

## Determinants of Health

Through the kitchen window, a single mother of two young children, ages 8 and 10, watches as they play outside of their small one-bedroom apartment in rural Marion, Alabama. As a single, working mother, her life has not been easy. Balancing work with caring for her family has proven difficult, yet she strives to reach that harmony to make a better life for her children. She then looks out the window to see one of her kids lying in the grass, unconscious and freezes. He needs to be driven to the nearest clinic immediately. He needs help now. Except, the closest clinic is miles away, and the mother does not own a car.

Throughout the United States, individuals and families continue to face a myriad of barriers that prevent them from living healthy lives. A combination of factors, ranging from location to socioeconomic status, affects how these people can engage in the healthcare system. In getting her child care, the mother will uncover and experience the barriers that held her back from getting adequate healthcare in Marion, Alabama: accessibility, availability, affordability, and education.

The mother panics. She has no means to take her child to a nearby clinic. She struggles to comprehend the situation. One of the barriers to healthcare that the mother will face is physically accessing healthcare. Because she does not own a car and relies on public transportation, the mother can not take her child to the healthcare center. The social determinant of transportation plays a key role in the barrier of accessibility. In "Traveling Towards Disease," Samina Syed finds that as much as 67% of a sample population has transportation barriers affecting their health. She furthers that patients with transportation barriers carry greater burdens of disease. Because the mother relies on public transportation, she can not transport her child to help on her own, yet Marion does not have the transportation infrastructure to ensure that her child gets care.

According to the Northwest Alabama Council of Local Governments, the only available on-call service in rural Marion county is a variable rate service that depends on the vehicles and drivers available. Because of this lack of infrastructure, the possibilities that the mother has to take her child to get care are incredibly limited. The lack of transportation, Syed furthers, is a key cause of why many individuals miss healthcare appointments and why many can not access medication, both of which reduce the possibility of living in optimal health. The effect of a lack of transportation is threefold. The mother is not able to access regular health care to keep her children healthy, she is not able to transport them when they do get sick, and finally, she is not able to retrieve the medication that is required to help them. In this, the lack of transportation serves as a key barrier to accessing health care.

The mother finally finds a way to transport her child. The problem is, she does not know where to go. Does the local clinic treat what happened to my son? Are there even doctors there? The next barrier to optimal health that the mother experiences is the lack of available healthcare. In Marion, there are a few clinics that provide healthcare. However, the closest one, the Marion Clinic, is a primary care facility that is closed on weekends and only offers limited services when compared to a hospital according to the Vaughan Regional Medical Center. Throughout rural places in the United States, and specifically in rural Alabama, there is a stark lack of available healthcare as it becomes more expensive to maintain a healthcare facility. For example, The Associated Press writes that the Alabama Hospital Association reported 17 hospital closures in Alabama. It furthers that rural hospitals are particularly at risk of closing. This is a result of a combination of factors. First, the state of Alabama recently elected not to extend the coverage of Medicare. This resulted in a lack of federal funding, which, when combined with the growing number of uninsured individuals in rural places, made maintaining healthcare centers unviable.

Furthermore, very few new physicians practice in rural areas, making physician access even rarer. According to an article on access to health services by Healthy People 2020, “limited availability of health care resources is another barrier that increases the risk of poor health outcomes.” Because of the lack of available healthcare in Marion, the family of three is unable to get the resources that they need to live healthily.

After struggling to help her child reach the clinic, the mother encounters her next challenge. As the nurse asks her if she is insured, she finds it difficult to say no. Her part-time job did not offer healthcare, and she could not afford it otherwise. Affordability rises as the next barrier to healthcare for this family. According to the ACS, 14% of the population in Marion was uninsured in 2018. With employment offering a large portion of health insurance policies, individuals such as the mother find it difficult to afford and maintain insurance for her family. However, the question of affordability extends far beyond just having insurance. Various social determinants contribute to the barrier of affordability. For example, poverty and food and housing instability contribute to the affordability of healthcare. As David Williams writes in "The Biology of Disadvantage", “concentration of poverty can lead to exposure to elevated levels of economic hardship and other chronic and acute stressors at the individual, household and neighborhood level.” As such, populations in poverty are at higher risk of mental illness, chronic disease, higher mortality, and lower life expectancy. Populations in poverty, such as the family in Marion, are not able to afford healthcare, thus creating a barrier to optimal health. In addition to poverty, housing and food insecurity contribute to affordability. In discussing housing insecurity, Diana Hernández writes in “Affording Housing at the Expense of Health” that housing insecurity impacts populations as they are more likely to choose insufficient housing or even no housing. She furthers that poor housing has lasting mental and physical impacts on

individuals. Safety risks ranging from mold to inadequate cooling and heating systems can contribute to the onset of early disease, and the mental stressors of housing insecurity can develop mental health issues. Furthermore, Kristin Seefeldt expands by introducing food insecurity. She explains that food insecurity, being closely tied to affordability, can also lead to worse health. While the mother struggles with the question of how she will afford her child's care, it is important to realize the steps that build-up towards this barrier. Living in a cramped, dismantled apartment, which she may not even be able to afford, with two children for whom she can't always make dinner for, the mother is a clear example of how not being able to afford basic care, housing, or food stands as a clear barrier towards getting her child care.

The mother is finally able to get a doctor to look at her child. After examination, he tells the mother that her child had a diabetic episode and that he would be ok. He continues to explain what her son's condition means, but the mother has a difficult time following his explanation. Being only a high school graduate, the mother could not understand what the doctor was saying. However, the implications of a lack of education extend deeply past not understanding what a doctor says. A lack of education is associated with lower socioeconomic status and as such a lower level of health. However, in a study about the effects of education on population health, David P. Baker writes that "research also reports extensive negative associations between education and disease, often after statistically controlling for indicators of socioeconomic status." Even when considering socio economic discrepancies, populations of higher educational attainment were found to be healthier on average than those with low educational attainment. While the health of the US population has improved in the last few decades, Anna Zajacova writes in her paper on the relationship between education and health that in populations of low educational attainment, there has been an observed deterioration in health and longevity. Ellen

Meara writes in HealthAffairs that college-educated individuals have a life expectancy seven years longer than high school graduates. Higher education promotes good health by providing information on how individuals can use healthy food and exercise to maintain their health. As a result of a lack of education, Joseph Sharkey writes that “households may purchase more nutrient-poor, energy-dense foods and fewer nutrient-dense foods.” In impoverished areas such as Marion, individuals find it difficult to pursue higher education as a result of many factors, ranging from expenses to low access, and even that some find it unnecessary to participate in Marion’s available job market. However, this low educational attainment serves as another barrier to living optimal health. It both compounds socio economic problems and leads to lower levels of personal health.

In getting her child care, the single mother living in Marion experiences some of the disappointing barriers to healthcare that prevent her from living a healthy life. Low access to healthcare, the low availability of service, the high cost of healthcare, and a lack of education compound to make the process of getting her son treated difficult. As a result of these barriers, the mother struggled to weigh the implications and costs of getting care with helping her son get better. As such, these systemic barriers to healthcare both require that families ask these difficult questions as well as preventing them from living healthy, optimal lives.

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