly breast and lung cancer; (3) behavioral health in acute and community-based settings; and (4) continuous monitoring of ACS discharges particularly related diabetes and behavioral health.

Jefferson County priorities included: (1) improved access to high quality care across the continuum and behavioral health services; (2) initiatives to improve dietary habits, reduce sedentary behavior/increase activity levels, and reduce illicit drug use; and, (3) strategies to address binge drinking and alcohol-related

vehicle crash fatalities. Hospital-specific priorities for Jefferson Medical Center were: (1) hospital-wide and community diabetes initiatives; (2) behavioral health in acute, emergency room, and community-based settings; (3) collaborations to improve access to health care among persons with lower and fixed incomes; and, (4) strategies to address community-wide trends related to population demographic trends, specifically, growth in aging and racial/ethnic minority populations.

Universal problems to be addressed by the CHNA Implementation Teams (IT) were: (1) high prevalence of substance abuse and gaps in care for persons with serious mental illness; (2) high incidence of and poor health outcomes among persons with chronic disease such as diabetes, heart disease, and lung disease; and, (3) rising rates of lung cancer deaths among women in the region and late stage breast cancer diagnoses. The CHNA identified a fourth priority area focused on maternal/child health disparities. Because community providers and other community groups were already addressing the issue, it was determined that the development of an additional UHC team would be redundant.

Chronic Disease Implementation Team

Strategies were developed to address internal (hospital) and external (community) gaps and strengthen bridges to existing community initiatives. Internal strategies included diabetes management quality initiatives and the reduction of preventable hospitalizations. External initiatives focused primarily on the development of formalized structures and processes associated with Chronic Disease Self-Management Program (CDSMP) and Diabetes Self-Management Program (DSMP) sponsored by the Berkeley County Health Department as part of the West Virginia Community Transformation grant. It is important to note that the grant was defunded in 2014 without negatively impacting the sustainability of this effort.

Impact

Diabetes

- Diabetes became a hospital-based metric
- Literacy screening was implemented as the basis for tailoring educational interventions
- BMC “hyperglycemic day” rates consistently within the range of 450-475 (baseline >600)
 - Reduced severe inpatient “hypoglycemic day” rate

Readmissions⁹

- Automated LACE scoring for readmission risk
 - LACE scoring used for high-risk post-DC calls at 7, 14, 21, and 30 days (1/15)
- Post-DC follow up phone call; scheduling post-DC follow-up visit within 7 days of DC
- Overall readmission rate stable
- JMC partnership with UHP and WVU/in-home physician visits for at selected at-risk individuals

Community Partnerships

- UHC representation on HHSC Committees, including Health Committee and Healthy Berkeley
- Automatic referral to CDSMP/DSMP in EPIC and associated staff education
- “Healthy Communities Grant” to support physical activity/healthy nutrition programs downtown
- “Try This WV” grant for school running and physical activity programs running programs
- Chronic Disease Self-Management/Diabetes Self-Management Courses
 - 13 classes offered June 2013 – Dec 2014
 - 163 registrants; 68% retention rate
 - 7 classes scheduled for 2015

⁹ CMS changing reporting of readmissions to analyze expected/observed ratio.

- Evaluation process implemented

Cancer Implementation Team

The Cancer IT focused on primary and secondary prevention of breast and lung cancer. The Cancer Committee, which includes community stakeholder representatives served as the IT. The IT identified the following gaps to address: (1) access to/utilization of affordable Mammograms; (2) access to/utilization of affordable chest CT screening for lung cancer among at risk individuals; and, (3) timely follow-up after positive screening Mammograms (CMS measure). Strategies included hiring outreach workers in Jefferson and Berkeley counties (10/week/county), offering affordable lung CT screening for at risk individuals, marketing low cost Mammograms annually in May and October, and working with Mountains of Hope and Bonnie's Bus to improve access to low cost Mammograms. The commitment to community engagement through outreach workers is an important step to understanding cultural factors that impact cancer screening and outcomes in the region. In addition, internal processes to assure timely follow-up after positive screening Mammograms were examined and improved.

Cancer Implementation Team Impact

- Mammogram follow-up
 - Improved percentage of “outpatients who had a follow-up mammogram, ultrasound, or MRI of the breast within 45 days after a screening mammogram” (CMS indicator - a follow-up rate near zero may indicate missed cancer; a rate higher than 14% may mean there is unnecessary follow up.)
 - BMC 5.5% (2.8% baseline); JMC 1.9% (No baseline/reporting not required of CAH), WV 8.8%; National 8.8%
- Improved processes for Mammogram follow-up at Berkeley Medical Center
 - 100% of mammogram reports offered same day of screening
 - 100% of persons with positive screening Mammogram received same day results/referral
- Outreach workers hired in Berkeley and Jefferson County
 - Intake forms incorporate questions to assess effectiveness of outreach activities
- Low cost Mammograms in May and October offered at both hospitals
 - > 200 “promo Mammogram” participants 2014-2015
 - Supported community mobile Mammogram - Bonnie's Bus
 - 71 participants/over 50% did not have insurance and would not have otherwise received screening
- Access to affordable chest CT for high risk individuals
 - 90 persons screened at a reduced program rate
 - 50% had lung nodules; 37% of those persons had nodules greater than 4 mm

Behavioral Health Implementation Team

The Behavioral Health IT focused on both internal and external capacity to address the following identified gaps in regional behavioral health: (1) inadequate access to quality behavioral health and substance abuse services; (2) increased substance abuse/ behavioral health-related emergency room visits; (3) prevalence and perceived burden of regional behavioral health and substance abuse; and, (4) limited understanding of mental illness and substance abuse issues and treatment among lay and professional community. Strategies to address internal and external capacity.

Behavioral Health Implementation Team Impact

Internal Initiatives

- Ongoing staff education and new program development
- BMC: Care for the caregiver, PHQ-9 screening, advanced Code Gray training, SBIRT screening, and substance use/abuse education.
- JMC: Workplace bullying and exhaustion, Suicide and prevention, the effects of trauma/PTSD, Mental Health Awareness month activities including “MindStorm: A Virtual Hallucination”
- Creation of a website with UHC and community behavioral health resources and screening tools
- Creation of a local National Alliance for Mental Illness (NAMI) peer support and advocacy group
- Universal PHQ-9 (depression) screening and referral protocols
- Evidence-based suicide risk assessment implemented in Emergency Department

External Initiatives

- Outpatient programs addressing community needs
- Enhanced articulation with community-based behavioral health providers and services
- Collaboration with Behavioral Health Workgroup on BH Policy Summit (12/14)
- Representation on HHSC Behavioral Health Workgroup and Legislative Sub-Committee
- Development of Behavioral Health Resource Guide maintained by Family Resource Network
- External MAPP funding to support Mental Health First Aid training
 - BMC outreach worker certified as Mental Health First Aid trainer in 2014
 - Collaboration with Berkeley County Schools’ Project Aware to provide additional MHFA training to Martinsburg Police with additional trainings in planning stages
 - 3 trainings offered with over 70 participants in first 6 months
 - Additional trainer trained in 2015
- Jefferson County CON for Intensive Outpatient Program (IOP) approved

Changes Since CHNA I

The CHNA Cycle I strategies and initiatives are ongoing and reflect responsiveness of hospital and community health leaders to critical health and system capacity issues identified. Expansion of system capacity and select community initiatives and stressors are provided below.

Behavioral Health

- West Virginia University Behavioral Health and Psychiatry (BHP)
- Specialization in child, adolescent, adult, and geriatrics
- Psych. D. internship program
- Behavioral Health Services and Crisis Team internal and external outreach expansion
 - Collaboration with Project Aware (Mental Health First Aid)
 - Outreach and collaboration with HHSC and VAMC “My VA” initiative
- Partnership with NAMI peer support
- Day Report Center in Berkeley County opened
 - Strong and growing harm reduction program/SUD services
- Project Aware in Berkeley County Schools
 - Partnership with EastRidge Health Systems, Inc. for school-based therapists
- Healthy Moms and Babies Program at Harpers Ferry Family Medicine

- State mandate for Health Department Harm Reduction Programs
 - Berkeley County Health Department Harm Reduction Clinic (weekly)
 - Jefferson County Health Department Harm Reduction (by appointment)
- Berkeley/Jefferson Coalition for Substance Use Prevention among Youth
- Healthcare Advocates for Recovery (H.A.R.T.)
- Merger of BMC and JMC Behavioral Health Inpatient and Crisis Intervention
- Plans for 16-bed inpatient detoxification facility in Berkeley County
- “Safe at Home West Virginia” Program¹⁰

Cancer Care

- Inpatient palliative care program at BMC
- West Virginia University Cancer Institute
- Cancer navigators at BMC and JMC
- Partnership with African American churches on primary and secondary prevention of breast cancer
- Hospice Bridge program for late stage cancer and serious illness

Chronic Illness

- Eastern Panhandle Care Clinic (Free Clinic) closure
 - Increase demand for primary care for medically complex patients
- BMC hospitalist group and transitions nurse
- University Endocrinology Associates
 - Primary and secondary prevention
 - Collaboration with HHSC Health Workgroup and Eastern Division health initiatives
- WVU Health Science Center Eastern Division and Lifestyle Medicine
 - MedCHEFs (community healthy cooking program with medical students)
 - Internal health initiatives
- Partnerships with “Try This WV”
 - Drs. Mark Cucuzzela and Emma Morton-Eggleston leads
- Metabolic Syndrome education and support groups
- Community Transformation Grant defunded
 - CDSM/DSM course sustainability threatened
- Planning for Paramedicine Program in Jefferson County

In summary, the CHNA provided data to support a shift in organizational culture and responsiveness to emergent and long-standing health problems in the region. It prompted (1) changes to internal processes that improved the quality of inpatient care; (2) collaboration with community groups to improve the interface between acute and community-based care for persons with complex health challenges; and, (3) communication, coordination, and collaboration among the champions and between UHC hospitals. The CHNA Cycle I report was downloaded 57 times for use in regional health planning, program development, grant proposal development, research, and community education.

Since the last CHNA, there has been rapid growth in behavioral health services in Berkeley County and some

¹⁰ DHHR Medicaid Waiver Program for youth who are at-risk for out of home placement. For more information see: <http://www.dhhr.wv.gov/bcf/Services/Pages/Safe-At-Home-West-Virginia.aspx>

expansion in Jefferson County. The need continues to far outstrip the supply in both counties. There has been an expansion of child and adolescent behavioral health services and education in Berkeley County but not a commensurate expansion in Jefferson County. There continues to be long wait times (3-4 months) for new patients at EastRidge Health Systems, Shenandoah Behavioral Health, and WVU Behavioral Health and Psychiatry. The Medicaid expansion increased access to primary and specialty care but system capacity to meet the demand remains limited. Many primary care practices are not accepting new patients and wait times for new patients can be up to 3-4 months. The following Executive Summary provides an overview of key findings and recommendations for University Healthcare to consider for community health planning and ongoing internal quality initiatives.

CHNA Cycle II

Executive Summary

This Community Health Needs Assessment (CHNA) Cycle II report provides an analysis of health trends in the communities served by Berkeley Medical Center and Jefferson Medical Center, the two hospitals which comprise WVU Medicine/University Healthcare (University Healthcare). This assessment was conducted to gain insight into the health care needs and priorities in the region, available assets to address identified needs, and to meet IRS regulatory requirements. The findings serve as the basis for strategic thinking and planning for each University Healthcare hospital. The CHNA was augmented by broad community input about unmet needs and priorities. By engaging the community in this assessment and development of strategies to improve community health, the credibility and sustainability of health improvement efforts and the image of University Healthcare and its vital role in the health of the community is enhanced.

This report provides a comprehensive assessment of Berkeley and Jefferson counties drawing from multiple data sources. In general, the region is better positioned than the rest of the state to weather economic uncertainty. Yet, current and future challenges exist that require strategic thinking and collaboration among area health and human services providers, agencies, and health and hospital systems. Key findings of the assessment are listed in the executive summary. More in-depth analysis of all assessment data is provided within the body of this report. The report appendices contain various assessment tools and other useful information.

During the first decade of the twenty-first century, the Eastern Panhandle experienced growth in population and relative prosperity when compared to the rest of the West Virginia. Nevertheless, demographic trends reveal a rapidly aging population, growth in racial and ethnic diversity, and the prevalence of behavioral risk factors that lead to poor health. Rates of chronic illness, particularly diabetes, remain high in the region, despite myriad local health promotion initiatives. Regional demographic trends are important to consider during strategic planning aimed at reducing health disparities in the region. Historically, racial and ethnic minorities have higher rates of hypertension and diabetes and poorer health outcomes than non-minority populations. These health disparities are the result of multiple determinants of health including, but not limited to, genetic predisposition and socioeconomic inequity. Interventions aimed at improving health outcomes should be culturally and linguistically congruent with the target populations. This is best accomplished by engaging persons from target populations in both the identification and prioritization of problems and feasible solutions to remedy them. The findings further reveal significant differences in survey results based on county of residence and educational and income levels that should be considered during strategic planning.

The ***Community Themes and Strengths Assessment*** (CTSA) survey was developed using the CHNA Cycle I survey as a base. The Cycle 1 survey results showed that the community had concerns about healthcare in the region but provided little insight into the specific concerns. Several subscales were added to the Cycle II CTSA/Health System Assessment survey to capture more detail on community perspectives about access to healthcare, confidence in various aspects of health and social services in the Eastern Panhandle, and the degree to which chronic illness care was person-centered. Overall, survey respondents were most satisfied with availability of healthy options ($M=3.19$)¹¹ and availability

¹¹ Numbers in parentheses are overall means for both Berkeley County and Jefferson County. Scale was 1-5 and high scores mean greater satisfaction. A score of 3 is 50/50. M=Mean or average score for the item.

of primary care providers ($M=3.12$) in the county where they lived. They were less satisfied with availability of affordable healthy food ($M=2.73$), availability of behavioral health services ($M=2.30$). There were statistically significant differences between Berkeley County and Jefferson County respondents in satisfaction with availability of *healthy activities, behavioral health services, and safety* in county of residence. Jefferson County respondents had higher scores on these quality of life indicators than Berkeley County respondents. (See Table 3)

The **Health System Assessment** (HSA) component of the CHSA survey consisted of questions about confidence in different aspects of the health care system, including community-based services attending to the biological, psychological, and social determinants of health. Statistically significant differences were found based on county of residence. On a scale of 1 (not at all confident) to 5 (extremely confident), respondents were most confident that they could get high quality general or primary care ($M=3.56$)¹², hospice care ($M=3.47$), and hospital care ($M=3.45$) in their county of residence. Berkeley County residents were more confident than Jefferson County residents in all three. Respondents expressed less confidence in counseling services ($M=2.74$), help with interpersonal violence ($M=2.69$) and financial problems ($M=2.41$), and help with substance abuse ($M=2.39$). There was a significant difference between the counties in confidence in counseling services, with Berkeley County residents feeling more confident than Jefferson County residents. There were no significant differences in confidence in help with interpersonal violence ($M=2.69$), financial problems ($M=2.41$), or substance abuse ($M=2.39$); scores were equally low in both counties. (See Table 3)

Survey respondents were also asked “Which of the following barriers have you experienced when trying to get the health care you need?” Roughly 20% of respondents did not report any access barriers. For those who did encounter barriers, on average, they encountered 3 different access barriers. The top five access barriers reported were (1) providers were not accepting new patients (20.9%); (2) cost of services (19.2%); (3) long waiting periods for new patients (18.9%); (4) no evening or weekend hours; and (5) cost of medications. Of the top five barriers, three are related to system capacity and two are associated with cost. Additional barriers included lack of information about services (4.9%), problems navigating the system (4.1%), bad attitudes of professionals or staff (3%), racism/prejudice (1.8%), and language barriers (.5%). There were statistically significant differences in access barriers based on income group, with lower income groups reporting more barriers. There were statistically significant differences between Berkeley and Jefferson County respondent reports of access barriers. Berkeley County respondents reported more access barriers ($M=3.37$, $SD=2.41$) than Jefferson County respondents ($M=2.83$, $SD=2.03$, $t = 2.20$, $p <.05$). (See Table 3)

Thirty-three percent (33%) of survey respondents used emergency departments or urgent care for their primary point of healthcare access. Thirty percent (30%) of respondents reported having moderate to extreme difficulty in trying to get an appointment for healthcare. Further investigation into these findings would be helpful to identify which types of interventions might be effective in improving these outcomes.

The CTSA/HSA survey included a subset of questions from the Patient Assessment of Care for Chronic Conditions (PACIC)¹³ instrument that measures specific actions or qualities of care that are congruent with the Chronic Care Model. The CHNA Cycle II subscale measures “person-centeredness” of care. Survey respondents who reported having a chronic illness were asked to respond to the questions on a scale of 1

¹² M =Mean or average score for the item.

¹³ http://www.improvingchroniccare.org/index.php?p=PACIC_survey&s=36.

(never) to 5 (always) based on their experiences over the past 12-months. Mean scores ranged from a high of 2.61 to a low of 1.51 and there were no statistically significant differences between Berkeley County and Jefferson County. Respondents with chronic illness reported that they were more likely to get information about the links between health behavior (diet, physical activity, stress response, etc.) and health ($M=2.61$) but were infrequently referred to community resources ($M=1.51$) that could be of help to them or experts such as dietitians, health educators, or counselors when needed ($M=1.71$). (See Table 8)

The ***Forces of Change Assessment*** identified forces that informants believed were occurring and future trends that will affect the community or the local health system, inclusive of public health and social services (See Appendix D). The dominant theme across focus groups was substance use disorder. There were deep concerns over drug and alcohol misuse and the subsequent aftermath on families and the workforce. Major employers cited challenges to recruiting a “healthy workforce” and executives opting to relocate to surrounding states. Another dominant theme related to overall health in the community. This theme includes concerns about chronic disease morbidity and mental health challenges associated with living with chronic disease and navigating the health care system. Gaps identified included limited primary and secondary prevention, care coordination, and behavioral health treatment and recovery services. There were significant concerns about the uncertain future of ACA and WV Expanded Medicaid voiced in several of the focus groups. Responses to the question of what role the hospitals should play indicate that community leaders look to the hospitals to provide leadership and partnership to address critical health and safety issues in the community, specifically in the areas of behavioral health and chronic illness care coordination. Formal and informal key informant interviews identified concerns about centralization of decision-making about public health and social services in Charleston, lack of engagement with and input from Eastern Panhandle health and social service providers in statewide initiatives, and funding cuts for public health, DHHR, low rates of Medicaid and comprehensive behavioral health services.

The ***Community Health Status Assessment (CHSA)*** analyzed data about health status, quality of life and risk factors in the community. The CHSA includes publicly available data from a variety of sources, including the 2016 County Health Rankings, 2010 US Census, CDC Community Health Status Indicators, US Census Bureau, and the American Community Survey, 2010-14 estimates. A summary of the CDC CHSI is provided in Table 1. In general, Jefferson County has lower morbidity and mortality rates on most measures than Berkeley County.

Table 1: CDC Community Health Status Indicators in Comparison to Peer Communities, 2016

County ^{14,15,16}	Better than Peer Communities	Moderate compared to Peer Communities	Worse than Peer Communities
Berkeley County	Syphilis Adult binge drinking	Alzheimer’s disease deaths, stroke deaths, morbidity of Alzheimer’s diseases/dementia, cancer, older adult asthma, older adult depression, preterm births, adult female PAP tests, on time high school graduation, poverty, unemployment, violent crime, limited access to health food and living close to highway.	Cancer deaths, chronic kidney disease deaths, chronic lower respiratory disease deaths, coronary heart disease deaths, diabetes deaths, female life expectancy, male life expectancy, motor vehicle deaths, and unintentional injury including motor vehicle deaths, adult diabetes, adult obesity, adult overall health status, Gonorrhea, HIV, cost as a barrier to care, older adult preventable hospitalizations, primary care provider access, adult physical activity, adult smoking, teen births, children in single-parent households, high housing costs, inadequate social support.
Jefferson County	Coronary heart disease deaths, morbidity of Alzheimer’s diseases/dementia, cancer, Gonorrhea, older adult asthma, preterm births, syphilis, cost as a barrier to care, older adult preventable hospitalizations, teen births, children in single-parent households, inadequate social support, poverty, unemployment, violent crime, and limited access to healthy food.	Deaths attributable to Alzheimer’s diseases, cancer, chronic kidney disease, stroke, unintentional injury, and chronic lower respiratory disease; female and male life expectancy.	Deaths attributable to diabetes and motor vehicle injury, adult smoking, and living near highways.

Priorities

The CHNA Cycle II priorities and Strategy Implementation Plan were developed collaboratively with community partners. In addition to having the opportunity to prioritize critical health and safety issues,

¹⁴ The CDC CHSI provides a mechanism to compare the value of each indicator with those of demographically similar “peer counties,” as well as to the U.S. and to Healthy People 2020 targets. The CHSI are organized into categories of “better” (most favorable quartile), “moderate” (middle two quartiles), and “worse” (least favorable quartile) when comparing specific counties to peer counties.

¹⁵ Source: CDC (2015). <https://wwwn.cdc.gov/CommunityHealth/profile/currentprofile/WV/Berkeley/>

¹⁶ Source: CDC (2015). <http://wwwn.cdc.gov/CommunityHealth/profile/currentprofile/WV/Jefferson/>

preliminary findings from the assessment were presented and discussed during focus groups, key informant interviews, and meetings with community partners. Final priority scores were derived by giving weight to the scope of the problem, extent of impact or burden associated with the problems, system capacity to address problems, and opportunities for key partnerships. Community perspectives on critical health and safety issues, key drivers, healthcare barriers, and confidence in community to address issues, and degree to which the problems are being addressed were factored into the priority scoring. The draft priorities were shared with key community partners who confirmed that the problems, gaps, assets and priorities were on target and congruent with and complimentary to ongoing community initiatives.

Community Perspectives on Critical Health and Safety Priorities and Key Drivers

Information about community perceptions of the *key drivers* of health problems in the region were assessed via the Community Themes and Strengths Assessment and in key informant interviews and focus groups. The top 10 *critical health and safety issues* identified in the Community Themes and Strengths Survey (n=612) are listed in the Chart 2 in order of importance. The numbers in parentheses represents (1) mean rating of the issue on a scale of 1-5 (higher scores = more critical) and (2) mean scores of the degree to which respondents believed the issue was being addressed on a scale of 1-5 (lower scores=not being addressed).

Table 2: Community Perspectives on Critical Health and Safety Issues and Key Drivers

Critical Health and Safety Issue	Key Drivers
1. Drug abuse/overdose (4.46/1.77)	1. Poverty or low income (51%)
2. Obesity (3.99/1.92)	2. Substance abuse problems (49%)
3. Alcohol abuse (3.93/1.96)	3. Easy access to drugs, alcohol, and tobacco (44%)
4. Mental illness (3.92/1.82)	4. Lack of personal responsibility for health (27%)
5. Teen risky behavior (3.91/1.94)	5. Lack of access to behavioral/mental health care (25%)
6. Diabetes (3.8/2.46)	6. Lack of employment opportunities (21%)
7. Physical activity and nutrition (3.75/2.04)	7. Lack of transportation (20%)
8. Cancer (3.62/2.59)	8. Low literacy (18%)
9. Heart disease and stroke (3.50/2.43)	9. Lack of access to affordable physical activity options (17%)
10. Dental/oral health (3.49/2.02)	10. Lack of health insurance (14%)

Additional critical health and safety issues receiving a score of 3 or above were respiratory disease (3.43/2.35); child abuse/neglect (3.31/2.3); interpersonal violence (3.15/2.03); sexually transmitted infections (3.07/2.21); and, motor vehicle crashes (3.03/2.31).

The top 10 key drivers (contributing factors) are reported in order of importance in Table 2. Numbers in parentheses represent the percent of responses from the CTSA survey. The survey findings were consistent with themes from analysis of key informant and focus groups. Additional factors not listed in Table 2 include lack of social support and positive interactions (14%); crime or lack of personal safety (12%); lack of access to primary care (12%); cultural and social norms (10%); and, lack of caregiver support (5%).

Table 3 summarizes survey respondents’ assessment of barriers to care and confidence in the healthcare system. Survey respondents were asked a series of questions to capture if they had encountered barriers and which barriers they had encountered. Twenty percent of respondents to the CTSA survey reported having no barriers to healthcare. Overall, respondents who encountered barriers reported having experienced an average of 3 different barriers. Survey respondents were also asked the question “How confident are you that you could get high quality healthcare in the county where you live? They rated confidence on a scale of 1 (not at all confident) to 5 (extremely confident). Confidence in the healthcare

system is reported from highest to lowest confidence.

Table 3: Barriers to Healthcare and Confidence in Healthcare

Barriers to Healthcare	Confidence in Local Access to High Quality
1. Providers not accepting new patients (20.9%)	1. General or primary care (3.56)
2. Cost of services (19.2%)	2. Hospice or palliative care (3.47)
3. Long waiting periods for new patients (18.9%)	3. Hospital care (3.45)
4. No evening or weekend hours (17.4%)	4. Home-based support services (3.27)
5. Cost of medications (17.1%)	5. Diabetes care (3.23)
6. Services not available locally (14.8%)	6. Home-based nursing, physical/occupational therapy, social work (3.18)
7. Getting appointments when sick (14.4%)	7. Surgical care (3.11)
8. Lack of transportation (9.5%)	8. Cancer care (3.00)
9. Lack of information about services (4.9)	9. Heart, lung, or kidney specialty care (2.96)
10. Problems navigating the system (4.1%)	10. Counseling services (2.74)
11. Bad attitudes of professionals or staff (3%)	11. Help with interpersonal or domestic violence (2.69)
12. Racism/prejudice (1.8%)	12. Care for autoimmune/neurological conditions (2.59)
13. Language barriers (.5%)	13. Help with financial problems (2.41)
	14. Help with substance abuse (2.39)
	15. Traumatic brain injury (TBI) care (2.38)

Data from all four assessments, CMS Hospital Compare, and CHNA I were analyzed. Table 4 provides summary of key gaps and needs and which assessment(s) they were identified in.

Table 4: Gaps and Needs by Assessments

Gaps/Needs	Assessment ¹⁷	CHSA	CTSA	H.S.A.	FOC	CMS	CHNA ₁₈
Substance Use Disorder and health sequelae morbidity		X	X	X	X		X
Overdose deaths		X	X		X		
Local access to inpatient detox and treatment, outpatient treatment and recovery services, and residential facility.		X	X	X	X		X
Intergenerational impact of substance use disorder			X		X		
Local access to child and adolescent inpatient and outpatient mental health treatment and services		X	X	X	X		X
Increase in percent of behavioral health patients leaving ED AMA.			X	X	X		
Rates of binge and heavy drinking among women (Jefferson)			X	X			
Teen behavioral health issues		X	X		X		X
Limited school-based behavioral health support (Jefferson County)			X	X	X		

¹⁷ CHSA = Community Health Status Assessment, Community Strengths and Themes Assessment, HSA = Health Systems Assessment, FOC=Forces of Change Assessment.

¹⁸ Indicates that priority/need was identified and strategies were implemented for Cycle I.

Limited secondary prevention child and adolescent mental illness	X	X	X		X	
Lung disease/lung cancer deaths	X	X				X
Diabetes and metabolic syndrome morbidity	X	X	X	X		
Limited care coordination/navigation heart failure, COPD, diabetes	X	X		X		X
Local access to specialty care (neurology, rheumatology, TBI)		X	X			X
Limited timely referral to support services, professional and community lack of knowledge of community resources		X	X	X		X
Obesity	X	X		X		X
Limited integrated behavioral health and palliative care for persons with complex health challenges and their families	X	X	X	X		X
Access to affordable healthy foods	X	X		X		X
Access to affordable physical activity options		X		X		X
Late stage lung, colorectal, and breast cancer diagnoses	X	X	X		X	X
Breast, colorectal, HPV- related and lung cancer morbidity and mortality	X		X	X		
Maternal ill health (metabolic syndromes, obesity, substance use disorder)	X		X	X		X
Low percentage of patients receiving appropriate recommendation for follow-up screening colonoscopy.					X	
Complications of the neonatal period	X	X	X	X		X
Infant mortality	X	X				X
Neonatal Abstinence Syndrome		X	X	X		

CHNA Cycle II Priorities

Based analyses of all assessment data, including key CMS quality and community health status indicators, the following areas were identified as priorities for University Healthcare community outreach and strategic planning:¹⁹

1. Primary and secondary prevention of colorectal, lung, and breast cancer and outreach to underserved populations, specifically persons of Hispanic/Latino descent.
2. Reduce barriers to colorectal, breast, and lung cancer screening and treatment.
3. Primary and secondary prevention of metabolic syndrome, diabetes, lung disease, and obesity.
4. Self-management of chronic illness for persons with diabetes, COPD, heart failure, and metabolic syndrome.
5. Access to and the continuity of community-based chronic illness care and supports for persons with complex health challenges and their families.

6. Primary and secondary prevention of substance use disorders and associated aftermath on families.
7. Timely access to comprehensive behavioral health services and community-based recovery programs, family resources, and supports.
8. Increase lay and professional understanding of substance use disorder and mental illness prevention, treatment and recovery.
9. Primary and secondary prevention of perinatal exposure to substances, complications of the neonatal period, and infant mortality.

Overall, the CHNA Cycle II priorities are consistent across both Berkeley County and Jefferson County. There are hospital/county specific priorities based on findings revealing slightly different trends and gaps. For example, both counties have significant gaps in behavioral health services for youth but Berkeley County has more assets to address those gaps than Jefferson County. Similarly, the 2010-2014 age-adjusted suicide death rate in Berkeley County was 17.5/100,000 population and 9.7/100,000 in Jefferson County. The Berkeley County rate is significantly higher than the Healthy People 2020 goal of 10.2/100,000 and the national rate of 12.5/100,000 and the Jefferson County rate is well below both.

Berkeley County priorities include: (1) improved access to affordable high quality healthcare focusing on access to primary and specialty care, confidence in diabetes care, continuity of care, and self-management of chronic illness; (2) improve access to healthy activity and food options; (3) initiatives to improve dietary habits and decrease use of tobacco; (4) primary, secondary and tertiary substance use prevention strategies; and, (5) primary and secondary suicide prevention. Hospital-specific priorities for Berkeley Medical Center are: (1) diabetes management in acute and community-based settings; (2) primary and secondary prevention of cancer, particularly breast, colorectal and lung cancer; (3) behavioral health in acute and community-based settings; (4) Neonatal Abstinence Syndrome and infant mortality prevention; and (5) continuous monitoring of ACS discharges.

Jefferson County priorities include: (1) improved access to high quality care across the continuum; (2) initiatives to improve dietary habits, reduce sedentary behavior/increase activity levels, and reduce illicit drug use; and, (3) strategies to address binge drinking and heavy drinking among women and alcohol-related vehicle crash fatalities. Hospital-specific priorities for Jefferson Medical Center are: (1) hospital-wide and community metabolic syndrome and diabetes initiatives; (2) community-based care and supports for persons with CHF and COPD; (3) behavioral health in acute, emergency room, and community-based settings; (4) collaborations to improve access to health care among persons with lower and fixed incomes; and, (5) strategies to address community-wide trends related to population demographic trends, specifically, growth in aging and racial/ethnic minority populations.

Universal problems to be addressed by the CHNA Implementation Teams (IT) are: (1) prevalence of substance abuse and gaps in local residential treatment facilities and community-based treatment and recovery services; (2) incidence of and poor health outcomes among persons with chronic disease such as diabetes, heart disease, and lung disease; (3) cancer mortality and late stage cancer diagnosis rates for breast cancer, colorectal cancer, and lung cancer; and (4) rates of complications of the neonatal period.

Table 5 provides an overview of the priority areas, challenges associated with the priority areas, and community assets already addressing the challenges. Both hospitals have long-standing collaborative partnerships with community groups. CHNA I furthered those collaborative partnerships; the Cycle II Implementation Strategy plan builds on and adds to those collaborative partnerships.

Table 5: Priorities, Challenges, and Assets Grid

Priority Area	Challenges	Community Assets
<p>Cancer Prevention and Care Primary and secondary prevention of colorectal, lung, and breast cancer.</p> <p>Reduce barriers to cancer screening and treatment.</p> <p>Outreach to underserved populations.</p>	<p>Late stage colorectal, lung, and breast cancer morbidity and mortality Colorectal and breast cancer deaths Underrepresentation of Hispanic/Latino descent</p> <p>Low percentage of late stage cancer receiving any palliative care</p> <p>Limited access to integrated palliative care and behavioral health</p>	<p>Cancer Center Outreach Committee Cancer Navigators HHSC Health Workgroup (primary prevention) Mountains of Hope “Bridges” Home Health/Hospice Program Hospital palliative care program American Cancer Society Bonnie’s Bus Cancer Support Groups UHC reduced-fee screening programs</p>
<p>Chronic Illness Prevention and Care Primary and secondary prevention of metabolic syndrome and diabetes</p> <p>Timely access to and continuity of chronic illness care</p> <p>Self-management of chronic illness</p>	<p>Morbidity and mortality Gaps in service Uncertainty of WV Medicaid and ACA ACS admissions heart failure and pulmonary disease Lack of care coordination and referral to community resources Limited access to integrated behavioral health and palliative care Percent persons accessing healthcare via ER and urgent care Percent persons experience moderate to extreme difficulty getting healthcare appointments</p>	<p>Family Resource Network HHSC Health Workgroup (Prevention) BCHD CDSMP/DSMP Wellness Center at BMC Freedom’s Run Harpers Ferry Family Medicine MED Chefs Program WVU Medical and Nursing Student Shepherd University Nursing/Shenandoah Community Health Diabetes Program BMC Diabetes Educators Berkeley and Jefferson County Health Departments Farmer’s Markets Berkeley and Jefferson County, 2 for 1 SNAP discounts Berkeley and Jefferson Community Gardens</p>
<p>Behavioral Health Primary and secondary prevention of behavioral health problems</p> <p>Timely access to comprehensive behavioral health services</p> <p>Community-based recovery programs and supports</p> <p>Family support and resources</p>	<p>Morbidity and mortality Fragmented initiatives Stigma Social and intergenerational impact Neonatal abstinence syndrome Uneven distribution of resources and services in Berkeley and Jefferson County (school programs, pediatric/adolescent behavioral health) Limited “recovery” networks for substance use disorder and mental illness Fragmented system – crisis intervention, commitment proceedings, and interface between lay and professional services. Aftermath of substance abuse and interpersonal violence Low confidence in and satisfaction with behavioral health systems</p>	<p>EastRidge Health Systems, Inc. Shenandoah Behavioral Health, Inc. Day report centers in Berkeley and Jefferson County. H.A.R.T – Advocacy, prevention, support recovery, and education Hospital Crisis Intervention Project Aware Berkeley County Schools Mental Health First Aid The Martinsburg Initiative Martinsburg Police WVU Medicine Behavioral Medicine and Psychiatry HHSC Behavioral Health Workgroup Healthy Moms and Babies (Shenandoah Community Health and Harpers Ferry Family Medicine) Handle with Care Berkeley, Morgan, and Jefferson County Schools</p>

	<p>Low confidence in support and counseling services</p> <p>High suicide death rates in Berkeley County</p> <p>Percent change in binge and heavy drinking among women in Jefferson County</p>	<p>Berkeley County Recovery Center and Coordinator</p> <p>Potomac Highlands</p> <p>Facing Addiction, Berkeley County, Morgan County, and HART Pilot Project</p> <p>HHSC Kids in Transition</p> <p>WVU Behavioral Medicine and Psychiatry (pediatric, adolescent, and adult)</p> <p>Oxford House</p> <p>Faith communities</p> <p>HELP4WV Hotline and Referral</p> <p>Healthy Moms and Babies, Shenandoah Community Health and Harpers Ferry Family Medicine</p>
<p>Perinatal and Maternal/Infant Health</p> <p>Primary and secondary prevention of perinatal exposure to substances</p> <p>Primary and secondary prevention of complications of the neonatal period</p>	<p>Continued rise in neonates with other significant problems</p> <p>Maternal ill health (obesity, gestational diabetes, metabolic syndrome, substance use)</p> <p>Neonatal Abstinence Syndrome</p>	<p>Healthy Moms and Babies, Shenandoah Community Health Center and Harpers Ferry Family Medicine</p> <p>Shenandoah Maternity Center</p> <p>Shenandoah Behavioral Health</p> <p>WV Perinatal Partnership</p> <p>HHSC Behavioral Health Workgroup</p> <p>United Way “Books for Babies”</p> <p>Burlington Society</p> <p>WVU Endocrinology Associates</p>

Detailed data to support these recommendations are included in the body of this report. The full report is on the WVU Medicine/University Healthcare website (<http://wvumedicine.org/university-healthcare.org/berkeley>).

Strategy Implementation Plan

The CHNA Cycle II Strategy Implementation Plan builds on Cycle I achievements and continues to focus on (1) changes to internal processes that improve the quality of inpatient care; (2) collaboration with community groups to improve the interface between acute and community-based care for persons with complex health challenges; and, (3) communication, coordination, and collaboration among the champions and between UHC hospitals and the counties that they serve.

The Strategy Implementation Plan for CHNA Cycle II is an extension of initiatives from CHNA Cycle I with several exceptions. The Core Strategy Team, which is comprised of the Champions, CHNA Coordinator, UHC Vice President for Marketing and Development, and BMC/JMC Outreach Coordinator, will meet monthly to develop workplans, information sharing, strategy development, and intervention outcome reporting. Based on the recommendation of Cycle I Champions, the Champions will work collaboratively to promote synergy and reduce duplication of primary and secondary prevention activities. The collaboration will also support cross-fertilization of expertise that may lead to innovation and cross-cutting outreach activities. The Champions were selected for their expertise, commitment to their patients and families, and extensive network of community and statewide partners.

CHNA Cycle II Implementation Champions and Teams

Behavioral Health Champions

Valerie Gorman, BSW, Crisis Team Coordinator, Berkeley and Jefferson Medical Center and
Jan Nieves, ASN, RN, Berkeley Medical Center, Co-Founder and President, HART

Strategies

1. Continue current partnerships with community groups for primary and secondary prevention of substance use disorder across the lifespan.
2. Continue outreach and partnerships to reduce stigma related to mental illness and substance use disorder through community and professional education.
3. Collaborate with chronic illness and maternal/neonate champions to integrate behavioral health content into primary and secondary prevention and outreach across the continuum.
4. Strategize with community partners to expand community-based recovery programs and peer support networks.
5. Develop strategies to increase awareness of suicide rates and community resources for persons living with behavioral health problems and their families.
6. Develop and implement strategies to improve timely access to behavioral health services and transportation to substance use treatment facilities.

Evaluation Measures

1. Mental Health First Aid course metrics
2. Number and reach of outreach activities
3. ED and hospital unit crisis call
4. Wait time for transfer to behavioral health treatment facility
5. Health System Assessment subscale
6. Strategy specific metrics

Perinatal and Maternal/Infant Health Champions

Clarise Ottley, PhD, RNC, MNN, Manager, Mother and Baby Unit

Helena Brady, PhD(c), NNP-BC, IBCLC, Nursing Manager, Neonatal Intensive Care Unit.

Lisa Salmon, BSN, OB Nurse Manager, Jefferson Medical Center

Strategies

1. Analyze maternal factors leading to neonatal complications.
2. Use findings to develop strategies to reduce complications of the neonatal and post-natal period.
3. Continue primary and secondary prevention activities with WV Perinatal Partnership to reduce infant mortality risk factors.
4. Collaborate with behavioral health champions and community professionals for staff education on substance use, harm reduction, and recovery to enhance care of mothers and families.

Evaluation Measures

1. Report of maternal factors contributing to neonatal complications
2. Neonatal complication trends
3. Number and reach of outreach activities
4. Intervention specific metrics

Chronic Illness Champions

Barb Sherman, MSN, RN, FNP-C, RTR, Director Quality, Berkeley and Jefferson Medical Center

Emma Morton-Eggleston, MD, MPH, Endocrinologist, WVU Endocrinology Associates

Strategies

1. Develop strategies for community and provider education on primary and secondary prevention of metabolic syndrome, diabetes, lung disease, and obesity.
2. Continue to work with community providers and groups to improve the continuity of community-based chronic illness care for persons with complex health challenges, including the interplay between chronic illness and behavioral health challenges.
3. Develop strategies to improve the sustainability of educational programs on self-management of chronic illness for persons with diabetes, COPD, heart failure, and metabolic syndrome.
4. Develop mechanism for timely information sharing about community resources and services for persons with chronic and serious illness.
5. Collaborate with behavioral health professionals on integrating behavioral health content into chronic illness prevention and care.

Evaluation Measures

1. New patient wait times, same day appointments
2. Satisfaction with availability of healthcare item scores
3. Confidence in healthcare subscale scores
4. Person-centered care subscale scores
5. ACS discharges
6. Point of healthcare access

Cancer Champions

Yvonne Katz, MS, RN, Cancer Navigator, Berkeley Medical Center

Samantha Spearing, Cancer Navigator, Jefferson Medical Center

Strategies

1. Expand current primary and secondary cancer prevention to target colorectal, lung, and breast, and late stage cancers among younger populations and outreach to persons of Hispanic/Latino descent.
2. Sponsor community and professional education about local cancer trends, risk factors, screening, signs and symptoms, and protective lifestyle changes.
3. Develop strategies to help patients and families manage the psychosocial and symptom burden associated with cancer.
4. Develop mechanisms to improve percentage of patients receiving appropriate recommendation for follow-up screening colonoscopy. (CMS)

Evaluation Measures

1. Number and reach of outreach activities
2. Screening activities and outcomes
3. Adherence to colorectal screening follow-up recommendations (CMS)
4. Confidence in cancer care item (survey)

Key Findings

Population Demographics²⁰

- 2015 population estimate for the Berkeley County was 111,901 and 56,482 for Jefferson County
- 6.2% of *Berkeley County* residents were age of 5 or under, 24% were age 18 or younger, and 13.6% were age 65 or older. 5.6% of *Jefferson County* residents were age 5 or under, 23.1% were age 18 or younger, and 14.5% were age 65 and older.
- 85% of Berkeley County and 84% of Jefferson County residents identified as being Caucasian alone and not of Hispanic or Latino descent. 7.5% Berkeley County and 6.6% of Jefferson County residents identified as Black or African American, and 4% of Berkeley County and 5.6% of Jefferson County residents identified as being from Hispanic/Latino descent.
- 3.5% of Berkeley County residents and 5.2% of Jefferson County residents were foreign born.
- 10,844 (9.7 %) of Berkeley County and 5,030 (8.9%) of Jefferson County residents are veterans.
- Demographic trends show a decreased percentage of the population age 18 and under, increased percentage of the population age 65 and older, and increased ethnic and racial diversity in both Berkeley and Jefferson County.

2016 County Health Rankings²¹

- Berkeley County ranked 8th in the state for clinical care, 14th in the state for health outcomes, 43rd for health behaviors, and 48th for physical environment.
- Jefferson County ranked 15th in the state for clinical care, 1st in the state for health outcomes, 3rd in the state for health behaviors, and 42nd in the state for physical environment.
- 10.8% of Berkeley County and 9.9% of Jefferson County residents under age 65 years were without health insurance; 21% of Berkeley County and 18% of Jefferson County residents reported poor or fair health, compared to 12% of top U.S. performer counties.
- From 2011-2013, the Berkeley County premature age-adjusted mortality rate was 420/100,000 and Jefferson County was 340/100,000.²² Top U.S. performing communities had a rate of 270/100,000.
- Between 2011 and 2015, 10.6% of Berkeley County and 9.3 of Jefferson County residents under age 65 years were living with a permanent disability.²³

Population with Limited English Proficiency (LEP) and Living in Limited English Households²⁴

- The overall percentage of persons over the age of 5 with limited English proficiency is 1.79% and the percentage of persons who are linguistically isolated is 0.76%. While the percentage is lower than the United States, it is higher than the state of West Virginia.
- In 2014, 18% of West Virginia residents with limited English proficiency and 23% of persons who are linguistically isolated, live in the Eastern Panhandle.
- The race of persons with limited English proficiency (LEP) residing in the Eastern Panhandle is predominantly white or Caucasian (n=1,601), followed by persons of “other races.”

²⁰ Data source: US Census Bureau, Decennial Census. 2000 - 2010. Source geography: Tract

²¹ Unless otherwise noted, data source is <http://www.countyhealthrankings.org/app/west-virginia/2016/measure/outcomes/129/data>

²² Deaths among residents before age 75 per 100,000 population (age-adjusted).

²³ Data source: US Census Bureau, American Community Survey. 2010-14. Source geography: Tract

²⁴ Data source: US Census Bureau, American Community Survey. 2010-14. Source geography: Tract

- Persons of Hispanic or Latino descent are the largest ethnic group with LEP (n =1,707) in the Eastern Panhandle. They represent 45% of persons with LEP of Spanish/Latino descent in the state of West Virginia. Spanish is the most common language spoken in the homes of persons with LEP in the Eastern Panhandle.
- In 2016, 100% of Berkeley County and Morgan County were designated as Health Professional Shortage Areas.²⁵

CDC Community Health Status Indicators ^{26,27,28}

- Berkeley County was rated better than peer communities on syphilis and adult binge drinking.
- Berkeley County was rated moderate in comparison to peer communities in Alzheimer’s disease deaths, stroke deaths, morbidity of Alzheimer’s diseases/dementia, cancer, older adult asthma, older adult depression, preterm births, adult female PAP tests, on time high school graduation, poverty, unemployment, violent crime, limited access to health food and living close to highway.
- Berkeley County was rated worse than peer communities on measures of cancer deaths, chronic kidney disease deaths, chronic lower respiratory disease deaths, coronary heart disease deaths, diabetes deaths, female life expectancy, male life expectancy, motor vehicle deaths, and unintentional injury including motor vehicle deaths, adult diabetes, adult obesity, adult overall health status, Gonorrhea, HIV, cost as a barrier to care, older adult preventable hospitalizations, primary care provider access, adult physical activity, adult smoking, teen births, children in single-parent households, high housing costs, inadequate social support.
- Jefferson County was rated better than peer communities on measures of coronary heart disease deaths, morbidity of Alzheimer’s diseases/dementia, cancer, Gonorrhea, older adult asthma, preterm births, syphilis, cost as a barrier to care, older adult preventable hospitalizations, teen births, children in single-parent households, inadequate social support, poverty, unemployment, violent crime, and limited access to healthy food.
- Jefferson County was rated moderate on measures of deaths attributable to Alzheimer’s diseases, cancer, chronic kidney disease, stroke, unintentional injury, and chronic lower respiratory disease; female and male life expectancy.
- Jefferson County was rated worse on measures of deaths attributable to diabetes and motor vehicle injury, adult smoking, and living near highways.

Social and Economic Determinants of Health

Income

- Poverty creates barriers to access including health services, healthy food, and other necessities that contribute to poor health status.²⁹
- From 2011-2015, 51,468 children ages 0-17 in the Eastern Panhandle were living in households with incomes at or below 185% of the Federal Poverty Level (FPL). 17,117 children ages 0-17 were living

²⁵ Data source: US Department of Health & Human Services, Health Resources and Services Administration, Health Resources and Services Administration. April 2016. Source geography: HPSA

²⁶ The CDC CHSI provides a mechanism to compare the value of each indicator with those of demographically similar “peer counties,” as well as to the U.S. and to Healthy People 2020 targets. The CHSI are organized into categories of “better” (most favorable quartile), “moderate” (middle two quartiles), and “worse” (least favorable quartile) when comparing specific counties to peer counties.

²⁷ Source: CDC (2015). <https://wwwn.cdc.gov/CommunityHealth/profile/currentprofile/WV/Berkeley/>

²⁸ Source: CDC (2015). <http://wwwn.cdc.gov/CommunityHealth/profile/currentprofile/WV/Jefferson/>

²⁹ Data source: US Census Bureau, [American Community Survey](#). 2011-15. Source geography: Tract

in households with incomes at or below 100% of the FPL and 11,726 children were living in households with incomes at or below 50% of the FPL.³⁰

- Between 2011-2015, the *median* family income in Berkeley County was \$55,239 and 12.5% of the population lived in poverty. The *per capita* income in 2015 dollars was \$26,469, roughly 175% of the federal poverty level for a one-person household.³¹
- The *median* family income for the same timeframe in Jefferson County was \$66,677 with 10.6% of the population living in poverty.³² The *per capita* income in 2015 dollars was \$30,912, roughly 200% of the federal poverty level for a one-person household.

Cost of Healthcare

- Between 2013 and 2015, 7%-8% of residents in the *top performing US communities* did not access healthcare due to costs. For the same time frame, 16% of Berkeley County residents and 11% of Jefferson County residents reported not accessing healthcare because of cost.³³
- If current trends in WV continue, the projected per capita medical and worker productivity cost of chronic disease in 2030 is \$9,500/resident.³⁴
- By 2030, the investment in expanded system capacity, secondary prevention (early detection and intervention) of chronic illness when coupled with primary prevention interventions to reduce increase physical activity and decrease smoking and obesity could yield a savings in treatment and productivity costs of \$10,630,595 in Berkeley County and \$5,365,790 in Jefferson County.³⁵

Health Insurance³⁶

- Despite expanded Medicaid and the WV CHIP Program, the U.S. Census Bureau estimates that in 2015, 827 children in Berkeley County, 445 children in Jefferson County, and 150 children in Morgan County were without health insurance.
- From 2011-2015, 6,225 adult residents of Berkeley County, 2,853 of Jefferson County adults, and 1,053 of Morgan County adult residents did not have health insurance.

Education³⁷

- Research suggests that education is one the strongest predictors of health.³⁸ From 2011-2015, 88.1% of Jefferson County residents age 25+ years had a high school education and above (includes some college and associate degree); 28.4% had a bachelor's degree and above.
- From 2011-2015, 87.1% of Berkeley County residents age 25+ years had a high school education or higher and 19.7% had a bachelor's degree or higher.

³⁰ Data source: US Census Bureau, [American Community Survey](#), 2011-15. Source geography: Tract

³¹ Data source: <https://www.parkviewmc.com/app/files/public/1484/2016-Poverty-Level-Chart.pdf>

³² Data source: <http://www.census.gov/quickfacts/table/PST045215/54037,54003>

³³ Data source: <https://wwwn.cdc.gov/CommunityHealth/profile/currentprofile/WV/Berkeley/10019>

³⁴ Data source: <http://www.fightchronicdisease.org/latest-news/130-million-americans-chronic-disease-cost-more-25-trillion-annually>

³⁵ Data source: <http://www.fightchronicdisease.org/latest-news/130-million-americans-chronic-disease-cost-more-25-trillion-annually>

³⁶ Data source: US Census Bureau, [Small Area Health Insurance Estimates](#), 2015. Source geography: County

³⁷ Data source: <http://www.census.gov/quickfacts/table/PST045215/54037,54003>

³⁸ Data source: https://www.cdc.gov/pcd/issues/2007/oct/07_0063.htm

Housing Cost Burden/Housing³⁹

- The percentage of cost burdened households in all three Eastern Panhandle counties is 30.19% which is higher than the state percentage of 22.26%.
- When comparing the Eastern Panhandle counties to the rest of the state, 2.49% (EP) versus 1.34% (WV) of the housing units are overcrowded. Morgan (1.28%) and Jefferson County (1.89%) have the lowest percentage of crowded housing units in the Eastern Panhandle and Berkeley County (3.02%) has the highest.
- None of the Eastern Panhandle counties have a higher percentage of crowded housing units as the United States (4.26%).

Food Security⁴⁰

- Almost 42% of the population in Berkeley County has low access to food compared to 31% in Jefferson County, 9% in Morgan County, 21% in West Virginia, and 23% of residents in the United States.
- In Berkeley County, 18.3% of children live in food insecure homes and 38.01% of those children *are ineligible* for assistance for a variety of reasons. In Jefferson County, 16.34% of children live in food insecure homes and 45% of those children *are ineligible* for assistance.⁴¹
- In 2015, the Eastern Panhandle had 142 SNAP-authorized retailers, with 81 in Berkeley County, 43 in Jefferson County, and 18 in Morgan County.
- In 2015, the United States had a rate of 8.18 SNAP-authorized retailers per 10,000 population. West Virginia had 11.81/10,000 and of the Eastern Panhandle counties, at 7.78/10,000, Berkeley County had the fewest SNAP-authorized retailers per 10,000 population.
- The Eastern Panhandle has fewer WIC-authorized stores/100,000 than the United States (15.6/100,000) and West Virginia (18.8/100,000). Berkeley County has 9/100,000 WIC-authorized stores, Jefferson County has 7/100,000, and Morgan County has 1/100,000.

Behavioral Health

- The 2010-2014 age-adjusted suicide death rate was 17.5/100,000 in Berkeley County, 9.7/100,000 in Jefferson County, 16.3/100,000 in West Virginia, and 12.5/100,000 for the nation. All but the Jefferson County rate are above the Healthy People 2020 goal of 10.2/100,000.
- From 2005-2012 there were increases in both binge and heavy drinking in both Berkeley and Jefferson Counties. The percent increase in binge drinking among women in Jefferson County was 25.8% versus 1.1% in Berkeley County and 16.4% nationally. There was also an 45.4% increase in heavy drinking among women living in Jefferson County versus 27.2% increase in Berkeley County and 27% nationally.⁴²

³⁹ Data source: US Census Bureau, [American Community Survey](#), 2011-15. Source geography: Tract

⁴⁰ Unless otherwise noted, the data source is: US Department of Agriculture, Economic Research Service, [USDA - Food Access Research Atlas](#), 2015. Source geography: Tract. Low food access is the percentage of the population living in census tracts designated as food deserts. percentage of the population living in census tracts designated as food deserts. A food desert is defined as a low-income census tract where a substantial number or share of residents has low access to a supermarket or large grocery store.

⁴¹ Data source: Feeding America, 2014. Source geography: County. Food insecurity is defined as the percentage of the population that experienced food insecurity at some point during the report year. Food insecurity is the household-level economic and social condition of limited or uncertain access to adequate food. The ineligible for assistance means that their families do not qualify for SNAP, WIC, school meals, CSFP and TEFAP.

⁴² Data source: <http://www.healthdata.org/>

- Both Berkeley County and Jefferson County are designated as High Intensity Drug Trafficking Areas by the U.S. Department of Justice.
- In 2016, there were 577 opioid drug overdoses and 67 opioid/Heroin deaths in Berkeley County.
- Between 2013 and 2016, the number of EMS naloxone deployments⁴³ rose in Berkeley County by 191%. Data for Jefferson County were not available.
- In 2014, both Berkeley County and Jefferson County were designated Health Professional Shortage Areas (HPSA) for mental health. The Eastern Panhandle catchment area was designated as a HPSA geographic high need area for behavioral health.
- In 2013 and 2014, about 14,000 West Virginian adolescents aged 12–17 (10.9% of all adolescents) had at least one major depressive episode (MDE) within the year prior to being surveyed. Fifty-five percent of adolescents with depression did NOT receive treatment.⁴⁴

Maternal/Infant Health ⁴⁵

- West Virginia is ranked 44th in the nation for infant mortality. The Berkeley County infant mortality rate is 8/1,000 live births, the 5th highest infant mortality rate in West Virginia, and higher than the West Virginia rate of 7/1,000 live births.⁴⁶
- From 2013-2015, 56.3% of neonates born at Berkeley Medical Center and 53.8% of neonates born at Jefferson Medical Center were normal newborns without complications.
- From 2013-2015, 33.3% of neonates born at Berkeley Medical Center and 38% of neonates born at Jefferson Medical Center had “significant other medical problems”⁴⁷.

Families with Children ⁴⁸

- 31.92% of all occupied households in the report area are family households with one or more child/children under the age of 18. Of the total family households in the Berkeley and Jefferson County, the percent of families with children under the age of 18 was 33.78% and 32.98%, respectively.
- Of the 46,953 family households with children in the report area, 1,043 or 2.2% are of Hispanic/Latino origin. 71% of the Hispanic/Latino population in the report area are family households.
- Child mortality in Berkeley County and the state of West Virginia was 60/100,000 children under age 18. The rate was 40/100,000 children under age 18 in Jefferson County.
- In Berkeley County, the percent of Hispanic/Latino population in family households with children (75.57%) is higher than the state (59.94%) and the nation (67.18%).
- In Jefferson County, the percent of the Hispanic/Latino population in family households with children (65.07%) is higher than the state but not the nation.

⁴³ Data source: Administration of Narcan to reverse opioid overdose.

⁴⁴ Source: https://www.samhsa.gov/data/sites/default/files/2015_West-Virginia_BHBarometer.pdf, pp. 7-8.

⁴⁵ Data source: WVU Medicine/University Healthcare

⁴⁶ Data source: <http://www.countyhealthrankings.org/app/west-virginia/2016/rankings/berkeley/county/outcomes/overall/snapshot>

⁴⁷ DRG 794 – Neonate with other significant problems includes many different diagnoses from relatively benign conditions to more serious complications.

⁴⁸ Data source: US Census Bureau, American Community Survey. 2010-14. Source geography: Tract

- Roughly 60% of Black/African Americans living in Berkeley and Jefferson County are in family households with children. This is higher than the West Virginia (36.91%) and comparable to the United States (59.09%).
- There are income disparities based on family configuration. From 2011-2014, the annual median income of single females with children was \$20,122 in Berkeley County and \$25,788 in Jefferson County. Median incomes for single males with children was \$47,537 and \$50,035 in Berkeley and Jefferson County, respectively.

Hospital Level Data ⁴⁹

Berkeley Medical Center

- From CY 2013 to CY 2015:
- BMC inpatient discharges increased by 1.77% and BMC outpatient encounters increased by 21.7%.
- Medicare and Medicaid beneficiary inpatient discharges increased by 2.76% and 29.34% respectively, and the number of self-pay class decreased by 79.9%.
- Percent of BMC public financial class inpatient discharges (Medicare, Medicaid, and Worker's Comp/Government) increased by 10.36%, the percent of private insurance financial class inpatient discharges (PEIA, BC/BS, Commercial) decreased by 3.46%, and self-pay financial class decreased by 80.33%.
- Percent of BMC public outpatient encounter public financial class increased by 18.4%, the percent of outpatient private financial class decreased by 10.05%, and outpatient encounter self-pay financial class decreased by 56.66%.

Jefferson Medical Center

- From CY 2013 to CY 2015:
- JMC inpatient discharges decreased by 3.39% and JMC outpatient encounters increased by 1.47%.
- Medicare and Medicaid beneficiary inpatient discharges increased by 2.76% and 29.34% respectively, and the number of self-pay class decreased by 79.9%.
- Percent of JMC public financial class inpatient discharges (Medicare, Medicaid, and Worker's Comp/Government) increased by 8.97%, the percent of private insurance financial class inpatient discharges (PEIA, BC/BS, Commercial) decreased by 45.28%, and self-pay financial class decreased by 73.18%.
- Percent of JMC outpatient encounter public financial class increased by 22.28%, the percent of outpatient private financial class decreased by 2.42%, and outpatient encounter self-pay financial class decreased by 58.98%.

BMC Ambulatory Care Sensitive (ACS) Inpatient Admissions (2013-2015)

- From 2013-2015, there was a steady decline in ACS discharges as a percent of all BMC discharges. There was a 24.7% decrease in diabetes discharges as a percent of total hospitals discharges.
- From 2013-2015, there was a 3.03% increase in the percentage of diabetes with major complications and co-morbidity discharges, a 5.61% decrease in diabetes with complication/co-morbidity discharges, and a 15.26% increase in diabetes without complications or co-morbidities and a percent of the total diabetes discharges.

⁴⁹ All hospital level data were supplied by WVU Medicine/University Healthcare.

JMC Ambulatory Care Sensitive (ACS) Inpatient Admissions (2013-2015)

- From 2013-2015, there were steady increases in pulmonary edema, heart failure, diabetes, and COPD discharges as a percent of total JMC discharges.
- From 2013-2015, there was a 53% decrease in diabetes discharges as a percent of total hospital discharges. The number of diabetes with major complications/co-morbidities increased from zero in 2013 to 2 in 2015. There was a 56% decrease in diabetes with complications and a 27.4% increase in diabetes without major complications/co-morbidity as a percentage of diabetes discharges.

Berkeley Medical Center Cancer Registry (2013-2015)⁵⁰

- From 2013-2015, there were 1,438 cases diagnosed and/or treated at Berkeley Medical Center. Of those cancers, breast cancer (21.5%) was the most common form of cancer, followed by lung cancer (18.77%), colorectal cancer (11.82%), bone marrow cancer (9.8%), prostate cancer (9.7%), and HPV-related cancers.
- Almost 50% (n=711) of all cancers in the BMC cancer registry were identified in individuals age 64 and younger. 50% (n=237) of cancers diagnosed in stage 3 or stage 4 at were identified in individuals age 64 and younger.
- 13% (n=40) of breast cancers, 48% (n=80) of colorectal cancers, and 69.4% (n=44) of lung cancers were identified in late stages (stage 3 and stage 4)
- 40% of stage 4 lung cancers at diagnosis were in individuals age 64 and younger.
- 12.3% of stage 3 lung cancers cases were in individuals age 54 and younger.
- Using 2015 guidelines for lung cancer screening, 34 persons diagnosed with late stage lung cancer were under the recommended age of 55 for routine screening.⁵¹
- Persons of Hispanic/Latino descent represent 3.86% of the population in Berkeley County but only 1% of persons diagnosed or treated for cancer at BMC from 2013-2015.

Jefferson Medical Center Cancer Registry (2013-2015)⁵²

- Between 2013 and 2015, there were 578 JMC cancer diagnoses. Breast cancer (n=123) was the most common form of cancer and represented 21.2% of JMC cancer cases. Lung cancer (14.8%) and prostate cancer (12.28%) were the next two most common cancers followed by HPV-related cancers (12.11%). Bone marrow cancer and colorectal cancers represented 11.59% and 9.68% of JMC cancers.
- 29.6% (n=171) of all cancers, 15.7% (n=90) of stage 3 cancers, and 18.81% of stage 4 cancers were diagnosed in individuals age 54 and younger.
- Of those cancers diagnosed and/or treated at JMC, 18% (n=22) of breast cancers, 46.4% (n=26) of colorectal cancers were diagnosed in stage 3 or 4. Almost 80% (n=67) of lung cancers were diagnosed in either stage 3 or 4 and 5.81% (n=5) of late stage cancer diagnoses were in individuals age 54 or younger. One quarter of stage 3 and 4 lung cancers were diagnosed in individuals ages 55-64.

⁵⁰ Cancer registry 2013-2015 data were obtained from Ms. Pamela Roberts, RHIA, CHTS-IM, CTR, Cancer Program Coordinator, WVU Cancer Institute.

⁵¹ https://www.cdc.gov/cancer/lung/basic_info/screening.htm.

⁵² Cancer registry 2013-2015 data were obtained from Ms. Pamela Roberts, RHIA, CHTS-IM, CTR, Cancer Program Coordinator, WVU Cancer Institute.

- About 60,000 West Virginian adults aged 18 or older (4.2% of all adults) per year in 2013–2014 had serious thoughts of suicide within the year prior to being surveyed. The percentage did not change significantly from 2010–2011 to 2013–2014.⁵³
- Persons of Hispanic/Latino descent represent 5.1% of the population in Jefferson County but only 1% of persons diagnosed or treated for cancer at JMC from 2013–2015.

Cancer Mortality⁵⁴

- From 2009–2013, all cancer age-adjusted cancer death rates were higher/100,000 in Berkeley County (206.1) than in the United States (168.5), WV (196.1), and surrounding Jefferson County (178.2) and Morgan County (209).
- Berkeley County (30.3/100,000) had the 2nd highest rate of breast cancer-related deaths per 100,000 in the state. The US rate was 21.5/100,000 and West Virginia rate was 22.2/100,000. The rate for Jefferson County was 19/100,000. The rate of lung cancer deaths in Berkeley County (65.1/100,000) from 2009–2013 was higher than the US (46/100,000) and West Virginia (61.6/100,000) rates. Jefferson County and Morgan County rates were 51.6/100,000 and 57.9/100,000 respectively.

⁵³ Data source: https://www.samhsa.gov/data/sites/default/files/2015_West-Virginia_BHBarometer.pdf, p. 9.

⁵⁴ Data source: <https://www.statecancerprofiles.cancer.gov/map/map.withimage.php?54&001&001&00&0&02&0&1&5&0#results>

Community Health Needs Assessment Cycle II

Community Themes and Strengths and Health System Assessment Survey

This section reports findings from the Community Strengths and Themes and Health System Assessment Survey. The survey was a 54-item survey that consisted of five sections or subscales: (1) quality of life; (2) health care system; (3) personal health and experience with health care system; (4) critical health and safety issues, priorities, and confidence in county capacity to address; (5) satisfaction with local public health; and (6) demographics. Invitations to participate in an anonymous electronic survey were sent via email, to the Health and Human Services Collaborative Listserv, and posted on a variety of websites including WVU Medicine/University Healthcare and WVU School of Nursing, Eastern Division. In addition, outreach initiatives to area elders, DHHR clients, the Berkeley and Jefferson County Health Departments, and community service agencies and groups such as Jefferson Community Ministries. A total of 612 surveys were completed between mid-July and early October 2016. Data were downloaded, entered into SPSS, cleaned, and statistical analyses performed. The sample characteristics are provided in addition to key findings. Statistically significant differences based on county of residence, educational and income levels, and employment status were identified and are discussed below.

Demographics

Of the 612 survey respondents, 55.4% were Berkeley County residents, 38% were Jefferson County residents, 3% were Morgan County residents, and the remaining 3.46% were residents of surrounding counties but worked in Berkeley or Jefferson Counties. Sixty-nine percent of respondents were women and 31% were men; 5.5% were individuals who qualified for Veterans health benefits but receive care outside the VA medical system. Close to 75% of survey respondents reported that they accessed healthcare in either Berkeley County or Jefferson County; 25.1% accessed healthcare outside of West Virginia as illustrated in Chart 2 below.

Chart 1: Respondents by County of Residence

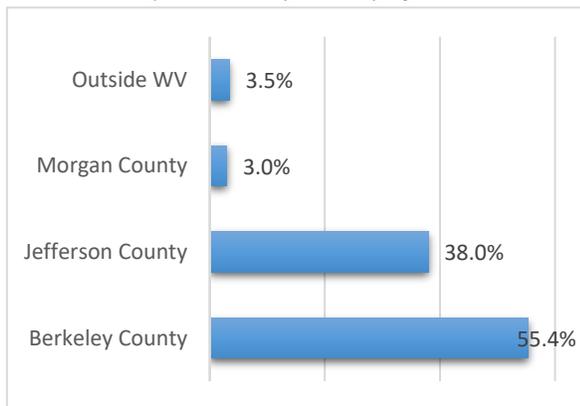
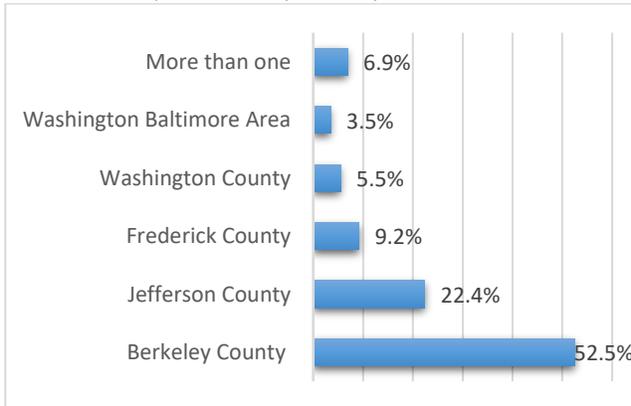


Chart 2: Respondents by County Access Healthcare



Income. The survey sample covered the spectrum of income and educational levels as seen in the Charts 3 and 4. Per the U.S. Census, between 2011-2015, the median family income in Berkeley County was \$55,239 and 12.5% of the population live in poverty. The median family income for the same time in Jefferson County was \$66,677 with 10.6% of the population living in poverty. Roughly 17% of respondents from both Berkeley and Jefferson Counties 17.3% reported incomes less than \$20,000 per year; 15.7% reported incomes

between \$20,000 and \$39,000. Another 27% reported incomes between \$40,000 and \$79,000, 22% between \$80,000 and \$119,999, and 19% reported incomes \$120,000 and above. (See Chart 3)

Education. Research suggests that education is one the strongest predictors of health.⁵⁵ From 2013-2014, the on-time high school graduation rate for the Eastern Panhandle was 88% which is higher than the rates for West Virginia (84.6%) and the United States (84.3%).⁵⁶ From 2011-2015, 11.9% of Jefferson County residents had less than a high school education, 88.1% had a high school education and above (includes some college and associate degree), and 28.4% had a bachelor’s degree and above. From 2011-2015, 12.9% of Berkeley County residents had less than a high school degree, 87.1% had a high school education and above; 19.7% had a bachelor’s degree and above.

Thirty-three percent (33%) of the survey respondents had either an associate or bachelor’s degree and 29% had graduate degrees. Six percent (6%) of survey respondents reported having less than a high school education; 16% reported a high school degree, 16% some college but no degree, 9% had an associate degree, 24% had a bachelor degree, and 29% had a graduate degree.

Chart 3: Reported Annual Family Income

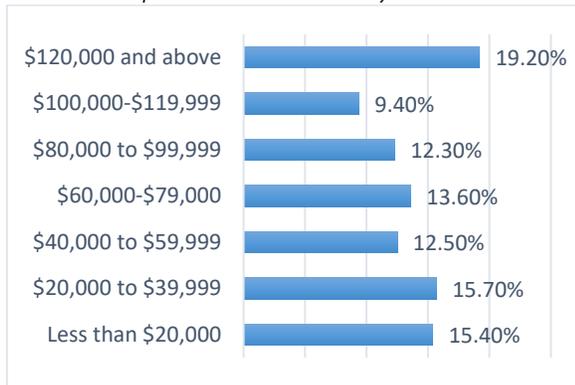
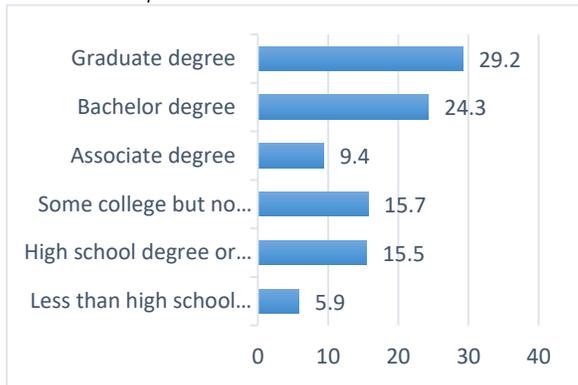


Chart 4: Reported Education Levels



There is greater racial and ethnic diversity in the Eastern Panhandle than in the rest of West Virginia and this diversity was reflected in the survey sample. Close to 83% of the respondents identified as non-Hispanic Caucasian, 8.4% as non-Hispanic Black or African American, 2.7% more than one race, 2.3% Asian, Native Hawaiian, or Pacific Islander, 1.8% Hispanic/Latino, and 1.2% “other” race.

As indicated in Chart 5, almost 60% of survey respondents were employed fulltime and 13% were employed part time. Of the 21.3% of respondents who were not employed, 7.1% were actively seeking employment and 1.2% were not. Almost 12% were retired, 3% were disabled and unable to work, and the remaining 3.5% indicated some other employment status.

⁵⁵ https://www.cdc.gov/pcd/issues/2007/oct/07_0063.htm

⁵⁶ Data source: US Department of Education, EDData. Accessed via DATA.GOV. Additional data analysis by CARES. 2013-14. Source geography: School District

Chart 5: Respondents by Race/Ethnicity

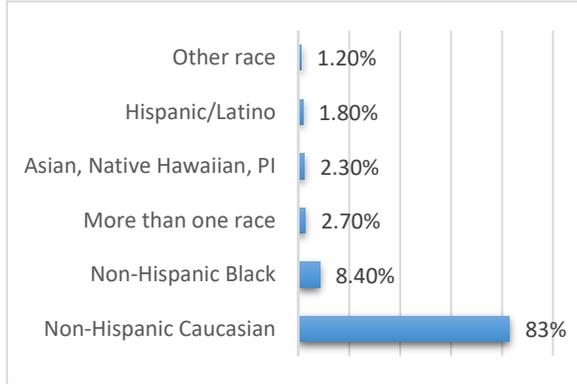
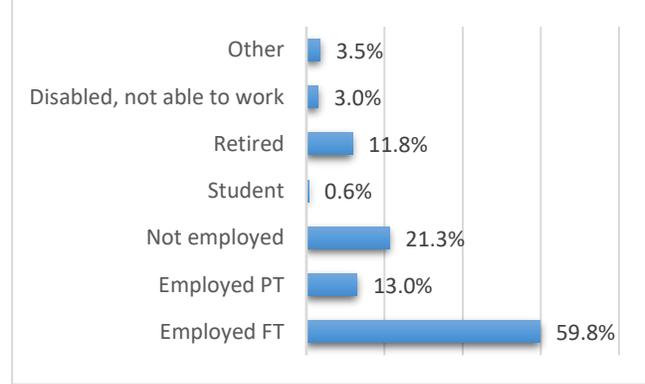


Chart 6: Respondents by Employment Status



Selected Quality of Life Questions

The first section of the survey asked for respondents’ level of satisfaction on a scale of 1 (very dissatisfied) to 5 (extremely satisfied) with various quality of life indicators in the county where they lived. Results for the questions most pertinent to the CHNA are provided below. There were statistically significant differences between Berkeley County and Jefferson County respondents in satisfaction with availability of *health activities, behavioral health services, quality day care, and safety* in county of residence. Jefferson County respondents had higher scores on these quality of life indicators than Berkeley County respondents.

Table 6: Selected Quality of Life Indicator by County

Question	Mean (SD) ⁵⁷	Berkeley County	Jefferson County	Significance ⁵⁸
How satisfied are you with the availability of options for "healthy activities" in your county?	3.19 (1.05)	3.05(1.01)	3.40 (1.04)	F=2.572, p=.000
How satisfied are you with the availability of affordable healthy food in your county?	2.93 (1.12)	NS	NS	NS
How satisfied are you with the availability of primary care providers in your county?	3.12 (1.07)	NS	NS	NS
How satisfied are you with the availability of specialty care physicians in your county?	2.73 (1.10)	NS	NS	NS
How satisfied are you with the availability of behavioral health services in the county where you live?	2.30 (1.13)	2.34(1.14)	2.35(1.14)	F=2.53, p=.000
How satisfied are you with the availability of organized activities and programs for children in the county where you live?	2.60 (1.13)	NS	NS	NS
How satisfied are you with the employment opportunities in your county?	2.55 (1.10)	NS	NS	NS

⁵⁷ The statistical mean is the average derived by adding all scores together and dividing by the total number of points possible. SD is the standard deviation of the data points from the mean.

⁵⁸ F score (ANOVA) and p value indicate that there are statistically differences between county ratings of confidence. NS means that the differences are not statistically significant.

How safe do you feel in the county where you live?	N/A	3.62(.839)	3.91(.843)	F=2.88, p=.000
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Health System Assessment

The 2013 CHNA identified that there were concerns about access to and the quality of health services in the Eastern Panhandle but did not provide insight into specific community concerns. Additional questions and subscales were included into the Cycle II CTSA and HSA community survey to capture community perspectives on these issues to assist with health planning. The Health System Assessment component of the survey consisted of questions about confidence in different aspects of the health care system, including community-based services attending to the biological, psychological, and social determinants of health. Statistically significant differences were found based on county of residence as illustrated in Table 2 below. On scale of 1 (not at all confident) to 5 (extremely confident), respondents were most confident that they could get high quality general or primary care, hospice care, and hospital care in their county of residence. Berkeley County residents were more confident than Jefferson County residents in all three. Respondents expressed less confidence in counseling services, help with interpersonal violence and financial problems, and help with substance abuse. There was a significant difference between the counties in confidence in counseling services, with Berkeley County residents feeling more confident than Jefferson County residents. There were no significant differences in confidence in getting help with interpersonal violence, financial problems, or substance abuse.

Table 7: How confident are you that you could get high quality healthcare in the county where you live?

Confidence Level (Scale 1-5) Listed from most confident to least confident	Mean (SD)	Berkeley	Jefferson	Significance ⁵⁹
Sum confidence in getting high quality HC in county		44.21(12.7)	40.6(12.6)	F=.073, p=.003
1. General or primary care	3.56 (1.06)	3.69(1.00)	3.43(1.13)	F=7.911, p=.012
2. Hospice or palliative care	3.47 (1.14)	3.63(1.10)	3.30(1.170)	F=.522, P=.003
3. Hospital care	3.45 (1.13)	3.63(1.03)	3.17(1.22)	F=9.98, p=.000
4. Home-based support services	3.27 (1.06)	3.39(1.02)	3.12(1.10)	F=.092, p=.008
5. Diabetes care	3.23 (1.04)	3.41(.94)	2.99(1.09)	F=.781, p=.000
6. Home-based nursing, physical/occupational therapy, social work	3.18 (1.05)	3.29(1.05)	3.02(1.04)	F=3.799, p=.008
7. Surgical care	3.11 (1.12)	3.29(1.10)	2.79(1.17)	F=4, p=.000
8. Cancer care	3.00 (1.14)	3.25(1.08)	2.65(1.13)	F=1.69, p=.000
9. Heart, lung, or kidney specialty care	2.96 (1.11)	3.17(1.01)	2.62(1.15)	F=.395, p=.000
10. Counseling services	2.74 (1.02)	2.85(.995)	2.62(1.03)	F=2.240, p=.023
11. Help with interpersonal or domestic violence	2.69 (1.01)	NS ⁶⁰	NS	NS
12. Care for autoimmune or neurological conditions	2.59 (1.05)	2.75(1.01)	2.35(1.03)	F=.569, p=.000

⁵⁹ F score (ANOVA) and p value indicate that there are statistically differences between county ratings of confidence.

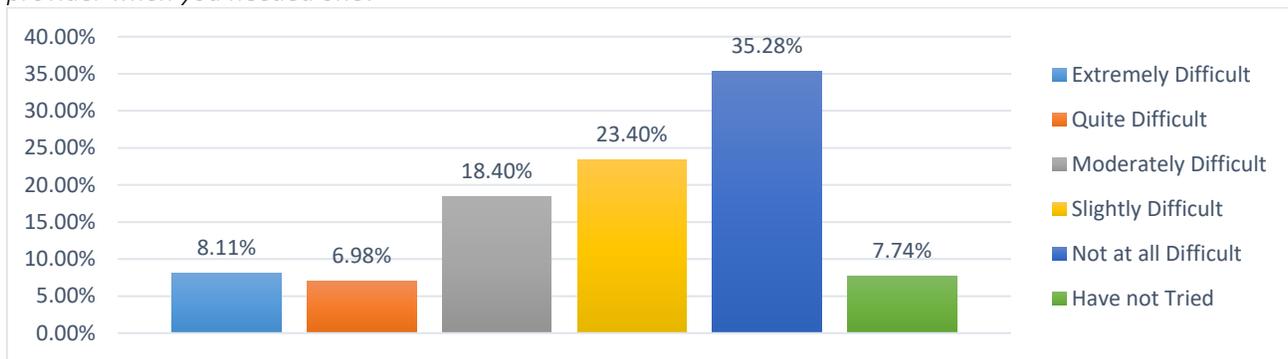
⁶⁰ NS means differences are not statistically significant

13. Help with financial problems	2.41 (0.99)	NS	NS	NS
14. Help with substance abuse	2.39 (1.03)	NS	NS	NS
15. Traumatic brain injury (TBI) care	2.38 (1.05)	2.50 (1.01)	2.26 (1.08)	F=1.19, p=.019

Access Behavior and Barriers

Seventy-four percent of respondents reported usually going to a physician’s office to get healthcare. Another 20% typically go to urgent care centers to access healthcare and another 13% go to the hospital emergency room. Seventy percent reported having a primary care provider that they see at least once a year. In the previous 12 months, 59.3% had tried to get an appointment with a primary care provider, 8.9% with a heart, lung, or cancer specialist, 8.6% with another specialist such as neurologist, 7.4% behavioral health providers, and 10.8% a surgeon. Chart 7 shows the degree of difficulty respondents experienced when trying to get an appointment. On a scale of 1 (not at all difficult) to 5 (extremely difficult), 35.28% of respondents found it not at all difficult, 23.4% reported slight difficulties, and 33.49% found it anywhere from moderately to extremely difficult to get an appointment.

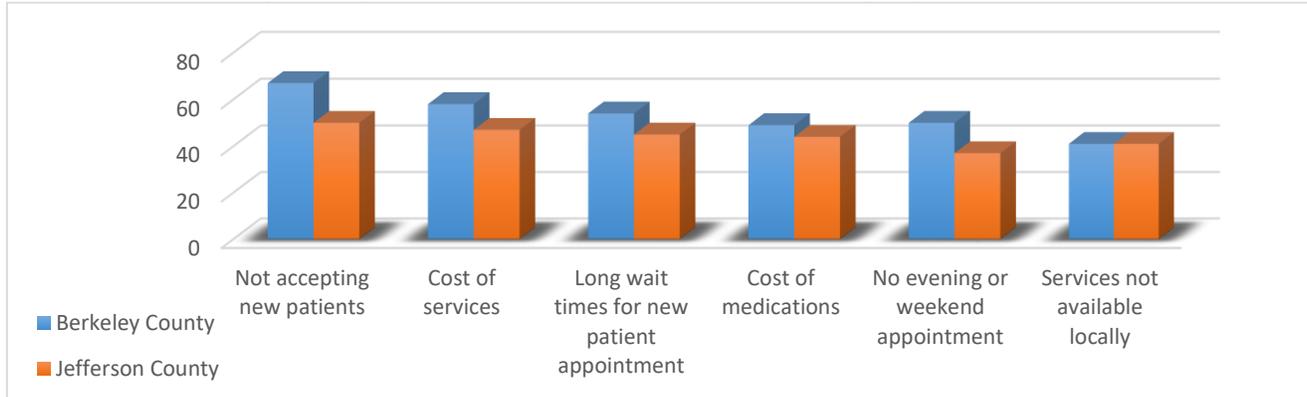
Chart 7: In the past 12 months, how difficult has it been for you to get an appointment with a health care provider when you needed one?



Survey respondents were asked “Which of the following barriers have you experienced when trying to get the health care you need?” Twenty percent of participants *did not* experience barriers. On average, those respondents who reported experiencing barriers encountered 3 different access barriers. The top five access barriers reported were (1) providers were not accepting new patients (20.9%); (2) cost of services (19.2%); (3) long waiting periods for new patients (18.9%); (4) no evening or weekend hours; and (5) cost of medications (17.1%).

Additional barriers included lack of information about services (4.9%), problems navigating the system (4.1%), bad attitudes of professionals or staff (3%), racism/prejudice (1.8%), and language barriers (.5%). There are statistically significant differences in access barriers based on income group, with lower income groups reporting more barriers. There were no statistically significant differences in barriers based on educational level. There were statistically significant differences between Berkeley and Jefferson County respondent reports of access barriers. Berkeley County respondents reported more access barriers ($M=3.37$, $SD=2.41$) than Jefferson County respondents ($M=2.83$, $SD=2.03$, $t = 2.20$, $p < .05$). There were also differences in the top 5 barriers experienced.

Chart 8: Which of the following barriers have you experienced when trying to get the healthcare you need?



When breaking down the barrier question responses by income group, almost 30% of respondents with incomes >\$80,000 per year reported no access barriers; 24.6% reported “providers not accepting new patients” as an encountered barrier. Other commonly experienced barriers for the top income group were long waiting periods for new patients (21.2%), getting appointments when sick (22.6%), no evening or weekend appointments (19.7%), bad attitudes of professionals and staff (19.3%), and services not available locally (17.6%). Thirteen percent of respondents with incomes <\$39,000 reported no access barriers and 28% reported providers not accepting new patients as a barrier encountered. Additional barriers encountered among respondents in the lowest income group included lack of transportation (25.2%), long waiting periods for new patients (20.5%), providers wouldn’t accept my insurance (22%), and services not available locally (19.2%). Respondents in the middle-income group reported no evening or weekend hours (25.2%), not accepting new patients (24.3%), long waiting periods for new patients (21.2%), and getting appointments when sick (18.4%), and 21.8% reported no access barriers.

Chart 9: Selected Barriers by Income Group



7-Item Assessment of Chronic Illness Care Subscale⁶¹

The Patient Assessment of Care for Chronic Conditions (PACIC) measures specific actions or qualities of care, congruent with the CCM, that patients report they have experienced in the delivery system. The survey includes 20 items that is sufficiently brief to use in many care settings.⁶² Seven items from the PACIC were selected for a subscale using criteria developed by a group of experts and information gathered from persons living with chronic and serious illness in the region. With a Cronbach's Alpha of .919, the CHNA Person-Centered Care Subscale was highly reliable.⁶³

Survey respondents who reported having a chronic illness were asked to respond to the questions on a scale of 1 (never) to 5 (always) based on their experiences over the past 12-months. There were no statistically significant differences between Berkeley County and Jefferson County responses and results are reported in the aggregate.

Table 8: Assessment of Chronic Illness Care Subscale Means and Standard Deviations

Criteria: Over the last 12-months, when I received care for my condition....	Mean/SD
I was referred to community services for help when needed.	1.51 (0.94)
I was referred to a dietitian, health educator, or a counselor.	1.77 (1.14)
I was given information about programs in the community that could help me.	1.80 (1.11)
I was helped to plan ahead so I could take care of my health condition even in hard times.	2.34 (1.38)
I was asked how my chronic condition affects my life.	2.35 (1.41)
I was asked for my ideas when we made a treatment plan.	2.50 (1.38)
I was shown how what I do (diet, physical activity, react to stress) impacts my health.	2.61 (1.38)

As Table 8 demonstrates, respondents with chronic illness were more likely to get information about the links between health behavior (diet, physical activity, stress response) and health but were infrequently referred to community resources that could be of help to them or experts in nutrition, exercise, health educator, or counselor.

Personal Health Status

Respondents were asked a series of questions regarding their health status. These questions included rating of health and satisfaction with health, health status, barriers to achieving preferred health status, assessment of chronic illness care, and healthcare access barriers. Respondents were asked to describe their overall health on a 5-point scale (1=very poor; 5=excellent). Respondents were also asked to rate the degree of satisfaction with their health on a scale of 1 (very dissatisfied) to 5 (very satisfied). There were statistically significant differences in self-ratings of health satisfaction by county. Whereas Berkeley County respondents

⁶¹ Items selected from Patient Assessment of Chronic Illness Care instrument

http://www.improvingchroniccare.org/index.php?p=PACIC_survey&s=36 .

⁶² http://www.improvingchroniccare.org/index.php?p=PACIC_Survey&s=36

⁶³ Cronbach's alpha is a measure of internal consistency, that is, how closely related a set of items are as a group. It is a measure of scale reliability. A reliability or alpha coefficient of 1 is the highest. An alpha coefficient of .7 is considered acceptable for most social science research. A coefficient of .919 is demonstrates a very high subscale reliability.

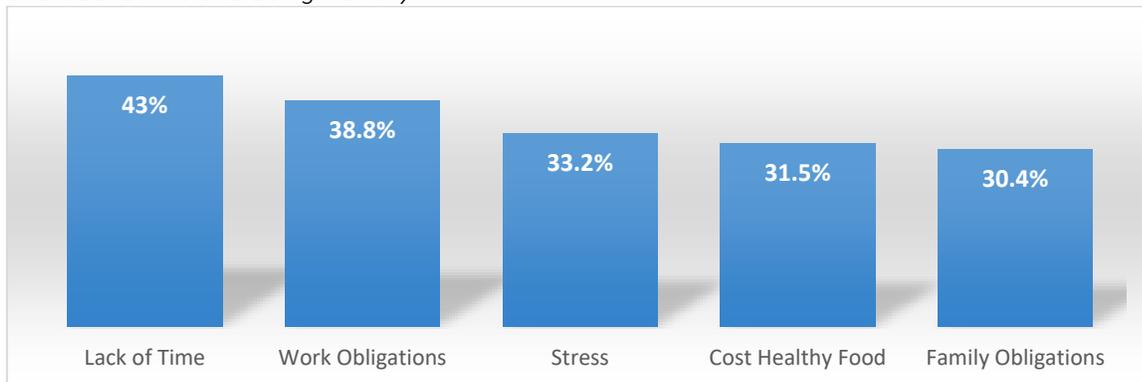
reported a higher level of health ($M=3.92$) than Jefferson County respondents ($M=2.16$), they reported lower satisfaction with health ($M=2.26$) than their Jefferson County counterparts.

Table 9: Self-report of Health Status and Satisfaction with Health by County

Question	Mean/SD	BC	JC	Sig/notes
How would you describe your overall health?	3.84 (0.72)	3.92 (.683)	3.72 (.801)	F=.842, p=.005
How satisfied are you with your overall health?	2.26 (0.85)	2.16 (.811)	2.38 (.892)	F=5.97, p=.011

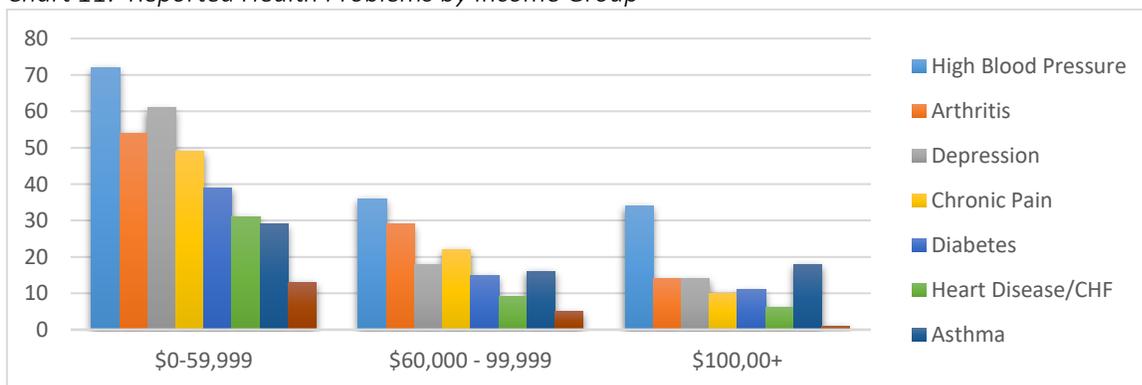
Responses to the question “What gets in the way of you being as healthy as you would like to be?” revealed a range of 1-11 barriers ($M=3.23$). There were no statistically significant differences based on county of residence, income group, or level of education. The top five barriers were lack of time (43%), work obligations (38.8%), stress (33.2%), cost of healthy food (31.5%), and family obligation (31.5%). The least common barriers reported were disability (8.2%), safety of neighborhood (7.2%), not sure what to do (6.1%), and there’s nothing I can do to help (4.1%). Strategies to improve safe access to physical activity and address the most common barriers are important to consider. The findings also suggest that interventions should incorporate practical tips on how to reduce barriers related to time and stress. The top five reported barriers are reported in Chart 10 below.

Chart 10: Barriers to Being Healthy



High blood pressure ($n=164$) was the most common health problem reported by survey respondents, followed by none ($n=145$), arthritis ($n=108$), depression ($n=100$), chronic pain ($n=91$) and diabetes ($n=70$).

Chart 11: Reported Health Problems by Income Group



The mean number of co-morbidities reported was 2.5. There were statistically significant differences in co-morbidities by income group, $F = 13.63, p < .001$. There were differences among all three groups with the lowest income group ($M=3.02, SD=2.09$) having more co-morbidities than the middle-income group ($M=2.41, SD=1.68$), $p < .05$ and the highest income group ($M=1.71, SD=0.96$), $p < .001$ and the middle-income group having more co-morbid conditions ($M=2.41, SD=1.68$) than the highest income group ($M=1.71, SD=0.96$), $p < .05$.

Community Perspectives on Critical Health and Safety Issues and Priorities

Community perspectives on critical health and safety issues subscale contained questions about specific health behaviors and problems, the factors that contribute to those health and safety issues, the degree to which the problems are being addressed, and thoughts about whether the respondent’s county of residence has the requisite resources to address those issues.⁶⁴ Survey respondents were asked to rate issues on a scale of 0 (not a problem) to 5 (critical problem) and whether the issue was being addressed on a scale of 0 (not being addressed) to 5 (fully addressed). The top critical health and safety issue identified across all assessments was substance use specific to drugs and drug overdose ($M=4.46$), followed by obesity ($M=3.99$), alcohol abuse ($M=3.92$), mental illness ($M=3.92$), teen risky health behavior ($M=3.91$), and diabetes ($M=3.80$). In terms of the degree to which issues are being addressed, the lowest score was for drug abuse and overdose ($M=1.77$). The next lowest score was for mental illness ($M=3.92$), followed by obesity ($M=1.92$), teen risky health behavior ($M=1.94$), and diabetes ($M=2.46$).

Table 9: Top 10 Critical Health and Safety Issues and Degree to Which they are being Addressed

Health Issue (N=619)	Critical Health Issue (0-5) Mean (SD)	Being Addressed (0-5) Mean (SD)
1. Drug abuse/overdose	4.46 (1.13)	1.77 (1.40)
2. Obesity	3.99 (1.32)	1.92 (1.33)
3. Alcohol abuse	3.92 (1.25)	1.96 (1.34)
4. Mental illness	3.92 (1.25)	1.82 (1.31)
5. Teen risky health behavior	3.91 (1.17)	1.94 (1.28)
6. Diabetes	3.80 (1.21)	2.46 (1.29)
7. Physical activity and nutrition	3.75 (1.22)	2.04 (1.31)
8. Cancer	3.62 (1.17)	2.59 (1.27)
9. Heart disease and stroke	3.50 (1.19)	2.43 (1.22)
10. Dental/oral health	3.49 (1.33)	2.02 (1.32)

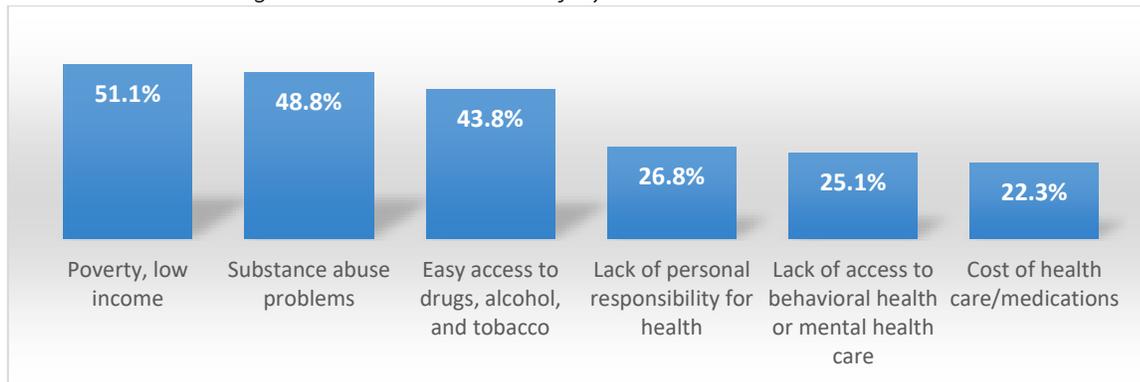
Factors Contributing to Critical Health and Safety Issues

Poverty and low income (51.1%), substance abuse problems (48.8), and easy access to drugs, alcohol, and tobacco (43.8%) were cited at the top three factors contributing to critical health and safety issues in the Eastern Panhandle. The next cluster of factors includes lack of responsibility for health (26.8%), lack of

⁶⁴ Cronbach’s alpha is a measure of internal consistency/scale reliability. A Cronbach’s alpha of 1.0 signifies perfect reliability. Subscale Cronbach’s alpha = .96.

access to behavioral health services (25.1%), and cost of health care and medications (22.3%).

Chart 11: Contributing Factors to Health and Safety Issues



Respondents rated substance use disorder as the most critical health and safety issue in the Eastern Panhandle. They also had low confidence on a scale of 0 (no confidence) to 5 that their county had the requisite resources (financial and personnel) to address the most critical health and safety issues that they had identified ($M=1.79$; $SD1.23$), Median=2).

Hospital Level Data

Hospital level data including most common DRGs, Ambulatory Care Sensitive Admissions, CMS Hospital Compare, and other indicators were also included in the Health Care System Assessment and are included in this section.

Centers for Medicare and Medicaid Services (CMS) Hospital Compare

Hospital Compare is part of the CMS Hospital Quality Initiative. The Hospital Quality Initiative uses a variety of tools to help stimulate and support improvements in the quality of care delivered by hospitals. The intent is to help improve hospitals' quality of care by distributing objective, easy to understand data on hospital performance and consumer perspectives of quality.

Table 10 reports selected variables from the CMS Patient Satisfaction Survey. The percentages in parentheses were reported in CHNA Cycle 1. In 2016, 96% of BMC patients and 98% JMC patients reported that their nurses usually or always communicate well. Ninety-four percent of BMC patients and 97% of JMC patients reported that their physicians always or usually communicated well.

Table 10: CMS Hospital Compare Selected Patient Satisfaction Measures for BMC and JMC

	BMC 2016 (BMC 2012)	BMC 2016 (BMC 2012)	JMC 2016 (JMC 2012)	JMC 2016 (JMC 2012)	WV 2016	US 2016
Measure: Patients reported... ⁶⁵	Always	Usually	Always	Usually	Always	Always
Their nurses communicated well.	77% (76%)	19% (19%)	83% (77%)	15% (19%)	80%	80%

⁶⁵<https://www.medicare.gov/hospitalcompare/compare.html#vwqrph=0&cmprTab=1&cmprID=510008%2C511319&cmprDist=2.2%2C14.7&dist=50&loc=25401&lat=39.4529363&lng=-77.9681544b>

Their doctors communicated well.	78% (82%)	16% (14%)	81% (83%)	16% (13%)	82%	82%
They received help as soon as they wanted.	66% (67%)	27% (25%)	74% (65%)	20% (25%)	69%	69%
Their pain was well controlled.	69% (73%)	26% (21%)	71% (67%)	25% (27%)	69%	71%
Staff explained about medicines before giving them. ⁶⁶	61% (62%)	17% (15%)	61% (60%)	18% (20%)	65%	65%
Their room and bathroom were "always" clean.	75% (75%)	19% (18%)	73% (84%)	10% (13%)	75%	74%
The area around their rooms was quiet at night. ²⁴	45% (47%)	38% (36%)	61% (53%)	30% (37%)	60%	62%

The patient satisfaction questions in Table 11 were added to the CMS 2016 Survey and thus were not reported in CHNA Cycle I. The table shows that there are opportunities to improve in several of the key areas including information about what to do to aid their recovery at home, percent of patients who understand what was involved in their care when they went home, and percent of patients who gave the hospital a rating of 9 or 10.

The CMS data on colorectal cancer screening is important because of BMC/JMC cancer registry and national trends related to late stage cancer diagnosis in general and specifically among persons under age 50. Both hospitals are far below WV and US percentages of patients who received appropriate recommendations for follow-up screening colonoscopies. BMC scored higher than the national and state benchmark for percentage of patients with history of polyps receiving a follow-up screening colonoscopy in an appropriate timeframe.

Table 11: 2016 CMS Hospital Compare Selected Measures for BMC and JMC

CMS Hospital Compare Indicator ⁶⁷	BMC 2016	JMC 2016	WV 2016	US 2016
Patients who reported that YES, they were given information about what to do during their recovery at home	85%	83%	86%	87%
Patients who "Strongly Agree" they understood their care when they left the hospital	47%	53%	49%	52%
Patients who gave their hospital a rating of 9 or 10 on a scale from 0 (lowest) to 10 (highest)	62%	73%	70%	72%
Patients who reported YES, they would definitely recommend the hospital	61%	73%	67%	72%

⁶⁶ 22% of BMC patients and 18% of JMC patients reported that staff sometimes or never explained about meds before giving them.

⁶⁷ <https://www.medicare.gov/hospitalcompare/compare.html#vwgrph=0&cmpTab=1&cmpID=510008%2C511319&cmpDist=2.2%2C14.7&dist=50&loc=25401&lat=39.4529363&lng=-77.9681544>

Colorectal Cancer Screening				
Percentage of patients receiving appropriate recommendation for follow-up screening colonoscopy Higher percentages are better	44%	0%	74%	80%
Percentage of patients with history of polyps receiving follow-up colonoscopy in the appropriate timeframe Higher percentages are better	100%	3%	83%	87%

Hospital-level data reveals the positive impact of the Affordable Care Act and associated expansion of Medicaid on access to healthcare⁶⁸. Between 2013 and 2015, BMC inpatient discharges increased by 1.77% and BMC outpatient encounters increased by 21.7%. Medicare and Medicaid beneficiary inpatient discharges increased by 2.76% and 29.34% respectively, and the number of self-pay class decreased by 79.9%. The percent of BMC public financial class inpatient discharges (Medicare, Medicaid, and Worker's Comp/Government) increased by 10.36%, the percent of private insurance financial class inpatient discharges (PEIA, BC/BS, Commercial) decreased by 3.46%, and self-pay financial class decreased by 80.33%. The percent of BMC public outpatient encounter public financial class increased by 18.4%, the percent of outpatient private financial class decreased by 10.05%, and outpatient encounter self-pay financial class decreased by 56.66%.

The same trends were seen at Jefferson Medical Center. JMC inpatient discharges decreased by 3.39% and JMC outpatient encounters increased by 1.47%. Medicare and Medicaid beneficiary inpatient discharges increased by 2.76% and 29.34% respectively, and the number of self-pay class decreased by 79.9%. The percent of JMC public financial class inpatient discharges (Medicare, Medicaid, and Worker's Comp/Government) increased by 8.97%, the percent of private insurance financial class inpatient discharges (PEIA, BC/BS, Commercial) decreased by 45.28%, and self-pay financial class decreased by 73.18%. The percent of JMC outpatient encounter public financial class increased by 22.28%, the percent of outpatient private financial class decreased by 2.42%, and outpatient encounter self-pay financial class decreased by 58.98%.

Table 12: BMC and JMC 2015 Inpatient and Outpatient Discharges and Encounters by Race, Ethnicity, and Payer Class

	BMC 2015 Inpatient	BMC 2015 Outpatient	JMC 2015 Inpatient	JMC 2015 Outpatient
Gender				
Not Specified	-	8	-	2
Male	3,608	65,760	587	23,942
Female	5,338	111,146	1,010	42,788
Race/Ethnicity				
Am Indian/Alaskan Native	10	92	0	44
Asian	36	774	10	404

⁶⁸ Unless otherwise noted, all hospital level data were provided by WVU Medicine/University Healthcare.

Black/African American	711	13,678	131	4,888
Hispanic/Latino	188	3,027	45	2,217
Native Hawaiian/Other Pacific Islander	5	114	2	65
Not Specified	0	38	11	1
Other	37	696	0	330
Patient Refused	0	33	0	7
Two or more races	66	1,710	9	682
Unknown	77	1,021	5	409
White	7,816	155,731	1,384	57,685
Financial Class				
Medicare	3,767	53,137	660	16,188
Medicaid	2,874	48,066	469	19,364
Blue Cross	1,189	36,881	227	13,300
Commercial	594	16,088	143	9,422
Self-Pay	137	8,571	26	4,255
Workers Comp/Gov't except VA	19	2,364	6	830
Government, VA only	103	3,017	21	830
PEIA	263	8,790	45	2,543
Total Inpatient Discharges	8,946	176,914	1,597	66,732

Diagnosis-Related Groups (DRGs)

From 2013-2015, the top ten DRGs remained relatively stable for both Berkeley Medical Center and Jefferson Medical Center with a few exceptions. The psychosis DRG has historically been the most common DRG. From 2013-2015, psychoses went from being the most common (N=615) to 3rd (N=427) while depressive neuroses moved from 17th (N=94) to 8th (N=178). This shift can be attributed to two factors: implementation of hospital-wide depression screening, an intervention from CHNA Cycle 1 and more nuanced diagnosing of patients admitted to the behavioral health unit. Another important trend noted was associated with neonates. Neonates with other significant problems from 6th (N=246) to 5th (N=333); Full term neonate with major problems went from not being in the top 20 DRGs to 18th (N=110) in 2015.

Table 13: BMC 2015 Top Ten Inpatient DRGs

DRG	Volume ⁶⁹
775 – Vaginal delivery without complicating diagnoses	498
795 – Normal newborn	471
885 - Psychoses	427
871 – Septicemia or severe sepsis with major complications or co-morbidities	423
794 – Neonates with significant other problems	333
470 – Major joint replacement or reattachment of lower extremity without major co-morbidities or complications	289
872 – Septicemia or severe sepsis without major complications or co-morbidities	192
881 - Depressive neuroses	178
774 – Vaginal delivery with complicating diagnoses	150
189 – Pulmonary Edema Respiratory Failure	138

Table 14: JMC 2015 Top 10 Inpatient Diagnosis-Related Groups

DRG	Volume
775 – Vaginal delivery without complicating diagnoses	146
795 – Normal newborn	128
794 – Neonate with significant other problems	97
192 – COPD without major complications or co-morbidities	50
774 – Vaginal delivery with complicating diagnoses	43
871 - Septicemia or severe sepsis with major complications or co-morbidities	43
603 – Cellulitis without major complications or co-morbidities	41
194 – Simple pneumonia pleurisy with complications or co-morbidities	39
872 - Septicemia or severe sepsis without major complications or co-morbidities	38

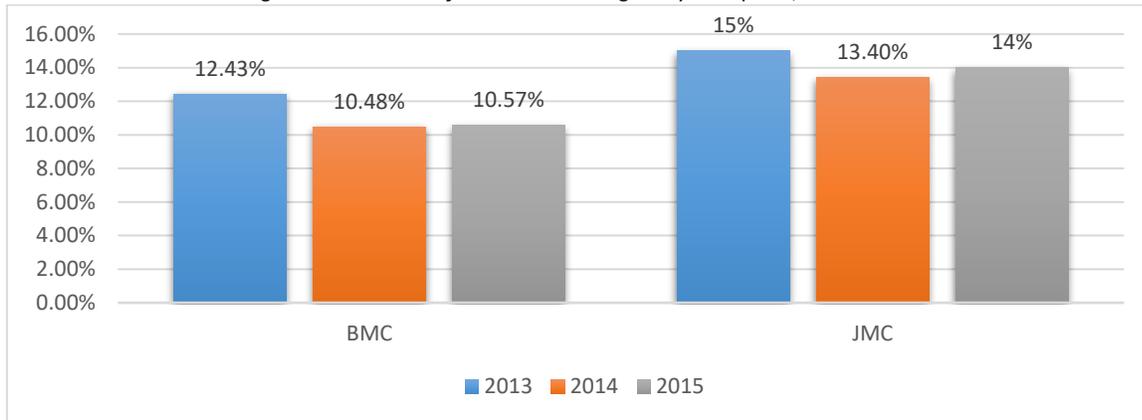
Ambulatory Care Sensitive Admissions

One of the quality indicators used by the Centers for Medicare and Medicaid Services (CMS) is ambulatory care sensitive (ACS) discharges. The ACS discharge methodology quantifies inpatient admissions for diabetes, perforated appendixes, chronic obstructive pulmonary disease (COPD), hypertension, congestive heart failure, dehydration, bacterial pneumonia, urinary tract infection, asthma, and other conditions that, in theory, could have been prevented if adequate ambulatory care resources were available and/or were accessed by consumers. High ACS discharge rates are indicators of: (1) access barriers to ambulatory care including affordability, acceptability, and availability of services; and, (2) the quality of ambulatory care. As illustrated in Chart 12, from 2013-2015, there was a

⁶⁹ Hospital level data provided by WVU Medicine/University Healthcare.

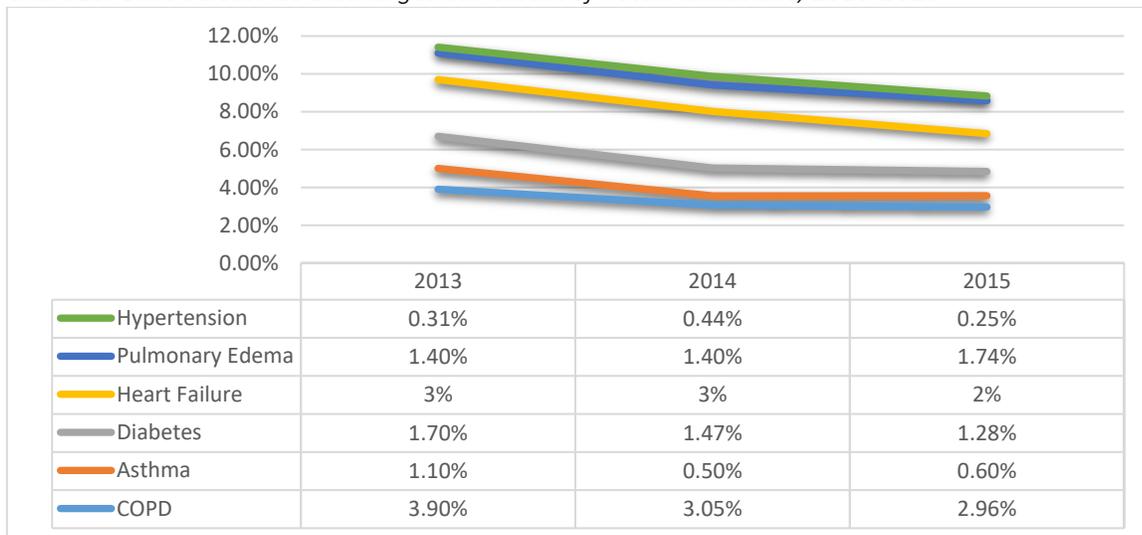
slight decrease in overall ACS discharges at BMC and JMC.

Chart 12: ACS Discharges as Percent of Total Discharges by Hospital, 2013-2015



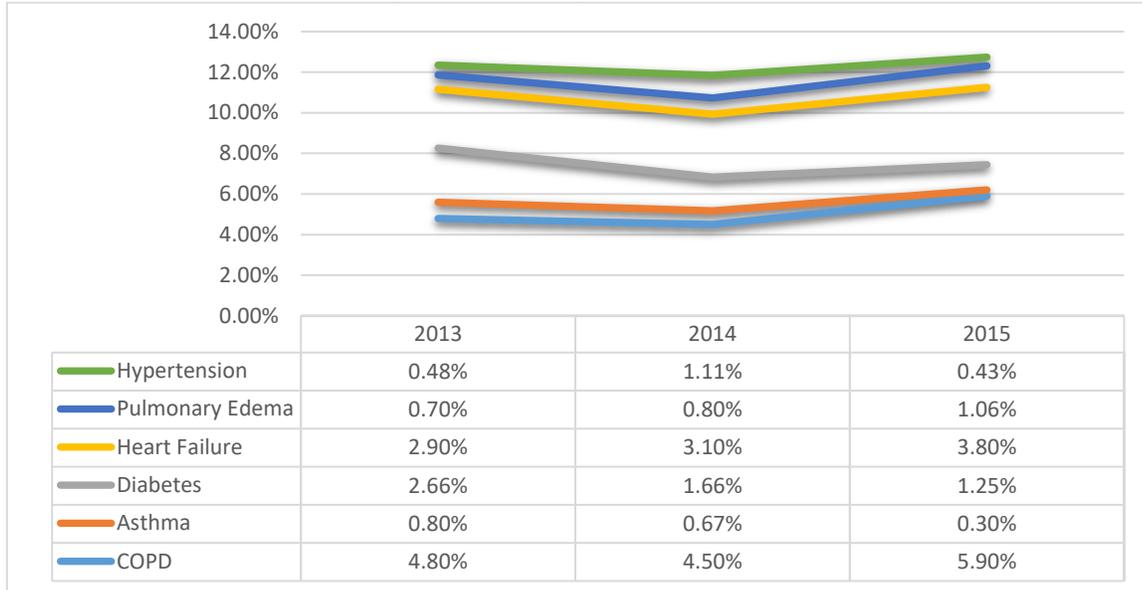
As Chart 13 shows, there was a steady decrease in hypertension, pulmonary edema, heart failure, diabetes, asthma, and COPD discharges from 2013-2015.

Chart 13: BMC Select ACS Discharges as Percent of Total Admissions, 2013-2015



At JMC, there was a decrease in diabetes and asthma discharges, but an increase in pulmonary edema, heart failure, diabetes, and COPD discharges as a percent of total JMC discharges.

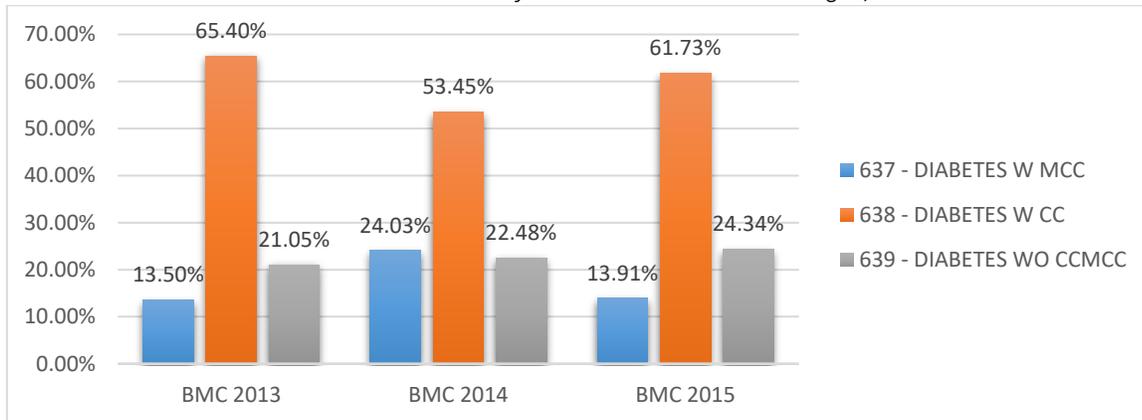
Chart 14: JMC Select ACS Discharges as Percent of Total Admissions, 2013-2015



Diabetes

Inpatient and outpatient diabetes care was a CHNA Cycle I priority area. As previously noted, diabetes was prioritized for quality improvement in the hospital and several CHNA and community initiatives. At BMC, from 2013-2015, there was a 24.7% decrease in diabetes discharges as a percent of total hospitals discharges. From 2013-2015, there was a 3.03% increase in the percentage of diabetes with major complications and co-morbidity discharges, a 5.61% decrease in diabetes with complication/co-morbidity discharges, and a 15.26% increase in diabetes without complications or co-morbidities and a percent of the total diabetes discharges.

Chart 15: Select Diabetes DRGs as Percent of all BMC Diabetes Discharges, 2013-2015 ⁷⁰

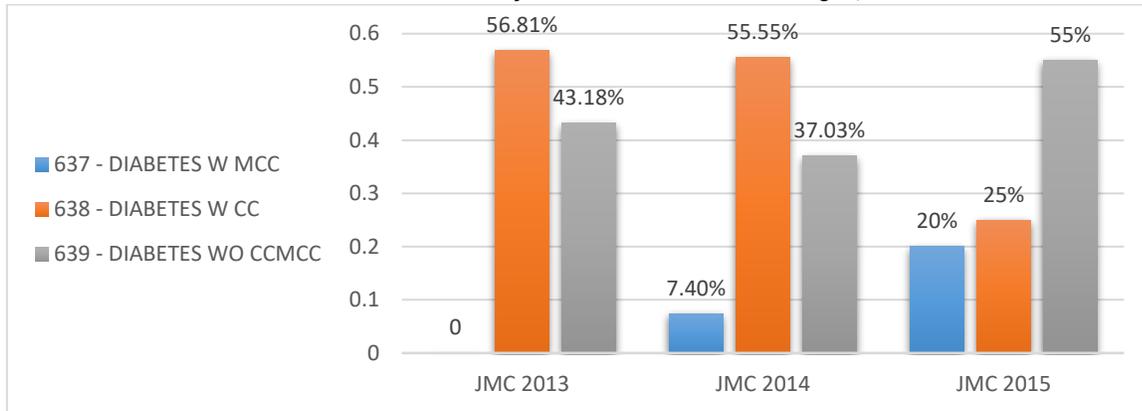


At JMC, from 2013-2015, there was a 53% decrease in diabetes discharges as a percent of total hospital discharges. The number of diabetes with major complications/co-morbidities increased from zero in 2013 to

⁷⁰ **DRG Terminology:** MCC = Major Complications or Co-morbidities; CC = Complications or Co-morbidities; WO CCMCC = Without Complications or Co-morbidities or Major Complications or Co-morbidities.

2 in 2015. There was a 56% decrease in diabetes with complications and a 27.4% increase in diabetes without major complications/co-morbidity as a percentage of diabetes discharges.

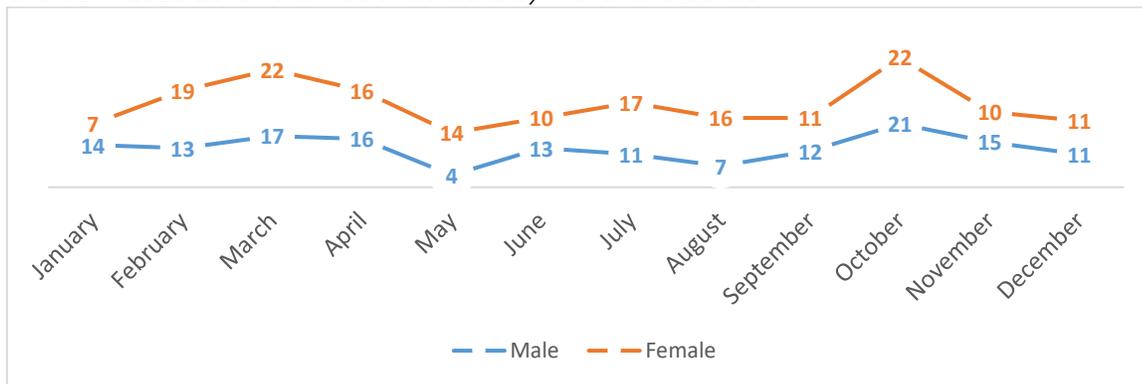
Chart 16: Select Diabetes DRGs as Percent of all JMC Diabetes Discharges, 2013-2015 ⁷¹



Behavioral Health

Behavioral health was identified as the top priority for both CHNA Cycle I and II. The following charts demonstrate trends in behavioral health DRGs. As previously noted, there was a shift in the most common behavioral health DRGs that can be in part attributed to hospital-wide PHQ-9 depression screening and intervention. Previously, behavioral health DRGs primarily reflected behavioral health unit admissions. It is likely that the increased depressive neuroses DRGs reflects persons who had high PHQ-9 scores and had some sort of intervention. In 2016, there were a total of 329 Crisis Team PHQ-9 consults as illustrated by Chart 17.

Chart 17: 2016 Behavioral Health Consults by Month and Gender



Another important 2013-2015 DRG trend was the increase in substance use disorder DRGs. The increase may also be a result of CHNA I strategies to extend behavioral health crisis intervention to patients who were hospitalized for medical or surgical reasons who had co-existing behavioral health problems, including substance use disorders.

⁷¹ **DRG Terminology:** MCC = Major Complications or Co-morbidities; CC = Complications or Co-morbidities; WO CCMCC = Without Complications or Co-morbidities or Major Complications or Co-morbidities.

Chart 18: BMC Most Common Behavioral Health DRGs 2013-2015

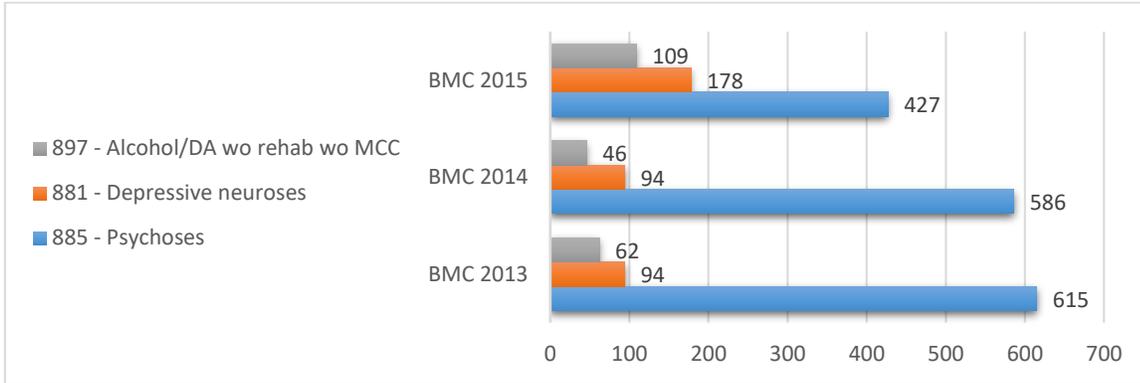
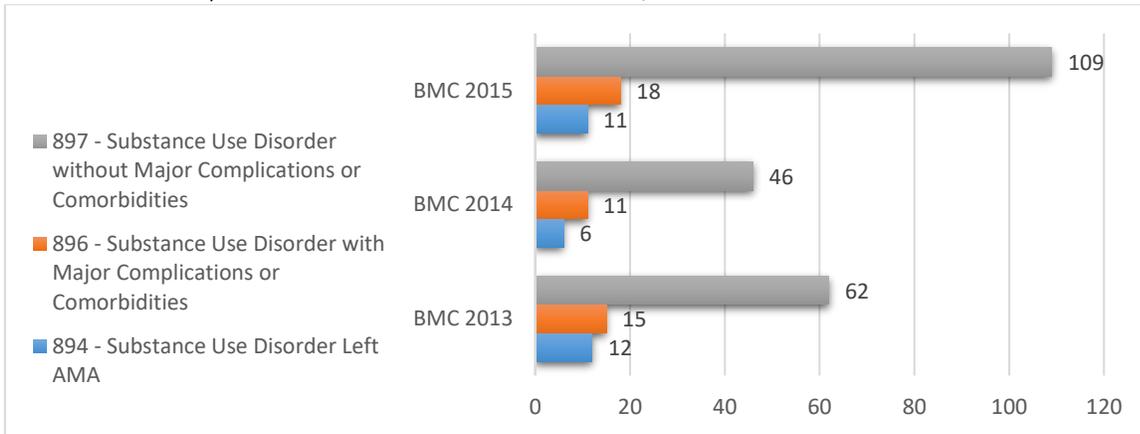


Chart 19: BMC Inpatient Substance Use Disorder DRGs, 2013-2015



Jefferson Medical Center is a critical access hospital and does not have a behavioral health unit. Crisis intervention has been managed through hospital-employed counselors for crisis intervention. In 2016, there was a transition towards behavioral health services for both BMC and JMC being managed by the BMC team. Beginning in 2017, the BMC Crisis Intervention Team covers both hospitals. Because the change was recent, there are insufficient JMC Crisis Team data to report. Table 15 shows the number of JMC inpatient and Emergency Department encounters for substance use disorder by DRG.

Table 15: JMC Inpatient and Emergency Department Substance Use Disorder DRGs, 2013-2015

DRG	2013 Inpatient	2013 ED	2014 Inpatient	2014 ED	2015 Inpatient	2015 ED
894 - Substance Use Disorder Left AMA	1	16	0	22	1	30
896 - Substance Use Disorder with Major Complications or Co-morbidities	3	1	1	0	1	0
897 - Substance Use Disorder without Major Complications or Co-morbidities	12	177	6	136	5	155

Behavioral Health Crisis Intervention Team

Berkeley Medical Center’s Behavioral Health Crisis Team responds to calls from the Emergency Department as well as other hospitals medical, surgical, and intensive care units. From 2013-2016, there was an increase in total assessments completed with Emergency Department patients, those patients who were referred to outpatient services, and reports of substance abuse. Chart 20 provides the volume of Emergency Department Crisis Intervention call from 2013 through 2016. From 2013-2016, the number of assessments increased by 30%, the number of transfers to other facilities increased by 43.5%, the number of medical admissions increased by 22%, the number of “left ED AMA” increased by 10%, and the number of reported substance abuse assessments increased by 29.6%.

Chart 20: BMC Emergency Department Crisis Team Interventions, 2013-2016

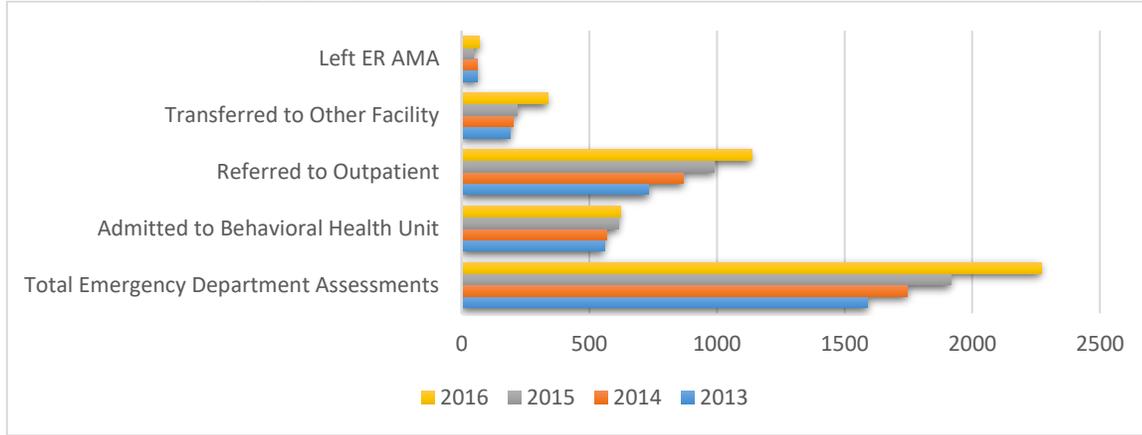
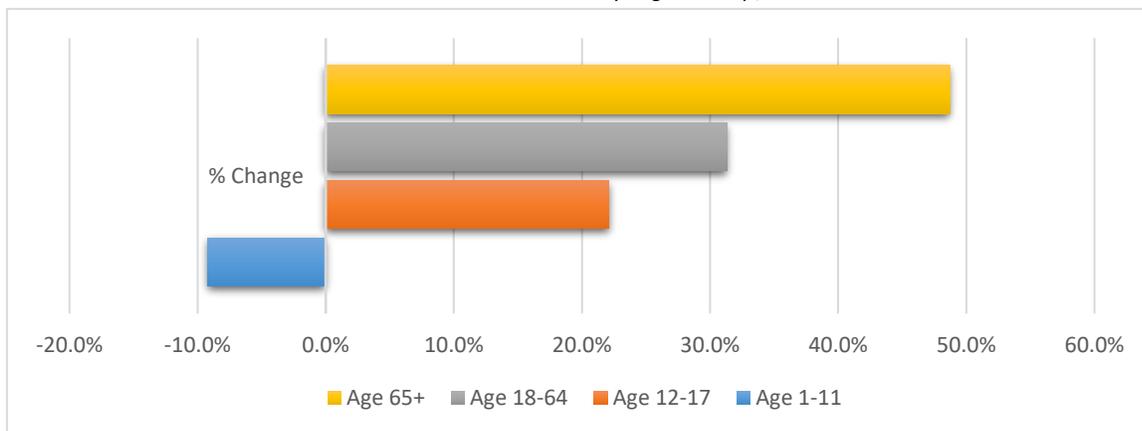


Chart 21 shows the number of assessments 2013-2016 by age groups. There was a 9.2% decline in the number of assessments for children age 1-11, and increase of 22.1% for assessments for adolescents, and increase of 31.3% for adults age 18-64, and a 48.7% increase of assessments for individuals age 65+.

Chart 21: Percent Growth BMC Crisis Interventions by Age Group, 2013-2016



Cancer⁷²

West Virginia Cancer Burden

From 2009 to 2013, the most common cancers reported among WV residents were lung and bronchus (18%), female breast (12%), prostate (11%), and colon and rectum (10%). Prostate cancer was the most commonly diagnosed cancer in men and accounted for just over one-fifth (21%) of all cancers diagnosed among men. Breast cancer continues to be the most commonly diagnosed cancer among females accounting for more than a quarter (26%) of all cancers diagnosed in WV women. Lung cancer and colon and rectum cancer were the second and third most commonly diagnosed cancers in both sexes, but have higher mortality rates.⁷³

Cancer Mortality⁷⁴

From 2009-2013, all cancer age-adjusted cancer death rates were higher/100,000 in Berkeley County (206.1/100,000) than in the United States (168.5/100,000), WV (196.1/100,000), and surrounding Jefferson County (178.2/100,000) and Morgan County (209/100,000). From 2009-2013, Berkeley County (30.3/100,000) had the 2nd highest rate of breast cancer-related deaths per 1000,000 in the state. The US rate was 21.5/100,000 and West Virginia rate was 22.2/100,000. The rate for Jefferson County was 19/100,000. During the same time frame, the rate of lung cancer deaths in Berkeley County (65.1/100,000) from 2009-2013 was higher than the US (46/100,000) and West Virginia (61.6/100,000) rates. Jefferson County and Morgan County rates were 51.6/100,000 and 57.9/100,000 respectively. The lung cancer mortality trends in Berkeley County are stable and falling in Jefferson County. Additional information about community cancer trends are in the CHSA section of this report.

BMC and JMC Cancer Registry 2013-2015

The following data are reported from an analysis of the BMC and JMC Cancer Registry for the years 2013-2015. It is important to note that these data only reflect those cases of cancer that were either diagnosed or treated at BMC or JMC and associated Cancer Center. They do not include data from persons who reside in Berkeley or Jefferson County but were either diagnosed or treated elsewhere. These cases are captured by the West Virginia Cancer Registry captures data from all WV residents regardless of locale of diagnosis or treatment. Nevertheless, the BMC and JMC Cancer Registry provides timely insight into local cancer trends that can inform targeted outreach and intervention.

From 2013-2015, there were 1,438 cases of cancer diagnosed and/or treated at Berkeley Medical Center. Of those cancers, breast cancer (21.5%) was the most common form of cancer, followed by lung cancer (18.77%), colorectal cancer (11.82%), bone marrow cancer (9.8%), prostate cancer (9.7%), and HPV-related cancers.⁷⁵

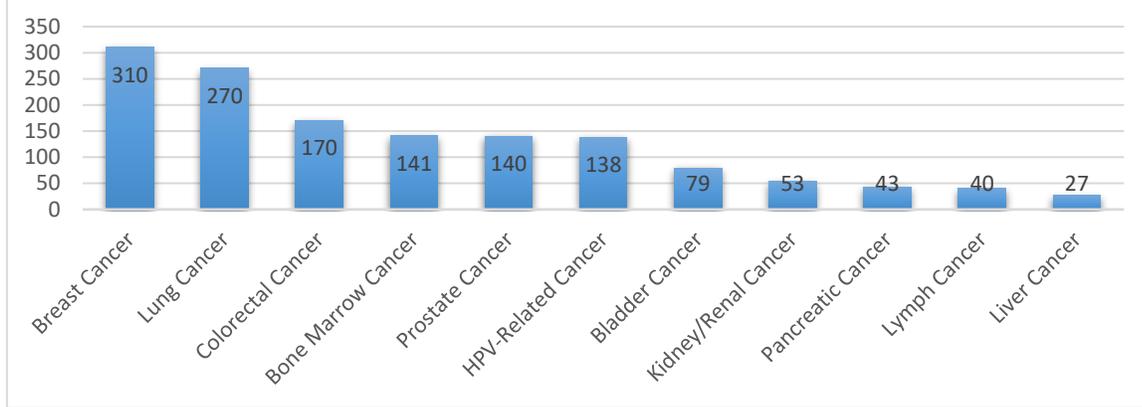
⁷² Cancer registry 2013-2015 data were obtained from Ms. Pamela Roberts, RHIA, CHTS-IM, CTR, Cancer Program Coordinator, WVU Cancer Institute.

⁷³ Source: <http://www.dhhr.wv.gov/oeps/cancer/Documents/burdenreport2016.pdf>

⁷⁴ Source: <https://www.statecancerprofiles.cancer.gov/map/map.withimage.php?54&001&001&00&0&02&0&1&5&0#results>

⁷⁵ Cancers of spleen, head, and neck are excluded.

Chart 22: Cancer Incidence by Primary Site, BMC Combined Analytic and Non-analytic, 2013-2015



Between 2013 and 2015, there were 578 JMC cancer diagnoses. Breast cancer (n=123) was the most common form of cancer and represented 21.2% of JMC cancer cases. Lung cancer (14.8%) and prostate cancer (12.28%) were the next two most common cancers followed by HPV-related cancers (12.11%). Bone marrow cancer and colorectal cancers represented 11.59% and 9.68% of JMC cancers.

Chart 23: Cancer Frequency by Primary Site, JMC Combined Analytic and Non-analytic, 2013-2015

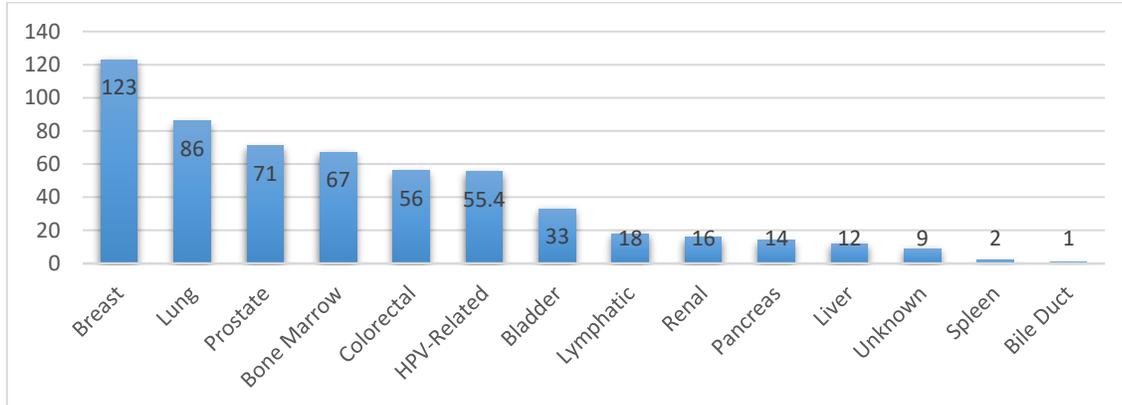
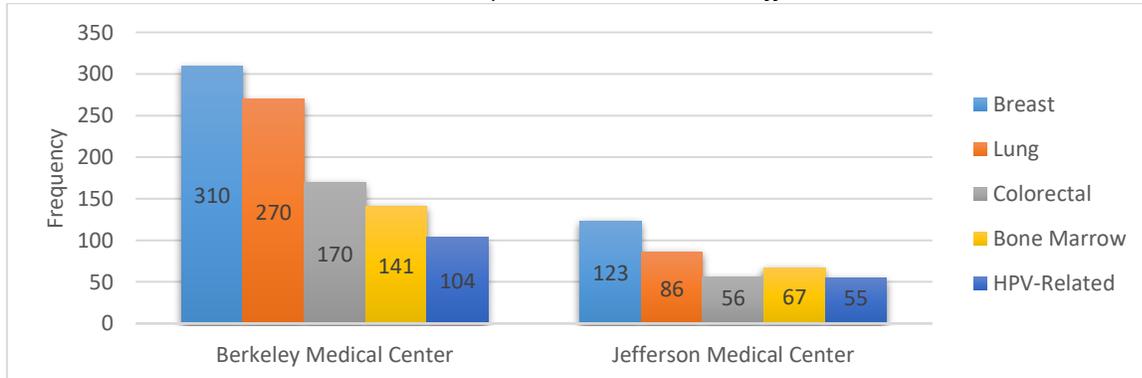


Chart 24: Most Common Cancers Berkeley Medical Center and Jefferson Medical Center

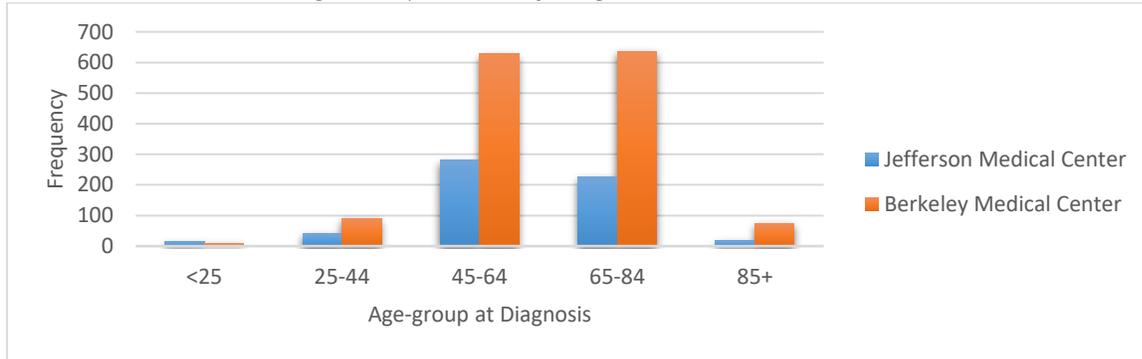


Age and Stage at Time of Cancer Diagnosis

Population-based screening for cancer guidelines are developed to help detect diseases or other conditions in persons before symptoms appear. Effective screening leads to early detection and treatment of these diseases, thereby reducing disease-associated morbidity and mortality associated with late stage cancers at time of diagnosis.

Almost 50% (n=711) of all cancers in the BMC cancer registry were identified in individuals age 64 and younger. A little more than 58% of all cancers in the JMC registry were identified in individuals age 64 and younger. Medicare provides insurance for Americans ages 65 and older and persons with permanent disability. There are also supplemental income options (SSI, SSDI) for these Americans. People under the age of 65 may or may not have health insurance and/or may lose employment due to the illness.

Chart 25: BMC and JMC Age-Group at Time of Diagnosis



From 2013-2015, 50% (n=237) late stage cancers diagnosed/treated at BMC and 51% of late stage cancers diagnosed/treated at JMC were identified in individuals age 64 and younger. People who are under the age of 65 may or may not have insurance coverage to help pay for treatment and are more likely to be working.

Chart 26: BMC Cancer Stage at Diagnosis by Age-Group

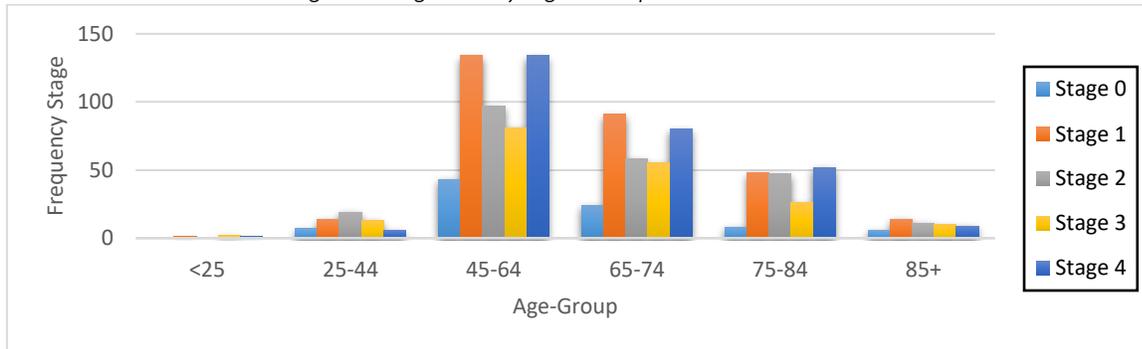
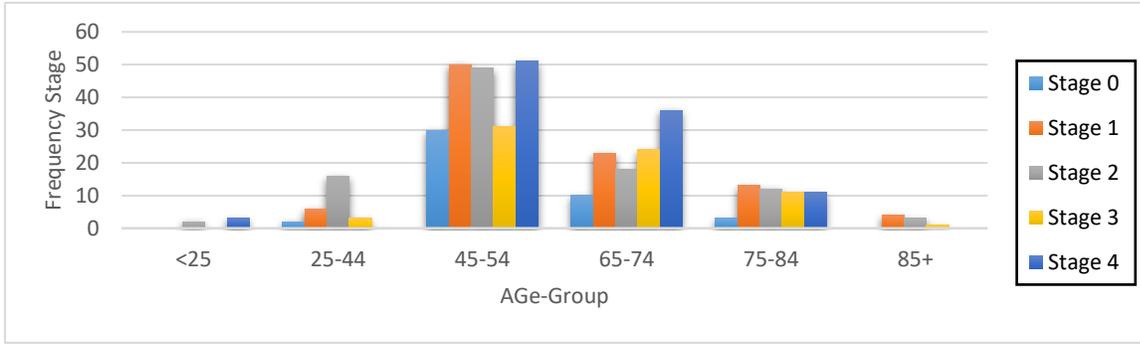


Chart 27: JMC Cancer Stage at Diagnosis by Age-Group



Breast cancer is the most common cancer identified in the BMC and JMC Cancer Registries. Between 2009-2013, Berkeley County had the second highest breast cancer mortality rate in the state. However, 73% of breast cancers in the BMC Registry and 60.1% in the JMC Registry were diagnosed in Stages 0-2. By contrast, 70% of lung cancers and 48% of colorectal cancers diagnosed or treated at BMC were diagnosed in either Stage 3 or 4. At JMC, a higher percentage of lung cancer (78%) and 46.3% of colorectal cancers were diagnosed in Stages 3 or 4.⁷⁶

Chart 28: BMC Stage at Diagnosis for Breast, Lung, Colorectal, and HPV-Related Cancer, 2013-2015

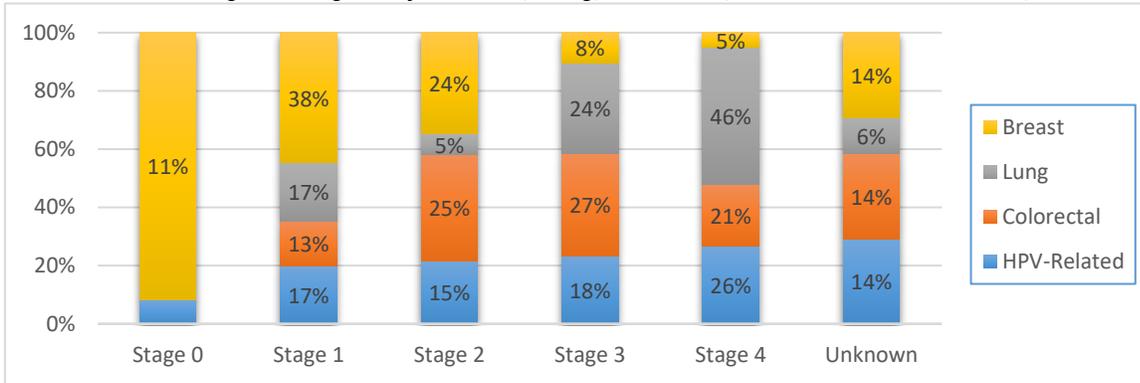
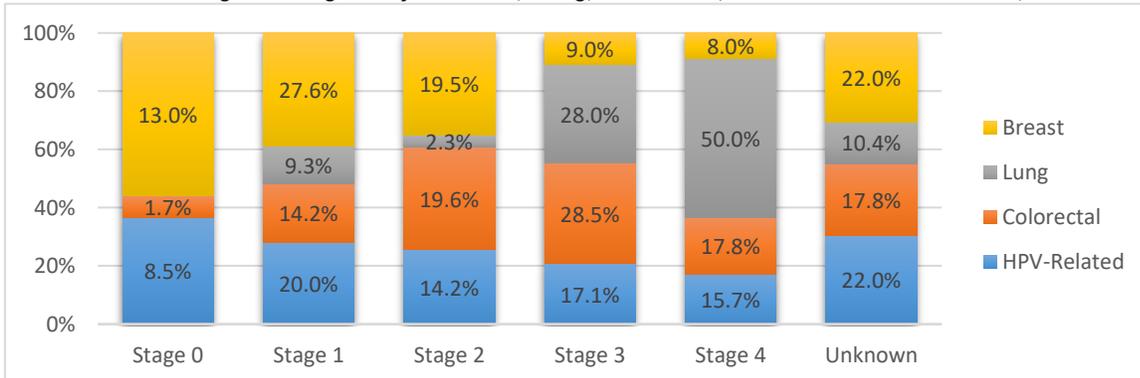


Chart 29: JMC Stage at Diagnosis for Breast, Lung, Colorectal, and HPV-Related Cancer, 2013-2015

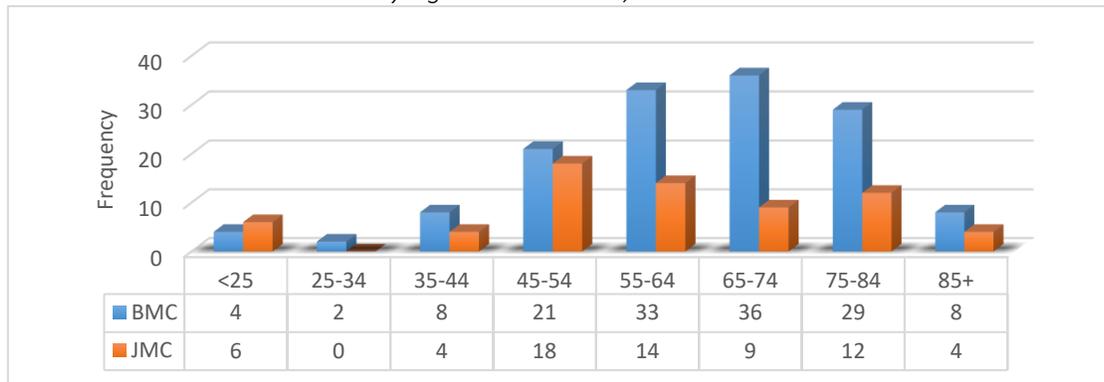


Cancer of the bone marrow includes leukemias and multiple myeloma. From 2013 – 2015, there were a

⁷⁶Includes only those cancers that were staged and documented in the Cancer Registry.

total of 141 cases of bone marrow cancer in the BMC registry and 67 cases in the JMC registry. Chart 30 illustrates the distribution of bone marrow cancers by age group.

Chart 30: Bone Marrow Cancer by Age BMC and JMC, 2013-2015



Cancer Disparities

Primary and secondary prevention of cancer is a priority in West Virginia. The earlier cancer is identified, the better the outcome. In general, Appalachia has higher rates of late stage cancer diagnoses. Locally, 3% (n=40) of breast cancers, 48% (n=80) of colorectal cancers, and 69.4% (n=44) of lung cancers were identified in either Stage 3 or Stage 4. In addition, 40% of stage 4 lung cancers at diagnosis were among individuals ages 64 and younger and 12.3% of stage 3 lung cancers cases were in individuals age 54 and younger. Using 2015 guidelines for lung cancer screening, 34 persons diagnosed with late stage lung cancer were younger than the recommended age of 55 for lung cancer screening for high risk individuals.⁷⁷

Cancer is the leading cause of death among persons of Hispanic/Latino descent, accounting for 22% of deaths. While most persons of Hispanic/Latino descent are less likely to have the most common cancers among non-Hispanic whites, i.e. lung, colorectal, breast, and prostate cancers, they are at higher risk for liver, stomach, and cervical cancers. Cancer morbidity and mortality rates vary across ethnic groups. Cubans and Puerto Ricans have higher rates of mortality associated with colorectal and endometrial cancers, which are both linked to obesity.⁷⁸ There is a lot of variation, though, in cancer morbidity and mortality among Hispanics based on natality which is difficult to capture due to the way cancer statistics are gathered and reported.⁷⁹ Persons of Hispanic/Latino descent were underrepresented in the BMC/JMC Cancer Registry. Persons of Hispanic/Latino descent represent 3.86% of the population in Berkeley County but only 1% of persons diagnosed or treated for cancer at BMC from 2013-2015. Persons of Hispanic/Latino descent represent 5.1% of the population in Jefferson County but only 0.8% of persons diagnosed or treated for cancer at JMC from 2013-2015.

Cancer and Palliative Care

The World Health Organization defines palliative care as “...an approach that improves the quality of life of patients and their families facing the problem associated with life-threatening illness, through the prevention and relief of suffering by means of early identification and impeccable assessment and

⁷⁷ Source: https://www.cdc.gov/cancer/lung/basic_info/screening.htm.

⁷⁸ Cancer is the top cause of mortality among persons of Hispanic/Latino descent.

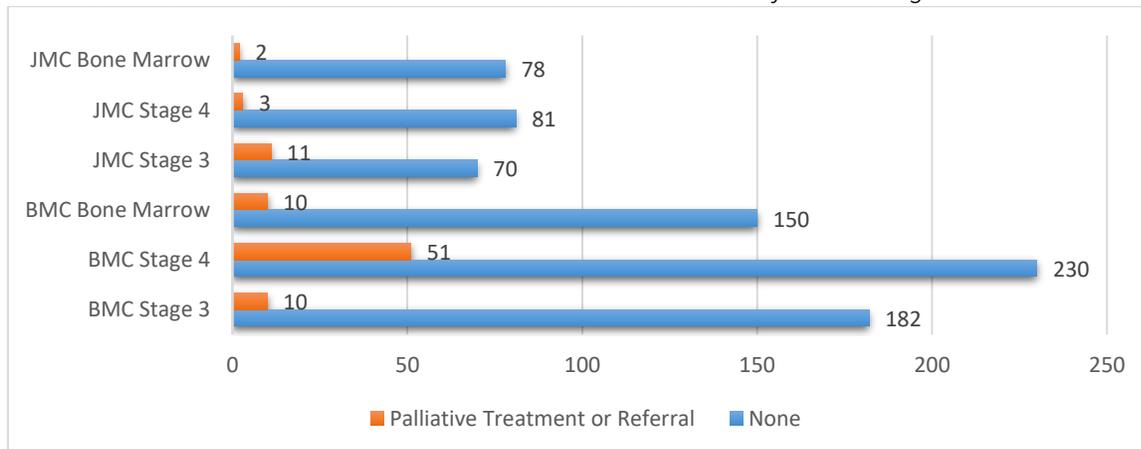
⁷⁹ Source: <https://www.cancer.org/research/cancer-facts-statistics/hispanics-latinos-facts-figures.html>

treatment of pain and other problems, physical, psychosocial and spiritual.”⁸⁰ The goal of palliative care is not curative. In cancer, some treatments such as chemotherapy, surgery, or radiation might be used to relieve symptoms rather than to cure the cancer. In contrast to hospice care, a specific type of palliative care at the end of life, palliative care programs provide care across the serious illness continuum.

Concurrent palliative care means that curative and palliative treatments are provided at the same time. While concurrent palliative care may not be necessary during earlier stages of cancer, persons with later stage cancers and their families can benefit from the types of supports that palliative care offers.

Between 2013 and 2015, 3% of persons with Stage 3 cancer, 18% of persons with Stage 4 cancer, and 8% of persons with cancer of the bone marrow diagnosed or treated at BMC received some form of palliative care. There were similar trends in Jefferson County. None of the persons with Stage 3 cancer received any form of palliative care. Twenty percent of persons with Stage 4 cancers and 2.4% of persons with cancer of the bone marrow received some form of palliative care. It is important to note that there may have been palliative care interventions that were not documented in clinical notes and thus not easily abstracted for inclusion in cancer registry data.

Chart 31: JMC and BMC Palliative Treatment or Palliative Care Referral in Stage 3 and 4 Cancer 2013-2015



⁸⁰ <http://www.who.int/cancer/palliative/definition/en/>

Chart 32 illustrates the types of palliative care treatments that were *documented in the BMC registry* for persons with Stage 3, Stage 4 and Bone Marrow Cancers.⁸¹

Chart 32: BMC Palliative Care Treatments in Stage 3, Stage 4, and Bone Marrow Cancer

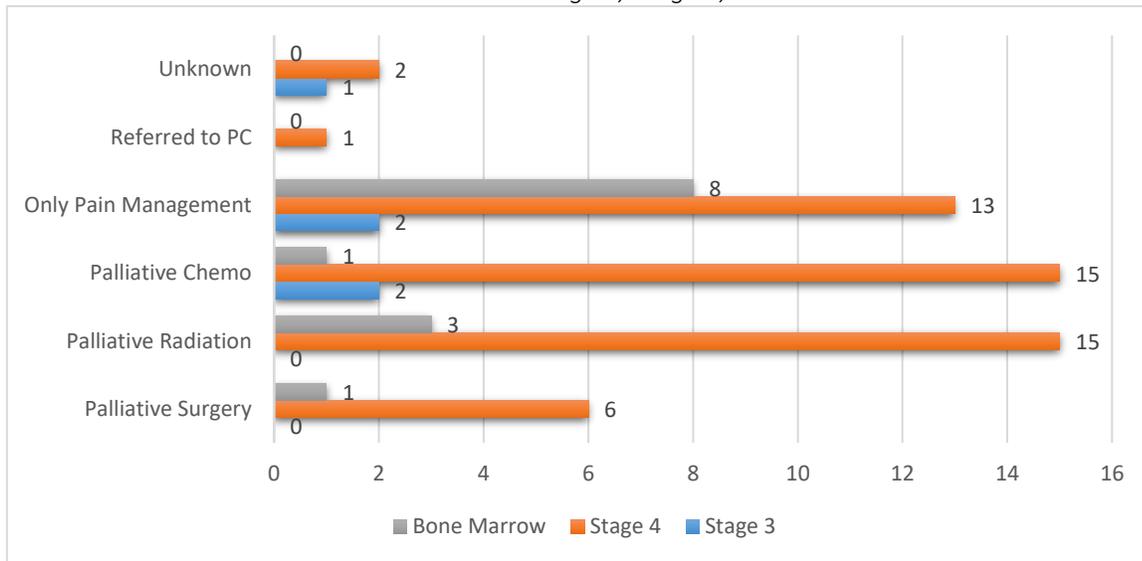
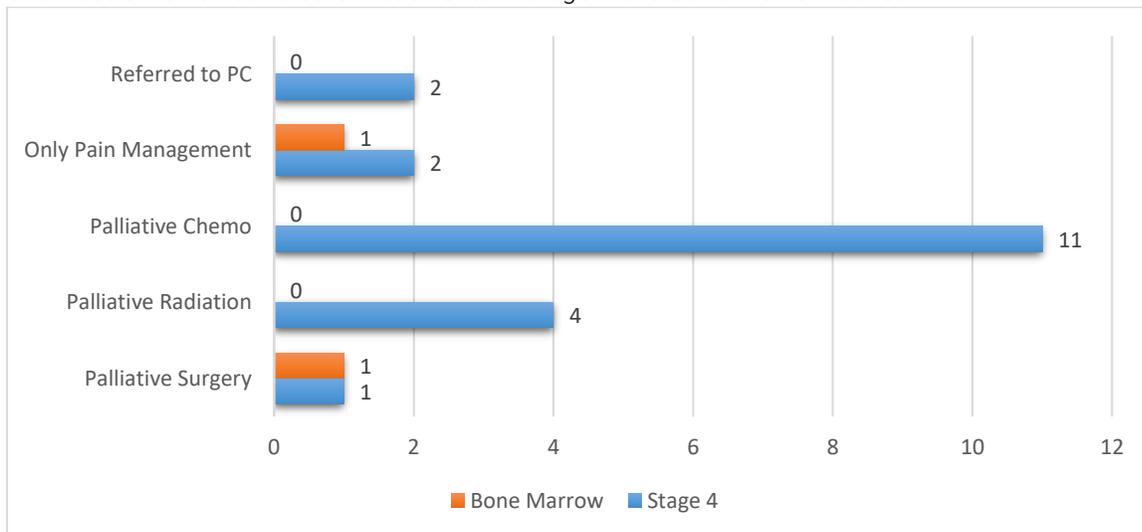


Chart 33 provides a snapshot of the types of palliative care treatments provided for persons with Stage 4 and bone marrow cancers at BMC and JMC. There were no palliative interventions noted in the JMC registry for persons with Stage 3 cancers.

Chart 33: JMC Palliative Care Treatments in Stage 4 and Bone Marrow Cancer



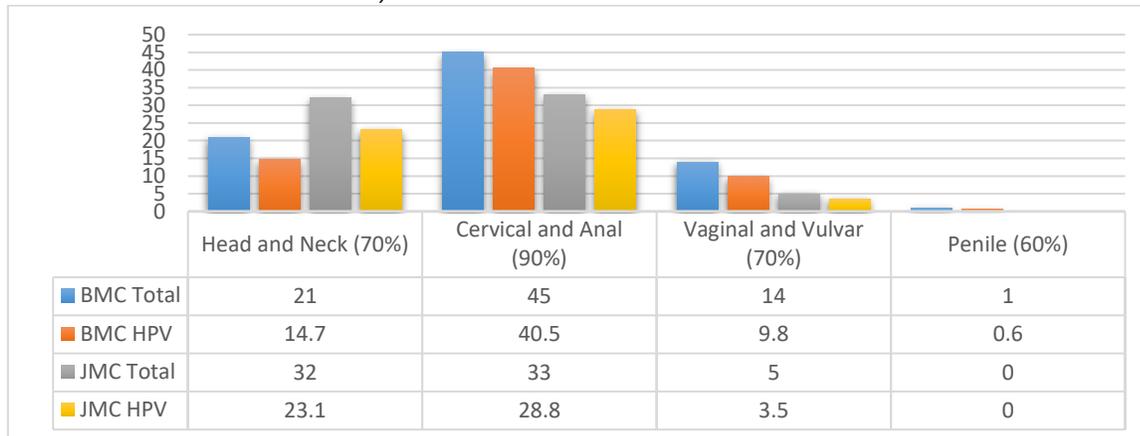
HPV-related cancer

Approximately 90% of all anal/cervical cancers, 70% of head/neck and vaginal/vulvar cancers, and 60% of

⁸¹ Palliative treatments include palliative radiation, palliative chemotherapy, palliative surgery, referral to specialized palliative care for pain management alone and referral to palliative care or hospice for other services.

penile cancers are associated with HPV infection. The chart below provides an estimate of the percentage of these types of cancers that were caused by HPV infection. This is important as the CDC recommends HPV vaccination for girls and boys at ages 11 or 12 years to protect against cancers caused by HPV infections later in life.⁸²

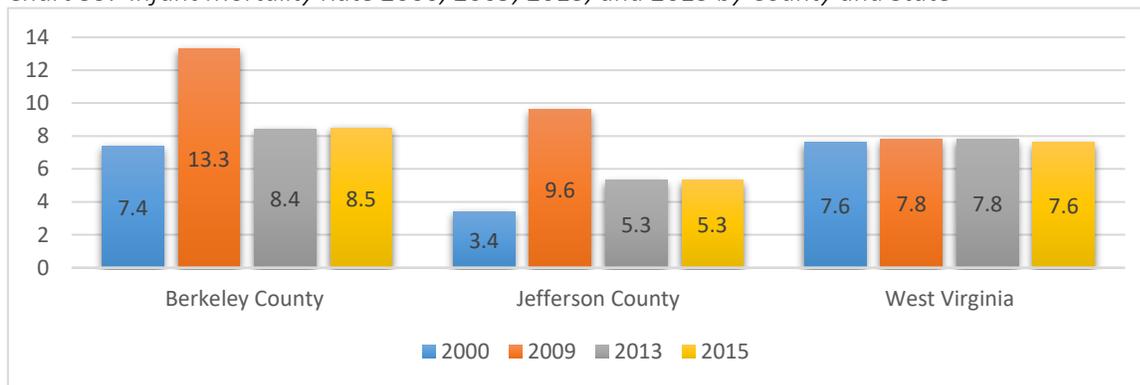
Chart 34: HPV-related Cancer by Medical Center



Maternal, Neonate, and Infant Health

West Virginia is currently ranked 44th in the nation for infant mortality. The 2015 Berkeley County infant mortality rate 8.5/1,000 live births, the 5th highest infant mortality rate in West Virginia, and higher than the West Virginia rate of 7.6/1,000 live births.⁸³ While the infant mortality rate rose in both Berkeley and Jefferson counties from 2000-2015, the WV rate remained stable.

Chart 35: Infant Mortality Rate 2000, 2009, 2013, and 2015 by County and State



From 2013-2015, 56.3% of neonates born at Berkeley Medical Center and 53.8% of neonates born at Jefferson Medical Center were normal newborns without complications.

⁸² <https://www.cdc.gov/vaccines/vpd/hpv/hcp/index.html>

⁸³ Data source: <http://www.countyhealthrankings.org/app/westvirginia/2016/rankings/berkeley/county/outcomes>

Table 16: Birth and Neonate DRGs in Top 20 DRGs, 2013-2015

DRG	2013	2014	2015
795 – Normal Newborn	145	151	128
775 - Vaginal delivery without complicating diagnoses	134	108	146
794 – Neonate with other significant problems	80	85	97
774 – Vaginal delivery with complicating diagnoses	44	48	43
766 – Cesarean section without complication, co-morbidities, or major complications or co-morbidities	33	30	32
765 – Cesarean Section with Complications, Co-morbidities and Major Complications or co-morbidities	32	22	23
793 – Full Term Neonate with Major Problems	Not in Top 20	20	Not in Top 20

From 2013 to 2015, there was a rise in neonates with complications born at both Berkeley Medical Center and Jefferson. These trends warrant further investigation contributing maternal factors, including chronic conditions such as diabetes, metabolic syndrome, and/or substance use disorder. Chart 36 provides trends in neonatal complications as a percent of total births, 2013-2015. Additional detail for the types of complications for BMC and JMC are provided in Charts 37 and 38.

Chart 36: BMC and JMC Neonates with Complications as a Percent of Total Births, 2013-2015

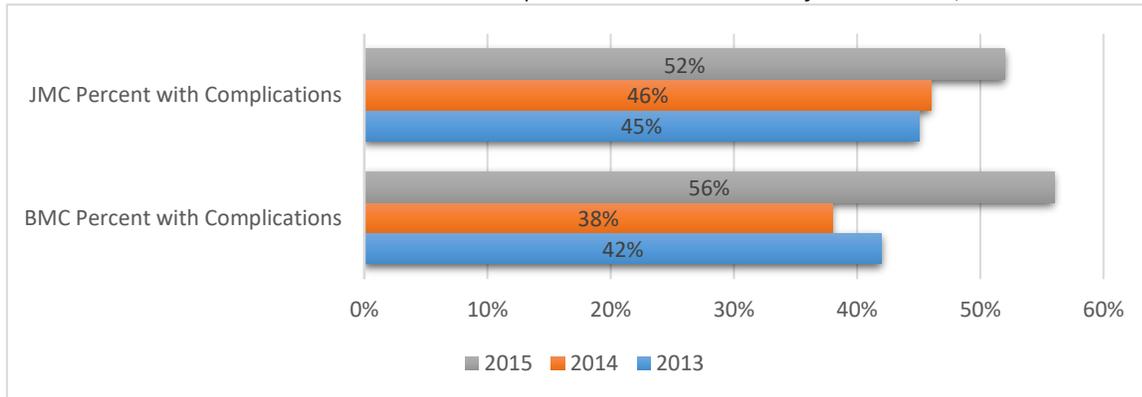


Chart 37: BMC Neonate DRG Trends, 2013-2015

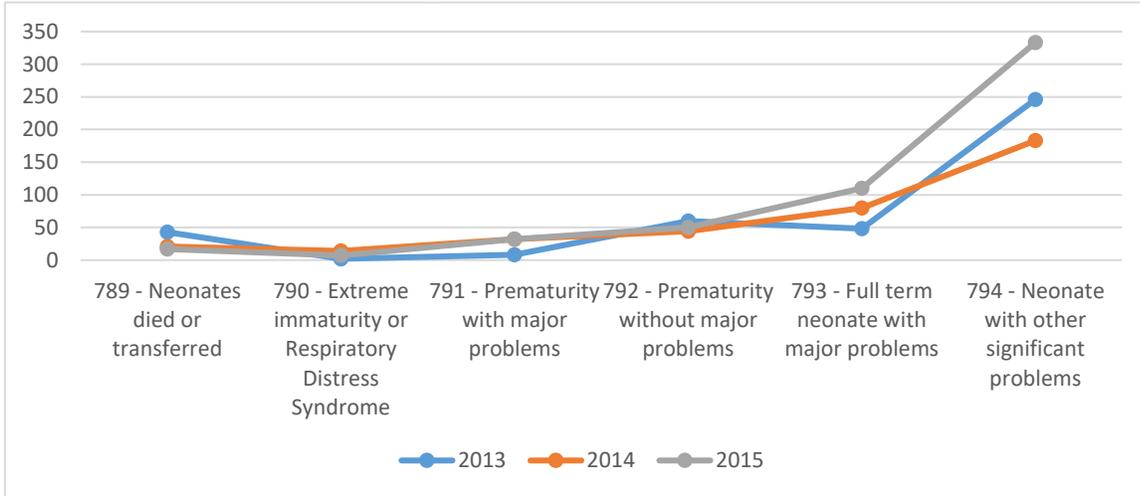
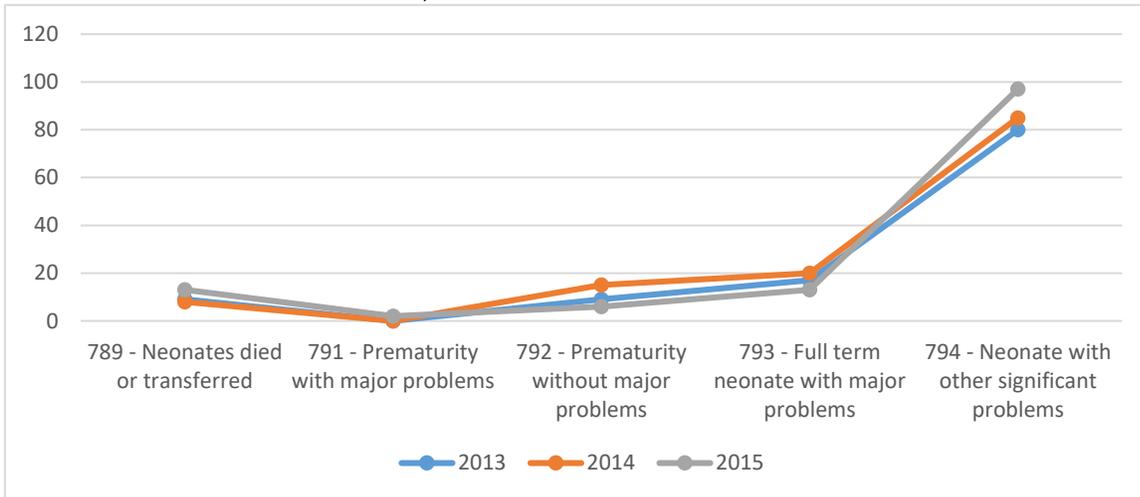


Chart 38: JMC Neonate DRG Trends, 2013-2015



Health System Assessment

Each year, the Health Resources and Services Agency (HRSA) designate certain areas of the United States as Health Professional Shortage Areas for primary care, dental, and mental health. The HPSA criteria require three basic determinations for a geographic area request: (1) the geographic area involved must be rational for the delivery of health services; (2) a specified population-to-practitioner ratio representing shortage must be exceeded within the area; and, resources in contiguous areas must be shown to be over-utilized, excessively distant, or otherwise inaccessible. All Federally Qualified Health Centers and Rural Health Clinics that provide access to care regardless of ability to pay receive automatic facility HPSA designation. In 2016, both Berkeley County and Morgan County were designated as HPSAs.

Table 17: HPSA-Designation by County, State, and Nation

Report Area ⁸⁴	Total Area Population	Population Living in a HPSA	Percentage of Population Living in a HPSA
Berkeley County, WV	104,169	104,169	100%
Jefferson County, WV	53,498	0	0%
Morgan County, WV	17,541	17,541	100%
West Virginia	1,852,994	636,205	34.33%
United States	308,745,538	102,289,607	33.13%

The table below provides the number and rate/100,000 population of dentists, mental health professionals, and primary care physicians for the three Eastern Panhandle counties, the state, and the nation.

Table 18: Select Health Professionals, Number and Rate Per 100,000 Population, 2014

Rate per 100,000 population	Number ⁸⁵ Dentists	Dentists, Rate	Number Mental Health Provider	Mental Health Care Provider Rate	Number Primary Care Physicians	Primary Care Physicians, Rate
Berkeley County	57	50.94	169	152.9	51	46.16
Jefferson County	18	31.87	37	66.4	35	62.82
Morgan County	5	28.53	10	57.3	9	51.57
West Virginia	939	50.9	2,037	110	1,697	91.7
United States	210,832	65.6	643,219	202.8	279,871	87.8

⁸⁴ Data source: US Department of Health & Human Services, Health Resources and Services Administration, Health Resources and Services Administration. April 2016. Source geography: HPSA

⁸⁵ Data source: US Department of Health & Human Services, Health Resources and Services Administration, [Area Health Resource File](#). 2014. Source geography: County

The County Health Rankings also tracks clinical care measures which includes ratio of health professionals to population among other indicators of access to quality care and screening.

Table 19: 2016 County Health Ranking Clinical Care Measures by County, Top Performers, and State

Clinical Care ⁸⁶	Berkeley County	Jefferson County	Top U.S. Performers	West Virginia
Uninsured	16%	16%	11%	17%
Primary care physicians	2,260:1	2,040:1	1,040:1	1,290:1
Dentists	2,080:1	3,480:1	1,340:1	2,030:1
Mental health providers	720:01:00	1,920:1	390:01:00	1,030:1
Preventable hospital stays	66	55	38	81
Diabetes monitoring	84%	81%	90%	84%
Mammography screening	59%	54%	71%	58%
Uninsured adults	20%	19%	13%	21%
Uninsured children	7%	7%	5%	6%
Health care costs	\$8,760	\$7,618		\$9,872

The impact of the shortage of health professionals and other barriers such as cost of health care and medicines are evidenced in Table 20. A total of 25,343 Eastern Panhandle residents do not have a regular doctor.

Table 20: Number and Percent of Population without Regular Doctor by County, State, and Nation

Report Area ⁸⁷	Survey Population (Adults Age 18+)	Total Adults Without Any Regular Doctor	Percent Adults Without Any Regular Doctor
Berkeley County, WV	58,430	12,295	21.04%
Jefferson County, WV	31,530	9,228	29.27%
Morgan County, WV	13,669	3,820	27.95%
West Virginia	1,461,779	349,449	23.91%
United States	236,884,668	52,290,932	22.07%

⁸⁶ Data source: 2016 County Health Rankings, <http://www.countyhealthrankings.org>

⁸⁷ Data source: Centers for Disease Control and Prevention, [Behavioral Risk Factor Surveillance System](#). Additional data analysis by [CARES](#). 2011-12. Source geography: County

Community Health Status Assessment

This section provides an overview of Berkeley, Jefferson, and Morgan counties in areas for the following indicators: population demographics, social and economic factors, physical environment, clinical care, health behaviors, and health outcomes. Population demographics and changes in demographic composition over time play a determining role in the types of health and social services needed by communities. The Eastern Panhandle has seen growth in population in general and in racial and ethnic minorities.

Population Demographics⁸⁸

A total of 179,424 people lives in the 759.84 square mile report area defined for this assessment according to the U.S. Census Bureau American Community Survey 2010-2014 5-year estimates. The population density for three county area, estimated at 236.13 persons per square mile, is greater than the national average population density of 88.93 persons per square mile. Berkeley County has the greatest population density (334.2 persons/square mile), with the densest population situated in Martinsburg and along the I-81 corridor. The western portions of Berkeley County are much less densely populated. Jefferson County is less densely populated (260.7persons/square mile), but nevertheless greater than the state and national population density.

Table 21: Select Population Demographics, Eastern Panhandle Counties and West Virginia

	Berkeley County	Jefferson County	Morgan County	West Virginia
Total Population ⁸⁹	110,497	55,713	17,453	1,850,326
% below 18 years of age	24.20%	22.90%	19.00%	20.50%
% 65 and older	13.30%	14.10%	20.90%	17.80%
% not proficient in English	1%	1%	0%	0%
% Females	50.70%	50.80%	50.40%	50.60%
% Rural	31.60%	48.40%	100.00%	51.30%
Per capita income	\$26,516	\$29,861	\$22,770	\$23,236
HS graduation	86%	90%	92.9%	84.6%
HS graduation within 4 years	79.3%	81%	81%	77%

Female and Male Population

A total of 91,032 females resided in the report area according to the U.S. Census Bureau American Community Survey 2010-14 5-year estimates. Females represented 50.74% of the total population in the

⁸⁸ Data source: US Census Bureau, American Community Survey. 2010-14. Source geography: Tract

⁸⁹ Source: <http://www.countyhealthrankings.org/app/west-virginia/2016/measure/factors/52/data> and US Department of Education, ED FACTS, via Data.gov

area, which was less than the national average of 50.81%. A total of 88,392 males resided in the report area according to the U.S. Census Bureau American Community Survey 2010-14 5-year estimates. Males represented 49.26% of the total population in the area.⁹⁰

Table 22: Total Population by Age Groups, Percent, Eastern Panhandle Counties, WV, and US

Report Area	Age 0-4	Age 5-17	Age 18-24	Age 25-34	Age 35-44	Age 45-54	Age 55-64	Age 65
Berkeley County, WV	6.57%	18.01%	7.97%	13.19%	14.35%	14.92%	12.7%	12.28%
Jefferson County, WV	5.78%	17.42%	9.86%	11.14%	13.95%	15.77%	13.15%	12.91%
Morgan County, WV	4.45%	15.02%	6.95%	9.65%	12.53%	15.77%	16.32%	19.31%
West Virginia	5.56%	15.14%	9.25%	11.84%	12.59%	14.21%	14.6%	16.81%
United States	6.36%	17.13%	9.96%	13.47%	12.96%	14.09%	12.29%	13.75%

Population Under Age 18 and Age 65 and Older⁹¹

An estimated 23.66% percent of the population in the report area is under the age of 18 according to the U.S. Census Bureau American Community Survey 2010-14 5-year estimates. An estimated total of 42,459 youths resided in the area during this period. The number of persons under age 18 is relevant because this population has unique health needs which should be considered separately from other age groups. An estimated 13.16% percent of the population in the Eastern Panhandle is *age 65 or older* according to the U.S. Census Bureau American Community Survey 2010-14 5-year estimates. An estimated total of 23,604 older adults resided in the Eastern Panhandle during this period. The percentage of older adults in the region is important to overall planning. This is particularly relevant in the Eastern Panhandle with influx of retirees from surrounding areas with family elsewhere in the United States. In the report area, 11.52% of male population are at age 65, and 13.78% of female population are at age 65.

Race and Ethnicity

Compared to the rest of West Virginia, Berkeley County and Jefferson County have higher degree of racial and ethnic diversity, as the following charts demonstrate. Almost 94% of West Virginians identify as being white. The 88% of residents of Berkeley and Jefferson County, and 97% of Morgan County residents identify as being white. Chart 38 details the racial and ethnic minorities that comprise the rest of the Eastern Panhandle population. ^{92,93}

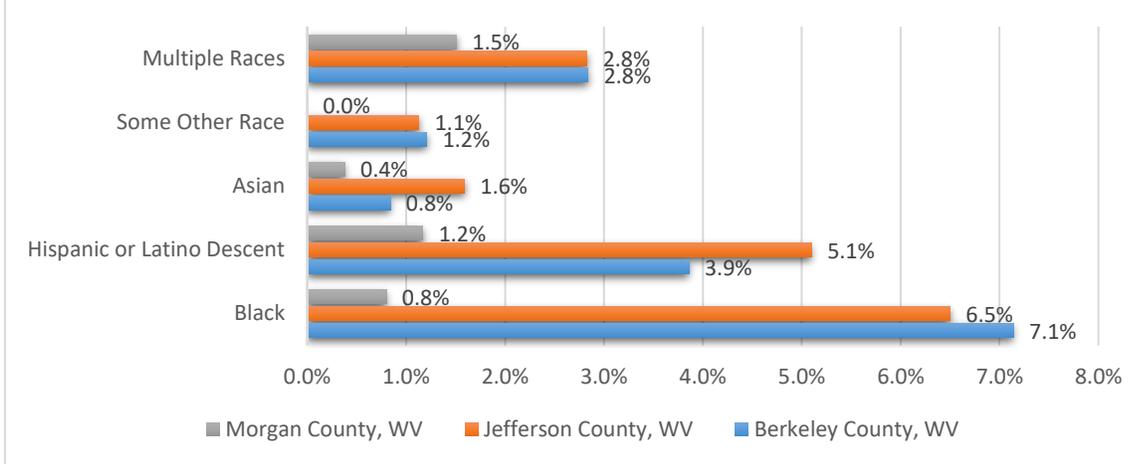
⁹⁰ Data source: US Census Bureau, American Community Survey. 2010-14. Source geography: Tract

⁹¹ Data source for demographics unless otherwise noted: US Census Bureau, American Community Survey. 2010-14. Source geography: Tract

⁹² Data source for demographics unless otherwise noted: US Census Bureau, American Community Survey. 2010-14. Source geography: Tract

⁹³ Native American and Native Hawaiian represented less than .15 of the population and were not included in the chart. They are included in charts on population growth.

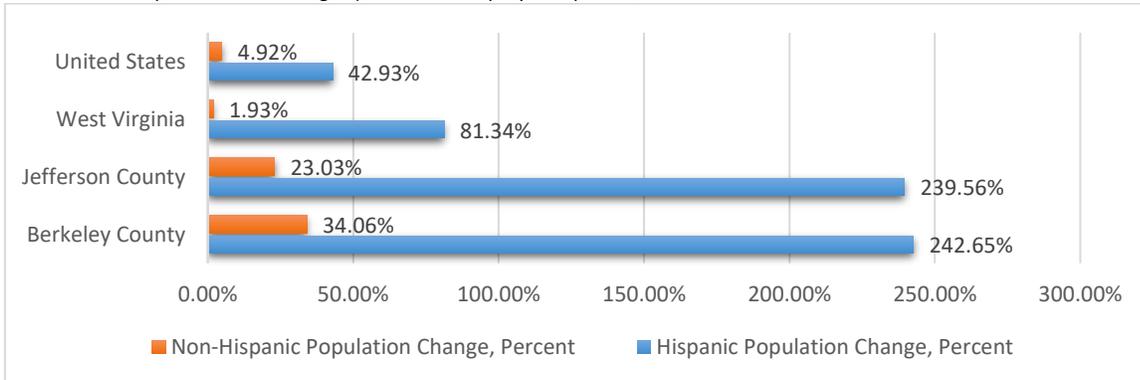
Chart 39: 2011-2014 5-Year Estimates of Total Population by Race and Hispanic Ethnicity, Percent



Change in Total Population ⁹⁴

According to the United States Census Bureau Decennial Census, between 2000 and 2010 the population in the report area grew by 42,167 persons, a change of 31.69%. A significant positive or negative shift in total population over time impacts healthcare providers and the utilization of community resources. All three Eastern Panhandle counties experienced over 10% population growth 200-2010 which is higher than both the percent growth in the state and nation. The percent of population growth was 37.24% in Berkeley County, 26.79% in Jefferson County, 17.39% in Morgan County compared to the West Virginia percent growth (2.47%) and that of the United States (9.75%). Unlike much of West Virginia, Berkeley and Jefferson Counties have experienced growth in racial and ethnic minorities. Between 2000 and 2010, the percent change in Hispanic population was 242.65% (n=2,805) in Berkeley County and 239.56% (n=1,756) in Jefferson County. When comparing report area percent growth of Hispanic/Latino population (229.51%) to that of the state (81.34%) and nation (42.93%), the growth in the Eastern Panhandle is higher.

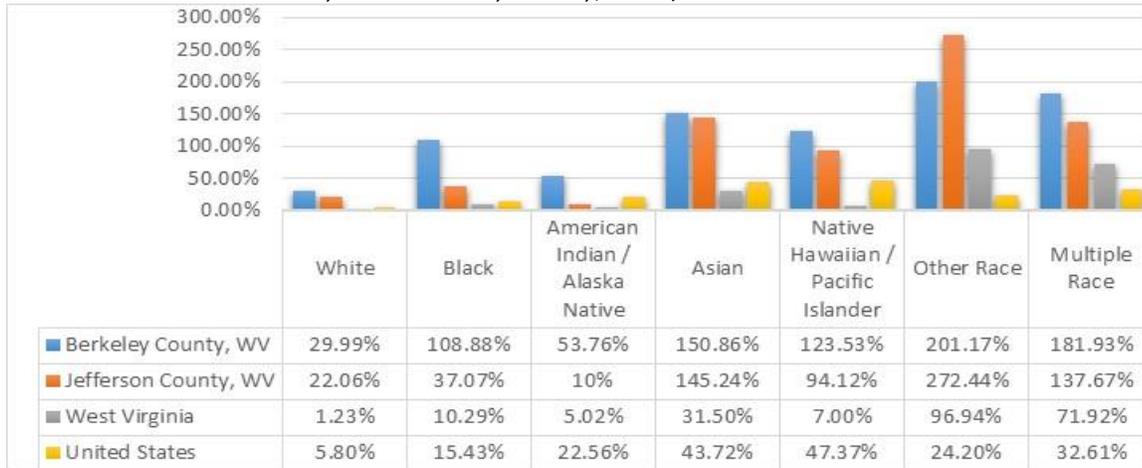
Chart 40: Population Change (2000-2010) by Hispanic/Latino Descent



⁹⁴ Data source: US Census Bureau, Decennial Census. 2000 - 2010. Source geography: Tract

Similarly, from 2000-2010, the percent increase of the Black/African American population increased by 108.88% in Berkeley County, 37.07% in Jefferson County, and 111.54% in Morgan County. Significant increases in percent growth of other and multiple race populations were also seen in Asian, Native Hawaiian/Pacific Islander, other race and multiple race. The percent growth of all races was higher than national and state growth between 2000-2010.⁹⁵

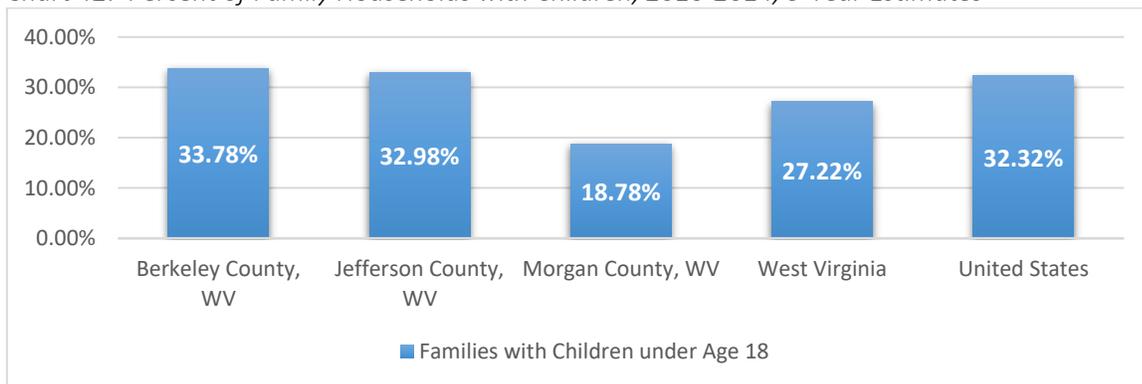
Chart 41: Percent Growth by Race Alone by County, State, and Nation



Family Households with Children

According to the most recent the American Community Survey estimates, 31.92% of all occupied households in the report area are family households with one or more child(ren) under the age of 18. As defined by the US Census Bureau, a family household is any housing unit in which the householder is living with one or more individuals related to him or her by birth, marriage, or adoption. A non-family household is any household occupied by the householder alone, or by the householder and one or more unrelated individuals. Of the total family households in the Berkeley, Jefferson, and Morgan, the percent of families with children under the age of 18 was 33.78%, 32.98%, and 18.78% respectively. Between 2005 and 2014, the percent of children living in poverty in Berkeley County grew by 23% and by 24% in Jefferson County.^{96,97}

Chart 42: Percent of Family Households with Children, 2010-2014, 5-Year Estimates



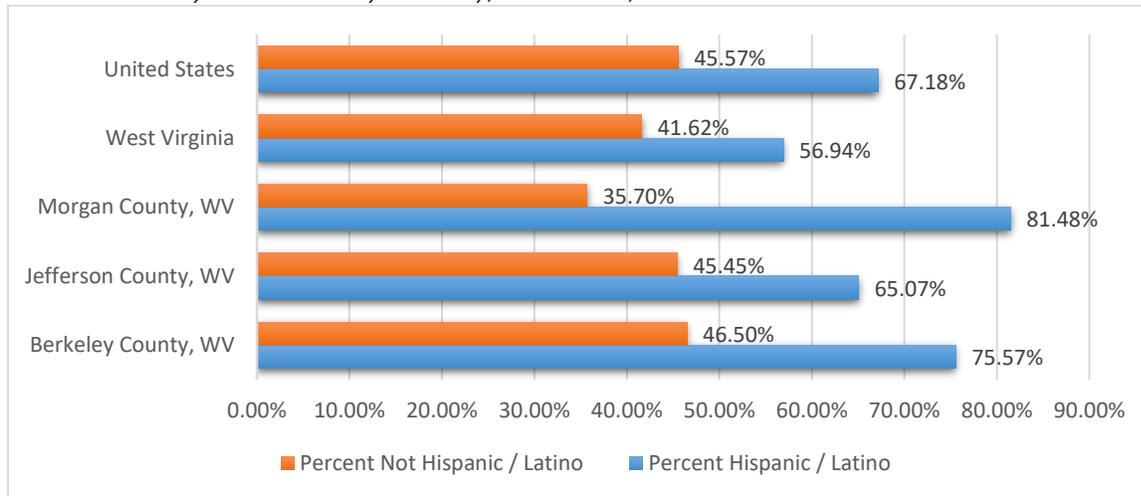
⁹⁵ Data source: US Census Bureau, Decennial Census. 2000 - 2010. Source geography: Tract

⁹⁶ Data source: US Census Bureau, American Community Survey. 2010-14. Source geography: Tract

⁹⁷ Data source: <http://wvkidscount.org/profiles/>

Of the 46,953 family households with children in the report area, 1,043 or 2.2% are of Hispanic/Latino origin. Seventy-one percent (71%) of the Hispanic/Latino population in the report area are in family households with children compared to 31.92% for the entire report area. This fact challenges the historical view of the Hispanic/Latino population as being primarily single male agricultural workers. In Berkeley County, the percent of Hispanic/Latino population in family households with children (75.57%) is higher than the state (59.94%) and the nation (67.18%). In Jefferson County, the percent of the Hispanic/Latino population in family households with children (65.07%) is higher than the state but not the nation. This indicator is significant given the recent attention to immigration from Latin American countries and concerns about deportations.

Chart 43: Family Households by Ethnicity, 2010-2014, 5-Year Estimates



Family Households with Children by Race Alone, Percent⁹⁸

A larger percent of Black/African Americans living in Berkeley County (59.79%) and Jefferson County (59.96%) are in family households with children than their white counterparts. The percent of African Americans living in family households with children in West Virginia is 36.91% and in the United States is 59.09%.

Social and Economic Determinants of Health

Economic and social insecurity often are associated with poor health. Poverty, unemployment, and lack of educational achievement affect access to care and a community's ability to engage in healthy behaviors. Without a network of support and a safe community, families cannot thrive. Ensuring access to social and economic resources provides a foundation for a healthy community.

Median and Per Capita Income

Between 2011-2015, the median family income in Berkeley County was \$55,239 and 12.5% of the population lived in poverty. The per capita income in 2015 dollars in Berkeley County was \$26,469, roughly 175% of the federal poverty level for a one-person household.⁹⁹ The median family income in Jefferson County was

⁹⁸ Data source: US Census Bureau, American Community Survey. 2010-14. Source geography: Tract

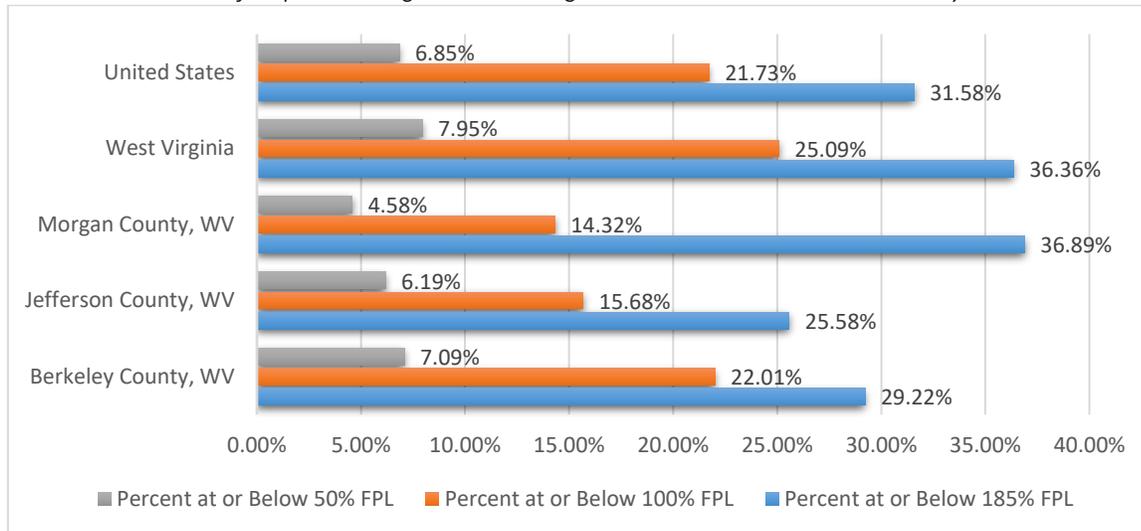
⁹⁹ <https://www.parkviewmc.com/app/files/public/1484/2016-Poverty-Level-Chart.pdf>

\$66,677 with 10.6% of the population living in poverty.¹⁰⁰ The Jefferson County per capita income in 2015 dollars was \$30,912, roughly 200% of the federal poverty level for a one-person household.

Children Living in Poverty

In the Eastern Panhandle 51,468 children aged 0-17 are living in households with incomes at or below 185% of the Federal Poverty Level (FPL). 17,117 children aged 0-17 are living in households with incomes at or below 100% of the FPL and 11,726 children are living in households with incomes at or below 50% of the FPL.¹⁰¹ This indicator is relevant because poverty creates barriers to access including health services, healthy food, and other necessities that contribute to poor health status.

Chart 44: Percent of Population aged 0-17 Living in Households Below the Poverty Level



Children Eligible for Free or Reduced Price Lunch¹⁰²

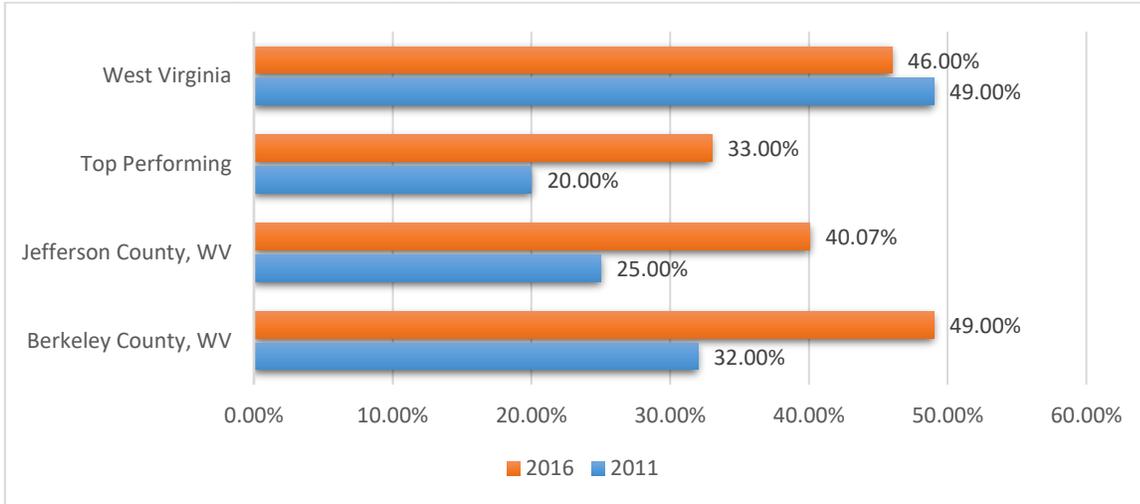
Within the three county Eastern Panhandle, 10,118 public school students or 43.68% were eligible for Free/Reduced Price lunch out of 29,924 total students enrolled. This indicator is relevant because it assesses vulnerable populations which are more likely to have multiple health access, health status, and social support needs. Additionally, when combined with poverty data, providers can use this measure to identify gaps in eligibility and enrollment. Between 2010 and 2014, the percent of children eligible for free or reduced fee lunch decreased in West Virginia at the same time it remained stable in Berkeley County and grew in Jefferson County and the United States.

¹⁰⁰ <http://www.census.gov/quickfacts/table/PST045215/54037,54003>

¹⁰¹ Data source: US Census Bureau, *American Community Survey*. 2011-15. Source geography: Tract

¹⁰² Data source: National Center for Education Statistics, *NCES - Common Core of Data*. 2013-14. Source geography: Address

Chart 45: Percent of Students Eligible for Free/Reduced Lunch, 2013-2014



Income - Inequality

There are income inequalities based on race, ethnicity, family configuration, and locale. The race/ethnicity per capita income Disparity Index Score in 2014 was 26.63 in Berkeley County, 20.21 in Jefferson County, 19.23 in West Virginia, and 29.2 for the United States.¹⁰³

Chart 46: 2011-2015 5-Year Estimates of Income Inequality by Race and Ethnicity ¹⁰⁴

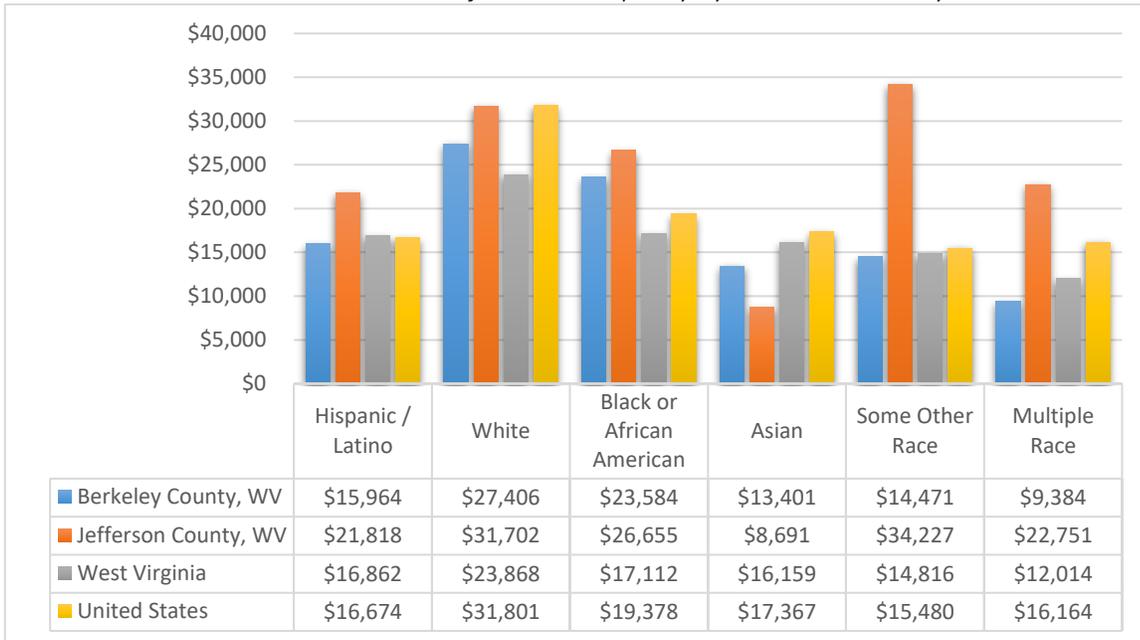
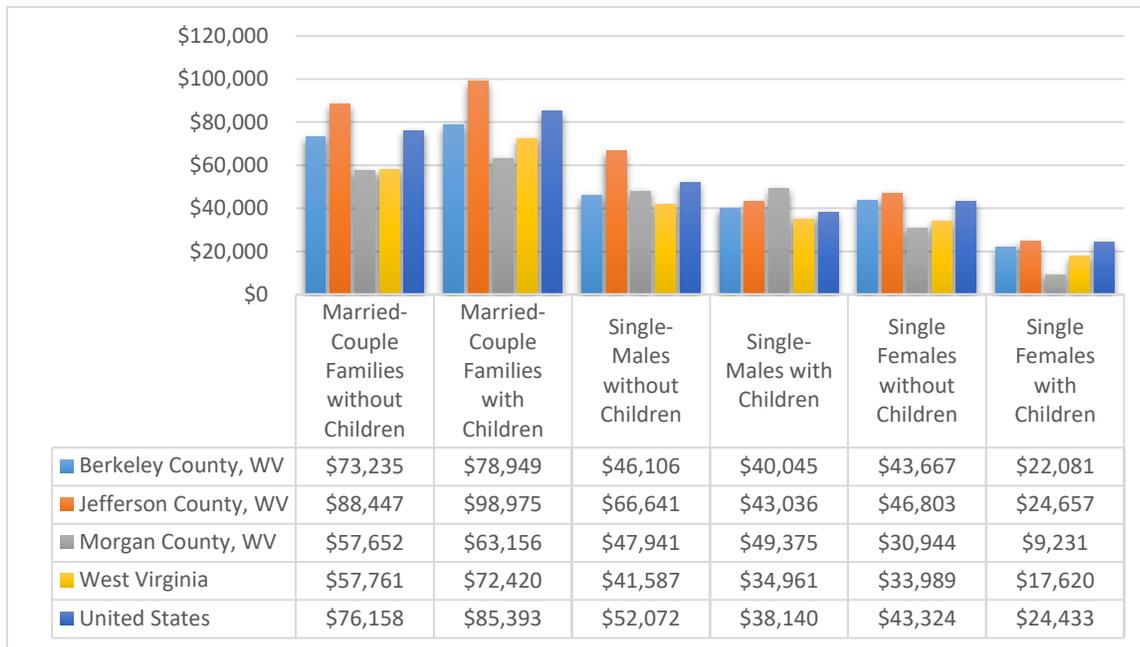


Chart 47: 2011-2015, 5-Year Estimates of Income Inequality by Family Composition

¹⁰³ A disparity index score of 0 = no disparity; 1-40 = some disparity; over 40 = high disparity.

¹⁰⁴ Data source: US Census Bureau, American Community Survey. 2011-15. Source geography: Tract



Eligibility for SNAP Benefits¹⁰⁵

The estimated percentage of households receiving the Supplemental Nutrition Assistance Program (SNAP) benefits is relevant because it assesses vulnerable populations which are more likely to have multiple health access, health status, and social support needs. When combined with poverty data, providers can use this measure to identify gaps in eligibility and enrollment. From 2010-2014, 12.85% of households in Berkeley County, 12.56% of Jefferson County households, 15.83% of West Virginia households, and 12.98% of households in the United States received SNAP benefits. The Disparity Index Score for families receiving SNAP benefits reveals high disparities in Berkeley County (67.52), Jefferson County (43.29), and the United States (62.62) but not the overall state of West Virginia (34.17).

Housing Cost Burden (30%)¹⁰⁶

This indicator reports the percentage of the households where housing costs exceed 30% of total household income. This indicator provides information on the cost of monthly housing expenses for owners and renters. The information offers a measure of housing affordability and excessive shelter costs. The data also serve to aid in the development of housing programs to meet the needs of people at different economic levels.

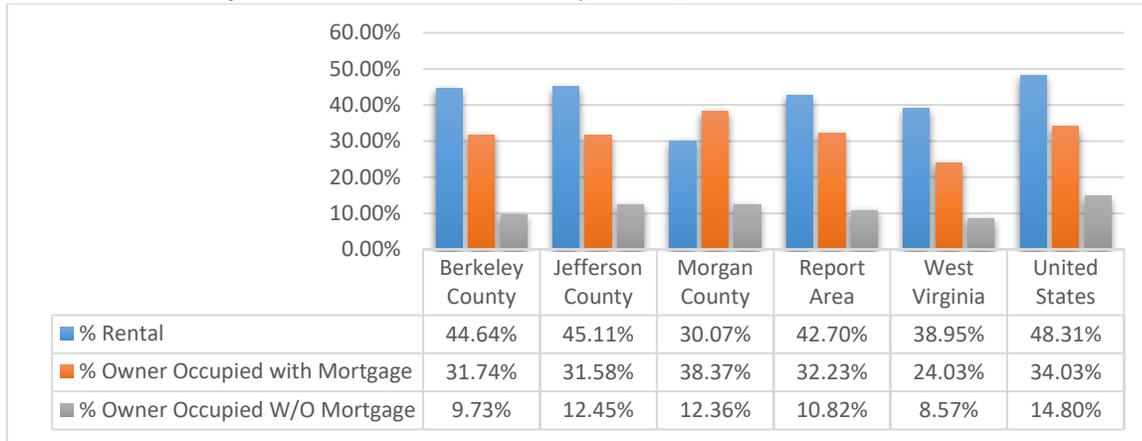
The percentage of cost burdened households in all three Eastern Panhandle counties is 30.19% which is higher than the state percentage of 22.26%. Chart 39 shows the percentage of households that spend more than 30% of the household income on housing costs. In the report area, there were 20,557 cost burdened households according to the U.S. Census Bureau American Community Survey (ACS) 2000-2014 5-year estimates. Cost burdened rental households (those individuals/families that spent more than 30% of the household income on rental costs) represented 42.7% of all the rental households in the report area, according to the U.S. Census Bureau American Community Survey (ACS) 2010-2014 5-year estimates. The data for this indicator is only reported for households where household housing costs and income earned

¹⁰⁵ Data source: US Census Bureau, American Community Survey. 2011-15. Source geography: Tract

¹⁰⁶ Data source: US Census Bureau, American Community Survey. 2010-14. Source geography: Tract

was identified in the American Community Survey.

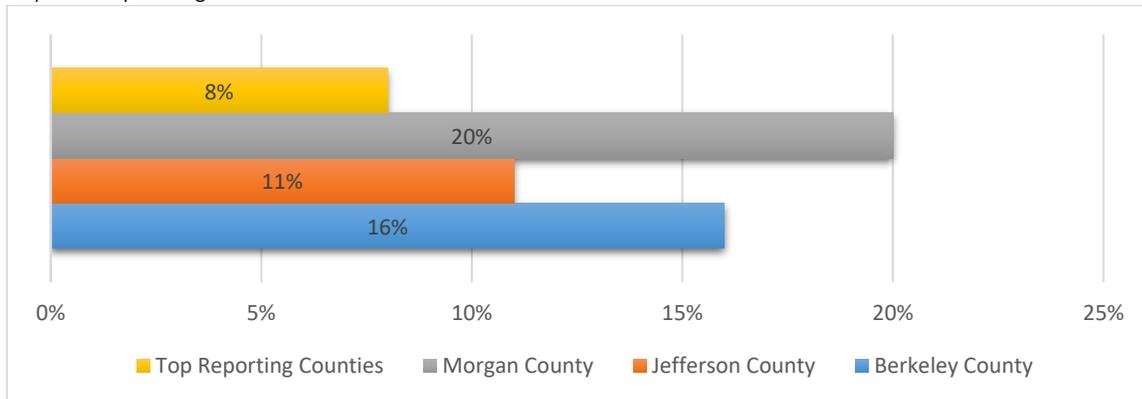
Chart 48: Percent of Cost Burdened Households by Tenure, 2010-2014 Estimates



Cost of Healthcare

The cost of healthcare has consistently been reported as an access barrier. From 2013 to 2015, the percentage of Eastern Panhandle residents who reported not being able to access healthcare due to cost remained relatively stable. Between 2013 and 2015, 7%-8% of residents in the top performing US communities did not access healthcare due to costs. By contrast, for the same time frame, 16% of Berkeley County residents, 11% of Jefferson County residents, and 19%-20% of Morgan County residents reported not accessing healthcare because of cost. In 2014, 16.5% of West Virginians reported not accessing healthcare because of costs. When compared to the state Jefferson County ranks favorably on this measure, Berkeley County is roughly the same, and Morgan County ranks lower on this measure.¹⁰⁷

Chart 49: Percent of the Population Not Accessing Healthcare Due to Cost, Berkeley, Jefferson, Morgan, and Top US Reporting Counties



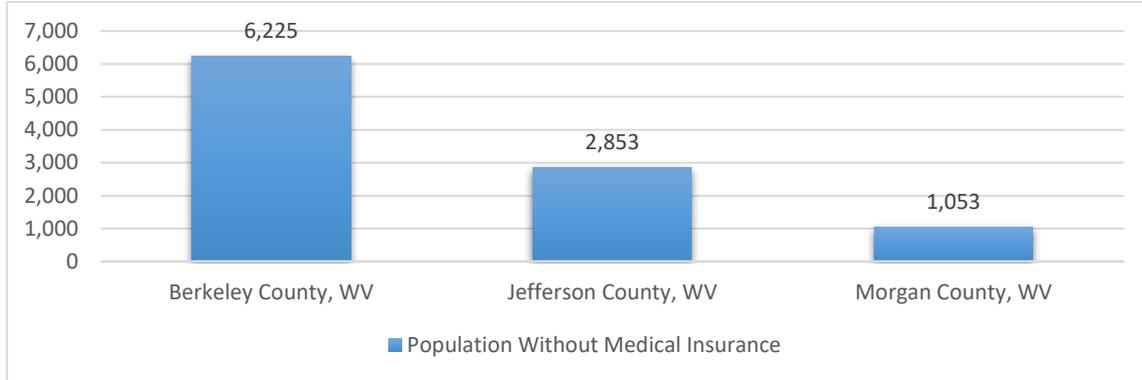
Uninsured Adults and Children

Lack of insurance is a primary barrier to healthcare access including regular primary care, specialty care, and

¹⁰⁷ Source: County Health Rankings, <http://www.countyhealthrankings.org/>

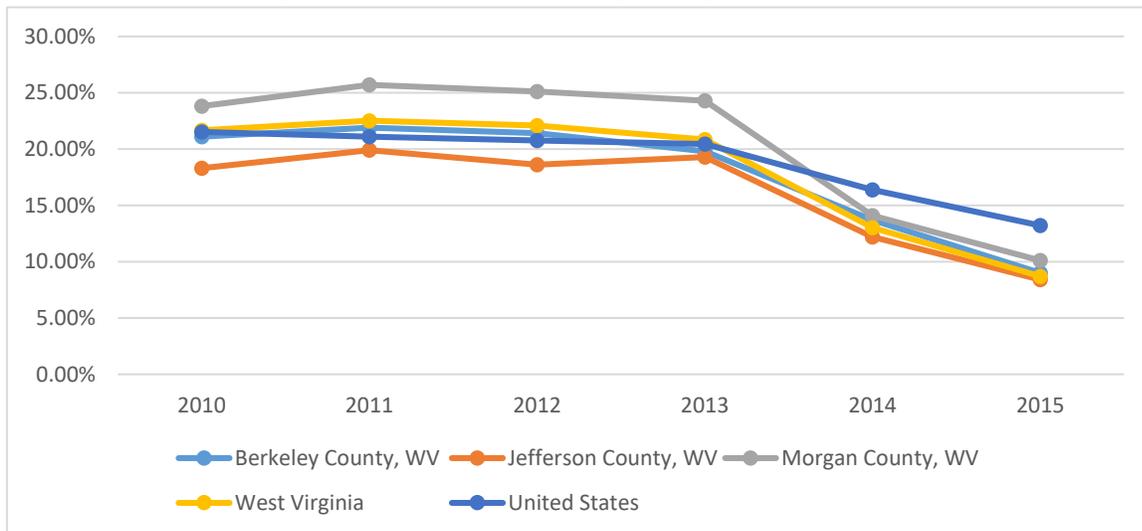
other health services that contribute to poor health status. Based on the Small Area Health Insurance Estimates, from 2011-2015, 6,225 adult residents of Berkeley County, 2,853 of Jefferson County adults, and 1,053 of Morgan County adult residents did not have health insurance.¹⁰⁸

Chart 50: 2011-2015 5-Year Estimates, Number of Adults without Health Insurance by County



The dramatic decline in the number of uninsured adults shows the impact that Medicaid expansion had in access to health care in the United States, West Virginia, and Eastern Panhandle.¹⁰⁹

Chart 51: Uninsured Population Trends 2010-2015 by County, State, and Nation

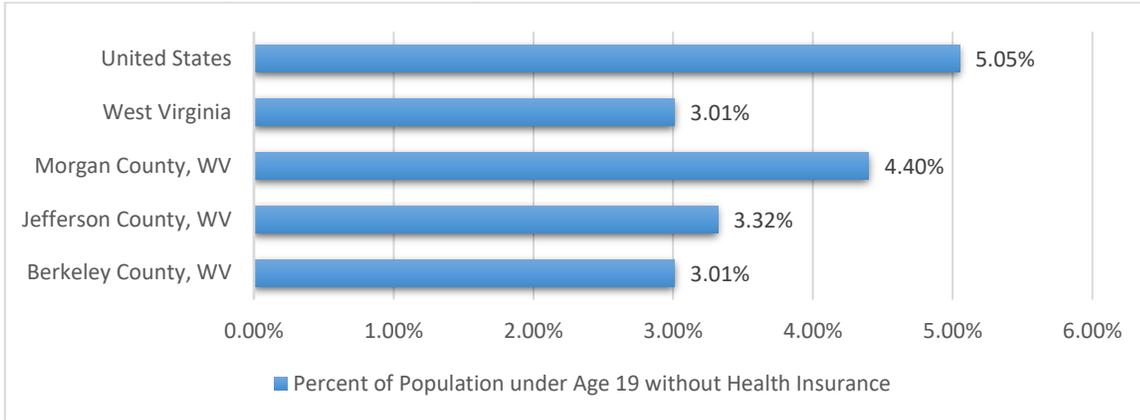


Despite expanded Medicaid and the WV CHIP Program, 827 children in Berkeley County, 445 children in Jefferson County, and 150 children in Morgan County were without health insurance.

¹⁰⁸ Data source: US Census Bureau, [Small Area Health Insurance Estimates](#). 2015. Source geography: County

¹⁰⁹ Data source: US Census Bureau, [Small Area Health Insurance Estimates](#). 2015. Source geography: County

Chart 52: Percent of Population under Age 19 without Health Insurance

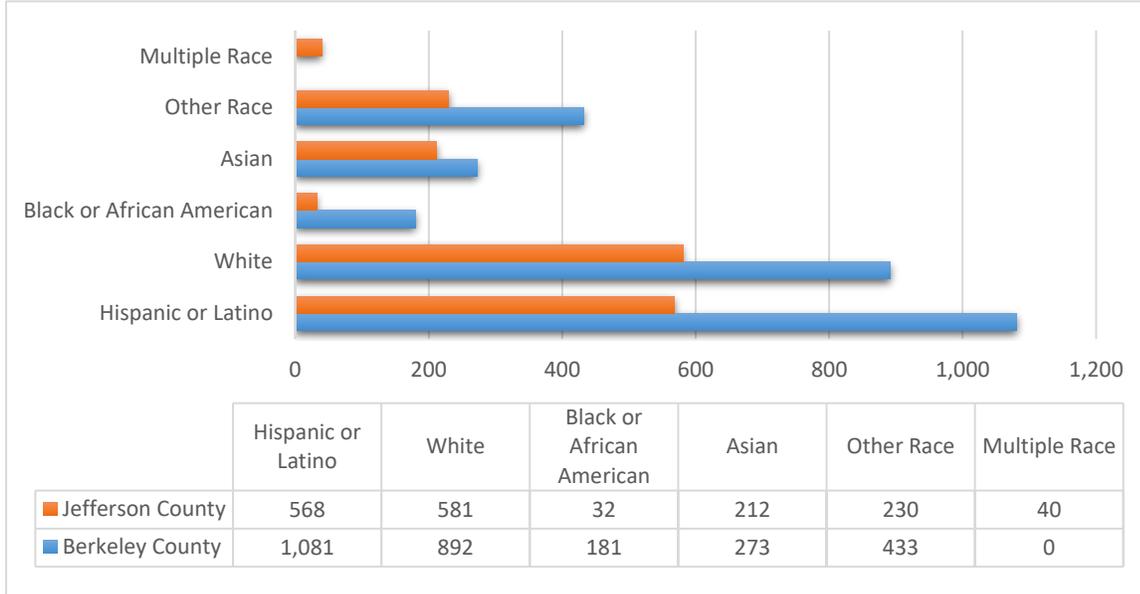


Population with Limited English Proficiency (LEP) and Living in Limited English Households

This indicator reports the percentage of the population aged 5 and older living in Limited English speaking households. A “Limited English speaking household” is one in which no member 14 years old and over (1) speaks only English at home or (2) speaks a language other than English at home and speaks English “Very well.” This indicator is significant as it identifies households and populations that may need English-language assistance. As the chart below reveals, the overall percentage of persons over the age of 5 with limited English proficiency is 1.79% and the percentage of persons who are linguistically isolated is 0.76%. While this is lower than the United States it is higher than the state of West Virginia. In 2014, 18% of West Virginia residents with limited English proficiency and 23% of persons who are linguistically isolated, live in the Eastern Panhandle.

The race of persons with limited English proficiency (LEP) residing in the Eastern Panhandle is predominantly white or Caucasian (n=1,601), followed by persons of “other races. Persons of Hispanic or Latino descent are the largest ethnic group with LEP (n =1,707) in the Eastern Panhandle. They represent 45% of persons with LEP of Spanish/Latino descent in the state of West Virginia. As to be expected, Spanish is the most common language spoken in the homes of persons with LEP in the Eastern Panhandle. The following four charts provide additional information about the race, ethnicity, and languages spoken in the homes of persons with LEP in the Eastern Panhandle.

Chart 53: Population with LEP by Race and Hispanic/Latino Descent by Eastern Panhandle County



Other languages spoken at homes of persons with LEP include Arabic and African Languages. Of the total West Virginian population with limited English proficiency, 654 speak Arabic at home and 226 speak an African language. In the Eastern Panhandle, 6 speak Arabic at home and 19 speak African languages at home.¹¹⁰

Veteran Population

This indicator reports the percentage of the population age 18 and older that served (even for a short time), but is not currently serving, on active duty in the U.S. Army, Navy, Air Force, Marine Corps, or the Coast Guard, or that served in the U.S. Merchant Marine during World War II. This indicator is important due to the unique health care needs of veterans serving in combat zones including PTSD and traumatic brain injury.¹¹¹

Table 23: Veterans as a Percent of the Total Population by County, State, and Nation

Report Area	Total Population Age 18	Total Veterans	Veterans, Percent of Total Population
Berkeley County, WV	80,714	10,868	13.46%
Jefferson County, WV	41,960	4,795	11.43%
Morgan County, WV	13,995	1,486	10.62%
West Virginia	1,469,027	155,150	10.56%
United States	239,305,216	20,700,712	8.65%

¹¹⁰ Data source: US Census Bureau, American Community Survey. 2010-14. Source geography: Tract

¹¹¹ Data source: US Census Bureau, American Community Survey. 2010-14. Source geography: Tract

Population with Any Disability¹¹²

This indicator reports the percentage of the total civilian non-institutionalized population with a disability. This indicator is relevant because disabled individuals comprise a vulnerable population that requires targeted services and outreach by providers. Both Berkeley County and Jefferson County have lower percentages of persons living with disabilities than the state.

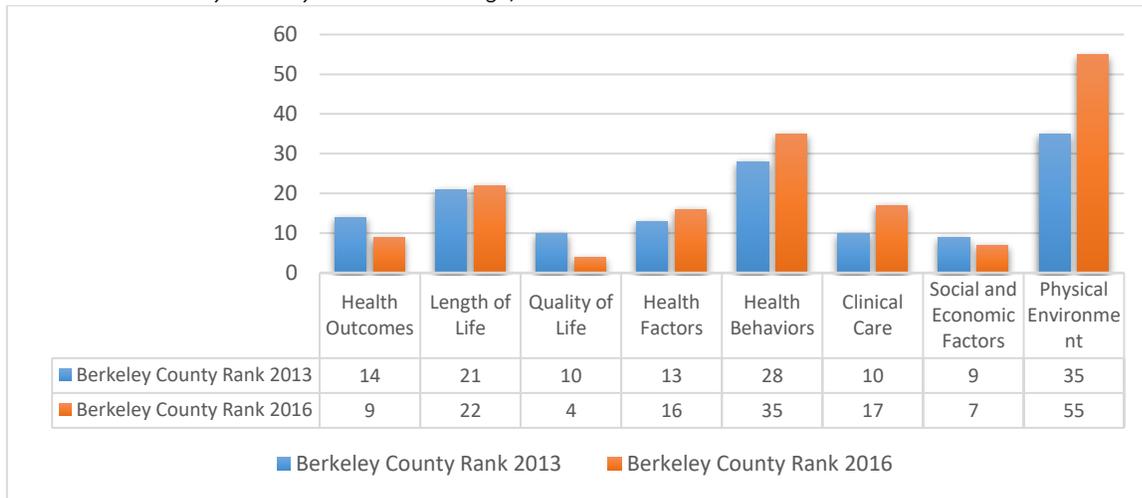
Table 24: Population with Any Disability

Report Area	Total Population (For Whom Disability Status Is Determined)	Total Population with a Disability	Percent Population with a Disability
Berkeley County, WV	106,531	14,012	13.15%
Jefferson County, WV	54,480	6,540	12%
Morgan County, WV	17,274	3,239	18.75%
West Virginia	1,824,283	352,300	19.31%
United States	309,082,272	37,874,568	12.25%

Community Health Status Indicators

County health rankings are released by Robert Wood Johnson Foundation annually. Charts below represent excerpts from the 2013 and 2016 report data. Rankings compare Berkeley and Jefferson Counties to other WV counties. One is the best county rank in West Virginia and 55 is the worst county rank. Jefferson County has consistently been ranked number 1 in social and economic factors and Berkeley County's rank has improved.¹¹³

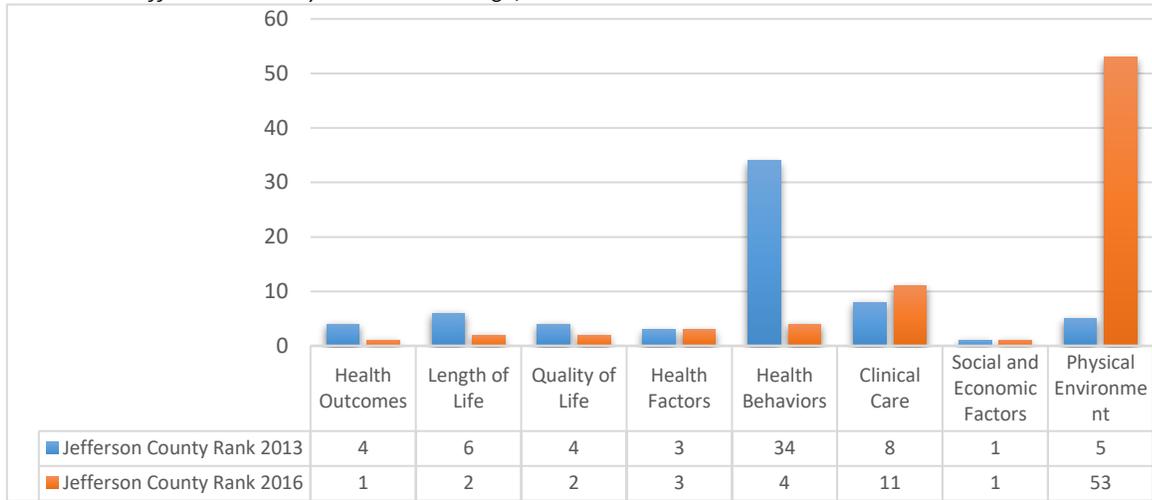
Chart 54: Berkeley County Health Rankings, 2013 and 2016



¹¹² Data source for demographics unless otherwise noted: US Census Bureau, American Community Survey. 2010-14. Source geography: Tract

¹¹³ Data source: County Health Rankings, <http://www.countyhealthrankings.org/app/west-virginia/2017/rankings/berkeley/county/outcomes/overall/snapshot>

Chart 55: Jefferson County Health Rankings, 2013 and 2016 ¹¹⁴



Health Factor, Behaviors, and Outcome Measures

The Eastern Panhandle has better outcomes than some portions of the state but not in comparisons to peer counties or top performing communities in the United States. Berkeley County rates poorly against top performers in all health outcome measure reported by County Health Rankings. Berkeley County has the 5th highest infant mortality rate in the state and the rate of 8.6/1,000 live births is above the state rate of 7/1,000 live births.¹¹⁵

Table 25: 2016 County Health Ranking Health Outcomes by County, Top US Performers, and State

Health Outcome	Berkeley County	Jefferson County	Top U.S. Performers	West Virginia
Premature death	8,600	6,300	5,200	9,700
<i>Quality of Life</i>				
Poor or fair health	21%	18%	12%	24%
Poor physical health days	4.8	4.2	2.9	5
Poor mental health days	4.6	4.3	2.8	4.7
Low birthweight	8%	8%	6%	9%
Premature age-adjusted mortality	420	340	270	470
Child mortality	60	40	40	60
Infant mortality	8	4	5	7
Frequent physical distress	14%	13%	9%	16%
Frequent mental distress	14%	13%	9%	16%

¹¹⁴ Data source: County Health Rankings, <http://www.countyhealthrankings.org/app/west-virginia/2017/rankings/jefferson/county/outcomes/overall/snapshot>

¹¹⁵ Data source: 2016 County Health Rankings, <http://www.countyhealthrankings.org>

Diabetes prevalence	11%	11%	9%	12%
HIV prevalence	161	170	41	103

Table 26: 2016 County Health Ranking Factors and Behaviors by County, Top US Performers, and State

Health Factors and Behaviors ¹¹⁶	Berkeley County	Jefferson County	Top U.S. Performers	West Virginia
Adult smoking	26%	22%	14%	27%
Adult obesity	36%	33%	25%	34%
Food environment index	7.5	8.5	8.3	7.3
Physical inactivity	28%	28%	20%	32%
Access to exercise opportunities	61%	67%	91%	58%
Excessive drinking	12%	12%	12%	10%
Alcohol-impaired driving deaths	44%	31%	14%	33%
Sexually transmitted infections	370.7	231.2	134.1	277
Teen births	43	30	19	45
Food insecurity	13%	11%	11%	16%
Limited access to healthy foods	7%	1%	2%	6%
Drug overdose deaths	38	23	8	32
Drug overdose deaths - modeled	≥20	≥20	6.1-8.0	35.5
Motor vehicle crash deaths	15	18	9	18
Insufficient sleep	38%	35%	28%	37%

Table 27: 2016 County Health Rankings Social/Economic Factors by County, Top US Performers, and State

Social and Economic Factors ¹¹⁷	Berkeley County	Jefferson County	Top U.S. Performers	West Virginia
High school graduation	84%	89%	93%	82%
Some college	54%	61%	72%	53%
Unemployment	5.30%	4.50%	3.50%	6.50%
Children in poverty	19%	13%	13%	25%
Income inequality	4.2	4.5	3.7	4.9
Children in single-parent households	38%	27%	21%	33%
Social associations	8.9	8.9	22.1	13.1

¹¹⁶ Data source: 2016 County Health Rankings, <http://www.countyhealthrankings.org>

¹¹⁷ Data source: 2016 County Health Rankings, <http://www.countyhealthrankings.org>

Violent crime	227	130	59	311
Injury deaths	81	65	51	93
Median household income	\$56,700	\$67,000	\$61,700	\$41,000
Children eligible for free lunch	44%	36%	25%	47%
Residential segregation - black/white	24	38	23	61
Residential segregation - non-white/white	22	37	15	48
Homicides	3	NR	2	5

Physical Environment Factors

Table 28: 2016 County Health Ranking, Environmental Factors by County, Top Performers, and State

Physical Environment	Berkeley County	Jefferson County	Top U.S. Performers	West Virginia
Air pollution - particulate matter	13	12.9	9.5	13.2
Drinking water violations	Yes	Yes		
Severe housing problems	14%	16%	9%	11%
Driving alone to work	83%	76%	71%	82%
Long commute - driving alone	37%	53%	15%	33%

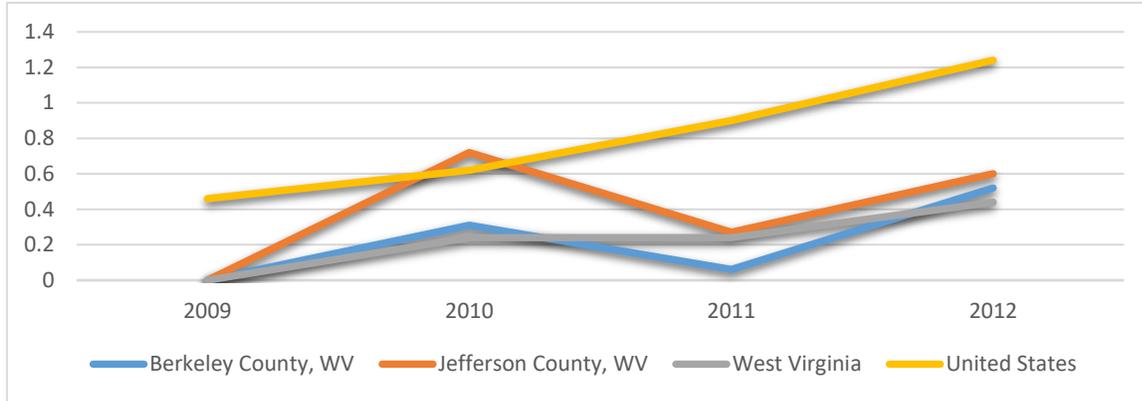
Ozone levels are an important indicator of air quality. Poor air quality contributes to respiratory issues and overall poor health. Ozone levels are reported as the percentage of days per year with Ozone (O₃) levels above the National Ambient Air Quality Standard of 75 parts per billion (ppb). Chart 29 demonstrates the steady rise in poor air quality in the Eastern Panhandle.¹¹⁸

Table 29: Ozone Levels, Number and Percentage of Days Exceeding Standards by County

Report Area	Average Daily Ambient Ozone Concentration	Number of Days Exceeding Emissions Standards	Percentage of Days Exceeding Standards, Crude Average	Percentage of Days Exceeding Standards, Pop. Adjusted Average
Berkeley County, WV	40.59	1.93	0.53%	0.52%
Jefferson County, WV	40.86	2.33	0.64%	0.60%
Morgan County, WV	40.91	1	0.27%	0.27%
West Virginia	41.82	1.6	0.44%	0.44%
United States	38.95	4.46	1.22%	1.24%

¹¹⁸ Data source: Centers for Disease Control and Prevention, [National Environmental Public Health Tracking Network](#). 2012. Source geography: Tract

Chart 56: Percentage of (Pop. Adjusted) Days Exceeding NAAQ Standards, 2009-2012 ¹¹⁹



Morbidity and Mortality

Table 30 shows the age-adjusted death rates for the most common cancers in the Eastern Panhandle. The rates of colorectal cancer are comparable to the state rate but higher than the national rate and Healthy People 2020 goal of a rate less than or equal to 38.7/100,000 population. The lung cancer rate in Berkeley County is significantly higher than the national rate and higher than the state rate. The breast cancer rate is comparable to the national rate but higher than the state rate.

Table 30: Select Cancer Incidence Rates by County, State, and Nation, 2009-2013 ¹²⁰

Cancer Incidence Rate Per 100,000	Colorectal Cancer	Breast Cancer	Cervical Cancer	Lung Cancer	Prostate Cancer
Berkeley County	48	124	11.5	83.7	96.5
Jefferson County	46	101.3	no data	71	111.6
Morgan County	39.3	118.2	no data	68.9	96.8
West Virginia	47	114.4	10	81.2	106.6
United States	40.59	123.41	7.62	62.62	123.41
HP 2020 Target	<= 38.7	N/A	<= 7.1	N/A	N/A

Table 31: Age-Adjusted Percent of Adults and Medicare Beneficiaries for Select Health Conditions

Percent	Depression Medicare	Diabetes	Diabetes Medicare	Heart Disease	Heart Disease Medicare	Obesity	Over weight	Poor Dental Health
Berkeley County	16.60%	9.70%	26.82%	7.30%	25.18%	34.20%	39.10%	20.20%
Jefferson County	14.40%	9.10%	24.59%	4.20%	24.67%	32.90%	31.50%	22%

¹¹⁹ Data source: Centers for Disease Control and Prevention, [National Environmental Public Health Tracking Network](#), 2012. Source geography: Tract

¹²⁰ Data source: [State Cancer Profiles](#), 2009-13. Source geography: County

Morgan County	13.30%	11.50%	25.71%	9.10%	26.25%	32.80%	31.80%	32.30%
West Virginia	19.60%	11.60%	29.58%	7.60%	29.39%	34.70%	35.50%	30.70%
United States	16.20%	9.19%	26.72%	4.40%	26.99%	27.50%	35.80%	15.70%

Mortality

The 2010-2014 age-adjusted mortality rates/100,000 provide information about the cause of death. The cancer death rates in both Berkeley County and Jefferson County are above the national rate and the Healthy People 2020 goal of less than or equal to 160.6/100,000 population. The suicide death rate for Berkeley County was higher than the state rate and significantly higher than the national rate and the Healthy People 2020 goal of less than or equal to 10.2/100,000 population.

Table 32: 2010-2014 Age-Adjusted Death Rate/100,000 for Selected Causes by County, State, and Nation

Age-Adjusted Death Rate Per 100,000 ¹²¹	Cancer	Coronary Heart Disease	Drug Poisoning	Lung Disease	Motor Vehicle Crash	Pedestrian Motor Vehicle Crash	Stroke	Suicide
Berkeley County	206.6	122	31	55.7	13.6	2.2	40.6	17.5
Jefferson County	181.9	104	20.6	52.7	14.2	3.7	48.6	9.7
Morgan County	209.7	103.9	30.5	45.1	no data	0	39	no data
West Virginia	195.1	128.3	33	63.7	16.5	2.2	45.2	16.3
United States	166.3	105.7	13.4	41.7	10.6	3.1	37.3	12.5
HP 2020 Target	<= 160.6	<= 103.4	<= 10.2	N/A	N/A	<= 1.3	<= 33.8	<= 10.2

¹²¹ Data source: Centers for Disease Control and Prevention, [National Vital Statistics System](#). Accessed via [CDC WONDER](#). 2010-14. Source geography: County

Alcohol Consumption

Chart 57: Number of Drug/Alcohol Induced Deaths 2011-2014 by Year and County^{122 123}

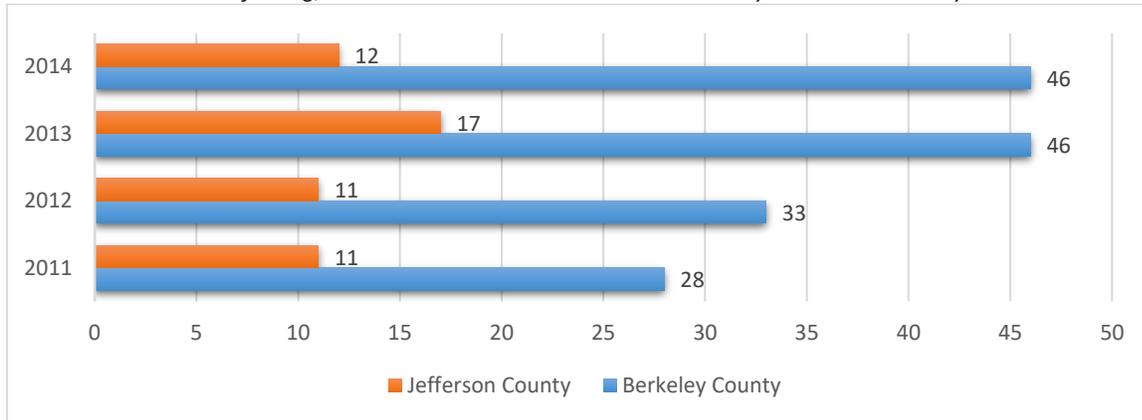
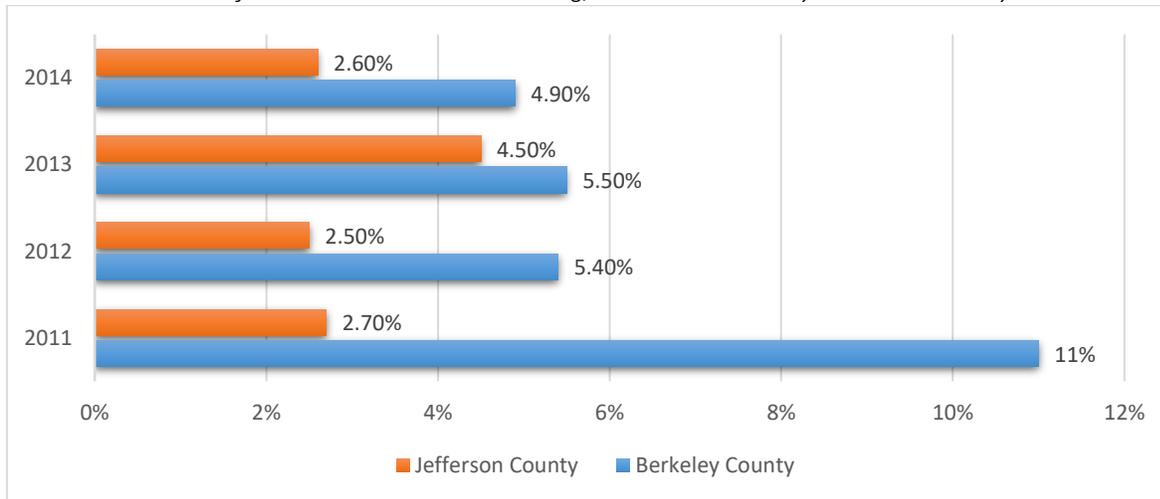


Chart 58: Percent of Total Deaths that were Drug/Alcohol Induced by Year and County^{124 125}



As Chart 59 shows, there are gender and county of residence differences in the 2005-2012 percent change in binge and heavy drinking. There were increases in both binge and heavy drinking in both Berkeley and Jefferson Counties. The percent increase in binge drinking among women in Jefferson County was 25.8% versus 1.1% in Berkeley County and 16.4% nationally and a 45.4% increase in heavy drinking among women versus 27.2% in Berkeley County and 27% nationally.

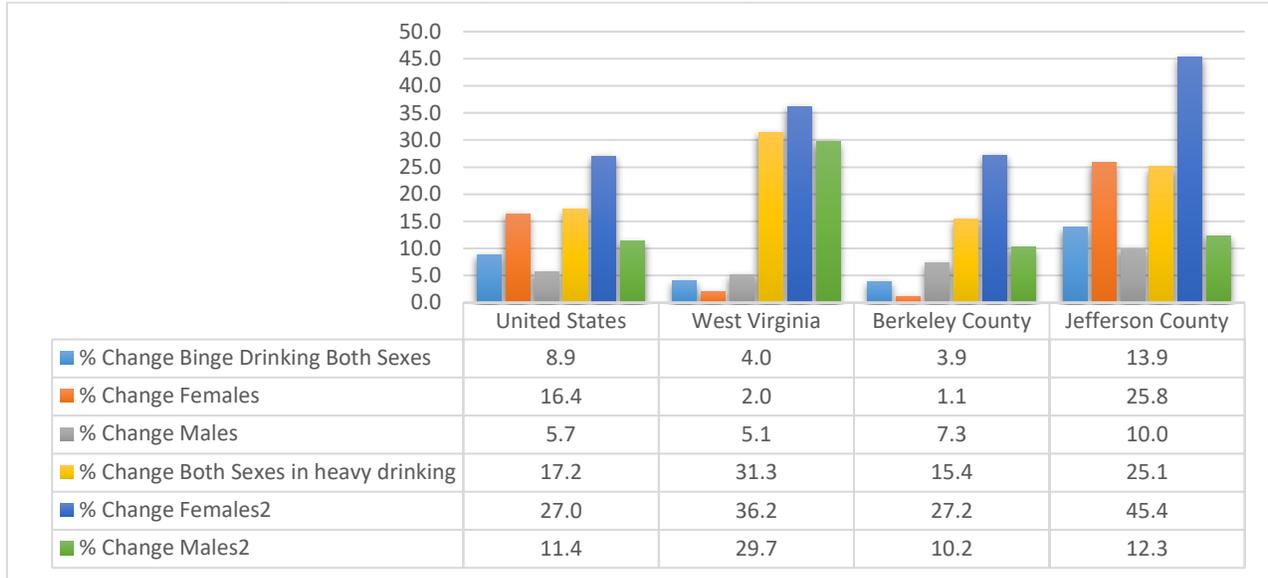
¹²² Centers for Disease Control and Prevention, National Center for Health Statistics. Underlying Cause of Death 1999-2014 on CDC WONDER Online Database, released 2015. Data are from the Multiple Cause of Death Files, 1999-2014, as compiled from data provided by the 57 vital statistics jurisdictions through the Vital Statistics Cooperative Program. Accessed at <http://wonder.cdc.gov/ucd-icd10.html> on Mar 8, 2016.

¹²³ In 2012, 13 of Berkeley County deaths were alcohol-related and 33 were drug-related. No data are available for other years or Jefferson County.

¹²⁴ Centers for Disease Control and Prevention, National Center for Health Statistics. Underlying Cause of Death 1999-2014 on CDC WONDER Online Database, released 2015. Data are from the Multiple Cause of Death Files, 1999-2014, as compiled from data provided by the 57 vital statistics jurisdictions through the Vital Statistics Cooperative Program. Accessed at <http://wonder.cdc.gov/ucd-icd10.html> on Mar 8, 2016.

¹²⁵ In 2012, 1.5% of all Berkeley County deaths were alcohol-induced and 3.9% of all deaths were drug-induced. No data are available for other years or Jefferson County.

Chart 59: Percent Change in Proportion of Drinkers who are Binge and Heavy Drinkers by Sex, 2005-2012 ¹²⁶



Food Access and Food Insecurity

This indicator reports the number of grocery stores per 100,000 population. Grocery stores are defined as supermarkets and smaller grocery stores primarily engaged in retailing a general line of food, such as canned and frozen foods; fresh fruits and vegetables; and fresh and prepared meats, fish, and poultry. Included are delicatessen-type establishments. Convenience stores and large general merchandise stores that also retail food, such as supercenters and warehouse club stores are excluded. This indicator is relevant because it provides a measure of healthy food access and environmental influences on dietary behaviors. ¹²⁷

Table 34: Access to Grocery Stores by Eastern Panhandle Counties, West Virginia, and the United States

Report Area	Total Population	Number of Establishments	Establishments, Rate per 100,000 Population
Berkeley County, WV	104,169	11	10.56
Jefferson County, WV	53,498	5	9.35
Morgan County, WV	17,541	4	22.80
West Virginia	1,852,994	356	19.2
United States	312,732,537	66,286	21.2

Food Access - Low Food Access

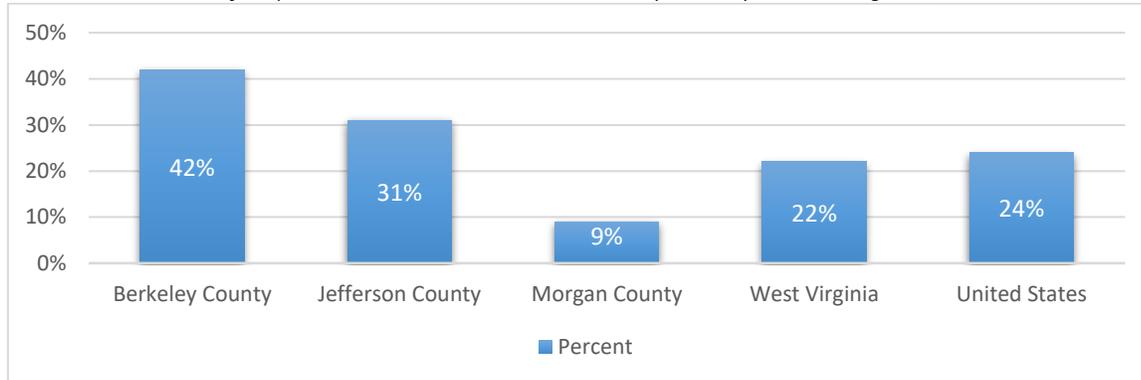
This indicator reports the percentage of the population living in census tracts designated as food deserts. A food desert is defined as a low-income census tract (where a substantial number or share of residents has low access to a supermarket or large grocery store). This indicator is relevant because it highlights

¹²⁶ Data source: <http://www.healthdata.org/>

¹²⁷ Data source: US Census Bureau, County Business Patterns. Additional data analysis by CARES. 2013. Source geography: County

populations and geographies facing food insecurity. Almost 42% of the population in Berkeley County has low access to food compared to 31% in Jefferson County, and 9% in Morgan County, 21% in West Virginia, and 23% of residents in the United States. The percent of low income population who have low food access was 11.54% in Berkeley County, 5.8% in Jefferson County, 5.1% in Morgan County, and 7.6% in the state.

Chart 60: Percent of Population with Low Food Access by County, West Virginia, and United States¹²⁸



This indicator reports the number of SNAP-authorized food stores as a rate per 100,000 population in 2015. SNAP-authorized stores include grocery stores as well as supercenters, specialty food stores, and convenience stores that are authorized to accept SNAP (Supplemental Nutrition Assistance Program) benefits. In 2015, the Eastern Panhandle has 142 SNAP-authorized retailers, with 81 in Berkeley County, 43 in Jefferson County, and 18 in Morgan County. In 2015, the United States had a rate of 8.18 SNAP-authorized retailers per 10,000 population. West Virginia had 11.81/10,000 and of the Eastern Panhandle counties, at 7.78/10,000, Berkeley County had the fewest SNAP-authorized retailers per 10,000 population.

Food Access - WIC-Authorized Food Stores

This indicator reports the number of food stores and other retail establishments per 100,000 population that are authorized to accept WIC Program (Special Supplemental Nutrition Program for Women, Infants, and Children) benefits and that carry designated WIC foods and food categories. This indicator is relevant because it provides a measure of food security and healthy food access for women and children in poverty as well as environmental influences on dietary behaviors. Like SNAP-authorized retailers, the Eastern Panhandle has fewer WIC-authorized stores/100,000 than the United States and West Virginia. Berkeley County has 9 WIC-authorized stores, Jefferson County has 7, and Morgan County has 1.

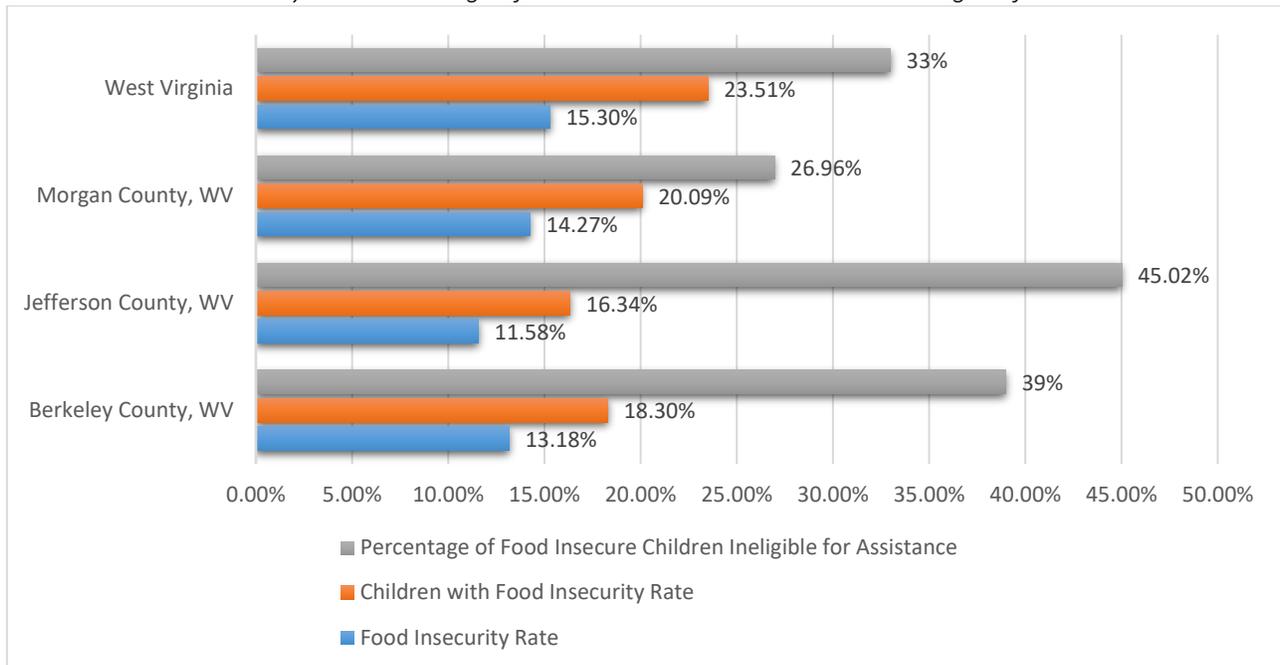
Food Insecurity

Food insecurity is the household-level economic and social condition of limited or uncertain access to adequate food. The food insecurity rate is the estimated percentage of the population that experienced food insecurity at some point during the report year. In 2014, a total of 22,960 Eastern Panhandle residents and 7,570 were classified as being “food insecure”. Food insecurity is the household-level economic and social condition of limited or uncertain access to adequate food. The ineligible for assistance means that their families do not qualify for SNAP, WIC, school meals, CSFP and TEFAP. The percentage of children with food insecurity whose households do not qualify for assistance is compelling and serves as the basis for efforts such as the “Back Pack” program to provide nourishment for children without a secure source of

¹²⁸ Data source: US Department of Agriculture, Economic Research Service, USDA - Food Access Research Atlas. 2010. Source geography: County

food.¹²⁹

Chart 61: Food Insecurity and Percentage of Food Insecure Children who are Ineligible for Assistance



¹²⁹ Data source: [Feeding America](#). 2014. Source geography: County

Forces of Change Assessment

The **Forces of Change Assessment** identified forces that informants believed were occurring and future trends that will affect the community or the local public health system. The dominant theme across all focus groups was behavioral health. There were deep concerns over all substance use disorders and the workforce, especially among large employers and the aftermath of substance use on families. The other dominant theme related to overall health in the community, including chronic illness and access to quality behavioral health treatment and recovery services. Responses to the question of what role the hospitals should play indicate that community leaders look to the hospitals to provide leadership and partnership to address critical health and safety issues in the community, specifically in the areas of behavioral health and chronic illness care coordination.

Critical Health and Safety Needs

- **Poverty and families**
 - Multigenerational problems;
 - Seeing effects of poverty in schools;
 - Income gaps need to be addressed.
- **Substance abuse and its intergenerational impacts**
 - Need for more intensive family supports;
 - “Drug exposed infants” is a real problem.
- **Behavioral health in general**
 - Depression and suicide are a growing problem;
 - Primary care providing behavioral health without proper training or supports;
 - Limited numbers of psychiatrists willing to accept Medicaid;
 - Links between mental health and substance abuse;
 - Problems associated with mental hygiene hearings and commitment procedures and lack of transportation alternative are placing a burden on local Sheriffs and Deputies and hospital Emergency Departments.
- **Chronic illness**
 - Rates of diabetes and complex chronic illness; relatively young, very ill population;
 - Rates of obesity and “nutrition” literacy.
- **Diabetes/Pre-Diabetes, Hypertension**
 - More Wellness Initiatives in the workplace are needed;
 - Need more education regarding healthy lifestyles;
 - “Children need to grow up in homes where proper diet and nutrition is emphasized and is the norm”.
- **Multiple chronic illnesses** “People with multiple co-morbidities require programs to bridge the gap in healthcare coverage. Patients need assistance to stay in the home vs. being in crisis mode and back in the hospital.”
- **Impact of caregiving**
 - Caregiving – children responsible for taking care of siblings, adults providing care for parents and their children; child care (or lack of) is an issue for employers.

Forces of Change

- Opioid epidemic is devastating our community and families.
 - Drug trafficking and crime and safety concerns;
 - Impact drug overdose on local government and service;
- Uncertainty about the future of healthcare especially the repeal and replacement of the Affordable Care Act and subsequent impact on Medicaid expansion;
- Large employers coming into region with accompanying need for healthy workforce;
- New initiatives such as Project Aware, Martinsburg Initiative, and Berkeley County Recovery Center and Day Report Center are promising to address much needed recovery services.

WVU Medicine's Role in Addressing Critical Health & Safety Issues

- ***Leadership in Care Coordination***
 - WVU Medicine Hire Community Resource Nurse to navigate community resources and help coordinate all the resources that are available in the community;
 - Bring appropriate groups and people together, keep up with the growth in the area;
 - Package and promote services to create an awareness of what is available;
 - Collaborative use of all resources to enhance, not duplicate, other services;
 - WVU Medicine help coordinate all the resources that are available in the community.
- ***Build capacity of local health care system***
 - WVU Medicine in Morgantown needs to provide more support by establishing more telemedicine programs and/or send subspecialists to the Eastern Panhandle;
 - Work of referrals between JMC and BMC, primary care and specialty care within system
 - Access to services is key as well as affordable options;
 - Work with legislators to look at the design of Public Health, all government agencies must work together better, outreach programs for chronically ill;
 - Establish Behavioral Health Services (mental, drug & alcohol abuse, opioid addiction) in Jefferson County.
- ***Collaborative role in community outreach***
 - More active role collaborating with existing community initiatives;
 - Outreach programs with chronically ill patients, home health visits;
 - Physicians need to be more involved and visible in the community; establish clinics in the schools to perform Wellness checks;
 - Better educate the community on services that are currently available;
 - Work with physicians and advanced providers regarding prescription use in treating kids (over prescribing); provide support and services to parents; help families to be **more** effective; seems to be no sense of family anymore; encourage providers to be more holistic in their treatment approaches;
 - Establish legitimate clinic for moms to get treatment for drug addiction.

APPENDIX A

CHNA Cycle II Structure, Framework, and Timeline

Structure:

- Hospital Steering Committee – Executive Team
 - Adherence to IRS requirements
 - Oversight/guidance on scope, assessment/prioritization tools and criteria, data collection and interpretation, hospital/community interface; Participation in development of hospital strategies and evaluation plan; Community benefit determination and reporting
- Community Advisory Board – Public/Community Health, QFHC, UHP, social service community (FRN/HHSC)
 - Community engagement, assist with data collection and prioritization
 - Partners for strategies/implementation plan
- CHNA Project Director – Joy Buck, PhD, APRN
 - Guidance on/facilitation of CHNA design/processes (including prioritization, strategy development and hospital/community interface)
 - Responsible for assessment tools, data collection processes, data analysis/interpretation, disparity identification/asset mapping, recommendations, final report.

Framework: Modified MAPP using WHO Determinants of Health. The MAPP process consists of four assessments as described below.

Community Strengths and Themes Assessment – community survey, focus groups, interviews

- Perceptions of quality of life
- Perceptions of community health, health priorities, health problems
- What assets do we have?

Local Health System – survey/assessment overview, priority areas - key informants, focus groups, community survey

- What are the activities, competencies, capacities of our LHS, inclusive of public health and social services?

Forces of Change – key informant interviews, focus groups

- What is occurring or might occur that will affect the community, LHS, and social services?

Community Health Status – survey, secondary data analysis of health incorporating WHO determinants of health

- What is the health status of our community?
- How healthy are our residents?

After assessments are complete, the following steps are taken: (1) data are analyzed and interpreted (2) disparities are identified (3) causal factors are determined (4) significant community health needs determined (5) priority setting criteria and persons to be involved in priority setting process are established and (6) priorities are set.

Timeline:

Assessment (2016)

Phase I

1. Community Themes and Strengths and Community Health Status Assessments

- Hospital-level community health indicators (includes data for evaluation Cycle 1)

Phase II (July – December 2016)

- Forces of Change and Local Health System capacity/assets/trends/gaps
- Data analysis and interpretation
- Identification of disparities and causal factors
- Priority setting

Phase III (January – April 2017)

- Draft assessment and priorities
- Presentation to BOD and Strategic Planning Committee
- Approval by the BOD

Implementation Plan (2017-2018)

Phase 1 (April – July 2017)

- Priority specific teams
 - Engagement
- Workplan and partnership development
- Evaluation plan finalized

Phase II (August 2017 – August 2018)

- Implementation and evaluation of strategies
- Phase III (August 2018-December 2018)
 - Final report
 - Pre-assessment Cycle III

APPENDIX B: HHSC STRUCTURE AND MEMBERS

Health and Human Services Collaborative (HHSC)

The Family Resource Network of the Panhandle (FRNOTP) is a 501(c)(3) corporation purposed to facilitate establishment of a system of prevention, education and early intervention activities aimed at enabling families, children and their communities to reach their fullest potential through community based planning activities for Berkeley, Jefferson and Morgan Counties, along with other activities as described and established in accordance with §49-1-206. FRNOTP also serves as a clearinghouse for all human service resource information within the Eastern Panhandle of West Virginia. FRNOTP does not provide direct client services.

It is the mission of FRNOTP to serve as a voice of the people in our community, and serve as forum to communicate the needs of our families within our communities. FRNOTP facilitates collaborative efforts among agencies and organizations to ensure accessible, affordable and efficient family services throughout the entire Eastern Panhandle of West Virginia.

To fulfill this mission, FRNOTP hosts and provides oversight to the Health and Human Services Collaborative (HHSC). This collaborative effort is comprised of its membership group of over 60 human service agencies within the Eastern Panhandle, as well as members of the community. HHSC consists of a Planning and Mobilization Committee, and five work groups: Behavioral Health Work Group, Health Work Group, Housing Work Group, Kids in Transition (KIT) Collaborative and Strong and Stable Families Work Group.

The HHSC Steering Committee, comprised of chairs of the standing committees, the CHNA representative, Director of DHHR, FRN, and United Way, and representatives from local Health Departments served as the CHNA Cycle II Community Advisory Board. The interface of the CHNA findings and ongoing work of the FRN is evidenced in the committee workplans <http://frnotp.org/initiatives/behavioral-health/behavioral-health-work-plan/>; <http://frnotp.org/community-data/>.

HHSC Membership List

INDIVIDUAL VOLUNTEERS: Pam Dugan, Michele Goldman, Christopher A. Baker, Mark Baker, Judith Miller Jones

ORGANIZATIONS:

American Cancer Society (Health)

Berkeley County Health Department (Health)

Berkeley County Schools (Board of Education)

Berkeley County Schools/Nutrition & Wellness Department (Health)

Berkeley County Recovery Services (Behavioral Health)

Berkeley Day Report Center (Behavioral Health)

Berkeley Medical Center Behavioral Health Services (Behavioral Health, Health)

Board of Child Care (Behavioral Health and KIT)

Boys and Girls Club of the Eastern Panhandle (KIT)

Blue Ridge Community & Technical College (Behavioral Health, Housing, Strong and Stable Families)

Bridges to Healthy Transitions, WVU School of Nursing (Behavioral Health)

Burlington United Methodist Family Service, Inc. (KIT, Strong and Stable Families, Health)

CASA of the Eastern Panhandle, Inc. (Strong and Stable Families, KIT, Housing)

Catholic Charities West Virginia – Eastern Region (Strong and Stable Families, Housing)

Childhelp Alice C. Tyler Village (Behavioral Health)
Children's Home Society of WV (KIT)
Christian Psychological Services (Behavioral Health)
City of Martinsburg Community Development (Housing)
Community Alternatives to Violence (Behavioral Health)
Community Networks, Inc. (Strong and Stable Families & Housing)
Daily Companions, Inc. (Strong and Stable Families)
Department of Veterans Affairs – Veterans Experience Office (Health, Behavioral Health, Housing)
Eastern Panhandle Transit Authority (Strong and Stable Families)
Eastridge Health Systems (Behavioral Health, Housing, KIT)
Elmcroft of Martinsburg (Health, Housing)
Faith Community Coalition for the Homeless (Housing)
Family Preservation Services (Behavioral Health, KIT)
Family Resource Network of the Panhandle, Inc. (All)
FLOC Outdoor Education Center (Health)
Good Samaritan Free Clinic (Housing, Health)
Good Shepherd Interfaith Volunteer Caregivers (Health, Strong and Stable Families, Housing)
Habitat for Humanity of the Eastern Panhandle (Housing)
The Health Plan (Health)
Healthy Berkeley (Health)
Hospice of the Panhandle (Health)
Jefferson County Council on Aging (Health)
Jefferson County Health Department (Health)
Jefferson County Schools (Behavioral Health, KIT)
Jefferson Day Report Center (Behavioral Health)
Jefferson County Teen Court (KIT, Behavioral Health)
Juvenile Justice Commission – WV Supreme Court (Behavioral Health, KIT)
Legal Aid of West Virginia (Behavioral Health, Housing)
Martinsburg City Council (Housing)
Martinsburg Housing Authority (Housing)
Martinsburg Police Department (Housing)
Maximus/Mountain Health Trust (Behavioral Health, Health, Strong and Stable Families)
MODIFY (Behavioral Health, KIT)
Morgan County Partnership (Behavioral Health)
Morgan County Starting Points FRC (KIT, Strong and Stable Families)
Mountain Heart Community Services, Inc. (Strong and Stable Families)
Mountaineer Behavioral Health (Behavioral Health)
National Youth Advocate Program (Behavioral Health, KIT, Strong and Stable Families)
New Hope Treatment Centers (KIT)
Panhandle Home Health (Health)
Partnership for Affordable Housing (Housing)
Potomac Highlands Guild (Behavioral Health, KIT, Health)
Project Aware – Berkeley County Schools (Behavioral Health, KIT)
Promise Neighborhood Initiative (Strong and Stable Families)
RAPP of the Panhandle (KIT)
Recovery West Virginia, Inc. (Behavioral Health, KIT)
The Renovo Center (Behavioral Health, Health, KIT, Strong and Stable Families)

RESA 8 (Regional Education Service Agency) Adolescent Health Program (Behavioral Health, KIT, Strong and Stable Families)
RESA 8 (Regional Education Service Agency) Adult Education & SPOKES (Strong and Stable Families)
RESA 8 (Regional Education Service Agency) Head Start (Strong and Stable Families)
Retired Senior Volunteer Program (Strong and Stable Families)
Safe Haven Child Advocacy Center (KIT)
Senior Community Service Employment Program/Region 8 Planning and Development
Senior Towers/Millennia Housing (Strong and Stable Families, Behavioral Health)
Shenandoah Community Health Center (Strong and Stable Families, Housing, Health, Behavioral Health)
Shenandoah Community Health- Ryan White Program (Behavioral Health, Health)
Shenandoah Valley Medical Systems, Inc. – Behavioral Health Services (Behavioral Health, KIT)
Shenandoah Valley WIC Program (Health)
Shenandoah Women’s Center Inc. (Strong and Stable Families, Housing)
Telamon Corporation (Strong and Stable Families, Behavioral Health, Housing)
Timber Ridge School (Behavioral Health, KIT)
Unicare Medicaid Health Plan of WV (Strong and Stable Families, Health, BH, KIT)
United Way of the Eastern Panhandle (Behavioral Health, Housing, Strong and Stable Families)
WV AmeriCorps VISTA (Health, KIT)
West Virginia Coalition to End Homelessness (Behavioral Health, Housing, Strong and Stable Families)
West Virginia Department of Health & Human Resources – Bureau for Children and Families (Strong and Stable Families & KIT)
WVNG Family Programs, Child & Youth (Health, Behavioral Health, KIT, Housing)
West Virginia Counseling Advocacy- YAP (Behavioral Health, KIT, Strong and Stable Families)
West Virginia University Center for Excellence in Disabilities: Traumatic Brain Injury Services (Behavioral Health, Health, Housing)
West Virginia University Extension Service – Berkeley County (Health, Strong and Stable Families)
West Virginia University Medicine/ The Wellness Center @ Berkeley Medical Center & Jefferson Medical Center (Health)
WVU Medicine – Harpers Ferry Family Medicine (Behavioral Health)
West Virginia University Medicine – Jefferson Medical Center (Health, Behavioral Health)
West Virginia University School of Social Work- Martinsburg (Behavioral Health, KIT)
YoungLives of Jefferson County (Behavioral Health, Self-Sufficiency, Health, Housing)

APPENDIX C: CTSA and HSA Survey

Thank you for agreeing to take the University Healthcare Community Health Needs Assessment (CHNA) Survey. The survey should take around 15 to 20 minutes to complete. Your participation is voluntary and your responses will be kept strictly confidential. The purpose of this survey is to get your opinions about health issues and quality of life in the Eastern Panhandle. Your perspective is very important to health planning for the region. The information that you provide will help University Healthcare to address the most pressing health problems in Berkeley, Jefferson, and Morgan Counties. Please rate the "Quality of Life" questions according to your satisfaction level. Choose only one response.

How satisfied are you with the availability of options for "healthy activities" in your county? "Healthy activities" includes safe and close by options for walking or riding bikes, hiking trails, areas for community activities, etc.

- Very Satisfied (1)
- Satisfied (2)
- 50/50 (3)
- Dissatisfied (4)
- Very Dissatisfied (5)
- No Opinion (6)

How satisfied are you with the availability of affordable healthy food in your county?

- Very Satisfied (1)
- Satisfied (2)
- 50/50 (3)
- Dissatisfied (4)
- Very Dissatisfied (5)
- No Opinion (6)

How satisfied are you with the availability of organized activities and programs for children and teenagers in your county?

- Very Satisfied (1)
- Satisfied (2)
- 50/50 (3)
- Dissatisfied (4)
- Very Dissatisfied (5)
- No Opinion (6)

How satisfied are you with the availability of quality day care and preschool programs in your county?

- Very Satisfied (1)
- Satisfied (2)
- 50/50 (3)
- Dissatisfied (4)
- Very Dissatisfied (5)
- No Opinion (6)

How satisfied are you with the quality of schools in your county?

- Very Satisfied (1)
- Satisfied (2)
- 50/50 (3)
- Dissatisfied (4)
- Very Dissatisfied (5)
- No Opinion (6)

How safe do you feel in the area where you live?

- Very Safe (1)
- Safe (2)
- 50/50 (3)
- Unsafe (4)
- Very Unsafe (5)

How satisfied are you with law enforcement in the area or neighborhood where you live?

- Very Satisfied (1)
- Satisfied (2)
- 50/50 (3)
- Dissatisfied (4)
- Very Dissatisfied (5)
- No opinion (6)

How satisfied are you with availability of affordable housing in your county?

- Very Satisfied (1)
- Satisfied (2)
- 50/50 (3)
- Dissatisfied (4)
- Very Dissatisfied (5)
- No opinion (6)

How satisfied are you with transportation services in your county?

- Very Satisfied (1)
- Satisfied (2)
- 50/50 (3)
- Dissatisfied (4)
- Very Dissatisfied (5)
- No opinion (6)

How satisfied are you with the employment opportunities in your county?

- Very Satisfied (1)
- Satisfied (2)
- 50/50 (3)
- Dissatisfied (4)
- Very Dissatisfied (5)
- No opinion (6)

How satisfied are you with how far you have to drive to work?

- Very Satisfied (1)
- Satisfied (2)
- 50/50 (3)
- Dissatisfied (4)
- Very Dissatisfied (5)
- Not Applicable (6)

Please rate your overall quality of life in the county where you live. "0" is the worst possible quality of life. "10" is the best possible quality of life.

- Worst possible 0 (1)
- 1 (2)
- 2 (3)
- 3 (4)
- 4 (5)
- 5 (6)
- 6 (7)
- 7 (8)
- 8 (9)
- 9 (10)
- Best possible 10 (11)

How satisfied are you with the availability of primary care providers in your county? Primary care means a physician, advanced nurse practitioner, or physician assistant that you would go to for check ups and general health issues.

- Very Satisfied (1)
- Satisfied (2)
- 50/50 (3)
- Dissatisfied (4)
- Very Dissatisfied (5)
- No Opinion (6)

How satisfied are you with the availability of specialty care physicians in your county? This means physicians with specialty training in cancer or heart, lung, or kidney disease among others.

- Very Satisfied (1)
- Satisfied (2)
- 50/50 (3)
- Dissatisfied (4)
- Very Dissatisfied (5)
- No Opinion (6)

How satisfied are you with the availability of behavioral health services in the county where you live. Behavioral health services includes inpatient and community-based services for persons living with mental illness and/or substance use disorders.

- Very Satisfied (1)
- Satisfied (2)
- 50/50 (3)
- Dissatisfied (4)
- Very Dissatisfied (5)
- No Opinion (6)

How confident are you that you could get high quality health care if you needed it? Please rate your confidence that the following care options are available in the county where you live.

	Extremely confident (1)	Confident (2)	50/50 (3)	Not very confident (4)	Not at all confident (5)
General or primary care (12)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Cancer care (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Diabetes care (5)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Heart, lung, or kidney specialty care (6)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Traumatic brain injury (TBI) care (9)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Care for autoimmune or neurological diseases/conditions (Lupus, Rheumatoid Arthritis, seizures, MS, neuropathy, stroke) (10)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Hospice or palliative care (11)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Surgical care (19)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

How confident are you that you would be able get high quality care and support services if you needed them. Please rate your confidence that you could get these following services in the county where you live.

	Extremely Confident (1)	Confident (2)	50/50 (3)	Not very confident (4)	Not at all confident (5)
Hospital care (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Home-based support services (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Home-based nursing, physical/occupational therapy, social work (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Help with substance abuse (5)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Help with financial problems (7)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Help with interpersonal or domestic violence (8)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Counseling services (9)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

How would you describe your overall health? Please choose one of the answers below.

- Excellent (1)
- Good (2)
- Fair (3)
- Poor (4)
- Very Poor (5)

How satisfied are you with your overall health? Please choose one of the answers below.

- Very Satisfied (1)
- Satisfied (2)
- 50/50 (3)
- Dissatisfied (4)
- Very Dissatisfied (5)

What gets in the way of you being as healthy as you would like to be? Check all that apply.

- Not sure what to do (2)
- Cost of gym equipment or membership (3)
- Safety of neighborhood (4)
- There's nothing I can do to help (7)
- Cost of healthy foods (5)
- No energy (8)
- Lack of support or encouragement (9)
- Work obligations (12)
- Disability (15)
- Lack of time (1)
- Stress (22)
- Family obligations (6)
- Other (please specify) (21) _____

Where or to whom do you usually turn to when you want to get information about health issues?

- School (1)
- Community bulletin or newsletter (3)
- Church group/faith community (5)
- Friends or neighbors (7)
- Media (radio, TV, newspaper, magazine, etc.) (8)
- Health referral line (211, etc.) (9)
- Family (10)
- Internet (11)
- Doctor's office (12)
- Phone Book (14)
- Nurse and other health professionals (15)
- Social worker (13)
- Behavioral health providers (counselor, therapist, psychologist, etc.) (20)
- DHHR (16)

- Health navigator/coach (6)
- Other (please specify) (19) _____

Where do you usually go to get health care?

- Doctor's office (1)
- Urgent Care Center (2)
- Hospital Emergency Room (4)
- County Health Department (5)
- Community Health Center (6)
- Free Clinic (7)
- Veterans Administration Medical Center/System (8)
- Behavioral Health Provider (11)
- Chiropractor (9)
- Other (please specify) (10) _____

Do you have a primary care provider (physician, nurse practitioner or physician assistant) that you see on a regular basis? "Regular basis" means at least once a year.

- Yes (1)
- No (2)

In the past 12 months, which types of health care professionals you have tried to get an appointment with? Select all that apply.

- None (7)
- Primary care (1)
- Heart, lung, or cancer specialist (2)
- Other medical specialist (neurology, etc.) (3)
- Surgeon (general surgery, orthopedics, vascular surgery, etc.) (8)
- Behavioral health provider for mental illness (4)
- Behavioral health provider for substance use problems (5)
- Other (please specify) (6) _____

In the last 12 months, how difficult has it been to get an appointment with a health care provider when you needed one?

- Extremely difficult (1)
- Quite difficult (2)
- Moderately difficult (3)
- Slightly difficult (4)
- Not difficult at all (5)
- Have not tried to get an appointment (6)

Which of the following barriers have you experienced when trying to get the health care you need? Please check all that apply.

- None (18)
- Lack of insurance (3)
- Providers wouldn't accept my insurance (7)
- Cost of services (2)
- Cost of medications (31)

- Lack of transportation (8)
- Services not available locally (11)
- No evening or weekend appointments (12)
- Not accepting new patients (21)
- Bad attitudes of professionals or staff (14)
- Long waiting periods for new patients (15)
- Out-of-pocket costs (17)
- Getting appointments when sick (16)
- Racism or prejudice (5)
- Lack of information about available services (6)
- Problems navigating the health care system (20)
- Language barriers/communication (13)
- Other (please specify) (19) _____

Do you have a permanent disability?

- Yes (1)
- No (2)

Which of the following health problems have you been told by a health professional that you have? Please check all that apply.

- None (15)
- High blood pressure (1)
- Diabetes (sugar) (2)
- Heart disease/Heart failure (3)
- Asthma (5)
- Emphysema or COPD (6)
- Arthritis (7)
- Autoimmune disease such as Lupus, Fibromyalgia, Rheumatoid Arthritis (8)
- Chronic pain (9)
- Traumatic brain injury (10)
- PTSD (11)
- Mental Illness such as schizophrenia or bipolar disorder (12)
- Neurological problem such as seizures, MS, neuropathy (19)
- Substance use disorder (13)
- Depression (14)
- Other health problems (please specify) (18) _____

How many health problems did you check in the last question ?

- 0 (0)
- 1 (1)
- 2 (2)
- 3 (3)
- 4 (4)
- 5 (5)

- 6 (6)
- 7 (7)
- 8 (8)
- 9 (9)
- 10 (10)
- 11 (11)
- 12 (12)
- 3 (13)
- 14 (14)

Over the last 12 months, when I received care for my health condition:	None of the time (1)	Some of the time (2)	Half of the time (3)	Most of the time (4)	All of the time (5)	Not applicable (6)
I was asked for my ideas when we made a treatment plan. (1)	<input type="radio"/>					
I was shown how what I do (diet, physical activity, react to stress) impacts my health. (3)	<input type="radio"/>					
I was helped to plan ahead so I could take care of my health condition even in hard times. (6)	<input type="radio"/>					
I was given information about programs in the community that could help me. (7)	<input type="radio"/>					
I was asked how my chronic condition affects my life. (8)	<input type="radio"/>					
I was referred to a dietitian, health educator, or a counselor (9)	<input type="radio"/>					
I was referred to community services for help when needed. (10)	<input type="radio"/>					

Please write anything else you would like to say about your health care here.

Most communities experience health and safety issues. Please provide information about the most pressing health and safety issues in the county where you live.

On a scale of 0 to 5, please rate how important the following health and safety problems are in the county where you live. "0" means that it is not a problem. "5" means that it is a critical problem.

	Not a problem 0 (1)	1 (2)	2 (3)	3 (4)	4 (5)	Critical problem 5 (6)	No opinion (7)
Obesity (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Sexually transmitted diseases (HPV, HIV, etc.) (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Dental/oral health (4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Infant mortality (5)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Child abuse/neglect (6)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Alcohol abuse (7)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Drug abuse/overdose (8)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Mental illness (10)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Suicide and self-harm (11)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Motor vehicle accidents (13)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Interpersonal violence (rape, sexual abuse, domestic violence) (14)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Post-Traumatic Stress Disorder (PTSD) (15)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Using a scale of 0 to 5, please rate how important the following health and safety issues are in the county where you live. "0" means that it is not an issue. "5" means that it is a critical health issue.

	Not a problem 0 (1)	1 (2)	2 (3)	3 (4)	4 (5)	Critical problem 5 (6)	No opinion (7)
Physical activity and nutrition (1)	<input type="radio"/>	<input type="radio"/>					
Teen risky health behavior (smoking, sex, substance use, distracted driving, etc.) (2)	<input type="radio"/>	<input type="radio"/>					
Heart disease and stroke (4)	<input type="radio"/>	<input type="radio"/>					
Respiratory disease (Emphysema, COPD, etc.) (5)	<input type="radio"/>	<input type="radio"/>					
Childhood asthma (6)	<input type="radio"/>	<input type="radio"/>					
Diabetes (7)	<input type="radio"/>	<input type="radio"/>					
Cancer (9)	<input type="radio"/>	<input type="radio"/>					
Other (please specify) (8)	<input type="radio"/>	<input type="radio"/>					

Using a scale from 0 to 5, please rate the degree to which you think the following health problems are being addressed in the county where you live. "0" means that the problem is not being addressed at all. "5" means that the problem is being fully addressed.

	Not being addressed 0 (1)	1 (2)	2 (3)	3 (4)	4 (5)	Being fully addressed 5 (6)	No opinion (7)
Obesity (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Sexually transmitted diseases (HPV, HIV, etc.) (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Dental/oral health (4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Infant mortality (5)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Child abuse/neglect (6)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Alcohol abuse (7)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Drug abuse/overdose (8)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Mental illness (10)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Suicide and self-harm (11)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Motor vehicle accidents (13)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Interpersonal violence (rape, sexual abuse, domestic violence) (14)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Post-Traumatic Stress Disorder (PTSD) (15)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Using a scale from 0 to 5, please rate the degree to which you think these additional health problems are being addressed. "0" means that the problem is not being addressed at all. "5" means that the problem is being completely addressed.

	Not being addressed 0 (1)	1 (2)	2 (3)	3 (4)	4 (5)	Completely addressed 5 (6)	No opinion (7)
Physical activity and nutrition (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Teen risky health behavior (smoking, sex, substance use, distracted driving, etc.) (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Heart disease and stroke (4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Respiratory disease (Emphysema, COPD, etc.) (5)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Childhood asthma (6)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Diabetes (7)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Cancer (9)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Other (please specify) (8)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Which of the following are the five (5) most important factors that contribute to the health problems in your county? Please select only 5.

- Poverty/low income (1)
- Lack of access to affordable physical activity options (4)
- Crime , violence or lack of personal safety (5)
- Lack of personal responsibility for health (6)
- Easy access to drugs, alcohol, and tobacco (7)
- Low literacy (8)
- Lack of transportation (9)
- Lack of caregiver support (10)
- Lack of access to primary care (12)
- Lack of access to behavioral health/mental health care (13)
- Lack of personal responsibility for health (14)
- Lack of social support and positive interactions (15)
- Substance abuse problems (16)
- Lack of employment opportunities (17)
- Cultural and social norms (18)
- Lack of health insurance (19)
- Lack of affordable healthy food options (20)
- Inadequate social support services (21)
- Unsafe sex practices (22)
- Limited availability of social services and programs (24)
- Depression or hopelessness (26)
- Lack of programs for persons who have been incarcerated (27)
- Lack of affordable health screening (28)
- Cost of health care/medications (29)

What is the single, most important health or safety issue in your county?

Using any number from 0 to 5, what number would you use to rate your confidence that your county has the resources (financial and personnel) to address the most critical health or safety issues in the county where you live?

- Not at All Confident 0 (1)
- 1 (2)
- 2 (3)
- 3 (4)
- 4 (5)
- Completely Confident 5 (6)

Please indicate your degree of satisfaction with services provided by your County Health Department.

	Very Satisfied (1)	Satisfied (2)	50/50 (3)	Dissatisfied (4)	Very Dissatisfied (5)	No Opinion (6)
Environmental services, including sanitarian services, waste water service, and well inspections. (1)	<input type="radio"/>					
Immunization Program (2)	<input type="radio"/>					
STD screening and treatment, TB control (3)	<input type="radio"/>					
Health promotion and community education (4)	<input type="radio"/>					
Overall satisfaction with county Health Department (5)	<input type="radio"/>					

Please write in any services that you wish your county Health Department would provide.

How satisfied are you with the quality of the water supply in your county?

- Very Satisfied (1)
- Satisfied (2)
- 50/50 (3)
- Dissatisfied (4)
- Very Dissatisfied (5)
- No Opinion (6)

How satisfied are you with the outdoor air quality in your county?

- Very Satisfied (1)
- Satisfied (2)
- 50/50 (3)
- Dissatisfied (4)
- Very Dissatisfied (5)
- No Opinion (6)

Thank you very much for taking the time to complete this survey. This is the last section of the survey. Please provide the following information about yourself and your household. The information that you provide will be kept strictly confidential.

In which county/state do you usually get your health care?

- Berkeley County, West Virginia (1)
- Jefferson County, West Virginia (2)
- Washington County, Maryland (Hagerstown) (3)
- Frederick County, Virginia (Winchester) (4)
- Washington/Baltimore Area (5)
- More than one county/state (6)

Are you a veteran receiving health care outside of the VA Medical System or from non-VAMC medical providers?

- Yes (1)
- No (2)

Which of the following categories best describes your employment status?

- Employed, working full-time (1)
- Employed, working part-time (2)
- Not employed, looking for work (3)
- Student (4)
- Not employed, NOT looking for work (5)
- Retired (6)
- Disabled, not able to work (7)
- Other (please specify) (8) _____

What is the highest level of school you have completed or the highest degree you have received?

- Less than high school degree (1)
- High school degree or equivalent (e.g., GED) (2)
- Some college but no degree (3)
- Associate degree (4)
- Bachelor degree (5)
- Graduate degree (6)

Please select the county in which you live.

- Berkeley (1)
- Jefferson (2)
- Morgan (3)
- Other (please specify) (4) _____

Which group below contains your age?

- 18-24 (1)
- 25-34 (2)
- 35-44 (3)
- 45-54 (4)
- 55-64 (5)
- 65-74 (6)
- 75-84 (7)
- 85 and older (8)

What is your sex?

- Female (1)
- Male (2)

What is your household income?

- Less than \$20,000 (1)
- \$20,000 to \$39,999 (2)
- \$40,000 to \$59,999 (3)
- \$60,000 to \$79,999 (4)
- \$80,000 to \$99,999 (5)
- \$100,000 to \$119,999 (6)
- \$120,000 or over (7)
- Or what is your hourly pay rate and the number of hours you work each week? (8) _____

To which racial or ethnic group(s) do you most identify?

- African American (non-Hispanic) (1)
- Caucasian (non-Hispanic) (2)
- Hispanic or Latino (8)
- Asian (3)
- Native American or Aleut (4)
- Native Hawaiian or Other Pacific Islander (5)
- More than one race (7)
- Other (please specify) (6) _____

Thank you for completing our survey. The information that you provided will be helpful to improving the availability and quality of health and social services in the Eastern Panhandle. The results of the Community

Health Needs Assessment will be made available to the community on the University Healthcare website (<http://www.wvuniversityhealthcare.com>) once it is completed.

APPENDIX D: Forces of Change Assessment

CHNA Cycle II

Key Informant Interview Script

Interviewer's Initials: _____

Date: _____ Start time: _____ End time: _____ Name: _____

_____ Title: _____

Agency/Organization: _____

of years living in _____ County: _____ # of years in current position: _____

***** Introduction: Good morning/afternoon. My name is [interviewer's name].

I am... (Introduce yourself) Thank you for taking time out of your busy day to speak with me. Please know that I understand how valuable your time is. I'll try to keep our time to 60 minutes, but we may find that we run over – up to 90 minutes total - once we get into the interview. Is now still a good time for us to speak?

We are gathering this information to help us develop a plan to improve health and quality of life in the Eastern Panhandle. Input from the community and its leaders are essential to this process. Surveys, focus groups and key informant interviews are being used to engage community members.

You have been selected for a key informant interview because of your knowledge, insight and familiarity with the community. The themes that emerge from these interviews will be summarized and made available to the public; however, individual interviews will be kept strictly confidential.

To get us started, can you tell me briefly about the work that you and your organization do in the community? [Allow time for them to answer the question – ask clarifying questions and summarize when they are done]

Thank you. Next I'll be asking you a series of questions about health and quality of life in

_____C
_____ county. As you consider these questions, keep in mind the broad definition of health adopted by the World Health Organization: 'Health is a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity,' while sharing the local perspectives you have from your current position and from experiences in this community

Questions:

1. In general, how would you rate health and quality of life in _____ County?
2. In your opinion, has health and quality of life in _____ County improved, stayed the same, or declined over the past few years?
3. Why do you think it has (based on answer from previous question: improved, declined, or stayed the same)?

4. What other factors have contributed to the (based on answer to question 2: improvement, decline or to health and quality of life staying the same)?
5. Are there people or groups of people in _____ County whose health or quality of life may not be as good as others?
 - a. Who are these persons or groups (whose health or quality of life is not as good as others)?
 - b. Why do you think their health/quality of life is not as good as others?
6. What barriers, if any, exist to improving health and quality of life in _____ County?
7. In your opinion, what are the most critical health and quality of life issues in _____ County?
8. What needs to be done to address these issues?
 - Possible probe: What specific actions, policy or funding priorities would you support because they would contribute to a healthier _____ County?
9. In your opinion, what else will improve health and quality of life in _____ County?
10. Is there someone (who) you would recommend as a “key informant” for this assessment?

Name: _____ Contact: _____

Close: Thanks so much for sharing your concerns and perspectives on these issues. The information you have provided will contribute to develop a better understanding about factors impacting health and quality of life in our community. Is there anything that you would like to add before we conclude the interview?

As a reminder, summary results will be made available by WVU Medicine/University Healthcare and used to develop a community-wide health improvement plan. Should you have any questions, please feel free to contact _____ at _____. Thank you very much for sharing your thoughts about the community. Your input is valuable and I appreciate your generosity of time and information.

Forces of Change Questions Focus Group Questions

- What has occurred recently that may affect the health of our community or the local public health system?
- What may occur in the future?
- Are there any trends occurring that will have impact? Describe the trends
- What forces are occurring locally, regionally, nationally, globally that might impact our counties?
- What characteristics of our area or state may pose an opportunity or threat?
- What may occur or has occurred that may pose a barrier to achieving the shared vision?
- What do you think are the three factors which most improve your quality of life?
- Which are the three most critical health and safety issues facing our county?
- What do you think are the three most important attitudes or behaviors that cause health problems in our county?
- What is the role of the hospitals in addressing the critical health and safety issues we've discussed?

Focus Group Invitees

Business/Major Employers

Manny Arvon	Berkeley County Schools
Dr. Bondy Shay Gibson	Jefferson County Schools
Keith Busby	Proctor and Gamble
Linda Snider	Quad Graphics
Sandy Hamilton	Berkeley County Development Authority
John Reisenweber	Jefferson County Development Authority
Tina Combs	Berkeley County Chamber
Heather McIntyre	Jefferson County Chamber
C.D. Linton	Essroc
Randy Rude	Ecolab
Dr. Mary Hendrix	Shepherd University
Dr. Pete Checkovich	BRCTC
John Beatty	BB&T Bank
Kevin Steeley	Dalb
Amy Panzarella	American Public University System
Karen Ruffo	Hollywood Casino
Jim Scott	RMS
Tom Jones	Jones Nationwide Insurance
Randy Lewis	Mainstreet Martinsburg

Community-Based Providers

Dave Fant	Shenandoah Community Health
Dr. Dawn Jones	Shenandoah Community Health
Lisa Bivens, RN	Panhandle Home Health
Judy Hockman, RN	University Healthcare at Home
Margaret Cogswell, RN	Hospice of the Panhandle
Lora Crowell, BSN	Berkeley County Schools
Mary Jane Rinard, BSN	Jefferson County Health Department
Cosby Potter Davis, RN	Good Samaritan Free Clinic
Joni Greenburg, LPC	Project Aware (School Counselor)
Dr. David Baltierra	HFFM
Dr. Catherine Feaga	HFFM
Dr. Dave Didden	JC Health Department
Michelle Goldman, RN,	Executive Director Eastern Panhandle Free Clinic
Lisa Poland, DMD	WVU Children's Oral Health Program

Voluntary/Social Services

Paula Marone Reese	Good Shepherd Interfaith Caregivers
Diane Walderson	Meals on Wheels
Eddie Edmonds	Berkeley Sr. Center/Berkeley Ministerial
Amy Wellman	Jefferson Senior Center
Robert Shefner	JC Ministerial
Penny Porter	United Way
Kathy Bradley	DHHR

Charlotte Norris	United Way and Promise Neighborhood
Trina Bartlett	Catholic Charities
Tina Burns	Shenandoah Community Health
Angie Gray	Berkeley County Health Department
Nursing Director	Jefferson County Health Department
Deb Barthlow	Children's Home Society
Stacie Rohn	Boys & Girls Club
Phil Steptoe	C-Cap Loaves & Fishes

Law Enforcement

Maury Richards	Martinsburg Police Dept.
Pete Dougherty	JC Sheriff
Kenny LeMaster	BERKELEY COUNTY Sheriff
Bill Roper	Ranson Police Dept.
Chris Kutcher	Charlestown Police Dept.
Mike King	Shepherdstown Police Dept.
Jim Rich	Mental Hygiene Defense Attorney
Judge Dave Greenburg	Juvenile Drug Court
Kelly Beck	Legal Aide
Patsy Noland	Jefferson County Commissioner
Doug Copenhaver	Berkeley County Council
Rhonda Eddy	Day Report Center
Bridget Cohee	Judge Elect

Adult Providers

Don Mishra, MD	Cardiology
Dimitri Misailidis, MD	Radiology
Daryl LaRusso, MD	Emergency Medicine
Mike Londner, MD	Emergency Medicine
Marney Treese, MD	Emergency Medicine
Amett Parikh, MD	Emergency Medicine
Phillip Aguila, MD	Pulmonology
Adrienne Zavala, MD	Family Medicine
Jessica Johnson, MD	General Surgery
Sarah Phillips, MD	Geriatrics/Palliative Care
Terrence Reidy, MD	Oncology
Tim Devine, MD	Hospitalist
Mark Cuccuzella, MD	Hospitalist
Gaurav Parikh, MD	Hospitalist
Courtney Struthers, MD	Internal Medicine, SVMS
Dawn Jones, MD	Internal Medicine, SVMS
Robert Cicchino, MD	General Surgery
Tom Knutson, DO	Orthopedics
Helen Ryu, MD	Psychiatry

Maternal/Child/Family Providers

Catherine Feaga, DO	Family Medicine/OB
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David Baltierra, MD	Family Medicine/OB
Angela Ogelsby – MD	Family Medicine/OB
Jessica Detrick, MD	OB/GYN
Krista Hopkins, MD	OB/GYN, SVMS
Robert Jones, MD	Peds
Bill Wear, MD	Peds
Sarah Moerschel, MD	Peds
Raja Sunkavalli, MD	Peds
Eleanor Smith, MD	Peds
Stephanie McGraw, PsyD	Psychologist
Maria Merzouk, DO	OB/GYN
Geoffrey Bowman, MD	OB/GYN
Pete Yussock, MD	Neonatology
Helena Brady, NP	Neonatology

Shenandoah Community Health (FQHC)

Board of Directors and Providers (22 participants)

Jefferson Community Ministries

Two focus groups with (18 clients - names withheld for confidentiality purposes)

HHSC Health Workgroup

Ongoing discussions at monthly meetings

Two presentations of findings with discussion

- June 2016 (25 participants)
- October 2016 (30 participants)

Participant Observation

2016 HHSC Quarterly Meetings

2016 HHSC Legislative Breakfast

Healthier Jefferson County

HHSC Health Work Group

HHSC Behavioral Health Work Group

HHSC Steering Committee

Key Informant Interviews (Formal and Informal)

Kathy Bradley, DHHR

Michele Goldman, Eastern Panhandle Free Clinic

Tina Burns, Shenandoah Community Health

Angie Gray, Berkeley County Health Department

Bill Kearns, Berkeley County Health Department

Diana Gaviria, MD, Berkeley County Health Officer (now Washington County Health Officer)

David Didden, MD, Jefferson County Health Officer

Thomas Kimm, Recovery West Virginia, Inc.

Giselle Perry, LPC, Jefferson County Day Report Center (now Harpers Ferry Family Medicine)

Lisa Bivens, Panhandle Home Health

Judy Jones, Healthier Jefferson County

20 persons living with complex chronic illness and caregivers (names withheld to protect anonymity)

APPENDIX E: Acknowledgements

Health and Human Services Collaborative Steering Committee

2017

Kathy Bradley	Department of Health and Human Services (HHSC Founder)
Tina Burns	Shenandoah Valley Medical Systems (HHSC Founder)
Glenda Helman	Community Networks, Inc. (HHSC Founder)
Robin Kees	Telamon (HHSC Founder)
Penny Porter	United Way of the Eastern Panhandle (HHSC Founder)
Dana DeJarnett	CHNA Member
Giselle Perry	Behavioral Health Work Group Chair
Kathie Campbell	Strong and Stable Families Work Group Chair
Nan Stevens	Housing Work Group Chair
Lisa Bromfield	Health Work Group Chair
Deb Barthlow	Kids in Transition Collaborative Chair
Judy Jones	Community Representative (Jefferson County)
Charlotte Norris	Community Representative (Berkeley County)
Audrey Morris	Community Representative (Morgan County)
Trina Bartlett	HHSC Steering Committee Chair
Christin Rice	Family Resource Network of the Panhandle (HHSC)
Kristen Gingery	Family Resource Network of the Panhandle (HHSC)

2016

Kathy Bradley	Department of Health and Human Services (HHSC Founder)
Tina Burns	Shenandoah Valley Medical Systems (HHSC Founder)
Glena Helman	Community Networks, Inc. (HHSC Founder)
Robin Kees	Telamon (HHSC Founder)
Pete Mulford	United Way of the Eastern Panhandle (HHSC Founder)
Penny Porter	United Way of the Eastern Panhandle (HHSC Founder)
Joy Buck	CHNA/MAPP
Tom Kimm	Behavioral Health Work Group Chair
Giselle Perry	Behavioral Health Work Group Chair
Kathie Campbell	Strong and Stable Families Work Group Chair
Nan Stevens	Housing Work Group Chair
Christina Jackson	Health Work Group Chair
Lisa Bromfield	Health Work Group Chair
Deb Barthlow	Kids in Transition Collaborative Chair
Judy Jones	Community Representative (Jefferson County)
Charlotte Norris	Community Representative (Berkeley County)
Audrey Morris	Community Representative (Morgan County)
Anna Burns	HHSC Steering Committee Chair
Christin Rice	Family Resource Network of the Panhandle (HHSC)
Kristen Gingery	Family Resource Network of the Panhandle (HHSC)

Berkeley County Health Department: Bill Kearns, Angie Gray, BSN, RN, Diana Gaviria, MD
Jefferson County Health Department: David Didden, MD

Community Themes and Strengths Community Survey

BSW Students and MSW Interns

Susan Clark
Susan Callahan
Susan Singleton
April Blanchfield
Abby Hall

Community Volunteer

Santoshi Lattupally, MD

Community and Agency Support

Bob Sheffner, Jefferson Community Ministries
Kathy Bradley, Department of Health and Human Resources
Deb Barthlow, Children's Home Society of WV
Kathie Campbell, BSW, Catholic Charities WV Eastern Region
David Didden, MD, Jefferson County Health Department
Angie Gray, BSN, RN, Berkeley County Health Department
Christin Rice, MSW, Family Resource Network of the Panhandle