



Short Communication

“Take in two parks and call me in the morning” – Perception of parks as an essential component of our healthcare system

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ABSTRACT

As a feature of the built neighborhood environment, parks have been associated with a range of positive health outcomes. Recognition of these contributions has prompted advocates to suggest parks are a part of our healthcare system. Despite these developments, park investments have declined over the past decade nationally, lagging behind expenditures on other community services such as health. Perhaps the idea of parks as a solution to the nation's health concerns has not diffused across the population. To date, however, public perception of parks' role in healthcare has not been documented. This study responds to this gap by assessing whether parks are perceived as an essential part of the healthcare system. Self-administered surveys were completed by a state-wide sample of Pennsylvania adults (2014) and by a sample of primary care clinic visitors in Hershey, Pennsylvania (2015). Participants from both studies were asked the extent they agreed with the following statement: Parks, trails, and open space are an essential component of our healthcare system. Response was also compared across demographic characteristics to assess whether this belief was universally held. Findings indicate 73% of the statewide sample and 68% of the clinical sample agreed parks, trails, and open space are an essential element of the healthcare system. Males, those with lower levels of educational attainment, and rural residents were statistically less likely to agree with this statement. Results indicate widespread belief in parks as an essential part of the healthcare system, suggesting consideration of health-sector investments in these settings.

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1. Introduction

Public parks contribute to numerous physical and mental health outcomes across a range of populations (Bedimo-Rung et al., 2005; Kaczynski and Henderson, 2007). Emerging evidence and commentary reinforce the notion that these parks are part of the healthcare system and should qualify for public health funding (Barrett et al., 2014; Godbey and Mowen, 2010; Green, 2012). However, expenditures on

local park and recreation services in America declined sharply during the 2007 to 2009 Great Recession and, since that time, have not recovered at the rate of other social services, including hospitals and health (United States Census Bureau, 2016). For example, in 2015 the United States spent over \$10,000 per person on healthcare yet only a small fraction of that amount (an estimated \$190 per person) was spent on parks and recreation (Munroe, 2015). Perhaps the notion that parks are a solution to the nation's health concerns has not reached a critical mass across a broader population. To date, however, public perception of parks' essential role in healthcare has not been documented. In this study, we assess the degree to which people perceive parks, trails and open space as an essential component of our healthcare system. If the broader population does believe this (and if this perception is widespread across the population), it could suggest investing in parks as part of a national preventive health strategy.

2. Methods

Data for this study came from two Pennsylvania surveys. The first was a mail questionnaire distributed to a stratified random sample of 12,000 adults in January 2014 and was conducted as part of the state's outdoor recreation plan. This survey included numerous questions

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about outdoor recreation participation as well as opinions regarding local park and recreation policies. The sample, purchased from Survey Sampling International, was drawn based on a random selection of Pennsylvania residents stratified across all six outdoor recreation planning regions and two of the state's largest urban areas (a total of eight strata). Survey invitations and follow-up post cards were mailed to 1500 residents within each region, along with an online survey link and the option to receive a paper copy. Based on an expected response rate of 20% the expected statistical precision of this study was $\pm 5\%$ regionally. This procedure ultimately resulted in 2240 returned surveys (19% response rate). In addition to the population-based mail/online surveys, we also surveyed outpatients at a general internal medicine clinic managed by an author of this study in June 2015. This sample was added to ascertain the opinions of individuals in direct contact with the healthcare system as well as forming a basis of comparison with the earlier statewide results. Consecutive patients were asked to complete the questionnaire during the clinic check-in process. No financial incentive was provided and clinic staff did not review questionnaires for completeness. Of the 294 patients receiving the questionnaire, 243 completed it (83% response rate).

Public perceptions or belief of parks as part of the healthcare system was the primary variable assessed in this study. Respondents from both surveys were asked to indicate their level of agreement with the following statement on a five-point scale from strongly disagree to strongly agree: "Parks, trails, and open space are an essential component of our healthcare system." This item was derived from policy discussions of health advocates and public health scholars (Barrett et al., 2014; Godbey and Mowen, 2010; Kaczynski and Henderson, 2008). For the statewide sample, we compared agreement with this idea/statement across five demographic characteristics: sex, age, race, income, education, and by residency status. These variables were further dichotomized based on key distinguishing categories (e.g., white vs. non-white; adults under 65 vs. adults 65 and older; college degree or no college degree; urbanites from cities, towns, suburbs vs. rural residents) or according to the state-level median (e.g., household income). Given that the clinical sample was part of an ongoing survey effort, not all comparison variables were included (e.g., income, residency status). Demographic variables that did correspond (e.g., age, race, education) were recoded to match the categories of the statewide sample.

Frequencies were used to determine whether a majority from both surveys agreed or strongly agreed that parks were part of healthcare. Cross-tabular analysis with Chi-square tests and phi coefficients were

used to assess significant variations in statement agreement across demographic characteristics as well as the strength of those associations. After excluding those who didn't answer the question, the final sample sizes for the statewide and clinic samples were $N = 1909$ and $N = 214$, respectively.

3. Results

Results indicate strong public belief that parks, trails, and open space are an essential part of the healthcare system. A review of overall frequencies indicated a majority of statewide respondents (73%) and primary care respondents (68%) agreed with this statement. Moreover, it is noteworthy that over 40% of both statewide and primary care respondents "strongly agreed" with this statement, while only 8% (statewide) and 15% (primary care) disagreed with the statement. For the statewide sample, there were no significant differences across age, race, and income categories (Fig. 1). However, males (71%; $P = 0.002$), rural residents (69%; $P = 0.004$), and those without college degrees (71%; $P = 0.012$) were significantly less likely than females (78%), urban residents (75%), and those with college degrees (76%) to agree that parks were an essential part of the healthcare system (Fig. 1).

For the clinical sample, there were no significant differences in response to this statement by sex, age, and race (Fig. 2). Similar to the statewide sample, however, those with a college degree (78%; $P < 0.001$) were more likely than those without (56%) to agree with the statement (Fig. 2). Despite the differences found in this study, it is noteworthy that those groups who were less likely to agree still agreed at majority levels.

4. Discussion

Across both surveys, people believed parks, trails and open space were an integral part of the healthcare system. Skeptics could argue this viewpoint represents only certain sub-segments of the population, but our results suggest otherwise. We found that, across a large sample from Pennsylvania, a majority of respondents agreed with this statement. This viewpoint is not only held by health advocates or by certain demographic groups, but endorsed widely as demonstrated by the statewide sample. Whether our respondents came to this belief because of increased scientific evidence or the growing number of park-based health promotion initiatives, however, is unknown. Recent discussions concerning the importance of parks to public health policy parallel

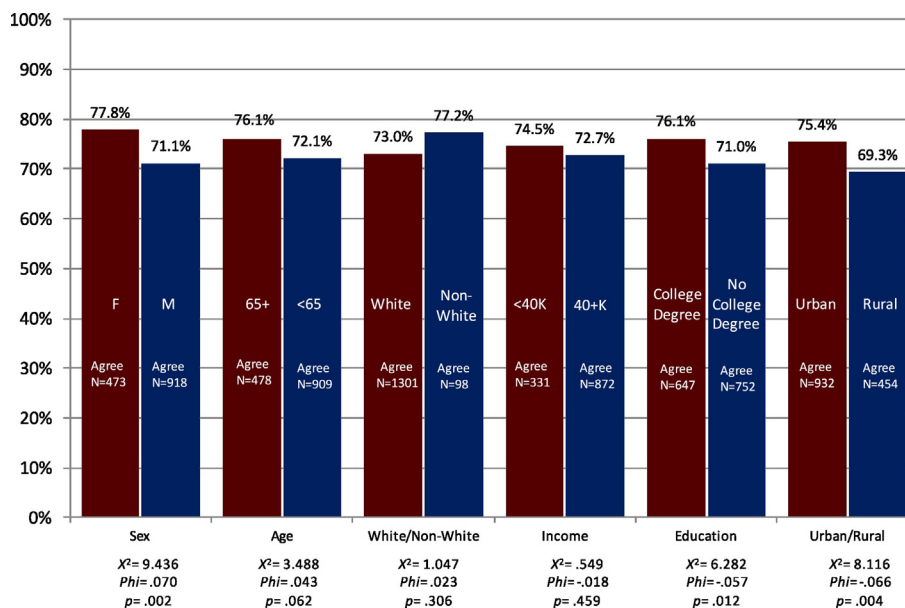


Fig. 1. Parks, trails, and open space an essential component of the health care system (% agree or strongly agree) – Pennsylvania statewide sample – 2014.

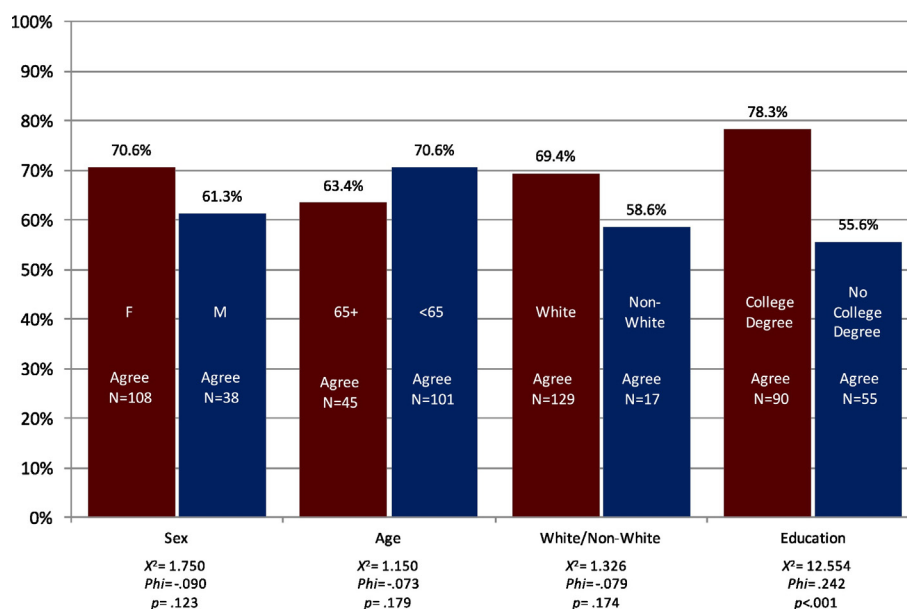


Fig. 2. Parks, trails, and open space as an essential component of the health care system (% agree or strongly agree) – Hershey, PA clinic sample – 2015.

these results. To our knowledge, this was the first assessment of public perception regarding the essential role of parks to the healthcare system.

Despite perception of parks as part of healthcare and the growing evidence of parks contributing to physical and mental health (Bedimo-Rung et al., 2005; Kaczynski and Henderson, 2007, 2008; Cohen et al., 2007, 2016; Maller et al., 2009), expenditures on public park facilities and services (\$190/person) is small in comparison to the annual amount spent on healthcare (\$10,000/person) nationally (Barrett et al., 2014). Redirecting dedicated federal-level health funds (e.g., Prevention and Public Health Fund) specifically toward parks, trails, and open space may be an innovative approach to improve health. The advent of accountable care organizations might also provide a business incentive to invest in social services such as parks as a means to improve patient outcomes (Hacker and Walker, 2013). These results also support some of the ongoing park prescription work across the country (Seltenrich, 2015; Blanck et al., 2012).

However, those who control health policy decisions could have differing opinions concerning parks' essential healthcare role. Unfortunately, we did not assess these stakeholders' opinions nor did we ask study participants to rank the health value of parks relative to other preventive services/strategies. Our results are also not generalizable beyond Pennsylvania, as we did not assess perceptions of parks and health on a national scale. Our item included three different aspects of the built and natural environment (i.e., parks, trails, and open space), making it difficult to ascertain which one was most connected to the healthcare system. Further testing is needed to validate the item and compare with similar measures to ensure criterion validity. Finally, to secure better response rates, future population-level research should also consider alternative methods to collect data such as text messages, apps, and other forms of media. Despite these caveats, our study provides compelling evidence regarding the essential role of parks, trails, and open space as part of a larger healthcare system – an idea that is not merely the agenda of a limited few.

Conflict of interest statement

The authors declare there is no conflict of interest.

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