Social Determinants of Health and Vulnerable Populations in Rural Maryland

Introduction

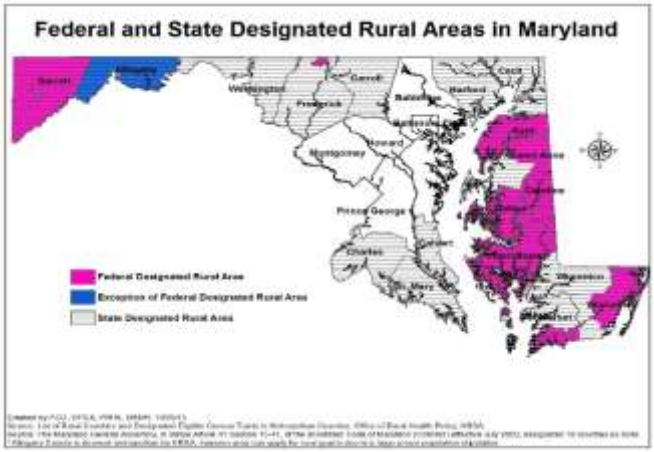
The Maryland Rural Health Association (MRHA) and Maryland Community Health Resources Commission (CHRC) are partnering to produce three white papers. MRHA is a non-profit organization whose mission is to educate and advocate for the optimal health of rural communities and their residents. The CHRC was created by the Maryland General Assembly through the Community Health Care Access and Safety Net Act of 2005 to expand access to health care for low-income Marylanders and underserved communities in the state and to bolster the capacity of Maryland's health care safety net infrastructure to deliver affordable, high-quality health services. The CHRC has awarded 169 grants totaling $55.8 million. Of this total, almost half (79 of 169) have supported programs in rural areas.

This white paper, "Social Determinants of Health and Vulnerable Populations in Rural Maryland," is the first of the series. The objectives of this white paper are to provide an overview of some of the key social determinants of health impacting vulnerable populations in Maryland's rural communities and to offer several examples of initiatives that are underway to address these issues directly and expand access in underserved areas.

Background

Of Maryland's 24 counties, 18 are designated as rural by the state and, with a population of over 1.6 million, they differ greatly from the urban areas in the state. Common challenges that set rural jurisdictions apart from their suburban and urban counterparts include geographic isolation, lack of transportation, and lack of access to and availability of health care services. Despite continued efforts, these 18 counties in Maryland continue to rank among the lowest in state-wide health indicators. Many rural counties, however, are making great strides in addressing these gaps.

The map below shows the federal and state rural designations by county in Maryland:



Social Determinants of Health

In isolated rural communities, residents often face living conditions that can adversely affect their health. These conditions are referred to as Social Determinants of Health (SDOH) and are defined by the U.S. Department of Health and Human Services Office of Disease Prevention and Health Promotion in Healthy People 2020 (www.healthypeople.gov) as the conditions in the environment in which people are born, live, work, play, worship, and age that affect a wide range of health, functioning, and quality-of-life outcomes and risks.

SDOH include transportation; housing or place of residence; access and availability of services; educational attainment; employment; access to material goods, such as home ownership; diet; discrimination by social grouping (e.g., race, gender, and class); and social and environmental stressors. Poorer and lower educated communities are at the highest risk of being uninsured, of not having a usual source of health care, and of experiencing delays in seeking diagnosis or treatment. Understanding SDOH is essential to identifying the challenges faced by rural Maryland's vulnerable populations.

Vulnerable Populations

The Robert Wood Johnson Foundation (www.rwjf.org) defines vulnerable populations as individuals who face significant barriers to better health and whose circumstances have made them susceptible to poor health. Not surprisingly, health is significantly affected by housing, employment status, educational opportunities, and other SDOH.

The National Rural Heath Association (www.ruralhealthweb.org) has identified "medical deserts" across the country, which leaves America's most vulnerable populations without timely access to care. The nation's most vulnerable populations often reside in rural communities and are older, sicker, and poorer than their urban counterparts. Maryland is no exception.

Residents in rural communities are more likely to have chronic diseases that require monitoring and follow-up care. This makes convenient, local access to care even more imperative to ensure that patients comply with prescribed treatment regimens to reduce the overall cost of the care, improve patient outcomes, and optimize overall quality of life.

Potential Strategies

There is no "one-size-fits-all" answer. Each rural community must find the best solutions that meet the unique needs of its own region. Outlined below are four MRHA members that have received CHRC grant funding in recent years to address some of these very real issues. Two programs target individuals with substance use disorders, and two target at-risk patients who have been identified as high-utilizers of Maryland's hospitals. All four programs highlighted below have developed creative ways to address the SDOH that impact the vulnerable populations in their rural Maryland community.

Addressing Substance Use Disorders

Based on the Healthy People 2020 definition, substance use disorders have many compounding SDOH. In addition to poor health outcomes, substance use disorders often cause a cascade of issues (poverty, incarceration, co-occurring illnesses, lack of stable housing, etc.) that not only impact the individual, but also contribute to a lack of consistent parenting and unstable living arrangements. This results in a generational cycle of poverty and poor health. Substance use disorder issues are present in all parts of Maryland and the country, and while persons living in Maryland can expect to receive quality care, whatever their race/ethnicity or income level, the one factor that limits quality and availability is place of residence. Simply stated, persons with a substance use disorder are more vulnerable if they live in a rural community due to the lack of treatment options.

Example #1: Calvert County

The Calvert County Health Department's Healthy Beginnings Program has been active since 2013 and provides services to pregnant and postpartum women with substance use disorders. Healthy Beginnings aims to build a stronger foundation for this vulnerable population to achieve a drug-free life for themselves and a healthier and more stable environment for their children. Many of the women who participate have compounding SDOH, including limited family support, lack of economic independence, and a tenuous housing status and are disproportionately involved in abusive relationships.

Women in the program receive intensive case management to address their direct health needs and the multiple SDOH that contribute to illicit drug use and relapse rates. Wrap around services for the program include medication-assisted treatment; coordinated mental health services; early and consistent prenatal care; smoking cessation assistance and support; social services; supplemental transportation for health-related appointments; parenting skills training; domestic violence services; partnership with Calvert County Drug Court; and links with continuing education at the College of Southern Maryland.

In the first two years of the program, 90% of pregnant participants delivered babies free from drug withdrawal and with significantly lower rates of low-birth weight babies compared to national statistics for this population. In addition, these patients have kept an average of 11 prenatal appointments during their pregnancies. The Calvert County Health Department has also worked with labor and delivery staff to provide more optimal care during hospitalization and with local pediatricians and obstetricians to screen for signs of drug use and postpartum depression at follow-up visits.

As an adjunct component, outreach is performed at regional residential substance use treatment programs to provide reproductive health counseling,

sexually transmitted infection screening and counseling, and contraception services. The program estimates that over 100 unintended pregnancies have been prevented in this high-risk, vulnerable population due to outreach efforts. Coupled with the decrease in neonatal intensive care unit stays that result from newborn drug withdrawal, involvement in the Healthy Beginnings program is saving Maryland Medicaid several million dollars each year.

Example #2: Garrett County

The Garrett County Health Department's Medication-Assisted Treatment Expansion Program aims to address the growing opioid addiction crisis in rural Western Maryland. As is the case in all of Appalachia, Garrett County has an emerging opiate and methamphetamine epidemic. Yet despite this growing threat, there are no residential treatment programs, half-way houses, recovery net providers, or care coordination services located in Garrett County. Persons seeking treatment for substance use disorders in Garrett County have very limited access to services that may be readily available in other parts of the state. This situation is further compounded by the need to travel long distances for services, extreme weather conditions, and geographical isolation.

The Garrett program is a CHRC grant-funded demonstration project designed to address two critical SDOH: transportation and lack of providers. The program uses state-of-the-art telehealth technology to increase access to medication-assisted treatment for persons who have had limited access to treatment options due to a shortage of providers in Maryland's most rural county. Prior to the launch of the program, residents of Garrett County had to drive 100 miles round trip to Cumberland to access treatment services.

Garrett County's Center for Behavioral Health collaborates with the University of Maryland's School of Medicine's Department of Psychiatry to make buprenorphine available through telehealth technology for patients who are enrolled and active in outpatient treatment. The project also focuses on recruiting, training, and deploying local physicians into the publicly funded behavioral health treatment and recovery services operated by Garrett County. Mechanisms are in place to assure that patients receive a full array of treatment services (physician buprenorphine services along with American Society of Addiction Medicine outpatient levels of service) that are superior to those provided by physicians who do not coordinate medication management with treatment services. The project focuses on improving and assuring medication-assisted treatment compliance and leads to better recovery rates. The overall purpose of this program, which began treating patients in November 2016, is to reduce overdose deaths and overdose admissions to local emergency rooms.

Providing Care Coordination for High-Utilizers

High-utilizers are individuals whose complex medical and social needs are not met through Maryland's medical system. These individuals have very high health care costs from avoidable utilization of inpatient care and emergency room services. In many cases, these costs can be reduced through improved care coordination and community health services. Frequent ER visits and hospitalizations are not only a drain on health and financial resources, they are also not the best and most efficient way to monitor and treat chronic diseases. The CHRC has funded a number of programs that directly address the needs of high-utilizers in rural communities.

Example #3: Worcester County

The Tri-County Local Health Planning Coalition (LHIC) of the Lower Shore, led by the Worcester County Health Department, engaged in a partnership to reduce the diabetes related ER visit rates and the racial disparities in those rates in Worcester, Somerset, and Wicomico Counties. The Tri-County LHIC team instituted a Community- and Home-Based Diabetes Care Management (DCM) program, an evidence-based model of chronic disease case management modeled from a similar program called Guided Care. The interventions were delivered by a team of a nurse (RN) and social worker (LCSW) who provided transitional care upon discharge from a diabetes related ER visit. Enrolled clients received an array of resources to help address issues that compound many SDOH, including: home visits; medication reconciliation and coordination with primary providers; personalized diabetes education, (either by a Certified Diabetes Educator or in-home by an RN); financial medication assistance; help with transportation to and from appointments; and assistance in signing up for the Maryland Energy

Assistance Program to help cover home heating expenses.

The primary outcome measure of this project was to reduce the Maryland Department of Health and Mental Hygiene's State Health Improvement Plan (SHIP) metric of diabetes related ER visit rates, which were significantly higher for the three lower shore counties. During the period of implementation of this program, there was an 85% reduction in total diabetes related ER visits. At baseline, there were 56 diabetes related ER visits in the 12 months prior to enrollment in the DCM program. Within 12 months of enrollment, this population had only 8 diabetes related ER visits. This represents approximately 45 ER visits prevented in the total enrolled population. Additionally, there was an 89% reduction in ER visits for the highest ER users, defined as those with 3 or more ER visits in one year. In this group of 8 people, there were 38 ER visits in 12 months prior to DCM, and only 4 visits in this group since being managed in the program. Approximately 34 ER visits were prevented in the highest users. 68% of the total ER visits were accounted for by the 8 highest users, and 75% of the prevented ER visits were in these 8 patients.

Example #4: Wicomico County

The Lower Shore Clinic is a behavioral health care provider located in Wicomico County. Its CareWrap Team initiative is supported through a CHRC grant and a partnership with Peninsula Regional Medical Center (PRMC). The CareWrap Team started serving clients in May, 2016 to reduce 30-day readmissions for at-risk patients.

The clients being referred for the CareWrap initiative experience a multitude of SDOH, including homelessness as well as limited social or family support. Patients in the program may be connected to primary care providers, but lack transportation and health literacy to remain hospital free. The CareWrap team is working to address these barriers with clients by connecting patients with appropriate resources and providing health education that is patient centered.

The Lower Shore Clinic started off with a small caseload and is striving to develop a successful relationship with the transitions team at PRMC. CareWrap referrals are filtered through the Transitions Team at PRMC, creating a small group contact for both parties to ensure acceptable referrals. LSC employs a full-time RN Team Leader and two full-time medical assistants.

The CareWrap Team has received 51 referrals from inception, and 39 of them were accepted into the program. The average length of stay in the program is 102 days. CareWrap strives for an average length of stay of 90 days, but the acuity of clients has been greater than originally anticipated. The program has had three people readmitted within 30 days from hospital discharge, meaning 76.9% did not readmit within 30 days of hospital discharge. In addition, LSC staff has assisted 67% of clients to not readmit to the hospital.

CareWrap clients' stories describe how program staff assist them in reconnecting to their providers, learning how to properly take their medications, and teaching them how to maintain wellness in the community. One of program's success stories is a female patient who, prior to entrance into the program, had visited PRMC over 8 times in 2015 and accumulated $600,000 in medical debt. Since involvement with the CareWrap program, she has been to the emergency room twice for necessary urgent treatment and has not been hospitalized. This scenario is significant, as it not only costs the patient, but the health care system as well.

The Lower Shore Clinic is in ongoing conversations with PRMC to explore post-grant sustainability of the initiative.

Conclusion

The Maryland Rural Health Association and Community Health Resources Commission hope that this White Paper demonstrates how rural communities in Maryland are working to address health disparities and offers potential strategies to address the SDOH and expand access for vulnerable populations. All four programs highlighted in this paper have developed creative approaches to reduce the SDOH that negatively impact these rural communities.

There are many more examples of efforts across the state to address the needs of vulnerable populations in rural Maryland. To learn more about MRHA and CHRC and how these organizations partner with rural organizations across the state, please visit their websites, listed below:

www.mdruralhealth.org

http://dhmh.maryland.gov/mchrc/pages/Home.aspx

Published December, 2016