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Pet Ownership, Health Outcomes and Poverty

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Abstract

Buncombe county is home to 271,534 residents[14]. Of these residents approximately six percent are Black and seven percent are Hispanic. These marginalized communities make up much lower percentages of residents than white communities, however, they disproportionately face higher levels of economic inequality, more precipitous poverty, and worse health outcomes. These disparities could be reduced through key social safety nets, and perhaps particularly well by ones that reduce the costs of pet ownership. This type of social safety net would be useful to consider as an option when looking at the many ways health and poverty could be improved. Pet-related social safety nets have the capability of working particularly well in reducing the effects of poverty and poorer health outcomes due to the many positive effects they generate including improved mental and physical health, increased physical activity, and better academic outcomes for children. Asheville Humane Societies Community Solutions Department has been providing key pet-related social safety nets to the communities within Buncombe county since 2016. I propose that these pet care safety nets are vital in efficiently improving health and socioeconomic outcomes for marginalized communities in Buncombe County. Further, targeted investment in pet-related social safety nets to specific areas in Buncombe county may be a starting place for promoting better racial equity.

1. Introduction

Buncombe County is highly varied in terms of health and economic outcomes for different socioeconomic and racial groups, with people of color and Hispanic communities experiencing higher economic stagnation and worse health outcomes. I suggest through my research, and through the consolidation of existing data from Buncombe County that increased and targeted investment in social safety nets, specifically those that reduce pet care costs, could improve both health outcomes for marginalized communities, and reduce the effects of poverty that keep those communities economically suppressed. Using data from Asheville Humane Society's Civicore database, I examine the areas with the highest need for pet supply and service assistance and suggest that larger investments in pet-related social safety nets in these areas would have compounding positive effects on marginalized communities and may positively affect Buncombe county's overall equity. I propose that further investment in pet-related social safety nets can and should be utilized in addition to other poverty-alleviating and health-promoting programs. Since the benefits of pet ownership are so wide, and investment in this type of safety net also improves the lives of animals and reduces shelter overcrowding, I suggest that the financial investment in this type of program would pale in comparison to the positive effects its creates.

2. Theory Overview

My thesis is motivated by the theory that providing more social safety nets, specifically in the form of pet care assistance would result in better health outcomes for marginalized communities, as well as a reduction in the economic immobility and stagnation caused by poverty and poverty's compounding effects. Pet ownership has many benefits for people, with the Human Animal Bond Research Institute stating that People are happier and healthier in the presence of animals. There are scientifically-documented benefits of the human-animal bond including decreased blood pressure, reduced anxiety, and enhanced feelings of well-being[13,]
but the benefits go even further than this. Interactions with animals create physical and psychological benefits such as improved blood pressure, and mood.

Improving health outcomes is one key way poverty can be reduced since health and economic outcomes are so entangled with each other. Health and healthcare-related disparities are rooted in social and economic inequalities[10,] with health and health outcomes affected by things like food insecurity, education, and perceived safety, to name a few, all of which are affected by income and poverty level. On the surface, better health means people are able to miss fewer days of work which increases their earning potential. Missing fewer days of work could potentially lead to more and higher promotions which also may reduce poverty over time. The data that exists on the topic states that an effective way to break the constraints of poverty may be structural changes such as increasing access to health care and reducing health care costs[6.]

The Center for American Progress states that "safety nets increase economic mobility", with a significant body of evidence supporting the claim that safety nets reduce poverty, strengthen the overall economy, and increase economic mobility, especially for low-income children, and nonwhite individuals, as the data suggests that Black and Hispanic communities face worse health outcomes overall. Pet care-specific social safety nets have the ability to promote better economic outcomes, and better health outcomes by improving the physical and mental health of pet owners, improving overall pet owner happiness, and improving education outcomes for marginalized youth. There is a plethora of existing data showing the links between poverty and worse health outcomes, as well as between pet ownership and better health outcomes. Because of this, I impel that pet ownership can reduce poverty and improve health outcomes for marginalized communities.

3. Literature Review

The literature consistently shows that pet ownership creates better health outcomes. Pet ownership is associated with numerous physiological and psychological benefits. In terms of physical health, pet owners experience more optimal blood pressure and heart rates, lower cholesterol and triglicerides[17] increased hormones associated with well-being such as dopamine, oxytocin to name a few, and reduction in stress hormones like cortisol. Pets also encourage their owners to live a more active lifestyle, which can lead to better physical fitness, better cognitive function, and create more opportunities to socialize[8]. The literature also suggests that the health benefits go beyond improvements in physical health alone with pet owners experiencing lower rates of depression, anxiety, PTSD, and stress than non-pet owners[17.] In addition to these benefits in adults, children raised with pets are more likely to have better health outcomes as well. Psychology Today[7] states that "children living with pets have better general health, are more physically active, have fewer behavioral problems, and fewer learning problems[7]. This means that social safety nets that ease the financial burden of pet care and aid in promoting pet health would likely have positive implications on the health outcomes of the pet owners as well as the health and learning outcomes of their children. The Human and Animal Bond Research Institute (HABRI) states that "pets have the power to lower the cost of health care and strengthen the social fabric of towns and cities throughout the United States[13]". Further in 2015 HABRI announced the findings of a new economic study on the healthcare cost savings associated with pet ownership. The economic analysis calculated an estimated $11.7 billion in savings in U.S. healthcare costs as a result of pet ownership. This number was found by calculating the number of times pet owners visited a primary care Dr. vs non-pet owners. The

results show that pet owners visit their Dr. .6 times less than non-pet owners. The average cost of a primary care visit is $139, thus pet owners spent around eleven billion less in healthcare-related expenditures. The sample size for this study was approximately 1.33 million. The benefits may be even more drastic since the study also found that pet owners, specifically dog owners walk significantly more than non-dog owners, which led to lower obesity within the pet-owning demographic, and an estimated 419 million savings in healthcare costs, this second measure had a sample size of twenty million.[13] Overall, the general consensus is that pet ownership has significant positive impacts on health outcomes for pet owners, and that pet ownership has the ability to significantly reduce healthcare costs.

The literature on health and poverty regularly concludes that they are linked, with health influencing poverty, and poverty influencing health. Physiological and psychological health outcomes are negatively affected by poverty. Across a lifetime impoverished people experience an increased risk for mental illness, chronic disease, higher mortality, and lower life expectancy.[12] This is because poverty leads to things like food insecurity, poorer educational outcomes, housing insecurity, lack of access to healthcare, and poor economic stability. The stress of poverty over time leads to higher cortisol which is known as the stress hormone. Over time elevated cortisol causes weight gain, anxiety, depression, as well as other negative health conditions. This has the potential of leading to higher levels of unhealthy behavior such as smoking, drug use, and other issues. The subsequent increase in weight and mental health issues caused by high cortisol levels result in higher blood pressure, cholesterol, and heart issues[12]. Throughout the literature, it is clear that poverty and health outcomes interplay, creating a cycle of poverty and poor health that self-reinforces.

The existing literature consistently shows that people of color experience worse health outcomes due in part to racism which negatively affects mental and physical health both directly and by creating inequities across the economic and social conditions that influence an individual's health[10]. The Kaiser Family Foundation, a nonpartisan and nonprofit health information provider, uninsured rates are highest for people of color in Black and Hispanic communities, facing between 11.4% and 27.1%. And Black people live on average four years fewer than their white counterparts. Black and Hispanic communities also fared far worse from Covid infections than the white average[10]. Lastly, KFF states that “Health disparities are driven by social and economic inequalities”. Thus we can conclude that a reduction in inequality can relieve the impact of health-based poverty marginalized communities face. When people are systematically deprived of the resources they need, poverty becomes entrenched, and economic inequality grows[18]. Reduction in poverty can lead to better access to health care, and a reduction in health care costs[6] as well as higher economic mobility. Appropriate safety nets reduce poverty, increase economic mobility, and strengthen the national economy. Moreover, studies have shown that many antipoverty programs, especially those that target children, offer an excellent return on investment to taxpayers[14]. Poverty is a multifaceted issue that will require multipronged approaches to address it[12], over time targeted and intentional pet care social safety nets may help to alleviate the negative effects of poverty.

A summation of the information available shows a clear link between social and economic inequality and poorer health outcomes as well as the connection between pet ownership and better health outcomes. Throughout the literature that exists on these topics, there is a consistent acknowledgment that marginalized communities experience worse health outcomes and higher economic immobility. There is, however, not much information available that links the better health outcomes from pet ownership with better economic outcomes and mobility for marginalized communities. The data available on these topics is also incredibly broad, summarizing the outcomes, disparities, and impacts on the whole of the United States. I aim to utilize the information available to examine the potential effects of increased and targeted pet-related social safety nets within Buncombe county.

4. Data and Methods

The data I utilized comes from the Civicore database, Opportunity Atlas, EJ Screen, the CDC, City-Data, the Census, and Zip data. The data is used to examine two key populations in Buncombe county, to show the potential benefits of pet care related social safety nets on health outcomes and poverty. These two key areas, Emma and Deaverview, will be examined for economic and health outcomes and will be compared to Buncombe county’s economic and health outcomes as a whole. These areas were picked because they are the areas of highest need in

terms of the total number of services provided through Asheville Humane society, though they are two of many areas of high need in Buncombe county. These other areas of high need are Pisgah View, Hillcrest, the housing authority locations (HACA) as well as Livingston. Erskine, and Walton apartments, these were not included in my primary dataset due to their makeup of only 33.2% of Asheville Humane Societies' total services. These services include low-income vouchers for spay/neuter services, vet bill assistance, pet food assistance, and supply assistance to name just a few. The variables to be examined are median household income, poverty rate, white population, Black population, the Hispanic population, life expectancy, low life expectancy percentile, food desert status, and foreign-born population. These variables will be used to examine the differences in outcomes for Black and Hispanic communities in Buncombe county and were chosen due to their impact on marginalized communities.

5. Initial Results

Table 1. Comparing Disparities in Buncombe County 2016-2021

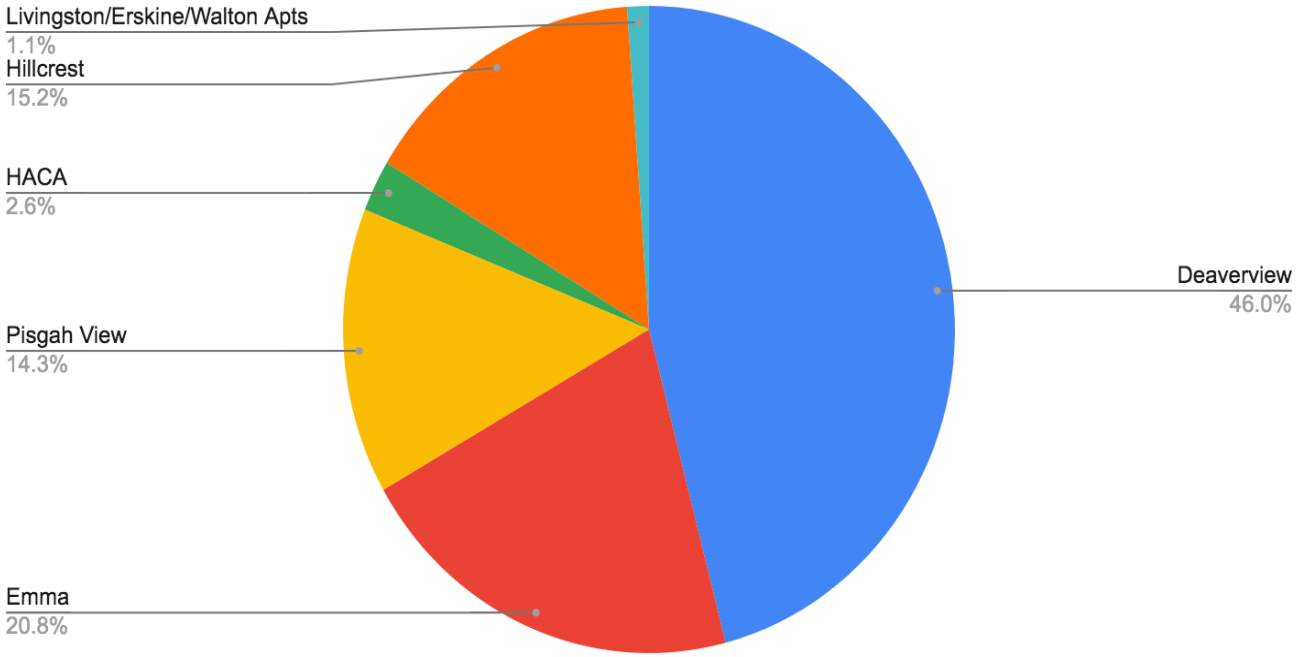
Rate and type of Economic Disparity	**Emma**	**Deaverview**	**Buncombe County**
Median household income	$33,000	$48,110	$55,000
Median Household Income of Low income demographic	$33,000	$36,000	NA
Poverty Rate	21%	29%	12.2%
Percent White Population	66%	76%	83%
Percent Black Population	5%	9.5%	6.3%
Percent Hispanic Population	29%	12%	6.9%
Foreign Born Percentage	14.1%	4.3%	8%
Rate and type of health-related disparity	**Emma**	**Deaverview**	**Buncombe County**
Average Life Expectancy	75.5	72.5	78.7
Food Desert Status	Yes	No	No

1. Data Source: https://www.opportunityatlas.org/ 2010-2016 Data, https://ejscreen.epa.gov/mapper/, https://censusreporter.org/profiles 2020 Data, https://www.point2homes.com/US/Neighborhood/NC/Asheville/Deaverview-Demographics.html, https://www.city-data.com/county/Buncombe_County-NC.html

The median household income for Emma and Deaverview, $33,000 and $48,110, respectively, both fall below the median income than the $55,000 for Buncombe county as a whole. Though Deaverview seems to have a much higher household income, this is due to the mix of high- and low-income communities within the area due to the gentrification of the area. When the median household income of the lowest income earners is taken into consideration the disparity is much more drastic with Emma residents earning $33,000 and Deaverview residents

earning $36,000 compared to the median household income in Buncombe county. The living wage in Buncombe county is $17.70 as of 2022[1]. This means that the minimum wage to afford basic necessities would come to $36,816 per year. Both Emma and Deaverviews lowest income earners fall below this standard. Both Emma and Deaverview have significantly higher rates of poverty than Buncombe county's 12.2% as a whole, with Emma's rate of poverty at 21% and Deaverview at 29% despite the higher median household income in Deaverview. The population percent of white residents is lower in both Emma and Deaverview than in Buncombe county, with Emma's white population making up 66% and Deaverview's making up 76% compared to Buncombe county's 83%. The Black population is lower in Emma than the rate in Buncombe county at 5% but significantly higher in Deaverview at 9.5% compared to Buncombe county's rate of 6.3%. The population percent of Hispanic residents is higher in both Emma and Deaverview than the percent in Buncombe county, with Emma's Hispanic population making up 29% and Deaverview making up 21%, while Buncombe county's population percent for Hispanic residents makes up 6.9%. The life expectancy is lower in both Emma and Deaverview than in Buncombe county, with Emma and Deaverview residents living on average 3.2 and 6.2 years less than the 78.7-year life expectancy in Buncombe county. Emma's food desert status is yes, while Deaverview's is not. However, Deaverview is surrounded on two sides by confirmed food deserts, and the two available options in terms of food and pet supplies located in Deaverview are not safely walkable and are on average more expensive than other's supply stores in Buncombe county. While there isn't much data on how many people have access to a car in Emma or Deaverview, it is safe to assume that lower-income populations have less access to reliable transportation, meaning that a lack of access to safely walkable supply stores would create food deserts in practice if not technically supported by the data. The foreign-born percentage in Emma is nearly one and a half times higher than the percentage in Buncombe county at 14.1% and 8% respectively. Deaverview's foreign-born population percentage is lower than Buncombe county's by 3.7%. Emma and Deaverview experience higher levels of poverty, lower household income, and lower life expectancies than Buncombe county. These areas are also on average more racially diverse than Buncombe county, which suggests that higher percentages of Black and Hispanic communities are associated with worse economic and health outcomes.

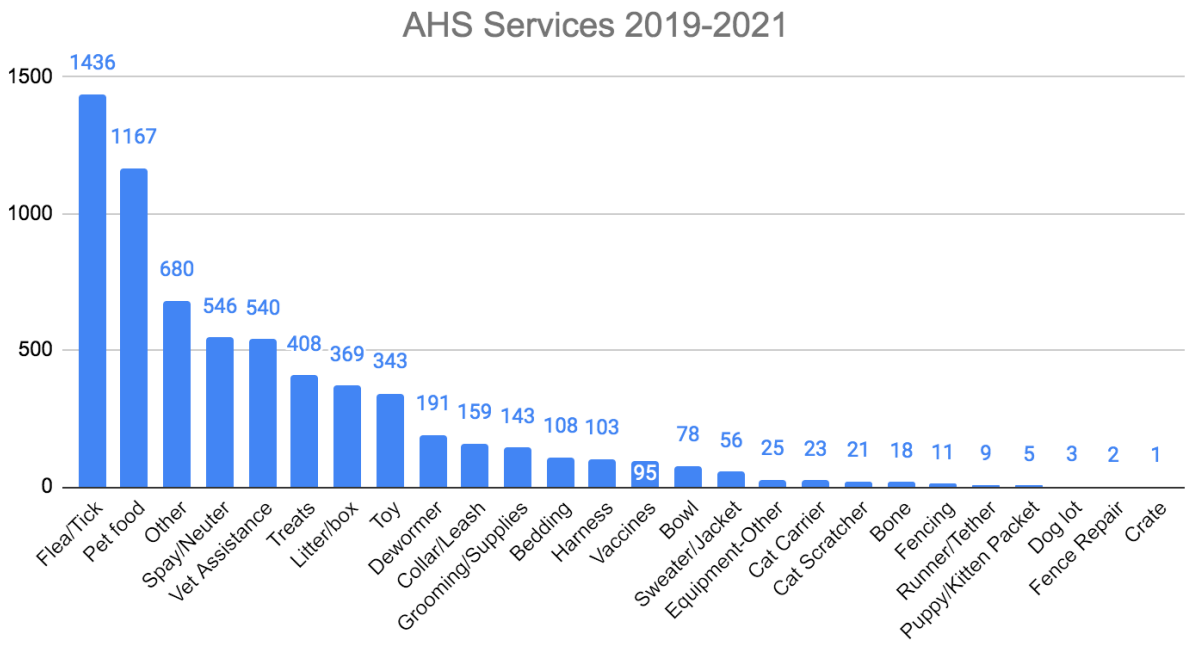
Graph 1. Distribution of Services Provided by Asheville Humane Society



2. Data Source: https://ahs.civicore.com/index.php?section=reports.saved&action=main

The graph above shows the distribution of supplies and services provided within Buncombe county by the Community Solutions department of Asheville Humane Society. Deaverview has the highest need for pet care safety nets, making up 46% of the supplies and services provided by Asheville Humane Society. Emma follows making up 20.8 percent of supplies and services distributed, followed by Hillcrest at 15.2%, Pisgah view at 14.3%, HACA which stands for the Asheville Housing Authority at 2.6% and Livingston/Erskine/Walton Apartments at 1.1%. These services and supplies are provided based on need and qualification for government assistance programs meaning that the areas of highest need for assistance through the Humane Society are associated with areas of low income. Each of these areas is also associated with the presence of low-income public housing.

Graph 1. Distribution of Services Provided by Asheville Humane Society



3. Data Source: https://ahs.civicore.com/index.php?section=reports.saved&action=main

This graph shows the type of assistance provided to the residents of Buncombe county by the Community Solutions department of Asheville Humane Society from 2019 through 2021. The top five types of services and assistance are Flea and tick preventative at 1,436 services, Pet food at 1,167 services, “other” at 680 services, spay/neuter assistance at 546 services, and vet assistance vouchers at 540 services. This data shows that the largest needs for low-income pet owners are for basic health-related necessities. All other services provided such as treats, cat litter, litter boxes, toys, dewormer, etc… show a lesser, but equally significant need for basic supply-related necessities.

6. Discussion and Conclusion

The data from table one shows clearly that the two areas of interest, Emma and Deaverview experience both health and economic disparities when compared to Buncombe county as a whole. Graph one shows that of the areas of need in Buncombe county, Emma and Deaverview, experience the highest need for pet care services and supplies, followed by Pisgah View, Hillcrest, The Housing Authority locations, and Livingston/Erskine, and Walton Apartments. Though the areas outside of Emma and Deaverview do not show as much need for pet-related services and supplies, they still exhibit 33.2% of need in Buncombe county. These areas of lower need could be due to a lack of funding for Asheville Humane Society to provide all the needed and necessary services due to Asheville Humane Society’s community solutions department’s budget constraints. All areas discussed may have a greater need for pet assistance than the data currently shows, due to a lack of funding for pet-related social safety nets in Buncombe County. The data from graph one shows that there are multiple areas of need in Buncombe county, and the second graph shows that community needs most often are for pet care necessities. Because of the worse outcomes faced by the above communities, and for the distribution of essential pet services and supplies, I suggest that there is a clear and pressing need for further investment in pet-related social safety nets.

Pet care related social safety nets may be effective in reducing inequality in both health and socioeconomic outcomes due to the multifaceted impacts they create. With pet owners experiencing better health outcomes, and with better health outcomes associated with lower poverty, targeted investments in pet-care related social safety nets

are one of many potential options for reducing poverty in low-income areas and within marginalized communities in Buncombe county. Emma and Deaverview are two of the more racially diverse areas in Buncombe county, investments in measures that have the potential of both reducing poverty and improving health outcomes may additionally create more racial equity in Buncombe county, which if realized may have compounding effects on marginalized communities over time. These areas also have lower life expectancies, the data suggest that targeted investment in these communities could improve health over time which may have positive effects on life expectancies over time.

This research aims to improve understanding of the connections between pet ownership, health outcomes, and poverty. As this paper illuminates, investing more money in social safety nets, particularly ones that aid in pet ownership, has numerous positive implications on outcomes for marginalized groups. More research is needed to fully determine the value added for each dollar invested into pet-related social safety nets, the compounding benefits of these safety nets, and the association between pet and human health. More research could be done to fully investigate the financial and health benefits to the animals through these pet-related social safety nets. This additional research would more fully capture the total benefits of these safety nets and could further demonstrate that the dollar amount invested in pet-related social safety nets has compounding and multiplicative effects on improving both social and economic issues.

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