



## Health and Wealth Deserts: Exploring a Conceptual Framework

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### Abstract

*Drawing from a literature review on health and wealth-related outcomes, we introduce the health and wealth desert framework. We identify indicators of a health and wealth desert—medically underserved areas, limited supermarket access, health insurance coverage, employment rate, homeownership rate, and distance to financial institutions. As a conceptual framework, the health and wealth desert may provide a way to visualize community disparities that present barriers to quality-of-life. With this insight, educators and practitioners can develop culturally responsive programming, more comprehensive interventions, and measure access to resources that support wellbeing and quality of life across global contexts. We also recommend areas of future research.*

**KEYWORDS:** DISPARITIES, HEALTH, POVERTY, RESOURCES, WEALTH

### Health and Wealth Deserts: Exploring a Conceptual Framework

To conceptualize a *health and wealth desert*, we start with a more commonly understood term: *food desert*. Initially coined by the Scottish Nutrition Task Force in 1995, food deserts are geographic proximity concepts in which insufficient access to grocery stores with healthy, nutritious foods exists, especially in low-income communities (Beaumont et al., 1995; Karpyn et al., 2019). In 2011, the United States Department of Agriculture (USDA) began mapping food access to identify communities where low availability of affordable, nutritious foods existed and found food deserts in all types of communities. As of 2022, the USDA estimated that 17.4% of the U.S. population lived in low income and low access tracts and were more than 0.5 miles (for urban areas) or 10 miles (for rural areas) from the nearest supermarket (USDA, n.d.). These parameters linked to a food desert consider accessibility to healthy food which is measured by distance to supermarkets or number of supermarkets; individual-level resources that impact accessibility including income and vehicle ownership; and community-level resource indicators such as average income or public transit (USDA, n.d.). In recent years, research has broadened our understanding of the impact of food deserts on the physical (Testa et al., 2021; Ver Ploeg et al., 2009) and economic (Richardson et al., 2017) wellbeing of individuals and communities

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yet one serious issue remains: having and operationalizing the food desert concept does not lead to any plausible solutions (Wright et al., 2016).

The USDA has recognized the vital role of environment in supporting health and wellbeing while also reducing disparities (Neff et al., 2009). Research shows that many social problems further exacerbate challenges in marginalized communities (Thomeer et al., 2020; Warren & Bordoloi, 2020). It is well established that inequity and discrimination are related to lower wellbeing (Warren & Bordoloi, 2020). In the context of social determinants of health (Farnoudi et al., 2022; Matthew, 2019; Talih, 2013;), this inequity and discrimination sheds light on the limited access to resources as well as the health and financial stress that lower-income households and communities frequently face (Clark et al., 2020). In marginalized communities, for example, something as simple as neglecting to take a daily prescription or paying an overdue bill can trigger a chain of events leading to poorer health or costly financial outcomes (Gennetian & Shafir, 2015). Our paper contributes to the literature on quality-of-life and wellbeing by offering an updated and broadened literature review to demonstrate connections between health and wealth factors, especially in vulnerable and marginalized U.S. communities, practical applications as well as recommendations for future research.

### **Access as the Foundation for a Health and Wealth Desert**

One way to understand a health and wealth desert is to consider access to resources and services that support optimal physical and financial wellbeing. For the purpose of this study, we will use a framework and definition drawing from Pechansky and Thomas (1981) in their paper titled “The Concept of Access.” Pechansky and Thomas (1981) recognized that access was commonly understood as the individual’s ability or willingness to enter a system prompting their division of access into five dimensions: availability, accessibility, accommodation, affordability, and acceptability. *Availability* refers to both the “volume and type of existing services and resources to the clients and their types of needs” (Pechansky & Thomas, 1981, p. 128). *Accessibility* acknowledges the location of resources and individuals and the connection between the two (Pechansky & Williams, 1981). Thus, accessibility includes transportation regarding distance and cost. In the framework, accommodation is defined as “the relationship between the manner in which the supply resources are organized to accept clients and the clients’ ability to accommodate to these factors and the clients’ perception of their appropriateness” (Pechansky & Thomas, 1981, p. 128). Some examples of accommodation are appointment systems and telephone services offered to consumers. *Affordability* refers to the connection between “prices of services and providers’ insurance or deposit requirements to the clients’ income, ability to pay, and existing health insurance” (Pechansky & Thomas, 1981, p. 128). Their definition of affordability also includes the way a consumer perceives the value of a service or product (Pechansky & Thomas, 1981). Finally, *acceptability* refers to the relationship of clients’ attitudes and perceptions about the service provider (Pechansky & Thomas, 1981). Through these dimensions, the term access becomes better defined and contextualized for the purpose of this study.

## **Methods**

To identify the indicators of health and wealth deserts, we conducted a literature review following guidance from Paré and Kitsiou (2017).

### **Formulating the Research Question and Objectives**

As detailed previously, we aim to discover the primary determinants of health and wealth deserts—a concept inspired by the commonly known term, food desert. Therefore, the research question and driving objective behind this literature review was to understand the intersectionality of access to both healthcare and financial resources and how those can compound to impact individuals and communities. We intended to use the findings from this literature review to synthesize a list of factors that contribute to the identification of a health and wealth desert.

### **Searching the Extant Literature**

To conduct our review, we began by performing electronic searches for research articles, in major academic journals, and other published texts developed by industry and government, between January 1995 and December 2023. This search period was defined beginning with the year that the term food desert—the inspiration for our conceptual framework—was first coined, in 1995, and ending the year we developed this manuscript. We searched for articles using Web of Science, Academic Search Ultimate/EBSCO, SCOPUS, and PubMed. While the EBSCO and SCOPUS databases are inclusive and diverse, we also included databases that are well-established in the social sciences (e.g., Web of Science) and medical research (e.g., PubMed). Taken together, these databases are suitable and appropriate for literature reviews (Torraco, 2005). We used the following search terms simultaneously in each identified database: “social determinants”, “health”, “wealth”, “well” (i.e., well-being and wellness), “quality” (i.e., quality of life), “outcome”, and “community”.

### **Screening for Inclusion and Assessing the Quality of Primary Studies**

To be considered for initial inclusion, the article needed to be peer-reviewed, written in English, and have a U.S. context. We decided to ground this framework in the U.S. context given our hope to apply it to local U.S. census tracts, but it is important to note that the underlying principles of community disparities and their impact on quality of life are universally relevant.

We identified 85 articles. Using the Johns Hopkins University library system, we saved all articles to a reference manager. The search results were then exported to Excel for data analysis. The three-person research team used the following process: two of the researchers reviewed and made decisions about article inclusion or exclusion.

Specifically, articles were retained in the search using the following criteria: 1) article was in a peer reviewed journal; 2) article was peer reviewed; 3) article represented U.S. context; and 4) article represented health and wealth outcomes. Articles were deleted if published in a peer reviewed journal but did not appear to be peer reviewed articles (e.g., editorials, book reviews, dissertations, and journal issue introductions). Both researchers reviewed the title and coded marked with “0” for exclusion and “1” for inclusion. Based on the article title review, the data set was reduced from 85 to 23. The first two researchers independently reviewed each article title to determine if there was a substantive component of the health and wealth desert. The

researchers acknowledged the subjectivity of this research and strived for consistency throughout the review. In fact, in the event of conflict, the third researcher made the final decision. Next, the researchers reviewed the abstracts of the 23 identified articles. Based on study alignment and relevance, the abstracts were marked with “0” for exclusion and “1” for inclusion. Based on substantive and health and wealth related content in the abstract, the researchers identified 10 articles for full review and inclusion. All researchers reviewed the 10 articles included in this study. In addition to these articles, relevant industry and government publications related to health and wealth deserts, were integrated into the literature review as support. Related concepts found in definitions and associated narrative in the literature were coded as indicators.

### Data Extraction

Each author closely reviewed the included articles and drew significant themes along with supporting information from each. The relevant themes from the final literature review articles along with the article’s necessary information are summarized in Table 1.

### Analyzing and Synthesizing Data

Using the themes from Table 1, the authors discussed the particular indicators that were prevalent throughout the included articles. Equipped with these indicators, the authors developed the health and wealth desert definition and framework. The Results section details each indicator and provides support for its inclusion as a determining factor of health and wealth desert status.

Table 1 Literature included in study

Title	Author	Year	Journal Name	Relevant Themes
Addressing racism and its deeply entrenched dynamics: A 21 <sup>st</sup> century imperative	Christopher et al.	2023	<i>Health Equity</i>	Discusses the interrelatedness of health and wealth through examples.
Housing and inequalities in health	Howden-Chapman	2002	<i>Journal of Epidemiology &amp; Community Health</i>	Discusses the importance of homeownership among individuals and the implications of wealth for populations.
Structural inequality: The real covid-19 threat to America's health and how strengthening the Affordable Care Act can help	Matthew	2019	<i>Georgetown Law Journal</i>	Explores the relationships between racial segregation, discrimination, the social determinants of health, and health disparities through a lens of the law.
Invited commentary: Can changes in the distributions of and associations between education and income bias estimates of temporal trends in health disparities?	Talih	2013	<i>American Journal of Epidemiology</i>	Provides background for the social determinants of health and also explores the connections between income and health along with health literacy and overall health.
Call for emergency action to limit global temperature increases, restore biodiversity and protect health	Atwoli et al.	2021	<i>Nutrition Reviews</i>	Highlights the disproportionate impact of global and environmental challenges on vulnerable populations.

Title	Author	Year	Journal Name	Relevant Themes
Looking at diabetes-related distress through a new lens: The socio-ecological health model	Farnoudi et al.	2022	<i>Endocrines</i>	Focuses on the social determinants of health and briefly examines food insecurity and unemployment.
The PhenX Toolkit: Measurement protocols for assessment of social determinants of health	Krzyzanowski et al.	2023	<i>American Journal of Preventive Medicine</i>	Provides a standardized way of grouping measures of the social determinants of health which may serve as a guide.
Sound communities and healthy schools: The economic and social determinants of educational outcomes	Mangino & Silver	2010	<i>International Journal of Sociology</i>	Explores the factors that impact education that lie outside the scope of education but carry weight in terms of how students experience education systems.
Social determinants of health: Understanding the basics and their impact on chronic kidney disease	Brown & Elliott	2021	<i>Nephrology Nursing Journal</i>	Emphasizes the interrelated nature of health and wealth in the context of kidney disease which can be used to consider other diseases. The article also highlights the impacts of low access to the social determinants of health in specifically vulnerable communities.
Advancing health equity: Facilitating action on the social determinants of health among public health departments	Narain & Zimmerman	2018	<i>American Journal of Public Health</i>	Discusses the need for accessible and usable research, especially when it comes to applying research to community-based practices.

## Results

Informed by the studies from the literature review (Table 1) and guided by the social determinants of health measures from Krzyzanowski et al. (2023), we define a health and wealth desert by describing six factors that are essential to both physical and financial wellbeing.

## Defining the Health and Wealth Desert

A health and wealth desert is a holistic term and comprehensive concept that identifies an area characterized by a low to limited level of resources and services that support optimal physical and financial wellbeing (Zuccaroli & Russell, 2024). Living in low-access and low-income areas have long created precarious living situations (Kashian et al., 2018; Matthew, 2019; Sampson, 2016). The COVID-19 pandemic amplified these existing disparities by showing the consequences associated with lack of resources and access (Atwoli et al., 2021; Matthew, 2019). Close relationships between health and wealth factors demonstrate an undeniable connection between the two (Atwoli et al., 2021; Matthew, 2019; O'Neill, 2015; Shadmi et al., 2020; Williams & Rucker, 2000). Therefore, exploring the indicators of a health and wealth desert may offer strategies and solutions to reduce the perilousness of living life on the margins.

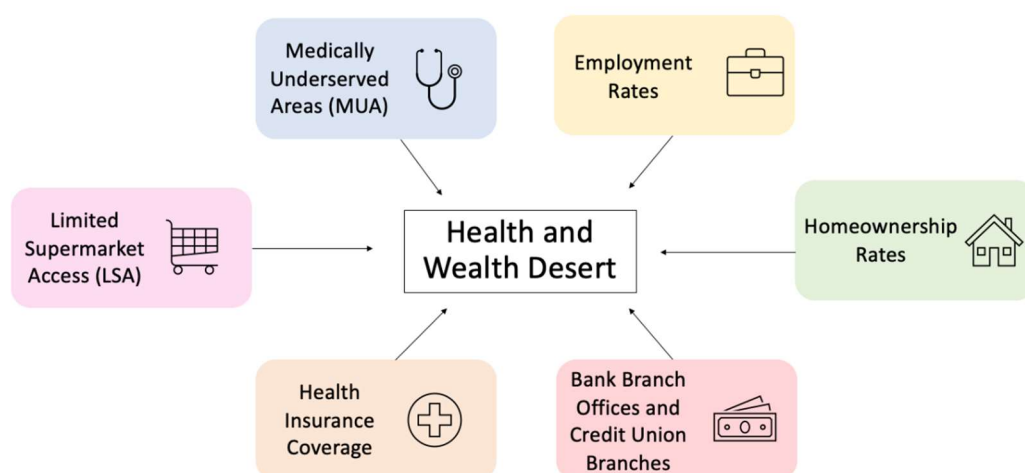


Figure 1 The Health and Wealth Desert framework

### Medically Underserved Areas

Medically underserved areas (MUA) are geographical locations that experience a shortage of primary healthcare services (Health Resources & Services Administration, n.d.). Communities living in MUAs typically experience high rates of obesity, cardiovascular disease, and pulmonary disease along with more instances of drug use, emotional issues, worsened health behaviors, and lower child immunization rates (Hooker, 2013; Wilson et al., 2014). Lower access to medical care has been associated with race, ethnicity, lower incomes, and lower levels of health insurance (Brown & Elliott, 2021; Shi et al., 2011). Without access to medical professionals that provide adequate healthcare to individuals living in MUAs, many chronic diseases go untreated and can be detrimental to general health, wellbeing, and life expectancy. Due to this limited access, patients are more likely to delay seeking medical treatment until hospitalization for the symptoms is necessary (Shadmi et al., 2020). This delay has significant impacts on treatment and recovery despite the fact that many of these diseases are treatable and preventable (Virapongse & Misky, 2018; Wilson et al., 2014). Higher hospitalization rates as a result of delayed treatment can impose costly medical bills that greatly impact an individuals' financial security and wellbeing. Moreover, due to the inability to receive cost-effective and timely treatment for medical needs, MUAs experience a lower quality-of-life as it relates to overall physical and mental health.

### Limited Supermarket Access

Access to grocery stores can be captured by considering a metric called Limited Supermarket Access (LSA) areas. Food deserts and LSA areas limit access to healthy and nutritious foods, often forcing individuals to turn to convenient, unhealthy foods for sustenance (Farnoudi et al., 2022). LSA areas are identified by using income, distance to grocery stores, and car ownership rates (Reinvestment Fund, 2022). According to the USDA, food deserts tend to have smaller populations, higher rates of abandoned or vacant homes, and residents who have lower levels of education, lower incomes, and higher unemployment (Dutko et al., 2012). As an area characterized by poor access to healthy and affordable food resulting in a vicious cycle of poor health outcomes and economic difficulties.

The main consequence of food deserts is food insecurity that manifests in the food-insecurity obesity paradox (Dhurandhar, 2016). The paradox is generated when the only accessible food is highly caloric and unhealthy but good tasting and cheap, fast food and snack options. In addition, less knowledge about resources for healthy eating and other healthy habits are usually prevalent among food insecure individuals and families (Dhurandhar, 2016).

This cycle of unhealthy eating that is forced upon residents of food deserts and LSA areas results in long-term health effects such as obesity, diabetes, and cardiovascular disease, which are chronic in nature and expensive to manage (Centers for Disease Control and Prevention, n.d.). In addition, it has been noted that obese and overweight individuals report lower life satisfaction which demonstrates the impact that living in an LSA area can have on wellbeing, quality-of-life, and mental health (Farnoudi et al., 2022; Kuroki, 2016). A cycle quickly emerges where unhealthy eating—which is a result of poverty and structural inaccessibility—leads to a need for expensive medical treatment that increases financial instability. This cycle becomes even more vicious if food deserts and LSA areas overlap with MUAs where it is more difficult to obtain medical care for the worsened health conditions resulting from unhealthy eating options.

### **Health Insurance**

The third factor—health insurance—is inextricably tied to wellness and financial status. In fact, an individual's insurance status is among the strongest predictors of the use of cancer screening and advanced disease progression following treatment (VanderWielen et al., 2015). Insurance coverage is linked to lower access and utilization of healthcare services and thus lower detection or treatment of chronic diseases (Brown & Elliott, 2021). Furthermore, the high costs associated with the United States healthcare system demonstrates the need for health insurance for anyone who engages with it (Rosenbaum et al., 2009). Lack of health insurance leads to a higher risk of being in poor health. In addition, living without health insurance can lead to a delay in routine healthcare visits and results in higher rates of emergency department visits and hospitalizations (Maryland Department of Health, 2021). In addition to the integral role of health insurance status for maintaining healthy physical wellbeing, health insurance is also related to financial outcomes, including fewer medical bills being sent to collection agencies (Baicker et al., 2013; Hu et al., 2016), reduced out-of-pocket medical costs (Baicker et al., 2013; Chua & Sommers, 2014), as well as reduced personal bankruptcies and improved credit scores (Mazumder & Miller, 2016).

### **Employment**

Employment is the baseline of determining an individual's income level. It has been demonstrated that higher income can influence health by increasing access to higher quality resources such as healthcare, shelter, food, and education while also improving status and power (Talib, 2013). Therefore, a link between employment and health exists. Taken together, limited and lack of employment prevents individuals from achieving acceptable standards of living, ultimately limiting opportunities and choices to avoid poverty. In this way, employment, or participation in the labor market, is a way to pursue and exercise personal agency.

As we continue to build the argument for the health and wealth desert, it is important to consider the effects and consequences of not being employed. Thompson and Dahling (2019) suggested that unemployment has devastating financial and psychological consequences for individuals, families, and communities. Individuals who are unemployed exhibited higher levels of distress, depression, and anxiety as well as lower levels of subjective wellbeing and self-

esteem when compared to individuals who were employed (Paul & Moser, 2009) and an increased level of financial stress and strain (Farnoudi et al., 2022; Kalil, 2013). These relationships were supported by the assertion of Thompson and Dahling (2019) who insisted that negative outcomes are associated with job loss and underemployment, i.e., lowered access to financial resources and increased susceptibility to mental and physical health concerns. In fact, a positive correlation exists between regional unemployment rates and neighborhood poverty rates (Wilson, 1996). Fenwick and Tausig (1994) found that heightened neighborhood economic stress related to decreases in life satisfaction and health among community residents.

### **Homeownership**

Homeownership brings social and financial benefits as well as physical and psychological health rewards for families and communities (Howden-Chapman, 2002). In fact, U.S. families primarily accumulate wealth through homeownership and a number of positive social, economic, family, and civic outcomes (Yun & Evangelou, 2016). Furthermore, housing is considered to be an indicator of wealth due to the fact that it is often the largest capital asset that many people ever own (Howden-Chapman, 2002). In agreement with this, Wolff (2002) suggested home equity represents 60 percent of the total wealth among members of the American middle class. Schuetz (2017) asserted that low-income renters in the U.S. face acute problems balancing the cost of housing and paying for other necessary expenses. Through homeownership, households experience greater housing and financial stability. Although homeownership is a traditional source of wealth for many families (Grinstein-Weiss et al., 2013), Wainer and Zabel (2020) showed that the rate of foreclosure is disproportionately higher for low-income households thus demonstrating the dichotomy associated with homeownership: both a financial strain and a way to build wealth.

According to Krieger and Higgins (2002), a positive relationship exists between living in poor housing and having health problems, including respiratory conditions such as asthma, exposure to toxic substances, injuries due to failing housing conditions, and mental health issues. A similar relationship is confirmed by Howden-Chapman (2002) who stated that, “those who rent their houses appear to have poorer health than those who own their houses even after controlling for age, gender, and education.” Housing wealth is also associated with better health outcomes for homeowners. Rohe and Stegman (1994) reported that homeownership had a significant and positive effect on psychological health: higher life satisfaction, self-esteem, and locus of control. Supporting these findings, Rossi and Weber (1996) found that homeowners reported higher self-esteem and happiness as compared to renters. Moreover, renting in unaffordable housing leads to lower funding for other items necessary to health and can lead to chronic stress and adverse health outcomes (Christopher et al., 2023). Homeowners were 2.5 percent more likely to have good health when compared to renters—a substantial health advantage (Finnigan, 2014).

### **Commercial Bank and Credit Union Branches**

The term banking desert is often used to describe areas that lack an adequate number of physical banks for the population of the surrounding neighborhoods. Neighborhoods that lack financial institutions are typically communities of color and/or low-income communities (Hegerty, 2016). Despite the lack of traditional financial institutions, alternative financial services such as check cashing stores and payday lenders abound. While the use of alternative financial services is more prevalent in unbanked and underbanked households, an estimated 25 percent of all households (banked and unbanked) obtained financial services from nonbank providers such as check cashing stores, pawn shops, and payday lenders (Federal Deposit Insurance Corporation [FDIC], 2015; Northwood & Rhine, 2018; Riley et al., 2022).



Limited research is available on the health outcomes associated with alternative financial services. However, over the years, researchers have examined the role of household debt on health outcomes (Clayton et al., 2015; Jacoby, 2002). Specific to short-term borrowing, Sweet et al. (2018) found an association with high blood pressure, inflammation, and self-reported adverse physical symptoms. Moreover, Sweet et al. (2018) reported that short-term loans were associated with higher body mass index, waist circumference, and anxiety. Despite the need to further understand banking circumstances and health outcomes, compelling evidence exists that short-term loans have negative implications for health.

## **Discussion and Implications**

Through a literature review, the social determinants of health specific to health and wealth outcomes were examined to define a health and wealth desert and develop the health and wealth desert framework. The connection between health and wealth outcomes is clear and grounded, and, therefore, provides merit to considering them together through the lens of a health and wealth desert framework. The health and wealth desert framework includes six factors: medically underserved areas (MUA), limited supermarket access (LSA), health insurance coverage, employment rate, homeownership rate, and distance to commercial banks and credit unions. We assert that these six parameters measure factors critical for individual achievement of optimal quality-of-life and wellbeing. Additionally, we assert that these factors can compound upon one another to create a particularly concerning environment that limits an individual's quality-of-life and wellbeing.

The conceptual framework described by Pechansky and Thomas (1981) allows us to consider how each of the six health and wealth desert indicators might affect an individual's wellbeing, in terms of the five dimensions of access. Limited availability and acceptability of healthcare services in MUAs manifests as worsened health outcomes. Within MUAs, there is a lack of availability of medical interventions as well as vulnerable populations with a higher risk of chronic illness resulting in higher rates of hospitalization and mortality. Acceptability also plays a role by limiting patients' ability to feel adequately cared for and empowered by healthcare systems to achieve optimal physical wellbeing. This lack of access to medical services, therefore, hinders wellbeing on the individual and community levels in both physical and financial ways. Policymakers and practitioners should consider dispersing mobile medical units to MUAs and other areas with higher hospitalization rates to provide medical interventions in more timely and appropriate manners.

Living in LSA areas and food deserts exposes individuals to increased risks of obesity and heart disease as a result of unhealthy eating habits. This disproportionately impacts life expectancy and many quality-of-life parameters. In terms of the five dimensions of access, this indicates an issue with both accessibility and accommodation. Healthy food options are inaccessible because supermarkets are too far for individuals, not accessible by public transit, or offer inconvenient hours of operations. Without consistent access to these healthy foods, individuals cannot develop healthy eating habits. This lack of accessibility is detrimental to the accommodation dimension of access by rendering healthy food options for those who live in LSA areas inconvenient. Community organizations, educators, and policymakers could partner to create community gardens and to expand programs that provide fresh, healthy food to local convenience stores.

Health insurance serves as a clear bridge between healthcare and financial wellbeing. In a health and wealth desert, limited access to health insurance in the form of affordability and acceptability is too often the norm. For many, health insurance imposes high costs that limit the number of low-income individuals who can afford and maintain health insurance plans (Hoffman, 2013). Furthermore, individuals in low-income census tracts are also less likely to hold employment positions that supply them with health insurance. In this sense, the costs associated with holding health insurance serve as a barrier to adequate access to healthcare services. Moreover, individuals may not know that they need health insurance to avoid expensive medical bills which emphasizes the lack of acceptability associated with health insurance. An opportunity exists for educators and practitioners to both educate and empower consumers with health insurance literacy programs and information specific to financial resources for purchasing health insurance.

Homeownership and other housing decisions are sensitive to affordability and accessibility, namely liquidity and credit constraints. The Joint Center for Housing Studies of Harvard University (2023) confirms that during the pandemic the U.S. housing market experienced the largest single-year increase in over three decades. While significant, the high cost of homes is not the only barrier to homeownership. Credit accessibility, especially for economically vulnerable individuals, also creates challenges. While many tried and tested solutions are found in the marketplace to improve homeownership access, a need exists for more affordable housing and retention programs to help individuals purchase homes that they can comfortably afford. Creative programs calibrated to help borrowers acquire a mortgage and pay off debts, such as student loans and medical debts, would also be of tremendous support for many individuals with low-to-moderate incomes.

When we consider banking access, entering a bank is the most common way for customers to access their accounts thus making it important to ensure proper availability and affordability of banking services (Small et al., 2021). Small et al. (2021) suggested that affordability can influence financial exclusion and economic growth. Moreover, affordability is measured by many factors, including high fees and charges, strict terms, and required minimum account balances. Small et al. (2021) also indicated that the documents required by financial institutions may limit their access, especially for certain groups who may already struggle with access. Without access to banks, residents cannot carry out financial practices such as saving money, depositing paychecks, or taking out a mortgage and are consequently inhibited from accumulating wealth (Nguyen et al., 2023). Commercial bank and credit union leadership should consider developing programs that support an individuals' return to mainstream and traditional banking. Although commercial banks continue to decrease their number of physical locations, there are still opportunities for them to meet the short-term borrowing needs of individuals that regularly use alternative financial services. Educators and practitioners could also play a role by educating individuals about the costs associated with short-term borrowing and helping them to make informed decisions about their banking and borrowing behaviors.

By reviewing the six parameters that contribute to health and wealth deserts and confirming the undeniable health and wealth connections, we have created the foundation for our new conceptual framework. In addition, we are able to evaluate the outcomes associated with living in a health and wealth desert. Application of the five dimensions of access to the parameters of a health and wealth desert enhances the conceptual framework and promotes further research, development, and testing of it. Further, as asserted by Milton et al. (2012), this

framework may inform community engagement efforts and interventions. Defining this concept may inform the work of FCS professionals that engage in community outreach; improving their understanding of the challenges their audiences face in improving their overall wellbeing. For example, if an educator or community serving individuals becomes aware of the concept of a health and wealth desert, it might help them understand how environmental factors compound on one another to limit the behavior of individuals. They may also be able to better tailor their education, community programs, and other support initiatives to better fit the challenges faced by the individuals they serve. Finally, they may also consider working in their communities to advocate for policy changes to address the larger, systemic barriers facing those living in health and wealth deserts. Overall, the health and wealth desert can be one strategy for conceptualizing, researching, and addressing the challenges faced by many communities in order to improve their overall wellbeing.

To discuss the internationality of the findings in this study, it's important to recognize that the concept of health and wealth deserts can be applied across different global contexts, though the specific indicators identified in the framework may vary in their manifestation or significance depending on the country or region.

The concept of medically underserved areas, limited supermarket access, and other indicators like employment and homeownership rates are not isolated to one country; they can be found in communities worldwide, often with similar impacts on health and well-being. For example, regions in the Global South or low-income neighborhoods in high-income countries can experience overlapping health and wealth deserts, where systemic barriers limit access to essential resources and services. However, the way these deserts are structured and the specific resources or systems that contribute to them may differ across international settings due to local policy, economic conditions, and cultural factors.

By framing health and wealth deserts as a conceptual framework, this study offers a lens through which both local and international stakeholders—such as public health practitioners, educators, and policymakers—can assess disparities and respond with culturally responsive interventions tailored to the needs of diverse populations. Additionally, recommendations for future research could expand the application of this framework to examine how global disparities in health and wealth can be tackled in varied geographical, political, and economic contexts.

Ultimately, while the specific measures of access or the barriers to resources might differ internationally, the underlying principles of community disparities and their impact on quality of life are universally relevant.

## **Limitations**

A few limitations are worthy to note. First, this paper draws from a review of literature. The search strategy may have been inadequate, leading to an exclusion of relevant articles. In addition, we acknowledge that our definition of a health and wealth desert may have excluded variables that could be useful indicators (i.e., public spaces and parks). It is plausible that we excluded important criteria in our effort to develop a framework with the most critical yet fewest number of indicators. We had to make the decision of what indicators to include based on the data that is currently available and measurable which led us to decide on the six indicators described in this paper. More robust data in the future may allow for an expansion of indicators.

## Conclusion

In this article, we offer the health and wealth desert framework drawing from a review of literature on health and wealth related outcomes. We sought to explore evidence and argued that health and wealth deserts can be identified using the following indicators: medically underserved areas (MUA), limited supermarket access (LSA), health insurance coverage, employment rate, homeownership rate, and distance to commercial banks and credit unions. These indicators may make it easier to understand environmental barriers to optimal wellbeing and inform interventions that support improvements in individual wellbeing and quality-of-life.

Considering the social determinants of health, community disparities, health and wealth relationships, and the lack of practical solutions, we conceptualize and define health and wealth deserts. A health and wealth desert is a holistic term and comprehensive concept that identifies an area characterized by a low to limited level of resources and services that support optimal physical and financial wellbeing (Zuccaroli & Russell, 2024). Indicators of a health and wealth desert include medically underserved areas (MUA), limited supermarket access (LSA), health insurance coverage, employment rate, homeownership rate, and distance to commercial banks and credit unions (Figure 1).


Our paper contributes to the literature on quality-of-life and wellbeing by offering an updated and broadened literature review to demonstrate connections between health and wealth factors, especially in vulnerable and marginalized U.S. communities, practical applications as well as recommendations for future research. Answering the call of Buys and Koukel (2018), this framework can inform a wide range of prevention and intervention programs that support the health and wealth of individuals and communities that Cooperative Extension serves. Researchers, educators, and practitioners can use this framework to create culturally responsive programs that support behavior change. For example, screening for health and wealth deserts within communities could be effective in informing resource distribution and community support initiatives. In addition, by acknowledging the inextricable connection between health and finances, this framework can serve as a new foundation for ways to consider healthcare and financial services. Finally, opportunities exist for future research to examine the indicators of health and wealth deserts locally, in rural and urban areas in the United States, across the nation and around the globe.

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This research did not involve human subjects; however, appropriate research methods were followed.

## Biographies


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