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A meta-synthesis of the cycle of financial strain, coping behaviors and health outcomes across the life course

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Abstract

Background: The lived experience and impact of financial strain on broad physical and mental health outcomes is important and yet underexplored. Improving our depth of understanding of the relationship between financial strain and health may offer important insights to address this complex phenomenon.

Objective: The primary objective of this study was to conduct a meta-synthesis of existing qualitative literature that investigated or described the relationship between financial strain and health outcomes.

Methods: A search using Web of Science, PsycINFO, and PubMed identified 18,624 peer-reviewed manuscripts from 2009 to 2021 that examined the impact of financial strain on health outcomes. Selection for inclusion was limited to qualitative studies that included a research question or thematic finding related to financial strain. Literature reviews and non-U.S. based manuscripts were excluded. Selected studies (n = 25) underwent evaluation and thematic analysis using meta-synthesis methods.

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Declaration of competing interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

CRediT authorship contribution statement

Martha Abshire Saylor: Writing – review & editing, Writing – original draft, Supervision, Methodology, Formal analysis, Conceptualization. **Catherine Clair:** Writing – review & editing, Writing – original draft, Project administration, Methodology, Conceptualization. **Vaishnavi Bandaru:** Writing – review & editing, Formal analysis, Data curation. **Kaitlyn Chalmers:** Writing – review & editing, Resources, Formal analysis, Data curation. **Yoel Selassie:** Writing – review & editing, Formal analysis, Data curation. **Sarah Szanton:** Writing – review & editing, Supervision, Conceptualization. **Manka Nkimbeng:** Writing – review & editing, Methodology, Conceptualization. **Laura Samuel:** Writing – review & editing, Supervision, Funding acquisition, Data curation, Conceptualization.

Appendix A. Supplementary data

Supplementary data to this article can be found online at https://doi.org/10.1016/j.ssaho.2024.101106.

Results: Twenty-five qualitative studies with a combined total of 1385 participants examined financial strain in relation to health. We identified three themes: 1) Financial strain: An intersection of threats to meeting basic needs; 2) Financial strain across the life course and intergenerational stress; and 3) The cycle of financial strain, coping behaviors and health outcomes. Our conceptual framework proposes that financial strain cyclically influences health outcomes, with threats to meeting basic needs resulting in decision making and coping that lead to disparities in health outcomes. We propose this model for further hypothesis generation and qualitative inquiry.

Conclusion: This meta-synthesis emphasizes the importance of considering the intersectionality of insecurities that affect safety and health and the need for adopting a life course perspective when researching the lived experience of financial strain. The complexity of the relationship between financial strain, coping behaviors, and health outcomes merits innovative approaches and further study.

Keywords

Financial strain; Life course; Qualitative; Meta-synthesis

1. Introduction

Over the last three decades the National Institute of Health and the National Academy of Science, Engineering and Medicine have advanced the science of understanding and reducing socioeconomic-related health disparities (Adler et al., 2016; Alvidrez et al., 2019). A well-established body of evidence demonstrate that low income, low socioeconomic position or poverty result in poor health outcomes, including earlier mortality, and common conditions such as cardiovascular disease and cancer (Adler & Newman, 2002; Moss et al., 2022; Odutayo et al., 2017). Still, it is not completely understood *how* this relationship results in poor health outcomes. Many studies have explored how the stresses of poverty or income influence health such as by examining allostatic load or the cumulative burden of life stress and events (Guidi et al., 2021; McEwen, 2000; Szanton et al., 2005). While objective measures of socioeconomic status, such as income, poverty, and debt are more commonly used in health studies, the subjective experience related to perceived inadequacy of finances, or ‘financial strain’ provides important insights.

1.1. Financial strain and how it differs from related concepts

Financial strain is defined as experiencing difficulty making ends meet or difficulty meeting basic needs (A conceptual framework for action on the social determinants of health. 2010; Pearlin, L. I. et al., 1981). Different from income level or income/debt ratio, financial strain is a personal self-assessment of household financial situation, which takes into account both income and expenses (Kahn & Pearlin, 2006; Pearlin, Aneshensel, & Leblanc, 1997). Importantly, objective socioeconomic measures are limited; income doesn’t capture household expenses, which can vary dramatically based on their cost of housing, health care and other needs. So, people with the same income may experience different levels of financial strain. Likewise, many people above the poverty line experience stress due to inadequate income. So, there is a need to understand the financial strain experienced by

people and the way this stressor affects health (Szanton et al., 2010). As a self-reported measure, financial strain is more sensitive to perceived financial needs than objective measures(Alley & Kahn, 2012) and is increasingly being assessed in social needs screeners across clinical and public health settings (Billioux et al., 2017). Although financial strain often co-occurs with poverty, food insecurity and housing insecurity, it likely functions independently of them (DeLuca & Rosen, 2022; Gundersen & Ziliak, 2015). Financial toxicity, the influence of health on finances, is a related concept (Louisa G Gordon et al., 2017). In the US context, with one of the most costly health care systems in the world, financial toxicity of care is omnipresent. While financial toxicity is important, it does not always result in an inability to meet basic needs or financial strain and may be measured based on objective indicators, like ratios of income to expenses.

2. Literature review/research context/background

2.1. Financial strain has a demonstrated associations with health outcomes across many populations and across the life course

The earliest work by Pearlin et al. (1981) showed associations between chronic financial strain and depression (Pearlin, L. I. et al., 1981). This important study provided the foundation for developing Pearlin's Stress Process Theory, depicted as a linear process of sources, with mediators and outcomes or manifestations of stress. In the United States, research has expanded to demonstrate the effect of financial strain on many health conditions related to both physical and mental health (Altice et al., 2017; Darin-Mattsson et al., 2018; Ettman et al., 2023; Hanratty et al., 2007; Okechukwu et al., 2012; Szanton et al., 2008, 2010; White-Williams et al., 2020).

Importantly, people in racially minoritized groups including those who are Black or Hispanic are more likely than those who are White to experience financial strain (Szanton et al., 2008). Additionally, the effect of financial strain on health is likely exacerbated among African Americans or other minoritized communities who experience not only financial strain but racism and other stigma (Adler & Newman, 2002; Szanton et al., 2010; Usher et al., 2021). Due to limited data, less is known about other marginalized groups, including people who are Native American, with disabilities, those who have immigrated to the US and sexual minorities, but they have relatively lower incomes than their respective peer groups and therefore have a higher risk of financial strain.

Additionally, a life-course approach to financial strain is needed because financial strain can be experienced at any point in the life course and is believed to contribute to cumulative disadvantage (Pylypic Shippee et al., 2012; Salignac et al., 2020). For example, financial strain can occur from childhood through retirement including moments such as purchase of a home, job change, death of an earner in the household, etc.(Darin-Mattsson et al., 2018; Szanton et al., 2010). Therefore, there is a need to elucidate pathways that describe the lived experience and explain the links between financial strain and health outcomes across the life course to inform intervention and policy development throughout the life course, especially among minoritized groups (Szanton et al., 2010).

2.2. Influence of financial strain on health and proposed mechanisms

Individuals exposed to financial strain are at a greater risk of illnesses such as cancer, diabetes, asthma and heart failure (Altice et al., 2017; Darin-Mattsson et al., 2018; Ettman et al., 2023; Hanratty et al., 2007; Szanton et al., 2008, 2010; White-Williams et al., 2020) and have greater mortality risk (Szanton et al., 2008). Importantly, childhood exposure to financial strain predicts relatively poorer mental health and greater risk for cognitive impairment later in life, even after accounting for intervening socioeconomic conditions like education and income (Darin-Mattsson et al., 2018; Szanton et al., 2010), suggesting that financial strain can have lasting consequences on health across the life course. Empirically-tested conceptual frameworks of financial strain have proposed several key pathways that link to health, including mechanisms such as living with unmet needs and/or difficulty meeting basic needs, the erosion of personal control and mastery, the loss of supportive social relationship, and the presence of family tension and resource constraints (Masarik & Conger, 2017; Tucker-Seeley & Thorpe, 2019). People experiencing financial strain may face more barriers to health promotion such as challenge in consuming balanced meals and paying for medication and medical services (Altice et al., 2017; Hanratty et al., 2007; Samuel et al., 2012, 2021, 2023).

2.3. Objective

Despite important cumulative understanding of the associations of financial strain and health outcomes, gaps remain in our understanding of how individuals manage financial strain, their own understanding of how financial strain influences their health and how to best intervene. Financial strain literature is largely based on observational studies. Importantly, qualitative studies offer important insights to understand the experience of financial strain and generate hypotheses about its pathways of action. In response to the need to synthesize qualitative literature, similar to a meta-analysis, meta-synthesis is a method to systematically understand the findings of qualitative research (Thomas & Harden, 2008). Therefore, the primary objective of this study was to conduct a meta-synthesis of qualitative literature that investigated or described the relationship between financial strain and health outcomes.

3. Methods

3.1. Search strategy and information sources

Our analysis is one arm of a larger investigation of the influence of financial strain on health. The review protocol was registered on Prospero (CRD42020210511). We searched Web of Science, PsycINFO and PubMed for articles. Searches were limited to peer-reviewed manuscripts written in English. We restricted studies to those published between 2009 and 2021, with the final search occurring on September 20, 2021. Search terms included terms synonymous with financial strain, including economic hardship and income inadequacy. To capture a comprehensive set of factors relevant to the experience of financial strain and its mechanism of action, search terms for health-related outcomes were intentionally broad and inclusive (Search terms are enumerated in Supplement 1). We defined our theoretical definition of financial strain a priori as experiencing difficulty making ends meet and/or meeting basic needs based on prior work (Pearlin, L. I. et al., 1981). Primary screening was conducted by the study team in the Covidence online platform by two blinded and trained

research assistants. Screening first identified qualitative studies that described a method or result related to financial strain (or related terms consistent with our definition), first based on title and abstract and then based on the full text. At this stage conflicts for screening were adjudicated by study team leaders based on discussion in regular team meetings.

Secondary screening evaluated eligibility for this analysis. Screening was conducted by two independent, trained team members for each study (CC, YS, VB, KC). Discrepancies were reviewed by the study team and resolved by study team leaders (MAS, CC) based on discussion in regular team meetings. To be eligible for inclusion studies: 1) Included a research question or qualitative theme relating financial strain and health, 2) Used interviews or focus groups as the primary source of data and qualitative analysis, and 3) Were conducted in the United States. Fig. 1 depicts the result of our search and study identification process.

3.2. Data collection process/data items extracted

The data from each study was extracted by two independent team members for each study (CC, YS, VB, KC) and reviewed by the study team. Basic study characteristics including study design, sample size, target population and health outcomes of interest were extracted. Large sections of text were extracted from results sections for all themes related to financial strain or the relationship between financial strain and health into a standardized extraction template with salient quotes. In addition, we specifically extracted research questions, results related to health or financial strain and any discussion of the ways financial strain influenced health. Discrepancies in data extraction were reviewed by the study team and resolved by study team leaders (MAS, CC) based on discussion in regular team meetings.

3.3. Study risk of bias assessment

Each paper was independently evaluated according to the Critical Appraisal Skills Program (CASP) which is a quality appraisal instrument designed for qualitative studies (Long et al., 2020). Quality assessment was conducted to ensure that all selected studies were of moderate quality or greater. CASP is the most used tool for quality appraisal in health-related meta-synthesis and is endorsed by the Cochrane Qualitative and Implementation Methods Group (Hannes & Macaitis, 2012). Items focus on the clarity of methods and ethical considerations. Moderate quality was defined as an affirmative rating to at least 50% of the CASP criteria. CASP assessments were determined by consensus of two trained, independent evaluators (YS and VB) and any discrepancies were addressed in team meetings and final quality decisions were made (MAS).

3.4. Synthesis methods

Our team used Thomas and Harden methods for meta-synthesis (Thomas & Harden, 2008). This involves 3 steps: coding the findings of primary studies; organizing the codes into related areas; and developing synthesized themes from descriptive themes, including comparing themes across studies. Our study team brought innate and social identities and experiences to this analysis including their own experiences of financial strain. Many study team members are nurses and have seen clinical examples of individuals experiencing detrimental health outcomes. During meetings, we reflexively discussed

our own social identities and experiences with an effort to minimize bias. To provide transparency, descriptive themes and exemplar quotes are available in Supplement 2. At this stage, all studies were analyzed for factors emerging in the analysis including types of insecurities and socio-ecological levels mentioned in the results sections (individual, interpersonal, community/societal). The study team met regularly to discuss relationships between themes, map out relationship connections and iteratively refine synthesized themes. Through mapping connections between concepts and themes, we iteratively developed a conceptual model to summarize findings and promote further hypothesis generation. The synthesized themes are presented below with participant quotes from the original studies to support the findings.

4. Results

4.1. Study characteristics

Twenty-five qualitative studies explored the relationship between financial strain and health (Table 1). Collectively, studies included 1385 participants with sample sizes ranging from 4 to 387. The age range of participants in studies was 13–60+ years (unspecified above age 60). Several studies focused on under-represented populations including Latino/Hispanic (n = 6), Black/African American (n = 4), and both African American and Latino (n = 2). Studies used various data collection methods to explore their research questions including focus groups (n = 8) and semi-structured interviews (n = 12). Four studies used mixed methods and 1 study used a narrative approach. All the articles in the meta-synthesis focused on a health outcome as part of the study inclusion criteria. More granularly, these outcomes included physical health (n = 10), mental health (n = 5), or an intersection of physical and mental health (n = 8).

4.2. Quality of studies

Quality assessment using the CASP-qualitative assessment tool is summarized in Fig. 2. Fifteen studies were assessed as high quality for all 9 questions. All studies were assessed as valuable with a clear statement of findings and rigorous data analysis with an appropriate qualitative methodology. Most studies reported the consideration of ethical issues (n = 16) and the relationship between the researcher and the study (n = 18), two important aspects of qualitative research.

4.3. Synthesized themes

Three synthesized themes emerged which illustrate how financial strain influences health: 1) Financial strain: An intersection of threats to meeting basic needs; 2) Financial strain across the life course and intergenerational stress; and 3) The cycle of financial strain, coping behaviors and health outcomes.

4.3.1. Theme 1: financial strain: an intersection of threats to meeting basic needs—

Across the 25 studies financial strain was typically experienced as one or more threat(s) to meeting basic needs. The most common types of threats included housing insecurity (n = 13), food insecurity (n = 9), job insecurity (n = 11) and insecure access to health care (n = 12). Multiple social determinants (e.g., housing insecurity and food

insecurity) were discussed in most studies (n = 14) which resulted in an overall strained financial situation and subsequent influence on individual health outcomes. Nguyen et al. (2018) described that participants in their study prioritized household needs such as food and utilities over medical care for themselves except in emergencies.

We summarized research questions asked, financial strain-related themes, and the determinants identified through the analysis (Table 2). The research questions and financial strain-related themes are presented as they were published in the original article. Despite research questions that usually focused on only one threat, food-, housing-, health care-, and job-insecurities were often co-occurring situations. Participants rarely described only experiencing food insecurity and feeling secure in all other areas. For example, one participant highlighted the delicate balance between multiple expressions of financial strain:

> *"I had the money to go grocery shopping," she explains, "but I have to sparingly spend it 'cause the next month I might need more money for medicine."* (Schlosser, 2019)

4.3.2. Theme 2: financial strain across the life course and intergenerational stress—The studies included samples that spanned several periods across the life course, including adolescence (n = 2), young adulthood (n = 16), adulthood (n = 22), and older adulthood (n = 11). Several studies included populations that included more than one life stage. The role of financial strain differed across life stages, particularly as health changed over the life course. In comparing studies from adolescence to older adulthood, early adulthood financial demands differ from those of older adults.

For example, a participant in a study of adult Bhutanese refugees described intergenerational needs as follows:

> "We young people are bearing triple burdens of continuing education and seeking job, taking care of family and old aged parents, and exploring information and platform to integrate ourselves in a new multicultural environment. It is too much and out of control for us. We truly need guidance and support to settle ourselves and families and move forward." (25-year-old male) (Poudel-Tandukar, 2019)

Additionally, one study found that family who were informally responsible for providing full-time care to children without biological parents present were keenly aware that they were financially supporting a child who would have received financial support in the foster care system. This posed a financial strain later in life than typically would be expected. One grandparent expressed frustration by saying:

> "The state should send us a gift certificate every month so we could enjoy a dinner outside once in a while. We are saving a lot of money for the state. That is the least it can do for us." (Grandparent) (Lee, 2016)

Importantly, multi-generational households face specific types of financial challenges and were described in a few studies (n = 4). However, even in studies of multi-generational households, participants were from a single generation, such as the parents, grandparents. These studies focused on the "earning" generation of the household.

4.3.3. Theme 3: the cycle of financial strain, coping behaviors and health outcomes—Across the 25 articles, there was a cyclical influence of financial strain on health and, conversely, of health on financial strain. The relationship between financial strain and health outcomes was explained as both a direct relationship (i.e., health influencing financial strain) and an indirect relationship (i.e., financial strain influencing coping behaviors, which influence health). This cycle was disrupted by coping behaviors and operated within contextual factors.

4.3.4. Contextual factors—Multi-level contextual factors influence the relationship between financial strain and health outcome(s). We analyzed all articles for socio-ecological levels represented in the data (societal/community, interpersonal, individual). At the societal level (n = 8), this included factors such as racism and stigma.

> "Job will not hire Black people there [at the mall] … I put in six to seven applications and did not get a job;" "A place will say they are hiring and when you go, they say that they are not hiring." (Criss, 2016)

> "How [doctors] will treat [Whites] and how they will treat African American is really a lot different, you know what I mean? It's blaring, you know?" (Campbell, 2019)

Several studies described societal policy-related contextual factors specifically related to employment policy such as immigration, documentation status and having a criminal record. These factors related to financial strain in several ways, including causing financial strain, influencing coping behaviors and impacting health by increasing stress and depression and limiting access to health care. Rodriguez et al. (2018) described the implications of anti-immigration policy, writing that several participants "reported not receiving compensation for work they had done." One participant detailed "they didn't pay [her] for a job. In others they paid [her] very little for a lot of hours."

At the interpersonal level, other contextual factors included generational trauma and family history of poverty. For example, Brantley et al. (2017) described the generational impact of financial strain, with one participant describing how her parent's addiction and her childhood housing insecurity influenced her own sense of financial stability as an adult.

> "Early lives were often depicted as stressful or unstable, especially when referring to moving homes during childhood. For some this was a perpetual challenge, and often attributed to financial scarcity or a parent's substance abuse. 'We moved around a lot because my mom was on drugs and stuff, so I got bounced around a lot of different places. She kept getting kicked out of places… She would get us a place to live, and then we'd get kicked out … We never really had a stable place.'" (Brantley, 2017)

All studies included individual contextual factors which are incorporated into other themes.

4.3.5. Coping behaviors—Most studies (n = 23) explored how their participants responded to their financially strained situation. These behaviors were divided into three sub-themes: 1) Trade-offs: "There's only so much money", 2) Willingness to take risks

for potential financial gain, and 3) Increasing your chances: Actively promoting future financial stability. Although presented as separate categories, four studies highlighted how participants engaged in multiple coping behaviors.

4.3.5.1. Tradeoffs: "There's only so much money".: For many participants, financial strain resulted in trade-offs being made between different household expenses. Tradeoffs required balancing or compromising between important priorities such as health and safety. More than half of studies (n = 15) described trade-offs, which could be made in terms of housing, food, health care, and other needs. The following quote describes the trade-offs made between household needs and health care needs:

> "Every month, almost nothing is left … and I have to make miracles with what is left. Sometimes all I have left is $40 … there's six of us and I have to buy food, other basic things I need like soap, gas, and that's it. [My] kid has asthma and all the inhalers. They are very expensive … what can we do? My husband has diabetes, but we don't check his sugar levels because the strips are really expensive." (Nguyen, 2018)

Household "need(s)" were broadly defined, one example being the challenges faced by undocumented university students, which included trade-offs regarding rent and food versus books and school supplies.

> "I haven't been able to finish paying my October rent. … I've had to choose between buying books and buying food. … It just stresses me out. … Because I feel like if I don't own a book, that impacts my grades and I feel like I do worse." (Enriquez, 2018)

Treatment adherence was a particular tradeoff or coping mechanism to manage financial strain (n = 8). The decision to adhere to treatment (e.g., medications, rehabilitation) was fraught with challenges. The cost burden was a major hindrance to adherence to treatments such as pulmonary rehabilitation. One participant stated:

> "You know, you have to come out your pocket for the copayments and all this. Sometimes I have prescriptions that run like $100, $150, you know. That's every month. […] I have to see 3 or 4 doctors a month, you know. Sometimes, just $500 or $600 a month be just out of my pocket." (Oates, 2019)

Coping behaviors were used concomittantly. For example, medication adherence and foregoing other health care (i.e. dental care) often occurred in concert with other trade-offs. One individual described the stress related to being homeless after being evicted from his apartment and moving to different hotels:

> "Upon doing that (moving to different hotels), I was like 'I can't keep doing this because I'm gonna run out of money ….'And so I kinda neglected to go get it (the shortness of breath) checked out." (Dickens, 2019)

4.3.5.2. Willingness to take risks for potential financial gain.: Some studies focused on populations engaged in behaviors with relatively higher risk, like sex work and drug use, to make money or decrease financial strain (n = 4). Brantley et al. (2017) and Kosenko (2011)

highlight the intersection of high-risk behaviors (e.g., drug use, and high-risk sex exchange) in their population of female exotic dancers and transgender adults, respectively.

> "I came here when I was 18 because my family doesn't want me in my home in Puerto Rico. They said, "We don't want you here like this, dressed like that." So, I came here. I didn't even have breasts or anything like that. So, I came here when I was 18. You can imagine I came here and I didn't even know where I was. So, I fell in with guys, with people, with prostitutes, drugs, and I get HIV because I have to be prostitute [sic] to survive, to eat, to have a place to stay, because it's not easy for transsexual [sic] to have a job." (Kosenko, 2011)

4.3.5.3. Increasing your chances: Actively promoting future financial stability.: Several studies mentioned behaviors that would increase one's changes for future financial stability, such as employment and engaging in education and literacy. One participant described his thoughts on working:

> "Working … takes the edge off, because a lot of things has to do with economics, you know, taking care of the family. And when one is not able to do that, that's depressing, you know, because it causes other problems." (Campbell, 2019)

4.4. Conceptual model: the cycle of financial strain and health

We propose a conceptual framework to depict the relationship between financial strain and health based on our three themes (Fig. 3). Contextual factors affect the expression of the cycle, but do not directly lie in the pathway between financial strain, coping behaviors, and health. Health includes both physical health, mental health, and their intersection or overlap as the selected studies either explored these outcomes individually or their intersection. We also included a visual cue to the life course perspective of financial strain.

For example, if a person is experiencing financial strain in the form of housing insecurity (i.e., paying rent), the coping behavior may be a tradeoff to pay for rent and not paying medications for a health condition (e.g., diabetes), which results in poorer health. This outcome of poorer health can have both short-term and/or long-term health implications, is usually more costly, and can result in more financial strain.

5. Discussion

We identified three themes that emerged from our meta-synthesis: 1) Financial strain: An intersection of threats to meeting basic needs; 2) Financial strain across the life course and intergenerational stress; and 3) The cycle of financial strain, coping behaviors and health outcomes. This meta-synthesis adds to the literature on intersectional financial strain and describes the coping behaviors that persons managing financial strain consider during difficult circumstances. We also identified the importance of a life course perspective and considering the intergenerational influences and effects of financial strain and health. This aligns with prior work which uses a socio-ecological model and life course perspective to describe financial well-being (Salignac et al., 2020). Finally, our cyclical model, building from the Pearlin Stress Process Model and including life course and contextual influences, is an important contribution to the literature (Pearlin, L. I. et al., 1981). This is also consistent

with the Material-Psychosocial-Behavioral Model of financial strain among people with cancer (Tucker-Seeley & Thorpe, 2019). Although many researchers acknowledge a bi-directional relationship between financial strain and health, the conceptual frameworks previously described depict a linear flow in which the predominant underlying causality goes from financial strain to health (Kahn & Pearlin, 2006; Pearlin et al., 1997).

Several research questions generated from this analysis are displayed in Box 1. Many questions have been explored in studies on financial toxicity and medical debt after major medical events. However, many of these questions should still be considered in underrepresented groups and minoritized populations. We present these research questions for future quantitative and qualitative inquiry.

Importantly, we found many studies identified contextual factors that serve as structural barriers to improving health outcomes. Structural and interpersonal racism, xenophobia and intergenerational poverty are major barriers to health among people who experience financial strain. In health care, clinicians often communicate blame or shame by suggesting that certain behaviors are ‘high-risk’ or maladaptive. In addressing financial strain within health care, it is critical to avoid this judgement (Nykiforuk et al., 2024). We found that individuals were forced to make very difficult decisions and weighed the balance of risk/reward to escape the cycle of financial strain. It is encouraging that, with recent emphasis on social determinants of health and social justice, there is increased attention to how language and clinical perspective can shift to a more person-centered approach regarding financial strain.

This study contributes to the literature by synthesizing evidence across multiple types of coping strategies. Prior work has demonstrated that the stress response to a financial hardship is mediated by perception (financial strain) and can be offset with social support (Park et al., 2017). Some people facing financial strain have constrained options for addressing their financial challenges, which leads them to use high-effort coping (Samuel et al., 2021, 2023) which can harm rather than improve their health (Bennett et al., 2004; Felix et al., 2019). Findings from this study highlight the need to address financial strain as part of secondary and tertiary prevention efforts to prevent decline over time.

Additionally, several studies included in the meta-synthesis offered strategies or solutions to address financial strain in their Discussion sections; Box 2 highlights some of these strategies suggested by authors of papers included in our meta-synthesis as part of their recommendations for future work.

It is important to note that the study data synthesized in this meta-synthesis were collected before the COVID-19 pandemic and pandemic-related economic conditions exacerbated underlying inequities. The historic job loss and other economic impacts related to the pandemic posed new financial challenges that disproportionately affected those who were Black, Hispanic or low-income and, even after accounting for pre-pandemic financial situations, predicted poorer health outcomes (Samuel et al., 2022). Although the financial supports offered during the pandemic were generous and reduced financial strain, they did not eliminate pandemic-related financial strain and they have all now ended (Donnelly &

Farina, 2021). Therefore, there is a need for research to understand how the addition of pandemic-related financial challenges affected the experience of financial strain and its role in health across the life course.

Given financial strain's detrimental effect on individuals and families, national organizations such as the Centers for Medicare & Medicaid Services have recommended broader screening for financial strain using established tools (Billioux et al., 2017). However, uptake has been slow, largely because of time constraints in busy clinical settings and concerns over how to ethically respond to positive screening without adequate integration of social services into health care settings (Glied & D'Aunno, 2023; Salignac et al., 2020). Our findings contribute to the ongoing discussion about how to integrate social needs screening into care settings by highlighting several key challenges in addressing financial strain, many of which are beyond the scope of typical clinical encounters. First, our findings show that financial strain is experienced as an intersection of threats to meeting basic needs. This poses a challenge because the programs that address financial strain, such as food assistance or housing assistance, typically target one type of insecurity. Although there is some evidence of spillover, where people receiving one type of assistance are better able to meet other basic needs, we see a need for more holistic interventions across the life course (Kim, 2016). For example, some types of income support, such as tax credits, can be used by financially strained households for any type of basic needs and have been shown to improve child health outcomes (Strully et al., 2010). Research is needed to compare the health effects of these broad income supports to narrower programs that only address one type of insecurity or need. As another example, interventions have been developed which facilitate and/or streamline the enrollment process for the Supplemental Nutrition Assistance Program for low-income households already receiving other supports, such as Medicaid or Supplemental Security Income. These programs have been shown to improve access to the Supplemental Nutrition Assistance Program, which is known to reduce food insecurity (Evaluation of alternatives to improve elderly access to SNAP. 2020; Ratcliffe et al., 2011). If screening for financial strain is to occur, health care providers must be aware of existing local, state, and federal programs and resources. Also, stronger partnerships are needed between the health and social service sectors and greater support is needed for community agencies that are already engaged in social service work.

Many federal and state-level programs are geared towards addressing a single threat to security, but our findings demonstrate that these threats do not occur in isolation. Policies and programs that holistically address multiple threats to basic needs for financially strained households must be identified and scaled. For example, authors suggested medical office prescription samples, coupons, vouchers, and mail order prescriptions as short-term solutions that would be helpful for patients managing financial strain. None of the articles mentioned medication assistance programs at the state or federal levels (e.g. the Medicare Part D Extra Help Program) in their findings, but with an increasing number of states with such programs this could also be an important resource (Donnelly & Farina, 2021; Samuel et al., 2022).

Within the health care setting, clinicians need to be trained in how to counsel patients to use these existing solutions, especially in having conversations with patients about various

treatment options related to their economic conditions. In concert with these solutions, clinicians and educators can be trained to screen for financial strain and be aware of public assistance and behavioral health support. This training should consider contextual factors, such as stigma and immigration status, to aid clinicians in having these conversations with patients and individuals. Community health workers may also represent an opportunity to provide effective social support, particularly in diverse communities. As it relates to our findings regarding multi-generational financial strain and a life course perspective, these educational policies for clinicians should emphasize the creation of safe spaces for younger patients and disclosure of situations related to financial strain and other challenges (e.g., violence); encouraging younger patients who disclose financial strain may allow for key intervention earlier in the life course before many health conditions develop.

6. Limitations

Our meta-synthesis has several limitations. First, the broad search strategies included a range of health outcomes but likely failed to capture important work within some disease populations. Second, because our central concept was financial strain, we did not include contributions from the financial toxicity literature. Specifically, we excluded those in which a major life event or health event preceded and contributed to the financial strain, because that captures a different mechanism of action and therefore a qualitatively different experience. We eliminated this body of literature during primary screening since the research question for the overall project was directional (How does financial strain influence health?). We also excluded the term poverty, because, although many people in poverty experience financial strain, it is not sensitive to capture everyone with financial strain and is an objective measure. Future research should consider additional terms such as financial struggles, financial fragility, financial vulnerability, which we considered but eliminated from our search strategy because they are related but distinctly different in meaningful ways. In excluding this literature, we likely missed key contextual literature to inform our framework. Third, meta-synthesis, like other qualitative approaches, may be influenced by the social experiences of the study team. Although we used frequent reflection and team meetings to discuss our analysis, we acknowledge that our team has varying experiences of financial strain that may have influenced our interpretations. Fourth, most studies in this meta-synthesis were focused on research questions which resulted in a theme related to financial strain. These may differ from studies that focus specifically on a central research question around the relationship of financial strain and health. Finally, our literature search only included U.S. articles, thus limiting transferability of our findings to other countries and settings, even including other high-income countries, such as Canada (i.e., has a public health care system).

7. Conclusion

Four themes emerged from our meta-synthesis of the qualitative literature exploring the relationship between financial strain and health: 1) Financial strain: An intersection of threats to meeting basic needs; 2) Financial strain across the life course and intergenerational stress; and 3) The cycle of financial strain, coping behaviors and health outcomes. Our findings underscore the importance of considering multiple threats to housing, food, job

and health care security, and our cyclical model of financial strain and health may be useful for future research and testing. Finally, this synthesis highlights the importance of adopting a life course perspective and considering intergenerational influences when studying the relationship between financial strain and health. We have suggested several research questions, which could be explored in future work to address financial strain and reduce the harmful effects of financial strain on health.

Supplementary Material

Refer to Web version on PubMed Central for supplementary material.

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Box 1

Research questions generated from meta-synthesis

- How are coping behaviors and trade-off decisions made by people experiencing financial strain to balance health, necessities of life and other priorities?
- Do coping behaviors related to financial strain (and which types of coping behaviors) alleviate negative sequelae of financial strain and address insecurities?
- What are the roles of contextual-, interpersonal-, and individual-level factors on coping behaviors?
- Which policies and programs are needed or already exist that can address financial strain and reduce its detrimental effect on families and health disparities?
- How do individuals and families make decisions about using finances for health care services to address health issues?
- How do individuals and families decide to engage in certain coping behaviors vs. others?
- Do individuals and families with multi-generational financial strain have different health outcomes or coping behaviors than others?
- Is there evidence that improving health can change financial strain?

Box 2

Suggested Strategies to Address Financial Strain and Health from Studies Included in Meta-Synthesis

Screen for financial strain (Dickens et al., 2019; Knowles et al., 2016; Schlosser et al., 2019).

Medication and treatment access.

Medical office prescription samples, coupons, vouchers, and mail order prescriptions (Patel et al., 2014).

Medication and/or treatment assistance programs (Oates et al., 2019; Patel et al., 2014).

Housing programs.

Funding and/or incentives for housing improvements, such as the Weatherization Assistance Program (Hernández et al., 2016).

Homelessness prevention programs, particularly for those experiencing health shocks (Phillips et al., 2019).

Improved access to rental assistance, including public housing and vouchers (Brantley et al., 2017; Dickens et al., 2019; Phillips et al., 2019).

Food Security.

Partnering with clinics, health insurance programs, and social services to provide transportation to food markets (Schlosser et al., 2019). Assistance accessing food assistance benefits, such as the Supplemental Nutrition Assistance Program or WIC (Gross et al., 2019).

Substance Use Disorder Services.

Expanding access to services for substance use disorder (Brantley et al., 2017; Criss et al., 2016).

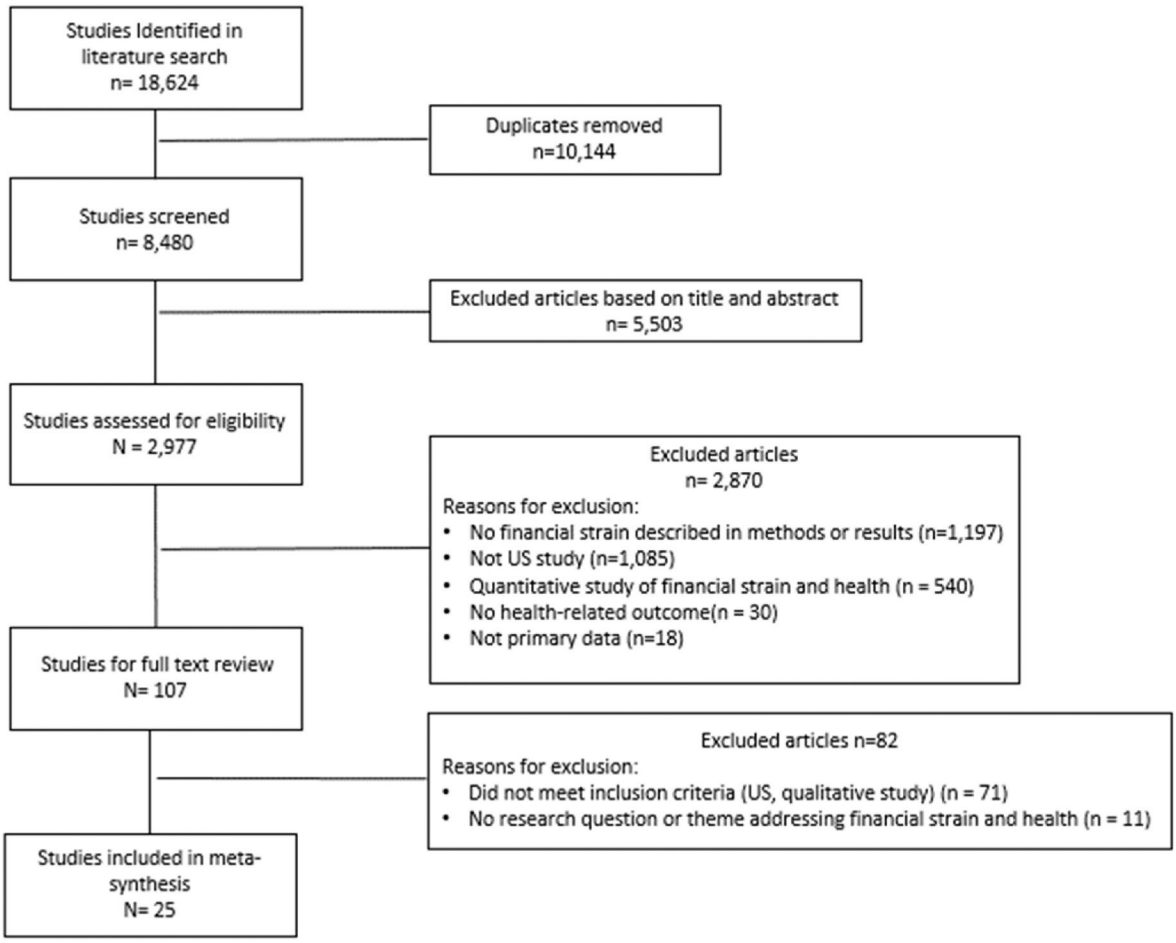

Fig. 1.
PRISMA diagram.

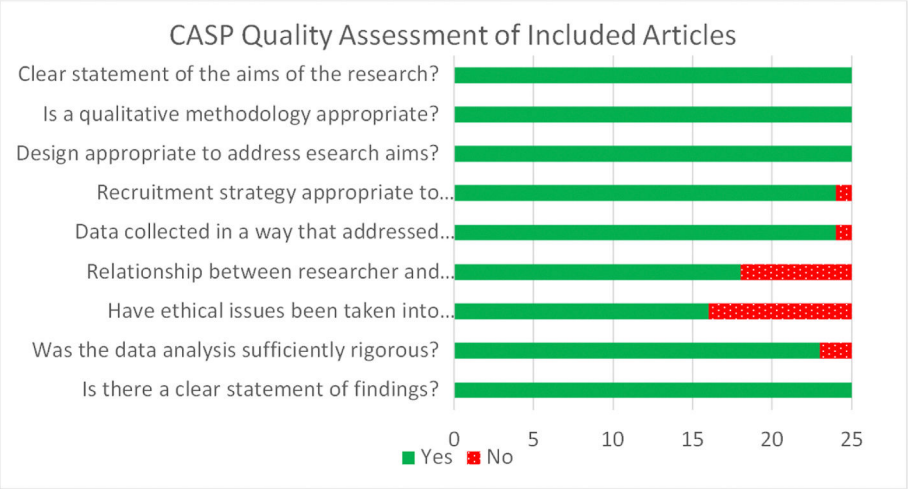

Fig. 2.
Quality assessment of meta-synthesis articles using CASP (n = 25).

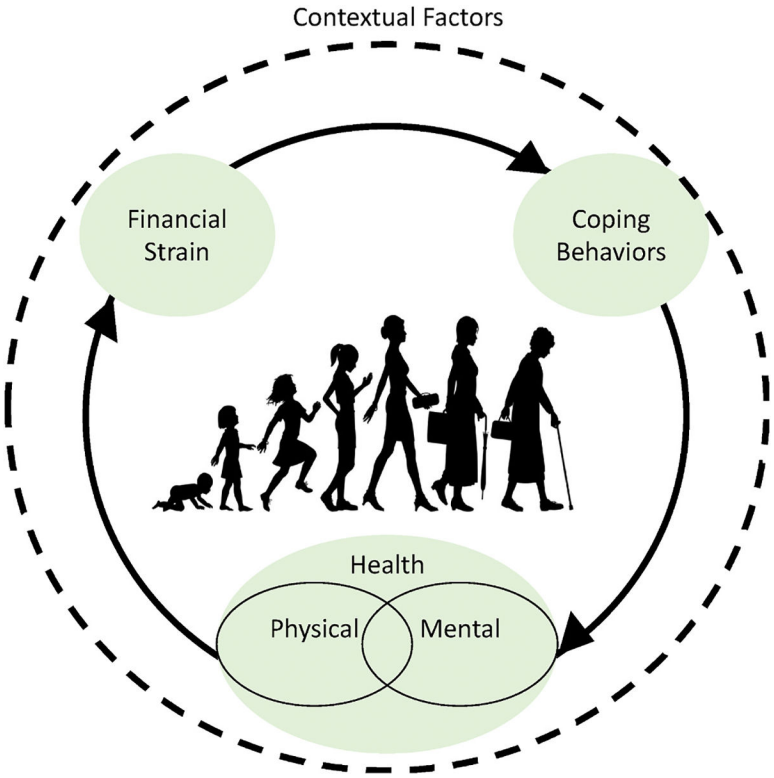

Fig. 3.
The cycle of financial strain and health.

Table 1

Summary of study designs and characteristics.

Author, year	Study design; Sample size (n)	Population Age range	Health Outcomes of Interest
Blanco et al., 2020	Focus groups N = 37	Low-income, Latina women participating in community organizations with programs related to housing, education, counseling, job training, and health Age range 25–65, 29.7% were 35–44 years	Mental health and coping
Brantley et al., 2017	Semi-structured interviews N = 25	Exotic women dancers working in exotic dance clubs Ages 19–33 years	Sexual risk behavior and substance use
Campbell & Allen, 2019	Narrative research N = 4	Black/African American Men with depression Ages 39–54 years	Experience of depression, help-seeking, and treatment
Criss et al., 2016	Focus groups N = 80	Low-income Hispanic and Black adolescents Ages 13–25	Incidence and prevalence of substance abuse
Crocker et al., 2021	Semi-structured interviews N = 15	Hispanic and Native American patients with a history of diabetic foot ulcer(s) and/or minor and/or major amputation Average age 54.2 years	Lived experience with diabetic foot ulcers and amputation
Dickens et al., 2019	Mixed methods: Survey and semi-structured interviews N = 35	Patients of low socioeconomic status with a readmission within 120 days of an exacerbation of heart failure Average age 60 ± 12.8 years	Psychological stress and self-care
Enriquez et al., 2018	Mixed methods: Survey and semi-structured interviews N = 30	University students Average age 20.8	Stress, mental health, and well-being
Gross et al., 2019	Semi-structured interviews N = 100	Low-Income Hispanic mothers with infants in the first 2 years of life WIC participants (91%) with infants (32 with 3–7-month-olds, 31 with 10–15-month-olds, and 37 with 19–24-month-olds)	Infant-feeding beliefs, styles, and practices
Hernández et al., 2016	Mixed methods: Survey and semi-structured interviews N = 20	Low-income heads of households Largest age group 46–60 (40%)	Asthma outcomes and perceived stress
Keene et al., 2018	Semi-structured interviews N = 40 (total), 26 (with follow-up interviews)	Patients aged 24 and over with diagnosed Type 2 Diabetes and eligible for rental assistance Average age 53 years	Diabetes management
Knowles et al., 2016	Parent mental health and child well-being N = 51	Semi-structured interviews Age range not provided	Parents of children under age four

Author, year	Study design; Sample size (n)	Population Age range	Health Outcomes of Interest
Kosenko, 2011	Semi-structured interviews N = 41	Self-identified transgender adults Average age of 38.5 ± 11.9 years	Sexual risk behavior and human immunodeficiency virus (HIV) prevention
Lee et al., 2016	Mixed methods: Survey and focus groups N = 24	Informal kinship caregivers providing full time care for children without biological parents present and are outside of the foster care system Mean age 52 ± 11.5	Stress, health, and emotional well-being
Libman et al., 2012	Focus groups N = 127	Low- and moderate-income homeowners threatened with foreclosure Ages not provided.	Mental health
Lilleston et al., 2015	Semi-structured interviews N = 25	Exotic women dancers Ages 19–42 years	Risk of sexually transmitted disease/HIV and sexual risk-taking behaviors
Marcil et al., 2020	Semi-structured interviews N = 26	Women experiencing financial strain with at least one child aged 5 years or younger. Average age 31.5 (range 24–41)	Mental health
Mead et al., 2010	Focus groups N = 387	Patients with heart failure and acute myocardial infarction Ages 18–64+	Cardiovascular disease management
Nguyen et al., 2018	Focus groups N = 55	Adults seeking food assistance at Crossroads Community Services Most participants were in their 40s and 50s	Health care decisionmaking
Oates et al., 2019	Focus groups N = 24	Adults with chronic obstructive pulmonary disease (COPD) who had attended pulmonary rehabilitation Average age 62.3 ± 8.6 years	Adherence to pulmonary rehabilitation
Patel et al., 2014	Focus groups N = 26	African American women with asthma receiving care Mean age 47.53 years (< full insurance) and 44.36 years (full insurance)	Asthma management
Phillips et al., 2019	Semi-structured interviews N = 30	Patients with cancers or survivors of cancer Age 50–64 years (52.4%)	Housing needs after a cancer diagnosis
Poudel-Tandukar et al., 2019	Focus groups N = 67	Resettled adult Bhutanese refugees The mean age 38 ± 16 years; age range 18–65 years	Mental health conditions and well-being
Rodriguez et al., 2018	Semi-structured interviews N = 18	Latino adults and youth affected by domestic violence Adults were 26–45 years of age; youth ranged in age from 11 to 20 years	Domestic violence
Schlosser et al., 2019	Semi-structured interviews N = 64	Lower income Black and Latina women with the diagnosis of abnormal mammogram screening Ages 40–49 years (53%)	Adherence to recommended health behaviors

Author, year	Study design; Sample size (n)	Population Age range	Health Outcomes of Interest
Shelton et al., 2011	Semi-structured interviews	Patients enrolled in 3-month produce prescription program for hypertension	Program participation and experience
	N = 23	Average age 62 ± 11.2 years	

Table 2

Summary of Financial strain Themes and Types in Studies.

Author (Year)	Research objective	Number of financial strain-related theme(s) (n = x) and Theme name as listed in paper	Type of insecurity			
			Housing	Food	Health care access	Job
Blanco et al., 2020	Explore perspectives on financial and mental health among Latinas residing in Los Angeles County.	(n = 4) Theme 1: Important Role of Women in Household Financial Decision-Making Theme 2: Difficulty Accumulating Savings Theme 3: Perceptions of Formal Financial Institutions Theme 4: Impact of Financial Stress on Mental Health and Coping Mechanisms	X			X
Brantley et al., 2017	Highlight how different experiences of structural vulnerability converge with their work environment to shape a context of HIV/sexually transmitted infection (STI) risk.	(n = 2) Accumulated structural vulnerability: shaping pathways to chronic social and economic hardship Social relationships and strategies to achieve economic stability	X			X
Campbell & Allen, 2019	Explore the narratives of four Black men with depression to both highlight the voice of Black/African American men in mental health research and better understand how Black/African American men understand depression, experience symptoms, and engage in help-seeking.	Narrative analysis did not result in themes, but each narrative included an aspect of financial strain, help-seeking and depression management			X	
Criss etal., 2016	Examine how stresses of daily life affected substance use and perceived risk among Black and Hispanic adolescents.	(n = 1) Financial strain				X
Crocker et al., 2021	Capture detailed personal accounts and insights from patients with a clinical history of diabetic foot ulcers (DFU) and amputations to better understand patient experiences.	(n = 1) Economic and employment impacts			X	X
Dickens et al., 2019	Describe the influence of stress and social determinants of health on self-care in patients with heart failure who have low socioeconomic status (SES).	(n = 1) Financial stress	X		X	X
Enriquez et al., 2018	Uncover the everyday manifestations of four dimensions of immigrant “illegality”: Academic concerns, future concerns, financial concerns, and deportation concerns, and their association with reported stress levels and self-rated health.	(n = 1) Financial Stressors	X	X		
Gross et al., 2019	Learn more about their financial pressures and perceived effects on infant and toddler feeding.	(n = 3) Contributors to General Household Financial Strain and Food Insecurity Effects of Food Insecurity on Infant Feeding Coping Strategies		X		

Author (Year)	Research objective	Number of financial strain-related theme(s) (n = x) and Theme name as listed in paper	Type of insecurity			
			Housing	Food	Health care access	Job
Hernández et al., 2016	Investigate the concept of energy insecurity by looking at the impacts of weatherization and energy efficiency interventions on low-income households in the South Bronx neighborhood of New York City.	(n = 1) Economic Hardship	X		X	
Keene et al., 2018	Examine transitions into rent-assisted housing as they relate to diabetes self-management behaviors.	(n = 2) A Home of My Own An Affordable Place To Live	X		X	
Knowles et al., 2016	Investigate how parents that report marginal, low and very low food security characterize how trade-offs associated with food insecurity affect parents' mental health and child well-being.	(n = 2) Coping with Trade-Offs: "Do You Wanna Breathe or Eat?" Trade-Offs and Mental Health Effects on Child Behavior: "Talking to Us in a Scream"	X	X	X	
Kosenko, 2011	To identify contextual features influencing the sexual risk-taking of transgender adults.	(n = 1) Financial Woes	X	X		X
Lee et al., 2016	Gain insight into kinship caregivers' experiences and understand sources of parenting stress for this population.	(n = 1) Financial strain	X	X		
Libman et al., 2012	Add to the literature linking housing and health by illustrating how poor health can increase the risk of foreclosure and how the threat of foreclosure can negatively affect mental health.	(n = 2) The Cascade of Trouble: A Confluence of Vulnerabilities Health Issues as a Trigger for Mortgage Delinquency	X			
Lilleston et al., 2015	Describe the factors that influenced women's entry into exotic dance and explore the relation of these forces to their subsequent STI/HIV risk trajectory.	(n = 2) Predisposing Factors: Economic Vulnerability From Entry to STI/HIV Risk: Economic Vulnerability				X
Marcil et al., 2020	Develop a conceptual theory to describe how financial strain affects women with young children to inform clinical care and research.	(n = 3) Financial Strain Has Specific Characteristics and Common Triggers Financial Strain Is Exacerbated by Inadequate Assistance and Results in Tradeoffs Financial Strain Forces Parenting Modifications		X		X
Mead et al., 2010	Examine the psychosocial challenges that interfere with low-income, underserved patients' ability to manage cardiovascular disease (CVD) and seeks to explore the differences in how men and women manifest these issues.	(n = 1) Chronic life stressors: Financial stress			X	X
Nguyen et al., 2018	Explore which unmet social needs are most influential and how these needs affect individuals' decisions regarding medical treatment and self-management of health needs among community dwelling low-income adults.	(n = 3) Trade-offs between household and individual needs. Alternative remedies used as affordable substitutes. Reluctance to discuss financial strain in clinical settings.	X	X	X	

Author (Year)	Research objective	Number of financial strain-related theme(s) (n = x) and Theme name as listed in paper	Type of insecurity			
			Housing	Food	Health care access	Job
Oates et al., 2019	Identify predisposing (intrapersonal), reinforcing (interpersonal), and enabling (structural) factors acting as barriers or facilitators of adherence to pulmonary rehabilitation, and elicit recommendations for solutions from patients with chronic obstructive pulmonary disease (COPD).	(n = 2) Barriers: Enabling (structural) Proposed Solutions: Enabling (structural)			X	
Patel et al., 2014	Describe how women with asthma address cost-related challenges to management of their condition.	(n = 5) Acceptance of the status quo Stockpiling medicines Utilizing community assistance programs Reaching out to health care providers & social networks Foregoing self-management and seeking urgent care			X	
Phillips et al., 2019	Describe the types of housing issues experienced by patients with cancer and survivors of cancer in New York City.	(n = 4) Housing Costs Home Loss Doubled Up or Unstable Housing Housing Conditions	X			
Poudel-Tandukar et al., 2019	Identify cultural influences on seeking mental health support among Bhutanese refugees resettled in Western Massachusetts.	(n = 1) Awareness of Mental Health Issues in the Bhutanese Community			X	
Rodriguez et al., 2018	Address the lack of research exploring the social and emotional impact of anti-immigrant policy on Latino communities, and the intersection of anti-immigrant climates with other family stressors, like domestic violence.	(n = 1) Economic Insecurity among Adult Participants				X
Schlosser et al., 2019	How economic constraints shape participant program engagement and sustainability of behavior change related to fruit and vegetable consumption.	(n = 1) Limited and unstable income		X		
Shelton et al., 2011	Provide an in-depth examination of factors that women report in an investigation of their psychosocial beliefs and social context, factors that may enable or impede their adherence to recommended health behaviors.	(n = 1) Material and economic hardship.	X	X	X	X