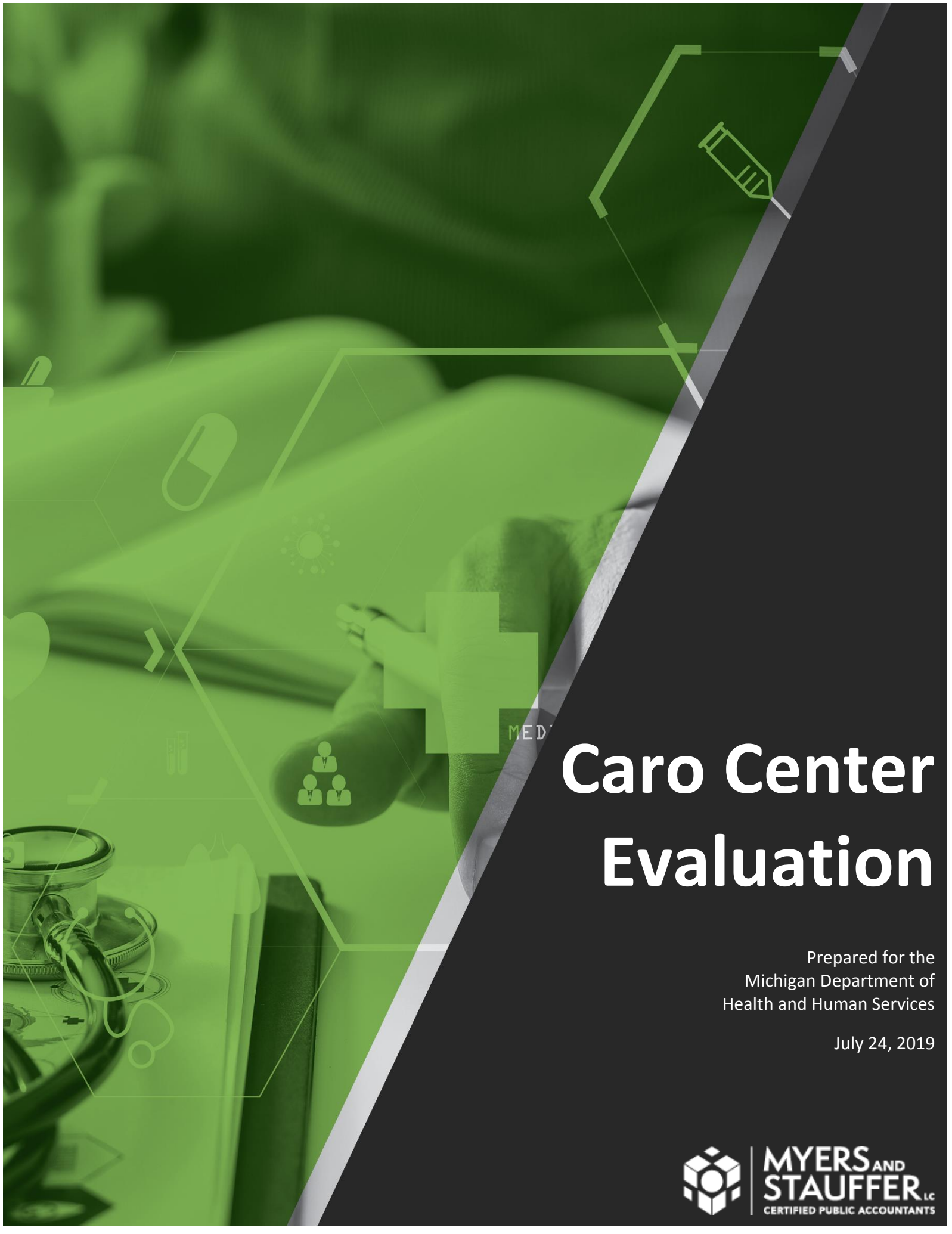

Caro Center Evaluation

Prepared for the
Michigan Department of
Health and Human Services

July 24, 2019

MYERS AND STAUFFER LC
CERTIFIED PUBLIC ACCOUNTANTS

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Executive Summary[1]

The Michigan Department of Health and Human Services (DHHS or State) is challenged with the need to maintain, update, and/or replace the aging infrastructure of a valuable state psychiatric hospital, the Caro Center. There are a number of state-specific criteria that may be utilized to help determine the type, location, and capacity of a replacement facility. The State is also faced with the dilemma of balancing the immediate need for a replacement facility against making informed decisions to confirm the replacement facility meets the health care needs of patients, reflects the capacity of the health care delivery system, and is in the best interest of the public.

In early 2019, the construction of the new facility in Caro, Michigan was put on hold at the request of Governor Gretchen Whitmer. In March 2019, DHHS engaged Myers and Stauffer LC (Myers and Stauffer) to conduct an evaluation of the decision to locate a new psychiatric facility in Caro and to determine whether other areas of the state should be identified as potential alternative sites. The primary focus areas conveyed to Myers and Staffer for further analysis included staffing, the distance traveled by patients and families to reach the facility, and the ability to obtain a reliable community water source. Our analysis was limited to these focus areas.

Key observations from our analysis of data and documentation provided by DHHS include the following:

- The designation of Caro as the site of the facility is limited to the language in Public Act 107 from the 2017 Michigan Legislature. No documentation was identified indicating a formal, criteria-based needs analysis and justification for the Caro site or other potential locations.
- States replacing aging psychiatric hospital infrastructure have employed various processes and criteria that include an examination of inpatient care needs, potential regional impact, and mental health system alignment.
- In 2017 and 2018, the Caro Center operated near capacity and, in comparison to other state psychiatric hospitals, had the greatest number of patients with lengths of stay over five years.
- A majority of patients at the Caro Center and other adult state psychiatric hospitals in 2017 and 2018 had home zip codes in the Detroit Metro Prosperity Region. More than 80 percent of the patients at the Caro Center are from the East Michigan, East Central, and Detroit metro

[1] This engagement was performed under the American Institute of Certified Public Accountants (AICPA) code of professional conduct for consulting engagements. Myers and Stauffer performed the engagement activities under the direction and oversight of the MDHHS. MDHHS retains responsibility for all management decisions relating to this engagement. We were not engaged to and did not conduct an examination or review, the objective of which would be the expression of an opinion or conclusion, respectively, on the replacement of the state psychiatric hospital located in the City of Caro, Michigan, or any other location. Accordingly, we do not express such an opinion or conclusion. MDHHS is responsible for the decision regarding the location of the state psychiatric hospital and for determining the sufficiency of the tasks and analyses completed for this engagement. .

regions. Most patients were admitted from community mental health centers (CMHCs) or the justice system.

- In May 2019, approximately 23 percent of the patients on the waitlist for a bed at a state psychiatric hospital were from the Detroit Metro Prosperity Region, while the East Michigan Region and West Michigan Prosperity Alliance followed with 12 percent each of the total waitlist population.
- Approximately 95 percent of the personnel employed at the Caro Center have home zip codes within a 50-mile radius. This is comparable to the distance travelled by Center for Forensic Psychiatry (CFP) employees. Although the Caro Center has more vacancies for licensed positions than the Kalamazoo Psychiatric Hospital (KPH) and the Walter P. Reuther Hospital (WPRH), the number of vacancies for positions that are not licensed or credentialed are similar to KPH.
- While there are education centers within 30 miles of the Caro Center that can be sources for new hires and partners in training, the Caro Center is further away from education centers compared to other state psychiatric hospitals.
- The Caro Center is further away from trauma centers when compared to the other state psychiatric hospitals, approximately 25 minutes from the nearest trauma center.
- All prosperity regions have access to alternative locations for mental health services, such as non-state inpatient hospitals and CMHCs.
- The city of Caro offers public transportation by appointment only. In terms of accessibility, the Caro Center is within 20 miles of at least one major highway and is also accessible via a network of well-maintained state highways that branch off of multiple interstate highways.
- Tuscola County has expressed willingness to upgrade, own, and operate the water system for the Caro Center. In a report for the County, engineers noted the existing supply “has exhibited very good reliability in producing, storing, and distributing water supply and quality.”
- While the West Michigan Prosperity Alliance has experienced the greatest overall growth in population, the East Michigan Prosperity Region, which includes Caro, has the greatest percentage of the general population enrolled in the Medicaid and Healthy Michigan programs.
- The Southeast and East Michigan Prosperity Regions had the greatest rate of hospitalization for mood disorders in 2016. In the same time period, the Detroit Metro and Southwest Prosperity Regions had the greatest rate of hospitalization for patients diagnosed with schizophrenia, schizotypal disorders, or delusional disorders.
- DHHS and the Michigan Department of Technology, Management, and Budget (DTMB) have completed reviews of potential sites for a smaller satellite facility in northern Michigan that, along with the replacement facility at Caro, is intended to add additional beds. However, a

comprehensive needs assessment determining the appropriateness of the northern satellite facility has not been conducted.

Based on the focus areas, Myers and Stauffer constructed potential options for consideration. These options are presented in an analysis including the anticipated advantages and challenges. This options analysis is presented to support the State's decision on the next steps in this matter. Options explored in the report include:

- Continuing the construction at the current Caro site.
- Conducting a statewide needs assessment with stakeholder input to determine a location for the replacement site, whether in Caro or some other area of the state.
- Continuing with the legislative authorization for construction at the current Caro site and planning for a new, smaller satellite facility.
- Building a replacement facility based on a needs assessment as well as building smaller regional facilities strategically located across the state based on the needs assessment. Alternatively, DHHS may consider the option to contract for psychiatric hospital beds with private and community hospitals for non-forensic patients as an alternative to building smaller facilities.

Background

The Caro Center is a regional state hospital (under the jurisdiction of DHHS) for adults with mental illness. Constructed in 1913, the existing Caro Center opened in 1914 as the Caro Farm Colony for Epileptics. The Caro Farm Colony served as the only state of Michigan residential treatment center for individuals with seizure disorders until 1997. The existing cottage style complex is located three miles from Caro, Michigan, in a rural setting of approximately 650 acres. The Caro Center currently provides psychiatric services for up to 150 patients on a 24 hours/day, 365 days/year basis.

According to an assessment ordered by DHHS, the existing Caro Center buildings are older in construction and design, and present health and safety concerns for patients and employees.[2] In 2017, the Michigan Legislature authorized financing to construct a new hospital on the Caro site, and also directed DHHS to begin a planning process for the potential construction of a northern satellite facility. In October 2018, the DHHS hosted a groundbreaking ceremony in Caro for a new, state-of-the-art psychiatric hospital. The 225,000 square foot Caro Psychiatric Hospital was scheduled to be completed in 2021, with the capacity to serve 200 adults, an increase of 50 beds from the existing facility.

In March 2019, DHHS suspended construction to further evaluate the decision to build the new state facility at the Caro site because of specific concerns with staffing, patient and family engagement, and access to a viable water source. In April 2019, DHHS engaged Myers and Stauffer to conduct an

[2] Michigan DHHS. Business Case for Investment in State Operated Psychiatric Hospitals. November 2016.

evaluation[3] of the decision to construct a new state psychiatric hospital facility in Caro, Michigan. The factors prompting the evaluation as relayed to Myers and Stauffer were:

- Staffing shortages and barriers to recruitment of new staff at the Caro location have become a greater concern.
- As of February 11, 2019, 102 patients reside at the Caro Center. However, only 30 live within 75 miles of Caro, resulting in less family and community engagement which are considered to be key elements to psychological stability and improvement.
- Michigan's overall state psychiatric hospital census count by county shows significant clusters of need far from Caro.
- Identifying a safe, sustainable water source has been difficult. Further analysis is required to ensure patients and staff at the facility have safe water at an acceptable cost.

Scope of the Evaluation

DHHS requested that Myers and Stauffer design and conduct an evaluation[4] that includes the following components:

- A review of the process by which the Caro Psychiatric Hospital facility location was determined.
- A review of current psychiatric hospital bed capacity and unmet bed needs.
- A determination of the appropriate location(s) for state hospital construction.
- A recommendation on continuing or revising the current proposals to better meet the needs of citizens requiring state hospital supports.

The scope of this engagement was limited to an analysis of readily available documentation and artifacts related to the primary focus areas. The scope of this engagement did not include activities such as designing comprehensive criteria for facility location, conducting a statewide needs assessment, conducting an economic impact assessment, or any other activity not expressly delineated.

Timeline

DHHS provided Myers and Stauffer a three-month timeframe to perform the analysis which was later extended by approximately three weeks. Table 1. Project Timeline outlines the timeframe and phases.

[3] Please refer to footnote 1.
[4] Ibid.

Table 1. Project Timeline

Caro Center Evaluation: Project Timeline	
Phase I: Initiation *April 1, 2019 – April 12, 2019*	• Schedule and conduct in-person project initiation meeting with DHHS project lead and other key State staff. • Discuss Myers and Stauffer's proposal and planned activities, while making mutually agreed- upon adjustments, as necessary. • Identify existing documentation and data sources that are publicly available, as well as those data sources that can be made available to Myers and Stauffer through DHHS. • Plan and conduct interviews with up to five key informants as identified and/or agreed to by DHHS. • Receive available documentation that was submitted to the 2017 Michigan Legislature for funding consideration. • Collect publicly available documentation related to the determination of the site location. • In collaboration with DHHS, identify and request other relevant information that may be available through the Michigan Behavioral Health and Developmental Disabilities Administration or other state agencies or sources.
Phase II: Methodology Development *April 13, 2019 – April 30, 2019*	• Based on available information and data, develop a methodology for DHHS consideration. • Propose evaluation methodology for DHHS review and approval so DHHS' approval of final methodology is received on or before April 30, 2019.

Phase III: Evaluation
 	
May 1, 2019 – May 30, 2019
	• Utilize the DHHS-approved methodology to conduct an evaluation. Subject to the availability of information and other applicable constraints or limitations, we anticipate the evaluation will consider:
	  ○ Current bed capacity of the Caro facility and any other similar facilities in the state as identified during the initial phase of this engagement.
	  ○ Projected demand for services comparable to those provided by the Caro facility, by geographic area of the state.
	  ○ Workforce capacity for projected staffing needs, by geographic area.
	  ○ Economic growth and other trends or factors in key geographic areas that may indicate future changes in workforce capacity and/or the ability to attract and retain necessary staffing in these areas.
	  ○ Other factors (e.g., safe and sustainable water sources at a reasonable cost) that may be identified through research, discussions with the State, or key informant interviews.

Phase IV: Reporting *June 1, 2019 – July 19, 2019*	• Conduct stakeholder engagement to include one in-person meeting in Caro. • Develop a draft report with options for DHHS' consideration. Deliver the draft to the State on or before July 5, 2019. • Conduct a walkthrough of the draft report and recommendations with DHHS. • Receive DHHS' final feedback on or before July 22, 2019. • Make final revisions to the draft report. Prepare and submit a final report for DHHS' acceptance on or before July 26, 2019.

Methodology

Assumptions

After researching and reviewing information that was publicly available or provided by DHHS, Myers and Stauffer developed and proposed a draft methodology that was subsequently approved by DHHS. We approached this engagement with the following assumptions:

- As an "unlicensed" state psychiatric hospital, this facility was neither subject to the Certificate of Need (CON) process, nor any other formal approval process for a new hospital or expansion. Therefore, there is no existing CON application or CON documentation available for consideration.
- State hospital beds, such as those in the Caro facility, reflect the long-term care needs of individuals diagnosed with serious mental illnesses, intellectual disabilities, as well as, those with forensic placements. Hence, unmet bed needs published on the CON website are not a viable proxy of unmet bed needs that the Caro facility is envisioned to address.
- The data elements and the complete inventory of existing documentation available to conduct analyses were unknown. After the initiation phase of this engagement, Myers and Stauffer proposed for DHHS review and approval a methodology based only on the available data and documentation.

Data and Documents

To accomplish the objectives of this engagement, Myers and Stauffer analyzed information from the current state hospital locations for state fiscal years (FY) 2016 through April 2019, as well as any additional reports, studies, and assessments conducted during this time. There was consideration of other time periods if the information was relevant to the objectives.

Myers and Stauffer compared patient, staffing, and geographical information for the current Caro location to the information for other state hospitals and the other proposed sites identified by DHHS. These other proposed sites include the northern satellite site recommendation identified in 2018 by the Interagency Northern Satellite Work Team and a possible site in the northern Lower Peninsula. Myers and Stauffer also analyzed recent state hospital location decisions from other states with an emphasis on states with rural state hospitals. A comparison of Michigan's mental health population to other states and an overall assessment of mental health needs in Michigan was not a component of the scope of work.

DHHS provided most of the data used in the analyses. This data was either compiled from internal sources within the DHHS or obtained from third parties. For all data submitted, Myers and Stauffer considered the source and methodology, where available. Certain data was obtained by Myers and

Stauffer from publicly available sources. No identifiable patient information was received, nor did Myers and Stauffer conduct sampling of any patient files or records.

An inventory of data and documents requested can be found in *Appendix B.*

Stakeholder Engagement

Myers and Stauffer conducted stakeholder engagement and requested comments on the scope of the engagement. Forms of stakeholder engagement included:

- A listening session with state senators Peter MacGregor, John Bizon, MD, and Kevin Daley.
- A stakeholder webinar.
- An in-person community forum in Caro.
- A designated email address open to the public to collect written comments from stakeholders.
- A review of stakeholder comments received by Governor Whitmer's office.

A summary of stakeholder comments received can be found in *Appendix A.*

Key Informant Interviews

Myers and Stauffer conducted a key informant interview with DTMB on May 30, 2019. The interview included the following questions:

- Please give a brief overview of the capital outlay process, as well as how the site was determined for the current Caro construction.
- At what point in the process was it determined that a new facility would be built on the current Caro site?
- If a different site were chosen to build the Caro facility, would the project need to get new authorization from the Legislature?
- What steps would need to be repeated if a new site was chosen (assessments, permitting, etc.)? Would the State be required to submit new Request for Proposal for design and construction contractors?
- Public Act 107 of 2017 states that the funds appropriated for the Caro project can only be used at the Caro site. Does this include State Building Authority financing of the project or just the general revenue funds included as a line item in the appropriations bill?

Myers and Stauffer conducted two Key Informant interviews with DHHS on June 3 and June 11, 2019. Interviews included the following questions and observation:

- Please explain DHHS' overall role in the capital outlay process related to the approval of the Caro project.
- Was the Caro replacement in the agency's five-year Capital Outlay Plans? If not, how and when was a determination made to replace the current Caro facility?
- Please provide a timeline for the approval of the Caro replacement based on the capital outlay process (submission of plan, approval, and planning authorization, review and approval of the planning, and construction authorization).
- Based on a review of house and senate reports, it appears that the original Caro plan was for modernization, but was approved for facility replacement in the construction authorization. Please describe when and how this change was made.

Summary of Analytical Process

To address the specific objectives of the review, Myers and Stauffer proposed and DHHS approved analysis of the following:

- The criteria used to approve the new Caro site, including a review of Michigan's capital outlay process and legislative appropriations process.
- Needs assessments that may have been completed to address facility staffing and have identified mental health needs in Michigan.
- Interviews with key agency personnel in order to obtain background information and necessary information regarding processes.
- Census reports, bed totals, and waiting lists for each state hospital. Myers and Stauffer will compare this information among all state hospitals to determine where needs and demand are highest.
- Patient information for all Michigan state hospitals that includes location of admission source, patient home zip codes, and post discharge plan/locations. Myers and Stauffer compared this information among all state hospitals to determine where patients originate and the travel distances required from homes and/or follow-up care.
- Staffing levels and licensure information for the analytical period which was compared among other state hospitals. Myers and Stauffer also determined where clusters of health care workers are located in the state and compared to other locations of state hospitals.
- Locations of vocational/education centers to identify potential workforce.
- Locations of other inpatient mental facilities (private, non-profit, etc.) and CMHCs that serve the needs of the mental health population. The location of these facilities were then compared

to the locations of the current state hospitals to determine the potential availability of other resources.

- Identify the locations of other medical facilities, particularly trauma centers, to identify the potential availability of medical services for patients and staff.
- Determine the prevalence of mental illness statewide and the locations and/or clusters of the population with mental health needs to determine potential demand for inpatient psychiatric care.

Use of Michigan Prosperity Region Designation

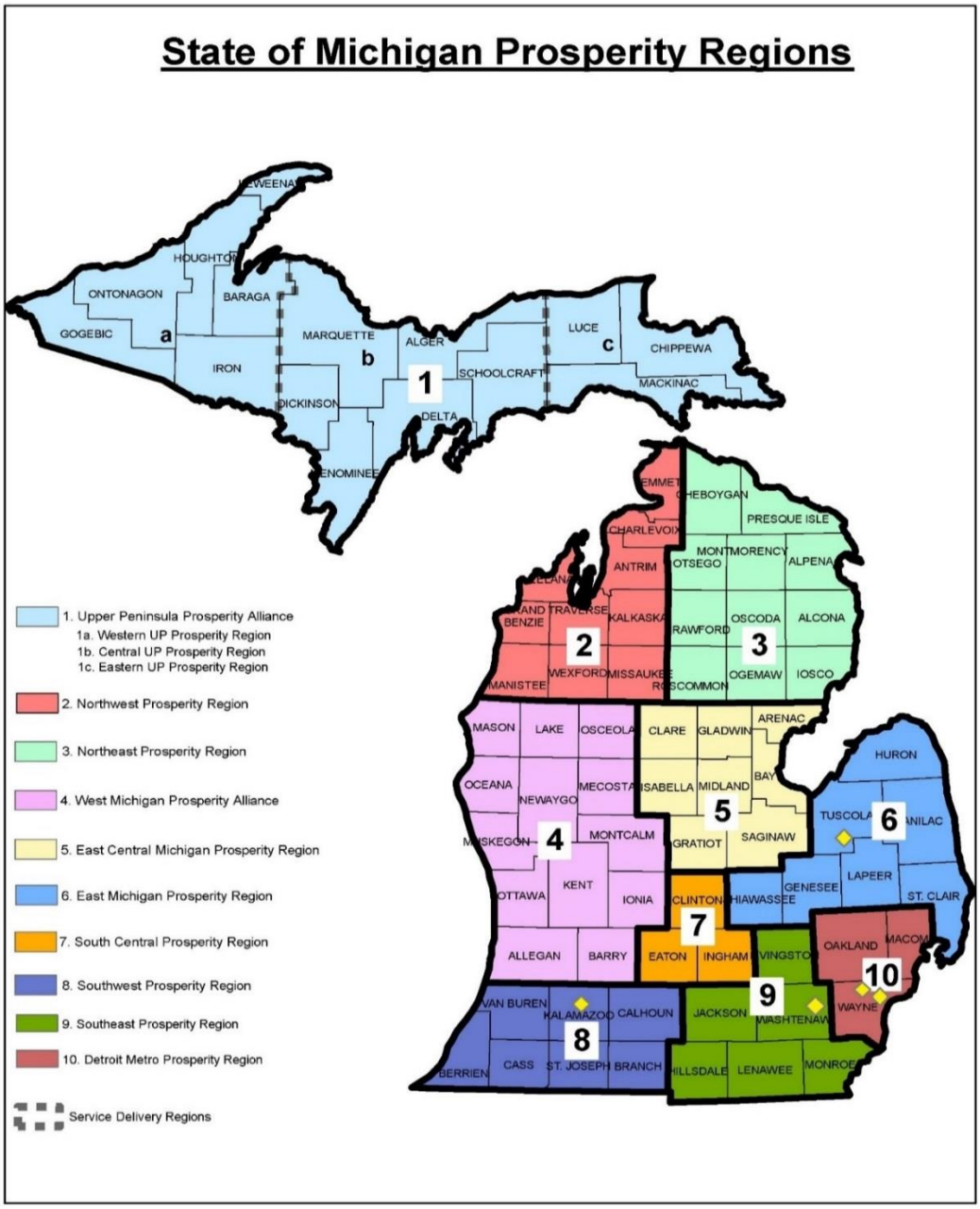
To conduct this analysis, Myers and Stauffer used the Prosperity Region designations identified by the DTMB as the primary method for comparing data (See Figure 1) across geographic regions of the state. These Prosperity Region designations were developed in 2013 through a statewide initiative led by then-Governor Snyder's office to align goals and strategies of different types of service providers within a regional framework. These service providers cover a broad range of programs including, but not limited to, health, education, agriculture, and law enforcement/criminal justice. It should be noted, however, that Myers and Stauffer is only using the map to define boundaries for comparison of the data within this report. We did not analyze the rationale or appropriateness of how the boundaries of each Prosperity Region were developed.

Since the location of the Caro replacement facility was the main focus of this analysis, it was determined that using regional designations with an equitable geographic distribution was crucial. While other regional maps were considered, Myers and Stauffer chose to use DTMB's designated prosperity regions for the following reasons:

- Regions are geographically distributed based on the service delivery areas of multiple local, state, and federal programs, as well as transportation routes and locations of population centers.
- The prosperity region map was developed to geographically categorize areas of the state that shared similar goals and priorities specific to the needs of the region.

When reviewing the information in this report, readers should consider that populations can and do cross regional lines, especially if larger jurisdictions are near regional boundaries. To account for this, Myers and Stauffer, in many cases, presents the data by region but will also make a conclusion about surrounding regions as well or combine results of multiple regions.

Figure 1. Michigan Prosperity Regions and State Psychiatric Hospitals



[5]

[5] Source: Michigan DTMB Regional Prosperity Initiative page https://www.michigan.gov/documents/dmb/Prosperity_Map1_430346_7.pdf. State hospitals are indicated with yellow diamond.

Observations and Discussion

Objective 1: Review the Process by Which the New Caro Psychiatric Hospital Location was Determined

The decision to build a new facility at the current Caro facility site was determined by the Michigan Legislature and approved by former Governor Rick Snyder through the appropriations process and signed into law in June 2017. The signed bill stipulated that the authorized funds for the construction of a new facility be restricted to the current site in Caro, Michigan. The governor's executive budget, issued in February 2017, did not specify a site, only that location and siting would be evaluated during the planning process. No documentation was identified indicating a formal, criteria-based needs analysis and justification for the Caro site or other potential locations.

Capital Outlay Process and Legislative Authorization to Construct a New Facility at the Current Caro Center and Plan for a Satellite Facility in Northern Michigan

Observation:
The designation of Caro as the site of the build is limited to the language in Public Act 107 from the 2017 Michigan Legislature.

Discussion: Myers and Stauffer analyzed Michigan's capital outlay process to determine the role of DHHS, the governor's office, and the Legislature in the decision to construct a new facility at the current Caro site. Specifically, Myers and Stauffer analyzed agency capital outlay plans, detailed capital project requests, and public reports from the State Budget Office and the Michigan Legislature. Legislative Committee meeting minutes and public input was also analyzed.

In recent years' capital outlay plans, DHHS has noted several severe maintenance issues related to the current Caro facility and recommended specific courses of action. These actions were necessary to ensure the facility meets Joint Commission accreditation and Centers for Medicare & Medicaid Services (CMS) certification, and provides for the overall health and safety of patients and staff. In 2016, the Legislature authorized funds for planning to modernize the Caro facility.[6] During the development of the FY 2018 budget, DHHS submitted its capital improvement plan that included a replacement of the Caro facility instead of a modernization.[7] The replacement plan did not specifically state a site for the new facility, only that the specific site would be developed during a planning and evaluation process. According to agency officials, DHHS planned to work with DTMB after the funds for construction were authorized to identify a potential site. While agency officials noted in other reports that a desired

[6] Michigan House Fiscal Agency. FY 2015-16: Capital Outlay Summary: Conference Report Article II, House Bill 5294 (H-1) CR-1. June 7, 2016.
[7] Michigan DHHS. FY 2018 Capital Outlay Major Project Request.

location was the northern Lower Peninsula, it appears that no actual site evaluations had been conducted prior to the construction authorization in 2017.

The construction authorization was presented to Governor Snyder and signed as part of Public Act 107 of 2017.[8] The appropriations act authorized funds to be used only at the current Caro Center site. In January 2018, the design firm, Integrated Design Solutions, was engaged through the competitive bidding process. Granger Construction was hired in early summer of 2018. As of March 31, 2019, invoices totaling just over $3 million have been submitted by the design and construction firms to the State.[9] The majority of the amount invoiced is for facility designs specific to the Caro site; however, no actual construction has been initiated.

As part of the approval to build the replacement hospital at the existing Caro Center site, the Legislature, in Public Act 107 of 2017, also authorized planning for a smaller satellite facility to be built in the northern part of the state. It did not include funding or an authorization to begin building. Public Act 207 of 2018 specifically directs DTMB to work with DHHS to study and identify an appropriate site for a northern satellite facility.[10] A work group was formed to discuss possible options for the new smaller satellite site and reports were presented to the governor. As of this analysis, the work group has conducted on-site evaluations of existing structures, as well as potential partnerships with private inpatient facilities as possible smaller satellite state hospitals.

As noted, the construction authorization for the Caro Center replacement requires the funds be used only at the current Caro location. State officials acknowledge that, in accordance with the existing appropriation, more than $3 million is currently invoiced for design work specific to the Caro location, and planning and evaluation has also been conducted for a smaller satellite facility in northern Michigan. In addition, DHHS would be required to get new authorization from the Legislature for an alternate site. The time to receive legislative approval stands to create delays addressing health and safety concerns at the Caro site, and related work to increase inpatient psychiatric bed day capacity within the state. Also, it is likely that additional site assessments would be required. It is not clear how long this process would delay construction and completion of the new facility.

[8] Act No. 107 Public Acts of 2017, Article II, §. 1061. https://www.legislature.mi.gov/documents/2017-2018/publicact/pdf/2017-PA-0107.pdf
[9] Michigan DHHS. June 17, 2019.
[10] Act No. 207 Public Acts of 2018, Article II, §822o and §1152. http://www.legislature.mi.gov/documents/2017-2018/publicact/pdf/2018-PA-0207.pdf

Needs Assessments and Prior Reviews to Determine Alternate Replacement Site

Observation:
No documentation was identified indicating a formal, criteria-based needs analysis and justification for the Caro site or other potential locations.

Discussion: Myers and Stauffer analyzed documentation that related mental health topics and mental health service utilization in the state of Michigan. This research was to determine if any assessments of this data were used in the decision on where to build the new facility.

Prior to the planning and construction authorization for work on the Caro facility, DHHS contracted with KPMG, a consulting firm, to conduct a comprehensive analysis of the State's five psychiatric hospitals to determine if issues exist that could affect quality of care, impact Medicaid special financing arrangements, CMS and Joint Commission accreditation, and working conditions for employees. In regard to the Caro Center, the report recommended that the location be entirely replaced due to safety concerns and outdated construction not fitting with modern psychiatric practices.[11] Various options for building were provided in the report. The report also included an option for building smaller regional facilities statewide instead of one large facility at a single location. Although evaluations of different sites were not completed as part of the scope, the report noted that DHHS preferred to build the facility on state-owned land in the northern part of the Lower Peninsula, if available. The KPMG report also stressed that immediate maintenance actions were needed at the current Caro facility. The immediacy of this need was accompanied by the observation that the longer the State waits to build a replacement facility, the greater the maintenance cost on the current facility, as well as the potential cost of construction. The 2016 construction escalation costs in Michigan were estimated at five percent per year.

The Michigan House of Representatives initiated the Community, Access, Resources, Education, and Safety (CARES) Task Force in 2017 to conduct stakeholder meetings as a way to identify issues and develop possible solutions regarding mental health needs across the state. The CARES' report addressed several statewide issues, including the location of services.[12]

Participants contributing to the study made several recommendations regarding the development of community mental health infrastructure, and noted that the State should pursue opportunities to increase the number of psychiatric beds available and crisis centers in underserved areas. The report provides that the State should find ways to encourage other hospitals to increase the number of beds available and/or expand psychiatric wards. No specific areas of the state, however, are identified as to where the need exists for additional psychiatric beds. The report did suggest the implementation of mental health stabilization units or regional crisis stabilization units throughout the state. These units

[11] Michigan DHHS Business Case for Investment in State Operated Psychiatric Hospitals. November 2016.
[12] Michigan House of Representatives. House CARES Task Force Final Report. Received April 16, 2019.

would address the needs of those who require stabilization services but are not eligible for hospitalization.

Based on discussions with DHHS and an analysis of available reports and other information, it appears that no formal assessments have been conducted identifying specific mental health needs from a statewide or regional basis. Likewise, it appears that no formal site evaluations or studies in other areas around the state were conducted prior to construction authorization for the new Caro Center replacement in 2017. While DHHS has identified the northern region of Michigan as a possible site for the relocation of the Caro Center, Myers and Stauffer did not identify a comprehensive evaluation conducted for that location.

Considerations from Recent Decisions in Other States to Build Replacement Facilities

Observation:
States replacing aging psychiatric hospital infrastructure have employed various processes and criteria that include an examination of inpatient care needs, potential regional impact, and mental health system alignment.

Discussion: In order to potentially provide options for DHHS' consideration, Myers and Stauffer analyzed reports and recent decisions regarding building new state-owned psychiatric hospitals in other states.

Massachusetts developed a psychiatric hospital model prior to considering potential sites for a new state psychiatric facility.

In 2006, Massachusetts convened a Special Commission to study the feasibility of constructing a new Department of Mental Health (DMH) inpatient facility.[13] The Special Commission followed a two-step process that involved the development of a psychiatric hospital model (model) first, without consideration of the restraints of a site. The model was developed using data from a 2004 examination of the State's adult continuing care inpatient bed capacity and demand. As summarized in the Special Commission's report, the 2004 examination included data regarding:

- Trends in number of staffed beds and admissions to acute care general hospital psychiatric units and private psychiatric hospitals licensed by DMH.
- Admissions, census, discharges, and length of stay (LOS) data for DMH adult continuing care inpatient services.
- Trends in civil versus forensic admissions to DMH inpatient settings.
- Peer state comparisons.

[13] www.http://hdl.handle.net/2452/40887

- Number of current DMH adult continuing care inpatient clients ready for discharge, assuming available community resources.

The second step in the Special Commission's process was the consideration of two potential sites, Worcester State Hospital and Westborough State Hospital. The sites were separately evaluated based on their access to local highways, climate, views, existing buildings, existing utility services, existing public transportation, emergency services, access to other kinds of medical care, access to community resources, and topography. The Special Commission also considered original reasons state psychiatric facilities were built on those sites. Ultimately the Special Commission used analysis from both parts of the process to recommend a new facility be built at the Worcester State Hospital site. The Westborough site was eventually closed.

Developing a psychiatric hospital model based on an examination of state and patient needs provided the Special Commission insight in determining the location and setting most suitable for a new facility.

Texas considered historical and cultural significance, and regional economic impact in making its decision to rebuild a rural facility in Rusk, Texas.

In 2017, the state of Texas, along with the University of Texas at Austin, published a report discussing the need to replace decaying infrastructure with modern psychiatric facilities and identified Rusk State Hospital as one of the facilities in need of replacement. The hospital is located in Rusk, Texas, a rural community in east Texas with no interstate access. The report noted that the rural location in East Texas was appropriate given the benefit of a quiet, natural setting for the mental health population, as well as the influence the facility has lent to the culture and identity of the region for generations. The report also noted that the plan for redevelopment of the Rusk site provides an opportunity for continued positive social and economic impact to the region, and the new plan will continue to foster the long-term relationship already established between the hospital and the greater Rusk community. The potential for increased operational efficiencies and a comfortable, safe workplace were also discussed as advantages of building a new facility on the current grounds. Ultimately, Texas decided to replace existing infrastructure at Rusk. The Texas process included community involvement and an assessment of the negative impact to the region that could result if the facility were moved.

Broadening its assessment to consider the historical, regional, and economic impact of a new psychiatric facility supported the state in selecting an appropriate location.

Indiana closed an aging hospital and built a new facility on a site co-located with an inpatient hospital to advance statewide efforts to integrate mental health care across the State.

In 2006, Indiana planned to replace the LaRue Carter Memorial Hospital (LaRue Carter). LaRue Carter was built in the 1930s and located in west Indianapolis. The facility was aging and not equipped to provide modern psychiatric care. The State intended to begin building a new facility in 2008, but

budget restraints halted those plans. In 2014, the state began to integrate its state psychiatric hospitals and other parts of its public mental health system into a comprehensive and integrated mental health network. At this time plans were revisited to replace LaRue Carter with a new cutting-edge institute that would, "complement the development of a state-operated facility network and improve quality of care for all patients."[14]

In 2015 the State conducted a feasibility study that outlined the need for co-located and integrated medical/diagnostic services as essential elements of successful modern treatment protocols. And, provided that "located miles away from an acute medical facility, LaRue Carter presents ongoing challenges to providing immediate access to comprehensive, integrated medical care."[15] The feasibility study proposed that the LaRue Carter facility be closed and replaced with the new Indiana Neuro Diagnostic Institute at an alternate site on the campus of Community East Hospital.

Considering the opportunity to build a new state psychiatric hospital within the context of how its location would align with statewide goals for mental health care supported the State in determining where to locate a new facility.

Objective 2. Review the Current Psychiatric Hospital Bed Capacity and Unmet Bed Needs

As noted in the Scope of the Evaluation section, Myers and Stauffer did not conduct an assessment of overall bed capacity and unmet bed needs, which are general terms that refer to the comprehensive care of a patient, including treatment, staffing and other ancillary resources that compose an individual patient's overall care.

While conducting a comprehensive analysis of the overall bed capacity and need was out of the scope of the evaluation, Myers and Stauffer did analyze the potential demand for psychiatric beds at Caro and accessibility of the facility for patients and their families by analyzing two years of daily census data, sources of admission, and home zip codes for patients at Caro. We compared this data to the other state hospitals. To assess staffing issues, Myers and Stauffer analyzed position vacancies and distance traveled by staff from their home addresses to the Caro facility, and we compared this information to staff from the other state hospitals. As noted earlier, Myers and Stauffer used the DTMB's designation of Prosperity Regions as a way to compare the data. The use of prosperity regions divides the state into 10 sectors based on location which allows for comparison at a manageable level, as opposed to comparing data among smaller units, such as counties, which could skew results since the hospitals are intended to serve a region and not just one county.

[14] https://www.in.gov/fssa/dmha/files/FSSA_NDI_Feasibility_Study_Exec_Summary_FINAL.pdf
[15] Ibid.

Average Census and LOS

Observation:
In 2017 and 2018, the Caro Center operated near capacity and, in comparison to other state psychiatric hospitals, had the greatest number of patients with LOS over five years.

Discussion: When considering bed capacity, it is important to recognize this metric goes beyond the number of physical beds available. Instead, bed capacity also considers the number of patients who can safely and appropriately be cared for and supervised given the facility's staffing constraints. According to the patient census data provided by each of the state psychiatric facilities, all of Michigan's state psychiatric facilities have operated near capacity in both 2017 and 2018. However, during this time, the Caro Center operated closer to its capacity than the other hospitals. As shown in Table 2. Census Average and Range FY 2017 – FY 2018, Caro had an average FY 2018 census of 147 patients, for its 150-bed capacity. Although KPH also has capacity for 150 beds, in FY 2018, it had an average census of 139 patients. In FY 2018, WPRH had an average census of 166 patients, despite the 180-bed capacity at the facility. The CFP and Hawthorn Center were not used for comparison since they serve narrowly-defined patient populations. Specifically, the CFP serves only forensic patients, while Hawthorn serves only children and adolescents.

It should be noted that while Caro operated near capacity in FY 2017 – 2018, the census was reduced to 74 patients as of April 2019. DHHS officials stated the census was intentionally reduced because of a shortage of professional and non-professional staff, but particularly by the shortage of psychiatry staff. DHHS officials also added that the census, as of this writing, is being brought back to previous levels. However, DHHS is employing temporary alternatives to direct, in-person care like telepsychiatry because of continued challenges in recruiting and retaining necessary staff. These staffing shortages and use of non-preferred service delivery methods may contribute to longer than necessary LOS according to DHHS.

Table 2. Census Average and Range FY 2017 – FY 2018

Census Average and Range FY 2017 – FY 2018[16]				
	Time Period	**WPRH**	**Caro Center**	**KPH**
Total Beds		180	150	150
YTD Census Average	FY 17	170	146	141
	FY 18	166	147	139
	FY 17 – FY 18	168	147	140
Census Range	FY 17	164 – 176	143 – 148	135 – 146
	FY 18	159 – 172	143 – 149	129 – 146

[16] State Budget Office. Capital Outlay: Department of Health and Human Services – Caro Center Replacement – New State Psychiatric Hospital. February 8, 2017. Michigan DHHS, April 16, 2019.

Table 3. Length of Stay (as of April 30, 2019) shows that the Caro Center has more patients with longer stays as compared to WPRH and KPH. As of April 30, 2019, Caro had an average LOS of 18 months, while 18 patients (out of nearly 150) had been admitted for longer than five years. WPRH and KPH, on the other hand, both had average LOS of less than 11 months. In April 2019, WPRH had only nine patients who had been admitted for more than five years, while KPH had none. Since the Caro Center has patients with both longer LOS and a greater number of patients at the facility for more than five years, these patients would be required to relocate. Distancing the patients from any community support connections that have been established could jeopardize recovery, resiliency, and potentially discharge planning.

Table 3. Length of Stay (as of April 30, 2019)

Census Average and Range FY 2017 – FY 2018 Length of Stay (as of April 30, 2019)[17]			
	WPRH	**Caro Center**	**KPH**
Mean Length of Stay (Years)	0.9	1.5	0.9
Longest Stay (Years)	30.6	19.2	3.5
Patients with LOS >5 Years	9	18	0

Analysis of Patient Home Zip Codes and Admission Sources

Observation:
A majority of patients at the Caro Center and other adult state psychiatric hospitals in 2017 and 2018 had home zip codes in the Detroit Metro Prosperity Region. Over 80 percent of the patients at the Caro Center are from the East Michigan, East Central, and Detroit Metro regions. Most patients were admitted from CMHCs or the justice system.

Discussion: Patient home zip codes and admission sources were analyzed for each state hospital to determine which areas most patients originate from and the channels by which they are admitted to the hospitals. Patient home zip codes can indicate the location of their family or support system and where discharged patients may seek follow-up care. Myers and Stauffer analyzed the home zip codes for all patients who resided at the Caro Center during 2017 and 2018 (Table 4. Caro Center Patient Home Zip Code Locations 2017 and 2018). In 2017 and 2018, respectively, 30 percent and 25 percent of the Caro Center's patients were from the East Michigan region (the region in which Caro is located). In the same years, 12.5 percent and 12.8 percent of patients were from the northern regions (Upper Peninsula, Northeast, and Northwest). Therefore, the majority of the patients at Caro are from the regions surrounding Caro (Detroit Metro and East Central) which comprised between 55 percent and 60 percent of the Caro patients in 2017 and 2018. Including patients from the Caro region (East Michigan), the total percentage of patients from these three regions is over 80 percent.

[17] Michigan DHHS, May 24, 2019.

Table 4. Caro Center Patient Home Zip Code Locations 2017 and 2018

Caro Center Patient Home Zip Code Locations 2017 and 2018[18]				
	2018		2017	
Prosperity Region	Total	%*	Total	%*
Detroit Metro Prosperity Region	99	46.7%	109	46.8%
East Michigan Prosperity Region	53	25.0%	69	29.6%
East Central Michigan Prosperity Region	26	12.3%	18	7.7%
Upper Peninsula Prosperity Alliance	15	7.1%	15	6.4%
Northeast Prosperity Region	8	3.8%	11	4.7%
Northwest Prosperity Region	4	1.9%	3	1.4%
West Michigan Prosperity Alliance	3	1.4%	3	1.3%
Southeast Michigan Prosperity Region	1	0.5%	2	0.9%
South Central Prosperity Region	1	0.5%	1	0.4%
Southwest Prosperity Region	1	0.5%	1	0.4%
Out-of-state/Unknown	1	0.5%	1	0.4%
Total	**212**	**100%**	**233**	**100%**

**These columns represent the percentage of Caro patients with home zip codes in each region out of the total number of patients at the Caro Center throughout 2017 and 2018.*

Myers and Stauffer also analyzed the patient home zip codes for the other state psychiatric facilities to determine the distance patients and families have to travel to those facilities. Table 5. Patient Home Zip Code Locations 2017 and Table 6. Patient Home Zip Code Locations 2018 compare the percentage of patients with home zip codes in the Prosperity Region in which the hospital is located to the northern regions since these regions were proposed by DHHS as a possible site for the new Caro Center. The Detroit Metro Region is also included separately since it is the most populous. All facilities have more patients from its own region than all three northern regions combined. The Caro Center also has a higher percentage of patients from its own region (East Michigan) than Kalamazoo has from its region (Southwest Region). Except for KPH, the majority of the patients at each hospital are from the Detroit metro area. In both years, patients from the northern three regions made up about six percent of the state hospital population. It should be noted that these numbers are raw totals based on individual hospital stays during each year and do not take into account re-admissions by the same patient within the same year.

[18] Michigan DHHS, May 24, 2019.

Table 5. Patient Home Zip Code Locations 2017

Patient Home Zip Code Locations 2017[19]								
	Caro		CFP		KPH		WPRH	
Prosperity Region	Total	%*	Total	%*	Total	%*	Total	%*
Upper Peninsula Prosperity Alliance	15	6.4%	2	0.6%	2	0.8%	0	0.0%
Northwest Prosperity Region	3	1.4%	11	3.5%	10	4.1%	0	0.0%
Northeast Prosperity Region	11	4.7%	5	1.6%	1	0.4%	0	0.0%
Detroit Metro Prosperity Region	109	46.8%	131	42.3%	38	15.6%	158	74.9%
Facility's Region	69	29.6%	28	9.0%	9	3.7%	See Detroit Metro	
Other Regions	26	11.2%	133	42.9%	184	75.4%	53	25.1%
Total	**233**	**100%**	**310**	**100%**	**244**	**100%**	**211**	**100%**

** These columns represent the percentage of patients at each facility with home zip codes in each region out of the total number of patients at each facility.*

Table 6. Patient Home Zip Code Locations 2018

Patient Home Zip Code Locations 2018								
	Caro		CFP		KPH		WPRH	
Prosperity Region	Total	%*	Total	%*	Total	%*	Total	%*
Upper Peninsula Prosperity Alliance	15	7.1%	3	0.9%	4	1.8%	1	0.4%
Northwest Prosperity Region	4	1.9%	7	2.0%	12	5.3%	1	0.4%
Northeast Prosperity Region	8	3.8%	5	1.5%	3	1.3%	2	0.8%
Detroit Metro Prosperity Region	99	46.7%	144	42.0%	38	16.7%	184	75.7%
Facility's Region	53	25.0%	34	9.9%	50	21.9%	See Detroit Metro	
Other Regions	33	15.6%	150	43.7%	121	53.1%	55	22.6%
Total	**212**	**100%**	**343**	**100%**	**228**	**100%**	**243**	**100%**

**These columns represent the percentage of patients at each facility with home zip codes in each region out of the total number of patients at each facility.*

In both 2017 and 2018, the Caro Center admitted patients only from CMHCs or the justice system. In 2017, more than 50 percent of admitted patients came from CMHCs; however in 2018, nearly 68 percent came from the justice system. KPH and WPRH had more diverse admission sources, although KPH's admissions were also largely from CMHCs and the justice system. WPRH admitted a majority of patients from the justice system in 2017, but in 2018, they admitted a majority of patients transferred from other inpatient hospitals. See Table 7. Patient Admission Source 2017 and 2018 by Facility.

[19] Michigan DHHS, May 24, 2019.

Table 7. Patient Admission Source 2017 and 2018 by Facility

Patient Admission Source 2017 and 2018 by Facility[20]							
		Caro		KPH		WRPH	
Prosperity Region		Patients	Percent*	Patients	Percent*	Patients	Percent*
Community Mental Health Center	2017	56	52.83%	52	38.52%	16	16.33%
	2018	26	32.10%	39	32.77%	15	12.82%
Justice System	2017	50	47.17%	52	38.52%	57	58.16%
	2018	55	67.90%	50	42.02%	47	40.17%
Other Health Care Facility	2017	-	-	8	5.93%	2	2.04%
	2018	-	-	5	4.20%	2	1.71%
Psychiatric Hospital	2017	-	-	3	2.22%	2	2.04%
	2018	-	-	2	1.68%	1	0.85%
Facility Emergency Room	2017	-	-	8	5.93%	-	-
	2018	-	-	4	3.36%	2	1.71%
Acute Care Hospital	2017	-	-	8	5.93%	2	2.04%
	2018	-	-	1	0.84%	-	-
Transfer from Hospital Inpatient	2017	-	-	4	2.96%	19	19.39%
	2018	-	-	17	14.29%	50	42.74%
Skilled Nursing/ Intermediate Care Facility CMHC	2017	-	-	-	-	-	-
	2018	-	-	1	0.84%	-	-

**These column represents the percentage of patients admitted to each facility in 2017 or 2018 from each admission source out of the total number of patients admitted to each facility in those years.*

Current Waitlist for State Hospital Beds

Observation:
Approximately 23 percent of the patients on the waitlist for a bed at a state psychiatric hospital in May 2019 were from the Detroit Metro Prosperity Region, while the East Michigan Region and West Michigan Prosperity Alliance followed with 12 percent each of the total waitlist population.

Discussion: In May 2019, the waitlist for all Michigan state psychiatric hospitals serving adults included 202 people. While each facility has its own waitlist, due to high demand for state psychiatric beds in Michigan, hospitals with open beds have been taking patients outside of their service areas. People on this waitlist may be admitted to any of the four hospitals for adults as they all accept forensic patients.

Table 8. Waitlist by Prosperity Region (as of May 2019) shows that a majority of people on the state psychiatric hospital waitlists have home zip codes in the Detroit Metro Prosperity Region, followed by the West Michigan Prosperity Alliance and the East Michigan Prosperity Region, which includes the

[20] Michigan DHHS, May 24, 2019.

area surrounding the Caro Center. The Northeast and Northwest Prosperity Regions have the least number of waitlisted patients in the state. These regions make up Michigan's northern Lower Peninsula. The number of patients on the May 2019 waitlist from Michigan's northern prosperity regions (Upper Peninsula, Northeast, and Northwest) total 27. Caro's region alone, the East Michigan Prosperity Region, had 24 waitlisted adults. However, when compared to each region's total population, the Upper Peninsula has the largest number of people on the waitlist. There is one person on the state psychiatric hospital waitlist for every 17,643 people in the Upper Peninsula Prosperity Alliance. The East Michigan Prosperity Alliance follows with one person on the waitlist for every 47,386 residents. Overall, the Caro Center, CFP, and WPRH had a majority of waitlisted patients with home zip codes in the Detroit Metro Prosperity Region. WPRH is located in this region, while Caro and CFP are in adjacent regions. KPH had a majority of patients on their waitlist from the West Michigan Prosperity Alliance, which is adjacent to KPH's Southwest Prosperity Region.

Table 8. Waitlist by Prosperity Region (as of May 2019)

Waitlist by Prosperity Region (as of May 2019)[21]				
Zip Code Prosperity Region	**Adult Waitlist Total**	**Percentage of Total Waitlist**	**2017 Adult Population in Region**	**Waitlist Per 100,000 Adults in Region***
Detroit Metro Prosperity Region	46	22.8%	3,008,524	1.5
County Unknown/Out-of-State	35	17.3%	-	-
West Michigan Prosperity Alliance	24	11.9%	1,219,271	2.0
East Michigan Prosperity Region	24	11.9%	663,410	3.6
Southwest Prosperity Region	18	8.9%	606,777	3.0
Upper Peninsula Prosperity Alliance	14	6.9%	247,001	5.7
Southeast Michigan Prosperity Region	10	5.0%	802,436	1.2
East Central Michigan Prosperity Region	9	4.5%	448,115	2.0
South Central Prosperity Region	9	4.5%	379,290	2.4
Northwest Prosperity Region	8	4.0%	243,291	3.3
Northeast Prosperity Region	5	2.5%	167,547	3.0
Total	**202**	**100%**	**7,785,662**	

**This column represents the number of people from each region who are on the waitlist for a state psychiatric bed per every 100,000 adults in the region's population. Myers and Stauffer normalized the waitlist figures since the Detroit Metro Prosperity Region has an adult population far greater than other regions, and it could be expected to have the greatest presence on the waitlist.*

[21] Michigan DHHS, May 24, 2019.
U.S. Census Bureau and Michigan Department of Management and Budget, Office of the State Demographer. Michigan Population by County. http://www.senate.michigan.gov/sfa/economics/MichiganPopulationByCounty.PDF.

Staffing and Workforce Review

Observation:
Approximately 95 percent of the Caro Center's employees have home zip codes within a 50-mile radius. This is comparable to the distance traveled by CFP employees. Although the Caro Center has more vacancies for licensed positions than KPH and WPRH, the number of vacancies for positions that are not licensed or credentialed are similar to KPH.

***Discussion*:** In addition to the accessibility of the Caro Center for patients and families, other issues were cited as reasons for reassessing the building of a new facility in Caro, including staffing shortages, long commutes, and barriers to recruitment of new staff. These issues were also included in Michigan Occupational Safety and Health Administration (MIOSHA) reports (February 2019) as a safety concern.[22] Myers and Stauffer's analysis of employee home zip codes determined that 70 percent of all Caro Center staff are within a 25-mile radius of the hospital, while 90 percent of staff at KPH and WRPH live within a 25-mile radius of their facilities. However, the distances traveled by Caro staff are comparable to the distances traveled by CFP staff, and CFP has a higher percentage of staff that live more than 25 miles away. At both facilities, only five percent of staff had zip codes more than 50 miles away. The CFP facility, however, is in closer proximity to an interstate highway and other U.S. highways than Caro, a variable that could be a factor for CFP staff's ability to travel farther distances. See Table 9. Employee Distance from Facility (as of April 30, 2019).

As shown in Table 10. Vacancies for Licensed/Credentialed Positions (as of April 30, 2019), the Caro Center also has a greater number of vacancies for licensed or credentialed employees than its counterparts. Nearly half of Caro's licensed or credentialed vacancies are for registered nurse managers, followed by psychologists. Similarly, KPH and WPRH licensed or credentialed vacancies are mostly for psychiatrists and registered nurse managers, although in much smaller quantities. The Caro Center is the only hospital of the three with vacancies for a Psychiatry Director and Physician Manager. DHHS officials noted that the Psychiatry Director position has been vacant for years. When vacancies for positions that are not licensed or credentialed are compared between the Caro Center and KPH, KPH has greater need, as noted in

Table 11. Vacancies for Positions not Licensed/Credentialed (as of April 30, 2019). KPH has 45 total vacancies for these positions, while Caro has 38 vacancies. For both Caro and KPH, the majority of their vacancies for positions that are not licensed or credentialed are for resident care aides.

[22] Michigan Department of Licensing and Regulatory Affairs, MIOSHA. Field Narrative. February 26, 2019.
Michigan Department of Licensing and Regulatory Affairs, MIOSHA. Notification of Failure to Abate Alleged Violations. November 17, 2018.

Table 9. Employee Distance from Facility (as of April 30, 2019)

Employee Distance from Facility (as of April 30, 2019)[23]										
Mile Radius	Caro		KPH		WPRH		CFP		Hawthorn	
	Number	Percent*	Number	Percent*	Number	Percent*	Number	Percent*	Number	Percent*
25	264	71%	437	91%	376	94%	350	62%	220	87%
50	88	24%	34	7%	21	5%	185	33%	25	10%
75	16	4%	6	1%	3	1%	25	4%	5	2%
75+	2	1%	4	1%	1	0%	8	1%	3	1%
Total	**370**	**100%**	**481**	**100%**	**401**	**100%**	**568**	**100%**	**253**	**100%**

**These columns represent the percentage of employees of each facility that reside within each radius out of the total number of employees of each facility.*

Table 10. Vacancies for Licensed/Credentialed Positions (as of April 30, 2019)

Vacancies for Licensed/Credentialed Positions (as of April 30, 2019)*[24]						
	Caro		KPH		WPRH	
Position	Number of Vacancies	Vacancies/ Bed Capacity (150)**	Number of Vacancies	Vacancies/ Bed Capacity (150)**	Number of Vacancies	Vacancies/ Bed Capacity (180)**
Registered Nurse Manager	26	17.3%	6	4.0%	2	1.1%
Psychiatrist	7	4.7%	7	4.7%	5	2.8%
Psychologist	16	10.7%	0	0.0%	2	1.1%
Practical Nurse	6	4.0%	3	2.0%	2	1.1%
Clinical Social Worker	6	4.0%	2	1.3%	1	0.6%
Physician	3	2.0%	1	0.7%	0	0.0%
Occupational Therapist	1	0.7%	1	0.7%	0	0.0%
Registered Nurse	0	0.0%	1	0.7%	1	0.6%
State Division Administrator	0	0.0%	1	0.7%	1	0.6%
Dental Hygienist	0	0.0%	0	0.0%	1	0.6%
Dentist	0	0.0%	0	0.0%	1	0.6%
Electrician Master Licensed	0	0.0%	0	0.0%	1	0.6%
Medical Record Examiner	0	0.0%	1	0.7%	0	0.0%
Pharmacist	1	0.7%	0	0.0%	0	0.0%
Physician Manager	1	0.7%	0	0.0%	0	0.0%
Power Plant Operator	1	0.7%	0	0.0%	0	0.0%
Psychiatrist Director	1	0.7%	0	0.0%	0	0.0%
Total	**69**	**46.0%**	**23**	**15.3%**	**17**	**9.4%**

**Complete data for licensed staff at CFP was not available, and, therefore, not included in the comparison.*
***These columns represent the rate of vacancies for licensed/credentialed positions at each facility per patient bed. Myers and Stauffer normalized the vacancy amounts in order to more accurately compare them between facilities. Facilities with larger bed capacities have greater staffing needs and may, therefore, have more vacant positions.*

[23] Michigan DHHS. May 3, 2019.
[24] Michigan DHHS. June 6, 2019.

Table 11. Vacancies for Positions not Licensed/Credentialed (as of April 30, 2019)

Vacancies for Positions not Licensed/Credentialed (as of April 30, 2019)*[25]		
Position	**Caro**	**KPH**
Resident Care Aide	32	16
Activities Therapy Aide	0	11
Domestic Service Aide	0	5
Departmental Technician	0	3
Fire Safety Officer	0	2
Word Processing Assistant	2	0
Community Health Service Manager	0	1
Departmental Analyst	0	1
Departmental Specialist	1	0
General Office Assistant	0	1
Human Resources Developer	0	1
Institutional Training Tech	0	1
Physical Plant Supervisor	1	0
School Teacher	0	1
Secretary	1	0
Senior Executive Psych Director	0	1
State Admin Manager	0	1
Storekeeper	1	0
Total	**38**	**45**

**Complete data for non-licensed staff at WFRH and CFP was not available, and, therefore, not included in the comparison. Caro and KPH have equal bed capacities (150), therefore, these amounts were not normalized.*

Objective 3. Determine Appropriate Location(s) for State Hospital Construction

The results in the previous section indicated that the majority of state hospital patients originate from the Detroit metropolitan area with the western and eastern areas of the state comprising the second largest group, which coincides with the locations of the current state hospitals. As mentioned previously, the State has expressed interest in possible hospital relocation to a northern area of the state, as well as the possibility for new facilities within the state. It should be noted that Myers and Stauffer is not proposing specific sites and has only been tasked with summarizing and presenting information to inform decisions that will be made by the State. Therefore, in addition to the patient demographic and facility information presented above, Myers and Stauffer analyzed the following criteria that the State could use when identifying locations that may be suitable for a new state hospital location:

[25] Michigan DHHS. June 6, 2019.

- Proximity to education centers.
- Availability of community resources (trauma centers, community mental health centers, inpatient hospitals, public transportation, access to major highways, water, etc.).
- Population trends and regional demographics.
- Concentrations of populations with mental illnesses.
- Concentrations of health care workers and active licensed health care professionals.

Proximity to Post-Secondary Education Centers

Observation:
While there are education centers within 30 miles of the Caro Center that can be sources for new hires and partners in training, the Caro Center is further away from education centers compared to other state psychiatric hospitals.

Discussion: Post-secondary education centers, such as vocational schools, community colleges, and universities, can be a source for new hires. Nursing schools, medical schools, and many others can also partner with nearby psychiatric hospitals to provide training for students and career opportunities to new graduates. The nearest post-secondary schools to the Caro Center are about 40 minutes away. This is nearly double the driving distance from the second longest commute from a state psychiatric hospital to a post-secondary school (20 minutes from WRPH). Additionally, the Caro Center is the only Michigan state psychiatric hospital that does not have any post-secondary schools within a 15-mile radius. See Table 12. Post-Secondary Schools.

Table 12. Post-Secondary Schools.

Post-Secondary Schools[26]			
Facility	**Est. Travel Time to Nearest 4-Year Post-Secondary School**	**Est. Travel Time to Nearest 2-Year Post-Secondary School**	**No. of Post-Secondary Schools within 15 Miles**
Caro	37 minutes	40 minutes	0 (closest 26 miles)
KPH	4 minutes	14 minutes	3
CFP	12 minutes	14 minutes	4
Hawthorn	1 minute	23 minutes	9
WPRH	20 minutes	20 minutes	11

[26] Michigan Center for Education Performance and Information. Entity Submission Record Through Fall 2018. https://www.mischooldata.org/CareerAndCollegeReadiness2/Summary.aspx.

Proximity to Medical Facilities and Trauma Centers

Observation:
The Caro Center is further away from trauma centers when compared to the other state psychiatric hospitals, with the closest trauma center being a 25-minute drive.

Discussion: As noted in the MIOSHA reports, staff at the Caro Center have experienced increases in workplace violence among other injuries. While some resulting injuries can be addressed on site, staff with more serious or severe injuries must be transported off site for care. Michigan trauma centers (levels I through IV) offer varying levels of care due to differing resources. Level I trauma centers offer the most comprehensive care and have the most resources when compared to the other three levels. Level IV trauma centers can provide stabilization and diagnostics for patients before transferring them to a higher level of care. The Caro Center is about 25 minutes away from the nearest trauma center (level IV). See Table 13. Travel Time to Trauma Centers. KPH and WRPH are both just a seven-minute drive from the nearest trauma centers (levels I and III, respectively). Much like post-secondary education centers, the Detroit Metro Prosperity Region has the highest concentration of trauma centers of all levels.

Table 13. Travel Time to Trauma Centers

Travel Time to Trauma Centers[27]					
Trauma Center Level	**Caro**	**CFP**	**Hawthorn**	**KPH**	**WPRH**
I or II	35 minutes	16 minutes	8 minutes	7 minutes	20 minutes
III or IV	25 minutes	31 minutes	18 minutes	26 minutes	7 minutes

Community-Based Care and Other Inpatient Facilities

Observation:
All prosperity regions have access to alternative locations for mental health services, such as non-state inpatient hospitals and CMHCs.

Discussion: In addition to trauma center access, the location of alternative treatment centers could also be considered when deciding on state hospital locations. The East Michigan Prosperity Region, which includes Caro, has four inpatient facilities that offer mental health services and eight CMHCs (Table 14. Inpatient Hospitals and CMHCs). When each region's population is considered, the West Michigan Prosperity Alliance has the least number of inpatient facilities per person while the Southeast Michigan Prosperity Region has the least number of CMHCs per person. The Southwest Prosperity Region has the

[27] Michigan DHHS. List of Designated Trauma Facilities. https://www.michigan.gov/documents/mdhhs/List_of_Designated_Trauma_Facilities.5.9.17_571865_7.pdf.

most inpatient facilities offering mental health services per person, while the Upper Peninsula Prosperity Alliance has the most CMHCs per person.

Table 14. Inpatient Hospitals and CMHCs

Inpatient Hospitals and CMHCs[28]		
Prosperity Region	**Inpatient Hospitals**	**CMHCs**
West Michigan Prosperity Alliance	5	10
Northwest Prosperity Region	1	6
Southeast Michigan Prosperity Region	4	3
South Central Prosperity Region	2	2
Detroit Metro Prosperity Region	18	21
East Michigan Prosperity Region	4	8
Northeast Prosperity Region	1	4
Upper Peninsula Prosperity Alliance	2	10
East Central Michigan Prosperity Region	4	3
Southwest Prosperity Region	6	5
Total	**47**	**72**

Transportation and Accessibility

Observation:
The city of Caro offers public transportation by appointment only. In terms of accessibility, the Caro Center is within 20 miles of at least one major highway and is also accessible via a network of well-maintained state highways that branch off of multiple interstate highways.

Discussion: Transportation to and from the Caro Center has also been stated as a barrier to patients and their families. Myers and Stauffer analyzed the proximity of hospitals to intercity bus stops which provide transportation between Michigan's cities, as well as the proximity to local bus stops. Of all Michigan state psychiatric hospitals, the Caro Center is furthest away from an intercity bus stop and the city of Caro's public transportation system is less convenient (Table 15. Public Transportation to State Psychiatric Hospitals). While the four other hospitals are less than 15 miles away from an intercity bus stop, Caro is about 25 miles away from its nearest stop in Bay City. KPH and WRPH have the most convenient public transportation systems with stops just a short walk away from each facility. The Hawthorn Center does not have a local bus stop nearby and requires a 15-minute drive from the nearest bus stop. Similarly to the Caro Center, the CFP is located in a city that offers public transportation by appointment only.[29] Caro's Thumbody Express and Saline's People's Express do not

[28] U.S. Department of Health and Human Services Substance Abuse and Mental Health Services Administration. https://findtreatment.samhsa.gov/locator.

[29] Human Development Commission. http://www.hdc-caro.org/thumbody-express.html.
City of Saline Transit Services. https://www.cityofsaline.org/?module=Page&sID=transit-services.

have regularly scheduled runs due to their rural locations. However, Saline is near Ann Arbor, which has a more accessible public transportation system overall.

Although public transportation is less convenient to the Caro Center, all five hospitals are accessible by major roads. The Caro Center is less than 20 miles away from state highway 25 which provides access to Interstate-75 (Table 16. State Psychiatric Hospital Distance to Major Roads). It should also be noted that the Caro Center is less than one mile away from state highway 81 and less than five miles away from state highway 46, which runs east to west across the state and provides access to Interstate-75 about 25 miles away from the Caro Center. The Caro Center is also less than five miles away from state highway 24 which runs north to south toward the Detroit Metro area.

Table 15. Public Transportation to State Psychiatric Hospitals

Public Transportation to State Psychiatric Hospitals[30]					
	Caro	**CFP**	**Hawthorn**	**KPH**	**WPRH**
Intercity Bus Stop Nearest to Hospital	<25 miles	<15 miles	<15 miles	<15 miles	<15 miles
Public Transportation to Hospital	By Appointment	By Appointment	Bus stops 15 minute drive away	Bus stops a short walk away	Bus stops a short walk away

Table 16. State Psychiatric Hospital Distance to Major Roads

State Psychiatric Hospital Distance to Major Highways[31]					
	Caro	**CFP**	**Hawthorn**	**KPH**	**WPRH**
Interstates in 20-mile radius	0	2	4	1	5
Major U.S. highways in 20-mile radius	0	2	0	1	0
Major state highways in 20-mile radius	1	0	1	0	1

[30] Michigan Department of Transportation - Intercity Bus System Coverage Area.
www.michigan.gov/documents/mdot/RuralPopulationIntercityBusMap_8-2-11_362046_7.pdf.
Kalamazoo Metro (KMetro) System Map. http://www.kmetro.com/sites/default/files/public/system_route_august_2018.pdf.
Smart Bus Route Map Viewer. http://www.smartbus.org/Schedules/View-Routes.
Detroit Department of Transportation System Map. https://detroitmi.gov/document/ddot-system-map.
City of Saline – Transit Services Web Page. https://www.cityofsaline.org/?module=Page&sID=transit-services.
Caro Human Development Center – Thumbody Express. http://www.hdc-caro.org/thumbody-express.html.
[31] Major roads, as identified by the Michigan Economic Development Corporation.
Michigan Economic Development Corporation. Major Highways.
https://www.michiganbusiness.org/49bb77/globalassets/documents/reports/maps/michigan-interstate-and-highway-system-map.pdf.

Reliable Water Sources

Observation:
Tuscola County has expressed willingness to upgrade, own, and operate the water system for the Caro Center with an engineering study noting that the current county system is reliable in producing and supplying quality water.

Discussion: In addition to transportation issues, the State has also cited the ability to connect a reliable water source as a concern for new construction in Caro.

During discussions about pausing the Caro Center replacement construction, the State expressed a desire to move away from well-water usage (the current system used by Caro) and gain access to a municipal water source. This ability to access an alternate water source was also mentioned by officials as a reason for possibly relocating the Caro site. However, in a report provided by Tuscola County in January 2019[32], the County obtained the services of Schellenbarger Engineering and Surveying P.C., an engineering and surveying firm, to study upgrades to the current community water supply. The County also noted this was part of a larger plan to fund and operate the new water system for the Caro Center. The engineer's report stated that the State's desire to completely abandon the current community water supply and develop a new one for the Caro Center would be more effort and investment than using the existing system. The engineers noted that the existing supply "has exhibited very good reliability in producing, storing, and distributing water supply and quality." The County plans to issue bonds to make the needed upgrades to the current community water system which the County will then own and operate.

Population Trends and Regional Demographics

Observation:
While the West Michigan Prosperity Alliance has seen the greatest overall population growth, the East Michigan Prosperity Region, which includes Caro, has the greatest percentage of Medicaid and Healthy Michigan enrollees.

***Discussion*:** When determining whether other locations may be suitable for new hospital construction, population trends may also be considered. Between 2010 and 2017, the West Michigan Prosperity Alliance saw the greatest population growth at more than five percent (Table 17. Michigan Population Change 2010 to 2017). However, during this time, the Detroit Metro Prosperity Region has consistently had the highest population with more than double that of the West Michigan Prosperity Alliance, the second most populous region. The East Michigan Prosperity Region and Upper Peninsula Prosperity Alliance saw the greatest decrease in population between 2010 and 2017, with a decrease of 3.5 percent and three percent, respectively. However, in 2017, the Northeast Prosperity Region and Upper

[32] Tuscola County. Caro Center Community Water Supply: Synopsis of Engineer's Letter Report and Addendum. May 28, 2019. Obtained from Tuscola County Controller June 19, 2019.

Peninsula Prosperity Alliance had the smallest population of all Michigan Prosperity Regions. When only the adult population is considered, the Northwest and Northeast Prosperity Regions have the smallest population compared to their counterparts.

Table 17. Michigan Population Change 2010 to 2017

Michigan Population Change 2010 to 2017[33]			
Prosperity Region Name	**2010 Population**	**2017 Population**	**2010 – 2017 Percentage Change**
West Michigan Prosperity Alliance	1,518,039	1,595,965	5.13%
South Central Prosperity Region	464,036	477,656	2.94%
Southeast Michigan Prosperity Region	984,607	1,010,069	2.59%
Northwest Prosperity Region	297,912	303,996	2.04%
Southwest Prosperity Region	778,384	782,463	0.52%
Detroit Metro Prosperity Region	3,863,924	3,875,827	0.31%
East Central Michigan Prosperity Region	576,873	562,597	-2.47%
Northeast Prosperity Region	208,746	202,993	-2.76%
Upper Peninsula Prosperity Alliance	311,361	302,077	-2.98%
East Michigan Prosperity Region	879,758	848,668	-3.53%
Total	**9,883,640**	**9,962,311**	**1.78%**

Although overall population change can be an indicator of future need, it is important to consider the portion of the population that would most likely use state psychiatric hospital services. Myers and Stauffer analyzed Medicaid enrollment in each region to identify areas of possible indigent populations that would be more likely to use the state hospital system.[34] In May 2019, the Detroit Metro Prosperity Region had the largest number and third highest percentage of Healthy Michigan and Medicaid enrollees (as a percentage of the general population) compared to all other prosperity regions with 746,992 enrollees who make up over 19 percent of its population (Table 18. Healthy Michigan and Medicaid Enrollees). The East Michigan Prosperity Region has the highest percentage of Healthy Michigan and Medicaid enrollees with 177,404, who make up nearly 21 percent of their population. The Northeast Prosperity Region closely follows with over 20 percent of their population of nearly 203,000 enrolled in Medicaid or Healthy Michigan. Southeast Michigan and South Central Prosperity Regions have the lowest percentage of their population enrolled in these programs.

[33] U.S. Bureau of the Census and Michigan Department of Management and Budget, Office of the State Demographer. Michigan Population by County. http://www.senate.michigan.gov/sfa/economics/MichiganPopulationByCounty.PDF.

[34]Healthcare Cost and Utilization Project. Statistical Brief #62. October 2008. https://www.hcup-us.ahrq.gov/reports/statbriefs/sb62.pdf <https://www.hcup-us.ahrq.gov/reports/statbriefs/sb62.pdf>

Table 18. Healthy Michigan and Medicaid Enrollees

Healthy Michigan and Medicaid Enrollees[35]			
Prosperity Region Name	**2017 Population**	**Healthy Michigan and Medicaid Enrollees**	**Healthy Michigan and Medicaid Percentage of Population***
East Michigan Prosperity Region	848,668	177,404	20.90%
Northeast Prosperity Region	202,993	41,551	20.47%
Detroit Metro Prosperity Region	3,875,827	746,992	19.27%
East Central Michigan Prosperity Region	562,597	104,968	18.66%
Southwest Prosperity Region	782,463	134,466	17.18%
Northwest Prosperity Region	303,996	45,721	15.04%
Upper Peninsula Prosperity Alliance	302,077	44,749	14.81%
West Michigan Prosperity Alliance	1,595,965	235,689	14.77%
South Central Prosperity Region	477,656	69,257	14.50%
Southeast Michigan Prosperity Region	1,010,069	123,333	12.21%
Total	**9,962,311**	**1,724,130**	

**This column represents the percentage of each region's total population who are enrolled in Medicaid or the Healthy Michigan program. The enrollment figures were normalized to account for the significant difference in total population between regions.*

Concentrations of People with Mental Illnesses

Observation:
The Southeast and East Michigan Prosperity Regions have the greatest rate of hospitalization for mood disorders in 2016. In the same time period, the Detroit Metro and Southwest Prosperity Regions had the greatest rate of hospitalization for schizophrenia, schizotypal disorders, and delusional disorders.

Discussion: In 2016, according to DHHS hospitalization statistics, the most common mental health diagnoses for which patients were hospitalized in Michigan hospitals were mood disorders, schizophrenia, schizotypal disorders, and delusional disorders. The Southeast Michigan and East Michigan Prosperity Regions saw the highest hospitalization rate for patients diagnosed with mood disorders (Table 19. Mood Disorder, Schizophrenia, Schizotypal Disorder, and Delusional Disorder Discharge Rates 2016). The Detroit Metro and Southwest Michigan Prosperity Regions had the highest rates of hospitalization for patients diagnosed with schizophrenia, schizotypal disorders, and delusional disorders. Conversely, the Upper Peninsula Prosperity Alliance and Northwest Prosperity Region had the lowest hospitalization rate for patients diagnosed with mood disorders. The lowest hospitalization

[35] Michigan Department of Health & Human Services. Medicaid and Healthy Michigan Plan Health Plan Enrollment Report. https://www.michigan.gov/documents/mdhhs/JE02052019_656104_7.pdf.

rates for patients diagnosed with schizophrenia, schizotypal disorders, or delusional disorders were from the Northwest and Northeast Prosperity Regions and the Upper Peninsula Prosperity Alliance.

Table 19. Mood Disorder, Schizophrenia, Schizotypal Disorder, and Delusional Disorder Discharge Rates 2016

Mood Disorder, Schizophrenia, Schizotypal Disorder, and Delusional Disorder Discharge Rates 2016[36]		
Prosperity Region Name	**Mood Disorder Hospitalization Rate (per 10,000 people)**	**Schizophrenia, Schizotypal and Delusional Disorders Hospitalization Rate (per 10,000 people)**
Southeast Michigan Prosperity Region	36.7 – 43.6	7.0 – 10.2
East Michigan Prosperity Region	30.5 – 38.7	6.4 – 10.2
Southwest Prosperity Region	29.8 – 37.6	7.7 – 11.8
Detroit Metro Prosperity Region	28.0 – 30.0	12.3 – 13.5
East Central Michigan Prosperity Region	22.2 – 31.7	4.9 – 10.0
South Central Prosperity Region	21.5 – 26.9	4.0 – 6.3
Northeast Prosperity Region	20.5 – 36.9	2.4 – 9.1
West Michigan Prosperity Alliance	18.5 – 26.1	3.6 – 7.5
Northwest Prosperity Region	16.9 – 28.5	1.8 – 5.7
Upper Peninsula Prosperity Alliance	13.6 – 27.8	2.4 – 7.9

Concentrations of Health Care Workers

Observation:
The South Central Prosperity Region has the greatest need for health professionals, followed by the West and East Michigan Prosperity Regions. However, southern Michigan has the greatest number of licensed psychologists, counselors, and social workers.

Discussion: Many of Michigan's counties have been designated as Health Professional Shortage Areas (HPSA) by the U.S. Health Resources and Services Administration (HRSA). Only nine counties of Michigan's 83 counties were not designated as HPSAs. The South Central Prosperity Region, which had two counties not designated as HPSAs, had the highest average HPSA score indicating a shortage of mental health professionals (Table 20. Average HPSA Score June 2019). It was followed by the West Michigan Prosperity Alliance and the East Michigan Prosperity Region which had three counties not designated as HPSAs. On the other hand, the Detroit Metro Prosperity Region had the lowest average HPSA score.

[36] Michigan DHHS. Michigan Health Statistics – Hospitalizations by Selected Diagnoses. https://www.mdch.state.mi.us/pha/osr/chi/profiles/frame.html.

HPSA scores were considered as indicators of health care professional shortages. However, Tuscola County's HPSA designation does not entitle state psychiatric hospitals such as Caro to benefit from important programs such as loan repayment programs that could be used to attract much needed health professionals.

Table 20. Average HPSA Score June 2019

Average HPSA Score June 2019[37]	
Prosperity Region	**June 2019 Average HPSA Score**
South Central Prosperity Region	18.0
West Michigan Prosperity Alliance	16.3
East Central Michigan Prosperity Region	16.3
Northeast Prosperity Region	15.7
Southeast Michigan Prosperity Region	15.3
Upper Peninsula Prosperity Alliance	15.1
Southwest Prosperity Region	14.6
East Michigan Prosperity Region	14.3
Northwest Prosperity Region	13.8
Detroit Metro Prosperity Region	12.0

To assess the location of potential workforce for a mental health facility, Myers and Stauffer analyzed data available for licensed health care workers based on region. For comparative purposes, the percentage of the licensed occupation was compared to the adult population of the region. According to Michigan's Department of Licensing and Regulatory Affairs (LARA), of all the licensed health care professionals analyzed (psychologists, counselors, and social workers), the Detroit Metro Prosperity Region has the largest concentration in Michigan. However, when the region's overall population is considered, Detroit Metro leads only in percentage of counselors in the adult population. The Southeast Michigan Prosperity Region has the largest percentage of psychologists and social workers in its adult population. The Upper Peninsula Prosperity Alliance and Northeast Prosperity Region have the smallest percentage of licensed health care professionals in their adult populations. Other license types were not analyzed as the data was not available. See Table 21. Licensed Psychologists June 2019, Table 22. Licensed Counselors June 2019, and Table 23. Licensed Social Workers June 2019.

[37] HRSA. HPSA Find. https://data.hrsa.gov/tools/shortage-area/hpsa-find.

Table 21. Licensed Psychologists June 2019

Licensed Psychologists June 2019[38]			
Prosperity Region	**Number of Licensed Psychologists**	**Adult Population**	**% of Adult Population***
Southeast Michigan Prosperity Region	1,020	802,436	0.13%
Southwest Prosperity Region	649	606,777	0.11%
Detroit Metro Prosperity Region	2,853	3,008,524	0.10%
South Central Prosperity Region	300	379,290	0.08%
West Michigan Prosperity Alliance	919	1,219,271	0.08%
Northwest Prosperity Region	178	243,291	0.07%
East Central Michigan Prosperity Region	182	448,115	0.04%
East Michigan Prosperity Region	255	663,410	0.04%
Upper Peninsula Prosperity Alliance	91	247,001	0.04%
Northeast Prosperity Region	37	167,547	0.02%
Out-of-State/Foreign	706	-	-
Total	**7,190**	**7,785,662**	

Table 22. Licensed Counselors June 2019

Licensed Counselors June 2019[39]			
Prosperity Region	**Number of Licensed Counselors**	**Adult Population**	**% of Adult Population***
Detroit Metro Prosperity Region	5,404	3,008,524	0.18%
Northwest Prosperity Region	408	243,291	0.17%
Southwest Prosperity Region	894	606,777	0.15%
South Central Prosperity Region	507	379,290	0.13%
East Central Michigan Prosperity Region	537	448,115	0.12%
Southeast Michigan Prosperity Region	944	802,436	0.12%
West Michigan Prosperity Alliance	1,425	1,219,271	0.12%
Northeast Prosperity Region	175	167,547	0.10%
East Michigan Prosperity Region	680	663,410	0.10%
Upper Peninsula Prosperity Alliance	120	247,001	0.05%
Out-of-State/Foreign	627	-	-
Total	**11,721**	**7,785,662**	

[38] Michigan Department of LARA. Health Professional Licensing. https://www.michigan.gov/documents/lara/License_County_by_County-August_2015_498870_7.pdf.
[39] Michigan Department of LARA. Health Professional Licensing. https://www.michigan.gov/documents/lara/License_County_by_County-August_2015_498870_7.pdf.

Table 23. Licensed Social Workers June 2019

Licensed Social Workers June 2019[40]			
Prosperity Region	**Number of Licensed Social Workers**	**Adult Population**	**% of Adult Population***
Southeast Michigan Prosperity Region	3,581	802,436	0.45%
West Michigan Prosperity Alliance	4,652	1,219,271	0.38%
South Central Prosperity Region	1,377	379,290	0.36%
Detroit Metro Prosperity Region	10,916	3,008,524	0.36%
Northwest Prosperity Region	851	243,291	0.35%
East Central Michigan Prosperity Region	1,466	448,115	0.33%
East Michigan Prosperity Region	2,131	663,410	0.32%
Southwest Prosperity Region	1,854	606,777	0.31%
Upper Peninsula Prosperity Alliance	708	247,001	0.29%
Northeast Prosperity Region	428	167,547	0.26%
Out-of-State/Foreign	1,411	-	-
Total	**29,375**	**7,785,662**	

**These columns represent the percentage of licensed psychologists, counselors, and social workers in each region out of the total adult population. Myers and Stauffer normalized these figures in order to more accurately compare the amounts for each region considering their overall adult population. For example, since the Northeast Prosperity Region has the smallest adult population, there is a smaller pool of the population with the potential to become licensed psychologists, compared to more populous regions like Detroit Metro.*

Objective 4. Review Current State Proposals and Assess Those Proposals Based on Statewide Mental Health Needs

Observation:
DHHS and DTMB have completed reviews of potential sites for a smaller satellite facility in northern Michigan that, along with the replacement facility at Caro, is intended to add additional beds. However, a comprehensive needs assessment determining the appropriateness of the northern satellite has not been conducted.

Discussion: In July 2017, DHHS received authorization to study and evaluate possible sites for a satellite facility to serve the northern part of the state. A work group was formed to discuss possible location sites and construction that follows the traditional capital outlay process, as well as options for partnering with non-state psychiatric hospitals that could provide bed access more quickly.[41] The main concern of the group was an accessible geographic location located near interstate highways and main state highways. Other considerations of the group included the staffing of a 24-hour facility given the staffing issues at other state-owned facilities. The group noted a preference for locating the facility

[40] Michigan Department of LARA. Health Professional Licensing. https://www.michigan.gov/documents/lara/License_County_by_County-August_2015_498870_7.pdf.
[41] State of Michigan State Budget Office. DHHS Northern Satellite Psychiatric Facility – Recommended Action on Path Forward. December 17, 2018.

near regional population centers in the northern region. The group also identified the accessibility of a potential location, particularly for patients, families, and staff as another consideration. The work group identified possible partnership opportunities with a private facility in Sault Ste. Marie in the eastern Upper Peninsula. If the partnership opportunity was not available, the work group stated that a recommendation to locate the satellite facility in the greater Grand Traverse region would be put forward. The group noted that a labor market review showed the region as having a high concentration of health care workers in northern Michigan.

Due to data availability and other limitations, Myers and Stauffer was not able to determine the availability of those health care workers, or if private and community hospitals in the northern rural areas also have staffing issues. According to agency officials, no additional work has been done regarding the northern satellite facility since the construction of the new Caro Center was put on hold.

Myers and Stauffer analyzed the information for the northernmost prosperity regions in the state (Upper Peninsula and northern Lower Peninsula). These are the least populated areas of the state and occupy the fewest number of beds in the state hospital system. The region had some of the lowest rates of hospitalization for mood disorders, schizophrenia, schizotypal disorders, and delusional disorders, as well as smaller percentages of Medicaid enrollees based on the population of the region. It should be cautioned that other variables may account for these rates, such as accessibility to care. If treatment is not available, then patients may not seek it and, therefore, would not appear in these results. Further analysis would need to occur in order to isolate other variables. However, the Northwest Region of the state has experienced a population increase in recent years which may signal a need for additional mental health services in that area in the future. Also, the Northwest region had a lower health professional shortage area score than most other areas of the state.

Options Analysis

Based on the information analyzed as part of the evaluation and the completion of the approved methodology, Myers and Stauffer provides this options analysis (Table 24. Options for Consideration) for DHHS' review and consideration.

Table 24. Options for Consideration

Options for Consideration		
Summary	**Opportunities**	**Challenges**
Option No. 1: Build a 200-bed replacement facility at the existing Caro Center site.		
The State builds the facility at the current Caro Center site according to the original plan as authorized by the Michigan Legislature in Public Act 107 of 2017.	• Since Caro has the greatest number of patients with LOS over five years compared to other state hospitals, a Caro facility would support patients' continuity with care giver relationships. • Over 80 percent of the patients are from the East Michigan Prosperity region (the region that includes Caro and Tuscola County) and neighboring regions (Detroit Metro and East Central regions). • Nearly 45 percent of the State's waitlisted patients were from the Caro region and the adjacent regions of East Central, Detroit Metro, and the Southeast. • Lowest percentage of vacancies for non-licensed and support staff compared to other state hospitals. • Legislative authorization was limited to building at the current Caro Center site where site design has been completed with construction ready to start. Further delays to select another site could increase cost of not only maintenance at the current facility, but also future construction costs if the State is delayed in building. • Other states choosing to build replacement facilities at older, rural sites indicated historical significance and regional impact as reasons to keep rural sites operating. • Tuscola County has offered to upgrade and operate the community water source for the new Caro Center.	• Highest percentage of vacancies for licensed and credentialed staff compared to other state hospitals. • Compared to other state hospitals, the Caro Center location is farther from post-secondary institutions which could be an issue if the State intends to recruit and train students at the facility. • At 35 minutes, Caro Center has the longest travel time to a level I or II trauma center compared to other hospitals. Other than WPRH, however, travel time to a level III or IV trauma center is comparable to the other hospitals. • Nearest bus stop is about 25 miles away from the Caro Center. Public transportation to the hospital is available by appointment only. • Eastern Michigan regions have fewer mental health workers per capita (social workers, counselors, and psychologists) than the southern, urban areas of the state.

Options for Consideration		
Summary	**Opportunities**	**Challenges**
	• Eastern Michigan regions have the highest percentage of Medicaid enrollees and mood disorders, schizophrenia, schizotypal disorder, and delusional disorder hospitalization rates per capita which could reflect a need for more State services within those regions. • The East Michigan Region where Caro is located has a lower than average health professional shortage area score than several other areas of the state, indicating less of a shortage of health care workers in this region. Only the Northwest and Detroit Regions had lower scores.*	• Tuscola County may not follow through with upgrades to the county water source.
Option No. 2: Perform a comprehensive statewide needs assessment to determine where to build a 200-bed replacement facility which may include an area of the state other than Caro.		
The State chooses to build the facility at a location based on a comprehensive statewide needs assessment using clearly defined selection criteria.	• The Detroit Metro Area has been identified as having the highest percentage of patients in all the state hospitals, and also on the current waitlist for beds. • Geographic characteristics, such as public transportation options and accessibility to major roads favor urban areas. • West Michigan Prosperity Alliance has experienced the largest population growth compared to other regions which may indicate greater need for services or increased access to workforce resources. • Other state experiences can inform the development of relevant criteria.	• The State has not conducted a comprehensive statewide mental health needs assessment to identify and address areas in greatest need of mental health services. This may be needed as a precursor to any assessment of available land resources, or any other planning processes. • The majority of admissions in 2018 were forensic commitments which could impact decisions for location since these patients can originate from all areas of the state.
Option No. 3: In addition to building a 200 bed replacement facility at the existing Caro site, build a 50 bed satellite facility in northern Michigan.		
The State builds the facility at the current Caro Center site according to the original plan as authorized by the Michigan Legislature in Public Act 107 of 2017, and plans for a satellite site	• Per capita, the three northernmost regions have the highest percentage of patients on the waitlist, but only a slightly higher percentage combined than Caro's region (East Michigan) alone. • There is currently no state facility in or near proximity to the northern three regions.	• Only about six percent of the patients at the state hospitals are from the three northernmost regions of the state. • The Upper Peninsula, East Michigan, Northeast, and East Central regions all lost population since 2010, which may be an indicator of future workforce supply issues.

Options for Consideration		
Summary	**Opportunities**	**Challenges**
in the northern part of the state which was also authorized by the Legislature.	• The Caro replacement has received construction authorization and is ready to be built, while potential northern satellite sites have planning reviews and limited-scope evaluations. • East Michigan and the Northeast regions have the highest percentage of Medicaid enrollees per capita in each region. • DHHS indicated that the northern part of the state has a high concentration of health care workers. However, the State should further evaluate this statistic by determining if these workers are available for state facility employment and whether or not other hospitals in the region have hiring and retention issues.	
Option No. 4: In addition to choosing a facility location from Options 1 or 2, Option 4 includes adding additional regional facilities throughout the state AND/OR contracting for private/community hospital beds.		
The State would build a larger facility in either Caro or another location as identified by a needs assessment. In addition, the State would build multiple regional facilities and/or contract for beds with other private entities to address the bed need for civil commitments.	• The majority of admissions in 2018 were forensic commitments which limits the number of beds available for civil commitments. Options for contracting could support greater bed capacity for civil commitments. • The State has an immediate shortage of bed capacity and adding smaller facilities or contracting with current inpatient facilities could alleviate some of those needs.	• State has not conducted a comprehensive statewide needs assessment to identify and address areas in greatest need of mental health services. Geographic location itself may not be the best indicator of mental health needs when choosing those locations and various factors should be considered.

**HPSAs are identified federally, not by the State. In addition, this bullet is all health professionals, the 'Challenges' bullet is limited to three mental health occupations.*

Summary

After conducting the analysis of data and documentation, Myers and Stauffer has determined:

- A formal evaluation of an alternate Caro replacement site was not conducted prior to the Legislature's decision to approve authorization for funding of a replacement facility at Caro.
- The data available under the scope of this engagement and our analysis presents advantages as well as challenges to Caro as a build site for the new facility.
- Re-authorization from the Legislature, as well as site evaluations and possible modifications to current building and construction plans may be required if a location other than Caro is selected by the State.
- Delays in building a new facility and/or making modifications to the structural and security issues at the existing Caro facility may have real implications for patients and staff at the current location.

Ultimately, the State will need to determine if the information provided through this engagement is sufficient to make a decision to move forward or conduct a more detailed analysis regarding the facility location site, or if a more comprehensive evaluation including an economic impact assessment and predetermined objective criteria for facility location is necessary. During its decision-making process, the State must balance the benefit of conducting a comprehensive evaluation, which will take time, with the impact of delays given the structural, security, and potential quality of care issues at the current Caro facility.

Appendix A: Summary of Stakeholder Comments

Myers and Stauffer offered three different opportunities for stakeholders to comment on the points of scope for the evaluation, including two stakeholder webinars, a community forum, and a designated email box. In addition, we conducted a listening session with state senators Peter MacGregor, John Bizon, MD, and Kevin Daley. We also reviewed stakeholder comments received by Governor Whitmer's office.

In the invitation to comment, we noted that DHHS contracted with Myers and Stauffer to conduct an evaluation of the process and decision to locate a newly constructed state psychiatric hospital facility in Caro, Michigan. We invited stakeholders to comment on the following areas consistent with the scope of the evaluation:

- The process by which the Caro psychiatric hospital facility location was determined.
- The status of current psychiatric hospital bed capacity and unmet bed needs.
- Input regarding the appropriate location(s) for state hospital construction.
- Continuing or revising the current Caro build approach to better meet the needs of citizens requiring state hospital supports.

We received all stakeholder comments and summarized them for DHHS' review. However, our evaluation does not consider any comments that do not speak directly to the scope of the evaluation as outlined in our request for comments.

The listening session with the state senators was held on May 8, 2019 in the State Senate office building. Senator MacGregor and Senator Daley expressed concern that DHHS was not operating in good faith after statewide agreement had been reached to locate the facility in Caro.

Specific to the scope of the Caro evaluation, the state senators discussed the history of the appropriation to build the new state psychiatric facility in Caro, the work that former state senator, Dr. Ed Canfield, had done to support the legislation, as well as the agreement reached within the Legislature to have the new facility in Caro built.

The state senators discussed other possible sites for a new state psychiatric facility. They acknowledged that various location options including Grand Traverse, Grand Rapids, and Marquette have been mentioned. They questioned whether the locations could provide the community supports they believe currently exist in Caro. They specifically raised concerns about whether these areas could support an influx in workforce, accommodate associated housing and community amenity needs, and support increased schooling needs of families. Senator Daley commented that the potential for staff driving times would likely increase in comparison to Caro due to existing population density in certain areas.

Additionally, the senators mentioned the "not in my backyard" issues that would arise once constituents are faced with the high number of justice system placements that are typical of the Caro patient population.

The senators noted the structural and safety issues at the Caro Center. They discussed that there are real concerns with patient and employee safety. They agreed there needs to be steps taken to ensure safety and mentioned there had been a plan to open several smaller facilities across the state. They offered that a viable option would be to continue with building the Caro facility, as well as another smaller, satellite facility somewhere else.

The senators acknowledged that there is a shortage of psychiatrists in the state, but noted the same shortage exists across the country. The senators noted that – if given information on salaries and reimbursement packages necessary to support recruitment of professional-level employees – they would put forth appropriations to pay competitive salaries to recruit psychiatrists and other professionals to the Caro facility.

The senators highlighted the economic impact that moving the Caro facility would have on Tuscola and the surrounding counties. They expressed concern that removing the facility from Caro would severely damage the economy in Caro, Tuscola County, and the surrounding counties. Specifically, they talked about how moving the Caro Center, the second largest employer in the county, to another county where it would only be the fifth or sixth largest employer would likely negatively impact the state's economy in general. They cited that any benefits to those "other" areas would not outweigh the overall impact to the Tuscola County economy.

The senators spoke to the proximity of Caro to Highway 75, noting that it is a short distance from major highway access – no more or less difficult to get to than other state psychiatric hospitals.

Senators MacGregor and Daley discussed the need to create a staffing pipeline. They talked about university interest in partnering with state institutions, and noted that Delta and Central were in close proximity to Caro.

Myers and Stauffer planned two stakeholder engagement webinars for 10:00 a.m. and 2:00 p.m. on June 12, 2019. Stakeholders with varying interests across the state were invited to participate. Three invitees registered and participated in the first webinar. The second webinar was canceled because no attendees registered.

Dr. Ed Canfield, former member of the Michigan House for Representatives for the 84th District, Tim Greimel (second-party invitee), Legislative Director for the American Federation of State, County, and Municipal Employees Labor Union, and Marianne Huff, Vice President for the Mental Health Association in Michigan (MHAM) participated in the stakeholder webinar.

Specific to the scope of the Caro evaluation, participants provided representative comments based on information gained from current and former positions, or industry experience. Dr. Canfield provided detailed background consistent with materials that he authored and we analyzed during our research, regarding the benefits of building the new state psychiatric facility at the Caro site. He also provided background regarding the steps taken by the Legislature to appropriate funds for building the new facility at the Caro site.

Mr. Greimel shared insights on the background information provided by Dr. Canfield and added the comment that state legislative decisions are not easily made. He noted that the process for requesting, authorizing, and funding a new facility building site would be long and drawn out, causing further harm to citizens in need. He offered that a deliberative process had been followed in making the decision to rebuild and expand the new facility at the Caro site.

In regard to the assessment of statewide availability of psychiatric bed days, the group discussed a "very serious shortage." Ms. Huff highlighted that her organization is less concerned with the location of the new hospital, than the delay in bringing safe beds online. In a follow-up email, she stated:

- With regard to the psychiatric hospital that was being built at Caro, but which is now being placed on hold pending feedback from the community, the MHAM cannot comment on the "best" locale for a new hospital without having access to more information. At the same time, MHAM would request that the additional beds being provided through a new hospital be at least as many or more beds that were provided when the "old Caro" was fully operational/utilized. The lack of available inpatient psychiatric treatment cannot be overstated.
- MHAM believes that, even with the addition of another psychiatric hospital (whether the location is in Caro or elsewhere), there is a lack of inpatient psychiatric beds in Michigan. This is a public policy matter that is in need of serious consideration by the state of Michigan.

Mr. Greimel commented that the Caro expansion would be 50 extra beds, but that is not enough to fill the gap. The State should consider building one or more additional facilities besides Caro. The group agreed that individuals who are in need of inpatient psychiatric treatment are being held in jail cells.

In regard to identifying other sites for the new facility, participants said that relocating the hospital is not as easy as it may seem. There is a high number of forensic patients at Caro, and there may be a "not in my backyard" mentality from communities in other potential build sites which will further delay desperately needed beds.

Commenters also discussed problems with low employee morale, stating that moving the facility would cause more of a problem to morale for employees across the state as it would demonstrate a lack of concern for the wellbeing of the State employees.

Commenters also noted:

- There is not a recruitment problem. The problem is the management of facilities and the low compensation packages for certain positions. The Legislature just gave Caro money to hire 56 additional staff members.
- There are not a lot of visits from patient families to Caro. Maintaining social supports from the staff is important. Moving the facility will interrupt existing supports and cause problems with the patients.
- There is a therapeutic nature to a rural setting. A small town can intermingle between the community and the patients.

Myers and Stauffer also collected comments from stakeholders through a designated email address and Community Listening Forum held at Caro Community Schools Auditorium on June 13, 2019. The forum was attended by 185 individuals, of which, 57 provided comments. In addition, 78 unique comments were sent through the designated email box.

While the comments varied, most commenters spoke in favor to keeping the new facility in Caro. Primarily, stakeholders commented on the economic impact that closing the Caro Center would have on the community, city, county, and state. Overall, the topics can be categorized into three areas:

1. The economic impact of moving the facility.
2. The impact on the patients from the disruption of services if the facility is moved.
3. The excellent care being offered at the Caro Center from overworked staff in a facility that needs to be updated.

Specific to the scope of the Caro evaluation, stakeholders commented that resources beyond the state planning funds were committed to the redevelopment of the Caro Center. Commenters discussed the community planning that went into the development of the new site. They offered that promises were made by the state government to Tuscola and the surrounding areas as part of the decision, and that those promises should be kept in good faith.

A sitting judge commented that the lack of psychiatric beds available has impacted the criminal justice system because she has no place to send individuals who come before her who need mental health treatment as opposed to jail or prison. She stated that people with mental health issues were staying in jail for up to 180 days without treatment. Other commenters offered that there is still a bed shortage even with the increase in beds at the Caro Center. Some spoke to further delays in bed days that would be caused if the facility is moved because the building process would have to start over. One commenter stated the jails are full and the patients are not getting the care they need.

In regard to other sites for the Caro facility, one commenter offered that the $115 million cost to build in Caro affords the State a lot more for its investment that it would in a more densely populated urban area with higher building costs. The commenters spoke to how the community has developed infrastructure to provide support to the Caro Center. Commenters stated the patient population is best served in a rural setting where there is wildlife to look at through the windows. The commenters opined that the serene setting is better for the care of these patients rather than busy, crowded areas in a larger city.

While the majority of commenters offered that the planned new construction should be in Caro, there were two stakeholders who believed the condition of the facility, as well as poor management from the State and Caro Center administration was cause for closing the facility and moving it to another location. Another commenter offered that building smaller, more technologically advanced facilities around the State would be better for the patient population.

Commenters also noted:

- It would be an economic disaster for the area if the second largest employer left the region. Everything would be negatively impacted: businesses, real estate market, schools, and hospitals.
- Despite the continued deterioration of the facility, staff provide exemplary care. Many stakeholders spoke to the quality of care being offered at the Caro Center. They spoke to how the staff have become family to the patients, with the workers creating an emotional bond with the patients. Commenters offered that because much of the population is justice system involved, the family visitation for the Caro center is low. Some offered that staff are family to patients because of relationships that build over time.
- Patients being relocated is harmful to care because there would be a disruption in the normal daily activities these patients go through. A commenter offered that more harm would be done because changing the facility would force many of the staff to change, causing a break in the bond developed by current staff and the patients.
- The staffing problem has more to do with uncompetitive resource packages than with the facility or the community amenities. A commenter did mention that the facility just hired 56 staff members since April 2019. The same commenter suggested that the State review previous professional employments to gain an understanding about how and why professional-level employees left. The commenter said the psychiatrists need better pay in order to retain them.
- The former Controller of Tuscola County said that water problems have been addressed by the County. The County hired an engineering firm to fix the problem. The County agreed to issue a bond to ensure water is not a problem for the facility. The commenter noted that this information had been shared with DTMB, but that there had not been any response or acknowledgement of receipt.

In addition to the comments we analyzed through direct stakeholder engagement, Myers and Stauffer analyzed stakeholder comments submitted to Governor Whitmer's office.

Residents from different areas of the state wrote the Governor directly about the operations of the Caro Center, the decision to suspend building, and options for alternative sites. A majority of the letters to the Governor were in support of locating a new facility at the Caro site. Most of the comments noted the negative economic impact relocating the site would have on Caro, Tuscola County, and surrounding counties. Several letters cited a study which stated unemployment would double if the Caro Center moved. Other commenters applauded the administration for reconsidering construction at the Caro site. They commented that the Caro Center has a history of poor management, poor care, and facility maintenance problems that threaten the health and safety of patients and employees.

Appendix B: Data and Documents Requested and Received

Data and Documents Requested and Received

For all state psychiatric hospital facilities, the following information for admissions and discharges for March through May 2019:
• Facility identifier.
• Patient home zip codes.
• Admission source.
• Zip code of admission source.
• Discharge information.
• Staffing breakdown by facility that includes:
  ○ Staffing count by position.
  ○ Home zip code for each staff identified.
  ○ Number of licensed and credentialed positions by license/credential type with an indicator of vacancies.

Average monthly patient census by facility.
Reports from the statewide commission or other source related to workforce, psychiatric patient care, shift to community mental health services, and/or specific state hospitals.
Caro MIOSHA report.
DTMB's Labor Market Information Division reports or data identifying concentrations of health care talent.
KPMG report exploring private/public partnership.
2017 Michigan Legislature supporting documentation for funding consideration.
Statewide licensed and credentialed health care staff data. Includes licensure/credential type and home zip code.
County-level data on health care workers obtained through the Occupational Employment Statistics program and utilized by the Bureau in its November 1, 2018 *Northern Satellite Psychiatric Facility Status Update* report.
Request for Proposal for the design, build, and maintenance of the Caro replacement facility.
Final executed contract for the design, build, and maintenance of the Caro replacement facility.
Contract payments or contractor invoices through March 31, 2019.
Any environmental assessments conducted for the new build.
DTMB project request and approval documents.
Bond issuance documentation, or other financing documentation.
Information regarding resolution of the water issue at Caro from Tuscola County.