AGING, HEALTH, AND HEALTH CARE ACCESS FOR OLDER ADULTS
IN PARAGUAY AND LATIN AMERICA AND THE CARIBBEAN

A DISSERTATION

SUBMITTED ON THE FIFTH DAY OF APRIL 2022

TO THE DEPARTMENT OF SOCIAL, BEHAVIORAL, AND POPULATION SCIENCES

IN PARTIAL FULFILLMENT OF THE REQUIREMENTS

OF THE SCHOOL OF PUBLIC HEALTH AND TROPICAL MEDICINE

OF TULANE UNIVERSITY

FOR THE DEGREE

OF

DOCTOR OF PHILOSOPHY

BY

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ABSTRACT

Background: Rapid growth in aging populations in Latin America and the Caribbean (LAC) in recent years has not been accompanied by the same increase in research about the implications of this process - an extensive gap in knowledge that poses a significant barrier to evidence-based policy development. With significant inequalities in health and social indicators, particularly among older adults, governments and organizations must be prepared to meet the needs of this growing population. To inform the development of health and social policies for older adults throughout the region, we must better understand perspectives of older individuals on themselves and their lives, and the implications of these perspectives.

Objectives: This dissertation aimed to understand knowledge and perceptions of health care, health, and old age among older adults in Paraguay. Additionally, the dissertation systematically mapped the existing evidence on self-perceived health (SPH) among adults aged 60 and older in LAC and described the use of the single-item measure of SPH with this population.

Methods: This dissertation employs a three-paper approach. In paper 1, a scoping review of literature explored studies published between 2009-2019; written in English, Spanish, or Portuguese; with original or secondary data; involving adults over 60 years old in LAC; and reporting the use of a single-item measure of SPH with an ordinal scale of descriptive response categories. Papers 2 and 3 examined semi-structured, in-depth interviews conducted with Paraguayans aged 60 years and older in Paraguay in 2018 and 2019. Participants were asked a series of open-ended questions about their perceptions of their health and age, and perceptions and experiences of health care access and utilization. Interviews were conducted in Spanish and Guarani, transcribed, and translated from Guarani to Spanish where applicable. Interviews were inductively and deductively coded in Spanish via NVivo software. In paper 2, the data were then thematically analyzed in an iterative process with co-authors and synthesized into summary tables. In Paper 3, a portion of interview transcripts were dual coded until consistency was reached between coders, and thematic findings were then mapped onto domains of Andersen’s Behavioral Model of Health Services Use (ABM). Findings were further categorized into facilitators, barriers, and neutral factors impacting health care access for older Paraguayans.

Results: In Paper 1, the database and secondary searches identified 516 articles. After removing duplicates and assessing titles and abstracts for inclusion, reviewers assessed 263 full-text articles for eligibility using the inclusion criteria and excluded an additional 89 articles. Ultimately, 174 articles were included in the scoping review. Studies included participants from 17 countries in LAC, led in frequency by Brazil with 120 articles. The SPH question most often included a five-category response scale (146) and response options were predominantly divided into two (95) or three (52) categories for analysis. In Papers 2 and 3, a total of 58 older adults were interviewed, 26 in Guairá and 32 in Asunción. The average age was 73.4 years, ranging from 61 to 99 years, and 42 (72%) were women. The highest level of education achieved by most participants in Guairá was less than seventh grade (85%), while most in Asunción had some university education (63%). Most participants were either married (43%) or widowed (33%). In Paper 2, participants focused responses on the physical aspects of health and old age, particularly decline and limitations in old age. They described good health as being able to be active and mobile, free of pain and illness, independent and well-rested. To achieve good health in old age,
participants discussed positive personal health behaviors, such as eating well and exercising, as well as the importance of institutional support for older adults including health care, economic support, and preparation for old age. In Paper 3, participants described important barriers to access health care including associated costs, availability of services and medications, wait times, and lack of social support. This population has adapted their health behavior to these barriers by utilizing multiple health care systems, paying out-of-pocket for services and medications, and delaying or forgoing care altogether.

**Conclusion:** Information on the health and social needs of people aged 60 and older in Paraguay and across LAC, particularly their perceptions of health and aging, is limited. This dissertation highlights current gaps in the literature and serves to contribute to the development of services and policies aimed at improving health and wellbeing of older adults.
ABSTRACT

Objectives: To (1) systematically map the existing evidence on self-perceived health among adults aged 60 and older in Latin America and the Caribbean (LAC); (2) describe the use of the single-item measure of self-perceived health with this population; and (3) identify gaps in the existing literature.


Results: The database and secondary searches identified 516 articles. After removing duplicates and assessing titles and abstracts for inclusion, reviewers assessed 263 full-text articles for eligibility using the inclusion criteria and excluded an additional 89 articles. Ultimately, 174 articles were included in the scoping review. Studies included participants from 17 countries in LAC, led in frequency by Brazil with 120 articles. The SPH question most often included a five-category response scale (146) and response options were predominantly divided into two (95) or three (52) categories for analysis.

Discussion: Information on the health and social needs of people aged 60 and older across LAC, particularly their perceptions of health, is limited. This review highlights current gaps in the literature and serves to inform future studies, programs, and policies directed at this population.

Key Words

self-perceived health; older adults; Latin America and the Caribbean; scoping review
INTRODUCTION

Self-perceived Health

A quick, low-cost, comprehensive measure, self-perceived health is the most widely used health survey measure in medical, social, and behavioral science research [1]. Self-perceived health (SPH), also referred to as self-assessed health, self-rated health, and self-reported health, is a powerful tool used to independently predict mortality. Its association with morbidity, physical functioning, and health service utilization has been well-documented [2-6].

The use of self-assessments of health gained popularity in the 1950’s and its use with older adults gained momentum with the Duke Longitudinal Studies of Aging in 1955 [7, 8]. Since that time, studies of older adults have consistently demonstrated high predictability of SPH on functional disability, morbidity, and mortality [9, 10] as well as socio-demographic, psychological, biological, and functional determinants [11, 12]. These studies also show that SPH varies by gender [13, 14]; social support, networks, and participation [15-17]; socioeconomic position [18]; environment factors including neighborhood environment and urban-rural status [19-21]; and the number of chronic diseases [3].

Respondents’ Reported Health

In its 1946 constitution, the World Health Organization (WHO) defined health as “a state of complete physical, mental and social wellbeing, and not merely the absence of disease and infirmity” [22]. Objective measures of physical and mental health such as tests and observations only capture part of this definition. Because there is no single universally accepted direct measure of health [5, 23], researchers try to ascertain a population’s underlying true level of
health by gathering information from a variety of domains using both objective measures and self-reports (see Figure 1).

Self-reported health status can provide information about individuals’ health that cannot be measured using more objective health measures, such as self-reports of health behaviors and conditions or biomarkers of stress to mortality [1, 24]. An individual’s perceived health is based on their interpretation of their true health, incorporating aspects of their personal health and health environment, as well as sociodemographic factors like age, gender, and social support [1]. When self-reporting perceived health status on a survey, respondents have considerable freedom to decide upon which information they will base their response [5, 23]. Their self-reported health is the product of perceived health and their interpretation of the survey question based on survey measurement factors [1]. Other factors which contribute to reported health status include potential incentives or sanctions for responses, such as inclusion in programs for individuals in poor health; psychological aspects, such as cognitive ability, personality, or mood; and the temporality of health factors and the health environment [1, 23]. Whether a health factor, like pain or reduced functional capacity, has been stable over time or is currently being experienced, or not, by the respondent may affect their response.

According to Jylhä [5], reporting SPH involves a cognitive process in which people review relevant facts about their health, make a comparison with a reference group, and then decide which available response is best given their overall evaluation of their health status. Further, each part of the process takes place in the context of the culture and the individual’s current and dispositional mood. These two conceptualizations, as both the product of a subjective and contextual cognitive process and as a reflection of objective health characteristics, are
complementary and necessary to understand what underlies responses and how they should be measured and analyzed [1, 5].

Survey measurement is an important, and often overlooked, component of how an individual responds to a question about their health status and how that response is then interpreted [1, 12, 25]. While many surveys use a general, non-comparative, single-item measure that asks respondents to rate their health on a three or five-point Likert type scale, surveys vary widely in many aspects of survey measurement including mode, question context, question order, response option labels, and response option order [1, 9, 12]. These variations in SPH measurement, and thus analysis and interpretation, have important implications for the validity and comparability of research and the applicability of health and social policies [1, 26].

*Aging in Latin America and the Caribbean*

While reductions in mortality and fertility have occurred over long periods of time in Western Europe and North America, in Latin America and the Caribbean (LAC) these changes are occurring at an unprecedented speed, contributing to a rapidly aging society [27]. According to the United Nations, the population over 60 years old in LAC is projected to increase from 11% to 25% in 2050 over a period of 35 years. It took 65 years for Europe to experience a similar increase and North America is expected to take around 75 years to reach those levels [28].

As the LAC region ages, it becomes increasingly important that governments and other stakeholders meet the diverse and complex needs of the aging population, however, the majority of studies on the health of older adults focus on populations in high-income countries outside of Latin America [29]. Rapid growth in aging populations in LAC in recent years has not been accompanied by a commensurate increase in research about the implications of this process [27]
an extensive gap in knowledge that poses a significant barrier to evidence-based policy development [30]. With significant inequalities in health and social indicators, particularly among older adults, governments and organizations must be prepared to meet the needs of this growing population. To inform the development of health and social policies for older adults throughout the region, we must better understand the determinants of their health perceptions and the implications of these perceptions [31]. To do this, we will need to understand how, where, and to whom the question is asked.

For these reasons, we conducted a scoping review to systematically map the existing evidence on the self-perceived health among adults aged 60 and older in Latin America and the Caribbean. This review describes the use of the single-item measure of self-perceived health with this population, and identifies gaps in the existing literature to help shape future research in this area.

METHODS

The Canadian Institutes of Health Research defines scoping reviews as “...exploratory projects that systematically map the literature available on a topic, identifying key concepts, theories, sources of evidence and gaps in the research” [32](p.34). Like systematic reviews, scoping reviews “...use rigorous and transparent methods to comprehensively identify and analyze all the relevant literature pertaining to a research question” [33] (p.372). In general, compared to systematic reviews, scoping reviews address broader topics, include a wider range of study designs and methodologies, and do not assess the quality of included studies [34]. As the purpose of this study is not to address the “feasibility, appropriateness, meaningfulness or effectiveness of a certain treatment or practice”, but rather to examine research on how SPH in LAC has been
conducted, a scoping review of this literature is most appropriate and an assessment of bias is not necessary [35].

This scoping review follows the PRISMA Extension for Scoping Reviews (PRISMA-ScR) guidelines [36] (see Table 1), as well as the seminal methodological framework by Arksey and O’Malley [34] and incorporates adaptations to this work by Levac, Colquhoun, and O’Brien [37]. The framework includes five stages: Stage 1: Identify the research question and establish purpose; Stage 2: Identify relevant studies; Stage 3: Select studies; Stage 4: Chart the data; Stage 5: Collate, summarize, and report the results.

Stage 1: Identify the research question and establish purpose

Considering the concept (self-perceived health), target population (adults aged 60 and over in Latin America and the Caribbean), and outcomes of interest (the use and analysis of the single-item measure of self-perceived health), we developed the purpose of this study and three research questions to guide our scope of inquiry and establish an effective search strategy [37].

Research Questions

1. What is the current state of knowledge of self-perceived health using a single-item measure among adults aged 60 and older in LAC?

2. How has the single-item measure of self-perceived health been asked and analyzed in its use among older adults in the region?

3. What are the knowledge gaps in the existing literature?

Stage 2: Identify relevant studies
Following an exploratory literature review to identify appropriate key terms, we searched the following electronic bibliographic databases for documents published from 2009 to 2019: Abstracts in Social Gerontology, PubMed, Fuente Académica, MedicLatina, PsyclINFO, MEDLINE, EMBASE, and Global Health. Search terms, with some variation by database, included: “self-perceived health” OR “self-assessed health” OR “self-rated health” OR “self-reported health” OR “perceived health” AND old OR senior* OR aging OR aged OR elderly OR elder* AND Latin America OR Caribbean AND 2009-2019.

**Inclusion and exclusion criteria**

We included studies published between 2009-2019; written in English, Spanish, or Portuguese; analyzed original or secondary data (no reviews or opinion pieces); involved adults over 60 years old in LAC (sample aged 60+, or mean age 65+, or with separate analysis for 60+); and reported the use of a single-item measure of self-perceived health, or a synonym of the term, including self-rated health, self-assessed health, and self-reported health, with an ordinal scale of descriptive response categories. Papers were excluded if they did not meet these criteria or were unable to be located in their entirety. We chose not to exclude articles based on the type of SPH variable (e.g. outcome, exposure, or covariate).

**Stage 3: Select studies**

The database search was supplemented by scanning reference lists, and forward and backward snowballing of relevant documents. The author exported all search results into a Microsoft Excel table. After removing duplicates, two reviewers trained in public health independently assessed titles and abstracts for inclusion. Any articles with inconsistencies between reviewers or doubts
about meeting criteria were retained for full-text review. Two reviewers then independently assessed the remaining full-text articles for eligibility using the inclusion criteria.

Stage 4: Chart the data

The author developed an initial data charting form in Microsoft Excel to extract information. Reviewers initially pilot-tested the form on several articles for ease of use and thoroughness, continuing to update the form in an iterative process involving the feedback and collaboration of all reviewers. Two reviewers charted data from each article. The author reviewed all charted data, referring to the source and consulting reviewers, to resolve any inconsistencies. Additionally, the author directly contacted the authors of articles with missing information regarding the SPH question (question, responses, or analysis) to obtain the aforementioned information.

In addition to information about the article and publication, reviewers charted data on study characteristics (e.g., name of tool/questionnaire, years, countries), sample characteristics (e.g., size, ages, institutionalization status), and the use and analysis of the SPH measure. The progression of the charting tool and complete list of variables is included in the appendix (Table 2).

RESULTS

The database and secondary searches identified 516 articles. After removing duplicates and assessing titles and abstracts for inclusion, we found 263 full-text articles for eligibility using the inclusion criteria, and excluded an additional 89 articles. Finally, 174 articles were included in the scoping review (see separate document Table X. Included Studies). A flowchart of the selection process is presented in Figure 2.
**Geographic and language patterns**

The research and publications of self-perceived health of older adults in LAC is dominated geographically by publications from Brazil. The corresponding author, or first author if no corresponding author was listed, from 110 of the articles (63%) was associated with an institution in Brazil. Authors were also from Colombia (16), the United States (15), Chile (8), Mexico (7), and six other countries. Additionally, articles in this study were published most frequently in four Brazil-based journals, each with more than 10 articles: *Cadernos de Saúde Pública* (29), *Ciência & Saúde Coletiva* (20), *Revista de Saúde Pública* (13), *Revista Brasileira de Epidemiologia* (12). The remaining 100 articles were distributed between 65 journals from Latin America and the Caribbean, North America, and Europe.

Articles were published in English, Portuguese, and Spanish. Most articles were published in English only (83), Portuguese only (38), or were published in both languages (32). There were 19 articles in Spanish only, one in English and Spanish, and one in all three languages.

Studies included participants from 17 countries in LAC, as seen in Figure 3. One hundred and twenty of 174 articles included participants from Brazil, followed by Colombia (25), Mexico (16), Chile (11), and Argentina (8). Twelve studies had participants from multiple countries in the region.

**Demographic inclusion criteria**

Most sample populations were made up exclusively of adults 60 years or older, 23 articles included participants younger than 60 years. Based on the criteria for inclusion, these sample populations had either a mean age of 65 or older (7) or featured separate analysis for adults 60 or
older (16). Participants were predominantly women and community-based (see Table 3). Only 45 articles included information about the race or ethnicity of the sample populations.

**Methodologies and data sources**

Most of the studies were cross-sectional in nature (149), including eight cross-sections of cohort studies. The remaining studies were longitudinal (24) and there was one retrospective chart review. The most frequently utilized data were from the multi-country Survey on Health, Well-Being, and Aging in Latin America and the Caribbean (SABE) (21). The next five most utilized data sources were all from Brazil: the special health supplement of the National Household Sample Survey (PNAD) (11); Bambuí Cohort Study of Aging (BCSA) (8); Frailty in Brazilian Older Adults (FIBRA) (6); Population-Based Household Health Survey in the Municipality of Campinas (ISACamp) (6); and the EpiFloripa Aging cohort study (5). There were 44 articles with no study name available.

**Survey questions and wording**

Three main question wording types were documented: questions with a reference period, those with a reference group, and those which reference neither a period nor group (see Table 4). Questions with no reference were made up of basic and generalized questions. Basic questions posed the simplest form of the question without any additional qualifying language. Generalized questions used language like “in general”, “generally”, “generally speaking”, “all in all”, and “on the whole” to modify the scope of the respondent’s answer. Questions with a reference period specified the time frame for which the respondent should consider their answer, such as “right now”, “currently”, “in the last 30 days”, and “in the last 12 months”. Questions with a reference group asked respondents to compare their health to other people their own age.
The wording used to ask participants about their self-perceived health was provided in the original article for 83 of 174 articles. We emailed the corresponding author for 72 articles to request this information and received the question wording directly from the corresponding author for 43 articles. With information provided from the author or directly from the article, we retrieved the question wording from the published survey for 21 articles and from referenced articles for 11 articles in this study. The wording remains unknown due to lack of transparency in articles and non-response from authors for 14 articles.

The number of response options varied from two to six, but most used a five-category scale (146). Response options were predominantly divided into two (95) or three (52) categories for analysis. The ways in which they were divided, however, varied greatly. For example, of questions with five-category scales divided into two categories, 30 grouped the two responses on the positive end and three responses on the negative end, 36 grouped the three most positive responses and two most negative, and four grouped the four most positive responses versus the most negative response (see Table 5).

**DISCUSSION**

This review has identified where, to whom, and how self-perceived health questions are asked. So, what is missing? Where are the gaps?

**Where**

Studies included participants from only about half of the countries in the LAC region and were concentrated in just a few countries, the vast majority in Brazil. Given the importance of the sociocultural context in answering a question about SPH, it is crucial that studies in countries throughout the region incorporate SPH and questions about the factors which contribute to the
decision-making process to better understand differences in cultural elements that contribute to
the perception of health.

Research on SPH among adults needs to expand outside Brazil to gather evidence from older
adults in countries at all stages of the aging process. After aging was included in the research
agenda of the 1988 National Association of Population Studies, the number of aging-related
researchers, studies, and publications in Brazil has increased exponentially, contributing to its
overrepresentation in the literature on SPH among older adults in the region [38]. Countries in
LAC have diverse aging profiles, spanning from the beginnings of the demographic transition,
with high fertility and mortality and low life expectancy, in Bolivia, Guatemala, Honduras, and
Haiti, to the third stage of the transition, with low fertility and mortality and rising life
expectancy, in Costa Rica, Cuba, and Uruguay [39]. There are unique opportunities and
challenges to support older adults at each stage of the transition.

SPH varies over the life course, becoming worse with advancing age and stabilizing or
improving later in life [40-42]. The trajectories of SPH in old age may be related to objective
improvement of physical health, psychological adaptation to poor health conditions, or access to
services, culture, and education [43]. When asked to rate their general perceived health, older
adults rate their health as relatively poorer than younger adults but, when asked to compare their
health with that of their peers, the ratings of older adults were better than their younger
counterparts [44-46]. The tendency towards worsening SPH may be explained by various factors,
such as the loss of social roles or increased chronic disease and disability. Individuals over 90
years of age, or the group considered the “oldest old”, often report good or excellent health.
Among the explanations for this tendency include the heterogeneous nature of the aging process,
not always associated with increased illness; optimism about their health as older adults age; and
survival effect, with the healthiest and most optimistic reaching the oldest ages [42, 47].

Although most studies in this review have a minimum participant age of 60, few studies focused on participants 70 years and older. The health perceptions of these individuals can help us to understand how their needs may change over time in different contexts.

To Whom

We need to understand how particularly vulnerable populations view their health to improve health equity among older adults. More studies should include those living in long term care institutions; individuals experiencing cognitive or communication deficits; and members of racial and ethnic minoritized groups, such as indigenous and Afro-descendant populations. Older men and members of the Lesbian, Gay, Bisexual, Transgender, and Queer/Questioning (LGBTQ) community are also underrepresented in these studies and their presence is crucial to understanding important differences in health perceptions by gender identity and sexual orientation.

In LAC, 12% of people over age 60 and nearly 27% of people over age 80 are care dependent, unable to independently complete at least one basic activity of daily living, such as eating, bathing, or dressing. Many of these more than 8 million people are cared for informally, often by women in their families, and over the next 30 years the demand for long term care is expected to triple [48]. Much of the research on older adults in the region excludes older adults in institutions and those with cognitive or communication deficits. Only seven articles in this review, from Colombia and Brazil, included institutionalized participants. To address the needs of these growing, vulnerable populations, research on their perceptions of health is needed to create long term care systems and improve social and health systems [49].
Despite increasing visibility of health inequalities for indigenous people and people of African
descent, this review found a scarcity of information regarding race or ethnicity of older adults in
studies featuring information about their SPH [50-52]. Of the 45 articles with information on
race or ethnicity, 42 were from Brazil. Studies in Brazil and other countries demonstrate an
association between skin color and worse self-rated health in older adults [53, 54]. Black and
brown older adults in Brazil tend to have worse general living conditions and health status
compared to white older adults [55, 56]. Future studies should examine the relationship between
skin color or ethnicity among older adults in other countries in the region.

Most studies (156) included more women than men, a well-known occurrence in studies of older
adults. This is attributed to greater longevity among women and gender dynamics in the region.
Women tend to be more available to participate during periods in which data collection is often
carried out and may be more motivated to participate in health-related studies [57].

More participation from men in studies is essential to understand how both women and men rate
their health in different contexts. Studies have shown that men and women differ in both health
rating trends and the factors they consider when rating their health. In LAC, women tend to
report worse health than men [31, 58, 59]. Possible explanations include higher prevalence of
disability and chronic conditions associated with their increased longevity; health exposures
faced throughout the life course; and cultural norms associated with acknowledging health
problems and seeking health care [58-61]. Although there is evidence that women consider a
variety of factors to rate their health, while men tend to compare their health to the health of
other men [31], more studies are needed to understand the processes by which women and men
rate their health.
How

Data from longitudinal and qualitative studies will help us gain critical insight into the complex, subjective process of rating SPH. Many of the studies featured data from large epidemiologic studies of a cross-sectional nature which do not allow for inferences regarding causality, as it is not possible to discern cause and effect between variables. While these provide a wealth of readily available information, authors are limited to the variables available in the dataset and their predetermined survey measurement features. Cultural and context-specific factors, while key to understanding how respondents rate their health, are often missing from these studies. Longitudinal studies of older adults in the region are needed to untangle causality and to understand changes over time. Evidence shows that these ratings are dynamic, changing with age and life experiences, and cross-sectional surveys cannot capture the nuances of these changes [62]. Qualitative studies could provide valuable insight into respondents’ health ratings and their evaluation process.

The WHO recommends the use of a generalized SPH question, seen mostly frequently in this review (73 of 174 articles), and does not recommend questions with a reference group or time period because they influence how the respondent answers the question [63]. If SPH is being used as a proxy for more objective health measures, using questions with a reference may serve to standardize comparisons, although the use of a reference group or time period may render these measures incomparable to each other and to questions with no reference [1]. Anchoring vignettes, the placement of the SPH question after specific health items, and controlling for objective health measures in analysis have also been used to attempt to control for subjectivity in the measure [1].
This review included only those single-item SPH measures with ordinal scales of descriptive response categories, excluding multiple question scales and numerical response scales. The WHO recommends the use of a five category scale, noting that numerical scales are subject to different meanings in different cultures [63]. Regional interpretations of certain descriptive responses, however, can also change the connotation of a response to be more positive or negative. For example, Chiavegatto Filho and colleagues [64] noted that the translation of “fair health” from the Portuguese to English can sometimes have a positive meaning. Due to often subtle, but meaningful, language differences in the original and translated responses in Portuguese, Spanish, and English, this review does not examine the wording of responses. Additional features of survey measurement which may influence a respondent’s SPH question response include mode, question order, the order of response options, and the interviewer-respondent interaction [1]. While these measures are beyond the scope of this review, their relationship with health ratings deserves further attention.

Given the diversity of the question wording and response options used to ask older adults about their perceived health, we need to be transparent about how questions and responses are worded and analyzed. We need to acknowledge the diversity of questions and responses when we talk about a concept which is assumed by many to look a certain way.

**Strengths and Limitations**

Among the strengths of this scoping review is that our aims align with scoping review methodology, contributing to a more efficient and effective review of the literature. We searched a wide range of databases and manually searched reference lists to identify as many relevant articles as possible. Also, by choosing not to exclude articles based on the type of SPH variable...
(e.g. outcome, exposure, or covariate), we were able to capture a more robust picture of the use and analysis of the variable in the region. Additionally, we directly contacted the authors of articles with missing information regarding the SPH question, allowing us to include studies which would have been eliminated due to a lack of information and more accurately reported survey measurement features of the articles.

This scoping review has several limitations. Firstly, it is possible that we did not capture all studies that could meet the inclusion criteria. Citations to some studies may not be included in the literature or were not susceptible to data capture. Secondly, it was beyond the scope of this study to assess the quality of included studies, and therefore, include studies with large variations in study methodologies. Thirdly, our searches were limited to studies in English, Spanish, and Portuguese, and those published between 2009 and 2019. Additionally, studies were limited to either a sample aged 60 or older, a mean age 65 or older, or with separate analysis for groups aged 60 or older. By assigning a specific number to define older adults, we may have excluded studies that define this population differently or include proportionally fewer older adults. Finally, we were unable to communicate with all authors to clarify information around SPH measurement resulting in missing information.

Conclusion

Understanding how older adults perceive their health and determine their answers to SPH questions will help stakeholders meet the diverse and complex needs of this growing population in LAC. We have identified where studies have explored SPH among adults aged 60 and older in LAC, who among this group is being included, and how the question is being asked. We have
also demonstrated important gaps in the current literature and made recommendations for future research.
APPENDIX

Figure 1. Model of Factors Influencing Respondents’ Reported Health

Source: adapted from (Sadana et al., 2002; Garbarski, 2016)
Table 1: Preferred Reporting Items for Systematic reviews and Meta-Analyses extension for Scoping Reviews (PRISMA-ScR) Checklist [36]

<table>
<thead>
<tr>
<th>SECTION</th>
<th>ITEM</th>
<th>PRISMA-ScR CHECKLIST ITEM</th>
<th>REPORTED ON PAGE #</th>
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<td>TITLE</td>
<td>Title</td>
<td>Identify the report as a scoping review.</td>
<td>yes</td>
</tr>
<tr>
<td>ABSTRACT</td>
<td>Structured summary</td>
<td>Provide a structured summary that includes (as applicable): background, objectives, eligibility criteria, sources of evidence, charting methods, results, and conclusions that relate to the review questions and objectives.</td>
<td>yes</td>
</tr>
<tr>
<td>INTRODUCTION</td>
<td>Rationale</td>
<td>Describe the rationale for the review in the context of what is already known. Explain why the review questions/objectives lend themselves to a scoping review approach.</td>
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<tr>
<td></td>
<td>Objectives</td>
<td>Provide an explicit statement of the questions and objectives being addressed with reference to their key elements (e.g., population or participants, concepts, and context) or other relevant key elements used to conceptualize the review questions and/or objectives.</td>
<td>yes</td>
</tr>
<tr>
<td>METHODS</td>
<td>Protocol and registration</td>
<td>Indicate whether a review protocol exists; state if and where it can be accessed (e.g., a Web address); and if available, provide registration information, including the registration number.</td>
<td>no</td>
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<td>Eligibility criteria</td>
<td>Specify characteristics of the sources of evidence used as eligibility criteria (e.g., years considered, language, and publication status), and provide a rationale.</td>
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<td>Information sources*</td>
<td>Describe all information sources in the search (e.g., databases with dates of coverage and contact with authors to identify additional sources), as well as the date the most recent search was executed.</td>
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<td>Present the full electronic search strategy for at least 1 database, including any limits used, such that it could be repeated.</td>
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<td></td>
<td>Data charting process‡</td>
<td>Describe the methods of charting data from the included sources of evidence (e.g., calibrated forms or forms that have been tested by the team before their use, and whether data charting was done independently or in duplicate) and any processes for obtaining and confirming data from investigators.</td>
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<td>List and define all variables for which data were sought and any assumptions and simplifications made.</td>
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<td>Critical appraisal of individual sources of evidence§</td>
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<td>Describe the methods of handling and summarizing the data that were charted.</td>
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<td>RESULTS</td>
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<td>Give numbers of sources of evidence screened, assessed for eligibility, and included in the review, with reasons for exclusions at each stage, ideally using a flow diagram.</td>
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<td>Characteristics of sources of evidence</td>
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<td>For each source of evidence, present characteristics for which data were charted and provide the citations.</td>
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<td>Summarize and/or present the charting results as they relate to the review questions and objectives.</td>
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<td>DISCUSSION</td>
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<td>Summary of evidence</td>
<td>19</td>
<td>Summarize the main results (including an overview of concepts, themes, and types of evidence available), link to the review questions and objectives, and consider the relevance to key groups.</td>
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<td>20</td>
<td>Discuss the limitations of the scoping review process.</td>
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<td>Conclusions</td>
<td>21</td>
<td>Provide a general interpretation of the results with respect to the review questions and objectives, as well as potential implications and/or next steps.</td>
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<td>22</td>
<td>Describe sources of funding for the included sources of evidence, as well as sources of funding for the scoping review. Describe the role of the funders of the scoping review.</td>
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Table 2: Data extraction timeline

**Form 1:**
December 2020 to April 2021 - 9 reviewers extracted data; 2 per source
April 2021 - data combined into one document; inconsistencies reviewed, resolved by author

<table>
<thead>
<tr>
<th>Article Information</th>
<th>Publication</th>
<th>Study</th>
<th>Analysis &amp; Results</th>
<th>ADDITIONAL NOTES</th>
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<td>Author(s)</td>
<td>Type (Journal, Report)</td>
<td>Name</td>
<td>Analysis Type</td>
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<td>Age Analysis (# categories, etc.)</td>
<td>Abstract Term(s) for 60+ pop (apart from age)</td>
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**Form 2:**
April to May 2021 - two reviewers extracted data; categories added for data extraction; inconsistencies reviewed, resolved by author

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<td>Key Words</td>
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<td>Self Perceived Health</td>
<td>Key Findings Related to SPH</td>
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<td>Question</td>
<td>Response Options</td>
<td></td>
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<tr>
<td>Response Analysis (# categories, etc.)</td>
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<td></td>
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</tbody>
</table>
Self Perceived Health

SPH Variable Type

Characteristics of Study Population

- Age Categories of Analysis
- Sex/ Gender
- Ethnicity
- Rural/Urban
- Other (specify)

Limitations

Corresponding Authors Contacted

May - June 2021 - author wrote all authors with missing SPH-related data

Email 1 - Initial request for information: May 2021
Email 2 - Follow up for authors who did not respond to Email 1: one to two weeks later
Additional correspondence - back and forth with authors during this time

Form 3:

June 2021 - two reviewers extracted data; categories added for data extraction; inconsistencies reviewed, resolved by author

Publication

- Journal name
  - Language (revised to include all languages of publication)

Study

- Location

Characteristics of Study Population

- Mean Age (SD)
  - Sex/Gender F (revised to have separate)
  - Sex/Gender M (revised to have separate)

Form 4:

July 2021 - two reviewers extracted data; categories added for data extraction; inconsistencies reviewed, resolved by author

Analysis & Results

- Self Perceived Health
  - Question Type
  - Question Source
  - # Response Options
  - Response Options Source
  - # Analysis Categories
  - Response Analysis Source
  - SPH Variable Type
  - Analysis of SPH
Figure 2: PRISMA diagram

- Records identified through database searching (n = 435)
- Additional records identified through other sources (n = 81)
- Records after duplicates removed (n = 408)
- Titles and abstracts screened (n = 408)
- Records excluded (n = 145)
- Full-text records assessed for eligibility (n = 263)
  1. No SPH or not reported as single-item measure (31)
  2. No older adults or separate analysis (45)
  3. No LAC (5)
  4. Incomplete data (2)
  5. Duplicate (2)
  6. Not original data (4)
- Records included in scoping review (n = 174)
Figure 3: Map of numbers of studies conducted in LAC countries (2019) (N=207)
<table>
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<th>Table 3: Characteristics study population samples</th>
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<td>&lt;60</td>
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<td>60+</td>
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<tr>
<td>65+</td>
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<tr>
<td>70+</td>
</tr>
<tr>
<td>80+</td>
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<td>90+</td>
</tr>
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<td><strong>Institutionalized</strong></td>
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<td>Yes</td>
</tr>
<tr>
<td>No</td>
</tr>
<tr>
<td>&gt;50% Women</td>
</tr>
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<td>50% Women - 50% Men</td>
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<td>&gt;50% Men</td>
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<td>Unreported</td>
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Table 4: Question wording

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<th>Example</th>
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<tr>
<td>No Reference</td>
<td>generalized</td>
<td>In general, how do you rate your health?</td>
<td>73</td>
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<tr>
<td></td>
<td>basic</td>
<td>Would you say that your health is...?</td>
<td>43</td>
</tr>
<tr>
<td>Reference Period</td>
<td>right now (basic, in general, compared to peers)</td>
<td>In general, how would you rate your health today?</td>
<td>31</td>
</tr>
<tr>
<td></td>
<td>last month</td>
<td>How do you rate your overall health in the past 30 days?</td>
<td>7</td>
</tr>
<tr>
<td></td>
<td>last year</td>
<td>Comparing your health today with the one from 12 months ago, would you say that now your health is...?</td>
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<tr>
<td>Reference Group</td>
<td>compared to peers</td>
<td>Compared to other people your age, how is your health?</td>
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<td></td>
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*Note: For most articles, information was provided from the author or obtained from the article, published survey, or referenced articles. The wording remains unknown due to lack of transparency in articles and non-response from authors for 14 articles. These articles reported the use of a single-item measure of self-perceived health, or a synonym of the term, with an ordinal scale of descriptive response categories, but did not provide the precise wording for the questions.
Table 5: Division of response options for analysis

<table>
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<th>Analysis Categories</th>
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</tr>
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<td>1</td>
</tr>
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<td>2/2</td>
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<td>3/1</td>
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<td></td>
<td>3</td>
<td>1/1/2</td>
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<td></td>
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</tr>
<tr>
<td></td>
<td>4</td>
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References


ABSTRACT

Background: To inform the development of health and social policies for older adults in Paraguay, we must better understand perspectives of older individuals on themselves and their lives, and the implications of these perspectives. This study examines perceptions of good health and old age among Paraguayans aged 60 and older. This paper aims (1) to examine older adults’ understandings and self-perceptions of health and age; and (2) to explore factors contributing to these understandings and perceptions.

Methods: From October 2018 to February 2019, 58 semi-structured, in-depth interviews were conducted with Paraguayans aged 60 years and older in the capital city of Asunción, and the department of Guairá. Participants were asked a series of open-ended questions about their perceptions of their health and age, and perceptions and experiences of health care access and utilization. Interviews were conducted in Spanish and Guarani, transcribed, and translated from Guarani to Spanish where applicable. Interviews were inductively and deductively coded in Spanish via NVivo software and thematically analyzed. The data were then thematically analyzed in an iterative process with co-authors and synthesized into summary tables.

Results: Participants focused responses on the physical aspects of health and old age, particularly decline and limitations in old age. They described good health as being able to be active and mobile, free of pain and illness, independent and well-rested. To achieve good health in old age, participants discussed positive personal health behaviors, such as eating well and exercising, as well as the importance of institutional support for older adults including health care, economic support, and preparation for old age.

Conclusions: Little research exists to support the programs and policies directed at this population. This study’s findings aim to highlight nuances that exist in the health and wellbeing of older adults.

Key Words

older adults; self-perceived age; self-perceived health; qualitative; Paraguay
INTRODUCTION

Aging, from a biological perspective, results from the impact of the accumulation of molecular and cellular damage over time, leading to a gradual decrease in physical and mental capacity, a growing risk of disease, and ultimately death. These changes are only loosely associated with chronological age, and neither linear nor consistent [1]. Aging lasts a lifetime and is determined by internal and external factors, such as genes and the physical and social environment [2]. As a result, there is significant diversity of health and functional states among older people. Healthy aging is further defined as the development and maintenance of functional ability to enable well-being in older age. A person’s functional ability is made up of their physical and mental capacities, external environmental factors, and the interaction between these [3]. Both concepts are centered on a life course perspective, which recognizes aging as a successive series of stages, from infancy through old age [4].

For practical purposes, old age is commonly defined by chronological age throughout the world. Linked to retirement and pension ages in most developed countries, the age of 60 or 65 years is often said to be the beginning of old age, but no international standard exists [5]. A person’s chronological age is just one, arbitrary way to define this period of life. Its use to mark the threshold of old age assumes equivalence with biological age, although it is generally accepted that these two are only loosely associated [6]. Other socially constructed definitions of old age consider different life stages such as functional age or social age, which may focus on the roles assigned to older people, or the loss of roles accompanying physical decline [5]. Positive and negative stereotypes of aging inform these definitions and play an important role in older adults’ perceptions of their own aging and health [7].
The perspectives of older individuals on themselves and their lives have important implications for their health and wellbeing [8]. Individuals’ views on aging, such as age stereotypes and subjective aging, can impact various aspects of health in older adulthood, including health behaviors and longevity [9, 10]. Ageism is defined as “stereotyping and discrimination against individuals or groups on the basis of their age” [3]. It can take the form of prejudicial attitudes, discriminatory practices, or institutional policies and practices that perpetuate stereotypical beliefs [3]. An individuals’ experiences with their own aging process and the state of being old is referred to as subjective aging. This includes self-perceptions of aging and subjective, or felt, age [9]. Studies show positive self-perception of or attitude toward aging is beneficial for physical and emotional well-being [11].

Like perceptions of aging, the impact of self-perceptions of health have been studied extensively. Self-perceived health (SPH) is the most widely used health survey measure in medical, social, and behavioral science research [12]. The measure indicates “true health status, based on an integrated view of the individual, including biological, psychological and social dimensions” [13, 14]. SPH has also been shown to be correlated with future changes in the number of chronic diseases and poor SPH has been linked to low weight, obesity, extensive use of medications, and disability [15, 16]. Individuals with poorer perceived health may be less likely to use preventive health services or self-care practices, and more frequently experience delayed cancer screenings, physical inactivity, smoking, and poor diets [17]. Positive perceived health, on the other hand, is related to perceptions of vitality, positive health behaviors, and general well-being [18-20]. Among older adults, SPH has high predictability of functional disability, morbidity and mortality [21, 22].
The demographic makeup of Latin America and the Caribbean (LAC) has changed dramatically since the 1950s due greatly to decreasing mortality and fertility rates. The total population of the region tripled in size from 175 million in 1950 to 515 million in 2000 [23]. Meanwhile, the average age of the population in the region will almost double between 1950 and 2050 to 40 years of age [24]. As a result, dramatic shifts are being seen in the proportion of persons 60 years and older. Although the proportion of this population increased moderately between 1950 and 2000, from 6 percent to 9 percent, but it will jump to 24 percent by 2050 [25].

Today, Paraguay is a young country, with more than half of the population under the age of 30, but it too faces the aging of its population [2]. From 1965 to 2015, the number of people ages 65 and above increased by 540%, and the proportion of the total population went from 3.4% to 5.9% [26]. In Paraguay, a child born in 2015 can expect to live more than 75 years, 10 years longer than one born there just 50 years before [27]. These shifting demographics and extra years of life have profound implications for the country’s people and institutions. If Paraguayans are able to experience these extra years of life in good health, older adulthood can be period of opportunity and joy. But if declines in physical and mental capacities dominate this period, the implications for older people and for society may be much more negative [3].

At the United Nation’s Second World Assembly on Ageing in 2002, the Director-General of the World Health Organization (WHO) said, “We must be aware that the developed countries became rich before they became old, the developing countries will become old before they become rich” [28](p. 12). Countries need to adapt quickly with policies to ensure financial security and well-being of their aging populations.

*Conceptual Model*
Our conceptual model illustrates the relationship between definitions of good health and old age and the health outcomes of older adults. In order to affect the personal health behaviors and health and wellbeing outcomes of older adults, we must first understand how they define good health and old age. These definitions are directly related to the factors which older adults incorporate into their assessments of their personal health and age. Because the assessments that older adults make regarding SPH and old age have been shown to influence their health behaviors and outcomes, we must understand the factors which contribute to these assessments to improve their outcomes (Figure 1. Conceptual Model of the Relationship of Good Health and Old Age on Older Adult Health). For the purposes of this study, older adults are defined as individuals aged 60 and older.

Aim

This study sought to examine the understandings and self-perceptions of health and old age of older adults in Paraguay, and to explore the factors contributing to these understandings and perceptions to better develop services and policies to improve the lives of this population.

METHODS

Research team and relationship to participants

HMK conducted the fieldwork for this study with the support of a Fulbright U.S. Student Researcher grant from March 2018 to February 2019. She designed the study and conducted all interviews with input from AC. She attended social group meetings of older adults in the capital city, Asunción, for several months prior to piloting the interview guide. HMK previously lived
and served in Paraguay as a Peace Corps Volunteer and has continued to visit socially and conduct research in the country for more than 13 years.

HMK is a doctoral candidate in a [Blinded] School of Public Health and has eight years of experience in qualitative data collection and analysis. AC is a Chair of Public Health in Latin America and Director of the Collaborative Group for Health Equity in Latin America at a [Blinded] School of Public Health. She has more than 20 years of experience conducting qualitative research throughout LAC.

Sampling and data collection procedures

HMK recruited older adult interview participants from two regions in Paraguay, the capital city of Asunción, and the department of Guairá. Persons were eligible for participation if they were aged 60 years or older and living within the indicated geographic regions. In Asunción, participants were recruited from social groups for older adults and with the assistance of the health professionals in one local public health unit. In Guairá, participants were recruited with the assistance of local representatives of government offices for the Food Pension Program and the conditional cash transfer program, Tekoporã. Older adults were assured that participation was voluntary and that all interviews would remain confidential. All participants provided verbal informed consent prior to participating, were provided a copy of consent documentation, and the research was undertaken with appropriate ethical approval granted by the [Blinded] University Social-Behavior Institutional Review Board (#2018-795). Recruitment concluded when we reached thematic saturation in our sample.

From October 2018 to February 2019, HMK conducted semi-structured, in-depth interviews with 58 Paraguayans aged 60 years and older. All interviews were conducted in Spanish by HMK,
with some use of Guarani, both official languages of Paraguay. Interviews lasted an average of 30 minutes and took place wherever the interviewee felt most comfortable. This included inside homes, on front porches and patios, and in restaurants. Memos and field notes were kept during the study. With participant permission, each interview was audio recorded and transcribed into a Microsoft Word document in the original language of the interview by the lead author or a contracted third-party in Paraguay.

Interview guide and questions

The development of the interview guide was informed by a literature review of self-perceptions of health and old age, and previous primary data collection and fieldwork on perceptions and experiences with health in Paraguay. Interview guides were initially piloted with three participants, all included in the final analysis. Questions about experiences with and perceptions of social programs were incorporated to the guide after pilot interviews. After gathering sociodemographic information, HMK asked participants about their understandings and perceptions of health and age, and perceptions and experiences of health care access and utilization (see Interview Guide – Translated from Spanish to English). Interview content for this study was divided into two main sections: health and old age. Within each of the two sections, participants were asked both open- and closed-ended questions.

Good Health

Participant understandings of good health, how it is obtained, and contributing factors were captured through two open-ended interview questions: “What do you understand as good health?” and “How is good health obtained?” Additionally, two closed-ended, Likert-scale, questions were used to examined participants’ self-perceived health. The first SPH question
asked “In general, how would you rate your health?” with options: very good, good, fair, poor, and very poor. The second SPH question used a reference group for comparison, asking, “Compared to others your age, how would you rate your health?” with response options: much better, better, same, worse, much worse. These questions were jointly asked and analyzed to denote perceptions of health and self-perceived health among participants.

*Old Age*

To elucidate participants’ understanding of old age, participants were asked: “What do you understand as being old/old age?” and “How do you know when someone is old?” This section also included two questions to examine self-perceptions of old age: “Do you consider yourself to be old? Why?” and “What is needed to improve the future for older adults in Paraguay?” Participants were asked to explain their answers in as much detail as possible.

*Data Analysis*

Basic descriptive statistics were calculated for demographic and closed-ended questions. Interview transcripts were translated from Guaraní to Spanish, where applicable, and imported into NVivo 12 software for coding and analysis in Spanish using inductive and deductive approaches [29]. Initially, HMK reviewed the transcripts using attribute coding to extract descriptive statistics and compile demographic characteristics of the participants. Then structural coding, based on the interview guide, was utilized to label and categorize data, ultimately informing the final coding frame [30]. During this iterative and dynamic process, HMK then reviewed the data inductively for general themes and sub-themes as patterns and relationships emerged. Deductive and inductive codes were added to the coding frame. After the framework and coding were complete, the data went through several rounds of thematic analysis with the
co-authors. Thematic analysis was aimed at distilling the 76 codes and 53 subcodes into four themes and 22 sub-themes. Summary tables of sociodemographic trends, and thematic results are presented in the Appendix (see Table 1. Participant Characteristics and Table 2. Thematic Results).

RESULTS

A total of 58 older adults were interviewed, 26 in Guairá and 32 in Asunción. The average age was 73.4 years, ranging from 61 to 99 years, and 42 (72%) were women. Most participants rated their perceived health to be very good (22%) or good (29%) and much better (33%) or better (33%) than their peers. The majority also consider themselves to be young (57%).

Participants described their understandings and perceptions of health and old age. The thematic analysis revealed four overarching and interrelated themes and 22 subthemes. Responses to questions about general and self-perceived health are described under the first theme, Defining Good Health, which is divided into five subthemes: Physical, Mental, Work, Money, and Other People. The second theme, Achieving Good Health, describes responses to the question, “How is good health obtained?” and is broken down into the following subthemes: Physical, Mental, Health Care, Work, Money, Other People, and Other. Participant perceptions of old age and their own age are described in the third theme, Defining Old Age, which includes seven subthemes: Age, Physical, Mental, Work, Money, Relationships, and Other. Finally, some responses to the previous questions address issues at the intersection of good health and aging. These responses and those on how to improve the future for older adults in Paraguay are described together in the final theme, Achieving Good Health in Old Age which includes subthemes of: The Past, The Future, and The Importance of Good Health in Old Age.
Defining Good Health

Physical

Most participants discussed aspects of physical health. For these participants, good health is perceived as being able to be active and mobile, free of pain and illness, independent and well-rested. The key to good health for many is being able to be active and mobile. Most participants who described not being able to walk without pain or assistance assessed their health as poor or very poor. One woman with poor health explained as she motioned to the other side of her small patio, “I can't get up when I sit for a long time, I can't walk. As soon as I go over there, I'm coming back hurting.” (age 67, rural Guairá). Another woman who described her health as good explained that it wasn’t very good “because there are ups and downs. There are good days and there are bad days and days when I 'just can't' because of my pain in my legs. That's my problem, my knees hurt a lot. It doesn't let me move as I want” (age 74, Asunción). For one man with very good self-perceived health, good health means that you don’t “have any ailment, something that prevents you from working or enjoying” (age 80, urban Guairá).

The importance of being active and mobile, and free of pain and illness, as described by these participants, is to be independent and well-rested. “And having good health means being well, sleeping well, being able to manage my mobility, that I continue to walk or move on my own without any condition. For example, I don't have any condition. I manage myself by myself,” (age 68) an Asunción woman explained the relationship between good health and her assessment of her own health as very good.

Health compared to peers
When asked to compare their health to that of their peers, almost all participants explained their responses in terms of physical health.

**Better than others**

Most participants (66%) considered their health to be better or much better than that of their peers. Almost all explained that this assessment was based on elements of physical health. Unlike many of their peers, they were still active, mobile, and in good health. “And comparing with others, I am very good. So many people my age are hunched over and with a cane” (woman, age 79, urban Guairá).

For some, even with health problems, they felt that they were better off than their peers. “There are many who are 60 and my age - for example my former classmates that I saw recently, they are fat, they can no longer walk, this hurts, that hurts. I don’t want to stay still. Until the end I want to move” (Asunción). Despite an extensive history of hormonal and reproductive health issues, this 63-year-old woman felt that her peers were in worse health.

Several said that it was difficult to find someone their own age for comparison. “Not better than them, but there are many who are already dying at my age, from my town, for example. So many are already dying, but I am alive. Better than them. I’m alive” (age 72, urban Guairá). This Guairá woman assessed her health as poor, but also felt that she was better off than her peers.

**Some better, some worse**

Fourteen participants assessed their health as being the same as their peers. When explaining this assessment, while a few said that they felt that their health was similar to most people their own age, most described peers as both healthier and sicker, falling somewhere in between.
“According to the circle in which I move, we are, the majority are like me.” (age 68, Asunción) said one woman who assessed her own health as fair. Another woman, with self-assessed good health, said, “As I told you, there is no rule without exception, there are people my age who are much worse now, like there are those who are older than me and who are still hardworking” (age 69, Asunción).

Worse than others

Only two participants assessed their health as being worse than people of their same age and no one assessed it as being much worse. A brother and sister in rural Guairá, aged 89 and 76 respectively, both assessed their health as fair and their health as worse than others their own ages. Interviewed separately, they both explained that they made their assessments due to poor health and bad eyesight. “89 years already. Yes, for that. What am I going to do anymore? If you don’t see well then there isn’t any more work” (man, age 89, rural Guairá). The brother had injured one eye in a work-related accident many years before and the vision in the other eye had gradually gotten worse.

Mental

Regarding mental health, participants explained that being happy and at peace are both a representation and product of good health. Although they each assessed their own health as poor, three women from urban Guairá women discussed the relationship between good health and positive mental health. One woman said good health is "a lot of joy, energy to do anything. It is proactive, it is happy” (age 63). Another explained that when she is in good health, she feels “calm, worry free, serene” (age 76). The last woman explained, “Good health for me means peace of mind, for me that is the main thing” (age 65).
Work, Money, & Other People

Productive, socioeconomic, and social aspects were also highlighted by participants. Some discussed the importance of being able to work and be productive as key to good health. “An active, productive, happy life” (woman, age 65). This is the importance of good health, according to a retired nurse from Asunción, echoed by many throughout interviews.

In addition to explaining that having work would improve his self-assessed poor health, this wheelchair dependent man said, “...and I cannot work because of my health. I can't work because I can't take things seriously because I don't know if I'm going to feel bad all of a sudden and you have to be fine to work” (age 70, Asunción). One participant who ran a small store in her home for income explained that for her good health includes “having a house and having a jacket, drinkable water” (woman, age 72, urban Guairá). While she had each of these things, the pain she experienced daily contributed to her assessment of her own health as poor. Several participants discussed the importance of being able to share with others, specifically family. “I feel good. I am happy, surrounded by my children,” (age 76, urban Guairá) explained one woman.

Achieving Good Health

Physical

Most participants discussed health-promoting behaviors such as eating well, exercising, avoiding alcohol and tobacco, and getting enough rest. Eating well was the most mentioned way to achieve good health, specifically eating more fruits and vegetables, less salt and fried foods, and eating in moderation. About half of participants discussed the importance of exercise for their
personal health or in general to maintain a healthy weight and stay active. They also discussed avoiding alcohol and tobacco and getting enough rest. A 70-year-old man who described his health as very good and much better than his peers explained, “Mainly diet, physical activity, and also meditation helps me a lot. And I also drink a lot of water, a lot because doctors recommend that too, but not all of us do it. Especially, even when I was quite young, I took care of myself physically. I did. I'm an athlete, so I think that helped me, and I don't drink alcoholic beverages. I think it's another important factor. I don't smoke. Those are risk factors that one knows, but doesn't always practice” (Asunción). Other behaviors mentioned were personal hygiene and protecting oneself from the sun.

Mental

Some participants discussed the role of mental health in achieving good health. Despite worries of his own concerning physical health issues, a 71-year-old Asunción man said to have good health you need to “eat well and try not to worry about anything.” A woman from urban Guairá agreed, “Worry is what makes us sick. That concern, the problems” (age 65).

Health care

Access to and utilization of timely, quality health care services to prevent and treat health problems was discussed by more than half of participants. One Asunción woman explained that health care interventions are the reason for her good self-perceived health. “It is good because I have had cancer twice. I had cancer and I was saved from it, and recently I had surgery on my spine. When [the cancer] leaves me I'm fine. The cancer happened, I was fine. It came again and I had chemo, and I was fine again...” (age 74). As retired teacher and government employee with both private and IPS insurance, she continued, echoing statements others made about the ties
between poverty and health care, “those from the upper class are fine and I am from the middle class. I am better off than those from the lower class. They don't have health care; they don't have health insurance. It makes a difference because you can't get treated with good doctors, only if you have [IPS] insurance and there are many who don't have any insurance.”

Work, Money, & Other People

About one third of participants discussed the importance of work and the effects of poverty. Some participants explained that having work was key to good health. When asked what he did during his life to achieve his good health, one urban Guairá man answered, “I am hardworking and worked.” At 99, he was retired after working for many years in a local factory and described his health as very good, much better than his peers.

Participants explained that living in poverty negatively affects access to healthy foods and health care. To be healthy, the most important thing is that “the person is conscious of their diet, but when one is poor, even that is difficult. It is very important because if you don't have money, you eat what you afford, what you can. There are days that there is not enough, so you endure” (woman, urban Guairá). The 65-year-old who lived alone with her 11-year-old son had struggled to find employment and made little from selling prepared foods from her two-room home. She went on to explain that good health meant that you do “not suffer from any disease and if you suffer, being able to go, be treated correctly, that would be good. But unfortunately, it is not like that. It is very difficult to get treated. When you are poor, many doors are closed to you, that is what I can say because I feel it first-hand.”

For many, the effects of work and poverty began in their youth. A 72 year old in urban Guairá was only able to study until third grade. She said, “My beginning is in the fields. When I was ten
years old, I started working in the fields. We had a cow and we would take it far away to work in
the fields.” Another man in rural Guairá studied until first grade, but the poor family with six
other children had to prioritize work. "We were even poorer then. I started working in the fields
when I was 5 years old" (man, age 89, rural Guairá). Some participants also mentioned the
effects of living in poverty on mental health.

More than half of participants explained that social support, specifically physical care and
emotional and financial support, contributes to their good health. About a third of participants
discussed relying on others for physical care or for help with activities of daily living. Describing
her health as very poor, an 84 year old living in Asunción said, “And now I am worse and worse
because I don’t go out alone anymore. I have to have someone accompany me because I just go
anywhere all of a sudden.” Some participants specifically discussed the importance of having
family and friends accompany them to health care appointments.

Emotional and financial support from relationships with family and friends was a key component
to good health for these participants. In a small wooden house down a dirt road and up a walking
path, an 81-year-old man in rural Guairá discussed the importance of his neighbors. “The
neighbors will just take care of me later. For them, we are their family, and they are ours. As a
family we manage. We can lean on them and they on us too. I’m happy, I just want them to eat
with us. I’m poor and I eat good food, and also food that isn’t good, but sharing it with me makes
me happy.” Others mentioned the importance of relationships with family members, social group
companions, and friends.

Among other topics important to achieve and maintain good health, about half of participants
discussed the importance of taking care of oneself in a more general sense. As one woman put it,
“For my age I am very well because I always took care of myself” (age 68, Asunción).

Participants also discussed the roles of luck, God, and religion in good health.

**Defining Old Age**

The preference of terms to describe old age and older adults varied among participants. When asked if she considered herself to be old, one woman said, “I don't want to use the word ‘old’. I want to use the word ‘adult’, and not ‘older’ either, ‘more adult than the others’” (age 70, Asunción). In contrast, another woman was asked if she was bothered by the use of the term. She explained, “No not at all. I love it. What the hell, I mean, you know when I was eight, or ten, or twelve years old to say that I was going to reach seventy-two. For me, seventy-two years is already a lot and here I am. For me it is a triumph, to arrive as I am” (Asunción). The terms “old” and “older adult” were used by the interviewer and most participants echoed their use.

**Age**

Many participants discussed numeric age as a defining factor in old age, in general and for themselves, but all considered it to be one of multiple factors defining this stage. An Asunción woman said that you can tell someone is old, “First by age, then by their way of being, dressing, acting, and such” (age 73). Echoing this sentiment, another participant said, “It is probably more than age, because I think it will also depend on each person in some aspect. Very complex, and it is unpredictable what can happen to a human being physically and mentally” (man, age 70, Asunción). An 80-year-old man in very good health said that while he did not consider himself to be old, “for my age if someone calls me old, I accept” (urban Guairá). Although she is almost 20 years younger, another woman in poor health said she was “more or less” old. “I am 63 years old and for the illness and I am not happy anymore” (urban Guairá).
Most commonly, participants described old age in relation to physical characteristics, including how older adults walk and move, decreased abilities and energy, and changes in appearance. About a third of participants said that in old age people move more slowly and walk carefully, often with assistance. You know someone is old “because of how they get around, how they walk, how they drag their feet, if they walk with a cane” (age 72), explained one Asunción woman. Another said it was “by the movements. And they are slow and have difficulty getting up, for example, they grab this” (woman, age 72, Asunción), motioning towards the arms of the chair in which she was sitting.

Some described old age as a period defined by physical decline. Older adults have decreased abilities and less energy. A 72-year-old man in rural Guairá said that older adults “don’t walk anymore. Sometimes due to illness or due to age. Due to their age, it could be that they don’t walk well. They walk a bit and are already tired.” He explained that he was not old yet and still worked in the fields every day, although not for as long as he used to.

When assessing whether or not they felt that they were old, participants also referred to physical aspects most commonly, specifically their ability to be active and mobile. “For me, for example, being old is feeling the weight of the years. You walk slowly, you speak slowly, and all that. There are no more sports, you can’t work, or clean even. That’s being old. However, I like football. I go walking every day” (age 65), an urban Guairá man explained about why he didn’t consider himself to be old.

Some described feeling young because of the activities that they enjoyed or could still perform. A 66-year-old Asunción man said he felt “very, very young. Because I like music, for example. I
like music, I have very good equipment. And I am at home, without work, without activity now.”

One woman said that she did not feel old and described taking yoga classes, going on holidays with friends, and doing other physical activities she had begun as an older adult. “I do things that are not meant for my age, but I do them. We went to the Escondido in Ca'acupe, it has that zip line. It's very high. You know, I signed myself up and we jumped off the zip line. I jumped lying down, like this. ‘There goes the wonder woman!’, said the boy up there. The only thing that cost me is to get up there” (age 68, Asunción).

According to about a third of participants, changes in appearance, such as wrinkles, white hair, and the way they hold themselves, are the signs that someone is now an older adult. “You see it when you look at their body. They have more wrinkles, they walk more slowly, and their hair is all white. How can you not see if they are old? That's just how it is" (age 66, urban Guairá). The woman continued, “I feel old as of this year because my hair started to turn white.”

To define old age in general and for themselves, participants also mentioned increased pain and illness. For old age in general, a few mentioned how people act and dress as defining factors.

**Mental**

Older adults’ attitudes and emotional states, both positive and negative, define this period of life according to about a third of participants. While a few of these participants focused on joy and happiness in old age, most explained that it is a period defined by negativity and complaining. One man described old women as “people who don't like the social, who walk alone, thoughtful. Crouched down. Everything is negative” (age 66, Asunción). More generally, another woman explained that “there are many people who complain about everything” (age 78, urban Guairá).
Although general perceptions of mental health in old age tended to be negative, many of the participants who explained that they did not consider themselves to be old attributed this to a positive, youthful attitude or spirit. A 70-year-old woman who perceived her health as very good and much better than her peers explained that her positive, forward-thinking attitude is the reason she felt young. “In my head I still have many plans and I don't want to let that go, like many old people do, who let themselves be old. There can be a 50-year-old person who thinks like an old person, and it sticks, but then there is the 70 year old who is always active, is always revolutionizing” (Asunción). Another woman explained that she considered herself to be you because her “spirit is young” (age 76, urban Guairá). Other mental aspects which defined old age mentioned by a few participants were dementia, cognitive decline, and happiness.

Work, Money, & Other People

Some participants mentioned aspects of work and income to define this period. They explained that old age means that you can no longer work or have limits to the work that you can do, either due to physical limitations or due to lack of opportunities. Two women from urban Guairá, who each lived with one child and had a small store in their home, described opposing perspectives. The first, a 72-year-old woman, said “Yes, for a long time I have felt old. Because I can no longer do what I did before. I do things every day, but light things because I want to work. I don’t want to be good for nothing. I like to work. I keep working, but how can I.” At 65 years old, the second said, however, that she did feel old yet “because thanks to God I still have the strength to work. I can work, I can fight. I really want to work.”

Without work, some have other opportunities for income, but others are left to struggle to find enough money to live. A man in rural Guairá who receives income from the Older Adult Pension
said even with the pension, “I can't spend anymore. I can barely live here. I live cornered like this. I don't even get around here much. Sometimes. My [financial] state is no longer sufficient, but my person, however, is still useful for all activities” (age 81). A man who had suffered a series of serious physical health issues which left him without a job or any income said that in old age is a period when you can “do nothing. Because you no longer have money. You don’t have it” (age 70). He and his wife and two young daughters lived in a makeshift home on the sidewalk in Asunción.

Two aspects of social support and relationships mentioned by participants to define old age, generally and personally, are the role of grandparent and dependence on others for care. A man and woman from Asunción, both grandparents, each explained that while the role of grandparent is associated with old age, they did not feel old. The woman said that for many, being old “generally has to do with retirement and that the children are grown up and some indication that they are grandmothers. Some tell you, ‘I am a grandmother’ as if telling you ‘I am old’” (age 68). The man explained, “And I don't know if it's something psychological, or what it is, but I don't feel old and I don't feel like a grandfather. Although, as we told you, we have one, a 24-year-old granddaughter, a university student. And I think one of the reasons is that they don't call us Grandfather and Grandmother, rather Dad and Mom, so for me it never rang ‘Grandfather’” (age 70). Some participants described old age as a period of dependence on others. Old age, as one Guairá woman put it, is “when one can no longer fend for himself, when he needs another person and, even worse, if he is sick. I believe that as long as one can fend for himself, he is not old” (age 65, urban Guairá). The loss of a loved one was also mentioned as the reason one participant felt that they were old. Additionally, a few participants mentioned the roles of God and religion on old age.
Achieving Good Health in Old Age

The Past

Throughout interviews, participants discussed experiences in childhood and adulthood that shaped their health and lives as older adults. These experiences, including the influences of socioeconomic position, politics, and the 35-year military dictatorship, had direct effects on their health as they aged and on their perceptions of health and age.

Due to poverty some participants were forced to work at early ages, as discussed earlier, while others left studies due to political unrest. A 91-year-old Asunción woman described leaving her studies. “I was in the teachers' college until I was 17 years old. Because the revolution of '47 came and I grew up in a Spanish family, they didn't let us go out. And also the soldiers who walked down the street behind the students and everything. That revolution already started, so I left school.” As a result, she was unable to pursue higher education and took work as a dressmaker instead.

Several participants discussed leaving the country due to political persecution. A husband and wife in their early 60s had been forced to leave the country for many years to seek employment. The wife explained, "We got married, we left. We had 3 daughters there. My daughters are all Argentine and after, how many years, 14 years, 15 or 16? I don't know after how long we came back...Political persecution, at that time it was disastrous, now that is improving a little more, but before if you were not from the ruling party, no work, nothing at all” (age 61, Asunción).

The Future
Participants were asked how the future could be improved for older adults in Paraguay. They explained that older adults need support from the government to raise consciousness about their importance to and within society, prepare for old age, and improve their economic situation. And they need it now. As one woman said, “You know, you can't study too much because the older adult can’t wait. The older adult needs this today, now. This has to be fast” (age 81, Asunción).

Raising consciousness

Some participants discussed the need to raise consciousness within society about the importance of older adults.

“And I believe that the government itself should put this on TV, on the radio, broadcast this: ‘We love our older adults!’ Raise awareness with the people who think that older adults are over. To the population in general, of course, so that we help our older adults to be happy, to feel happy, to have this peaceful adulthood, everything should be. Because I believe that when a person is happy, they are healthier. That is a prevention that we must do. We are no longer going to spend on medicines because that adult feels happy” (woman, age 70, Asunción).

To give older adults the respect that they deserve, all ages need to be educated. "There's still a lot to do, from childhood. Teach them to respect them, to value their elders” (age 69, Asunción), said one woman. Another agreed, “People are also disrespectful to elders. They don’t let them pass. They don't give you a seat, and if they give you a seat, some don't want to take advantage because they don't want to be old. They don't want to be given a seat for that reason, and so on” (woman, age 72, Asunción).
Preparing for old age

Old age is a period of life, like all others, that comes with unique mental, physical, and economic experiences. Throughout interviews, participants expressed complicated feelings about old age and being old. Some discussed the importance of being prepared for old, like one 69 year old from Asunción. “You have to do psychological work. There is so much. It seems like people reach 50 and ‘well, my life is over’ and it is not like that. Yes, some get there and they get depressed. When they leave their job, for example, they get depressed,” she said. Another explained that she did not know of anyone else who had consciously prepared for this period outside of her own family, but said, “I prepared myself in the economic and psychological sense, too. I prepared myself psychologically and planned everything, how I am going to do things, what I am going to do” (woman, age 74, Asunción).

Economic support

Many participants expressed concerns about the lack of economic preparation and support for older adults, including pensions and employment assistance. Economic preparation for old age begins with education and opportunities for youth. A Guairá woman explained, “So you should think about young people. Make it easier for them to prepare, so they can grow older a little more peacefully, with fewer problems. For example, I liked medicine because I couldn't do it financially, my parents couldn't. How many people will be like me? So if young people are helped more, they can be better and be an older adult with a better condition” (age 65, urban Guairá).

Many supported the idea of a universal pension for older adults with increased income. Although financially stable herself thanks to retirement income and family support, an 81-year-old...
Asunción woman said, “Just because they give you a small income, it’s not that you will be able to live, because the income they give you is so small. When you are an older adult, you need medications and the little money they give you will not be enough. No, it cannot touch it.”

Another participant elaborated on the need for universal pension, adding that employment support is also important for older adults. “What I don’t understand is that I know people who are old and because they have a house for whatever reason, they don’t receive help. And I say: "When you are young you can build a house, but when you are old that does not feed you, and the most difficult thing is food"...So make it easier for older people because it is very difficult, because nobody gives you work. When you're over fifty, they ask you how old you are and say, "Well, I'll call you," which never happens” (woman, age 65, urban Guairá).

Participants also discussed the need for government support to increase social opportunities and improve infrastructure and transportation to improve the lives of older adults.

**The Importance of Good Health in Old Age**

Beyond the importance of good health alone, some participants explained that good health in old age is particularly important. Aging well would allow them to enjoy and maintain an active, independent life. “Imagine if you have good health, quality of life, you will enjoy life much more” (age 69, Asunción), said one woman. Another said, “It is very important to have good health at this age, even more so in my situation because I am a widow. It would have been a problem for me to have health problems, and even more so for the children because they work. They are busy and it will be a tremendous burden. So is a felicity to be in good health” (woman, age 81, Asunción). One participant also mentioned the importance of aging well so that they could die peacefully.
DISCUSSION

The results of this study shed light on older adults’ understandings and perceptions of good health and old age in Paraguay. Participants focused responses on the physical aspects of health and old age, particularly decline and limitations in old age. They described good health as being able to be active and mobile, free of pain and illness, independent and well-rested. To achieve good health in old age, participants discussed positive personal health behaviors, such as eating well and exercising, as well as the importance of institutional support for older adults including health care, economic support, and preparation for old age.

Views on aging include both age stereotypes and subjective aging. Age stereotypes of old age are the socially shared beliefs about the process of aging and about older people as a group. How older people are perceived and valued in a society are cultural age stereotypes. Individuals may endorse these as personal age stereotypes, and when they apply these to themselves, they become self-stereotypes [9]. These self-stereotypes are part of a person’s self-perceptions of aging [31]. Negative self-stereotyping can have important health consequences, including worse performance on memory tasks and decreased longevity [32, 33]. Researchers have developed numerous theories about how age stereotypes impact health outcomes [7]. One theory, the stereotype embodiment theory, takes a lifespan perspective on the development and impact of age stereotypes on individual aging processes. With continuous exposure to cultural stereotypes about old age over an individual’s life, these stereotypes lead to self-definitions that, in turn, influence functioning and health [31].

Participants in this study focused responses on the physical aspects of health and old age, particularly decline and limitations in old age. This relates strongly to the prevailing global
stereotypes about old age as a period of inevitable physical decline and poor health. Older people are positioned as frail, week, and dependent on others in this medicalized view of aging as biological decline [34]. Studies of the effects of stereotypes on older adult health commonly define health in old age in terms of successful aging [7]. According to Rowe and Kahn’s popular model, successful aging is defined as high physical, psychological, and social functioning in old age without major diseases [35, 36]. While this model incorporates physical and psychosocial components, critics of the model argue that there are too few dimensions to characterize the aging process, it largely ignores the importance of subjective health components, and excludes older adults with disability and functional impairment [37]. Beyond the conceptualization of health as a component of successful aging, the definition of good health in old age varies across studies [7]. As a culturally constructed concept, and one subject to the influence of stereotypes of aging, this definition also varies across cultures and among subgroups the world’s heterogeneous older adult populations. In this study, participants described good health as being able to be active and mobile, free of pain and illness, independent, and well-rested.

The aging of the world’s populations is often framed as an abrupt, uncontrollable increase in the number of older adults who will burden systems and take resources from younger people, using terms like “silver tsunami,” “the gray wave,” and “the demographic cliff” [38]. The increasing proportion of older adults in Paraguay has profound implications for the country’s people and institutions, but these do not have to be negative. Despite the predominant view of biological aging as dependence and decline, a normal biological process of aging can be period of good health and personal growth [38]. Participants explained that the importance of good health in old age is that it would allow them to enjoy and maintain an active, independent life. Achieving good health in old age is possible, and vital for the wellbeing of older adults and for the whole of
society. However, adjustments in all sectors of society are required for successful adaptation to an aging society [38].

Participants in this study explained that to improve the future for older adults, they need support from the government to raise consciousness, prepare for old age, and improve their economic situation. The first recommendation, to raise consciousness about the importance of older adults to and within society, targets ageism and its effects in Paraguayan society. Targeting the negative stereotypes of older adults and focusing on their contributions to society are among the crucial first steps in tackling interpersonal and institutional ageism, and improving the health and wellbeing of older adults [39]. One goal of raising consciousness and dismantling ageist beliefs and practices is to improve older adults’ views on aging. Recent research shows that these can be modified and improved [40]. Improving the self-perception of aging is strongly connected with better adjustment to changes in old age and leads to a higher quality of life, regardless of objective life circumstances [33]. By addressing negative stereotypes of older adults held by all people, young and old alike, we can improve the lives of older people today and in the future.

Within low- and middle-income countries, differences in socioeconomic status have been linked to differences in subjective health status [14, 41-43]. Low income negatively influences how people perceive their health, how they take care of themselves, their access to and use of health services, and their adherence to treatment [43]. Participants in this study emphasized the need for economic preparation and support for older adults, including pensions and employment assistance. Although Paraguay has experienced economic development and substantial poverty reduction since 2011, significant inequalities exist with regard to income, access to the labor market, social support, and health access and outcomes for vulnerable groups compared to the population as a whole [44]. Among the groups most vulnerable to the effect of social inequality
are older adults, whom, in 2013, were the age group with the greatest inequality in income distribution in Paraguay [44].

As the LAC region ages, it becomes increasingly important that governments and other stakeholders are able to meet the health and lifestyle needs of the aging population. However, rapid growth in aging populations in LAC in recent years have not been accompanied by the same increase in research about the implications of this process [45]. These extensive gaps in knowledge are a “major barrier to evidence-based policy development” [46](p. s165). The majority of studies on the health of older adults focus on populations in high-income countries [47]. The final report for Paraguay’s 2017 Health, Well-being and Aging (SABE) Survey explained that “…in Paraguay, the research, planning, prevention, provision of services, and political and administrative organization for the aging population is in an incipient stage” [48]. With limited information currently available on health and social needs of the growing population of people aged 60 and older in Paraguay, including their perceptions of health, this research will serve to inform the development of further research, programs, and policies directed at this population.

Strengths and Limitations

The strengths of this study include the experience and diversity of its authors, the richness of the data, and the alignment of findings with previous research. The authors of this study have extensive experience in qualitative data collection and analysis in LAC and Paraguay. This team of researchers comes from different backgrounds, including anthropology, public health, nutrition, gerontology, nursing, and economic development bringing diverse knowledge and experiences to this work. We endeavored to interpret the data openly and to provide a transparent
description of the path from the data to the results. With data from a sample of almost 60 older adults in both official languages of Paraguay, Spanish and Guarani, this study provides a rich description of the participants’ perceptions and experiences with health care access in the country. Finally, the findings align with what other researchers have found among older adults in Paraguay and throughout LAC.

While this research illuminates important perspectives of older Paraguayans, it does have various limitations. This study is focused on two geographic regions in Paraguay. Due to variations in regional culture and infrastructure, this work is not generalizable nationwide. Participants may have shared characteristics because they were recruited from social groups for older adults and with the assistance of local health professionals and representatives of government offices. Contributing further to the potential homogeneity of the participants, this study did not capture data on the race or ethnicity. Older men were underrepresented in this study, accounting for 28% of participants and 48% of the population aged 60 and over in 2017 [8]. Given the qualitative nature of the study, responses to questions may have been biased by the participants’ desire to provide appropriate or socially acceptable responses to potentially sensitive questions around health and health care access. We may have introduced bias into interviews or our interpretation of data despite our conscious efforts to mitigate the influence of our previous knowledge and experiences on the research process. It is also important to mention that since these interviews were conducted, older adults in Paraguay, and across the globe, have been deeply affected by COVID-19. Moving forward we need to explore the effects of this pandemic on perceptions and conceptualizations of health and aging for this population to better serve their needs.

Conclusions
This study sought to examine the understandings and self-perceptions of health and old age of Paraguayan adults aged 60 and older. By exploring these understandings and perceptions, and the factors which contribute to them, we hope to contribute to the development services and policies to improve the lives of this population. Participants described good health as being able to be active and mobile, free of pain and illness, independent, and well-rested. They focused responses on the physical aspects of health and old age, particularly decline and limitations in old age. To achieve good health in old age, participants discussed positive personal health behaviors, such as eating well and exercising, as well as the importance of institutional support for older adults including health care, economic support, and preparation for old age. We argue that the government and other stakeholders in Paraguay need to address interpersonal and institutional ageism to improve self-perceptions of aging and give appropriate, adequate support to older adults.
APPENDIX

Interview Guide – Translated from Spanish to English

1. In general, how would you rate your health?
   Very good _ Good _ Fair _ Poor _ Very poor _
2. Compared to others your age, how would you rate your health?
   Much worse _ Worse _ Same _ Better _ Much Better _
3. What do you understand as good health?
4. How is good health obtained?
5. What do you understand as being old/old age? How do you know when someone is old?
6. Do you consider yourself to be old?
7. Where is your home/residence located on the map? (map shown)
8. What are up to five places that you most commonly/frequently visit when you leave your home/residence?
   a. First place ____ (five total)
   b. Where is it located?
   c. How often do you go there?
   d. How would you get there? (map)
   e. What route do you take? (map)
   f. How long would it take?
   g. Who would accompany you?
9. Under what circumstances would you seek medical attention?
   a. Where would you seek medical attention? (map)
   b. How would you get there? (map)
   c. What route would you take? (map)
   d. How long would it take?
   e. Who would accompany you?
10. What obstacles do you have to receive medical attention?
11. What is needed to improve the future for older adults in Paraguay?
12. Do you have any other comments?
Figure 1. Conceptual Model of the Relationship of Good Health and Old Age on Older Adult Health

Source: (author’s own elaboration)
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24. ECLAC, *Challenges to the autonomy and interdependent rights of older persons (LC/CRE/4/3).* 2017, Economic Commission for Latin America and the Caribbean (ECLAC): Santiago, Chile.


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PAPER 3: PERCEIVED BARRIERS AND FACILITATORS OF ACCESS TO HEALTH CARE: A QUALITATIVE STUDY OF OLDER ADULTS IN PARAGUAY

ABSTRACT

Background: The Paraguayan population is characterized as young, with more than half of the population under the age of 30. However, as birth and death rates continue to decrease and life expectancy increases, a growing number of Paraguayans are reaching older adulthood. The demands on the country’s infrastructure and systems, including health and social protection for this population, will need to be met with action. This study sought to understand barriers and facilitators related to access to health care for older adults in Paraguay.

Methods: From October 2018 to February 2019, 58 semi-structured, in-depth interviews were conducted with Paraguayans aged 60 years and older in the capital city of Asunción and the department of Guairá. Participants were asked a series of open-ended questions about their perceptions of their health and age, and perceptions and experiences of health care access and utilization. Interviews were conducted in Spanish and Guarani, transcribed, and translated from Guarani to Spanish where applicable. Interviews were inductively and deductively coded in Spanish via NVivo software and thematically analyzed. Thematic findings were mapped onto domains of Andersen’s Behavioral Model of Health Services Use (ABM). Findings were further categorized into facilitators, barriers, and neutral factors impacting health care access for older Paraguayans.

Results: Participants described important barriers to access health care including associated costs, availability of services and medications, wait times, and lack of social support. This population has adapted their health behavior to these barriers by utilizing multiple health care systems, paying out-of-pocket for services and medications, and delaying or forgoing care altogether.

Discussion: Health systems in Paraguay are not meeting the needs of older adults by providing affordable, quality health care. By characterizing these factors as barriers and facilitators and mapping them to ABM, this study seeks to contribute to the development of services and policies aimed at improving access to health care for this population.

Key Words

older adults; access to care; health care; Paraguay; qualitative research
INTRODUCTION

Today the Paraguayan population is characterized as young, with more than half of the population under the age of 30, but as Latin America and the Caribbean (LAC) begins to face a demographic shift, so too does Paraguay [1]. As of 2015, Paraguay was one of 18 countries below the regional aging average, but from 2000 to 2050 the proportion of the population aged 60 and over in Paraguay is expected to rise from 7% to 18% as it continues to experience reductions in the birth and death rates and increased life expectancy [2, 3]. In 2051, Paraguay will likely be considered an aging economy, the point at which the financial resources consumed by older persons exceed those consumed by children and adolescents. Of LAC countries, only the Plurinational State of Bolivia (2057) and Haiti (2060) are expected to reach this stage after Paraguay [2]. In the years leading up to this point, the number of Paraguayans reaching older adulthood will continue to grow and the demands on the country’s infrastructure and systems, including health and social protection, will need to be met with action.

The older adult population does not constitute a homogeneous group between or within countries. Significant social inequalities exist by social class, place of residence, and ethnic group, among others [4]. In Paraguay, regional differences in socioeconomic position (SEP), relationship status, and health outcomes have been reported by older adults between rural and urban areas [5]. According to the 2016 Permanent Household Survey, 22.7% of adults aged 65 and older were living in poverty—18.8% in urban areas and 28.6% in rural areas [3]. The proportion of people aged 60 years or older who are unable to read or write also varies greatly geographic location, as well as gender. In rural areas, 30.9% of older women are unable to read or write, compared to 9% of older men in urban areas [4].
In the last 30 years, the Paraguayan government has put in place a number of policies and programs aimed at the well-being and protection of older adults. In addition to penal and civil laws for the legal protection of older adults, in 2007 the Directorate for Older Adults was created under the Ministry of Public Health and Social Welfare to improve the quality of life of adults 60 years old and older, by addressing drug coverage, housing, participation, recreation, cultural development, and protection against abuse and neglect. There is also a Directorate for Older Adults under the Social Action Secretariat, dependent on the General Directorate of Social Protection and Human Development, which works to guarantee well-being and social protection for older adults [3]. The Paraguayan government is also working to improve the economic conditions of older adults. Although there are no universal public policies for the economic protection of this population, in 2009 the non-contributory food pension program for older adults living in situations of poverty (Pensión Alimentaria Para Adultos Mayores en Situación de Pobreza) was established. As of May 2017, 153,239 individuals benefited directly from the program [3]. Additionally, the conditional cash transfer program, Tekoporã, offers a fixed monthly payment to adults 65 years and older for those individuals who qualify and are not covered under the Food Pension Program. In 2017, older adults made up 7.2% of the beneficiaries of this program [3].

The health care provision for the Paraguayan population is delivered through public and private institutions. The public subsector is made up of the Ministry of Public Health and Social Welfare (MSPBS); the National University of Asunción; the Military, Police, and Navy Health Services; municipal and departmental health services; and the services of the decentralized (hydroelectric) companies Itaipú and Yacyretá [6, 7]. The subsector of social protection services falls under the Institute of Social Welfare (IPS), which provides insurance for health, disability, old-age and
death, and occupational hazards to formally employed workers, their families, and domestic workers who opt into the system. On the other hand, the private sector is comprised of for-profit and non-profit institutions that play roles in primary and outpatient care as well as inpatient and long-term care [8].

The MSPBS and IPS are the two most important institutions for health care in the country [6]. As of 2019, 19.7% of the total population was covered by IPS and another 8.3% was covered by another type of insurance (mostly private). The remaining 71.9% who did not report any type of coverage are thus assumed to utilize the facilities of the MSPBS network, although the Ministry assumes responsibility for ensuring the health of 100% of the population [6, 9]. Both the private sector – through higher prices – and the IPS – by treating only those with formal employment – are restricted in access [7, 10]. MSPBS facilities, however, can be visited by anyone and, since 2008, services provided at facilities that are part of the MSPBS network have been exempt from fees [7]. The MSPBS has functions of stewardship, supply and financing, and is organized by levels of care and complexity [11]. Small health posts can be found throughout the countryside to provide care for the rural populations and some semi-urban and urban populations. In rural areas, there is higher reported use of MSPBS facilities (85.3%) compared to urban areas (63.9%). In urban areas, reported use of IPS (24.8%) and other insurance (11.2%) is higher than in rural areas (11.3% and 3.5%, respectively) [9].

Conceptual Model

Although the factors that affect health care access and utilization are context-specific, they are greatly determined by SEP, such as living below the poverty line [12, 13] or being able to afford the costs of treatment, travel, and time. These barriers can lead to either delay or absence of care,
which can affect illness severity, increase complications, and lengthen hospital stays [13, 14]. Individuals with higher SEP have greater social advantages and may be more able to engage with the health system while effectively expressing their needs and exploiting their social networks to gain priority access [12].

We adopted Andersen’s Behavioral Model for Health Services Use (ABM) because it provides a theoretical framework for understanding how personal, population, and environmental factors impact health behaviors and outcomes [15]. The ABM has been used extensively to understand utilization in different health care settings [16-18]. In the version published by Andersen in 1995, used here, environmental and population characteristics influence health behaviors, including the use of health services, and ultimately, health outcomes [15] (see Figure 1. Andersen’s Behavioral Model for Health Services Use). The health environment includes both the health care system and external environment. Population characteristics include predisposing characteristics, need for care, and factors that enable or impede use of health services. The predisposing characteristics are made up of demographics, social structure, and health beliefs such as attitudes, values, and knowledge about health and health services. The enabling component describes the means available for service utilization, comprised of personal, family, and community resources. Health behaviors, both personal health practices and the use of health services, are influenced by these factors and also contribute to health outcomes, such as evaluated and perceived health statuses [15].

Our conceptual model of access to health care for older adults, informed by ABM, includes environment factors (health care and external), personal and population characteristics (predisposing, enabling, perceived need), and health behavior (the use of health services) (see Figure 2. Conceptual Model of Access to Health Care for Older Adults). Many definitions exist
for both health care access and utilization. In this manuscript, we base our analysis on the
definitions of health care access as “the ease with which an individual can obtain needed medical
services” [13] and of health care utilization as the actual use of health services, referred to as
“realized access” by Andersen [15].

Aim

This study sought to understand perceived barriers and facilitators related to access to health care
for older adults in Paraguay, and to map these barriers and facilitators to Andersen’s Behavioral
Model of Health Services Use to better develop services and policies to improve access to health
care for older adults in Paraguay.

METHODS

Research team and relationship to participants

HMK is a doctoral candidate in a [Blinded] School of Public Health and has eight years of
experience in qualitative data collection and analysis. AC is a Chair of Public Health in Latin
America and Director of the Collaborative Group for Health Equity in Latin America at a
[Blinded] School of Public Health. She has more than 20 years of experience conducting
qualitative research throughout LAC. SH is an independent researcher trained in applied
anthropology with experience in data collection and analysis.

HMK conducted the fieldwork for this study with the support of a Fulbright U.S. Student
Researcher grant from March 2018 to February 2019. She designed the study and conducted all
interviews with input from AC. She attended social group meetings of older adults in the capital
city, Asunción, for several months prior to piloting the interview guide. HMK previously lived
and served in Paraguay as a Peace Corps Volunteer and has continued to visit socially and conduct research in the country for more than 13 years.

Sampling and data collection procedures

HMK recruited older adults from two regions to participate in interviews, the capital city of Asunción, and the department of Guairá. In Asunción, participants were recruited from social groups for older adults and with the assistance of the health professionals in one local public health unit. In Guairá, participants were recruited with the assistance of local representatives of government offices for the Food Pension Program and the conditional cash transfer program, Tekoporã. When necessary, these representatives assisted with some translation for participants who were more comfortable responding in Guaraní. Older adults were assured that participation was voluntary and that all interviews would remain confidential. Persons were eligible for participation if they were aged 60 years or older and living within the indicated geographic regions. Recruitment concluded when we reached thematic saturation in our sample.

From October 2018 to February 2019, HMK conducted semi-structured, in-depth interviews with 58 Paraguayans aged 60 years and older. All interviews were conducted in Spanish by HMK, with some use of Guaraní, both official languages of Paraguay. Interviews lasted an average of 30 minutes and took place wherever the interviewee felt most comfortable. This included inside homes, on front porches and patios, and in restaurants. Memos and field notes were kept during the study. All participants provided verbal informed consent prior to participating, were provided a copy of consent documentation, and the research was undertaken with appropriate ethical approval granted by the Tulane University Social-Behavior Institutional Review Board (#2018-795). With participant permission, each interview was audio recorded and transcribed into a
Microsoft Word document in the original language of the interview by the lead author or a contracted third-party in Paraguay.

Interview questions and guide

A literature review of access to health care for older adults and the Paraguayan health system, and previous primary data collection and fieldwork on health care in Paraguay informed the development of the interview guide prior to use with study participants. After gathering sociodemographic information, HMK asked participants about their perceptions of their health and age, and perceptions and experiences of health care access and utilization (see Interview Guide – Translate from Spanish to English). After piloting the interview guide with three participants, all included in the final analysis, HMK adjusted the interview guide to include questions about experiences with and perceptions of social programs.

Data Analysis

Interview transcripts were translated from Guaraní to Spanish, where applicable, and imported into NVivo 12 software for coding and analysis in Spanish using inductive and deductive approaches [19]. Initially, HMK reviewed the transcripts using attribute coding to extract descriptive statistics and compile demographic characteristics of the participants. Then structural coding, based on the interview guide, was utilized to label and categorize data, ultimately informing the final coding frame [20]. During this iterative and dynamic process, HMK then reviewed the data inductively for general themes and sub-themes as patterns and relationships emerged. Deductive and inductive codes were added to the coding frame.
Approximately 10% of the interview transcripts were dual coded by HMK and SH until consistency was reached between coders during routine meetings. Finally, data was synthesized into summary tables of themes, sub-themes, and attributes. Using a directed analysis approach both researchers then mapped themes and sub-themes into six ABM domains: environment factors (health care and external), personal and population characteristics (predisposing, enabling, perceived need), and health behavior (the use of health services) [20] (see Figure 2. Conceptual Model of Access to Health Care for Older Adults). Sub-themes were further categorized into facilitators, barriers, and neutral factors impacting health care access for older adults in Paraguay, except for health behaviors. Those perceptions and experiences which described health behaviors related to the use of health services were included to understand older adults’ responses to perceptions and experiences with health care access.

RESULTS

A total of 58 older adults were interviewed, 26 in Guairá and 32 in Asunción (see Table 1. Participant Characteristics). The average age was 73.4 years, ranging from 61 to 99 years, and 42 (72%) were women. The highest level of education achieved by most participants in Guairá was less than seventh grade (85%), while most in Asunción had some university education (63%). Most participants were either married (43%) or widowed (33%).

The complexity of access to and utilization of health care services in Paraguay is described by the participants in this study. Viewed through the lens of Andersen’s Behavioral Model of Health Services Use, we see the relationship between the attributes of the health care systems and population characteristics and their influence on the use of health services. Participants discussed perceptions of and experiences with health care access and utilization. These were categorized as
barriers, facilitators, or neutral factors and were mapped to ABM domains. Barriers and facilitators are presented in detail and with illustrative quotes below and in Table 2. Barriers and facilitators to health care access for older adults, categorized by ABM domain.

**Environment Factors**

*Health Care System - System Factors*

The cost of services was a common theme among participants, serving as both a barrier and facilitator of access. Participants paid higher fees to utilize private services, paying for insurance for free or reduced service fees or paying full cost out-of-pocket when necessary. IPS was commonly mentioned as a way to save money due to the range of services and medications available for free with insurance for those participants who could access the system through previous employment or a family member.

“Thanks to being insured with the IPS, my life was saved, because Hemorrhagic Dengue is deadly. I was treated in Asunción at the IPS Central Hospital. I don't know how many millions the state will have spent for me, because it's all an expensive treatment.” (Man, age 80, urban Guairá)

Those participants without access to IPS or to private health care services described their experiences with public health care, natural medicine practitioners, and travel to Argentina for more affordable care. In the public health care system, participants talked about the importance of free consultations and medications, while others traveled to Argentina for free or reduced fees for services where access to health services is guaranteed to foreigners at the same rates as Argentine citizens [21]. A woman who described struggling to survive on her income from the
Food Pension Program and selling prepared food to local workers explained, “It's because of all these things that I'm going to go to Buenos Aires because there I'm going to have treatment. There they don't charge anything, and here I can't buy medicine because there isn't enough money.” (Woman, age 80, Asunción).

Those participants who utilized natural medicine for care explained that their cost of services depended on the individual practitioner and may be free or based on donations. One woman who had stopped using public health services many years before explained that the natural medicine practitioners she used asked for donations only. “No, he doesn't charge anything. There in Piquetecue they also don't charge. They are the most credible. Those who charge do so because they aren't credible. If you want to give, a five thousand note.” (Woman, age 79, urban Guairá).

Most participants who utilized the public system or IPS also discussed the requirement to have monthly consultations to get their medications as barrier to care. While the consultation and medication may be free, they expressed frustration with having to navigate through long waits and travel frequently to facilities.

“In IPS, for example, if I fail today, I'll have to wait another month and a month is equivalent to four medications that they give us. And I lose all that and that is money. Money because I take so much because I have thyroid and diabetes problems. I have several medications, all of them are not cheap. And so the part of getting a number is for me is the ugly part of IPS.” (Woman, age 69, Asunción).

Health Care System - Facility Factors
Many participants discussed long wait times to be scheduled and to be seen at public and IPS facilities. The number of patients trying to access services at these facilities drive up the wait times, forcing people to arrive in the early morning hours to be able to get an appointment that same day. To be seen in the public hospital in her city, one woman from Guairá explained, “It depends on the time that you go and get the numbers, but they are hard to get. You have to go very early. Around two, three o'clock, you have to go to the hospital...There are no more [if you don't get one at that time], many times they tell you that the numbers have ended. And so you come back again.” (Woman, age 78, urban Guairá).

Some mentioned that in rural areas, health posts in the public system are open for limited hours during the week, so for care at night or on the weekends they will need to travel or utilize another system. “Saturday and Sunday you get sick for nothing,” explained a 74 year old woman in rural Guairá. Participants agreed that the private system offers the quickest access, but the cost of the system prevented many from utilizing these services. Explaining why she and her husband decided to have his surgery in the IPS system, an Asunción woman said, “IPS, we had to do the surgery in IPS. Why? Because even if you have private they still take it all of it from you. It's a fortune. Fortune!” (Woman, age 61).

Although services and basic medications are supposed to be free throughout the country in public facilities, participants explained that they often pay for medication and diagnostic testing, and may pay for basic items such as syringes and gloves due to a lack of availability in facilities. Participants explained that health care facilities found in the rural areas or small cities outside of Asunción are often only equipped for basic care and preventive medicine, so for most emergencies or specialized services they must go to larger, better equipped health facilities or pay for private services which are often better equipped. While she and her husband rely on his
income from collecting cans for recycling, a 63 year old Guairá woman explained why they paid to access private health care instead of using the public hospital. “There is no doctor. There are no medications, for example. And money lasts very little. In [private] consultations are very expensive, but there is no point. And medications, for example, now there are a lot missing. There aren't even syringes.”

While public and IPS health systems offer many basic medications for free to patients, limited supplies may force them to go without important medications or pay for them out-of-pocket in private pharmacies. Smaller facilities, outside of the capital have more limited supplies and “at the end of the month there are no more medications.” (Woman, age 74, rural Guairá).

Health Care System - Provider Factors

Participants repeatedly explained that the high volume of patients contributes to poor quality of care in public and IPS facilities. To gain faster access to care or receive better attention, participants described the importance of personal connections to health care personnel. They also explained that private health services provide quick access and good quality of care. An 81 year old man in a rural Guairá explained why he paid to access private services instead of going to the public health care facility closer to his home. “They don't serve you, there are so many people. They don't serve you quickly and sometimes I go at the last minute and I'm already in a hurry so you start looking for a private facility. And now I only go to the private sector even though it is more expensive. It's expensive, but not too much. You know that in the private sector they treat you in a different way. The professionals there are good. There are a lot of them, too.”

Personal and Population Characteristics
Predisposing Characteristics

Some participants discussed poverty as a barrier to accessing health care. Those older adults with limited or no formal income explained that having enough money for food or to keep the electricity on took priority over accessing health care. “’What are we going to do?’ I say to myself. The bill for water, telephone, and electricity have arrived. And those we have to pay no matter what.” (Woman, age 65, urban Guairá). Paying for health care-related costs may take away from money that they need to survive from day to day. A woman described waiting for her daughter to have time off of work to take her by motorcycle to the local IPS hospital, “Because if I pay for the taxi I would finish my money for my food. Do you understand? Because it is expensive to go, to pay for a taxi. Because you earn little.” (Woman, age 72, urban Guairá).

Negative attitudes towards health care services and personnel based on previous experiences served as a barrier to access. Several participants discussed experiences with ineffective advice and treatments prescribed by practitioners and negative interactions with personnel which contributed to perceptions of poor quality of care. One woman stopped going to her local health post and paid out of pocket for medications when the nurse she liked moved to another facility. “He was just there, I had gone because he gave such good care. The others were unpleasant. He was very kind. Then I didn't go anymore, because I went to ask and they told me that he wasn't there. I stopped going, I just paid for them. A box of twenty cost twenty six thousand.” (Woman, age 74, rural Guairá).

Enabling Resources

Older adults serve as both caregivers and recipients of care. Participants discussed their roles as caregivers of grandchildren, partners, and older family members, and how these roles contributed
to their health and to their ability to access health care. Caregiving can be stressful, particularly as a full-time caregiver with little to no respite care available. Some participants explained that they delayed or forewent care because they were unable to leave their loved ones alone. They also explained that informal caregiving prevents them from having formal employment and much of their income is often spent on the needs of their loved one. This lack of income can be a barrier to access health care for themselves.

“I can have such a bad headache if I don't sleep well with her. Sometimes she doesn't sleep...I don't go to the doctor at all. Well, because I'm not as bad as she is. I don't I leave here. I go to the store but she stays here. I just leave her for a little while, not even five minutes I leave her alone. And I don't know. If I'm sick, I don't know what will happen with her.” (Woman, age 65, urban Guairá)

In addition to direct physical care, families and communities come together to support one another in a variety of ways. Almost half of participants had either a family member or friend who accompanied them to access health care routinely or in certain circumstances. An 81 year old woman in Asuncion explained, “Yes, when there is a need, in case they are going to do some study on me. If it is a consultation I just go by myself, if I am fine. If I am suddenly a little dizzy, they come with me.” In addition to physical assistance, they may provide emotional support or help to navigate complex health care facilities. If they needed someone to accompany them and no one was available, then they may delay or forgo care. Some explained that community members look out for one another, lending support particularly to more vulnerable individuals. This included financial solidarity, raising money through events to help people who could otherwise not afford health care services. One woman cared for her bedridden husband who had recently been treated for a build up of liquid around his heart explained, “And he just recovered
from it again, with a lot of medicine. Yes, we managed to get it in the hospital, and then we do activities with the neighbors. And that's how we get it.” (Woman, age 69, urban Guairá).

Another common theme related to social support among participants was not wanting to be a burden to others or feeling guilty for asking for help. As a result, they may hesitate or decide not to ask someone for a ride or for financial help to access care. These feelings of guilt are an important barrier to health care access. Explaining that she rarely left her home, one woman said, “I don't want to go out, because I can't walk well and so I don't want to bother them. I can't even get up in the truck. I can barely get in the truck. They have to lift me up into the truck and bring me back down again.” (Woman, age 67, urban Guairá).

The types of transportation commonly utilized by participants are personal vehicles, taxis, motorcycles, buses, and walking. The time it takes for participants to reach health care facilities and the associated costs vary by the type of transportation and the region. Participants with access to a vehicle described needing a few minutes to over an hour to reach the nearest accessible health facility in urban areas. In rural areas, several participants discussed using multiple forms of transportation to arrive at health facilities to save money. One woman explained that she took a bus for 30 kilometers into the city, then a taxi from the terminal to the hospital because it was too far to walk. Another said to get to the local IPS hospital, she went “by car or by bus. And from there it's easy because I usually come back by taxi. Because the taxi also costs twenty thousand. And if I go there and back, I have to pay forty and that's the end my money.” (Woman, age 74, rural Guairá).

Need
Participants described physical and mental health conditions both as reasons to try to access health care and as barriers to care. While a few participants mentioned accessing health care for well-checks, most discussed the presence of physical and mental health conditions as the reason for accessing care. For participants with physical limitations, a lack of social support (see above) may serve as an important barrier to access necessary health care.

“That's right, I can't go alone anymore. I have to go with someone because before I used to go alone, but now with my dizziness, with my medicine I can't go anymore. I can't walk anymore. Around here I walk without a cane, but there I I can't. If I fall I won't get up anymore, if someone doesn't pick me up.” (Woman, age 74, rural Guairá)

Physical limitations and a desire for comfort also influenced their decision to utilize different types of transportation. If someone is unable to step into and out of a bus, a commonly utilized low-cost option, they may need to ask someone for a ride in a personal vehicle, pool funds for a taxi, or forgo care. A wheelchair-dependent man traveled by ambulance to the hospital for tests, but said “we recently spent about a day and a half waiting for it.” (Man, age 70, Asunción) Several participants were aware of local IPS or USF facilities that offered home health visits for older adults or individuals with limited mobility.

Health Behavior

Use of Health Services

About one third of participants, all but one in Asunción, explained that they utilize multiple systems due to the barriers in different systems. Those participants who could afford the
associated costs chose to utilize private health care to avoid long wait times and scarce resources in public and IPS systems

“Yes, to consult IPS it's a problem. There are too many people and I'm no longer able to go to wait and take turns. Sometimes I get tired, it makes me anxious. So I prefer to go with the private insurance to consult there and for other serious things there. I hope not to need it.” (Woman, age 73, Asunción)

One reason several participants chose to access private services was to gain quicker access to their health care practitioner. They explained that their practitioner worked in multiple systems and recommended that they avoid long wait times in the public or IPS system by seeing them in their private practice. Describing her husband’s struggle to be seen by his neurologist for routine visits and to have his medications refilled with his history of multiple strokes, a woman explains,

“So every 6 months he has to see that doctor. Now he can't see that doctor at IPS. Why? Because there isn't an appointment until 8 months from now. So he goes to see that doctor in the hospital in her private practice. But do you know how much she charges? Two hundred and fifty thousand. And then she says now that she has treated him, now he can go to IPS and she is going to write him the prescription there. It's a loss of time and waste of money.” (Woman, age 61, Asunción)

Many participants described paying for services and medications despite having access to them for free. In addition to paying for private services when participants could access public or IPS services for free, as mentioned previously, several also chose to pay for medications that were free and available with their IPS insurance or in a public facility. They described wanting to
avoid frequent consultations in cumbersome systems and giving others with less financial resources an opportunity to access free medications.

“I can but I don’t go to IPS. Not because I can’t go to IPS but because I think there are people who need to withdraw these medications more than me. Because if I go, my husband, for example, has hypertension. And if he has to go to pick up medication from IPS for his hypertension, he takes away a spot from other people who really can’t buy it. It is not that we have money to spare. No, no, no. Nothing like that, but it is important for us. We think of others. We will deprive ourselves of having a bottle of wine and whatever, but buy that instead.” (Woman, age 72, Asunción)

Other participants described forgoing health care due to cost or previous negative experiences. While some participants paid out of pocket for faster, better-quality services, that is a luxury that others could not afford. Some participants discussed forgoing care due to a lack of financial resources. Negative experiences with ineffective advice or medications or the way they were treated by personnel led to some participants to avoid one system or to forgo health care services altogether.

“For example, I go when I feel really bad. I would like to go sooner but it is difficult, you can’t. And why? If you go, they are going to give you prescriptions, and it is no use to bring them home and put them away. It doesn’t make you better. And sure, you have to buy them. And those times when I have gone to the emergency room, thank God they treated me, they provided me with some medications.” (Woman, age 65, urban Guairá)

The complexity of access to and utilization of health care services in Paraguay is described by the participants in this study. Viewed through the lens of Andersen’s Behavioral Model of Health
Services Use, we see the relationship between the attributes of the health care systems and population characteristics and their influence on the use of health services. Participants discussed perceptions of and experiences with health care access and utilization.

**DISCUSSION**

The results of this study shed light on the important barriers to health care access for older adults in Paraguay. These include that the costs associated with paying for access to health care services serve as an important barrier to care for many older adults, such as fees for services, medications, transportation to facilities, and diagnostic testing. The availability of services and medications and the wait times to be scheduled and to be seen at public and IPS facilities are other barriers to related to health care system. Additionally, barriers related to social support were mentioned frequently in their roles as both caregivers and recipients of care. As a result, this population, has adapted their health behavior by utilizing multiple health care systems, paying out-of-pocket for services and medications, and delaying or forgoing care altogether.

Health insurance helps individuals gain access to health care services. Older adults with higher SEP are more likely to be able to afford to pay for private health care or have access to the IPS system. Lack of adequate coverage makes it more difficult for people to get the health care they need [8]. As of 2013, in addition to access to MSPBS facilities, only 4 out of 10 older adults had some form of medical insurance (40.1%), the majority of whom (30.6% in total) relied on IPS coverage. The remaining 6 out of 10 older adults who reported no coverage (59.9%) are assumed to utilize the facilities of the MSPBS network [5, 6]. Related to the disparities in financial and geographic accessibility of facilities for older adults in rural and urban areas, gaps exist in the coverage of medical insurance between older adults in the regions. Of those in urban areas, more
than half have medical insurance (53.8%) compared to just 2 out of 10 older adults in rural areas who have insurance [5]. Given the barriers to accessing care in MSPBS facilities, principally for vulnerable populations such as older adults in rural areas, this lack of insurance likely contributes further to decisions to delay or not seek care.

Those individuals with fewer financial resources who seek health care have few alternatives beyond the public health care system. The people who are relying on the public system are often those who cannot pay for private health care services and who are not formally employed – the country’s most vulnerable and poor. Although these older adults tend to be more exposed to health risks and to experience more health problems, they also often confront more challenges in accessing health-related services [22].

The health system in Paraguay has been characterized by segmentation, discrimination, and fragmentation, contributing to the exclusion of the most vulnerable. Segmented systems, or those divided into sub-specialized components, create discriminatory practices of access to healthcare. Fragmentation creates additional barriers for vulnerable populations as the subsystems fail to operate as part of coordinated and well-synced system, preventing efficient use of resources [23]. The barriers put in place by this “bureaucratic macrostructure” (p. 525) can only be overcome by the most privileged groups in society, furthering inequalities in access to health care and in health outcomes [23]. Overall, the system “presents a weak performance, attributed to multiple causes such as a lack of coordination between subsectors, the high rurality, the incipient decentralization, gaps in resources, weaknesses in training and poor development in the areas of management, services organization, models of care and financing” [23](p. 524).
The results of the 2017 Survey on Health, Well-being and Aging, survey conducted among 487 older adults in Asuncion and surrounding cities (SABE Asuncion), highlight financial and time costs of health care for older adults. Of older adults surveyed, 88.5% were taking at least one medication, of whom 28.5% had received the medications at no cost. For older adults living in poverty, having to pay for medications prevent them from treating health problems and worsen their health status. About one in ten older adults (9.1%) reportedly discontinued taking medicine because of cost in the previous year [8]. For the majority of the older adults (65.4%), it took less than half an hour to arrive at a health facility for outpatient services, but 11.7% had to travel for more than an hour [8]. While survey participants were concentrated in and around the capital, it is likely that travel times are even longer in more rural areas of the country given distances and road conditions.

Low coverage rates of social security and high levels of poverty not only limit the possibilities for families to pay for health care related costs, but also force many people to continue working into old age, particularly men, or find other sources of income [24]. According to the results of SABE Asuncion, only 10% of older adults receive income from retirement or pension, while 38.1% continue working, including more than 70% of men aged 60 – 64 continue [8].

Older adults who live alone are more vulnerable to social isolation and may have additional barriers to accessing assistance in case of sickness or accident, while those older adults who live with their families have better income and access to health services [5, 25]. While 23.4% of households in Paraguay included at least one older adult in 2016, one in ten was living alone [3]. Differences in sex are seen in relationship types at older ages as women tend to outlive men, leaving women to reach advanced ages as widows, living alone more often. Of those SABE
Asuncion participants 75 years and over, 6 out of 10 women had been widowed, compared to only 3 out of 10 men [8].

For older adults in Paraguay, family members help reduce vulnerability to poverty, particularly in rural areas, women, and those with lower income [26]. According to SABE Asuncion, 79% of the people who live with older adults provide some form of support. These include services like transportation or help with household chores (55.6%); help with meals and clothes (39.0%); followed by monetary support (38.9%). Most of this support comes from spouses (90.8%), children (83.6%), or another household member (69.1%) [8].

Importantly, older adults also provide support and economic protection to other people in their households. Six out of ten reported providing support including materials such as meals, clothes, etc. (42.9%), services such as transportation, household chores and gardening, etc. (33.2%), and money (21.7%) [8].

Strengths and Limitations

This study has a number of strengths. The authors of this study have extensive experience in qualitative data collection and analysis in LAC and Paraguay. The involvement of researchers from different backgrounds, including anthropology, public health, nutrition, gerontology, and nursing, strengthens this study as we bring diverse knowledge and experiences to this work. We strove to interpret the data openly and to provide a transparent description of the path from the data to the results. This study captures data from a sample of almost 60 older adults in both official languages of Paraguay, Spanish and Guarani, which allows for a rich description of the participants’ perceptions and experiences with health care access in the country. The findings
align with what other researchers have found among older adults in Paraguay and throughout LAC.

While this research illuminates important perspectives of older Paraguayans, it has various limitations. This study focused on two geographic regions in Paraguay, so variations in regional culture and infrastructure prohibit this work from being generalizable nationwide. Participants were recruited from social groups for older adults and with the assistance of local health professionals and representatives of government offices, so they may have shared characteristics. Older men were underrepresented in this study, accounting for 28% of participants and 48% of the population aged 60 and over in 2017 [8]. Additionally, the narratives of older indigenous people and those from other ethnic groups were not captured, contributing to the potential homogeneity of the participants. Given the qualitative nature of the study, responses to questions may have been biased by the participants’ desire to provide appropriate or socially acceptable responses to potentially sensitive questions around health and health care access. Also, while we were conscious that our previous knowledge and experiences would influence the research process, we may have introduced bias into interviews or our interpretation of data. Finally, it is also important to mention that since these interviews were conducted, older adults in Paraguay, and across the globe, have been deeply affected by COVID-19. Future research is needed better understand the effect of this pandemic on the health and health care access for this population to better serve their needs.

Conclusions

This study sought to understand perceptions and experiences related to health care access for older adults in Paraguay. By characterizing these factors as barriers and facilitators and mapping
them to Andersen’s Behavioral Model of Health Services Use, we hope to contribute to the development of services and policies aimed at improving access to health care for this population. We argue that health systems in Paraguay are not meeting the needs of older adults by providing affordable, quality health care. Participants described important barriers to access health care including associated costs, availability of services and medications, wait times, and lack of social support. This population has adapted their health behavior to these barriers by utilizing multiple health care systems, paying out-of-pocket for services and medications, and delaying or forgoing care altogether. The government and other stakeholders need to address the barriers to health care described by participants to enable older adults to better access and utilize health care services from all health care sources.
APPENDIX

Figure 1. Andersen’s Behavioral Model for Health Services Use

Source: Andersen 1995 [15]
Figure 2. Conceptual Model of Access to Health Care for Older Adults

Adapted from: Andersen 1995 [15]
Interview Guide – Translated from Spanish to English

1. In general, how would you rate your health?
   - Very good _ Good _ Fair _ Poor _ Very poor _
2. Compared to others your age, how would you rate your health?
   - Much worse _ Worse _ Same _ Better _ Much Better _
3. What do you understand as good health?
4. How is good health obtained?
5. What do you understand as being old/old age? How do you know when someone is old?
6. Do you consider yourself to be old?
7. Where is your home/residence located on the map? (map shown)
8. What are up to five places that you most commonly/frequently visit when you leave your home/residence?
   a. First place ____ (five total)
   b. Where is it located?
   c. How often do you go there?
   d. How would you get there? (map)
   e. What route do you take? (map)
   f. How long would it take?
   g. Who would accompany you?
9. Under what circumstances would you seek medical attention?
   a. Where would you seek medical attention? (map)
   b. How would you get there? (map)
   c. What route would you take? (map)
   d. How long would it take?
   e. Who would accompany you?
10. What obstacles do you have to receive medical attention?
11. What is needed to improve the future for older adults in Paraguay?
12. Do you have any other comments?
<table>
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<th>Interview Category</th>
<th>OLDER ADULTS</th>
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<td>Much better</td>
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<td>12%</td>
<td>19%</td>
<td>43%</td>
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<td>Better</td>
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<td>8%</td>
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<tr>
<td>Much worse</td>
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<td>0%</td>
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<td>IPS</td>
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<td>57%</td>
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<td>Naturalist</td>
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Table 2. Barriers and facilitators to health care access for older adults, categorized by ABM domain

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<tr>
<th>ABM Construct</th>
<th>ABM Domain</th>
<th>Theme</th>
<th>Sub-Themes</th>
<th>Barrier (B), Facilitator (F), Neutral (N)</th>
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<tr>
<td></td>
<td>External Environment</td>
<td></td>
<td>Policies of restricted access through insurance, higher cost</td>
<td>B</td>
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<tr>
<td></td>
<td></td>
<td></td>
<td>IPS tied to formal work</td>
<td>B</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Older adults face higher costs for private insurance</td>
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</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Private is more expensive</td>
<td>B</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Private insurance tied to formal work</td>
<td>B</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Must consult to receive medication</td>
<td>B</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Travel to Argentina for lower costs</td>
<td>F</td>
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<tr>
<td></td>
<td></td>
<td></td>
<td>IPS saves money</td>
<td>F</td>
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<tr>
<td></td>
<td></td>
<td></td>
<td>Free medications from health care system</td>
<td>F</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Pays reduced fee for medications with insurance</td>
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<td>Health Care System</td>
<td>Insurance requirements</td>
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<td>High numbers of people drive up wait times</td>
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<td></td>
<td>Costs services, medications</td>
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<td>Long wait times to get scheduled</td>
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<td></td>
<td>Frequent consultations to receive medications</td>
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<td>Must arrive early in the morning</td>
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</tr>
<tr>
<td></td>
<td>Wait times</td>
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<td>Reduced hours of attention in health posts</td>
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<td>Availability of services, medications</td>
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<td>Quality of care</td>
<td>Free medications, but not always available</td>
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<td></td>
<td>Personal connections to personnel</td>
<td>Pays out of pocket for medications</td>
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<td>Costs for services in public system</td>
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<td></td>
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<td>Private system has shortest wait times</td>
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<td>High number of patients affect quality of care</td>
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<td>Personal connections to personnel</td>
<td>F</td>
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<td>Good quality of care</td>
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<td>Poverty</td>
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<td>Attitudes towards health care services</td>
<td>Paying for health care takes from money for food, lights, etc</td>
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<td></td>
<td>Attitudes towards personnel</td>
<td>Advice, medications ineffective</td>
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<td>Negative experiences with personnel</td>
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<td>Cost of transportation varies by type and region</td>
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<td>Enabling Resources</td>
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<td>Doesn't want to be a burden to family, friends</td>
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<td>Need</td>
<td>Physical, mental health conditions</td>
<td>Community members look out for one another</td>
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<td>Families, communities pool money for health care costs</td>
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<td>Physical, mental health conditions</td>
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<td>Rely on others for care due to physical limitations</td>
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<th>Use multiple health care systems</th>
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<td>Delays, forgoes health care due to lack of social support</td>
<td>Use multiple health care systems</td>
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References

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