



HEALTH MATTERS: Navigating an Enhanced Rural Health Model for **Maryland**

LESSONS LEARNED FROM THE MID-SHORE COUNTIES



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PUBLIC HEALTH





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Research by Deanna Barath, Aita Amaize

PREFACE

“During the 2016 Legislative Session, Senate Bill 707 Freestanding Medical Facilities—Certificate of Need, Rates, and Definition (SB 707), passed into law and was signed by the Governor on May 10, 2016. The legislation establishes a workgroup on rural health care delivery to oversee a study of health care delivery in the Middle Shore region and to develop a plan for meeting the health care needs of the five counties—Caroline, Dorchester, Kent, Queen Anne’s and Talbot.”

Maryland Health Care Commission



Introduction

Nationally, about 15 percent of the country's population lives in rural areas. Rural populations tend to be older and poorer (and thus less likely to be insured) than urban populations, and rural communities vary based on demographic, economic, social and geographic differences. Recent Morbidity and Mortality Weekly Reports (MMWR) from the Centers for Disease Control and Prevention have taken a closer look at health disparities between rural and urban populations and found higher health-risk behaviors and mortality rates among rural residents compared to urban residents. Rural populations are less likely to have non-smoking and non-drinking or moderate drinking behaviors, meet physical activity recommendations and/or maintain normal body weight. Another MMWR report found higher cancer death rates for rural Americans and higher rates of new cancer cases than for those living in urban areas, specifically cancers related to tobacco use and those that could be prevented through screening, such as cervical and colorectal cancers. The scarcity of resources, the long travel distance to receive care and limited options for primary care and other services are some of the factors contributing to these and other health disparities. The health and health care experiences of Maryland's rural population are similar to that of the nation.

Maryland has invested in supporting the health of its rural residents by addressing many of these factors. The state's commitment to rural health is reflected in the creation of key government and non-profit organizations that provide leadership, investments and guidance to promote health and well-being for rural communities and their residents. The Rural Maryland Council, an independent unit of the state government's executive branch, brings together multisector stakeholders and government agencies to address the needs of rural residents and support initiatives. Multiple units within state government agencies have offices and programs dedicated to rural health, such as the Maryland Department of Health's Office of Rural Health. The Maryland Rural Health

Association (MRHA), a non-profit member organization focused on education and advocacy for the health of rural communities, provides a forum for individuals, groups and organizations to work on common goals. These organizations are working together to update the state's rural health strategic plan. Efforts to extend rural health innovations and to support program expansions have been supported by the Maryland Community Health Resources Commission (MCHRC), the Maryland Health Care Commission (MHCC), and other entities in and beyond the state. Recently completed and ongoing projects in Mid-Shore counties include the Mobile Integrated Health Care pilot in Queen Anne's County, the Caroline-Dorchester Health Enterprise Zone and the Shore Regional Health/University of Maryland Medical System Telehealth in Kent and Queen Anne's counties. MRHA and MCHRC have collaborated on a series of white papers that highlight outcomes of the state's recent rural health initiatives. A few years ago, MHCC led an evaluation of regional health delivery and health planning in rural areas in response to the committee narrative in the 2013 Joint Chairman's Report. The evaluation explored key issues related to health planning region designations and the impact of hospital consolidation on availability of services in rural areas. The adequacy of the health care workforce and access to care were addressed in this report, which documented the key issues that remain relevant. These efforts and others informed this study. ■

Study Background

This report summarizes the findings of a study authorized in Senate Bill 707 (SB707: Freestanding Medical Facilities—Certificate of Need, Rates, and Definition) to examine challenges to health care delivery in the five Mid-Shore counties (Caroline, Dorchester, Kent, Queen Anne’s, Talbot) and to provide input to the designated Rural Health Care Delivery Workgroup (workgroup). The workgroup will review and recommend policy options and report to Governor Larry Hogan on needs and improvements to the health care delivery system in the five counties. The workgroup includes senior leadership from the Maryland General Assembly, the secretary of the Maryland Department of Health, chief executive officers of hospitals and regional medical centers, and individuals representing a broad range of stakeholders from health care, social services and business (Appendix A: Rural Health Workgroup Members). The MHCC requested the University of Maryland School of Public Health in partnership with the Walsh Center for Rural Health Analysis at NORC at the University of Chicago to conduct the study and to work in parallel and in collaboration with the workgroup and MHCC (Appendix B: Study Team Members). The workgroup organized advisory committees and public hearings that further informed its deliberations (Appendix C: Diagram of Interactions of Workgroup, Study, Advisory Groups, Public Hearings and MHCC).

The purpose of the study was to assess the health care of the residents of the five-county study area and the capacities of the health system in the region, and propose options for enhancing health and health care delivery on the Mid-Shore. The research team was asked to consider: (1) the limited availability of health care providers and services; (2) the special needs of vulnerable populations, including the frail and elderly, racial and ethnic minorities, immigrants and patients with persistent behavioral illnesses; (3) barriers to access caused by transportation limitations; and (4) the economic impact of closures, partial closures or conversions of health care facilities. The study team interviewed 26 community leaders

(15 stakeholders and 11 key professionals); held five focus groups (one in each county) with county residents; analyzed and mapped access to primary care physicians; analyzed ambulatory, emergency department and hospital claims for county residents; assessed economic impact of closures; critically reviewed and integrated lessons from national rural health initiatives; and developed options for health and health care delivery. The final report provides recommendations to strengthen the rural health delivery system in the five-county Mid-Shore region and may serve as a template for other rural regions of the state.

The key questions addressed cluster around issues of health and health care; workforce and technology; transportation; and economic development (Exhibit 1). The framework for the study is informed by the workgroup’s Guiding Principles for Healthy Rural Communities (Exhibit 2). This Summary Report provides highlights of findings from all components of the study and integrates them into key recommendations. Methods and findings are detailed in the study team’s Technical Reports. ■

EXHIBIT 1: Key Issues, Questions and Study Components to Inform Health and Health Care for Mid-Shore Counties
(Regionally and Locally)

ISSUES	QUESTIONS	STUDY COMPONENTS
Health Care and Public Health Facilities	What resources exist?	Literature Reviews
Use of Health Services	Where do residents go for care?	Review of Existing Reports and Data
Needs of Vulnerable Populations	What works well?	Physician Workforce Analyses and Mapping
Health Workforce Capacity	What are the challenges?	Analyses of Claims Data
Health Care-Related Technology Use	What are solutions and options to address the issues and overall health and health care improvement?	Focus Groups of Residents
Transportation Availability		Interviews of Community Leaders
Economic Impact		Identification of Health and Wellness Options

EXHIBIT 2: Guiding Principles Developed by the Rural Health Care Delivery Work Group

GUIDING PRINCIPLES FOR HEALTHY RURAL COMMUNITIES

The (Rural Health Care Delivery) work group recognizes that health care systems of the future need to accommodate a culturally diverse population, as well as a growing number of vulnerable residents and elders with chronic health conditions. Recognizing and addressing the social determinants of health are crucial in promoting a healthy society. Stakeholders must support an integrated care delivery system that promotes health equity, quality and comprehensive services across a continuum of care. For these reasons, our guiding principles are:

- The health and well-being of Mid-Shore and other rural residents is essential to the state and region’s economic viability and quality of life.
- We are committed to building a health care system in which all residents, regardless of their place of jurisdiction, have access to appropriate and health quality care.
- We are committed to creating opportunities to achieve payment and delivery system reforms that ensure access to high-quality health services (including primary health care, inpatient and emergency medical services, behavioral health, oral health, and public health) to Mid-Shore and rural residents and visitors, including vulnerable populations.
- We are committed to leveraging existing payment innovations already underway in Maryland.
- We recognize that delivery model innovations need to be sustainable so that practitioners and payers invest in the necessary capabilities to be successful, but need to be flexible enough to take root and improve in urban, suburban and rural environments.
- We are committed to empowering Mid-Shore and rural residents to be active participants in their health decisions, increasing health literacy in these communities and providing transparency about the real costs of care.
- We understand that the health care system is a vital component of the region’s economy and an anchor point for economic development.
- We support investing in cost-effective prevention and wellness interventions, such as smoking cessation and reducing obesity, to improve health status.

Select Sociodemographic, Health and Health Care Characteristics

Currently 1.6 million individuals live in the 18 (of 24) Maryland jurisdictions designated as rural by federal or state standards. A little over 10 percent of these individuals reside in the five counties that comprise Maryland's Mid-Shore Region (Caroline, Dorchester, Kent, Queen Anne's, Talbot). The entire counties of Caroline, Dorchester, Kent and Talbot are classified as rural by the Federal Office of Rural Health Policy, with the fifth, Queen Anne's County, having several census tracts that are federally designated as rural.

The five Mid-Shore counties reflect the diverse health care challenges that face rural communities. Exhibit 3A highlights key sociodemographic measures for this population. Twelve percent live in poverty, compared to 10 percent of Maryland's overall population. Dorchester and Caroline counties have the highest proportion of residents living in poverty, with 17% and 16%, respectively. The percentage of children living in poverty in Dorchester County (28%) is more than double the statewide percentage (13%); Caroline County is a close second with a quarter of its children living in poverty.

EXHIBIT 3A: Key Sociodemographic Measures for Mid-Shore Counties and Maryland

MEASURE	YEAR(S)	CAROLINE	DORCHESTER	KENT	QUEEN ANNE'S	TALBOT	REGION	MARYLAND
Population¹	2015	32,579	32,384	19,787	48,904	37,512	171,166	6,006,401
Age								
Under 18 years ¹	2015	24%	21%	17%	22%	19%	21%	22%
18-64 years ¹	2015	61%	58%	58%	60%	54%	58%	63%
65 and older ¹	2015	16%	20%	25%	18%	27%	21%	14%
Race/Ethnicity								
Black ¹	2015	14%	29%	15%	7%	13%	15%	31%
Hispanic ¹	2015	7%	5%	4%	4%	6%	5%	10%
Gender								
Females ¹	2015	51%	52%	52%	51%	53%	52%	52%
Poverty								
People in poverty ²	2011-2015	16%	17%	11%	8%	11%	12%	10%
Children in poverty ²	2011-2015	25%	28%	17%	11%	16%	19%	13%
Education								
Less than high school ¹	2011-2015	17%	18%	13%	8%	12%	13%	11%
People uninsured²	2011-2015	11%	9%	8%	5%	10%	8%	9%
Land area in square miles, 2010¹	2015	319.42	540.77	277.03	371.91	268.54	1,777.67	9,707.24

¹Census Population Estimates, 2015; ²American Community Survey, 2011-2015

Rural populations usually include a higher proportion of older adults, which is reflected in the Mid-Shore region. The highest proportion of individuals over 65 years of age are found in Kent (25%) and Talbot (27%), but all five counties have a greater proportion of older individuals than the state (14%). The estimated percentage of the Mid-Shore population that is uninsured varies by county. Overall, the region's uninsured population is slightly lower (8%) than the state's (9%), with a high for Caroline County (11%) and a low for Queen Anne's County (5%). According to the 2017 County Health Rankings and Roadmaps report, both Caroline and Dorchester rank low compared with other counties for health outcomes

(quality of life and length of life) and health factors (behaviors, clinical care, physical environment, and social and economic factors). These two counties also have a higher prevalence of adult obesity and smoking than the other three counties in the Mid-Shore region and the state (Exhibit 3B). To address the health and health care needs of the region, the Mid-Shore Health Improvement Coalition identified three priorities from the 39 measures of Maryland's State Health Improvement Plan in 2014. These priorities included reducing: 1) diabetes-related emergency department visits; 2) the proportion of children and adolescents who are considered obese; and 3) the proportion of youths who use any kind of tobacco product.

EXHIBIT 3B: Key Health Measures for Mid-Shore Counties and Maryland

MEASURE	YEAR(S)	CAROLINE	DORCHESTER	KENT	QUEEN ANNE'S	TALBOT	MARYLAND
Major Causes of Death (rate per 100,000)							
All causes ¹	2015	885	810	716	696	643	703
Heart disease ¹	2015	196	191	154	160	143	169
Total cancer (Malignant Neoplasms) ¹	2015	174	195	150	160	144	159
Colorectal cancer ³	2007-2013	19	18	15	14	14	16
Lung cancer ³	2008-2012	58	59	55	50	43	46
Stroke ¹	2015	****	****	****	****	40	37
Chronic obstructive pulmonary diseases (age 45 & over) ¹	2015	56	****	****	35	33	31
Diabetes-related ³	2015	19	25	****	15	10	19
Unintentional injuries ³	2012-2014	62	35	38	29	19	27
Drug overdose ⁴	2013-2015	26	10	25	21	13	18
Suicide ¹		12 (Count Only)	13 (Count Only)	10 (Count Only)	17	12 (Count Only)	9
Premature death ⁴	2012-2014	9,483	7,592	6,991	6,166	5,593	6,400
Health Risk Factors (Adults)							
Diabetes prevalence ⁴	2013	11%	14%	11%	10%	12%	10%
Obesity ⁴	2014	34%	33%	27%	28%	28%	28%
No leisure-time physical activity ⁴	2014	31%	31%	26%	23%	22%	23%
Smoking currently ²	2015	17%	18%	14%	14%	13%	15%
Food insecurity ²	2014	12%	16%	12%	7%	11%	13%
Preventive Care							
Preventable hospital stays ⁴	2014	86%	85%	86%	89%	89%	85%

****Age-adjusted death rates not calculated for jurisdictions or regions with fewer than 20 deaths per category.

¹Maryland Vital Statistics: Annual Reports 2015, Table 50. <https://health.maryland.gov/vsa/Documents/15annual.pdf>

²Maryland State Health Improvement Process (SHIP), <http://ship.md.networkofcare.org/ph/ship.aspx>

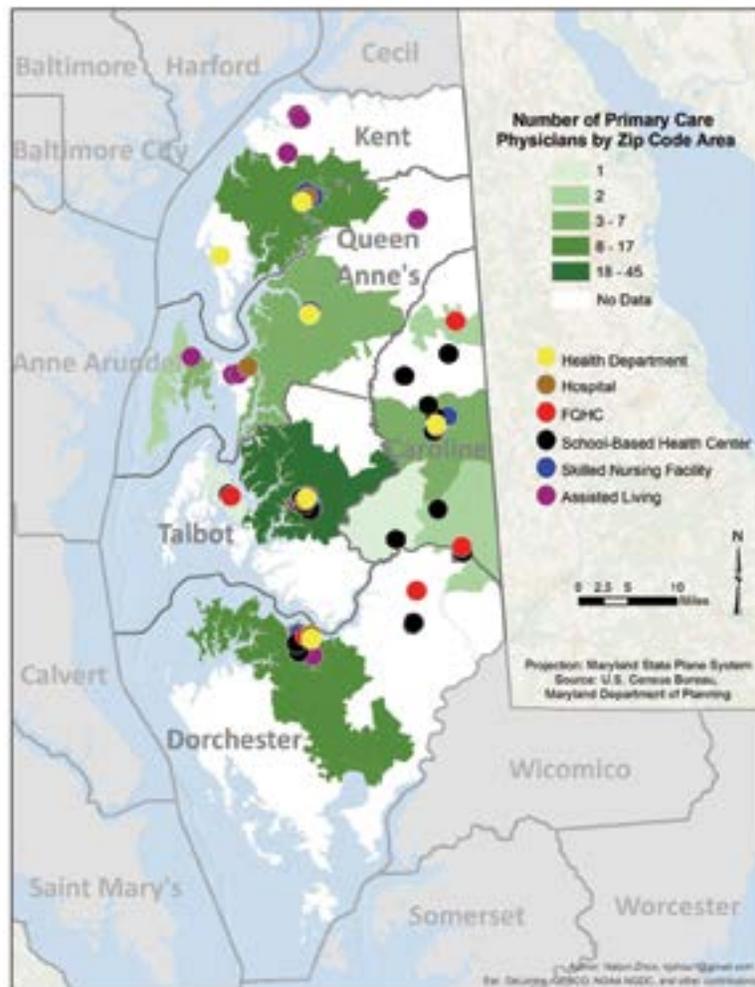
³Maryland State Health Improvement Process (SHIP), Other Indicators. <http://ship.md.networkofcare.org/ph/county-indicators.aspx>

⁴County Health Rankings, 2017, <http://www.countyhealthrankings.org/rankings/data/MD>

Exhibit 4 provides a map of health and health care facilities for the Mid-Shore, showing the clustering of facilities in more populated areas. There is a public health department in each of the counties. The University of Maryland (UM) Shore Regional Health (Shore Health) network includes the only three hospitals in the Mid-Shore region. Caroline and Queen Anne's counties are the only two counties in the Mid-Shore region without a hospital, and Caroline County does not have an ambulatory care facility. Choptank Community Health System (Choptank Health) is the only Federally-Qualified Health Center (FQHC) in the Mid-Shore region and provides primary care, medical, dental and behavioral

health services to Caroline, Dorchester and Talbot counties. Of the 80 school-based health centers in Maryland, 17 centers are located throughout Caroline, Dorchester and Talbot counties. Skilled nursing and assisted living facilities are also noted, with more detail provided in the related Technical Report. Additional essential Mid-Shore resources include the Eastern Shore Area Health Education Center (AHEC), with its focus on increasing health care providers and providing programs aimed at reducing health disparities, and the University of Maryland Extension, with its longstanding educational programs for youth, families and consumers. ■

EXHIBIT 4: Key Health and Health Care Facilities in Mid-Shore



Physician Data: Maryland Board of Physicians Renewal License Database, 2014-2015

Residents' Views About Health and Health Care

Focus group participants provided diverse and rich perspectives to consider. Residents are a vital source of knowledge about health care issues that are most important to them. The goals for conducting the five focus groups were to gain insight into the health care perceptions and behaviors of residents living within the five-county area, and to understand their views, opinions and preferences for a regional health care system. One focus group was held in each county; however, participation was not limited to residents of that specific county. It is important to note that the focus group results reflect perceptions of some community members, but may not necessarily represent all community members in the Mid-Shore region.

TOPIC-SPECIFIC COMMENTS

Topic-specific comments emerged from the focus groups and provide insights for health and health care improvement. Participants sometimes spoke of both positive and negative aspects of the same topics, creating a mixed picture of health care issues at times. Transportation challenges were raised in the context of accessing health care. Summary highlights and related comments provide an overview of resident voices.

Health and Health Care

Some focus group participants felt they received good health care. One said, "I got an actual diagnosis and follow-up care with my primary care doctor." At the same time, some of the same participants believed the quality of care was poor. Less regulation may improve care, according to participants. Some participants thought doctors' offices needed more support so doctors don't need to perform administrative tasks. "Let doctors be doctors," noted participants. Focus group members were worried about having enough care for the future needs of subpopulations, such as children, younger adults, pregnant women and older adults. People had suggestions for better supporting, recruiting and retaining

doctors. Participants thought transportation could be improved to ensure regular care, noting transportation difficulties getting to doctors' appointments. One idea was an improved medical transportation system.

Participants in all five focus groups said that specialty care is either lacking or far away. One participant described, "There are very few specialty options on the Shore, so you end up traveling a long distance." People suggested that specialists be made available in innovative ways, such as coming periodically to satellite offices or via telemedicine for certain consultations. Participants said that mental, behavioral and substance use disorder care is lacking in the Mid-Shore area and must be made accessible and affordable. One participant explained, "What happens now if you have a mental health crisis, generally, they end up in the criminal justice system." Participants suggested mental health inpatient facilities, more holistic care and "more resources and services for outpatient and inpatient care for mental health, behavioral health."

Some participants were pleased with their emergency care. One noted, "The ER doctor realized what a sick person really looks like. And then he was able to coordinate the testing, the monitoring and getting him [my teenage son] out of there." Participants promoted the need for improved and enhanced ambulance services, including equipping them to provide immediate care, when possible, and stationing them near population centers.

Participants described experiences with health care visits and with health insurance. They recalled times when doctor-patient communication was very good. One stated, "I love and trust my doctor." At the same time, people said providers could be rude and impersonal. "I just felt that he [the doctor] had no empathy at all," expressed one resident. Regarding timeliness, some participants mentioned they could get appointments when needed and others reported efficient visits.

Even so, people in three groups reported long delays getting an appointment or sitting in the waiting room and then having too little time with the doctor. One person said, “I’ll spend 50 minutes waiting . . . then I literally get four minutes with my provider.” Some participants said they had good insurance coverage, but at the same time

about the need to have nurses or health workers conduct home visits to enhance care. A participant remarked, “In-home care nurse or health worker-based in-home care . . . I think it fits many different needs.” Participants mentioned that doctors are restricted by rules and regulations and do not have enough staff assistance.

When asked to provide recommendations to MHCC on ways to improve the health care system, participants stressed the importance of ongoing community engagement.

individuals mentioned cost and coverage difficulties. “It’s the deductibles that’s killing the people,” added one participant. People looked forward to the possibility of lower future rates and to care integration as required by Maryland’s All-Payer model if implemented as intended. People in all groups worried about possible loss or insufficiency of insurance coverage in the future. “Plain and simply, a lot of people losing their insurance,” was a concern stated by a participant. Participants said that those with low incomes do not spend much on insurance and then are surprised by high co-payments. One offered, “My biggest worry is that a lot of them, because they’re all low-income families, they choose their health care based on price. They don’t even know what they’re getting.” The groups recommended that insurance be made affordable and be expanded; they also suggested that the state subsidize the costs of providing care in rural areas.

Participants spoke about people having difficulty understanding their health, insurance choices and the health care system. For example, a participant shared, “I work for social services . . . a lot of the folks that I serve are undereducated. They don’t understand health care now, much less even have any idea what’s going to happen when it changes.” Participants spoke of the need to improve post-motor vehicle accident treatment and coordination with insurance issues. Participants also focused on the need to help individuals through care coordination. One participant reported, “I feel like there should be someone in the health care system that’s following people around to make sure they’re getting the resources that they need . . . just that whole improvement on follow-up care and continuity of care.”

Health Care Workforce

Participants suggested that the workforce be enhanced (have more staffing), that the working environment be improved, and that more training be provided. They spoke

They recommended some ways to support, recruit and retain doctors.

One participant suggested, “I think we need to do better at getting quality doctors here. But then also having a facility to provide quality handling of their patients.” Participants also discussed lost jobs and bad working

conditions, especially for health care workers left behind after job cuts. Individuals talked about the effectiveness of nonphysician health care providers, such as nurse practitioners (NP). One added, “My NP before she left was fabulous.”

Technology Use

Participants brought up challenges created by technology: patient portals that do not communicate with one another, loss of eye contact when doctors write on laptops, and uninformed use of technology. About her appointment, one participant agreed, “A little too fast and a little too much time spent typing things in the computer.” Telemedicine/telehealth received mixed reviews; it was deemed more acceptable with a provider already known to the patient, according to one participant. Several technology-related service ideas were presented, including using nurse specialists by phone, having medical specialists work via telemedicine and developing a communication system that connects with all of a patient’s doctors as well as with labs and other services.

Economic Development

Participants welcomed health care facility changes when they expanded services such as a new urgent care center in Caroline County. However, facility changes worried participants when there was either a reduction in services or a possible closure. People in two focus groups recommended keeping or adding facilities and services. Ideas related to facilities included having standalone facilities for mental health care, a small “destination” hospital and a network of clinics located where there is a lack of hospitals. Participants in one focus group were concerned about the economic impact of health care changes on their local college and their senior population. In reference to losing their local hospital, one participant said, “This would be a very severe economic issue were it to fall through.”

Vulnerable Populations

Several focus group participants mentioned concerns for vulnerable populations, including how a possible hospital closure in Kent County might affect the health of children, youth, pregnant women and seniors. Some cited a lack of pediatricians and the need for more mental health providers in schools to care for children and youth. One said, “A lot of anxieties, depression, those types of things they start [in school].” Participants thought that young adults were not making a living wage early in their careers. One noted, “We’re living in a different world with our young people today.” Concerns were raised about a lack of obstetricians and the relocation of the maternity ward, resulting in long distances to travel to deliver babies. Participants mentioned that the growing older adult population will lead to a greater incidence of age-related diseases, such as heart attacks and strokes, and expressed concerns about Medicare running out of money or costing more. In another focus group, people said older adults will need more services, and their families will not be able to help due to work obligations. Participants said palliative care is needed to take better care of people at the end of life. Others had an extended discussion about lack of accessibility for those with physical disabilities due to heavy, non-automatic doors for entry into medical buildings and offices, inaccessible examination tables and scales, and poorly placed curb cuts. Concerns were raised about people with intellectual disabilities who need more help at the doctor’s office with communication, forms and managing their health insurance. Some mentioned the need for translators for non-English speakers. On a positive note, participants in one group affirmed deaf consumers were “getting that interpreting service through telehealth.”

THEMES

Broad themes emerged from the focus group findings, that reflect perceptions, views and opinions surrounding health care in the Mid-Shore region as well as highlight issues of relevance for county and state assistance.

County Versus Region Needs

While discussions focused on needs that are specific, and often unique, to individual communities, comments reflected that efforts to address such needs must strike a balance between an individual county approach and a regional approach. This need for balance echoes the recognition in the rural health literature that a “one-size-fits-all” approach to health care policies and reforms is often ineffective despite commonalities across rural areas.

The possible closure of the UM Shore Medical Center at Chestertown provided the impetus for this study, and participants shared that the needs of rural communities must be supported, even if their hospitals do not have the volume of patients that large, urban hospitals do. A participant explained, “The state should, to ensure good health care throughout the state, provide a financial basis for rural health care.”

System Versus Patient Needs

When reflecting upon “what works well” and “what does not work well” in the Mid-Shore health care system, participants’ comments focused on the challenges residents face when interacting with various aspects of the health care system. Comments reflecting the poor alignment between the health care system and patient-centered health needs emerged from discussions in all five groups. Specific concerns included health insurance coverage and affordability, the lack of care coordination, access issues for specific populations, and the dichotomous role of technology in facilitating or complicating health service delivery. Participants called for improvements in various aspects of Mid-Shore health care.

Resource Scarcity

Overall, scarcity of resources in the rural setting was a recurring theme in all the group discussions, a phenomenon well-documented in the early rural health literature. Participants in the five Mid-Shore counties noted workforce shortages, particularly in specialty providers, obstetric and emergency care providers, and mental and behavioral health providers, as well as staff to support them. Lack of emergency and non-emergency transportation services also impacted the accessibility of health care services, while workforce recruitment and retention challenges contributed to poor quality care.

Continual Community Engagement

When asked to provide recommendations to the MHCC on ways to improve the health care system, participants stressed the importance of ongoing community engagement. Focus group participants, who recalled previous “listening session” comments concerning health care needs that went unheeded, urged the MHCC to pay attention to what the current groups were saying and to continue the conversation that began with this project. As one participant stated, “I think that the dialogue still has to keep going.” The community participation approach is not without challenges. Focus group participants

mentioned the need for: diversity in decision making, to be better understood and, essentially, to be treated with more empathy. A variety of recommendations were proposed, ranging from the state playing an active role in ensuring adequate access to health care services, to public-private partnerships and collaborations across state lines, and enhancements to the health care workforce, particularly targeted to the training and quality of non-physician providers.

SUMMARY

Participant recommendations addressed the need for an environment that supports care coordination and case management and includes health care professionals who know their patients, including their family circumstances and caregivers, and who focus on their needs. Participants recommended improving the health care environment, including reforms in the areas

of drug pricing, health insurance and reimbursement for care coordination services. They mentioned reforms that better address mental and behavioral health challenges and nonpharmaceutical interventions. Other areas for potential improvement related to the need for patients and families to be informed and involved. Participants alluded to the importance of greater health literacy in the general population, describing the need to promote better understanding of specific health conditions, health insurance and the health care system. Finally, participants brought attention to the needs of vulnerable populations including older people, young people, caregivers, those at the end of life, people with disabilities, low-income individuals, and others. In summary, the focus group findings can assist policymakers, program planners and others in better understanding issues and needs. These comments can inform options to address the health care needs and priorities of residents from the five Mid-Shore counties. ■

Perspectives From Community Leaders About Health and Health Care

Community leaders, a combination of stakeholders and key professionals, were interviewed. They represented a broad range of roles and depth of experience with programs on the Mid-Shore. Stakeholders were leaders active in directing programs/initiatives at a city or county level in health care, education, social services, economic development, transportation, faith community, technology or community advocacy. The key professionals had experience directing programs at the level of the Mid-Shore region. The majority of the 26 interviewed community leaders had lived on the Mid-Shore for a number of decades and several were born there. Some of the individuals also had worked in other rural communities before settling in Maryland. Based on their leadership responsibilities for essential services and programs, they were familiar with agencies at the state and federal levels that fund and regulate similar programs. Thus, they were in a position to comment on related regional, state and national issues as well as local programs. Community leaders were asked to comment on the health and health care landscape of the Mid-Shore region from their own experiences: what works well, what challenges exist and what solutions they recommend.

WHAT WORKS WELL

Community leaders reflected on the positive attributes of the residents who live in the region as well as of the programs and services that support them. Comments reflected the solid commitment and dedication of residents to support each other. Specific examples reflected a deep culture of volunteerism, a strong sense of community and a willingness to work together to nurture and support creative solutions. Comment highlights and themes address the main topics of health and health care, health workforce and economic development, among other topics. One stakeholder's comment summarizes succinctly what works well: "People live here because they want to, so they are engaged in the community."

Responses regarding health services and access to care and positive attributes of health and health care services included: existing and growing partnerships among institutions; creative programs that meet people's needs and provide care where "people are;" and the expansion and value of health and wellness programs beyond traditional medical care. One interviewee commented: "You can't do much without partners."

Many examples of partnerships were provided including:

- the work of Choptank Community Health System (Choptank Health) and Shore Health to support care transitions and case management;
- the coordination of emergency medical services (EMS) and Shore Health to address care coordination and reduce emergency department (ED) visits;
- Choptank Health's dental program partnerships with schools and their dental case management program;
- the Supplemental Nutrition Assistance Program Education (SNAP-Ed) program administered by Maryland Extension and their partnership with schools to promote wellness;
- Talbot County partnership with donations from churches; and,
- the Maryland Department on Aging support of case management and care coordination for seniors and individuals with disabilities.

The resilience and contributions of individuals and the outreach by existing programs were central to what "works well." Select examples include the transportation provided to elderly individuals by HomePorts Village; a home visiting program for new mothers; extended behavioral health services; YMCA programs; and partnerships between and among social service programs. The growing presence of complementary medicine services and lifestyle programs was viewed as an asset, in addition to existing school-based programs.

Regarding the health care workforce, community leaders from all categories referred to their existing primary care physicians as “excellent.” Comments from economic development leaders mentioned the recruitment and growth in primary care providers affiliated with Choptank Health and with Shore Health as assets. Specific to the need to increase health care providers on the Mid-Shore, Anne Arundel Medical Center (AAMC) facilities and providers on the Mid-Shore were mentioned as assets for primary care and for management of access to specialty care. However, AAMC’s presence also was viewed as a challenge to health planning for entities that were responsible for population health in the counties. All categories of community leaders highlighted the

WHAT CHALLENGES EXIST

Community leaders noted that the health care system does not work well for vulnerable groups, such as individuals with low income, disabilities or those with behavioral health needs. For low-income residents, health care costs are unaffordable. Comments highlighted that providers are not readily accepting new adult Medicaid or uninsured patients. In addition, appointment times are limited for these populations and do not include after-work hours. The waiting time for appointments and related travel are additional barriers. Underfunded local agencies and a general lack of care coordination for vulnerable populations were also cited as challenges.

Community leaders emphasized the need for a regional perspective that would be coordinated with local efforts to support the health and well-being of the Mid-Shore population.

contributions of the EMS and the positive aspects of the EMS Mobile Integrated Care pilot project. Another workforce attribute noted was the increase in physician assistants in the region and the support of institutions, such as Shore Health, the University of Maryland School of Medicine and Anne Arundel Community College, that provide educational and internship experiences.

The symbiotic relationship between the economic welfare of a city or county and residents’ health was emphasized by all interviewees. In that context, the adoption of wellness programs by employers was viewed as an asset, benefiting the employees and the company alike. In addition, access to existing jobs in the Mid-Shore communities for those who are qualified was identified as an important attribute to economic viability and health. The expansion of broadband internet was also viewed as supporting both economic development and increasing options for health care delivery.

While the community leaders were not selected to be representative of specific counties, comments reflect that what works well in supporting health and health care varies to some degree by county. Many cited the example of the potential negative impact of a hospital closure in Chestertown versus a less detrimental effect of a similar hospital closure in Dorchester County. The differential impact is mainly due to the geographic distance of the two hospitals from other acute care facilities.

Limitations in the public’s understanding of and ability to use health information and to navigate the health and social “institutions, systems and services” are additional themes from community leader comments. The need to educate children, adults, families and caregivers,

not only about their personal health but also about how to use existing services, was emphasized. Comments about the high volume of EMS calls noted that many calls were for conditions that should be diverted to other services, such as an urgent care center or a pharmacy for access to medications. Care for people with low health literacy can be costly as they use emergency services more frequently and preventive services less often, as documented in the literature. The challenge of limited health literacy also was recognized in recent Mid-Shore community health improvement plans and community health needs assessments.

Behavioral health/mental health care was mentioned as a major need for residents of all ages, including a dedicated effort to address the opioid epidemic. Comments reflected concern about the limited capacity to address children with mental health needs, despite school programs designed to address these needs. Early intervention was recommended to address the growing developmental and behavioral problems noted. Strong concern was expressed that the causes of addiction are not being addressed. More behavioral health/mental health providers are needed in addition to wrap-around services and care coordination to decrease the incidence of relapse.

Several community leader comments highlighted challenges related to hospitals. Multiple interviewees emphasized that the community’s trust in the hospital system is lacking, and there is a concern about the quality of care. In addition, the long-term effects of racial

segregation, including for health care services delivery, are still alive among some communities and contribute to this lack of trust. Another comment noted the lack of a clear definition of a hospital was a challenge, especially in the context of a hospital serving a rural population. There is recognition of the unique challenges faced by hospitals in rural communities and the variation in hospital services needed by such communities. The competition and the perceived lack of cooperation between Shore Health and AAMC were raised in the context of establishing a sustainable health care system. The expressed concern was the effect of competition on access to care for Mid-Shore residents, especially for vulnerable populations. It was hypothesized that plans and related fiscal capacity to expand population health by one health care system could be undermined by competition with another system that may not have an interest in or a commitment to the broader community.

A few comments by community leaders reflected on the development and use of community health improvement plans, including the community health needs assessments led by Shore Health. Continued efforts to elicit input from residents were proposed. The Mid Shore Health Improvement Coalition (<https://www.midshorehealth.org/>) was mentioned as a regional effort that needs resources to support its work.

The different reimbursement models for health care services were raised as additional challenges in the context of regulated and unregulated care provision. The regulated global budget reimbursement for hospitals versus the unregulated fee-for-service reimbursement for FQHCs and private health care services have been noted as issues that warrant further discussion to address care coordination partnerships among systems. One comment reflects this challenge: "How systems reimburse determines how we do business."

Health care workforce challenges were discussed in light of changes to how health care is delivered. Older residents recalled a time when the "family doctor" was available, visited them in their homes evenings and weekends, and served as the primary provider who oversaw their care. Other levels of health care providers, such as nurse practitioners and physician assistants, are not as familiar to older residents, who may be reluctant to see them. A comment was made that younger health care providers have a different approach to their work and prefer a better work-life "balance" that does not include working long hours and weekends. Questions and clarification about changes in the Maryland health care system were raised, and community leaders commented on the need for further details and information about the

Maryland Comprehensive Primary Care Redesign plan (now the Maryland Primary Care Program) to understand its implementation and impact in the Mid-Shore counties.

Recruiting and retaining physicians and other health care providers were noted as major concerns and challenges. Comments highlighted that many providers are approaching retirement, and some physicians are overwhelmed and are not accepting new patients. Low reimbursement levels for services, the perception that Maryland is not a good state for private practice, and lack of general support in the community were identified as challenges to recruiting new providers. The latter comments included perceived low quality of public schools, the lack of jobs for spouses and limited community social supports for younger recruits. The limited exposure of health care professional students to the rural community environment was also noted as a barrier to recruitment in addition to professional training limitations. Experience working in rural areas was viewed as an essential aspect of overall professional development that could support recruitment and retention.

Beyond the need for primary care providers, interviewees also commented on the need for specialists and care extenders, such as community health workers (CHW). Specialists mentioned included geriatricians, psychiatrists, pediatricians, obstetric/gynecologic specialists, nutritionists, therapists and health educators, among others. CHWs were described as the "eyes and ears" of the community who coordinate social and health services. While training programs for CHWs exist, there are recruitment challenges to attracting individuals for this training. In addition, barriers to expanding the number of CHWs include lack of adequate reimbursement for their services and lack of information for physicians on how to incorporate CHWs into their practices.

Comments related to barriers to the adoption and use of telemedicine emphasized the need for provider training on how to use and integrate these technologies into clinical practice. There is recognition that enhanced use can extend the reach of care, which is particularly applicable to specialty services. In addition, the potential of information and communication technologies for provider-patient interaction, often referred to as telehealth, was noted. Effective telehealth requires access to technologies as well as acceptance and active participation by both providers and patients.

Community leaders stressed that the availability of high-quality, accessible health care services is an important factor in attracting businesses and new residents to rural communities. As such, the continually changing landscape

of health care services, especially with the potential and actual hospital closures, threatens the success of recruiting new and retaining existing businesses and raises concerns about potential job losses. There is general concern about the ability to sustain vital businesses and institutions given the limited operating margins. Support for business viability was mentioned: Queen Anne's County was provided as an example of the effect on all services, including health care, when almost half of the employed population works outside the county.

The public school system, challenged by reductions in population size and decreasing budgets, was noted as an additional factor affecting the ability to recruit new businesses and residents and maintain a vibrant, economically strong community. Further challenges for the school system include accommodations for non-English speaking students who are part of the growing immigrant population and teacher recruitment due to low salaries.

Regarding transportation, the comments from all community leaders were the same; there is a need for enhanced transportation for emergency and general needs. Comments about the EMS included both the need for additional emergency medical technicians (EMTs) and EMS vehicles to address the demand for their services. The existing general transportation system is not well-used or understood and is limited due to funding sources and regulations. As a result, the general perception is that current services are not sufficient to meet the needs of residents, particularly vulnerable groups.

SOLUTIONS AND THEMES

Community leaders proposed a variety of approaches and entities to build capacity and to improve health and health care with community input, transparency and a focus on quality and care coordination/integration. These proposed solutions, highlighted in Exhibit 5, have been integrated into the overall recommendations made by the study team.

Several cross-cutting themes emerged, many of which dovetail with themes from the focus groups.

Community Engagement

Community leaders stressed the need to listen to residents and give residents a voice in contributing to initiatives to support health and health care delivery (both regulated and unregulated). They emphasized the need for patient-centered solutions. Choptank Community Health System's advisory board, comprised primarily of community members, was cited as an example of how

a system gains input for addressing the changing health needs of the population it serves. Comments highlighted the changing needs in the Mid-Shore due to the continuing increases in older adult residents, in immigrant populations with young families and in challenges facing youth. It was suggested that input from residents is needed at the city, county and regional levels as well as from health care delivery and community organizations.

Quality of Care

There is a common understanding among interviewees that raising the quality of care is central to supporting the health of Mid-Shore residents and will require solutions at the local and regional levels. Community leaders mentioned that health and health care solutions must meet the routine needs of residents. They also commented that in addition to quality of care, efficiency of services and fiscal realities will contribute to organizing services and programs.

Build Trust

Community leaders noted that solutions will require activities and programs to build trust between the residents, especially vulnerable populations, and community organizations and the health and health care system. The recent changes in access to health care services, plans for hospital closures, and emerging reforms in the health care system have heightened general awareness and concerns among Mid-Shore residents.

Local and Regional Investments

Community leaders emphasized the need for a regional perspective that would be coordinated with local efforts to support the health and well-being of the Mid-Shore population. They noted that while residents want to have services close to where they live to limit travel for themselves and their families, residents understand that some services will need to be provided at a regional level. The types of services that should be available locally include: primary care (to include behavioral health and oral health services); ambulatory diagnostic and select outpatient surgical services (e.g., hip replacement); emergency services; select specialty care based on unique population needs; routine access to other specialty care (this could be on a rotation basis possibly through telehealth/telemedicine); and social services that support health. Community leaders recognize that each county does not need a hospital. However, they mentioned that due to distance and travel standards for care, some local communities need hospital-like services.

EXHIBIT 5: Proposed “Solutions” from Community Leaders

Create a regional health planning entity with representation from the community and all health care services, social services, transportation, business and faith community among others.
Develop a rural health model that provides a continuum of quality services as close as possible to where people live.
Create a rural hospital designation that allows for some flexibility.
Maintain inpatient care in Chestertown.
Enhance capacity to educate, recruit and retain an interprofessional health care workforce that meets the needs of Mid-Shore residents by extending and aligning key training programs (internships, residencies, preceptor supports) and tools, such the J1 Visa and Loan Repayment Program.
Increase access to a network of providers to include increased use of mid-level providers, access for vulnerable populations and use of telehealth.
Enhance mental and behavioral health by creating new facilities, addressing reimbursement issues, ensuring sufficient workforce and integrating clinical and social service programs.
Expand EMS workforce and vehicle capacity and extend the EMS Mobile Integrated Community Health Program.
Develop a communitywide program to enhance health literacy and prevention to include residents, caregivers and health care providers as well as health, education and social service facilities and systems.
Increase coordination among health care and social services from health promotion through all levels of clinical care, palliative services and hospice.
Pursue initiatives to spark economic development in the Mid-Shore region.
Invest in public/private partnership solutions for routine and medical transportation, with emphasis on vulnerable populations and consideration for caregivers.

SUMMARY

Community leaders provided concrete suggestions to improve health and health care. They emphasized the need to focus on individual patients and their caregivers as well as on the population as a whole. Their familiarity with programs in other regions and states, coupled with their experience with past efforts in the Mid-Shore, informed suggestions that are both structural and process-oriented in scope. They voiced the need for innovation and flexibility in promoting rural health. They reiterated that traditional approaches to health care delivery do not work. They emphasized residents’ interests in taking active roles in developing plans and in benefiting from immediate action plans that are

developed with community input. Their suggestions acknowledge the importance of providing quality care at all levels, building trust with community residents and investing in communitywide health literacy efforts and prevention. Their comments recognized that the social determinants of health must be addressed, not solely health care. In addition, they acknowledged the resilience and commitment of the residents and the importance of building on the strengths of existing programs and partnerships. All interviewees expressed their interest in taking action now and continuing the momentum initiated by the workgroup. ■

Health Care Use by Mid-Shore Residents

The health care utilization rate for Mid-Shore residents is higher than the utilization rate for the state of Maryland. Inpatient discharges per 1,000 residents is 121 for Mid-Shore residents compared to 107 for Maryland overall (Exhibit 6). The emergency department (ED) visit rate is also higher with 496 per 1,000 Mid-Shore residents compared to 377 in the state. Utilization rates vary by county. Counties with fewer resources have higher inpatient and ED visits.

The study team analyzed several 2014 claims databases to answer the question: Where do residents of the five Mid-Shore counties go for health care? The characteristics of these databases vary, and detailed analytic methods are described in the Technical Report. Analyses of health care services claims data provide information about visit encounters. The data provide information on these visits, where residents go for different types of care (ambulatory, emergency, hospital inpatient), the physical location of facilities and offices that provide care, and care patterns based on insurance programs (Medicaid, Medicare and private insurers). While this additional information informs

plans for overall health and health care improvement for the Mid-Shore, it is important to note that care-seeking and care receipt is complex, and the underlying individual and system factors need to be carefully assessed.

PATTERNS OF USE BY PAYER AND TYPE OF CARE

Patterns of care vary by payer. The pattern of care for residents insured by Medicaid, Medicare and private insurance differs in expected ways based on the vulnerability of the respective populations covered. Medicaid patients, who are mainly low income, are over-represented in ED visits, reflecting other settings where Medicaid patients report a higher utilization of the emergency department compared to other groups. Medicare patients, an older and sicker population, account for 50 percent of all inpatient admissions, a larger share than private insurance and Medicaid patients.

Residents receive the majority of their emergency care and ambulatory care visits within the Mid-Shore

region for all payers. This trend is strongest for Medicaid and Medicare patients. Hospital inpatient admissions show a different pattern with a substantive portion of admissions out of the five-county region; less than 50% of hospital admissions covered by private insurance are in the Mid-Shore region.

EXHIBIT 6: Summary of Hospital Utilization per Capita, by Mid-Shore County, Mid Shore and Maryland (CY2014-2015)

	POPULATION	INPATIENT DISCHARGES RATE PER 1,000	EMERGENCY DEPARTMENT VISITS PER 1,000
Dorchester	31,874	142.09	712.39
Kent	25,150	121.57	473.76
Talbot	38,270	128.61	453.04
Caroline	34,082	120.19	447.97
Queen Anne's	44,320	99.40	426.13
Mid-Shore Total	173,697	120.96	495.77
Maryland Statewide	5,930,394	106.73	376.62

Note: Abstracted from Maryland Population Health Improvement Plan: Planning for Population Health Improvement, December 31st, 2016: Appendix B

Ambulatory Care Visits

Ambulatory care visits were obtained from the Maryland Medical Care Data Base (MCDB), Medicare and Medicaid databases. Ambulatory care visits by Mid-Shore residents tend to be in region. Sixty-five percent and 66% are in region for privately insured and Medicare patients, respectively. A higher percentage of ambulatory visits, 77%, are in region for Medicaid patients. Ambulatory visits include visits to a large number of providers. The University of Maryland Community Medical Group, the top provider of ambulatory visits for privately insured patients, has eight percent of all visits. Ambulatory care visits are even more spread across providers for Medicare; the top providers are several private practices that each account for about one percent of visits. The exceptions are visits by residents on Medicaid, with Choptank Community Health System (Choptank Health) providing 11% of visits.

Similarly, at the county level, residents go to a variety of providers for ambulatory care visits. Caroline residents access care mainly in region but through out-of-county providers. Again, the exception is Choptank Health, which is used for 22% of Medicaid ED visits in Caroline. Dorchester county residents access care at several providers in the region, less than half of which are in county. Close to half of Talbot's residents' visits are in county for all three payers. The proportion of Queen Anne's residents' in-county visits varies by payer, with privately insured and Medicare patients more likely to go in state but out of region.

Emergency Department Visits

The analyses of ED visits are based on Hospital Services Cost Review Commission (HSCRC) data. Overall, Mid-Shore residents stay in county and in region for ED visits with about 90% of visits made locally. There is little difference by payer or by county. The exception is Caroline County, which does not have an emergency room facility. The local nature of ED visits is expected given the emergent nature of emergency health care needs.

Mid-Shore residents had 75,429 ED visits in Maryland in 2014. Forty percent of all ED visits were for Medicaid patients, 30% for privately insured patients and 20% for Medicare patients. Uninsured patients accounted for 10% of all ED visits. Mid-Shore residents tend to stay in region for ED visits. There is little variation across payers, with over 90% of all ED visits in region for Medicare, Medicaid and uninsured visits and over 80% for ED visits by privately insured patients. Among all payers, University

of Maryland Shore Regional Health (Shore Health) was the largest provider of ED visits, with 91% of all ED visits to its facilities at Easton, at Dorchester, at Chestertown and the UM Shore Emergency Center at Queenstown (Emergency Center at Queenstown). Shore Health at Easton is the top destination for ED visits for privately insured, Medicare and Medicaid patients. The Emergency Center at Queenstown is used more frequently by privately insured residents compared to Medicare and Medicaid residents.

Considering ED visits by county, close to 90% of Kent and Talbot residents stay in county. A slightly lower percentage of Queen Anne's residents' ED visits are in county, with 16% of the county's ED visits to Anne Arundel Medical Center (AAMC). This is possibly due to Queen Anne's proximity to the Western Shore and to the high proportion of residents who work over the bridge and may get care on the Western Shore or through an AAMC-affiliated primary care provider in Queen Anne's County. The proportion of ED visits in county does not vary significantly by payer or by county, except for Caroline County. The Emergency Center at Queenstown receives 64%, 57% and 62% of Queen Anne's residents ED visits for private, Medicare and Medicaid patients, respectively.

Hospital Inpatient Admissions

Using HSCRC data, there is evidence that Mid-Shore residents access hospitals in the region for most of their inpatient care needs. Shore Health provides 63% of all inpatient admissions at their three locations with two-thirds of these admissions at Shore Health at Easton. AAMC is the second largest provider of inpatient care in the region with 17% of admissions for Mid-Shore residents. However, privately insured patients, who are likely to have greater choices and more resources, such as transportation, access care on the Western Shore more often than other groups. Admissions to AAMC represent 29% of admissions for privately insured patients. This distribution leaves a higher burden of care for vulnerable populations, such as the elderly and low income, to Shore Health. Shore Health provides 48% of private admissions compared to 71% of Medicare admissions and 64% of Medicaid admissions.

Mid-Shore residents had 19,737 inpatient admissions in Maryland hospitals in 2014. Fifty percent of the admissions were covered by Medicare, 21% by Medicaid and 26% by private insurance. Two percent of admissions were for uninsured residents and one percent had other public payers. Medicaid, Medicare and uninsured admissions are predominantly in region while over

50% of private insurance admissions are out of region. Considering admissions by payer, Shore Health at Easton is the most utilized hospital for private, Medicare and Medicaid patients. AAMC is highly utilized by privately insured patients (29% of admissions). Caroline and Queen Anne’s counties do not have hospitals, and their residents go out of county for inpatient care. Caroline County residents stay mainly in region with 66% going to Shore Health at Easton. In contrast, 50% of Queen Anne’s residents’ admissions are at AAMC. Kent County residents stay in county for inpatient care with 53% of admissions at Shore Health at Chestertown. Seventy-two percent of admissions for Talbot residents are to Shore Health at Easton and 40% of admissions for Dorchester residents are to Shore Health at Dorchester. Examining where county residents go for inpatient care by payer, privately insured residents are more likely to be admitted out of county and out of region than Medicare and Medicaid patients.

PREVENTION QUALITY INDICATORS AND PATTERNS OF USE BY TYPE OF CONDITION

Hospital inpatient admissions were examined through the lens of Prevention Quality Indicators (PQIs). PQIs give an indication of the adequacy of primary care in preventing hospitalizations. PQIs are measured by an overall score, an acute score and a chronic score computed as the percent of admissions categorized as “ambulatory care sensitive conditions.” These are conditions for which good outpatient care can potentially prevent the need for hospitalization or for which early intervention can prevent complications or more severe disease. (https://www.qualityindicators.ahrq.gov/modules/pqi_resources.aspx). Overall PQIs for the Mid-Shore region are similar to 2014 state average levels (Exhibit 7). Reflecting available socioeconomic resources and age, PQIs vary by payer. Medicare and uninsured admissions have higher PQIs, and privately insured admissions have lower PQIs. The variation in PQIs by county, though less pronounced than variation by payer, also reflects socioeconomic resources, with Caroline, Dorchester and Kent counties being the most disadvantaged counties.

Chronic Conditions

Where residents with chronic conditions (e.g., arthritis, cancer, cardiovascular disease, diabetes and respiratory illness) go for care was considered.

Residents with chronic conditions have a similar pattern of visits in county, in region and in state as the Mid-Shore population as a whole. There are no differences

when comparing the location of all visits by payer. Approximately 60% to 70% of all visits are in region for all chronic conditions for private insurance, Medicare and Medicaid patients.

Visits by type of service were examined for privately insured and Medicare residents, but Medicaid data did not allow that reporting. ED visits are the most likely to be local followed by ambulatory visits. Inpatient admissions are almost equally divided between in region and in state with privately insured patients more likely to go out of region than Medicare patients.

Behavioral Health

Behavioral health visits include mental health visits and substance use disorder visits. More than 95% of behavioral health visits are for mental health among all three payers and for all types of services. Mid-Shore residents receive most of their behavioral health care in region. For privately insured and Medicare patients, there were similar patterns of high rates of local ED and ambulatory care visits. There were more out-of-region inpatient visits for privately insured patients. For all payers, about 70% of behavioral health visits are in region, with mental health visits more likely to be in region (over 70%). About 50% to 60% of substance use disorder visits are in region, possibly because visits for social services that also provide substance use disorder management were not captured.

Maternity Care

Location of maternity care varies by type of service for privately insured patients. About 60% to 70% of ED visits and ambulatory care visits are in region, but only 40% of inpatient admissions are in region. Close to 60% of all maternity visits are in region for privately insured and Medicaid residents.

SUMMARY

Mid-Shore residents have higher health care utilization relative to state averages. While most health care is accessed in the county of residence and in the five counties of the Mid-Shore region, the pattern of care for residents insured by private insurance, Medicare and Medicaid differs based on the resources and health needs of each population. Medicare residents, who are older and sicker, and Medicaid residents, who are low income, receive more care locally compared to privately insured residents, who tend to be younger and healthier with more socioeconomic resources. Differences were noted

EXHIBIT 7: Overall, Acute and Chronic Prevention Quality Indicators (PQI) by Payer and by County

	PAYER						
	MARYLAND	UNINSURED	MEDICARE	MEDICAID	PRIVATE	OTHER PAY	
Overall PQI	12%	16%	18%	10%	8%	5%	
Acute PQI	4%	4%	7%	3%	3%	1%	
Chronic PQI	8%	12%	12%	7%	5%	4%	
	COUNTY						
	MARYLAND	REGION	CAROLINE	DORCHESTER	KENT	QUEEN ANNE'S	TALBOT
Overall PQI	12%	14%	13%	17%	15%	12%	13%
Acute PQI	4%	5%	4%	6%	6%	4%	5%
Chronic PQI	8%	9%	9%	12%	9%	7%	9%

in location of care by type of service. As expected, ED visits are predominantly local, due their emergent nature. The exception is for ED visits by residents of Caroline County, which does not have emergency room facilities. Ambulatory visits also tend to be provided in county and in region, but vary by county. For example, Queen Anne’s County residents are more likely to access care on the Western Shore, due to its proximity. Inpatient admission is the least likely service to be accessed locally. Approximately half of inpatient admissions are on the Mid-Shore, with less than 50% of privately insured residents staying in region. These patients have the transportation and other resources to choose where to access care based on the reputation and specialized services offered by hospitals in region and out of region.

The analyses of the claims data present a picture of where residents access care and are useful in planning for facility capacity on the Mid-Shore. The findings reinforce the need to provide high-quality and accessible

care on the Mid-Shore given that most residents access care locally for all their needs. They also highlight the importance of maintaining and strengthening access to emergency room services on the Mid-Shore. The higher rates of inpatient admissions due to “ ambulatory sensitive conditions,” as reflected by PQI scores across the region and in Dorchester and Kent counties, indicate the need to reinforce ambulatory care locally. Analyzing utilization differences by county and by payer may provide insights regarding where to target specific services to address gaps in access to health care.

While this study provides a picture of where and what health care services Mid-Shore residents are accessing, understanding the decision process for care seeking and receipt of care is complex. It involves understanding how needs and preferences drive individuals in their care-seeking behavior as well as what system factors must be in place to support appropriate use of health care. ■

Health Care Workforce Capacity and Technology Support: *Primary Care Physicians*

Based on federal guidelines, Health Professions Shortage Areas (HPSAs) have been designated in three categories: primary care (physicians); dental care (dentists) and mental health care (psychiatrists or other therapists as specified). Such designations are based on provider-to-population rates, among other factors, and determine eligibility for federal resources and other benefits such as enhanced Medicaid reimbursement. Caroline and Dorchester counties have a greater percentage of their populations residing in a primary care HPSA than the statewide average. Kent County is the only Maryland jurisdiction with 100 percent of its population in a dental HPSA, while the other four counties have a higher percentage of their population residing in a dental HPSA than the state overall. Twenty-three percent of the state's population live in mental health HPSAs, and 100 percent of the population of Caroline, Kent and Queen Anne's counties live in a mental health HPSA. Additional indicators of primary care shortage resources include federal designations as medically underserved areas (MUAs) and medically underserved populations (MUPs). Four criteria are used to define these areas/populations: infant mortality rate, percentage of population living in poverty, percentage of population over 65 years of age, and population-to-primary care provider ratios. Dorchester County has the highest percentage of its population (37.3 percent) covered by a MUP designation in the entire state.

The 2016 Maryland Primary Care Needs Assessment ranking of Maryland counties reflects additional challenges faced by Mid-Shore region residents. Dorchester and Kent are among those counties with the greatest needs based on PQIs and State Health Improvement Process (SHIP) data. Of the five Mid-Shore counties, Queen Anne's County demonstrated the best outcomes, with both Caroline and Talbot counties falling in the mid-range for outcomes. Despite these findings, the percentage of residents who reported having a personal doctor or health care provider was over 80% in all counties except for Dorchester (74.4%).

The study examined physician workforce capacity in terms of numbers, locations, and specialty and practice characteristics, with an emphasis on primary care physicians. Primary care providers serve as the initial point of contact for an individual; deliver basic diagnostic, preventive and treatment services; and help coordinate care to address more complex health needs. Currently, there is a national shortage of primary care providers, including physicians. This study used the latest Maryland Board of Physicians Renewal License database (2014-2015) and identified physicians who have an active license, hold a specialty board, practice 20 or more hours a week, have a primary practice in one of the five Mid-Shore counties, and are 75 years old or younger. Physicians whose primary practice settings are federal/military and who work for the military were not included.

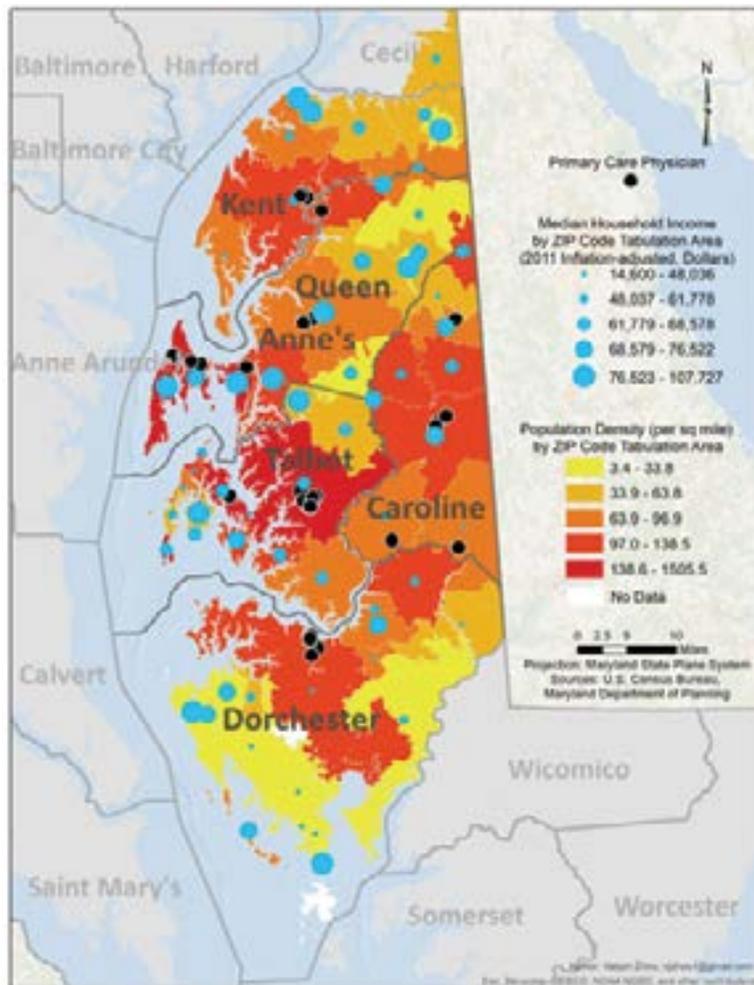
Using these criteria, there were 279 active licensed physicians in the region, representing approximately two percent of all physicians in the state. Of these 279 physicians, 110 (39.4%) are identified as primary care physicians (PCPs): family practice, general practice, internal medicine (general), pediatrics (general), and obstetrics/gynecology (general). The primary care physicians are predominately white (71.8%), 59.1% are male, and 22.7% are 60 years or older. Their reported practice locations cluster together, as expected, in areas of greater population density. Family practitioners (44.5%) and internal medicine specialists (32.7%) comprise more than three-quarters of Mid-Shore PCPs. The remaining PCPs include pediatricians (14.5%) and obstetricians/gynecologists (8.2%). County-specific profiles vary and reflect that more than 60% of all PCPs are located in Talbot (42.7%) and Queen Anne's (19.1%) counties. Three counties (Caroline, Dorchester and Queen Anne's) do not have an obstetrician or gynecologist. To identify additional options for future physician capacity planning in the Mid-Shore region, additional and less stringent criteria (physicians who practice as few as eight hours a week and are older than 75 years of age) were applied, and an additional seven PCPs and 16 specialists were identified.

A review of multiple practice settings for PCPs identified 16 more providers who had secondary practices in the Mid-Shore region, nine of whom were in Dorchester and Talbot (see Technical Report).

PCP capacity was viewed in several ways. Exhibit 8 presents the region's map marking PCP locations in context of median household income and population density. As expected, PCP locations were aligned with areas of greater population density. The PCP-to-population ratio for the Mid-Shore region was assessed, but this does not provide a thorough indication of the need for PCPs. Projections and analyses of health care workforce needs have evolved, and new demand side models incorporate factors such as population age, disease burden, insurance coverage, and delivery and

payment system characteristics. The 2014 Maryland Health Workforce Study, commissioned by the MHCC in collaboration with the Governor's Office on Health Care Reform and the Governor's Workforce Investment Board, developed more precise estimates for primary care. This study reported that while the state's primary care workforce was estimated to be about five percent higher than anticipated demand, demand side model estimates show that 16 jurisdictions had deficits. Caroline, Dorchester and Queen Anne's counties were among these jurisdictions. Kent County primary care supply was in balance with estimated demand, and Talbot County had a primary care supply greater than demand. When examined as the five-county Mid-Shore region, there was a deficit of 20 to 25 primary care providers.

EXHIBIT 8: Mid-Shore PCPs, Median Income and Population Density



Physician Data: Maryland Board of Physicians Renewal License Database, 2014-2015

CHARACTERISTICS OF PRIMARY CARE PHYSICIANS RELEVANT TO VULNERABLE POPULATIONS

Access to care for low-income populations and the elderly requires the ability to go to providers who participate in Medicaid and Medicare and who accept new patients. Based on self-reports on the Renewal License Survey, much of Mid-Shore region PCPs participate in private insurance networks (94.5%), with a slightly lower proportion participating in the Maryland Medical Assistance Program (MMAP) (86.4%), and Medicare (85.5%). Three-quarters (75.5%) of PCPs accept both MMAP and Medicare. Acceptance of new patients into these programs varies by county. While two-thirds (66.4%) of PCPs report accepting both new MMAP and Medicare patients, the proportion of PCPs in Dorchester and Kent counties is lower (57.1% and 43.8%, respectively). PCP participation in MMAP needs to be carefully qualified because managed care organizations (MCOs) serve the Eastern Shore. Primary care practices typically contract with one or two MCOs, meaning the Medicaid population has more limited choices than these aggregate numbers suggest. An additional accommodation to vulnerable populations is the provision of a sliding fee scale for payment. Overall, 41.8% of all PCPs offer a sliding fee scale to patients. The distribution by county is wide with the highest percent of PCPs offering a sliding fee scale practicing in Dorchester (71.4%), followed by Queen Anne's (57.1%); Caroline (50.0%); Kent (31.3%); and Talbot (27.7%). Charity work is reported by 14.7% of Mid-Shore PCPs, with a higher percentage in Dorchester (21.4%), followed by Kent (18.8%) and Talbot (17.0%). Finally, the majority of PCPs (96.6%) do not charge an annual fee for participating in their patient panel.

PRIMARY CARE PHYSICIANS AND TECHNOLOGY USE

Technology, such as use of computers, electronic health records (EHRs) and telemedicine, provides opportunities to extend care regardless of the distance and local availability of health care providers. In addition, technology use in physician practices has increased the efficiency and effectiveness of care. Physician responses to the Renewal License Survey, summarized in Exhibit 9, indicate most Mid-Shore PCPs (92.7%) use computers for general support. They reported using computers for obtaining information about treatment alternatives (92.7%); accessing patient notes, medication or problem lists (91.8%); exchanging clinical data and images with hospitals or laboratories (87.3%); obtaining information

on potential drug interactions (90.9%); and sending prescriptions electronically to the pharmacy (82.7%). About three-quarters of PCPs (72.8%) use electronic prescriptions for more than 75 percent of all prescriptions; Talbot has the lowest percentage of PCPs using electronic prescriptions (61.5%).

Almost three-quarters (73.6%) of all Mid-Shore PCPs use all EHRs (referred to as electronic medical records (EMRs) in the survey): those in Kent County have the lowest rate (50.0%). Another 16.4% of all PCPs use a combination of electronic and paper medical records. Of PCPs who report they do not use electronic medical records, over half (63.6%) mentioned the capital cost outlay as the most significant barrier. PCPs reported using a wide variety of EMR products. Continued increases in PCP use of EMRs will enhance the ability to share patient information among providers, thereby contributing to care coordination, improving efficiency and quality of care, and lowering overall health care costs. A lower percentage of PCPs reported using computers in their interactions with patients, such as generating reminders about preventive services (66.4%) and communicating about clinical issues (50.9%). These practices may reflect patient and PCP capacity and preferences to receive such communication.

PCP use of telemedicine was reported to be very low (6.3%), which translates to only about one PCP in each county. The benefits of telemedicine, or more appropriately telehealth, have been well described: Use may increase access to care and efficiencies in care delivery and may contribute to decreasing health disparities. The MHCC has been implementing the recommendations of the 2014 Maryland Telemedicine Task Force Final Report and supporting pilot projects focused on increasing use in rural areas, including a recently funded project for the Mid-Shore region.

PRIMARY CARE PHYSICIANS IN THE CONTEXT OF OTHER HEALTH CARE PROVIDERS

To address the primary and other health care needs of the Mid-Shore region, a more thorough understanding is needed of the full range of providers who contribute to primary and specialty care, and of interprofessional care delivery patterns. This study did not include a review of the many disciplines that contribute to medical, dental and behavioral/mental health care for the Mid-Shore. Highlights of the Mid-Shore health care workforce capacity presented at the August 2017 Rural Health Summit, revealed that numbers of nurse practitioners, mental health providers, allied health providers and dentists for the Mid-Shore region was lower than for Maryland overall.

Nurse practitioners are recognized in state policy as primary care providers. Their ratio per population for the Mid-Shore population is 5.3/10,000, as compared with Maryland overall (6.3/10,000). Physician assistants are another provider group that can enhance primary care. A total of 34 physician assistants were reported in the Mid-Shore region with almost half (15) in Talbot County. The Mid-Shore region dentist-per-population ratios reflect a much lower level (4.9/10,000) compared to Maryland (7.2/10,000). This ratio is low in all counties except, again, for Talbot County. The Rural Health Summit presentation also included numbers of licensed social workers, professional counselors, psychologists and psychiatrists, revealing variation by county. Caroline County had the lowest numbers across all categories and in total than other Mid-Shore counties.

SUMMARY

Study findings document PCP workforce challenges for the Mid-Shore region based on previous assessments, the lower PCP-to-population ratios in the Mid-Shore region

compared to the state and the maldistribution of primary care specialists by county. The study also documented the often-limited number of medical, surgical and hospital-based specialists (See Technical Report). The reported low use of telemedicine and computers to communicate with patients, together with the primary care and specialty care physician scarcity, suggest that additional technical support and outreach is needed to enhance the use of these technology tools. At the county level, reported practice characteristics, such as participation in Medicaid and provision of sliding fee scales, appear to demonstrate that PCPs are responding to the needs of vulnerable populations. As noted in the 2014 Maryland Health Workforce Studies, the information on precicensure surveys for all health providers, beyond that required of physicians, is insufficient to inform a complete assessment of distribution and supply adequacy. In addition, more extensive use of demand side models and a more thorough review are needed to project health workforce needs and identify how best to maximize these providers in expanding primary care for the Mid-Shore region. ■

EXHIBIT 9: Computer, Electronic Medical Record and Telemedicine Use Reported by Primary Care Physicians

PRACTICE	ACTION	PERCENT
Computer Use		
	For general support	92.7
	Obtain information about treatment alternatives	92.7
	Access patient notes, medication or problem lists	91.8
	Exchange clinical data and images with hospitals or laboratories	87.3
	Obtain information on potential drug interactions	90.9
	Send prescriptions electronically to pharmacy	82.7
	Use electronic prescriptions for more than 75% of all prescriptions	72.8
Use of Electronic Medical Records (EMR)		
	Use EMRs	73.6
	Use part paper and part EMR	16.4
	Capital cost outlay as reason for those not using EMRs	63.6
Computer use for communicating with patients		
	Communicate about clinical issues	50.9
	Generate reminders about preventive Services needed for patients	66.4
Use Telemedicine		6.3

Physician Data: Maryland Board of Physicians Renewal License Database, 2014-2015

Economic Development and Health Care

Rural Americans face many economic inequities that affect their health. For example, rural Americans are more likely to live in poverty than residents of metropolitan areas and experience barriers to accessing affordable housing, healthy foods, transportation and education. Rural economic disadvantages lead to rural Americans having higher mortality rates than their urban counterparts and experiencing greater prevalence of chronic conditions. Therefore, economic development of rural areas is critical for population health, and a robust local health care system goes hand in hand with a thriving local economic environment. The relationship between a county's economic welfare and its residents' health was emphasized by all community leaders. Stagnating economic development in the Mid-Shore region makes it difficult to sustain high-quality health care systems and attract providers. Physicians and other professionals face limited employment opportunities for their spouses and few educational choices for their children.

“...economic development of rural areas is critical for population health, and a robust local health care system goes hand in hand with a thriving local economic environment.”

Economic development efforts are underway in several counties. Queen Anne's and Kent counties have implemented initiatives to promote local development, such as Chestertown Main Street, Kent Forward and Chester River Wellness Alliance, to attract hotels and new businesses. Widespread broadband internet access, at various stages of implementation, supports economic development and increases options for health care delivery, including telehealth/telemedicine. Business leaders are aware of the need to strengthen the local educational pipeline and support developing apprenticeships and training opportunities. Successful training programs already exist in the Mid-Shore region, for example, the Dixon Valve Apprenticeship program,

which partners with Washington College, and cooperative programs with high schools and training programs for trades, such as those offered at the Dorchester Career and Technology Center and Chesapeake College. Communitywide efforts are also underway, most notably the planned redevelopment of the Cambridge waterfront, a part of which will involve the conversion of Shore Health at Dorchester (Dorchester General) to a freestanding medical facility and its relocation to Cambridge Marketplace on U.S. Route 50, the site of the current Cambridge Plaza.

ECONOMIC IMPACT OF RURAL HOSPITAL CLOSURE

Between January 2010 and July 2017, 81 rural hospitals closed nationwide, leaving those rural communities without local acute inpatient care. Rural hospitals are vulnerable to closure due to negative financial margins

coupled with added resource costs, such as implementing EHRs and care coordination programs, required for successful transformation to a value-based payment system. Rural hospital closures reduce access to care and negatively impact rural

economic development. In rural areas, hospitals are economic engines and play vital economic roles in their communities. Closures result in loss of high- and middle-income jobs in health care and other industries and increase the migration of health care professionals to other areas. These effects, in turn, reduce the area's attractiveness to businesses and residents. The impact is particularly pronounced when a rural county's sole hospital closes.

Hospitals often serve as the hub of rural health care systems and their closure affects the entire health care system. Hospital closures have led to the loss of primary care physicians, who typically want to practice in communities with hospitals, and the loss of other

essential health professionals, such as pharmacists. These losses limit access to health care for rural residents and require them to travel greater distances for primary care. The reduced access to care often leads to reduced primary care utilization, particularly for elderly and low-income individuals who face significant transportation barriers. Closures can substantially reduce access to emergency services, with the greatest impact on vulnerable groups such as the elderly. The literature reports that a hospital closure increases travel time to inpatient care by an average of 30 minutes, potentially resulting in negative health outcomes. The closure of a rural hospital often puts additional burdens on surrounding hospitals, which may not be equipped for the increased demand.

Losing a hospital can create a downward economic spiral, beyond health care, in rural communities, although the literature is mixed on impacts. A hospital is often one of the largest employers in a rural community, and its closure affects residents' personal income. A 2017 study examined wage and job impacts of hospitals on local labor markets and estimated that a short-term general hospital in a rural county is associated, on average, with 599 jobs, of which 499 are not related to healthcare. Residents and businesses are more attracted to an area that has a hospital. Retirees, who expect to use health care services more often than other residents, particularly value access to a local hospital. Reductions in economic activity due

to a rural hospital closure may also negatively affect home values.

On the Mid-Shore, the impact of hospital closure in Dorchester is perceived as less detrimental to the county than a hospital closure in Kent is to that county's residents. Because of greater distance and travel time to Easton or other locations with acute care facilities, Kent residents are more vulnerable to hospital closure. In particular, groups such as the elderly, who rely on limited public transportation, would be differentially affected by the lack of local inpatient facilities. According to a 2016 study, "Economic and health delivery impacts of Chestertown's Hospital" by the Sage Policy Group, Inc., the loss of the hospital would limit health care access, increase travel time to inpatient care by 90 minutes to two hours, and add around \$1 million annually in travel costs. The increase in travel time would place an additional burden on the volunteer (emergency medical services) EMS. Because the hospital is Kent County's second largest employer, supporting more than nine percent of the county's workforce, its closure would have a significant impact on economic development. The Sage Policy Group estimated a cost to Kent County of about \$26 million and potential loss of 700 direct and secondary jobs. Closing the hospital would reduce or eliminate local career opportunities in health care, reduce Kent's desirability to prospective businesses and residents, and make recruitment harder for existing employers. ■

Transportation

Mid-Shore residents often must travel to receive care, relying primarily on their own transportation or rides from family and friends. Input from all study contributors indicated a need for enhanced transportation on the Mid-Shore. Additional transportation services would help to bridge distance barriers to receiving care. Residents and community leaders unanimously lamented a lack of efficient and affordable transportation options, particularly for vulnerable populations. One focus group participant said: “It’s a distance to drive, and that’s a problem when you can’t drive or have no car to drive.”

Public transportation is not sufficient, well used or understood. In addition, transportation services do not have the frequency and flexibility required by the elderly and low-income residents. Among the programs considered successful were Queen Anne’s one-stop committee for transportation, volunteer transportation programs such as HomePorts and Partners in Care, and Delmarva Community Transit. The latter program is a multiservice entity that integrates transportation with day, residential and vocational services and has established a personalized community outreach program that helps residents learn to use and benefit from existing transportation services. Residents and community leaders recommend strengthening these programs in addition to further coordinating and streamlining transportation programs and developing public/private partnerships for non-emergent and emergency transport.

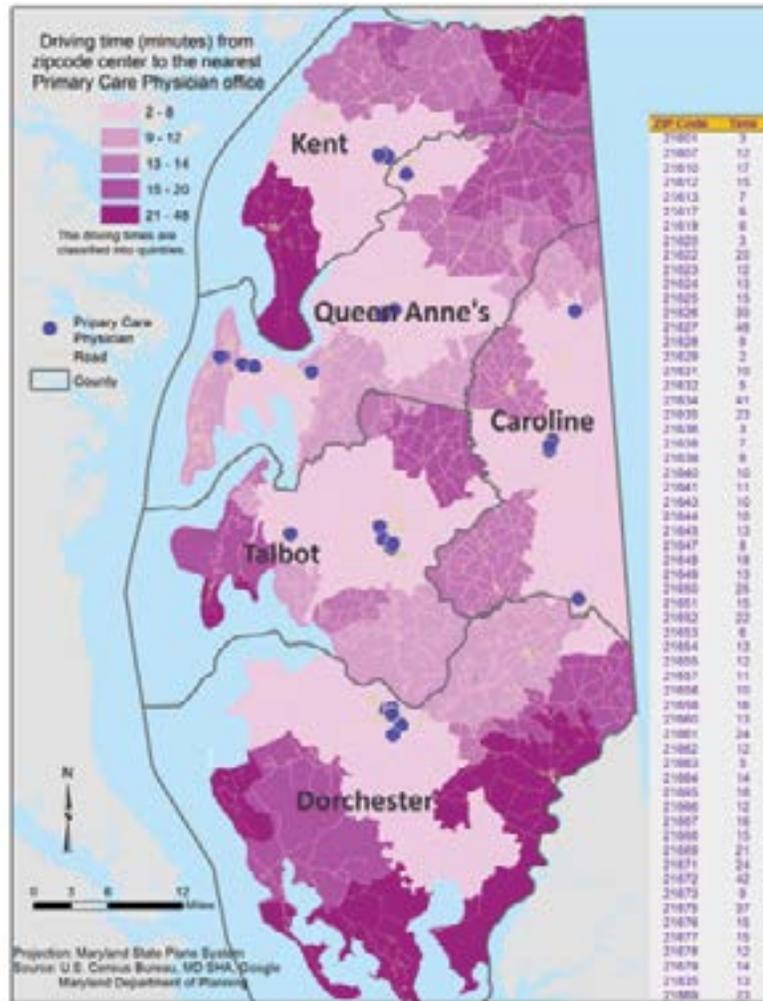
The study team assessed travel time in minutes and travel distance in miles (by zip code) to the closest PCP location throughout the five counties. Exhibit 10 presents a map of travel in minutes by zip code. Using this measure, 92 percent of residents have 30 minutes or under to travel to the nearest PCP. However, it is important to note that

this is not a door-to-door measure for a specific PCP. This measure also does not consider seasonal weather or travel demands for the Mid-Shore, such as summer vacation travelers. Most importantly, due to the lack of public transportation, travel requires access to a car and the ability to drive or have a caregiver or neighbor/family member drive to appointments.

The need for routine transportation is also reflected in the demand for EMS. A focus group participant related: “Say you’re just sick but you don’t need an ambulance, there is no public transportation. ...if you’re elderly and if it’s at night, and elderly people have difficulty driving at night, you’re really, really in a problem situation. ... what do they do? They wait ‘til they get sicker. They call 9-1-1, and they get an ambulance.” The Mid-Shore EMS is trusted and respected; however, the challenges that each county system faces are substantial and resources are limited. The Mid-Shore EMS includes both paid and volunteer emergency medical technicians (EMTs). However, volunteer EMTs require the same certification as paid EMTs, which creates a barrier for volunteers.

Community leaders provided suggestions to improve transportation, such as enhancing public/private partnerships for both regular and emergency transport and allowing families on medical assistance transportation. Addressing challenges to routine and medical transportation will require multisector and long-term solutions. In the interim, efforts should continue to support initiatives to enhance population health and well-being, create capacity for access to comprehensive primary care services specialists closer to where residents live, and increase use and acceptance of telemedicine to extend the reach of care. ■

EXHIBIT 10: Travel distance (in minutes) to Primary Care Physicians by Zip Code of Residents



Physician Data: Maryland Board of Physicians Renewal License Database, 2014-2015

Rural Health Models: *Options for Consideration*

Rural communities across the U.S. face unique health challenges that require thoughtful, coordinated solutions. This section of the report introduces some state-based strategies for addressing access to rural health and models for community-based rural engagement and identifies some potential options for the Mid-Shore region with potential applicability to other rural Maryland communities.

HEALTH CARE SYSTEM SHIFT FROM VOLUME TO VALUE

New payment and delivery models, such as Maryland's Total Cost of Care Model, are focused on bending the cost curve, improving quality of care, and enhancing population health through a shift from a volume-based system to a value-based system. This shift is achieved through alternative delivery and reimbursement models that require health care organizations and systems to manage the health of the patients they serve while containing costs. These models are based on an increased focus on population health as well as a shift toward outpatient care and a focus on primary care and prevention.

MARYLAND RURAL OPTION CONSIDERATIONS

Given the all-payer history of Maryland, many of the rural payment models are not applicable to Maryland. Historically, despite its alignment with the national trend to shift from volume to value, Maryland has not participated in these national models due to its longstanding all-payer rate system and the recent establishment of global budgets under the New All-Payer Model. Maryland is now focused on aligning its all-payer system with the Maryland Primary Care Program. Under this model, care management will be embedded, where possible, with additional regional care coordination resources. An aligned and consistent set

of quality outcome metrics also will be developed and, through efficient and robust data exchange, providers will receive enhanced real-time feedback. It is important to note that some of the existing regulations set forth by the MHCC and HSCRC place some restrictions on possible innovations. Innovations must occur within the parameters of global budget revenue methodologies and the specifications of the type and location of acute care services. As such, Maryland's unique reimbursement system poses some distinct challenges and opportunities in the development of option models. The following sections describe what options may look like in the Mid-Shore region as well as some considerations for implementation based on the lessons learned from other communities.

Global Budget Initiatives as a Solution for Rural Health

Although Maryland has led the implementation of a global budget, Pennsylvania and Vermont are adopting global budget initiatives to help address rural health issues. Global budgets that include a shared savings component have been used by states to stabilize financial variability, inherent in paying for care based on volume, and to define care quality metrics. Global budgets provide hospitals with a predictable level of revenue with an incentive to operate more efficiently while reducing health care expenditures. According to Maryland's White Paper, in addition to containing costs, global budgets are effective in incentivizing a reduction in the number of admissions because reducing the number of admissions reduces hospitals' variable costs. As identified through the qualitative data collected in this study, access to hospital care is a concern in some rural Mid-Shore communities, particularly those rural hospitals that are vulnerable to closure due to declining revenue. Similar to Maryland, Pennsylvania and Vermont have pursued state-based initiatives in recent years through a mix of legislative

efforts and federal funding. The experiences of these states can provide some additional lessons to consider in option development for Maryland and the Mid-Shore, particularly as Maryland moves to the next phase of global budget implementation.

Alignment of Financial Models with Rural Focus in Pennsylvania

Pennsylvania's global budget focuses solely on rural hospitals and was developed specifically to address the financial viability of rural hospitals. Pennsylvania focuses specifically on rural hospitals due to unique issues that may limit their long-term viability, such as outmoded licensing and regulatory barriers. In addition to financial challenges, these hospitals are often the sole providers of care for the communities that surround them—rural residents are dependent on their services. By focusing on population health initiatives, such as telehealth interventions, a population health dashboard, and the prescription drug monitoring program (PDMP), Pennsylvania expects to improve the quality of care and health outcomes of populations in rural areas, to redesign the delivery of rural health care throughout the state, and to reduce overall health care costs.

Integration of ACOs in Vermont's Model

In Vermont, the state has integrated its accountable care organization (ACO) provider network into its global budget model. In 2014, Vermont implemented its Shared Savings Program (SSP) with Medicaid and the commercial insurance markets. Under the SSP, the ACO provider network is tracked using metrics, such as quality of care and total cost, and, in return, receives a portion of the accrued savings. Vermont expects to move away from fee-for-service payments to delink quality of care from cost, particularly for inpatient and outpatient services. Over the five-year agreement, Vermont is committed to capping its annual average net health care spending increase at 4.3%.

RURAL COMMUNITY MODELS

In addition to statewide initiatives, some rural communities have implemented specific programs to support the shift from volume to value to increase rural provider engagement in value-based models. These models have been developed in response to community needs and have placed a focus on the population and individual to improve the health and well-being of the communities. These models align with workgroup discussions and qualitative data findings.

Community-Based Coalition Model

Another option for integration of services and improved care coordination and population health is the formation of a coalition that comes together to identify priorities and implement evidence-based interventions, which are driven by data and measured over time by concrete benchmarks. Rural health coalitions are defined on the Rural Health Information Hub as collaborations between diverse organizations or entities that come together to work on specific issues at the policy, system or environmental level. As seen in rural communities across the country, these coalitions bring together different community partners, health providers and services in a unified group working to a common goal. The following two coalitions strive to improve the health of the communities they serve and provide valuable lessons and elements that can be adopted by or adapted to the Mid-Shore region.

RURAL MODEL EXAMPLE: Healthy Monadnock

Based in the Monadnock region of New Hampshire, Healthy Monadnock is a community-engaged initiative that seeks to make the region the healthiest community in the nation. The coalition is comprised of 11 community partners including schools, community and service organizations, healthcare, local government, non-profit organizations and local coalitions addressing the food system, the built environment and transportation. These individual and partner champions serve as the backbone of the program and are key players in its success. Together, these different champions work to “create a culture of health and improve the quality of life for everyone in their region.

Through policy and environmental changes, Healthy Monadnock aims to improve the health of the community through evidence-based prevention strategies and policy changes. Twenty-six key evidence-based strategies under four themes—health behaviors, healthcare access/quality, socio-economic/environmental factors and social capital—were selected by the community in 2011 and 2013. A coalition, such as Healthy Monadnock, demonstrates how a community addressed specific challenges and needs and developed a program targeted at improving its health and well-being. The program's success and progress indicate how community partnerships can be powerful ways to improve health outcomes.

**RURAL MODEL EXAMPLE:
North Country Healthcare**

North Country Healthcare consists of four affiliated New Hampshire hospitals: Androscoggin Valley Hospital, Littleton Regional Healthcare, Upper Connecticut Valley Hospital and Weeks Medical Center. According to the North Country Healthcare coalition, it is a network of hospitals that are working together to improve quality, increase efficiencies and lower the cost of health care delivery in the communities its members serve. The aim of North Country Healthcare is to build a collaborative network that focuses on improving the quality of care and sustainability as well as maintaining access to high-quality, affordable health care.

North Country Healthcare is an example of a hospital-based coalition model in which several competing hospitals came together to improve the collective health of their patients. Although in different health systems, the collective effort of the hospitals to improve population health led to a stronger result than the efforts of the individual hospitals. Elements of the model could potentially be used on the Mid-Shore to address the changing health care market and market pressures.

Patient-Centered Medical Neighborhoods

Traditionally, health care has been provided in a fragmented manner with patients typically interacting with several systems of clinicians and networks. This fragmentation has led to added pressure on patients and caregivers to navigate many competing systems. In addition, many patients do not understand the linkages between the different clinical centers let alone the connection between clinical centers and other social services and community-based resources.

To bridge this disconnect, the patient-centered medical neighborhoods concept was developed to expand upon the concept of patient-centered medical homes (PCMHs). Although effective, PCMHs individually can only do certain tasks given their position within the primary care setting. These neighborhoods are a clinical-community partnership that expand the PCMH model to include the medical and social supports necessary to enhance health. According to the AHRQ Patient-Centered Medical Neighborhood (PCMN) model definition, the PCMN serves as the patient’s primary care hub and coordinator of health care delivery with other neighbors supporting its goals. Within the model, community entities work to collaborate with “medical neighbors” to help promote cross-collaboration between both clinical and non-clinical partners. The Patient-Centered Primary Care Collaborative

describes the model as focusing on meeting the needs of an individual patient while incorporating aspects of population health and overall community health needs. Together, the community, clinicians and patients come together to promote care coordination, healthy behaviors, behavioral health and proper nutrition to create health in all places of the community, including workplaces.

**RURAL MODEL EXAMPLE:
North Dakota and the Patient-Centered
Medical Neighborhood**

Sakakawea Medical Center, a 25-bed critical access hospital and 24-bed licensed basic care facility, is located in Hazen, North Dakota. The Coal County Community Health Center, a Federally Qualified Health Center, is based in Beulah, North Dakota. Together, these two facilities have come together under a shared chief executive officer to provide coordinated services to the larger community through a patient-centered medical neighborhood model. According to its website, the shared vision of the two organizations is to work together as partners to enhance the lives of area residents by providing a neighborhood of patient-centered healthcare services that promote wellness, prevention, and care coordination.”

For these communities, this collaborative framework has led to a joint community health needs assessment, which involved agencies and organizations outside of these two organizations alone. The community needs assessment reflected the larger community goals and the results, in turn, were used to develop a comprehensive strategic plan that holds all organizations accountable. This collaborative approach has led to improved outcomes for the patients and organizations.

ELEMENTS FOR A MARYLAND RURAL PATIENT-CENTERED “HEALTH” NEIGHBORHOOD

Increased public awareness and understanding of the intersection of health, social, economic and other environmental factors, similar to the communities described above, have led to an increased public interest in health integration and collaboration with a broader set of partners to address health on the Mid-Shore. In order to work toward better collaboration, Mid-Shore residents may benefit from implementing a Patient-Centered Health Neighborhood (PCHN) model (slightly changing the common name to focus on a “health” neighborhood rather than a “medical” neighborhood to recognize a comprehensive strategy that addresses health) in which they would receive ambulatory care at a “one-stop shop” close to their homes and places of employment. The

one-stop health and social services entity—the PCHN—would address most ambulatory health needs and integrate primary care, behavioral health services, oral health, public health and social services with a focus on population health. The scope and size of the PCHN would vary depending upon location and resources. The PCHN model has the potential for improving patient outcomes, decreasing health care costs and improving patient satisfaction.

The rural PCHN would serve as the epicenter of health care delivery on the Mid-Shore with a patient-centered technical support hub providing the technological components necessary to integrate and coordinate care, and track progress. The PCHN would provide a solution to the challenges surrounding access to primary care, specialists, emergency services and hospital care as well as address provider shortages and potentially reduce distance from residents to their providers. As Maryland seeks new solutions for containing the total cost of care and for implementing changes in the health care delivery system, this PCHN model would support clinicians delivering care to their patients in new ways.

The PCHN in the Mid-Shore region could be comprised of the following components:

Healthcare and Other Services: The rural PCHN would address access to primary care, ensuring that it is available and accessible when needed by the Mid-Shore residents. The main PCHN facility could be a standalone physical location or, in some instances, may be co-located in a nursing home, EMS facility or even a school. The auxiliary community services would work with the main facility to create the “neighborhood.”

Similarly, when primary care is not available, prevention and management of chronic diseases could be emphasized through a holistic community approach. For example, the Mid-Shore PCHN may consider implementing school-based health care programs to improve overall population health when primary care services are evenly distributed throughout the region.

Technology: One of Maryland’s greatest assets is the Chesapeake Regional Information System for Patients (CRISP), the state health information exchange (HIE), which is central to the implementation of any new models in the Mid-Shore region and other rural Maryland communities. The patient-centered support hub would serve as the convener between the PCHN health care providers and may also support other key community stakeholders (e.g., social services and community-based resources) to share pertinent health data. For

example, when social services or law enforcement come into contact with county residents, these entities would be able to triage care. A data model that supports this level of integration is the Data Across Sectors for Health (DASH) program, which is funded by the Robert Wood Johnson Foundation. Through its 10 grantees, the DASH program has supported projects that improve health through multi-sector data sharing collaborations. These cross-sector projects could serve as examples for integrating data from various sources. Many of the DASH programs merge existing data sets from various sectors to provide a more comprehensive view of residents’ conditions.

Economic Development: The PCHN model is already being considered by some of the counties in the Mid-Shore. For example, in Caroline County a new center is slated to open in 2018, which provides an overview of their services as a “hub of primary care, diagnostic lab and imaging services, suites for specialist rotation and telemedicine visits, outpatient rehabilitation services, community education and support groups and outpatient behavioral health services.” The plan is for this medical pavilion to serve as a hub for a cluster of related social services and health providers in the future.

Workforce: As recommended by study participants, the PCHN must be built upon a strong primary care foundation. This network of primary care providers would need to be integrated electronically as well as operationally. PCPs must be able to share records and best practices to enhance and strengthen care coordination, and improve patient outcomes.

To increase access to providers, recommendations include growing the number of local residents pursuing healthcare education and training, increasing the number of mid-level providers, such as nurse practitioners and physician assistants, adding community health workers to the care team, and adding new primary care sites to meet community needs. To accomplish this workforce expansion, the Mid-Shore may explore how to more fully engage with the Eastern AHEC to encourage the local youth to pursue healthcare related educational opportunities by hosting career fairs for middle school and high school students to introduce them to healthcare options and the local and state education and training programs that will prepare them for these careers. In addition, implementing career ladder educational opportunities, such as education for CNAs to become LPNs to advance to RNs and eventually NPs, would provide local residents an opportunity to remain in their rural communities while advancing their education to fill key local health care workforce positions.

The PCHN may consider additional incentives by expanding local training programs to recruit additional providers. One such model is the Rural Opportunities in Medical Education program at the University of North Dakota School of Medicine and Health Sciences in which third-year medical students live and train in rural communities under the supervision of physician preceptors. Similar rural programs with rural rotations for primary care and allied health care students offer opportunities to experience a rural practice environment.

Another workforce enhancement example, Project ECHO, was developed in New Mexico to bridge workforce shortages, particularly for specialty care. The program is comprised of “hub-and-spoke knowledge-sharing networks, led by expert teams, who use multi-point videoconferencing to conduct virtual clinics with community providers.” Project ECHO trains primary care clinicians to provide some specialty care services to solve the shortage of specialists in rural and underserved communities. Primary care physicians serve as the spokes in the model and are guided by specialists at an academic hub. The goal of this model is to treat some of health care’s most intractable problems through enhanced workforce capacity. The PCHN may consider incorporating components of Project ECHO to enhance access to specialty care.

Transportation: Currently, Mid-Shore residents often travel to receive care and rely primarily on their own transportation or rides from family and friends. To address transportation barriers, the PCHN could include transportation services, either through using its own drivers and vehicles or through an arrangement with a vendor. As noted previously, reinforcing the partnerships between the PCHN and other community partners will improve the coordination of medical transit and help to streamline existing community programs such as the Veterans’ Health Administration bus, County Ride and Partners in Care. Other rural communities have also implemented voluntary transportation programs that have a central coordination center to match drivers with riders.

RURAL COMMUNITY PROVIDER MODEL OPTIONS

Several states across the nation have piloted new models for rural community providers. These models provide alternatives for rural communities in which an acute care hospital is located but where challenges exist to maintaining acute care services. Although the models

differ, the general components include a functioning 24/7 emergency department, which supports limited observational stays as well as some inpatient and outpatient surgical capabilities. As discussed by the workgroup, a rural community provider model could be part of a PCHN demonstration project, potentially authorized by the state legislature or the Mid-Shore Coalition. The hospital component could be a state-local partnership with investment from the communities. The community provider model demonstration project would include timely, measurable benchmarks which, if met, could lead to scaling up in other rural communities in the state.

New Models for Emergent Care and Core Services

Not all communities can support a full acute hospital; however, communities need access to 24/7 emergency care, outpatient services and some limited observational beds for patients when their condition warrants this type of acute stay. Several states—Kansas, Oklahoma, New Mexico and Minnesota—have developed new community models to address declining inpatient/acute care volume while providing essential health care services locally. All of these models incorporate 24/7 emergent care and a core set of services provided, with the potential for additional services lines based on demonstrated community need. The models exist within a larger network of providers that emphasizes care coordination and disease management. All of the models also have flexible finance components and a decreased dependence on inpatient revenue to support operations that accommodate a shift to value-based reimbursement. In addition, the model architects recognize that rural-relevant measures should be considered as part of these efforts—it is important to develop rural-relevant quality measures in order to address perceived fairness of results.

Together, these various state activities provide examples of how Maryland could configure new types of care delivery models for rural hospitals and other essential providers. Under changing market pressures and reimbursement incentives, these aforementioned states developed programs that provide essential health care services for rural community residents tailored to meet unique, local needs. ■

Findings and Recommendations

Rural communities across the U.S., including those in Maryland, face health challenges that require thoughtful, coordinated solutions with a focus on quality health care integrated with social services.

FINDINGS

Our study findings corroborated and extended previous assessments of the health and health care needs of Mid-Shore residents. The five-county Mid-Shore region of Maryland, comprised of Caroline, Dorchester, Kent, Queen Anne's and Talbot counties, faces unique health challenges similar to many rural communities, such as higher rates of poverty and people living with chronic conditions. When compared to Maryland overall, the population of the Mid-Shore counties present with greater challenges: a higher percentage are living in poverty, a higher percentage are older adults, and the populations have greater mortality rates overall for causes such as heart disease, cancer, unintentional injuries and drug overdoses. Further, barriers related to transportation, isolation, access to healthy foods, and education are reflected in higher rates of diabetes, obesity and behavioral/mental health needs. These factors, together with limited access to primary and specialty care, contribute to higher use by Mid-Shore residents of emergency departments and more hospital inpatient stays that may have been prevented with early interventions.

Key themes to improve health and well-being emerged from guided conversations with Mid-Shore residents and leaders, and are in agreement with workgroup deliberations (together with its advisory groups and public testimony input) and the rural health literature. Specifically, there is a need for:

- meaningful and continual engagement of community residents;
- investment at both county and regional levels;

- alignment of patient-centered and population-focused needs with those of the health programs and systems;
- creation of a more health-informed community with accessible health services; and
- a focus on social determinants of health (such as housing, environmental exposures and economic development), including health care.

Recurring comments in these conversations included the need to ensure quality of care, build trust with community residents, use the strengths of existing programs and partnerships, support innovation, and leverage the resilience and commitment of residents. These comments also were reflected in public hearing testimony, advisory group discussions and workgroup deliberations.

Careful review of newly implemented payment and delivery models that reflect a shift from volume of care to value of care and are aligned with Maryland's health care reform initiatives were also critically reviewed. These new programs and attributes of successful national rural health initiatives provide options to address the documented Mid-Shore health and health care needs and complement the recommendations of the workgroup.

Overall, the study team heard a uniform sense of urgency. Residents and community leaders frequently noted the need to take action now and continue the momentum launched by the workgroup.

The major message from the study is the Mid-Shore is primed to take organized action on community-driven innovative solutions, using lessons learned from other rural areas of the country, to address their specific needs and improve the health and well-being of residents.

RECOMMENDATIONS

Maryland’s health care system is transforming from a volume-based to a value-based reimbursement and delivery system and is well-positioned to respond to residents’ needs by focusing on improvement of the health and well-being of communities. The unique Maryland health reform landscape, as defined by the state’s Total Cost of Care (TCOC) Model and the Maryland Primary Care Program (MDPCP), along with the workgroup’s Guiding Principles for Healthy Rural Communities and deliberations, served as the context for focusing the recommendations. Based on study findings and experience working with rural communities, we believe that community-driven solutions, with a focus on population health and a commitment to address the needs of vulnerable populations, have the greatest potential for success. The following recommendations from our study findings may support better health and well-being of Mid-Shore residents and potentially other rural Maryland communities as well.

RECOMMENDATION 1: Establish a Mid-Shore Coalition.

A new community-based coalition, or an enhanced version of Maryland’s Local Healthcare Improvement Coalition, would be established to bring together leaders from health care, emergency medical services, public health, behavioral health, oral health, social services, transportation, education, business and law enforcement. The critical role of the social determinants of health is even more pronounced in rural areas where leveraging resources and collaborative efforts are a way of life. This regional, multisector coalition could be led by the five local county health officers and could be charged with addressing the Mid-Shore residents’ health and well-being through social determinants. Leveraging local community health needs assessments and public input, the coalition would collectively identify the most pressing community needs, including those of vulnerable populations, and work with local residents and community partners to prioritize and address needs in each community. In addition, the coalition would track and share progress and provide annual updates on the health of the Mid-Shore region.

Coalitions established in rural areas in other parts of the country have successfully helped improve health and well-being. These coalitions have addressed key issues, such as aligning public health, primary care and hospital strategies to improve population health; re-engineering the health care workforce to better serve the needs of the community; using data to link intended outcomes and

priority areas with correlated benchmarks and targets; and improving economic development and viability by deploying underutilized resources to better serve residents. The coalition may consist of advisory groups, similar to those created by the workgroup, which could help to identify solutions for assigned topics (e.g., transportation, health workforce, economic development, etc.). The community-based coalition could drive the strategic vision of the Mid-Shore as a whole, oversee the Rural Community Health Demonstration Program and align efforts with Maryland’s health reform programs (see below).

RECOMMENDATION 2: Create a rural community health demonstration program.

Our findings show that the public understands the intersection of health, social, economic and other environmental factors (i.e., social determinants), and is interested in supporting collaborations with a broad set of partners to address health and well-being on the Mid-Shore. To test implementation of recommendations made by the Mid-Shore Coalition, a Rural Community Health Demonstration Program could be created to pilot programs before moving forward with full implementation. For example, pilot programs could address unmet ambulatory health needs and integrate primary care, behavioral health services, public health, oral health and social services with a focus on population health. The scope and size of these pilot programs could vary depending upon location and resources; however, priority could be given to pilot programs that address the patient-centered health neighborhood model that supports multisector collaborations. These neighborhoods are clinical-community partnerships that include the medical and social supports necessary to enhance health and have attributes similar to the workgroup’s “community health complex.” This priority pilot program, by serving as the patient’s primary coordinator of health care delivery with other “neighbors,” has the potential for improving patient outcomes, decreasing health care costs, improving patient satisfaction and enhancing overall health and well-being. The Rural Community Health Demonstration Program provides an opportunity to serve as a test bed for recommendations from this study, the workgroup and the Mid-Shore Coalition priorities. This model may also be implemented in rural communities across Maryland and other states.

The Rural Community Health Demonstration Program could serve as the epicenter of health care delivery on the Mid-Shore with a patient-centered support hub providing the technological components necessary to integrate

POTENTIAL DEMONSTRATION PROGRAM PILOT PROJECTS

▶ Patient-Centered Health Neighborhood

- Health care, behavioral health, oral health, social services and community-based services coordinated to meet community-identified health needs

▶ Other examples:

- Health Information Technology - support sharing of health and social services data
- Health Workforce - establish loan repayment program for local residents

▶ Transportation Solutions

and coordinate care. The Demonstration Program would provide an opportunity to test solutions and scale programs to address the challenges surrounding access to primary care, specialists, emergency services and hospital care as well as would address provider shortages and potentially reduce distance from residents to their providers. These programs must take into account unique population and local needs, such as the mix of services, geographic isolation and access to large urban settings. As Maryland seeks new solutions for containing costs as part of the Maryland TCOC Model, this Demonstration Program would allow clinicians to test new delivery models before scaling them to other rural communities in Maryland and, where applicable, urban communities.

RECOMMENDATION 3:

Invest in fundamental programs that expand the health care workforce, elevate community-based health literacy and enable technology.

These investments will expand the capacity of residents, health care workers and others to support health and well-being. They can be addressed by the Mid-Shore Coalition and the Demonstration Program and include:

Health Care Workforce: Implement an integrated health care workforce development, recruitment and retention plan that builds on existing educational partnerships and student experiences in rural settings, and aligns with innovations in interprofessional education and health care practices. Developing and nurturing a workforce to enhance care coordination and case management, and creating approaches that facilitate integration of behavioral and oral health services with primary care services, and health and social services, will fill the current gaps in access to care with structured team-based approaches.

Efforts to date have focused on training, recruiting and retaining individual categories of health care provider types. However, a strategic, multidisciplinary approach could streamline efforts and increase successful progress by: mapping existing alliances among the Mid-Shore and other Maryland educational institutions; building on their partnerships with Mid-Shore health and health-related facilities and clinics; and creating interprofessional education opportunities (aimed at having team members work at the top of their license/certification).

Supporting health professions education of local residents (“growing our own”) and exposing health professions students to rural health care settings may increase the likelihood of developing a more permanent workforce. The workgroup’s advisory committees and Mid-Shore community leaders identified potential strategies, such as: rural scholarships for medical and other health professions students; continued support for primary care tracks in predoctoral programs; clinical rotations and internships in rural settings; rural residencies for primary care providers and specialists; and continued incentives for preceptors. Effective use of the J1-visa and loan repayment programs also was highlighted.

Future application of demand-based health care workforce projections will provide better guides for quantifying needed providers. At present, all categories of primary care providers, and select specialist categories, are needed: physicians, nurse practitioners, physician assistants, behavioral health providers, dentists, dental hygienists and allied health workers, including community health workers. Existing local educational programs for several workforce categories could be expanded. The Mid-Shore has demonstrated its ability to extend needed health care by investing in innovative ways to address the most vulnerable through expanding the network, and networking, of providers. Queen Anne’s Mobile Integrated Health initiative and Dorchester and Caroline counties’ Health Enterprise Zone initiative (Competent Care Connections), using a coalition and community health worker approach, provide strong evidence that these types of foundational investments would further benefit the Mid-Shore with additional support and development.

Community-based Health Literacy: Develop and sustain community-based health literacy initiatives across sectors to support a more informed and health literate Mid-Shore population. These initiatives would: empower self-care; support healthy lifestyle behaviors; train culturally competent providers; create an easy to navigate road map to access coordinated care; and provide guidance on how to use health insurance. A commitment to incorporate health literacy principles in health care organizations and

other sectors, such as education, business and the faith community, could result in better quality of life, well-being and lower health costs.

The need to focus on improving health literacy was mentioned by focus group participants and community leaders. While this recommendation could be overseen by a Mid-Shore Coalition, county-focused initiatives would allow for population-specific tailoring. Community-based health literacy initiatives designed to involve and inform individuals, families, providers and organizations on an ongoing basis may increase capacity to support health and well-being. A commitment to developing and incorporating health literacy principles in health care facilities, schools and social service organizations, and ensuring cultural competence and communication capacity of providers could also contribute to enhanced quality of health care. Involving all sectors—education, faith, business, government as well as health care—would contribute to overall health and would support economic development and community resident engagement. A healthy Mid-Shore population is foundational to the region and the state’s economic viability.

Technology: Enhance use of technology to promote health and well-being and to improve access to health services. Increasing the use of telehealth and telemedicine by health care providers and residents will extend access to primary and specialty care for residents. Special attention should be given to needs and accommodations for vulnerable populations, such as those with limited mobility or access to transportation.

As reported by Mid-Shore physicians, their use of electronic medical records continues to increase, but self-reported use of telemedicine is low. The findings from the MHCC-supported telemedicine pilot projects may inform future Mid-Shore telemedicine adoption. Comments from community leaders identified that provider training is needed on how to use and integrate these technologies into clinical practice. Likewise, it is important to determine how these services will be reimbursed to make a business case for providers to expand telemedicine options. In addition, increasing the use of communication technologies for provider-patient interaction, often referred to as telehealth, requires access to these technologies (e.g., tablets for video conferencing), as well as acceptance and active participation by both providers and patients.

These fundamental programs need to be incorporated into the patient-centered health neighborhood, a network of partnering facilities that range from community-based health promotion

programs, primary and specialty ambulatory care clinics, emergency and urgent care services, and tertiary care. Study findings corroborate the need to maintain inpatient care in Chestertown with limited short-term beds; invest in enhanced mental and behavioral health services at all levels of care, including the need for more shelters, transitional living capacity and community-based programs to address opioid addiction; and create innovative transportation and economic development programs. The Mid-Shore Coalition and the Demonstration Program will play key roles in identifying priorities, setting direction, implementing programs and monitoring progress. County health departments, Choptank Community Health System and Shore Health together with emergency medical services, school-based programs, assisted living and skilled nursing facilities, and palliative and hospice care programs provide a foundation from which to link additional programs and services.

RECOMMENDATION 4:
Use strategic initiatives to position Maryland rural communities to benefit from Maryland’s health care reform initiatives.

The work of the workgroup and this study could inform a more strategic rural health road map to achieve the goals of the Maryland TCOC Model and the MDPCP. The TCOC Model addresses issues of local accountability with recognition of a geographic value-based incentive. The MDPCP goals, transformational infrastructure and payment design are aligned with the needs expressed by Mid-Shore residents and leaders. The Mid-Shore will be well-positioned to reap the benefits of these initiatives by establishing an effective Mid-Shore Coalition, creating a Rural Community Health Demonstration Program and testing models unique to the Mid-Shore.

Health care resources are constrained on the Mid-Shore. Both primary care physicians and specialists are often in short supply; many are approaching retirement or not optimally organized to deliver advanced care through the new models. Health systems operate physical plants and approaches to care that may not fully meet the needs of today’s population and are not well aligned with incentives in the new delivery models. Collaboration among health systems will be required, and it is just beginning to take root albeit with much hesitancy. All participants are struggling to develop the mix of competition and collaboration that has the potential to yield significant improvements in the population’s health. Successful implementation of the Maryland TCOC Model and MDPCP in this region will require careful thought and attention to the factors unique to rural communities.

COLLABORATION IS FOUNDATIONAL TO SUCCESS

Maryland's rural counties and their residents embody the rich history of our nation and provide strong examples of resilience, creativity and commitment to community. As the Mid-Shore and other rural Maryland communities work to restructure the delivery of health care services through community-based collaborations, the five-county Mid-Shore region should consider innovative solutions for addressing specific issues and also leverage the lessons learned from other rural areas of the country. Many rural areas face similar problems and can learn from each other's promising practices. The Mid-Shore can adopt or adapt various aspects of models and solutions from other rural areas.

Maryland, and specifically the Mid-Shore, is on the cusp of an exciting new phase of health care delivery. As the Mid-Shore region develops option models based on its guiding principles, it will be important to consider the lessons learned across the country while addressing the priorities set forth by the Mid-Shore residents. ■

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SELECTED RESOURCES

County Health Rankings & Roadmaps (RWJF Programs): <http://www.countyhealthrankings.org/>

Maryland State Health Improvement Process: <https://pophealth.health.maryland.gov/Pages/SHIP.aspx>

Mid-Shore Health Improvement Coalition: <https://www.midshorehealth.org/>

Acronyms AND Abbreviations

ACRONYMS

AAMC: Anne Arundel Medical Center
AHEC: Area Health Education Centers
AHQR: Agency for Healthcare Research and Quality
ACO: Accountable Care Organization
CRISP: Chesapeake Regional Information for our Patients
CHW: Community Health Workers
CNA: Certified Nursing Assistant
DASH: Data Across Sectors for Health,
A Robert Wood Johnson Foundation-Funded Program
ED: Emergency Department
EHR: Electronic Health Records
EMR: Electronic Medical Records
EMS: Emergency Medical Services
EMT: Emergency Medical Technician
FQHC: Federally Qualified Health Center
HIE: Health Information Exchange
HPSA: Health Professions Shortage Areas
HSCRC: Hospital Services Cost Review Commission
IOM: Institute of Medicine
LPN: Licensed Practical Nurse
MCDB: Maryland Medical Care Data Base
MCHRC: Maryland Community Health
Resources Commission
MCO: Managed Care Organization
MDPCP: Maryland Primary Care Program
MHCC: Maryland Health Care Commission
MMAP: Maryland Medical Assistance Program
MMWR: Morbidity and Mortality Weekly Reports
MRHA: Maryland Rural Health Association
MUA: Medically Underserved Areas
MUP: Medically Underserved Populations
NORC: National Opinion Research Center
NP: Nurse Practitioner
PA: Physician Assistant

PCP: Primary Care Physician, Primary Care Provider
PCHN: Patient-Centered Health Neighborhood
PCMH: Patient-Centered Medical Home
PDMP: Prescription Drug Monitoring Program
PQI: Prevention Quality Indicators
RN: Registered Nurse
SHIP: State Health Insurance Process
SNAP-Ed: Supplemental Nutrition Assistance
Program Education
SSP: Shared Surveys Program
TCOC: Maryland Total Cost of Care
(*evolved as part of the all-payer model*)
UM: University Of Maryland

ABBREVIATIONS

All Payer Claims Database:
All Payer Database
Choptank Community Health System:
Choptank Health
University of Maryland Shore Regional Health:
Shore Health
**Maryland Board of Physicians Renewal
License Database:**
Renewal License Database;
Renewal License Survey

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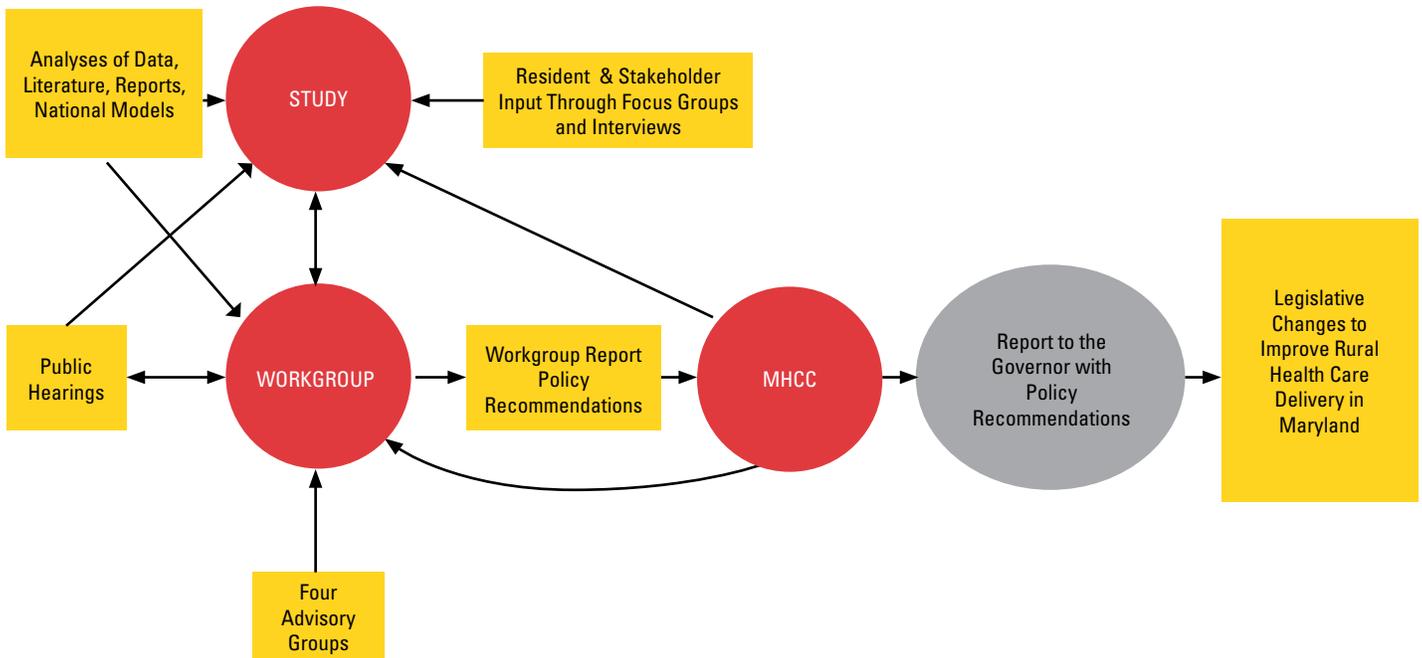
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Appendix C | Study, Workgroup and MHCC Interactions





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QUEEN ANNE'S COUNTY PUBLIC LIBRARY, Centreville Branch

CAROLINE COUNTY PUBLIC LIBRARY, Central Library, Denton

DORCHESTER COUNTY PUBLIC LIBRARY, Central Library, Cambridge

KENT COUNTY PUBLIC LIBRARY, Chestertown Branch

TALBOT COUNTY FREE LIBRARY, Main Library, Easton

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