2022

Community Health Needs Assessment

CLINTON COUNTY

BUCKTAIL MEDICAL CENTER | **1001 Pine Street, Renovo, PA 17764**

Table of Contents

The Affordable Care Act requires tax-exempt hospitals to complete a Community Health Needs Assessment (CHNA) as least once every three years and to adopt implementation strategies to meet the needs identified. This requirement is effective during tax years beginning after March 23, 2012, and subject to a penalty of a $50,000 excise tax for failure to comply. Bucktail Medical Center has a tax exempt status. This is documented in IRS form 990, Schedule H. The IRS will use the data submitted in the health needs assessment to determine whether the tax exempt status is justified. The health needs assessment should include community input and public health expertise. This assessment will adopt an implementation strategy which will include prioritizing the needs which the assessment identifies.

Bucktail Medical Center (BMC) conducted a Community Health Needs Assessment (CHNA) to identify the unmet health needs in the communities the center serves. With this needs assessment, BMC will establish stronger, long-term relationships with the communities and its leaders. BMC will be better prepared to meet the present and future needs and, therefore, impact and improve community services.

The BMC was first known as the Renovo Hospital, established in 1909. In 1979 the hospital was relocated to South Renovo ; a new facility was built and the facility was renamed The Bucktail Medical Center (BMC). The BMC vision is *"To serve humanity through technology and family-oriented interactions with a commitment to a better quality of life"*. The Center currently includes a sixteen (16) bed acute care hospital, an Emergency Room open 24/7/365, a Basic Life Support (BLS) ambulance service, and a Skilled Nursing Unit with forty-three (43) beds. In 1997 a hospital-based Community Clinic was added.

In the Emergency Department, critical patients are stabilized in the facility and transferred via BLS, ALS, or ALS air to the nearest facility which can meet the patient's needs. Less critical patients are either admitted for treatment, admitted for observation, or discharged home. BMC offers other outpatient services including a medical laboratory and radiology (currently limited to X-Rays) for diagnostic services; Basic Life Support (BLS) ambulance service both for transfers from the hospital to other facilities and, at times, to respond to community ambulance calls; a Rural Community Health Clinic that serves as the primary care provider for much of the community; and Occupational Therapy, Physical Therapy, and Speech Therapy. Therapy services provide services to residents of the nursing home and to Swing Bed patients in the hospital in addition to outpatient services to the community.

The population of the area it serves is approximately 3,144, up three people since 2019, and the square mile area is 338.00. BMC is a Critical Access Hospital (CAH) located in an isolated area in northcentral Pennsylvania surrounded by state parks and game land. There are many housing units that are not primary homes, rather, they serve as hunting camps or other seasonal getaways. While the full-time population is just over 3,000, that number can fluctuate significantly during hunting seasons and during the warmer summer months. Three local state parks also attract vacationers and travelers to the area. The geographic area is challenging with mountainous terrain and the clients served varied due to seasonal activities in the population.

Population by Municipality

Municipality	Population 2019	Population 2022	Percent Change in Population	Area in Square Miles	Population Density per Square Mile	Number of Household	Number of Housing Units	Percent of units that are Vacant	Percent of Occupied Units that are Owner Occupied	Median Value of Owner Occupied Units	Percent of Population That Have Moved Since Prior Year
Renovo	1,205.00	1,078.00	(10.54)	1.10	1,025.30	539.00	744.00	28.00	44.00	$41,200.00	21.60
Chapman township	849.00	940.00	10.72	100.10	9.40	408.00	762.00	46.00	94.00	$112,800.00	12.60
South Renovo	426.00	496.00	16.43	0.20	2,433.50	196.00	258.00	24.00	79.00	$45,700.00	9.70
Noyes Township	356.00	436.00	22.47	88.90	4.90	183.00	411.00	59.00	91.00	$80,700.00	2.60
Leidy Township	229.00	158.00	(31.00)	96.50	1.60	83.00	850.00	90.00	81.00	$101,100.00	5.20
Grugan Township	52.00	33.00	(36.54)	0.50	0.50	22.00	103.00	79.00	91.00	$77,500.00	N/A*
East Keating Township	24.00	3.00	(87.50)	50.70	0.10	2.00	159.00	99.00	100.00	N/A*	N/A*
Totals	3,141.00	3,144.00	0.10	338.00	496.47	1,433.00	3,287.00	60.71	82.86	$76,500.00	10.34

Citation: U.S. Census Bureau (2020). *American Community Survey 5-year estimates.* Retrieved from *Census Reporter Profile page for East Keating township, Clinton County, PA* http://censusreporter.org/profiles/06000US4203521328-east-keating-township-clinton-county-pa/

All zip codes, counties, and county equivalents in the United States are given an **Index Value** from 0 (low need) to 100 (high need). To help you find the areas of highest need in your community, the selected locations are **ranked** from 1 (low need) to 5 (high need) based on their Index Value.

BMC serves the communities of Renovo, South Renovo, Chapman Township, East Keating Township, Grugan Township, Leidy Township, and Noyes Township.

Service Area By Zip Code
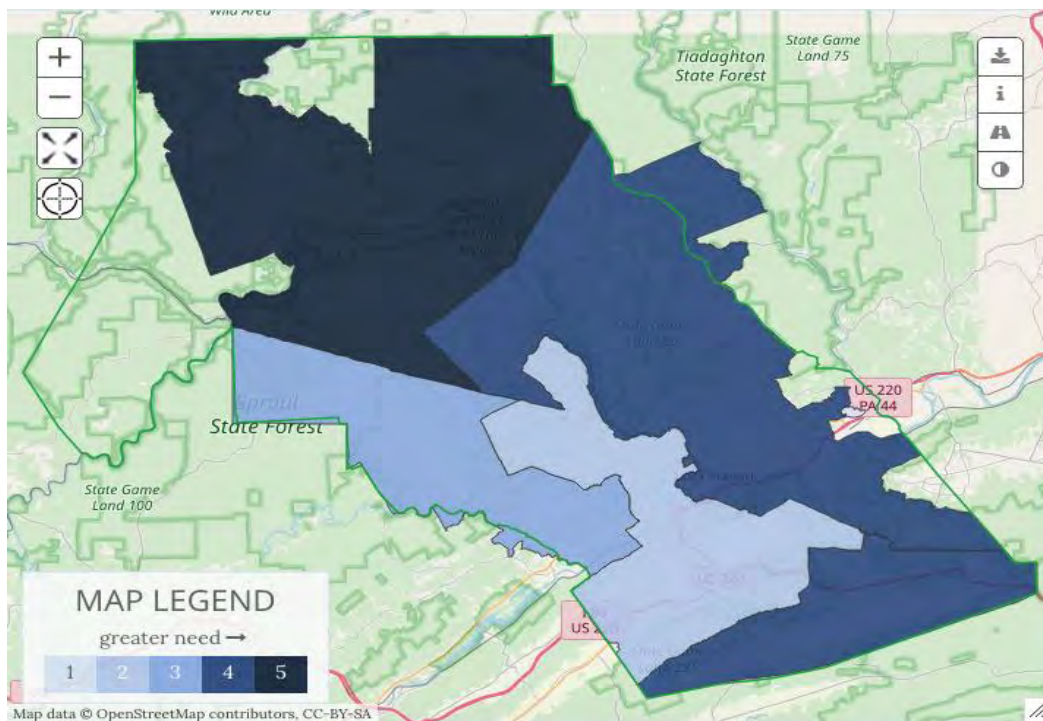
Zip Code	Index	Rank	County
17764	87.7	5	Clinton
17745	66.7	4	Clinton
17747	66.2	4	Clinton
16822	56.7	3	Clinton
17751	55.9	2	Clinton
17721	34.2	1	Clinton

Citation: U.S. Census Bureau (2020). *American Community Survey 5-year estimates.* Retrieved from *Census Reporter Profile page for East Keating township, Clinton County, PA* <http://censusreporter.org/profiles/06000US4203521328-east-keating-township-clinton-county-pa/>

Percentage Population by Age Group

	Percent Under 18	18 - 64	65 +	median age	Percent Female	Percent males
Renovo Borough	19	61	21	47.5	56	44
Chapman Township	20	54	26	43	45	55
South Renovo Borough	18	53	29	52.7	47	53
Noyes Township	23	52	25	57.3	42	58
Leidy Township	6	28	66	67.4	50	50
Grugan Township	0	39	61	67.2	33	67
East Keating Township	0	67	33	46.5	67	33

Citation: U.S. Census Bureau (2020). *American Community Survey 5-year estimates.* Retrieved from *Census Reporter Profile page for East Keating township, Clinton County, PA* <http://censusreporter.org/profiles/06000US4203521328-east-keating-township-clinton-county-pa/>

Percentage Population by Race

Municipality	Pwecent White	Percent Bla	Percent Hispanic	Percent Two + Races	Percent Asian
Renovo	92.00	1.00	4.00	3.00	0.00
Chapman township	94.00	0.00	0.00	5.00	1.00
South Renovo	96.00	0.00	2.00	1.00	0.00
Noyes Township	100.00	0.00	0.00	0.00	0.00
Leidy Township	98.00	0.00	0.00	2.00	0.00
Grugan Township	100.00	0.00	0.00	0.00	0.00
East Keating Township	100.00	0.00	0.00	0.00	0.00

Citation: U.S. Census Bureau (2020). *American Community Survey 5-year estimates.* Retrieved from *Census Reporter Profile page for East Keating township, Clinton County, PA* <http://censusreporter.org/profiles/06000US4203521328-east-keating-township-clinton-county-pa/>

Data

The CHNA includes both qualitative and quantitative (primary and secondary) components. The qualitative data includes focus group data from various community organizations and data collected and analyzed from observations. The quantitative data includes education and economic measures, morbidity and mortality rates, incidence rates, and other health statistics for Clinton County. BMC developed their assessment based on the qualitative and quantitative data to prioritize public health issues and develop a community health implementation plan focused on meeting community needs.

The secondary data is primarily derived from state and national public secondary data sources such as the U.S. Census Bureau, Center for Disease Control and Prevention (CDC), National Cancer Institute (NCI), the Centers for Medicare and Medicaid Services (CMS).

Once indicators were identified, they were grouped and examined by topic area. These topic areas were identified as community needs. When available, state and national comparison statistics are provided as benchmarks for the BMC service area.

It should be noted that in some cases, additional secondary data was obtained from the PHC4 Hospital Performance Report and the Medicare Hospital Profile. In these two areas, BMC had too few cases and were not included in the averages. Bucktail Medical Center also participates in patient satisfaction scores in the inpatient and outpatient areas of service, but the low response rates make the results unreliable. Local-level data, therefore, is limited.

Primary Data

Primary data has been collected from various community resources. Several community groups, including PRR (Preserve, Renew, Revitalize) and the CTA (Clinton Tradesman's Association) have been tapped for information and ideas on how BMC can better serve the needs of our communities. Several trends between the groups began to emerge, and those trends have been grouped into a few main categories.

Income

The BMC service area is comprised of more than 87.7% Medicare (MC) and Medicaid (MA) insureds, making it the second highest combined total in the state of Pennsylvania. Elderly and low-income residents often share some of the same struggles. Transportation is an insurmountable hurdle for both low-income families and those over 65. Low income families seldom have reliable transportation; people over 65 either do not have reliable transportation or are unable to safely make a trip of this magnitude independently. While the medical center does provide basic health services to the communities we serve, a patient requiring specialty services must travel between thirty (30) and more than one hundred (100) miles to receive specialty services.

Income By Municipality

Municipality	Per Capita Income	Median Household Income	% of Persons Below Poverty Line
Renovo	17406	24213	32
Chapman township	$28,683.00	$51,029.00	6.50
South Renovo	24584	44000	17.3
Noyes Township	$21,539.00	$35,469.00	19.70
Leidy Township	27803	46250	7.6
Grugan Township	$42,121.00	$62,813.00	12.10
East Keating Township	45300	N/A*	33.3
Average	29633.71429	43962.33333	18.35714286

Citation: U.S. Census Bureau (2020). *American Community Survey 5-year estimates.* Retrieved from *Census Reporter Profile page for East Keating township, Clinton County, PA* <http://censusreporter.org/profiles/06000US4203521328-east-keating-township-clinton-county-pa/>

Pre-Hospital Services

Providing emergency response in western Clinton County is challenging. There are only two (2) Advanced Life Support (ALS) ambulance providers in Clinton County, and both are more than 30 miles away. There are three Basic Life Support (BLS) ambulance services in western Clinton County; one in Renovo, one in South Renovo, and one on Cross Fork. In September, the ambulance service in Renovo announced it would discontinue ambulance services early in 2023. As this service has been the primary provider of ambulance services in this part of the county, this could be a critical problem for the community. Without that primary provider, many ambulance calls, including all Advanced Life Support (ALS) emergencies – an emergency requiring a paramedic - will activate a unit from nearly thirty (30) miles away being dispatched for the call. If that ALS service is available, it will be at least thirty (30) minutes until an ambulance or paramedic is on scene; local Emergency Medical Technicians (EMT)'s – first responders with basic medical training – may be available to respond to the call, but will not have an ambulance or medical equipment. The most they can provide in these circumstances is to administer whatever basic care can be provided without equipment and to wait with the patient until an ambulance arrives. If the ALS provider is already out on another call and does not have a second (or third) crew to respond, the wait time for a paramedic to respond can be well over an hour.

Pre-Hospital Services Implementation Strategies

Prior to COVID-19, BMC hosted routine ambulance service meetings for all three (3) BLS ambulance services located in western Clinton County. Our medical director is currently the medical director for all of these three services. BMC has also gained certification to provide CEU's for local EMT's, allowing for interactive, in-person training for pre-hospital service providers. These meetings were largely suspended during the pandemic though several meetings were held to plan for pandemic responses. The availability of Personal Protective Equipment (PPE) to first responders was a challenge at times so many hospitals, including BMC, provided them with what we could.

In November and December of 2021 and January of 2022, BMC hosted four meetings with all of the local ambulance services, fire departments, both county ALS providers, Clinton County Department of Emergency Services, and Seven Mountains, the EMS Council serving our area. The focus of the meets was to find ways to better use the limited EMT's currently in our communities. Several ideas were investigated, including sharing personnel between services and forming a regional EMS service. Ultimately, the involved services were not able to agree on a solution. Since the announcement to discontinue ambulance services there have been a few community meetings, looking again to find a solution. We have involved borough council members and township supervisors to also be involved in suggesting plans they are able to support.

Diagnostic Capabilities

BMC has limited diagnostic capabilities, most noticeably in imaging. For medical imaging, the only equipment currently in place is an X-Ray machine that is nearly converted to DR technology. The standard of imaging care both in emergency medicine and treatment of many chronic illnesses is through Computed Tomography (CT). Without this technology, many patients are transferred to a hospital with a CT Scanner; again, this is a trip of at least thirty miles.

Diagnostic Capabilities Implementation Strategies

When we receive a critically ill or injured patient, transport to a higher level of care, with a paramedic, is necessary because we can not currently perform CT studies. Over the past few years, BMC has been working to bring CT imaging to the facility: we have faced a few challenges along the way. We originally selected an area at the end of our acute hall. Challenges to this plan included patient confidentiality, infection control, and HVAC requirements in the CT space. The pandemic slowed the process. As part of the planning to move forward after the pandemic, a long term facility plan has been created. This plan includes a new space for a CT scanner that will be located adjacent to the current X-Ray area. This placement eliminates all of the concerns present in the previous plan by keeping the scanner near the ER, for confidentiality and infection control purposes, and in a newly constructed space that will negate the HVAC concerns.

BMC has significantly increased the use Point Of Care (POC) testing in our ER. This technology allows practitioners to generate medical laboratory grade results at the bedside. While POC testing has improved availability of medical tests even when the lab is closed, we are still limited in the types of tests we provide. Some STAT tests must be taken to our reference laboratory. In the long term facility plan, we address this first by increasing the space for medical laboratory services and second by increasing the testing menu. While much of the increased testing potential will require more space, we have started expanding the testing menu with two new analyzers. A new hematology analyzer, that is in place, which performs a sixth differential for white blood cells that will identify immature cells, allowing for more accurate diagnosis. Implementation of a BIO-Fire analyzer which will expand the respiratory and gastrointestinal testing we can perform onsite; this machine should be online in early 2023.

Telemedicine

As a small frontier hospital, BMC must be prepared for any medical emergency. Our ER is staffed with one Physician (MD or DO), one Registered Nurse (RN), and one Licensed Practical Nurse (LPN). We do not have a dedicated cardiology team, or stroke team, or respiratory team

While the communities in western Clinton County are smaller than many, BMC still sees the same medical needs; we see cuts and bruises, fractures, cardiac arrest, stroke, pregnancy, cancer, and infections. But we do not see enough of any diagnosis to support specialists in those fields. In the ER,

that means the physicians and nurses must be prepared to diagnose and treat anyone that comes through the door, without assistance from a specialist. For our outpatients, this often means traveling for specialty care.

Telemedicine Implementation Strategies

BMC currently has a tele-burn program in place with Lehigh Valley Hospital. We have implemented psychiatry in our Skilled Nursing Facility. Based on referrals from our community clinic, the five most specialties, in addition to psychiatry are, in order, orthopedics, cardiology, podiatry, gastroenterology, and neurology. We have engaged with Geisinger Medical Center to begin implementation of telehealth services for these specialties. Through a grant, Geisinger has provided BMC with three (3) tablet PC's that we have connected through Geisinger for telehealth services. These PC's include specialized hardware for blood pressure readings, eye, ear, and nose examinations, pulse oximetry, and more.

Community education on health and wellness are not available in the local community, so many patients do not have an opportunity to hear the latest in treatment options nor do they have the ability to learn from other members of the community. Often they do not have an open line of communication with their care provider either. This leaves many patients trying to find reliable answers on their own. Bringing specialty services through tele-medicine can help educate patients while providing local treatment options.

Secondary Data

Clinton County's health indicators show major health disparities involving obesity, cardiovascular disease, osteoporosis, arthritis, Lyme disease, depression, tobacco use, and cancer. These indicators can be grouped in the following priority areas: Cancer, physical activity and nutrition, chronic and infectious disease, mental and behavioral health, and cancer.

Each of the obesity rates in Clinton County are over 20%; almost 1 in 4 people in Clinton County are considered obese. Obesity rates are typically higher in rural areas, but Clinton County's rates are among the highest of the 10 Pennsylvanian counties included in PORH's subscription to HCI.

Pennsylvania Cancer Incidence: Frequency Counts

Primary Site or Type	County	Municipality	Year	Sex	Invasive Count
All Cancers	Clinton	Chapman Twp	2019	Total	7
Brain and Other Nervous System	Clinton	Chapman Twp	2019	Total	0
Breast	Clinton	Chapman Twp	2019	Total	0
Colon and Rectum	Clinton	Chapman Twp	2019	Total	2
Esophagus	Clinton	Chapman Twp	2019	Total	0

Hodgkin Lymphoma	Clinton	Chapman Twp	2019	Total	0
Kidney and Renal Pelvis	Clinton	Chapman Twp	2019	Total	1
Larynx	Clinton	Chapman Twp	2019	Total	0
Leukemia	Clinton	Chapman Twp	2019	Total	0
Liver and Intrahepatic Bile Duct	Clinton	Chapman Twp	2019	Total	1
Lung and Bronchus	Clinton	Chapman Twp	2019	Total	0
Melanoma of the Skin	Clinton	Chapman Twp	2019	Total	0
Myeloma	Clinton	Chapman Twp	2019	Total	0
Non-Hodgkin Lymphoma	Clinton	Chapman Twp	2019	Total	0
Oral Cavity and Pharynx	Clinton	Chapman Twp	2019	Total	1
Pancreas	Clinton	Chapman Twp	2019	Total	0
Stomach	Clinton	Chapman Twp	2019	Total	0
Thyroid	Clinton	Chapman Twp	2019	Total	1
Urinary Bladder	Clinton	Chapman Twp	2019	Total	1
All Cancers	Clinton	East Keating Twp	2019	Total	0
Brain and Other Nervous System	Clinton	East Keating Twp	2019	Total	0
Breast	Clinton	East Keating Twp	2019	Total	0
Colon and Rectum	Clinton	East Keating Twp	2019	Total	0
Esophagus	Clinton	East Keating Twp	2019	Total	0
Hodgkin Lymphoma	Clinton	East Keating Twp	2019	Total	0
Kidney and Renal Pelvis	Clinton	East Keating Twp	2019	Total	0
Larynx	Clinton	East Keating Twp	2019	Total	0
Leukemia	Clinton	East Keating Twp	2019	Total	0
Liver and Intrahepatic Bile Duct	Clinton	East Keating Twp	2019	Total	0
Lung and Bronchus	Clinton	East Keating Twp	2019	Total	0
Melanoma of the Skin	Clinton	East Keating Twp	2019	Total	0
Myeloma	Clinton	East Keating Twp	2019	Total	0
Non-Hodgkin Lymphoma	Clinton	East Keating Twp	2019	Total	0
Oral Cavity and Pharynx	Clinton	East Keating Twp	2019	Total	0

Pancreas	Clinton	East Keating Twp	2019	Total	0
Stomach	Clinton	East Keating Twp	2019	Total	0
Thyroid	Clinton	East Keating Twp	2019	Total	0
Urinary Bladder	Clinton	East Keating Twp	2019	Total	0
All Cancers	Clinton	Grugan Twp	2019	Total	1
Brain and Other Nervous System	Clinton	Grugan Twp	2019	Total	0
Breast	Clinton	Grugan Twp	2019	Total	0
Colon and Rectum	Clinton	Grugan Twp	2019	Total	0
Esophagus	Clinton	Grugan Twp	2019	Total	0
Hodgkin Lymphoma	Clinton	Grugan Twp	2019	Total	0
Kidney and Renal Pelvis	Clinton	Grugan Twp	2019	Total	0
Larynx	Clinton	Grugan Twp	2019	Total	0
Leukemia	Clinton	Grugan Twp	2019	Total	0
Liver and Intrahepatic Bile Duct	Clinton	Grugan Twp	2019	Total	0
Lung and Bronchus	Clinton	Grugan Twp	2019	Total	0
Melanoma of the Skin	Clinton	Grugan Twp	2019	Total	0
Myeloma	Clinton	Grugan Twp	2019	Total	0
Non-Hodgkin Lymphoma	Clinton	Grugan Twp	2019	Total	0
Oral Cavity and Pharynx	Clinton	Grugan Twp	2019	Total	0
Pancreas	Clinton	Grugan Twp	2019	Total	0
Stomach	Clinton	Grugan Twp	2019	Total	0
Thyroid	Clinton	Grugan Twp	2019	Total	0
Urinary Bladder	Clinton	Grugan Twp	2019	Total	1
All Cancers	Clinton	Leidy Twp	2019	Total	1
Brain and Other Nervous System	Clinton	Leidy Twp	2019	Total	0
Breast	Clinton	Leidy Twp	2019	Total	0
Colon and Rectum	Clinton	Leidy Twp	2019	Total	0
Esophagus	Clinton	Leidy Twp	2019	Total	0
Hodgkin Lymphoma	Clinton	Leidy Twp	2019	Total	0

Kidney and Renal Pelvis	Clinton	Leidy Twp	2019	Total	0
Larynx	Clinton	Leidy Twp	2019	Total	0
Leukemia	Clinton	Leidy Twp	2019	Total	0
Liver and Intrahepatic Bile Duct	Clinton	Leidy Twp	2019	Total	0
Lung and Bronchus	Clinton	Leidy Twp	2019	Total	0
Melanoma of the Skin	Clinton	Leidy Twp	2019	Total	0
Myeloma	Clinton	Leidy Twp	2019	Total	0
Non-Hodgkin Lymphoma	Clinton	Leidy Twp	2019	Total	0
Oral Cavity and Pharynx	Clinton	Leidy Twp	2019	Total	0
Pancreas	Clinton	Leidy Twp	2019	Total	0
Stomach	Clinton	Leidy Twp	2019	Total	0
Thyroid	Clinton	Leidy Twp	2019	Total	0
Urinary Bladder	Clinton	Leidy Twp	2019	Total	1
All Cancers	Clinton	Noyes Twp	2019	Total	4
Brain and Other Nervous System	Clinton	Noyes Twp	2019	Total	0
Breast	Clinton	Noyes Twp	2019	Total	0
Colon and Rectum	Clinton	Noyes Twp	2019	Total	0
Esophagus	Clinton	Noyes Twp	2019	Total	0
Hodgkin Lymphoma	Clinton	Noyes Twp	2019	Total	0
Kidney and Renal Pelvis	Clinton	Noyes Twp	2019	Total	1
Larynx	Clinton	Noyes Twp	2019	Total	0
Leukemia	Clinton	Noyes Twp	2019	Total	0
Liver and Intrahepatic Bile Duct	Clinton	Noyes Twp	2019	Total	0
Lung and Bronchus	Clinton	Noyes Twp	2019	Total	0
Melanoma of the Skin	Clinton	Noyes Twp	2019	Total	1
Myeloma	Clinton	Noyes Twp	2019	Total	0
Non-Hodgkin Lymphoma	Clinton	Noyes Twp	2019	Total	0
Oral Cavity and Pharynx	Clinton	Noyes Twp	2019	Total	0
Pancreas	Clinton	Noyes Twp	2019	Total	0

Stomach	Clinton	Noyes Twp	2019	Total	0
Thyroid	Clinton	Noyes Twp	2019	Total	0
Urinary Bladder	Clinton	Noyes Twp	2019	Total	1
All Cancers	Clinton	Renovo Boro	2019	Total	7
Brain and Other Nervous System	Clinton	Renovo Boro	2019	Total	0
Breast	Clinton	Renovo Boro	2019	Total	1
Colon and Rectum	Clinton	Renovo Boro	2019	Total	0
Esophagus	Clinton	Renovo Boro	2019	Total	0
Hodgkin Lymphoma	Clinton	Renovo Boro	2019	Total	0
Kidney and Renal Pelvis	Clinton	Renovo Boro	2019	Total	0
Larynx	Clinton	Renovo Boro	2019	Total	0
Leukemia	Clinton	Renovo Boro	2019	Total	0
Liver and Intrahepatic Bile Duct	Clinton	Renovo Boro	2019	Total	1
Lung and Bronchus	Clinton	Renovo Boro	2019	Total	1
Melanoma of the Skin	Clinton	Renovo Boro	2019	Total	0
Myeloma	Clinton	Renovo Boro	2019	Total	0
Non-Hodgkin Lymphoma	Clinton	Renovo Boro	2019	Total	0
Oral Cavity and Pharynx	Clinton	Renovo Boro	2019	Total	0
Pancreas	Clinton	Renovo Boro	2019	Total	2
Stomach	Clinton	Renovo Boro	2019	Total	0
Thyroid	Clinton	Renovo Boro	2019	Total	0
Urinary Bladder	Clinton	Renovo Boro	2019	Total	1
All Cancers	Clinton	South Renovo Boro	2019	Total	3
Brain and Other Nervous System	Clinton	South Renovo Boro	2019	Total	0
Breast	Clinton	South Renovo Boro	2019	Total	0
Colon and Rectum	Clinton	South Renovo Boro	2019	Total	0
Esophagus	Clinton	South Renovo Boro	2019	Total	0
Hodgkin Lymphoma	Clinton	South Renovo Boro	2019	Total	0
Kidney and Renal Pelvis	Clinton	South Renovo Boro	2019	Total	0

Larynx	Clinton	South Renovo Boro	2019	Total	0
Leukemia	Clinton	South Renovo Boro	2019	Total	0
Liver and Intrahepatic Bile Duct	Clinton	South Renovo Boro	2019	Total	0
Lung and Bronchus	Clinton	South Renovo Boro	2019	Total	1
Melanoma of the Skin	Clinton	South Renovo Boro	2019	Total	0
Myeloma	Clinton	South Renovo Boro	2019	Total	0
Non-Hodgkin Lymphoma	Clinton	South Renovo Boro	2019	Total	0
Oral Cavity and Pharynx	Clinton	South Renovo Boro	2019	Total	0
Pancreas	Clinton	South Renovo Boro	2019	Total	0
Stomach	Clinton	South Renovo Boro	2019	Total	0
Thyroid	Clinton	South Renovo Boro	2019	Total	1
Urinary Bladder	Clinton	South Renovo Boro	2019	Total	0
All Cancers	Clinton	West Keating Twp	2019	Total	0
Brain and Other Nervous System	Clinton	West Keating Twp	2019	Total	0
Breast	Clinton	West Keating Twp	2019	Total	0
Colon and Rectum	Clinton	West Keating Twp	2019	Total	0
Esophagus	Clinton	West Keating Twp	2019	Total	0
Hodgkin Lymphoma	Clinton	West Keating Twp	2019	Total	0
Kidney and Renal Pelvis	Clinton	West Keating Twp	2019	Total	0
Larynx	Clinton	West Keating Twp	2019	Total	0
Leukemia	Clinton	West Keating Twp	2019	Total	0
Liver and Intrahepatic Bile Duct	Clinton	West Keating Twp	2019	Total	0
Lung and Bronchus	Clinton	West Keating Twp	2019	Total	0
Melanoma of the Skin	Clinton	West Keating Twp	2019	Total	0
Myeloma	Clinton	West Keating Twp	2019	Total	0
Non-Hodgkin Lymphoma	Clinton	West Keating Twp	2019	Total	0
Oral Cavity and Pharynx	Clinton	West Keating Twp	2019	Total	0
Pancreas	Clinton	West Keating Twp	2019	Total	0
Stomach	Clinton	West Keating Twp	2019	Total	0

Thyroid	Clinton	West Keating Twp	2019	Total	0
Urinary Bladder	Clinton	West Keating Twp	2019	Total	0

Physical Activity and Nutrition

Physical health, including injuries and physical illness, can be a good measure of recent health. Frequent physical distress emphasizes those who are experiencing more severe physical health issues. Smoking, obesity, diabetes, and lack of routine healthcare can all contribute to overall physical health.
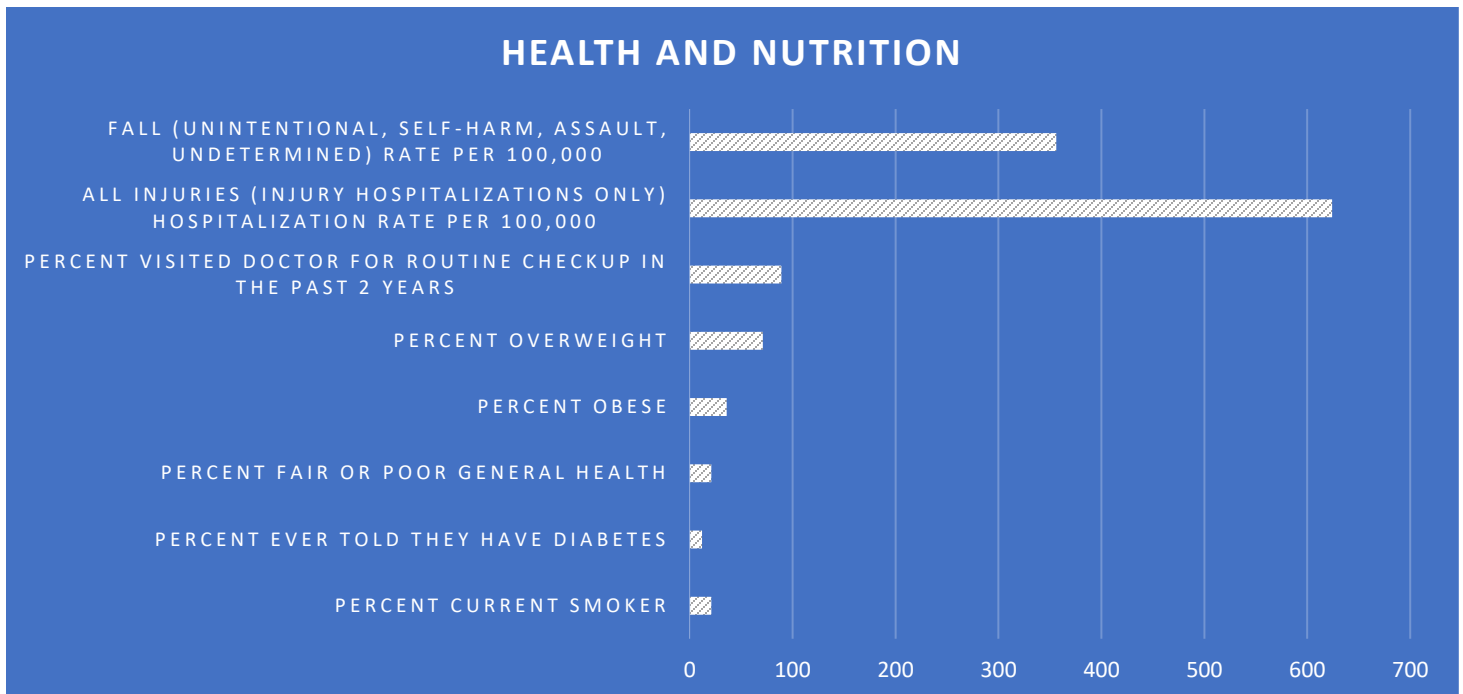
Other common factors that influence overall health include access to exercise opportunities, the overall food environment in a community, and excessive alcohol use and alcohol impaired driving deaths. Less evident factors that affect overall health can include food insecurity, limited access to healthy foods, insufficient sleep, and drug overdose deaths. Clinton county exceeds state and national averages for adults who smoke, adults who are obese, physical inactivity and access to exercise opportunities, – despite abundant prospects for outdoor activities – food insecurity, motor vehicle crash deaths, and insufficient sleep. Clinton County fares better than the averages with alcohol-impaired driving deaths, sexually transmitted diseases, teen births, access to healthy foods, and drug overdose deaths.

Health Factors			
Health Behaviors	Clinton (CN) County	Pennsylvania	United States
Adult Smoking	23%	18%	16%
Adult Obesity	34%	33%	32%
Food Environment Index	7.9	8.4	7.8

		Clinton (CN) County	Pennsylvania	United States
Physical Inactivity		29%	25%	26%
Access to Exercise Opportunities		50%	78%	80%
Excessive Drinking		20%	20%	20%
Alcohol-Impaired Driving Deaths	~	24%	25%	27%
Sexually Transmitted Infections	~	256.3	481.9	551.0
Teen Births		14	15	19
Additional Health Behaviors (not included in overall ranking)	Clinton (CN) County	Pennsylvania	United States
---	---	---	---
Food Insecurity	13%	11%	11%
Limited Access to Healthy Foods	3%	5%	6%
Drug Overdose Deaths	11	36	23
Motor Vehicle Crash Deaths	13	9	12
Insufficient Sleep	41%	39%	35%

The accessibility, availability and affordability of healthy and varied food options in the community increase the likelihood that residents will have a balanced and nutritious diet, therefore reducing the risk of chronic disease; however, about 4% of the population in Clinton County lack a mode of transportation to get to the grocery store. This 4% is likely to consume foods that are readily available at convenience stores and fast food outlets.

Physical Activity and Nutrition Implementation Strategies

Education is likely the single most important factor in addressing the benefits of an active lifestyle and good nutrition. BMC started providing free education to the local communities just before the pandemic; as COVID evolves from a pandemic to an endemic, it will be safer to conduct educational sessions targeted at the major health concerns identified above. BMC will continue an education program where staff and students completing a rotation at the medical center will present health education to the community as part of the programming. Telemedicine can also play a role in addressing orthopedics, cardiology, podiatry, gastroenterology, and neurology.

Chronic and Infectious Disease

Data on several chronic and infectious diseases show that the two main concerns faced by Clinton County include Lyme Disease and Campylobacter, a the most common bacterial cause of diarrheal illness in the United States.

Pennsylvania Communicable Diseases (Other than STDs): Crude/Age-Specific Rates per 100,000   **Created: 12/01/2022**

Communicable Disease	County/State	Year	Sex	Race/Ethnicity	Age	Count	Population	Crude/Age- Specific Rate	Lower Bound	Upper Bound	Significance	FIPS Code
Campylobacter	Clinton	2019	Total	All Races	All Ages	27	38,632	69.9	43.5	96.3	+	035
Chickenpox	Clinton	2019	Total	All Races	All Ages	0	38,632	ND	ND	ND		035
Cryptosporidiosis	Clinton	2019	Total	All Races	All Ages	ND	38,632	ND	ND	ND		035
Giardiasis	Clinton	2019	Total	All Races	All Ages	ND	38,632	ND	ND	ND		035
Haemophilus Influenzae	Clinton	2019	Total	All Races	All Ages	0	38,632	ND	ND	ND		035
Hepatitis A	Clinton	2019	Total	All Races	All Ages	0	38,632	ND	ND	ND		035
Hepatitis B Acute	Clinton	2019	Total	All Races	All Ages	0	38,632	ND	ND	ND		035
Hepatitis B Chronic	Clinton	2019	Total	All Races	All Ages	0	38,632	ND	ND	ND		035
Lyme Disease	Clinton	2019	Total	All Races	All Ages	43	38,632	111.3	78.0	144.6	+	035
Neisseria meningitidis	Clinton	2019	Total	All Races	All Ages	0	38,632	ND	ND	ND		035
Pertussis	Clinton	2019	Total	All Races	All Ages	ND	38,632	ND	ND	ND		035
Salmonellosis	Clinton	2019	Total	All Races	All Ages	6	38,632	ND	ND	ND		035
Shiga toxin-producing E. coli	Clinton	2019	Total	All Races	All Ages	ND	38,632	ND	ND	ND		035
Shigellosis	Clinton	2019	Total	All Races	All Ages	ND	38,632	ND	ND	ND		035
Tuberculosis	Clinton	2019	Total	All Races	All Ages	0	38,632	ND	ND	ND		035

ND (Count) = Not displayed when count is between 1 and 4 to avoid the potential identification of individual cases within certain geographic areas.

ND (Rate, Lower Bound and Upper Bound) = Not displayed when count < 10. Rates based on small numbers are considered unreliable for analysis.

WARNING: Race and Hispanic data on sexually transmitted diseases (STD's) and other communicable diseases may contain large percentages for unknown and other categories. To view the number and percentage of race and Hispanic data for the unknown and other categories Click Here

COVID-19 Statistics and Lessons Learned

Shortly after the last Community Health Needs Assessment was completed for Bucktail Medical Center, the world experienced a pandemic, COVID-19, that in many ways changed healthcare in the United States and across the globe. While Clinton County often found itself experiencing COVID-19 on a delay, we still experienced the same challenges and struggles as the rest of the world. On March 13, 2020 BMC locked its doors to visitors and other non-essential personnel. Because BMC is both a hospital and a Skilled Nursing Facility (SNF), we frequently experienced mandates and guidelines that were at odds with each other. As an acute care hospital, BMC received guidance designed for general hospitals. But as a SNF, we also received guidance designed for long term care facilities. While many facilities offer both levels of care, few offer both levels of care without any physical separation between the two units. As a result, BMC often followed the most restrictive guidance of the two in an effort to keep our residents, patients, and staff as safe as possible.

Clinton County COVID Infections and Deaths

To date, Clinton County, PA has seen 10,826 cases of COVID which resulted in 139 deaths.

Location	Total cases	New cases (1d*)	New cases (last 60d)	Cases per 1M people	Deaths
Worldwide	657,564,715	513,468		84,565	6,679,784

Location	Total cases	New cases (1d*)	New cases (last 60d)	Cases per 1M people	Deaths
United States	100,135,580	9,232		303,850	1,097,570
Pennsylvania	3,403,953	776		262,569	48,881
Clinton County	**10,826**	**0**		**288,963**	**139**

COVID Vaccination Rates

Location	Total doses given	New doses given (1d*)	New doses given (60d)	People fully vaccinated	% of pop. fully vaccinated
Worldwide	13,107,923,743	390,295		5,035,869,903	64.8%
United States	662,148,570	*No data*		228,989,746	69.5%
Pennsylvania	26,864,880	*No data*		9,330,251	72%
Clinton County	*No data*	*No data*		*No data*	*No data*

Clinton County was 12th out of 67counties for vaccination rates

COUNTY POPULATION	WEEKLY NEW CASES PER 100K	WEEKLY COVID ADMISSIONS PER 100K	PATIENTS W/ COVID (% OF ALL BEDS)	INFECTION RATE	VACCINATED (1+ DOSE
1 Philadelphia Co.	86.7	12.9	4.5%	1.01	---

OUNTY POPULATION	WEEKLY NEW CASES PER 100K	WEEKLY COVID ADMISSIONS PER 100K	PATIENTS W/ COVID (% OF ALL BEDS)	INFECTION RATE	VACCINATED (1+ DOSE
1,600,000					
2 Allegheny Co.	97.2	7.5	3.8%	1.17	85%
1,200,000					
3 Montgomery Co.	105.4	12.9	4.5%	1.15	92%
830,000					
4 Bucks Co.	114.4	12.9	4.5%	0.90	86%
630,000					
5 Delaware Co.	104.1	12.9	4.5%	0.91	89%
570,000					
56 Clinton Co.	111.3	5.9	3.7%	0.75	53%
39,000					

On April 10, 2021, the Lock Haven Express ran an article about the vaccination rate in Clinton County, pa. The article started with: LOCK HAVEN — As Pennsylvania rolls out a multitude of vaccines in an effort to diminish the never ending tirade that the virus has had on the U.S., Clinton County is ranked as one of the lowest counties in total vaccinated in the state.

So far, Clinton County is sitting at 14.92% of its population totally vaccinated.

In spite of BMC's efforts to provide testing and vaccines to the community, much of western Clinton County saw little acceptance of COVID-19 vaccines.

BMC began testing staff for COVID-19 early in the pandemic. In May 2020, we were testing staff and residents with PCR tests on a routine basis based on comminty transmission levels. By July 2020, we had established a solid testing baseline and transitioned to antigen testing for survailence and pcr testing for confirmation. BMC maintained staff and resident testing into November of 2022. While screening is a common sense approach to monitoring for COVID-19 and other contageous diseases, all of out staff and resident positives were identified through routine testing.

First responders, especially EMS personnel, and essential school and local government employees had difficulty finding testing options: BMC opened our testing facilities to any first responders, school employees, and local government personnel who had potential exposure to COVID-19. We took this step as an attempt to keep essential services safe and available throughout the county.

Many hospitals had a different experience with COVID-19 from ours. Aside from being connected to a SNF with no physical separation, BMC is the most remote hospital in the state. Often times we were unable to transfer critical patients – COVID-19 as well as other critical patients – to a higher level of care because there were no beds available. With no other options, we provided the best care possible within our means.

Our residents and staff remained COVID-19 free until December 29, 2020.

COVID-19 Outbreak

On March 13, 2020, I locked down our facility from all visitors and non-essential personnel: Covid-19 was running rampant through U.S. nursing homes. We contacted family members, Power of Attorney's, and other frequent visitors to inform them that the building was closed and no one could visit. We contacted volunteers to inform them that their services, like social visits and assisting with activities, were not essential and that they too were restricted from entering the facility. No one knew what to expect. No one knew how long it would last. No one knew how many facilities would be affected. No one knew how many residents and caregivers would die. We allowed "window visits" and dedicated a cell phone for video calls so residents and their families could communicate. In September, for a short time, we allowed in-person visits; no physical contact (hugs, kisses, or holding hands), social distancing was required, and masks were required as was hand washing before and after the visit.

Deliveries are made to the outside of the building; facility staff wipe everything clean then bring it inside. Mail and other items brought in for residents is quarantined for 24 hours before being delivered. All traffic in and out of the building is limited to one entrance for the clinical end of the building and one entrance for the administrative end of the building. We started taking temperatures and asking screening questions of our staff every day. Do you have symptoms like a fever, shortness of breath, cough, or congestion? As the virus spread through the nation, we added more questions: are you Covid positive or have you been around anyone Covid positive? Do you wear a mask when you are outside your home? Have you been in an area or facility with high Covid-19 infection rates? Have you recently lost your senses of taste and smell?

Planning Begins

Early on, I gathered a clinical team and we started planning our response, should the virus infect our community and our facility. We developed plans for treating possible and known Covid-19 patients in our Emergency Room (ER), providing acute care in our hospital, and caring for residents in our SNF. Our response plan changed frequently, sometimes twice daily, as we learned more about the virus and as new updated guidance was received from the Pennsylvania Department of Health (PA DOH), the Centers for Medicare and Medicaid Services (CMS), and the Centers for Disease Control (CDC).

We identified GREEN, YELLOW, and RED zones. Initially separated by temporary barriers, then ultimately, each zone was in a different hall of the facility and separated by fire or smoke doors. BMC is a unique facility because we have both a SNF and a CAH, separately licensed, in the same building, with no physical separation. Each facility has a set of regulations which often contradict the other. We struggled to find solutions that met the guidance for both the SNF and the CAH. We also looked at 1135 waivers for direction.

PPE Shortages

It is essential to keep our employees safe during this pandemic, so the hunt was on for Personal Protective Equipment (PPE). Some of our regular vendors limited orders to our average monthly order over the past year; our need this year was much greater. Some vendors were only shipping to existing customers. Others were happy to take new customers with prices up to five times the usual cost. The Federal Emergency Management Agency (FEMA) and the Pennsylvania Emergency Management Agency (PEMA) both have sent PPE supplies; through the Regional Response Health Collaborative Program (RRHCP), the PA DOH was also able to provide supplies. In accordance with CDC guidance, we have reused equipment intended for single use. We sanitize and inspect each item before it is reused. Face masks are returned to the same employee after being cleaned. We need to conserve our supplies. We don't know how long this will last or if BMC will experience an outbreak.

Testing

We started testing in May. We started with PCR tests, which detects the presence of the virus's genetic material; we collect the specimen and send this test out to another medical laboratory. Time to get the results varied from 30 hours to 14 days. By July we were doing antigen tests in our own lab. Antigen tests detect specific proteins on the surface of the coronavirus: We can have results in as little as 15 minutes. We tested residents and staff monthly, then when positivity rates began increasing locally, we tested every two weeks, then weekly, then twice a week, then daily for negative residents and staff. We ordered as many test kits as we could find. Soon we had a supply sufficient to test everyone weekly for a few months.

We soon realized the struggle first responders had getting tests after a potential exposure, so we offered tests to local first responders. Word got out and soon we were offering rapid antigen testing to first responders throughout the county. Test kit availability started to slow, so I had to limit antigen tests for a short time. However, with the help of the county emergency management services, we were able to acquire many more antigen tests; enough that we are able to test first responders throughout the county with a supply separate from that for the facility.

To reduce the risk of having Covid positive patients inside the facility, we set up Covid testing in our Special Services Building (SSB), a garage adjacent to the medical center. People who need Covid-19 testing call our Community Clinic and are screened. Those who meet the criteria (credible exposure risk, at least 72 hours since exposure, etc.) are given an appointment time for the test. They drive up to the SSB and are tested without leaving the vehicle. Those tested with the antigen test generally have their result in a few hours. For confirmation and a few other circumstances, we continued sending out PCR tests, which were collected the same way.

Staff Meetings

Employees started asking questions about the virus, or they were "reporting" misinformation they gleaned from social media. I've taken and frequently use a quote from a nurse here: "Facebook is for entertainment, not education". I decided to meet with staff Monday through Friday during both the

morning and afternoon shifts. The meetings were implemented to provide accurate national and local information, to separate the clinical information from political banter, and to provide employees an opportunity to ask questions. We talked about masking, social distancing, and hand washing nearly every day. We talked about how to keep your family safe by developing a plan to change and launder clothing and taking a shower as soon as you get home from work or school. We demonstrated the proper way to don and doff PPE. We talked about social gatherings and how to recognize unsafe situations. We talked about why this virus was so concerning and we talked about the science behind the vaccine. These meetings continue today. As we saw more activity, we recorded the afternoon meeting each day and posted it to our web site.

Masking

When cloth masks were recommended for safety, members from the community began manufacturing them. Every pattern, color, and design you can imagine: They donated them to the medical center by the dozens. Employees were required to wear them at work and encouraged to use them outside of work. Residents were also provided with cloth masks to use when out of their rooms. We talked about how even a cloth, non-medical mask can provide protection. When paired with frequent hand washing and social distancing, you can achieve a reasonable level of safety. The caveat is understanding how masking protects you.   My mask stops droplets, which is believed to be the primary source of transmission, from getting to you; it is much less effective at filtering the air you breathe. The analogy I use, though probably uncouth, is this: If we are all go around without clothes (no masks) and I pee on you, you get wet (infected). If you put on pants (you wear a mask) and I pee on you, you still get wet (infected). If I put on pants (I wear a mask) and I pee on you, you don't get wet (infected)!

As we started seeing positive tests in our county, we moved to providing staff with N95 respirator masks and residents kept cloth masks. Large group activities had been replaced with small groups of five or fewer residents shortly after the lock down. The groups remained consistent to lessen potential spread. Each group met at the same time every day. Instead of the five to seven activities normally available every day, each group met only once per day.

Covid-19 Hits Home

As the most remote hospital in Pennsylvania, it took a while for the virus to get here. While other parts of the state, the nation, and the world responded to a previously unknown strain of SARS CoV-2, we had no positive cases in the facility or in the local community. Our remote communities are popular with outdoor enthusiasts: Hunting, fishing, camping, hiking, horse riding, and off-road sports are all popular here. We watched as local cabins and camps filled to capacity and beyond with people fleeing Covid-19 hot spots across the nation, trying to reduce their risk of exposure. It was difficult to find an empty camp site throughout the season. We were certain this influx of people would result in positive cases in town. Somehow, so far, we seemed to be spared.

We had an advantage that few other facilities had: We were able to see how other facilities across the nation responded. We saw what worked and what didn't work. It was clear early on in the pandemic that frequent testing was necessary to understand the spread and to keep our residents safe. We continued testing residents and employees.

We watched the numbers every day: No positives. Not in March, April, or May. Not in September or October. Not until after Christmas; December 29, 2020. In spite of testing everyone twice a week, we had thirteen residents and three staff test positive for Covid-19. One of the three employees had symptoms, which prompted us to do the testing one day earlier than planned. No one else showed any

symptoms for a few more days. In a matter of hours, we went from zero to sixteen. The plan we developed was implemented, with a few revisions. We hadn't planned on that many positives at one time, so we made the adjustments necessary to create GREEN, YELLOW, and RED zones sufficient for the numbers we had. Residents were quickly moved into the proper zones. Many residents ended up in different rooms and with someone else's belongings. All residents were confined to their rooms. Hallway doors that are normally open are now closed. Moving into and out of any zone seemed more akin to a prison than a nursing home; doors closing and latching behind you. Staff in RED zone were wearing full PPE; many residents couldn't recognize them because they couldn't see their faces, especially those who were confused and in a room with nothing familiar. Staff in the YELLOW and GREEN zones also wore PPE.

We moved to using disposable dinnerware facility wide. All meals for the RED zone were loaded into food trucks and wheeled outside and around to the back door of the RED zone; There was another food truck inside the RED zone. Three times each day we transferred everything from a tray outside the RED zone to a tray that stays in the RED zone. Nothing came out of the RED zone through the inside doors. Everything went directly outside; trash, clothes, linens, ice chests, garbage. Staff working in the RED zone donned their PPE in the resident shower room. They exited through the same doors at the end of the hall after each shift, just like the garbage and dirty laundry. Many positive staff remained asymptomatic and continued working: They worked in the red zone and entered and exited through the back door.

Scheduling

With seventeen out of eighty-five workers infected, many not able to work, staffing became a true challenge. We can not cross staff from the RED zone to the YELLOW or GREEN zones. Ideally, we can not cross staff from the YELLOW zone to the GREEN or RED zones, or from the GREEN zone to the YELLOW or RED zones. Now, in addition to having staff off ill, I needed to staff three zones instead of one unit: separate nurses and aides for each zone. Pre-Covid, we filled many shifts with agency staff in spite of a thirty-three percent wage increase for nursing staff, intended to retain current nursing staff and to attract new nurses. With high demand across the nation for nurses during the pandemic, agency staff just weren't available, even at two or three times the usual agency rate. We contacted our Regional Congregate Care Assistance Team (RCAT), Geisinger at the time then later UPMC, and reported that we needed assistance with staffing. They were able to connect us to the National Guard and two private staffing agencies. Each provided assistance for about five days. The National Guard provided one licensed nurse for assistance with passing medications, seven medics, who function as certified nurses' assistants, and seven General Purpose (GP) workers who assisted with maintenance, housekeeping, and anything else that needed to be done. The staffing agencies were able to provide additional licensed nurses to cover shifts for medications and treatments. This staffing assistance was certainly necessary and sincerely appreciated. Bringing the National Guard in early in the outbreak helped us be better organized in our response. With staff out for ten or more days, there were still many holes in our schedule. While every employee stepped up to the challenge of providing care for Covid positive residents, there is a core of a few employees who do whatever is necessary for as long as necessary to make sure our residents receive the care they deserve: You know who you are. You have my respect and appreciation and you deserve the respect and appreciation of our communities. At the beginning of the outbreak, one RN resigned. During the outbreak in our SNF, two RN's on the hospital side resigned, increasing the need for licensed staff.

Scheduling staff became a nightmare; there is simply no other word to accurately describe the process. The schedule changes occurred not by the week, not by the day, and not by the hour, it often changed by the minute. Four weeks after the initial outbreak and one nurse is still very ill and unable to work, another is grieving the loss of an adult child to Covid-19. Staffing agencies contracting with the state through RCAT to provide emergency staffing and the National Guard have left. Both Directors of Nursing (DONs) are working sixteen, twenty, and even twenty-four hours straight multiple consecutive days on their units and in addition to their administrative duties. Other nursing staff are doing double shifts. Nurses who typically don't perform direct resident care are on the units doing direct resident care. Our therapy staff, from a contracted therapy provider, wanted to stay here and assist in providing care to our residents rather than temporarily going to other facilities or taking unemployment. One of the silver linings we found: We used therapy staff to fill in open nurses' aide shifts.

Community Response

Community response has been nothing less than expected; they always pull together in a time of need. Many people and organizations have dontaed meals and snacks for the staff. Local churches prayed for us regularly, and during the outbreak they held a prayer cirlce at the facility just outside the RED zone. BMC didn't have a working website for several years, early on in the pandemic a local business set up a site at no charge so that we had a way to quickly provide information to the community. Included on the new site is a Covid page which includes links for accurate information, and a "bot" that will guide a patient through a series of questions to determine if they are at risk for having Covid-19. There is also an option to schedule a remote telehealth visit. When positives began increasing locally, telehealth visits were used quite frequently. The company continues maintaining and updating the site.

New Administrative Duties

On December 29, 2020, I took my laptop and cell phone and stationed myself at the nurses' station for the duration of the outbreak. I'm not clinically trained, so I felt my best contribution was to be easily accessible for quick decisions and to make sure staff had the supplies necessary for care. Initially, everything was hectic. Staff had seemingly endless needs. Water, ice, bed linens, cups, wash cloths, IV supplies, medications, garbage bags, gloves, personal care supplies, PPE, cleaning supplies. I quickly learned where just about every supply was stored throughout the facility. I learned what supplies were needed to start an IV. I learned where the big bumps were in the parking lot between the kitchen and the rear entrance to the RED zone when delivering meals, to avoid toppling coffee, juice, milk, and other drinks. Little by little we fell into a routine. I spent the next 27 days at my new post, coordinating our response, fetching supplies, and delivering meals.

Covid-19 Treatment

A call from my sister, a pediatrician in Philadelphia, lead our medical director and I to have a conversation with a very knowledgeable infectious disease doctor who was willing to talk to us about the outbreak and treatment options. We initially asked about Remdesivir, which had a lot of positive press coverage; he recommended monoclonal antibodies developed by Eli Lilly. He explained that these antibodies were synthetically produced in a laboratory. He indicated they had good success with this treatment and recommended we try to get some. He outlined who would be eligible to receive them and made a few other recommendations that we quickly implemented. As soon as that call ended, we called our pharmacy and asked if they were able to get any Bamlanivimab (the monoclonal antibodies): "Coincidentally, we just got twenty doses in today from a federal program. No one has asked for any yet, how many do you want?" We took them all. Cost? $0.00. It was part of a federal program to get this effective and under-utilized medication into communities for treatment. We

assessed each resident to determine who could safely receive the medication, then we spoke to residents and families to explain the treatment and to identify who was interested; every eligible resident agreed to treatment with Bamlanivimab if the need arose. The clinical team decided to start IV's on all positive residents for hydration and, when appropriate, the monoclonal antibodies. We've used seventeen doses throughout the outbreak. This little reported treatment seems to have been effective treating most of our residents who either remained asymptomatic or who had minimal symptoms: Only two residents who received the treatment died.

Covid-19 Impact on Facility

Totals have grown to twenty-four residents and seventeen staff. When our first resident death was imminent, I struggled. It wasn't supposed to be like this. We prepared. We informed staff daily. We remained strict on screening, masking, and testing staff. We continually reviewed and implemented the latest guidance from PA DOH, CMS, and the CDC. Now, despite those efforts, we were faced with our own outbreak. How many of our residents will die? How many of our staff will die? I sat alone in a waiting area trying to understand how, and why. Unable to grasp the answers, I went outside to my vehicle and I cried. We lost a total of four residents and one staff to complications from Covid-19. Four residents who were infected through no fault of their own; four residents who had no contact with family until the very end; four residents who did nothing wrong. And we lost a dedicated employee who worked in nearly every department over more than thirty years. While the outcome could have been so much worse, any loss under these circumstances is too much.

Vaccines

On January 06, 2021 we were able to offer all eligible residents and employees the Pfizer vaccine. Residents and staff who were positive within the past fourteen days could not be included in the first round of vaccines. All of our residents who were negative on January 06, 2021 and most of our staff who were negative received vaccines. Every one vaccinated on January 06, 2021 received their second dose on January 27, 2021. Those who did not get vaccinated on January 06, 2021 had a second opportunity to receive their first dose on January 27, 2021. Residents who received monoclonal antibodies won't be eligible to be vaccinated until April 2021, ninety days after receiving the antibodies. Very few side effects were reported with the first dose. Several staff had mild side effects after the second dose. Most side effects resolved within 24 hours.

Returning to Normal

We needed to have fourteen consecutive days with no new positives in order to return our facility to "normal". Our most recent positive was on January 08, 2021. On January 22, 2021 at 3:00 pm I was able to declare the facility Covid-19 free. After some cheering, we stopped for a moment of silence to remember those we lost to the pandemic. Listening to sniffles and seeing everyone wiping tears from their faces, I struggled to regain my composure. Before ceremoniously opening the doors defining each zone, I had a frank discussion reminding staff that we all still need to be vigilant with masking, hand washing, and social distancing to avoid a second outbreak. I reviewed what infection control measures remained in place but encouraged staff to get residents into regular clothing and out of their rooms. Soon I saw staff taking residents to the shower room for showers: A ritual they hadn't enjoyed for nearly 4 weeks. Over the next few days, housekeeping started cleaning so we could move residents back to their normal rooms. Slowly the hallways returned to normal without extra food trucks, laundry carts, and Computers On Wheels (COWS) for charting. It was no longer necessary to go outside to get from the clinical side of the building to the administrative side. Testing returned to twice weekly.

Meals are served on regular dinnerware again. I've returned to my office, where I'm trying to determine what I need to address from the past 4 weeks.

Pandemic – Part 2

There is a second pandemic in our nations nursing homes: Resident isolation. Residents in long term care facilities are not responsible for Covid-19, but they are paying a very high price. This group is most likely to have a fatal outcome once infected, so, as caregivers, we do everything we can to protect them. Not all residents see it that way, though. We've already taken so much away from them. We tell them where they are going to live. We tell them when to get up in the morning and when to go to bed. We tell them when to bathe. We tell them what they can eat and when. We tell them who they are going to room with. Few freedoms remain; during the Covid-19 pandemic, we've taken away nearly every freedom they had left. In many facilities, residents were confined to their rooms for months on end. Here, we continued a reduced activities schedule in small groups for as long as we could, but once we had an outbreak in our facility, residents were confined to their rooms. No activities, no social gatherings, no trips out of the facility, no visits from family and friends, no bible study, no ice cream social. We cancelled the annual summer cookout with families, and we cancelled the annual Thanksgiving dinner where families come to the facility to share a traditional Thanksgiving dinner with loved ones. There were no Christmas carolers; Santa visited each room through windows. They sat in their rooms. They longed for family and friends. Many shared feelings saying this was no quality of life. Many wondered, what's the point of living?

Pandemic – Part 3

For nine months our staff faced the risk of having Covid-19 in our community, or worse, in our facility. It's difficult enough to go to work every day knowing that the facility you work in might have an outbreak. It's grim to hear the horrendous stories of outbreaks in other facilities; dozens of infections, dozens of deaths. It's a stress that slowly consumes you. But having Covid-19 in your facility and wondering if you will test positive today; who else will test positive today; and, will anyone die from this virus today is a completely different stressor. You can see the fear and the fatigue in their eyes as front-line workers come to work and willingly put themselves at risk. Donning PPE so you can provide direct care for two dozen Covid-19 positive residents is not worry free. Did I touch my face before I changed gloves? I lowered my mask so the resident could hear me, was I exposed? Some staff separated themselves at home and didn't interact with their families throughout the outbreak. Frightened and anxious, the staff continue to provide care and they continue to be concerned for themselves and their families.

Not for a day, or a week, or a month, but constantly for eleven months with no end in sight. One mistake could infect you, your family, the facility. In addition to the recommendations and restrictions from healthcare authorities, many front-line workers have imposed additional restrictions on themselves because they don't want to be responsible for infecting anyone else at home or at work.

While the COVID pandemic might be a once in a lifetime or even a once in several generations event, it should be teaching us that, as a health system, we are not prepared.

Mental and Behavioral Health

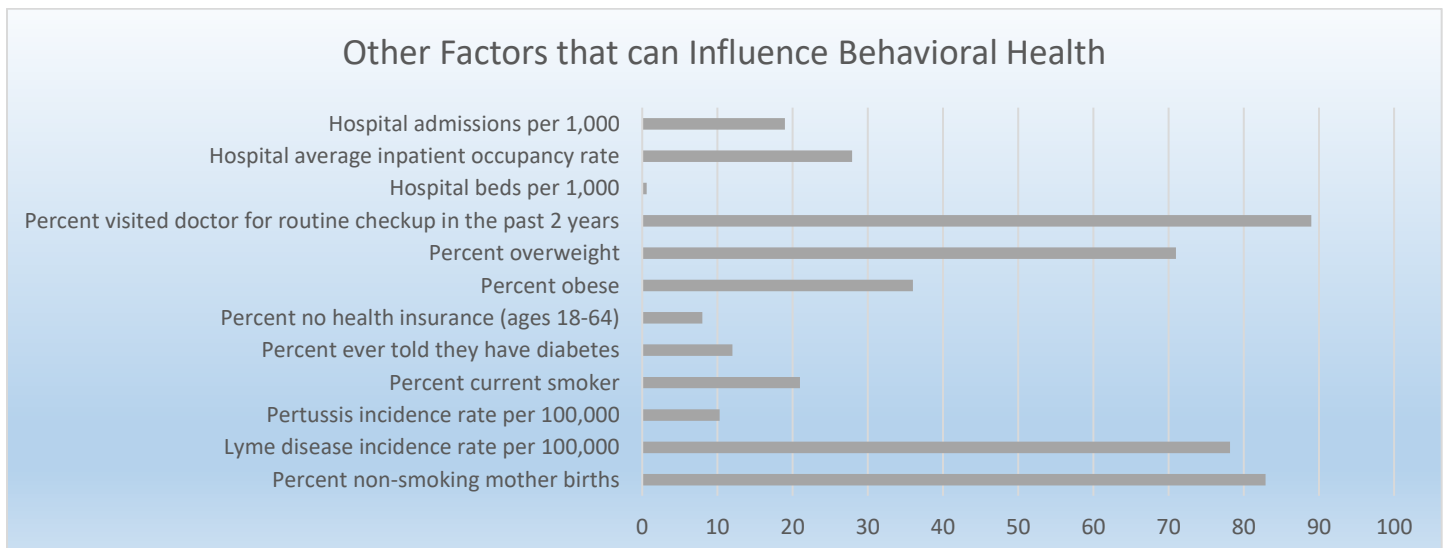According to the National Comorbidity Survey of Mental Health Disorders, people over the age of 60 have lower rates of depression than the general population; the rate in Clinton County, however, is higher than all other groups in the survey, and it is projected to climb higher in the next few years. The elderly senior population is growing exponentially due to the aging of baby boomers.

Mental and Behavioral Health

Category	PA	Peer Group	U.S.	Clinton County
MEDICARE BENEFICIARIES WITH DEPRESSION	19.30%	19.30%	18.00%	21.60%
DEATHS OF DISPAIR PER 100K POPULATION	56.30%	49.80%	47.50%	37.50%
ADULTS WITH FREQUENT MENTAL DISTRESS	15.00%	17.30%	15.80%	17.20%
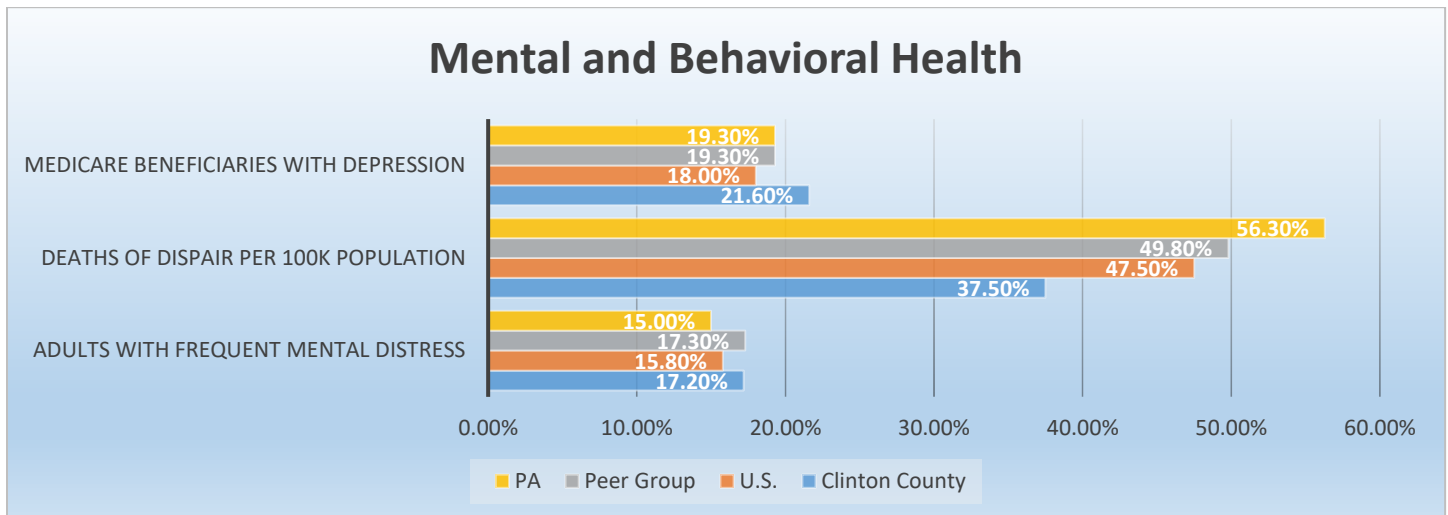
Frequent mental stress or inadequate social support may be at least partially responsible for the high prevalence of senior depression, at 21.60%. Adults with Frequent Mental Distress is also high in Clinton County, likely due to the lack of mental health services available in the immediate communities. Deaths of Despair is lowest of all groups.

Other Factors that can Influence Behavioral Health

- Hospital admissions per 1,000
- Hospital average inpatient occupancy rate
- Hospital beds per 1,000
- Percent visited doctor for routine checkup in the past 2 years
- Percent overweight
- Percent obese
- Percent no health insurance (ages 18-64)
- Percent ever told they have diabetes
- Percent current smoker
- Pertussis incidence rate per 100,000
- Lyme disease incidence rate per 100,000
- Percent non-smoking mother births

Another behavioral issue in Clinton County is the rate of tobacco use with 21% of the population using tobacco; this rate might also be reflected in percent of non-smoking mother births, at 17.1%. Smoking is a behavior that hinders one's physical, mental, and dental health. Smoking brings premature death to almost half a million Americans each year, and it contributes to profound disability and pain in many

others. Areas with a high smoking prevalence will also have greater exposure to secondhand smoke for non-smokers, which can cause or exacerbate a wide range of adverse health effects, including cancer, respiratory infections, and asthma.

Hospital Admissions and Insurance

Of some concern is that there are 0.6 acute care hospital beds available in the county for every 1,000 community residents. Hospital admissions in the county are at a rate of 19 admissions per 1,000 residents and the average inpatient occupancy rate of 27.9. Eight percent (8%) of Clinton County residents do not have health insurance. BMC's combined Medicare and Medicaid rate is over 87% for patients seen at the hospital for both inpatient and outpatient services.

Socio-economic Status

Socio-economic status (SES) plays a role in the severity of the health disparities present in Clinton County and has remained basically unchanged from 3 years ago. The SocioNeeds Index, created by HCI, is a measure of key social and economic factors. The SocioNeeds Index summarizes multiple socio-economic indicators into one composite score for easier identification of high need areas by zip code or county.

All zip codes, counties, and county equivalents in the United States are given an Index Value from 0 (low need) to 100 (high need). To help determine the highest need in a community, the selected locations are ranked from 1 (low need) to 5 (high need) based on their Index Value.

Renovo scores a 5 and is pictured in the dark blue area below. The other shaded areas in Clinton County scored a range of 2-4.
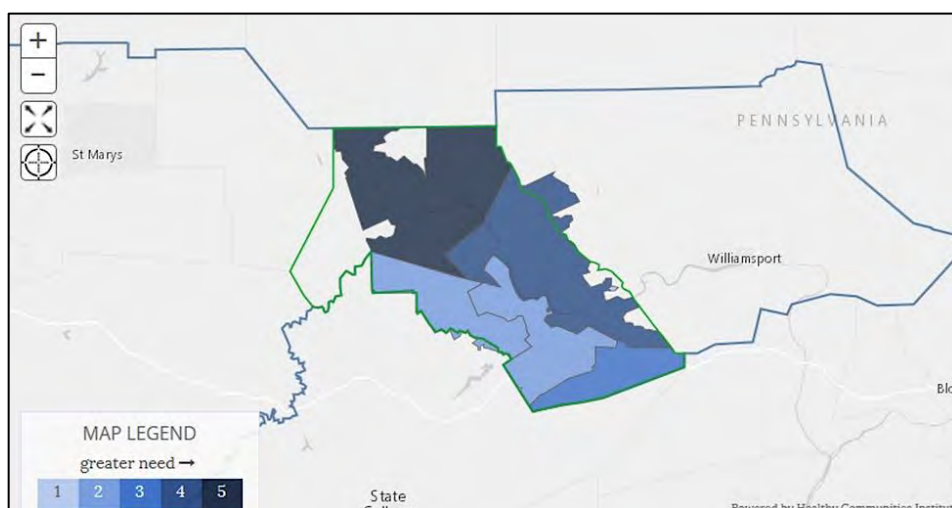
Significant socioeconomic problems in Clinton County include unemployment, poverty, access to the grocery store, and education.

SNAP, TANF, and MA Beneficiaries
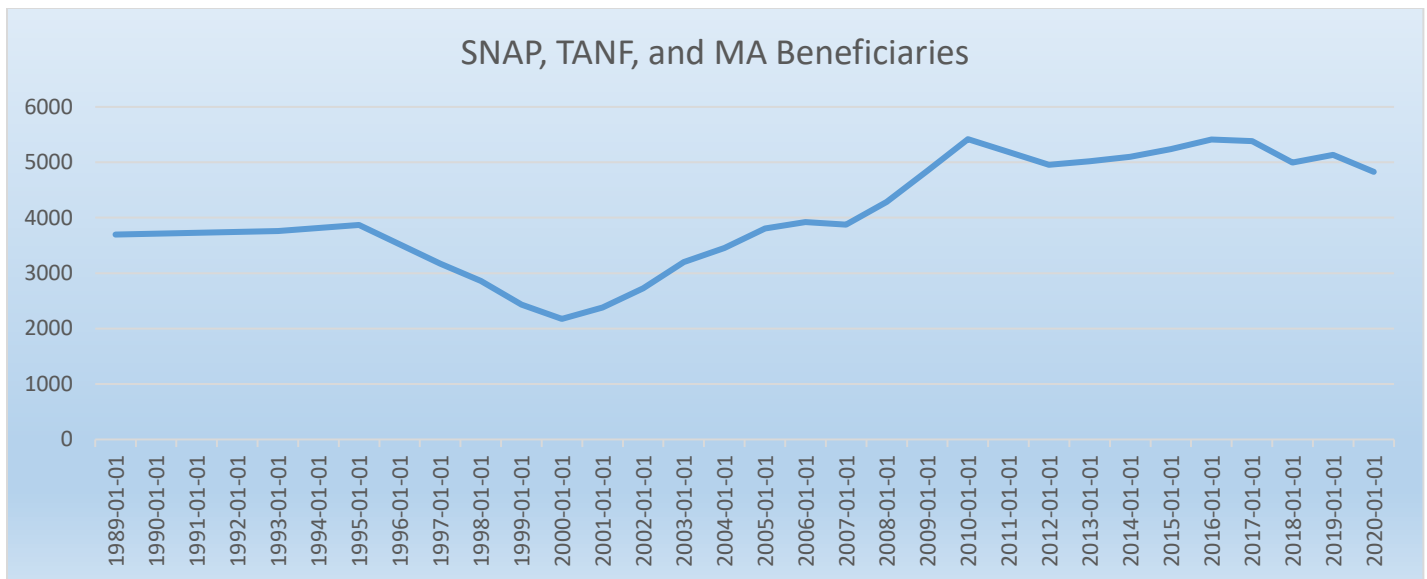
Public assistance is available for citizens in the forms of general assistance or Temporary Assistance to Needy Families (TANF). Despite this assistance, individuals in these households may still be challenged to be able to afford the resources necessary to succeed in school, at work, and in some cases, may result in progression of chronic conditions or a decline in treatment for health conditions. There has been an increasing trend in public assistance benefit recipients since the year 2000.

Poverty Rates In Clinton County

Clinton County, PA - Population 37,185
People Living in Poverty 5,777
Poverty Rate 15.5%

Poverty by Race

Statistic	Population	In Poverty
White (alone)	36,104	5,557
Hispanic (any race)	512	113
Black (alone)	453	83
Asian (alone)	255	58,438
Native American (alone)	102	71

15.4% White
22.1% Hispanic
18.3% Black
13.9% Asian
69.6% Native American

Data from Poverty USA

Poverty by Gender

31

Statistic	Population	In Poverty
Women	18,899	3,345
Men	18,286	2,432

17.7% Women
13.3% Men
Data from Poverty USA

Poverty Among the Employed

Statistic	Population	In Poverty
Employed People	17,510	1,533

8.8% Poverty Among the Employed
Data from Poverty USA

Poverty Among Adults With Disabilities

Statistic	Population	In Poverty
Adults with Disabilities	5,672	1,336

23.6% Poverty Among Adults with Disabilities
Data from Poverty USA

Unemployment Data

Date	Value
October 31, 2022	3.60%
September 30, 2022	3.70%
August 31, 2022	5.30%
July 31, 2022	5.20%
June 30, 2022	5.30%
May 31, 2022	4.50%
April 30, 2022	4.80%
March 31, 2022	5.70%
February 28, 2022	6.30%
January 31, 2022	7.00%
December 31, 2021	5.40%
November 30, 2021	5.20%
October 31, 2021	5.70%

Date	Value
September 30, 2021	5.70%
August 31, 2021	6.90%
July 31, 2021	7.10%
June 30, 2021	7.00%
May 31, 2021	6.40%
April 30, 2021	6.50%
March 31, 2021	7.60%
February 28, 2021	8.10%
January 31, 2021	8.40%

The current unemployment rate is lower than it has been since September of 2018 with a pronounced declining trend since January 2021. There was a noticeable increase in unemployment claims – nearly double the norm – in March and April of 2020. This does coincide with the initial wave of COVID-19.

Income Data

Commimte to Work

% Worked at Home

Mean Minutes Travel Time to Work

Legend: Renovo | South Renovo | Noyes Township | Leidy Township | Grugan Township | East Keating Township | Chapman township
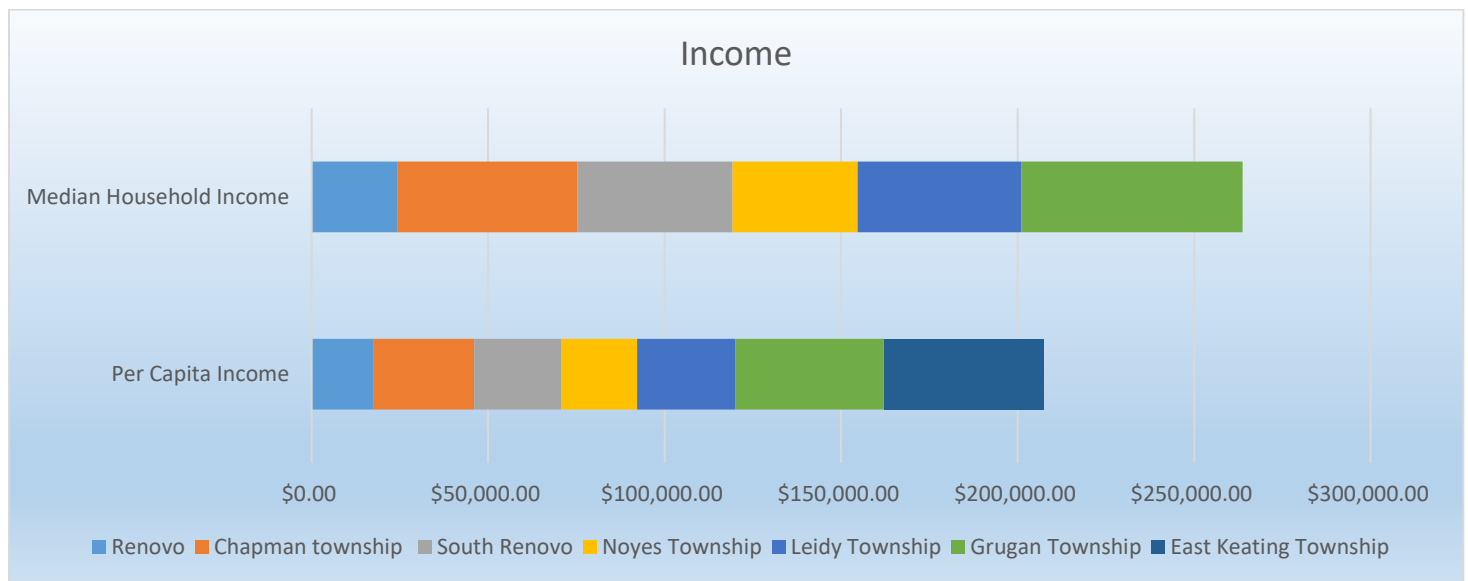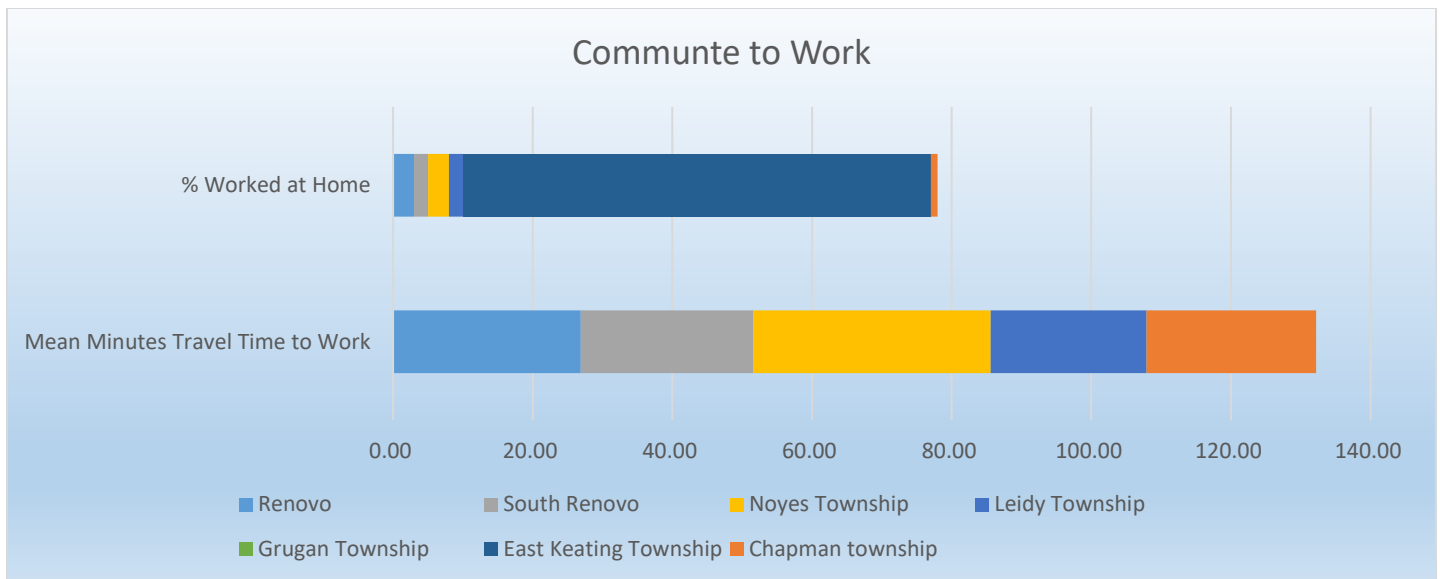
Education

Health outcomes and job paths tend to increase with education. Clinton County is at a huge disadvantage in regards to both of these outcomes when compared to Pennsylvania and the United States. High school graduation rates in Clinton County do not differ much from those in the state and the nation; however, education attainment rates for bachelor's degrees are significantly lower.

Education and Military Training

% Veteran Status

% Bachelor's or Higher

% High School Grad or Higher

Legend: Renovo | Chapman township | South Renovo | Noyes Township | Leidy Township | Grugan Township | East Keating Township
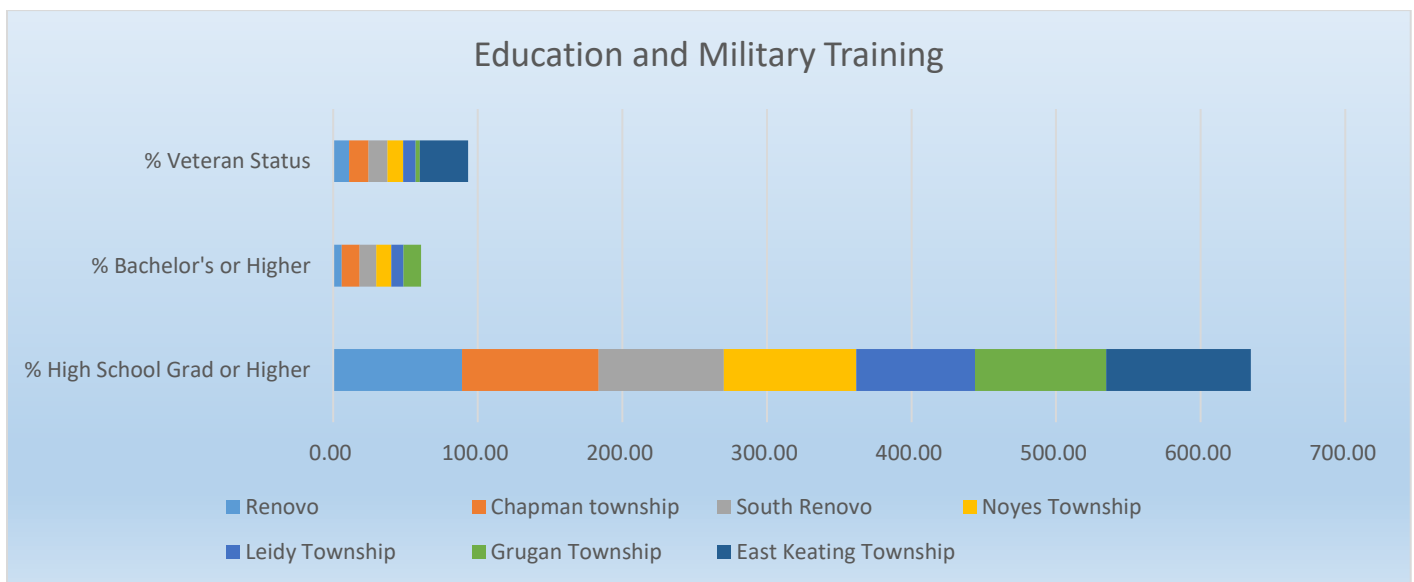
Community Health Work

BMC is working to address the concerns identified through both the primary data and the secondary data. A review of both data sets revealed that the issues identified through the secondary data relate

very closely with the primary data gathered from the community. Because the depth of these issues, in most cases, lead to base level services, we will address them through the primary data findings.

Transportation has improved somewhat; the county STEP program now offers transportation from Renovo to Lock Haven three times a week from 8:00 am through 4:00 pm.

The price per trip starts at $1.00 with a maximum fare of $7.50 compared to regular rates of $18.30 to $50.00 per trip. Reduced cost rides are available to persons aged 60 and up and those with disabilities. The van has scheduled stops at several locations including hospitals, physician offices, and other medical providers. Telemedicine is another opportunity to address transportation challenges. BMC has already started the work necessary to provide telemedicine for medical specialties through Geisinger Health Network. These specialties include OB-GYN, General Surgery, Urology, and later oncology and orthopedics.

Reliable ambulance services continue to be a challenge in western Clinton County. Earlier this year one of the main ambulance providers in this part of the county indicated they would be discontinuing services. BMC applied for and was approved for the USDA Emergency Rural Healthcare Grant. Our original intent was to start a community paramedic program. This program would allow us to base a paramedic out of our ER. The paramedic would be available to provide care in the ER, respond to any ambulance call in our service are – making our response an Advanced Life Support (ALS) response, be available for ALS transfers from our facility, and to make house calls in the community. Once we became aware that ambulance service to the area was in jeopardy, we changed our grant request to an Ambulance rather than the community paramedic program. A paramedic might not be beneficial without an ambulance.

The current build time for an ambulance can exceed two years, however, we were able to locate an ambulance, designed as an ALS unit, that was in line for production, and had not yet been purchased. After reviewing the unit, we placed a down payment and expect delivery early in 2023. BMC has also established a team to get the ambulance equipped and licensed as quickly as possible after delivery. We are aiming for a go-live date of April 01, 2023.

Over the past year, we have worked to develop a long term plan to meet the ongoing healthcare needs of our communities. We have identified that an increase in diagnostic capabilities both in radiology and the medical laboratory are necessary. We also predict a decline in long term care service needs over the next five to ten years. We estimate an increase in both the number and kinds of outpatient services necessary to meet community needs.

Planning for the future

As we looked at ways to add these services, it became clear that we needed to complete a long term master plan. The first step of the master plan was to complete a comprehensive assessment of the current facility.

Budget

The project budget will be set by a grant pursued by Bucktail Medical Center. The Emergency Rural Health Care program will grant up to $10 million with a required 25 percent match from the awardee setting the total project budget at $12.5 million.

Inpatient Volume Trend

• Utilizing historical data, Davis Partnership projected inpatient volumes for Bucktail Medical Center.

• Although the growth rate between 2019 and 2021 were negatively affected by Covid19, the historical data does demonstrate recovery with patient numbers reaching or exceeding pre-covid levels within 5 years.

• This information is translated into Space Drivers in the subsequent Step 2 Solutions Phase indicated in Section 2E.

Inpatient	Current Trend Data					5 Year Projected Data						10 Year Projected Data					
Admissions/ Volumes/ Visits	2019	2020	2021	2022	Compound Growth Rate 2019-2022	Annual Growth Assumption	2023 Projected	2024 Projected	2025 Projected	2026 Projected	2027 Projected	Annual Growth Assumption	2028 Projected	2029 Projected	2030 Projected	2031 Projected	2032 Projected
Total Inpatient Admissions																	
Average Length of Stay (days)																	
Total Inpatient Days	13,855	11,346	9,288	9,649	−30%		9,441	9,239	9,045	8,8857	8,675		8,500	8,332	8,170	8,014	7,865
Acute/ Swing Bed	706	434	242	339	−52%	5.0%	356	374	392	412	433	5.0%	454	477	501	526	552
Observation	17	24	16	100	488%	5.0%	105	110	116	122	128	5.0%	134	141	148	155	163
Skilled Nursing/ LTC	13,132	10,888	9,030	9,210	−30%	−2.5%	8,980	8,755	8,536	8,323	8,115	−2.5%	7,912	7,714	7,521	7,333	7,150
Average Daily Census (Acute/Swing)	1.9	1.2	0.7	0.9	−52%		1.0	1.0	1.1	1.1	1.2		1.2	1.3	1.4	1.4	1.5
Average Daily Census (Observation)	0.05	0.07	0.04	0.27	488%												
Average Daily Census (Skilled Nursing/ LTC)	35.98	29.83	24.74	25.23	−30%		24.60	23.99	23.39	22.80	22.23		21.68	21.13	20.61	20.09	19.59
	38.0	31.1	25.4	26.4			25.6	25.0	24.5	23.9	23.4		22.9	22.4	22.0	21.5	21.1

LEGEND

	Data Received from Facility
	Computed Data (formulas)
	Assumption

Outpatient Volume Trend

· Utilizing historical data, Davis Partnership projected outpatient volumes for Bucktail Medical Center.

· Although the growth rate between 2019 and 2021 were negatively affected by Covid19, the historical data does demonstrate recovery with patient numbering reaching or exceeding pre-covid levels within 5 years.

· Emergency visits have had some decline due to Covid19, but the Emergency Department remains one of the busiest areas of the hospital and will continue to grow.

· The addition of a CT, critical in expanding diagnostic care, would increase patient numbers in the Imaging Department.

Admissions/ Volumes/Visits	2019	2020	2021	2022	Compound Annual Growth Rate 2019-2022	Annual Growth Assumption	2023 Projected	2024 Projected	2025 Projected	2026 Projected	2027 Projected	Annual Growth Assumption	2028 Projected	2029 Projected	2030 Projected	2031 Projected	2032 Projected
							5 YEAR PROJECTED DATA						10 YEAR PROJECTED DATA				
Surgery Inpatients						0%	0	0	0	0	0	0%	0	0	0	0	0
Surgery Outpatients						0%	0	0	0	0	0	0%	0	0	0	0	0
Total	0	0	0	0		5%	0	0	0	0	0	5%	0	0	0	0	0
Endo Total																	
Emergency Visits	1,533	1,309	1,035	1,213	-21%	5%	1,274	1,337	1,404	1,474	1,548	5%	1,626	1,707	1,792	1,882	1,976
Imaging Visits	231	188	174	222	-4%		233	245	257	270	283		298	312	328	344	362
General Rad	231	188	174	222	-4%	5%	233	245	257	270	283	5%	298	312	328	344	362
Nuc Med	0	0	0	0		5%	0	0	0	0	0	5%	0	0	0	0	0
Bone Density	0	0	0	0		5%	0	0	0	0	0	5%	0	0	0	0	0
Mammo	0	0	0	0		5%	0	0	0	0	0	5%	0	0	0	0	0
CT	0	0	0	0		5%	0	0	0	0	0	5%	0	0	0	0	0
MRI	0	0	0	0		5%	0	0	0	0	0	5%	0	0	0	0	0
Ultrasound	0	0	0	0		5%	0	0	0	0	0	5%	0	0	0	0	0
Community Clinic																	
Clinic Visits	3,222	2,862	3,388	3,480	8%	5%	3,654	3,837	4,029	4,230	4,441	8%	4,797	5,181	5,595	6,043	6,526

LEGEND

	Data Received from Facility
	Computed Data (formulas)
	Assumption

Architectural Assessment Overview

This graphic, as well as the chart on the following page, depicts a high-level grading system of each department within the facility. Green represents the department is in good or mostly good condition and improvements are not needed. Yellow represents recommended improvements. Red means that there are required improvements.

SKILLED NURSING UNIT

PATIENT TOILETS ARE NON ACCESSIBLE

NURSE STATIONS LACK LINE OF SIGHT TO PATIENT ROOMS

DEPARTMENT DOES NOT HAVE ALL NECESSARY SUPPORT SERVICES

PATIENT ROOMS DO NOT HAVE PRIVATE SHOWER

IMPROPER VENTILATION

DIETARY

FUNCTIONALLY, THE DEPARTMENT IS WORKING WELL AND CAN SUPPORT FUTURE CHANGES

BUILDING SUPPORT
1,840 SF

PHYSICAL OCCUPATIONAL THERAPY

OPERATIONS CAN CONTINUE IN EXISTING SPACE

ADMINISTRATION

OPERATIONS CAN CONTINUE IN EXISTING SPACE

ACUTE CARE WING

PATIENT TOILETS ARE NON ACCESSIBLE

DEPARTMENT LACKS SPACE FOR SUPPORT SERVICES

NURSE STATIONS LACK LINE OF SIGHT TO PATIENT ROOMS

IMPROPE VENTILATION

EMERGENCY DEPARTMENT

STAFF LACKS DIRECT LINE OF SIGHT TO PATIENT ROOM FROM NURSE STATION

DEPARTMENT LACKS TRIAGE SPACE, HUMAN DECONTAMINATION, AND DEDICATED SUPPORT SPACES

RADIOLOGY

ONLY HAS ROOM FOR ONE MODALITY, CURRENT LOCATION CANNOT SUPPORT EXPANSION

LAB

EXISTING FACILITY IS UNDERSIZED AND CANNOT ACCOMODATE EXPANSION

CLINIC

CLINIC ROOMS DO NOT MEET MINIMUM SPACE REQUIREMENTS

TOILETS ARE NON-ACCESSIBLE

CURRENT CLINIC IS ONLY SIZED FOR A SINGLE PROVIDER

MECHANICAL
SEE MEP ANALYSIS

Architectural Assessment Overview

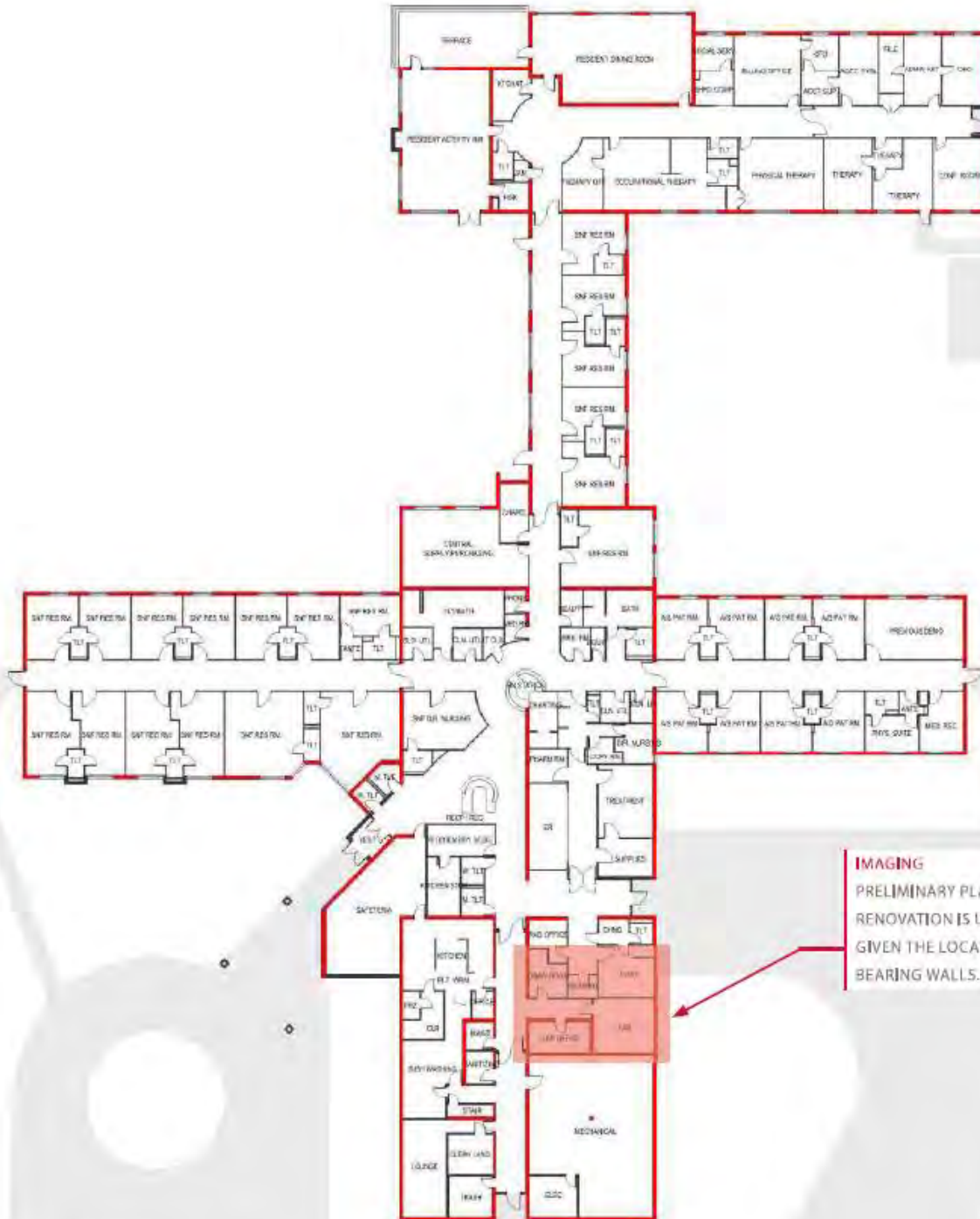| Department	Assessment Grade	Compliance Issues	Notes
Skilled Nursing *	4	The patient toilets are undersized and not handicap accessible. Visibility from the central nurse station is limited. Support services such as clean and soiled storage, do not have space within the department. The sizes of these rooms are acceptable providing that they are used for single or double occupancy accordingly (see MEP assessment for additional compliance issures).	Cutting down on patient rooms would provide the square footage to accommodate support sercies, nourish accomodations and appropiately sized patient toilets. The proposed Lab design is slated to take over 3 of the existing patient rooms (currently used as offices).
Acute Care	7	The patient toilets are unersized and are not accessible and do not have individual showers. The deparment does not have a hand-wash within the nurse station nor a medication safety zone. Deparment lacks support services such as EVS, clean and soiled storage, patient nourish stations, and family waiting/lounge space (see MEP assessment for additional compliance issures).	Similar to the Skilled Nursing Department, a reorganization of the space could accommodate supporting services and accessibley sized toilets if cutting back on patient room numbers was acceptable to the Hospital team.
Emergency Department	7	Department does not have triage space and reception does not have visiual control of patients. Department lacks support spaces such as dedicated soiled and clean holds, medication preparation, and human decontamination facilities. Nurse station does not have direct sight line to patients.	The staffs biggest impediment is the lack of patient visibility, remediying this would be of great benefit to depatment operations and patient safety. The department is non-compliant in some areas, any upgrades to this departement would then require the remidiation of these compliane issues.
Radiology	9	Existing departent is workable for current singular modaillity but lacks any ability to expand for additional modalities that are critical for expanding the diagnositc services of the hospital.	Department requires substantial expansion to accommodate additional modalities to meet the diagnostic goals of the hospital.
Lab	9	Department is undersized to accommodate growing services needed to continue serving the community.	The design team and hospital staff have reviewed options for relocating and enlarging the Lab. So long as relocating this department to part of the existing SNF remains an option, there is a clear path forward for upgrades.
Physical/ Occupational Therapy *	2	N/A	The Physical Therapy would benefit from an reorganization but operations can continue in the existing space.
Dietary	2	N/A	Conversations with deparment staff revealed that the space functions well for current operations and can flex with possible future changes at the facility.
Administration *	2	N/A	The department would benefit from additional squarefootage the the current layout is more than managable and does not hinder operations at this time.
Support (Materials Management, Staff Lounge, Telecom)	4	Materials Management is separeted from loading dock. Staff lounge does not meet requirements of FGI 2018.	Materials Management is distant from the deliveries area and the existing staff lounge does not meet code requirments for views or access to exterior space. The location of the staff lounge may also not meet proximity requirements for multiple departments.
Health Clinic *	6	Patient rooms do not meet minium space requirements. To expand clinic for an additional provider(s), it would have to move out of current space and into space in main building.	Expansion cannot be accomodated by existing pre-fabriacted building. Clinic services are expected to grow in the coming years, this growth would require a physical increase in space; relocating services to the main facility is an option.

* Further Discussion Required

Structural Assessment

Based on original drawings of the existing facility, the plan below highlights walls that are likely to be load bearing.

IMAGING
PRELIMINARY PLAN FOR IMAGING RENOVATION IS UNECONOMICAL GIVEN THE LOCATION OF LOAD BEARING WALLS.

MEP Assessment Overview

System	Impact Level	Risk/Impact Description and Notes	ROM $
Mechanical Systems			
Heating	7	Replace steam boilers with hydronic boilers. (Being done in another project)	$1–$2M
Cooling	9	Replace chiller system	$1M
Ventilation	8	Replace main hospital AHU and provide proper ventilation & filtration to patient rooms.	$1.5–$2M
	6	Replace emergency department AHU with phased project.	$500K
	6	Replace Lab/Xray department AHU with phased project.	$500K
	3	Replace RTU's serving the 2000 Addition	$2M
	3	Replace Kitchen rooftop equipment and properly insulate ductwork on roof.	$1M
Controls	3	Provide new direct digital controls system for entire facility in lieu of pneumatic.	$500K–$1M
Plumbing Systems			
Domestic HW, CW, and ICW	7	Replace leaking domestic hot water piping	$500K–$1M
Plumbing Fixtures	3	Replace and update as needed.	-
Medical Gas	4	Replace oxygen manifold with phased projects.	$125K
	4	Provide medical air for Emergency Department and medical air manifold.	$250K
Sanitary Sewer, Vent and Storm	4	Provide grease interceptor for kitchen.	$400K
	7	Scope below grade sanitary piping & report findings to owner.	$5K
Fire Protection	3	Repair leaks. Replace outdated sprinklers.	$100K
Electrical Systems			
Service and Distribution	6	Replace end of life main distribution board.	$300K
Emergency Distribution	6	Replace generator with a new generator, mounted outside in a weather resistant, sound attenuated enclosure.	$250K
	7	Replace emergency distribution panel ME with three separate enclosed circuit breakers and gutter. Replace end of life-safety, critical, and equipment ATSs. New equipment shall be moved to a new location.	$120K
Emergency Power	7	Re-wire 2 existing heat pumps from life-safety to equipment branch. Re-wire nurse call headend equipment from life-safety to critical branch.	$5K
Panels and Feeders	3	Replace aged panels and feeders with new with phased projects.	$100K
Branch Circuits and Devices	3	Replace existing receptacles and wiring with new hospital grade receptacles and wiring. Bond normal and essential panels together.	$50K
	3	Add additional receptacles at patient bed locations and emergency treatment rooms to meet FGI guidelines.	$50K
Lighting	4	Replace all existing lighting with new LED light fixtures and provide new low voltage lighting controls.	$350K
	6	Add battery powered emergency lighting at the generator and ATSs.	$2K
Low-Voltage Systems	4	Telecommunication - Relocate existing telecom equipment in the Main Electrical Room to a dedicated telecommunications room	$5K
	5	WiFi System - Add additional wireless access points (WAPs) where coverage is lacking..	$5K
	5	Nurse Call System - Replace the existing nurse call system. Add nurse call devices where necessary to meet FGI guidelines.	$200K

For the Bucktail Medical Center to realize their mission of providing comprehensive services and growing with the needs of the community, it was determined that the most immediate areas of need are diagnostic, emergency, and clinical services. he lesser focus on Inpatient and Long-Term Care does not discount the advantages the facility and staff would enjoy from more extensive facility upgrades. These needs, along with preliminary funding options, informed the three design options and the focus on maximizing renovation options and minimal new-build expansions.

For medical laboratory testing, we have put Point of Care (POC) equipment in our ER for a chemistry panel, troponin, lactic acid, CBC with three part differential, and other basic laboratory testing so ER physicians can gather critical laboratory values even when lab personnel are not available: with this POC equipment we have redundancy with most tests so even when one machione is down, we have a way to quickly complete the test.

The second diagnostic challenge for BMC is medical imaging. Currently there is one (1) CR quality X-Ray machine. A CT scanner will allow a new level in diagnostics and treatment for the medical center. The COVID pandemic has slowed progress in getting a CT Scanner in place. After completing a madter plan and the requisite analysis, the need for a CT Scanner is quite evident. While a CT Sca nner suite is included in the master plan, it is essential that we establish CT Scanner abilities as quickly as possible, therefore, we are working to bring a mobile 64 slice CT Scanner onsite while we work toward completing the master plan. Every observation or admission made as a result of the CT scanner will produce additional revenue for the medical center. Having a CT scanner on site will also be a draw for specialty physicians and should increase outpatient scans, again providing additional revenue for the facility. The CT Scanner is also required to attract more ambulance traffic through our ER. Currently, ambulance crews of medical command will divert to a facility with CT capability if they believe CT imaging will be required to diagnose or treat the patient.

Once a mobile CT Scanner is in place, BMC will be able to provide quicker diagnosis for patients in our ER, providing an opportunity for better outcomes. The hospital will also benefit by performing, and charging for, CT Scans not only for ER patient but for outpatients as well. We anticipate this will also increase our admissions; doing the scan here will allow us to complete many diagnoses at the facility rather than sending them to another facility for testing. Those patients we are able to treat will be treated here rather than at another facility.

Diagnostic and Treatment Space Drivers

Industry standards have been used to develop the following program.

Department	Visit Range per Year per Room	Visits per Year per Room	2022	Rooms Needed	2027 Visits (Projected)	Rooms Needed	2032 Visits (Projected)	Rooms Needed	
Imaging									
General Rad	5,100–6,000	5,100	222	0.0	283	0.1	362	0.1	
Nuc Med	1,500 – 2,400	1,500	0	0.0	0	0.0	0	0.0	
Bone Density		2,400	0	0.0	0	0.0	0	0.0	
Mammography	5,100–6,000	5,100	0	0.0	0	0.0	0	0.0	
CT	7,800–9,000	7,800	0	0.0	608	0.1	776	0.1	
MRI	4,000–6,000	4,000	0	0.0	0	0.0	0	0.0	
Ultrasound	2,400–3,600	2,400	0	0.0	608	0.3	776	0.3	
Emergency									
Emergency – high estimate	750–1,200	750	1,213	1.6	1,548	2.1	1,976	2.6	
Emergency - low estimate	1,200–1,600	1,400	1,213	0.9	1,548	1.1	1,976	1.4	
Surgery									
Mixed Surgery Suite	1,000–1,250	1,000	0	0.0	608	0.6	776	0.8	
Endo	1,200–1,500	1,200	0	0.0	0	0.0	0	0.0	
Community Clinic									
Clinic Visits	3,500–4,500	3,500	3,480	3.0	4,441	3.8	6,526	5.6	Rooms (3/Provider)
		Visits/ Provider		1.0 Providers		1.3 Providers		1.9 Providers	

LEGEND

	Data Received from Facility
	Computed Data (formulas)
	Assumption

Inpatient Space Drivers

METHOD 1 - Efficiency Method

Inpatient Beds Calculation	Average Daily Census 2022	Occupancy Rate	Required # of Beds 2022	Required # of Beds 2027	Required # of Beds 2032
Acute/Swing	0.93	70%	1.3	1.7	2.2
Observation	0.3	70%	0.4	0.5	0.6
LTC	25.2	100%	25.2	22.2	19.6
Total	26.4		27.0	24.4	22.4

The programs indicated by both the 90% and 95% Ability to Admit methods align closely with estimates developed by the Bucktail Medical Center team (5 Acute/Swing/Observation beds). It should be noted that the numbers for LTC beds indicated below (25-27) do not align with estimates of the BMC team as there is a plan to reduce LTC services through attrition to 20 beds.

LEGEND

	Data Received from Facility
	Computed Data (formulas)
	Assumption

METHOD 2 - Availability Method

Inpatient Beds Calculation	Average Daily Census 2022	2022 Patient Days	2027 Projected Avg Daily Census	2027 Projected Patient Days	2032 Projected Avg Daily Census	2032 Projected Patient Days	Required # of Beds 2022	Projected Required # of Beds 2027	Projected Required # of Beds 2032
90% Ability to Admit									
Acute/ Swing	0.93	434	1.2	433	1.5	552	2.2	2.6	3.1
Observation	0.3	24	0.3	128	0.4	163	0.9	1.1	2
LTC	25.2	10,888	22.2	8,115	19.6	7,150	31.7	28.3	25.3
Total Formula/Constant	1.28						34.8	32	30.4
95% Ability to Admit									
Acute/ Swing	0.93	434	1.2	433	1.5	552	2.5	3	3.5
Observation	0.3	24	0.3	128	0.4	163	1.1	1.3	1.5
LTC	25.2	10,888	22.2	8,115	19.6	7,150	33.5	30	26.9
Total Formula/Constant	1.645						37.1	34.3	31.9
99% Ability to Admit									
Acute/ Swing	0.93	434	1.2	433	1.5	552	3.2	3.7	4.4
Observation	0.3	24	0.3	128	0.4	163	1.5	1.7	2
LTC	25.2	10,888	22.2	8,115	19.6	7,150	36.9	33.2	29.9
Total Formula/Constant	2.33						41.6	38.6	36.3

Benchmark Square Footages

Utilizing the data developed in space driver exercises and standard square footage ranges informed by recent completed healthcare construction, the team established that a program for design should total approximate 45,200sf. The multiple design options explored later in this document show varied approaches to upgrading and improving space and operations of the Bucktail Medical Center and are based on discussions with hospita leadership and department directors. The proposed options do not meet the suggested benchmark square footages due to several restrictions imposed by the existing facility layout and construction.

LEGEND

	Computed Data (formulas)
	Assumption

	SPACE CALCULATION			
DEPARTMENT	DGSF RANGE PER TREATMENT SPACE	SF PER TREATMENT SPACE	NUMBER OF TREATMENT SPACES @ 10 YEAR PROJECTION	DGSF
Surgery				
Inpatient OR				
Mixed	2,800-3,500	3800	0.0	2,948
Programmed		3800	2.0	7,600
Emergency				
Emergency - High	550-650	650	2.6	1,712
Emergency - Low	550-650	650	1.4	917
Programmed		650	6.0	3,900
Imaging				
Rad	1,300sf - 1,500sf	1000	0.1	71
CT	1,800sf - 2,000sf	1300	0.0	129
MRI	2,200sf - 3,000sf	1600	0.0	0
Mammo	1,000sf - 1,200sf	800	0.0	0
Ultrasound	900sf - 1,200sf	800	0.0	259
Bone Density	500sf - 700sf	500	0.0	0
Programmed		1450	7.0	10,150
Patient Care				
High Estimate	600sf - 800sf	750	30.4	22,800
Low Estimate	600sf - 800sf	750	22.4	16,800
Programmed		750	25.0	18,750
Community Clinic				
Clinic Visits	1,000sf - 1,500sf/prov.	800	5.6	4,475
Programmed		800	6.0	4,800
Total				
				45,200

Program for Design

OPTION 1

– 4 bed Emergency Department

– Radiology/ Imaging (CT/ X-Ray)

– Laboratory

OPTION 2

– 4 bed Emergency Department

– Radiology/ Imaging (CT/ X-Ray)

– Laboratory

– -6 exam room Clinic

– Outpatient Services

– Materials Management

– Administration

OPTION 3

– 4 bed Emergency Department

– Radiology/ Imaging (CT/ X-Ray)

– Laboratory

– 15 bed Skilled Nursing Unit

– 5 bed Acute Care/Swing Beds

– -6 exam room Clinic

– Outpatient Services

– Materials Management

– Administration

– Physical and Occupational Therapy

OPTION 1 & 1.a

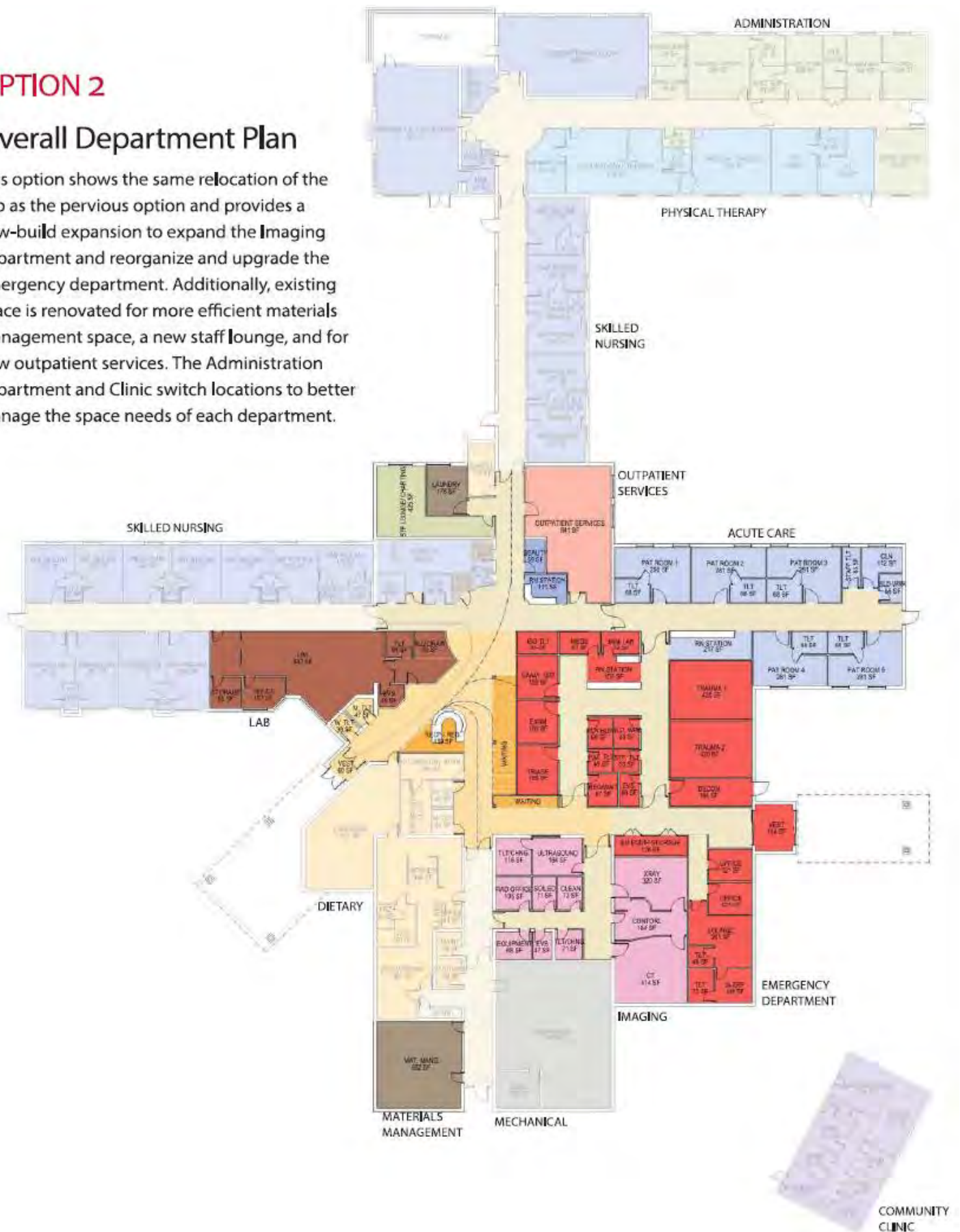## Overall Department Plan

This option is largely similar to the preliminary exploratory Whitetail Project for which Davis Partnership's services were initially secured. Relocating the Lab to the existing Skilled Nursing wing provides the additional square footage needed and allows the current Radiology Department to expand. A sub-option of a new expansion is also shown given the restraints created by interior load bearing walls.

OPTION 2

Overall Department Plan

This option shows the same relocation of the Lab as the pervious option and provides a new-build expansion to expand the Imaging department and reorganize and upgrade the Emergency department. Additionally, existing space is renovated for more efficient materials management space, a new staff lounge, and for new outpatient services. The Administration department and Clinic switch locations to better manage the space needs of each department.


ADMINISTRATION

PHYSICAL THERAPY

SKILLED NURSING

SKILLED NURSING

OUTPATIENT SERVICES

ACUTE CARE

LAB

DIETARY

EMERGENCY DEPARTMENT

IMAGING

MATERIALS MANAGEMENT

MECHANICAL

COMMUNITY CLINIC

OPTION 3

Overall Department Plan

Option 3 shows many of the same upgrades including the relocation of the Lab, Materials Management, and Staff Lounge, the expansion for Imaging and ED, and renovated space to house outpatient services.

This option suggests a more INVASIVE renovation of the existing Skilled Nursing wing to house a larger clinic as well as Physical/ Occupational Therapy. Skilled Nursing would be moved entirely into the newer portion of the existing building with an expansion off the single loaded corridor. Finally the Acute Care wing would be renovated to bring department up to code.
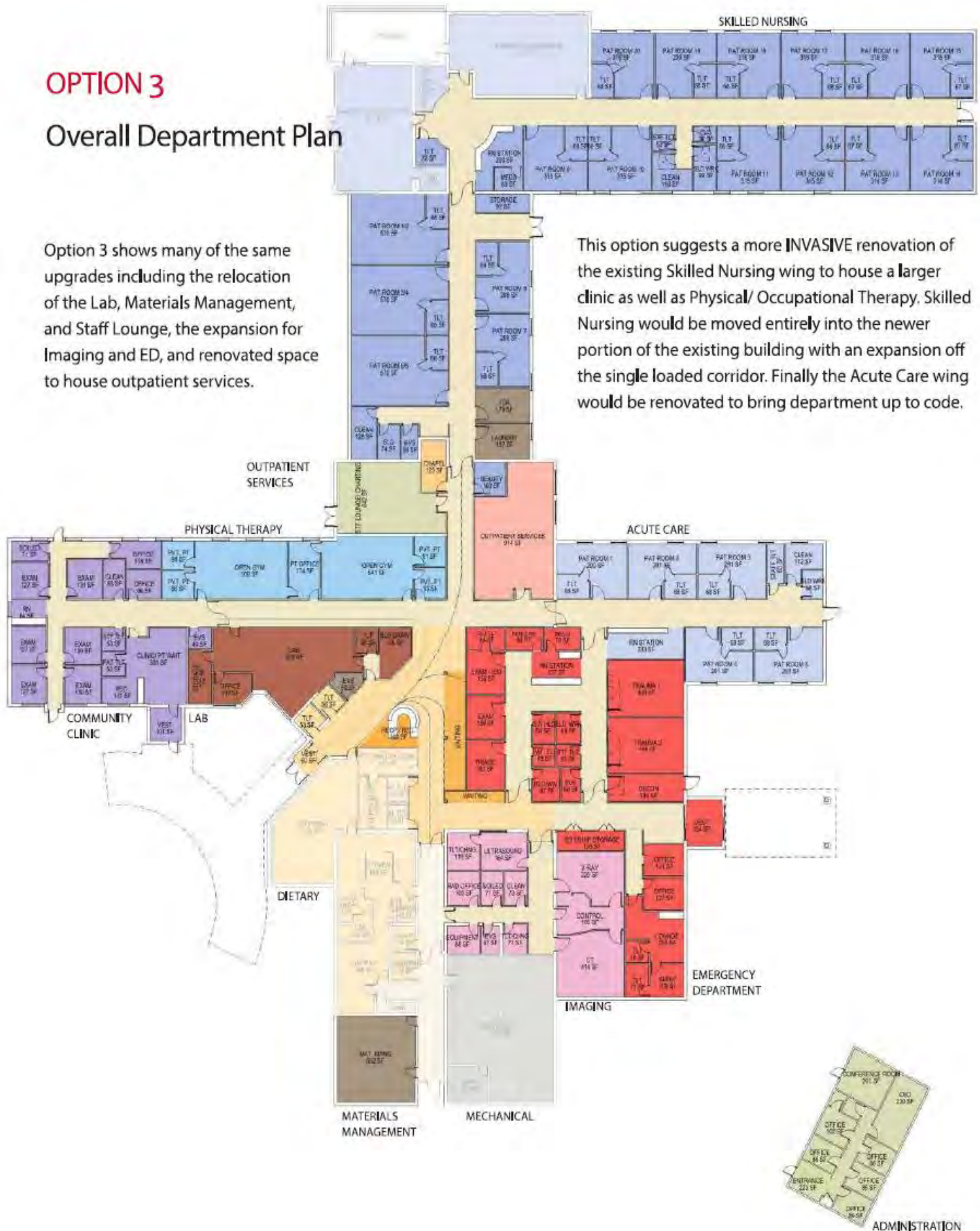
The COVID pandemic delayed implementation of many programs for community outreach, so our plan is continue the implementation plan developed three years ago.

Out of each of the priority areas, the indicators most actionable include heart disease, chronic lower respiratory diseases, Alzheimer's disease, colorectal cancer, and diabetes. Recommendations for BMC to reduce the prevalence of these indicators using the aid of "promising practices" are listed below:

Health Programs for Obesity

- "Mass in Motion" was launched by the Massachusetts Department of Health in 2009 to reduce obesity and promote healthy eating and physical activity. The program's approach is multi-faceted, supporting policy changes to promote healthy diet and exercise in the workplace and in schools, providing grants to cities and communities to build wellness initiatives, and launching its website as an accessible resource for improving eating and exercise routines. The wellness initiatives in communities target the entire population. There are now 52 municipalities across the Commonwealth that are participating in Mass in Motion. Mass in Motion is funded by state, federal, and private foundations.

- The "Farm 2 School Lunch Program" is a partnership between local farmers, food producers and elementary schools. The program aims to improve the health of school children through the consumption of fresh fruits and vegetables, whole grains, grass fed meats, and hormone-free milk. Students learn healthy eating habits and the concept of the farm to table connection. In addition to reinventing the school lunch menu, schools implementing the Farm 2 School program offer a course entitled, Food is Elementary, which teaches students about cooking and preparing healthy food. The curriculum is fun, interactive, and hands-on. The Farm 2 School Lunch Program is now serving 4000 meals a day and 2000 summer snacks a day to 17 locations in KS & MO.

Health Education and Screenings

- According to the CDC, more than 21,000 cases of Lyme disease are reported every year, making it the most common illness transmitted by bugs or animals in the United States. Most cases of Lyme disease can be treated successfully with a few weeks of antibiotics. Steps to prevent Lyme disease include using insect repellent, removing ticks promptly, landscaping, and integrated pest management. Some of these prevention techniques are showcased in the "BLAST Lyme Disease Prevention Program." BLAST is an acronym for Bathe after outdoor activity, Look for ticks and rashes, Apply repellent, Spray the yard, and Treat pets. The BLAST program was created with a $50,000 grant from the State of Connecticut and is currently funded by grants and private donations. The program engages health professionals and trained educators to teach the community about the prevention of tick-borne diseases and how to quickly identify early warning signs. BLAST is staffed by trained volunteers and offers its services for free at health fairs, schools, and community events throughout Fairfield County. The BLAST Prevention Program is nationally recognized and was recommended by the CDC in 2008. In 2013, the regional coordinating body, Housatonic Valley Council of Elected Officials (HVCEO), granted $4,000 to train BLAST Lyme Disease prevention educators for health events in the Greater Danbury area.

- The CDC encourages use of the one-on-one-education program for cancer prevention and control. One-on-one education delivers information to individuals about indications for, benefits of, and ways

to overcome barriers to cancer screening with the goal of informing, encouraging, and motivating them to seek recommended screening. These messages are delivered by healthcare workers or other health professionals, lay health advisors, or volunteers, and are conducted by telephone or in person in medical, community, worksite, or household settings. The Community Preventive Services Task Force recommends the use of one-on-one education to increase screening for breast and cervical cancers on the basis of strong evidence of effectiveness. The Task Force also recommends the use of one-on-one education to increase colorectal cancer screening with fecal occult blood testing (FOBT) based on sufficient evidence of effectiveness. The CDC estimates that if all adults aged 50 or older had regular screening tests for colon cancer, as many as 60% of the deaths from colorectal cancer could be prevented. While 90% of colorectal cancer cases occur in adults aged 50 or older, it is essential for individuals with risk factors (those with a family history of colorectal cancer, inflammatory bowel disease, or heavy alcohol use) to seek regular screening earlier.

Senior Therapy

- Psychological distress can affect all aspects of a patient's life. It is important to recognize and address potential psychological issues before they become critical. Occasional down days are normal, but persistent mental/emotional health problems should be evaluated and treated by a qualified professional. Clinic-based depression care management is an evidence-based practice used to reduce depression among older adults aged 60 or older. It involves active screening for depression, measurement-based outcomes, case management, patient education, antidepressant treatment, and psychotherapy (if necessary). The participants in clinic-based depression care management include depressed patients, trained depression care managers, primary care providers, and psychiatrists. Clinton County community members may benefit from depression care management options in their local clinics and medical centers.

Conclusion

The COVID-19 pandemic has changed permanently healthcare in the United States. We better understand how unprepared we are for a public health emergency and recognize the steps necessary to be better prepared. For BMC, it was also an impetus to take an all-inclusive look at what medical services are needed in the community and to formulate a master plan to get us there. Our first steps are clear: We need more dependable ambulance services to serve our communities and we more advanced diagnostic imaging. We have a new ambulance ordered and on the way and we have put together a team to get the unit licensed, staff, and equipped. We are actively searching for a mobile CT Scanner solution to implement as quickly as possible. These two first steps will represent a major move toward completion of our master plan.