

# **Food Insecurity In The Hampton Roads Region of Virginia**

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## Introduction

One of the most pressing issues surrounding human development is that of food insecurity. Food insecurity is defined by the United States Department of Agriculture (USDA) as “a house-hold level economic and social condition of limited or uncertain access to adequate food,” while Feeding America, a nonprofit that devotes itself to combatting hunger and food insecurity, defines food insecurity as “a household’s inability to provide enough food for every person to live an active and healthy life” (Dragas Center, 2020)(Gundersen et al., 2021). This second definition is in line with what Amartya Sen believes about human development: in order to be able to achieve freedoms that are a marker of a developed society, one must not have to worry about fulfilling basic needs, such as food and healthcare (Sen, 2010). Thus, alleviating food insecurity will open other avenues to increasing human development. Since the 2008-2009 economic recession, food insecurity in the United States has not lessened in severity, even though the economy has bounced back (Fleischer et al., 2017). This is a trend that is noticeable at the national level, as well as at the local level, evidenced by studies done in places such as New Hampshire, Roanoke, and Hampton Roads, that describe high levels of food insecurity even as the global economy recovers. Food insecurity is complex in its determinants; there is a struggle between demands and resources within families that often lead to other necessities, such as medicine, being chosen over food insecurity (Fleischer et al., 2017). Food insecurity problems differ in severity and type across the nation and can be measured in up to five different dimensions: accessibility, availability, affordability, accommodation, and acceptability. Different dimensions of food insecurity serve varying purposes for informing policy decisions. Thus, it is imperative that new approaches to both measuring food insecurity, as well as solving food insecurity, are explored to address this complexity and cover possible gaps in policies created to

address food insecurity. This literature review will further explore the complexities regarding measurements of food insecurity, groups at risk for food insecurity, possible solutions for food insecurity, a narrowed area of focus of Hampton Roads food insecurity, and suggestions regarding further research, in order to situate a continued investigation regarding food insecurity, as measured by the accessibility of food sources in the Hampton Roads region, in regards to the larger scholarly community of food insecurity.

### **Measuring Food Insecurity**

One of the biggest hindrances with combatting food insecurity is disagreement in the scholarly community about the best way to measure food insecurity. It is important to accurately measure food insecurity because without devising an accurate measurement system, there is a possibility of bias and the potential to exclude relevant groups of study (Barrett, 2010). If there is exclusion of relevant groups from the data, then it is likely that decisions made from the data will not benefit those in need to the fullest capacity. When measuring food insecurity, it is essential to consider both the dimension of measurement as well as the scale of the measurement.

Food insecurity is about more than just not having enough food or lacking access to food of proper nutritional value; it is also about the socioeconomic factors that lead to cycles of food insecurity: shame, poverty, and physical or mental health issues in families (Fram & Frongillo, 2021). Relationships between these factors are not apparent at a global level, thus there has been a recent push in the food insecurity scholarly community to study local and individual areas instead of using more global, aggregate approaches (Barrett, 2010). This proposed shift in approaches is due to the tendency of global data to “mask” trends in food insecurity as well as making it difficult for effective policies to be enacted (Barrett, 2010). Individual and

household-level data will lead to more accurate predictions of food insecurity and how people might be affected by policy changes relating to food insecurity. In order to properly measure food insecurity at smaller levels, rather than just using widely available data regarding poverty statistics and the number of food sources, it is important to further clarify how researchers measure food insecurity.

According to a paper published in the *Science* magazine by Cornell researchers that studied the different ways of measuring food insecurity, there are three key pillars of food insecurity: availability, access, and utilization (Barrett, 2010). This is in agreement with research done by the Harvard School of Public Health that identified the five aspects of food insecurity to be availability, accessibility, affordability, accommodation, and acceptability (Caspi et al., 2010). The most common measurement of food insecurity across disciplines is that of food availability, which measures the number of sources of food, such as grocery stores, federally funded food programs, and food banks. Though it is easy to gather data regarding food availability, the 2010 study from Cornell found that food availability is a highly variable and imprecise measurement of food insecurity, as it doesn't account for food waste or variances in food use (Barrett, 2010). A less often measured, but equally quantifiable, dimension of food insecurity is that of accessibility; access is an individual's ability to obtain food of proper quality and quantity and is determined by personal factors such as poverty, transportation availability to stores in areas, economic conditions, and political disenfranchisement (Barrett, 2010). Thus, researchers have identified a need for more data regarding the accessibility of food sources and how it relates to food insecurity at a more individual and local level.

### **Groups At Risk For Food Insecurity**

In order to propose further research into the topic of food insecurity, it is important to provide demographic contextual information. In terms of the relationship between location and food insecurity, there is variability in those who are most at risk. A New Hampshire study determined that those most at risk for food insecurity were those in rural and remote areas, where there was limited access to retail food sources as well as public programs, regardless of if food programs were offered in schools (Wauchope and Ward, 2012). On the contrary, a study done in Roanoke, Virginia, found that high population centers were at risk for food insecurity due to the lack of nutritious food sources and the high abundance of cheap but unhealthy food products found in sources such as convenience stores (Parece et al., 2016). These differences provide evidence for the importance of measuring food insecurity in local areas, as trends can differ in different towns, cities, and states. Though poverty is a common factor in predicting food insecurity, the specificities of the food insecurity problems that an individual will face vary based upon their geographic and socioeconomic situation. A commonality between studies is that a lack of retail food stores and restaurants correlates with poverty and food insecurity and that access, not availability, to proper food sources are the main determinants of food insecurity in both rural and urban communities.

Studies also show that African American and Hispanic populations are disproportionately affected by food insecurity (Gundersen et al., 2021). This is likely because these are groups in the United States that are most affected by poverty as well, and there is a high correlation between those who struggle with poverty and those who struggle with food insecurity. Often, this leads to a damaging and restrictive cycle because African American and Hispanic populations are also affected by political disenfranchisement (Barrett, 2010). Thus, those who are impacted the most by food insecurity are also those who are most likely to be excluded from the

decision-making processes. A larger underlying issue with food insecurity is systemic racism, which will be addressed briefly further in this review but will not be the main focus of study in this paper.

### **Possible Food Insecurity Solutions**

A substantial amount of literature regarding food insecurity focuses on proposing solutions to food insecurity as well as solutions to the problems associated with it. One experimental study was the Virginia 365 project that gave backpacks with extra food to children across Virginia and provided extra meals at school in order to attempt to solve the problem of childhood food insecurity. What the researchers found, however, was that though the food backpacks decreased the number of children with very low food insecurity, they actually increased overall food insecurity rates. The researchers hypothesize that this is largely due to perceptions regarding food insecurity changing and mixed messaging regarding the food being sent home to children, i.e., the message was that more of the canned and boxed foods were necessary, rather than fresh vegetables or other nutritious food options not sent home in the backpacks (Fram & Frongillo, 2021). The reason that the project did not result as intended is that food insecurity isn't universal, and so it is likely that more individually targeted systems would have benefited those who needed it more. The researchers determined that to decrease childhood food insecurity, there is a need for "parents, families, and helping systems empowered with a range of resources and opportunities to strengthen financial stability, enrich family functioning, and nurture children's nutrition and development" (Fram & Frongillo, 2021). Another proposed solution is to increase precision agriculture. Precision agriculture is a technology-based approach to agriculture that uses a combination of sensors, information systems, informed management,

and enhanced machinery to optimize the production of agriculture output by predicting and accounting for variations in agricultural production (Gebbers & Adamchuck, 2010). Using precision agriculture can increase technological efficiency at the food production stage to decrease food waste, therefore potentially decreasing food insecurity. Other popular solutions throughout studies are to increase public food sources such as food pantries and create policies that favor breaking poverty cycles over short-term food insecurity relief (Wauchope and Ward, 2012)(Barrett, 2010). In regards to breaking poverty cycles, it is commonly proposed that special attention be given to fighting against systemic racism and barriers that people of color disproportionately face in trying to break out of poverty cycles. Overall, literature shows that in order to truly decrease food insecurity, the systems in place that lead to food insecurity should be fixed, rather than trying to provide short-term fixes to food insecurity and health problems because of food insecurity. However, until the long-term issues can be entirely fixed, which will take many years, it is important to devise effective short-term solutions to food insecurity using targetting in specific areas or households.

### **Hampton Roads Region and Food Insecurity**

The specific region identified for study in this paper, and subsequent research project, is the Hampton Roads region of Virginia, in the United States. Thus far, there is only one study done regarding food insecurity in the region, and it was an overview of food insecurity statistics in the region and efforts made to address food insecurity via public food programs (Dragas Center, 2020). The study found that even though economic growth was occurring in the region during 2018, the year that the study was conducted, food insecurity was not decreasing. This is consistent with national statistics regarding food insecurity and economic growth during this

time period, showing that the Hampton Roads region is consistent with the larger national food insecurity problem. In Hampton Roads specifically, food insecurity is correlated with increasing unemployment rate and poverty (Dragas Center, 2020). Cities with greater concentrations of poverty also had higher rates of food insecurity. For example, Norfolk had a poverty rate of 19.7% in 2018, according to the U.S. Census, and had a 13.9% food insecurity rate. On the other hand, Chesapeake had both a poverty rate and a food insecurity rate of 8.5%. However, it is unclear what metrics the study used to determine the food insecurity rate, and the study mainly focused on summarizing the contributions of two sources of volunteer and donation groups that provided food to individuals in Hampton Roads, rather than the broad focus of food insecurity measurement in the region, which leaves room for a study to fill this gap.

## **Conclusion**

Literature relating to food insecurity mostly considers subthemes of food insecurity measurement, demographic food insecurity differences, or testing and proposing possible solutions to food insecurity problems. There is disagreement within the scholarly community regarding how best to measure food insecurity, whether it be through the data-rich pillar of availability, or the more complicated factors of accommodation, or accessibility. In addition, most literature regarding food insecurity focuses on calls to action to fix broad issues of systemic racism and poverty cycles, which, in theory, are nearly perfect solutions. However, in practice, there are smaller, temporary fixes that must be implemented before achieving those goals. Overall, food insecurity is identified as a major problem nationally, and in more localized areas, such as Hampton Roads, with a wealth of different avenues that can continue to be researched and addressed.



### **Scholarly Gaps and Proposition For Further Research**

Though there is an abundance of studies regarding the availability of food sources as a measure of food insecurities, there is a lack of studies examining the access to food sources as a measure of food insecurity. According to a study that was a systematic review of over 50 food insecurity studies, there is a need for a better way to measure accessibility using GIS, but also without GIS because data is oftentimes removed from the humanity of situations, such as in identifying what constitutes a neighborhood (Caspi et al., 2010). This can lead to a mismatch between GIS data and evaluative survey data. The gap of studies relating to accessibility can be further narrowed by looking at the gap that the study on New Hampshire communities identified: a lack of data regarding transportation between towns and food sources, which could be a potential problem or solution to rural food insecurity (Wauchope and Ward, 2012). Thus, the gap that will be addressed in further research is transportation networks between communities and food sources in the Hampton Roads region of Virginia and how that relates to food insecurity in the region.

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