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A qualitative exploration of low-income women’s access to primary care services and health-seeking behaviours in an urban setting in California in the Affordable Care Act era.

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I declare that this thesis is my work and has not been submitted for the award of a higher degree elsewhere.

Abstract

Introduction: Under the 2010 Affordable Care Act (ACA), Medicaid eligibility was expanded to low-income individuals at 138% of the federal poverty level**.** Medicaid is a United States (U.S.) federal programme that funds health insurance for low-income individuals. Despite ACA reform, many women continue to experience significant challenges in accessing primary care. A mixed-methods systematic review found limited research since the ACA on factors that impact working-age women's access, particularly low-income women.

Methods: A qualitative study explored low-income women's experiences accessing primary care services in an urban setting in California. Eighteen semi-structured interviews were conducted with eligible women. A reflexive thematic analysis method was applied using a hybrid inductive and deductive approach.

Results: Levesque's conceptual framework of access to healthcare guided the deductive analysis (Levesque et al., 2013). Low-income women's experiences with primary care access were influenced by several intersecting individual demand-side, health system supply-side factors, and structural determinants. The inductive analysis found health coverage, low healthcare costs, health-related knowledge, easy geographic access, convenient appointment scheduling mechanisms, and supportive, trusting relationships with providers facilitated primary care access. Major barriers to access included no health coverage, difficulties making appointments, healthcare setting discrimination, lengthy appointment wait times, limited health-related knowledge, poor provider communication, and difficulties navigating access to healthcare services.

Analysis and Discussion: This study resulted in a better understanding of factors that impact low-income women's access to primary care. The social-ecological model and the intersectionality framework were applied as a lens to better understand how the complex interplay of determinants influences access in low-income women in the ACA era.

Conclusion: These findings provide a foundation for California and U.S. policymakers, practitioners, and researchers to develop and implement policies, programmes, and interventions at the policy, health system and clinic-level to address the significant barriers low-income women still face accessing primary care.

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List of Abbreviations and Acronyms

ACA	Affordable Care Act
ACS	American Community Survey
AD	Autoimmune Disease
BP	Blood pressure
BRFSS	Behavioral Risk Factor Surveillance System
CI	Confidence interval
CINAHL	Cumulative to Nursing and Allied Health Literature
COVID-19	Coronavirus Disease 2019
CFR	Code of Federal Regulations
CVRF	Cardiovascular risk factors
FBAI	Foreign-born Asian immigrant
FHMREC	Faculty of Health and Medicine Research Ethics Committee
FPL	Federal Poverty Level
GED	General Educational Development
GD	Gastrointestinal disease
IHSS	In-Home Supportive Services
ICF	Informed Consent Form
IRB	Institutional Review Board
MEDLINE	Medical Literature Analysis and Retrieval System Online
MHD	Mental health disease
MEPS	Medical Expenditure Panel Survey
MeSH	Medical Subject Heading
MMAT	Mixed-Methods Appraisal Tool
MRI	Magnetic Resonance Imaging
MSD	Musculoskeletal disorders
NBWA	Native-born (Non-Hispanic) White America
NHIS	National Health Interview Survey
ND	Neurological disease
NS	Nonsignificant

NP	Nurse Practitioner
PA	Physician’s Assistant
PCP	Primary Care Provider
PICOS	Participants, Intervention, Control, Outcome, and Setting
PRISMA	Preferred Reporting Items for Systematic Reviews and Meta-Analyses
PROSPERO	International Prospective Register of Systematic Reviews
PTSD	Post-traumatic stress disorder
SFSU	San Francisco State University
SUD	Substance use disorder
U.K.	United Kingdom
U.S.	United States

Chapter 1: Introduction

1.1 Introduction

This thesis examines working-age low-income women’s experiences accessing primary care in the United States (U.S.) and explores facilitators and barriers these women encounter accessing healthcare in the Affordable Care Act (ACA) era. While this topic is relevant to men, this thesis focuses on low-income women because of the differential inequalities relating to healthcare access that exist for this group. Despite the importance of primary care access in promoting better health outcomes, limited research has been conducted on low-income women’s experiences, facilitators, and barriers to primary care access following ACA reform.

Section 1.2 and 1.3 offers an overview of primary care access in a global and U.S. context. Various definitions of healthcare access are examined in Section 1.4. Section 1.5 focuses on elements that influence women’s healthcare access in the U.S., and Section 1.6 evaluates women’s health outcomes in the U.S. The role of the ACA in expanding access to healthcare, and how the ACA has impacted adult women’s access to healthcare is reviewed in Sections 1.7 and 1.8. Section 1.9 examines women’s access to insurance coverage and healthcare services in California during the ACA, and Section 1.10 outlines the gaps in current knowledge. Section 1.11 reviews the researcher’s background, and Section 1.12 and 1.13 summarises the organisation of the thesis and conclusion.

1.2 Access to primary care: a global context

Primary healthcare engages individuals, families, and communities in health-promoting activities, provides integrated comprehensive healthcare services, and implements multi-sectoral policies to address the wider social determinants of health (World Health Organization, 2021). The World Health Organization emphasises the “highest attainable standard of health is one of the fundamental rights of every human being without distinction of race, religion, political belief, economic, or social condition” ("Constitution of the World Health Organization," 1946, p. 1268). The Alma-Ata Declaration recognising the importance that primary care plays in achieving health and well-being for everyone defines primary care as “the first level of contact of individuals, the family, and community with the national health system bringing healthcare as close as possible to where people live and work, and constitutes the first element of a continuing healthcare process" (World Health Organization, 1978, p. 2).

Equitable access to primary care is a global concern. Often, healthcare is less accessible to U.S. populations compared to other high-income countries, which leads to poorer health outcomes. The gap in life expectancy between the U.S. and other high-income industrialised countries has widened considerably since the 1980s (Agency for Healthcare Research and Quality, 2022). A study of primary care access in 11 high-income countries found that 21% of adults versus 38% of U.S. adults encountered multiple barriers to receiving care; while 16% of adults versus 18% of U.S. adults experienced two or more barriers after reaching care, with lower-income groups encountering barriers more frequently (Corscadden et al., 2018). In a survey of adults living in 11 high-income countries with poor to fair health, low and middle-income adults were more likely to report poorer access to healthcare in Canada, New Zealand, and the U.S. (Dahrouge et al., 2018). Furthermore, low-income individuals living in the Netherlands, Norway, and the U.S. were more likely to report inadequate patient-centred care.

Women in the U.S. had the highest rates of unaffordable or foregone healthcare, the most significant burden of chronic disease, and the highest dissatisfaction with care, compared to women in 10 other high-income countries (Gunja et al., 2018). Healthcare costs in the U.S. are often higher for the insured, compared to other high-income countries. Inequalities of healthcare access are often greater in the U.S. due to the lack of universal health coverage and other socio-economic factors, which lead to poorer health outcomes and lowered life expectancy, compared to other high-income countries. In 2019, the average life expectancy for most states was 75-80 years, but life expectancy in Mississippi and Virginia was less than 75 years (Radley et al., 2022, August 11). Individuals living in the U.S. have a lower average life expectancy compared to those living in the majority of OECD countries.

1.3 The role of primary care in the U.S.

Primary care provides disease prevention, health promotion, and maintenance, diagnosis, treatment of acute and chronic disease, and patient education counselling services primarily in community-based ambulatory care settings in the U.S. (American Academy of Family Physicians, 2022). Primary care providers (PCPs) are trained healthcare professionals such as physicians, Physician Assistants, and Nurse Practitioners, who provide primary care services and manage individuals' health. These services include diagnosis and treatment of acute and chronic diseases and provision of preventive healthcare. Primary care providers are gatekeepers and refer patients to speciality and tertiary healthcare services when needed. Primary care, often associated with more equitable access to population-based healthcare, includes comprehensive person-focused care, first encounter for each health need, and coordinated care (Starfield et al., 2005). When the usual source of care is a primary care physician, individuals are healthier, despite existing morbidities (Shi & Starfield, 2000; Starfield et al., 2005). Improved access to primary care services leads to better health outcomes, reduced healthcare costs, and lower mortality rates within entire populations (Shi et al., 2005). Factors that affect the quality of care received include health coverage, appointment availability, clinic wait time, continuity of care, flexible schedule, flexibility in choosing a PCP, healthcare structure of service delivery, quality of clinical care, provider-staff interactions, and clinic travel time (Shi, 2012). Lack of access to high-quality primary care can cause delayed receipt of preventive care or treatment, missed opportunities for diagnosis, increased rates of visits to the emergency room, increased healthcare costs, and a higher burden of chronic disease, often poorly managed due to lack of care coordination (National Academies of Sciences, 2021).

1.4 Access to healthcare

Various definitions and conceptual frameworks exist regarding healthcare access. Penchansky and Thomas (1981) have defined healthcare access as the interplay between the attributes of individuals, households, health systems, organisations, or providers, and the environment, with dimensions of access including acceptability, accessibility, accommodation, affordability, and availability. Healthcare access has been described as "the timely use of personal health services to achieve the best possible health outcomes" (Institute of Medicine (U.S.) Committee on Monitoring Access to Personal Health Care Services, 1993, p. 4). Measures of potential access (such as insurance coverage, income levels, or access to a usual source of care), and measures of realised access—or actual use of healthcare services (type, site, purpose, and time interval) are common indicators of access (Aday & Andersen, 1974; Andersen, 1995; Andersen et al., 2013). Dimensions of healthcare often used to capture healthcare quality include "effectiveness, efficiency, access, safety, equity, appropriateness, timeliness, acceptability, patient responsiveness, or patient-centredness, satisfaction, health improvement, and continuity of care" (Legido-Quigley et al., 2008, p. 4). Definitions of healthcare access should incorporate equitable access to healthcare services based on need (Institute of Medicine (U.S.) Committee on Monitoring Access to Personal Health Care Services, 1993). Equity has been defined as "an attribute of a system that provides roughly similar services to those with similar health problems" (Vladeck, 1981, p. 7). Healthcare equity involves assessing horizontal equity, which provides equal treatment to those with equal needs, and vertical equity, which acknowledges that individuals with greater medical needs require more complex services (Raine et al., 2016).

Key components of access include access to a PCP and a healthcare delivery system, and geographic availability of health services (Agency for Healthcare Research and Quality, 2019). Access to healthcare is often determined by the accessibility, quality, and price of health-related goods, resources, and services (Levesque et al., 2013). Access to healthcare can improve health and well-being, treat diseases, and significantly prolong life. Barriers to access often lead to delayed disease diagnosis and initiation of treatment, poorer health outcomes, and untimely death. Barriers to healthcare include no health insurance coverage, a shortage of PCPs, inadequate transportation, insufficient translation services, limited office hours, and living geographically distant from healthcare facilities (Healthy People 2030, 2022).

Access to healthcare in the U.S. is influenced by complex, interrelated factors, including biology or demographic characteristics (age, biological sex/gender, and race/ethnicity), environment (lack of access to food, adequate housing, or education), income level, and health insurance coverage (Agency for Healthcare Research and

Quality, 2019; National Academies of Sciences, 2018). Income, immigration status, language capabilities, and work status influence individuals' ability to access healthcare. Historically, the absence of universal healthcare coverage, an integral component of equitable primary care access, combined with income inequalities, has led to significant health inequalities in the U.S. (Starfield et al., 2005). These inequalities significantly impact U.S. life expectancy and mortality rates. (Shi et al., 1999). In 2020, life expectancy across states varied between 71.9 to 74.8 years (in certain south and southeast states) and 78.4 to 80.7 years (in certain southwest, northwest, and north-eastern states) (Centers for Disease Control and Prevention, 2022a). In 2014, a difference of 20.1 years existed between counties with the highest and lowest life expectancy (Dwyer-Lindgren et al., 2017). Factors that explained differences in life expectancy between counties included individual behaviours and metabolic risk factors (74%), race/ethnicity and socio-economic factors (60%), and healthcare-related factors (27%).

Groups at risk of reduced access include individuals with public insurance, low-income individuals, racial-ethnic minority groups, or individuals with poor health status (Allen et al., 2017). Racial-ethnic minority groups in the U.S. are often subject to inequalities accessing insurance and healthcare services, leading to poorer health outcomes (Allen et al., 2017; Egede, 2006; Institute of Medicine (U.S.) Committee on Understanding and Eliminating Racial and Ethnic Disparities in Health Care, 2003; Mayberry et al., 2000; Okoro et al., 2017). The concepts of race and ethnicity are socially constructed, and relate to differential access to opportunities, resources, and status and processes of exclusion (Salway et al., 2020). A U.S.-based study found low-income individuals (less than 138% of the federal poverty level [FPL]) (experienced worse access to care for all 21 measures of healthcare access compared to higher-income groups (family income four times the FPL or more); while Hispanics had worse access to healthcare for 14 of 20 access measures, and Blacks had worse access for 12 of 22 access measures, compared to Whites. (Agency for Healthcare Research and Quality, 2016).

1.5 Women's access to healthcare in the U.S.

Unique sex and gender-specific factors impact women's access to primary care services. Adult women are often disproportionately affected by issues related to access to health coverage, financial costs, and discriminatory practices compared to men. In 2021, more working-age women (18%) were covered by the federal-state Medicaid programme, which offers public health insurance to eligible individuals, than men (14%) (Kaiser Family Foundation, 2022a). Because women have lower incomes than men, they are more likely to meet Medicaid's eligibility requirements, which target parents with children under 18, pregnant women, and those with disabilities. Women often experience more barriers paying for healthcare services even if insured compared to men; women earn lower incomes and have higher out-of-pocket healthcare expenses as a percentage of their income. In 2020, a survey found 24% of women had problems paying medical bills over the last 12 months compared to 17% of men; while 57% of women attributed difficulties paying due bills in part to the Coronavirus Disease 2019 (COVID-19) pandemic (Long et al., 2021). Working-age women visit their healthcare provider more often than men (Buttorff et al., 2017). Women bear a disproportionate burden as family caregivers to children, spouses, and parents (Gunja et al., 2017).

Of 97.3 million women (19-64 years) living in the U.S., most have health coverage; however, despite gains made by the ACA, 11% (10.3 million) were uninsured in 2021 (Kaiser Family Foundation, 2022a). Uninsured women are more likely to report lower rates of preventive services use or delayed care due to cost compared to insured women (Gunja et al., 2017; Salganicoff et al., 2014). In 2021, women who were more likely to be uninsured included non-citizens (31%), low-income (less than 200% of the FPL) (19%), Hispanic (22%), American Indian/Alaska Native (22%), Black (11%), or Native Hawaiian/Other Pacific Islander (11%) women, compared to U.S. citizens (9%), higher-income (200% of FPL or more) (7%), White (7%) or Asian (7%) women (Kaiser Family Foundation, 2022a). Uninsured women are more likely to report lower use of essential primary care services, such as preventive care services, blood pressure (BP) assessments, mammograms, and pap smears (Gunja et al., 2017). Often, women without insurance have inadequate access to healthcare, get poorer quality healthcare, with more adverse health outcomes (Garfield et al., 2019). In 2021, 18% of women (19-64 years) had Medicaid insurance, and 42% of women in a lower-income bracket (less than 200% of FPL) were covered by Medicaid, compared to 9% of higher-income women (200% of FPL or more) (Kaiser Family Foundation, 2022a). Medicaid coverage varied according to race and ethnicity. American Indian/Alaska Native (33%), Black (28%), Native Hawaiian/Other Pacific Islander (25%), and Hispanic (23%) women were more likely to be covered by Medicaid, compared to White (14%) and Asian (14%) women.

Determinants such as age, disability status, race/ethnicity, residential location, sexual orientation, and socio-economic status impact women's access to care. Women who belong to racial-ethnic or sexual minority groups are more likely than heterosexual, Non-Hispanic White women to experience healthcare inequalities (Daniel et al., 2018a). Other non-financial barriers in diverse groups of U.S. women include lack of health-related knowledge (Mann et al., 2016; Roman et al., 2017), inadequate transportation (Chor et al., 2018; Mann et al., 2016; Roman et al., 2017; Statz & Evers, 2020), and competing needs (Arangua et al., 2005; Brown et al., 2020; Chor et al., 2018; Gelberg et al., 2004; Roman et al., 2017).

1.6 Women and health outcomes in the U.S.

Adult working-age women in the U.S. have a higher prevalence of multiple chronic diseases compared to men (Buttorff et al., 2017). In 2020, 44% of women (18-64 years) reported a chronic health condition that required regular monitoring, medical care, or medication (Long et al., 2021). Older women (55-64 years) (61%) were more likely than young women (18-25 years) (24%) to have a chronic health condition, while women insured with Medicaid (47%) and private coverage (45%) had higher rates of diagnosed chronic disease that required regular care compared to uninsured women (31%). White women (48%) and Black women (45%) women have a higher likelihood of a chronic health condition compared to Hispanic (35%) and Asian women (34%).

In 2016, 17.9% of U.S. women (18-44 years) compared to 15.2% of men (18-44 years), and 30.1% of women (45-64 years) compared to 27.1% of men (45-64 years) reported a disability (Okoro et al., 2018). In 2020, 15% of women reported a disability or chronic disease that affected function; while 10% of women with chronic illnesses did not see a regular doctor or another healthcare professional (Long et al., 2021). Low-income women (24%), women with Medicaid insurance (29%), and older women (21%) were more likely to report chronic disease or disability than other groups of women. Women on Medicaid and those with lower incomes had a higher likelihood of reporting fair or poor health compared to women not on Medicaid. Black women (20%), and Hispanic women (19%) were more likely than White women (12%) and Asian women (9%) to report having fair or poor health. Women who are low income and belong to a racial-ethnic minority group often lack access to healthcare, so are at increased risk for worse health outcomes.

1.7 The role of ACA in expanding access to healthcare

The ACA of 2010 is one of the most important U.S. healthcare policies enacted since the Medicaid and Medicare Act of 1965. The ACA has expanded public and private health coverage, increased health insurance affordability, reduced healthcare costs, and improved healthcare quality for many eligible individuals. Key provisions include the expansion of Medicaid insurance to most low-income individuals (less than 138% of FPL), the creation of multi-state-based insurance exchanges, and premium tax credits to assist individuals and small businesses in purchasing affordable insurance (Kaiser Family Foundation, 2022a). Employers are required to offer employee health coverage, except small employers who are eligible to sign up for a small-business healthcare tax credit under the ACA. The ACA's dependent-coverage mandate requires individual and group insurance policies to provide coverage to young adults up to 26 years under their parent's health insurance policies (Kaiser Family Foundation, 2013a).

By July 2023, ACA's Medicaid expansion provisions had been adopted by 41 states (including the District of Columbia) and had not been adopted by 10 states (Kaiser Family Foundation, 2023). As of May 2023, Medicaid, the single largest source of health insurance, provided coverage to 86.8 million Americans (Centers for Medicare & Medicaid Services, 2022). Between 2013 and 2020, Medicaid enrolment increased by 24.7% (14 million) across 49 states (Medicaid and CHIP Payment and Access Commission, 2022). In the fourth quarter of 2021, the uninsured rate was 8.8%, close to an all-time low; and by 2022, enrolment in ACA-related coverage had reached a new peak of 35 million Americans (Lee et al., 2022).

1.8 ACA and U.S. women's access to healthcare

ACA led to millions of women accessing health insurance and primary care services, which included mental and preventive care. Medicaid expansion provided health coverage for many women previously ineligible for Medicaid. Medicaid coverage was restricted to those with a low-income, pregnant, disabled, or 65 years or older before the ACA (Kaiser Family Foundation, 2022a). The ACA prohibited insurance companies from gender rating practices that charged women more or denied coverage for pre-existing conditions such as pregnancy. ACA provisions require most health insurance plans to cover at least one annual physical examination or well-woman visit, cancer screenings, evaluations of diet and exercise, and preconception care (Long et al., 2021). ACA's 2012 contraception mandate required new health insurance plans to offer Food and Drug Administration-approved female contraception and contraceptive services without patient cost-sharing, resulting in free contraceptives for millions of women (Sobel et al., 2018; Tschann & Soon, 2015). Despite these successes in expanding women's coverage nationally, the ACA has not been an unqualified success. For example, in 2021, 10% of working-age women reported not having a healthcare provider (Kaiser Family Foundation, 2022b). Hispanic (23%), Asian and Native Hawaiian/Pacific Islander (15%) or American India/Alaskan Native (14%) women were more likely to not have a healthcare provider compared to Black (9%) or White (8%) women. A 2020 survey found 93% of women (18-64 years) had visited a healthcare provider in the last 2 years, however only 73% had received a check-up (Long et al., 2021).

1.9 ACA and women's access to healthcare services in California

Before ACA, California offered limited Medi-Cal (California's Medicaid programme) insurance to low-income parents, low-income pregnant women, children below 18 years of age, disabled individuals, and the poor (Gelatt et al., 2014). In 2014, the ACA expanded Medi-Cal coverage state-wide to low-income citizens and legal immigrants. Middle-income residents were eligible for premium subsidies when purchasing coverage through Covered California. Between 2012-2016, uninsured rates in Californian women (19-64 years) decreased from 18.8% to 8.7%, while Medi-Cal coverage increased from 15.2% to 31.4% (Becker & Babey, 2019). In 2021, 56.2% of working-age women (19-64 years) living in California were covered by employer insurance, 24% by Medicaid, 9.2% by non-group insurance, 1.3% by Medicare, 0.8% by military coverage, and 8.4% were uninsured (Kaiser Family Foundation, 2022c). Women belonging to racial-ethnic minority groups have lower rates of insurance and higher rates of Medi-Cal coverage. In 2021, 28% of Black women, 23% of Hispanic women, and 14% of White women had Medi-Cal coverage, while 22% of Hispanic women, 11% of Black women, and 7% of White women were uninsured (Kaiser Family Foundation, 2022a).

Despite the expansion of Medicaid coverage in California, there has been little change in several healthcare utilisation measures. Working-age California women, especially low-income women, and those belonging to racial, ethnic or immigrant minority groups, continue to face significant barriers to healthcare access. Between 2012-2016, the proportion of women who had not visited a doctor in the past year increased slightly from 15.4% to 15.7%; while women reporting no usual source of care marginally decreased from 15.1% to 14.5% (Becker & Babey, 2019). In 2021, 13% of women (18 years and older) in California did not have a healthcare provider, including 20% of Hispanic, 16% of Asian and Native Hawaiian/Pacific Islanders, 10% of Black, and 8% of White women (Kaiser Family Foundation, 2022b). Reasons include lack of insurance, no assigned healthcare provider, or no usual source of care, which often leads to sub-optimal care, poorer health status, and health outcomes. Causes of barriers to access in Californian women are complex and warrant further investigation.

1.10 Study rationale

Research on factors that impact women’s access to healthcare since the ACA is limited. Most quantitative studies examining factors that impact primary care access in working-age women have focused on limited measures, including health insurance coverage, usual source of care, or healthcare service use rates. These studies often failed to examine multi-dimensional factors such as gender, race/ethnicity, socio-economic status, or other personal characteristics that contribute to differential patterns of access to healthcare. In contrast, a qualitative approach can more easily explore low-income women’s experiences with healthcare services and barriers to access. Several qualitative studies have explored barriers encountered by underserved adult populations' experiences with healthcare access since the ACA (Brown et al., 2020; Brown et al., 2015; Saluja et al., 2019; Whittle et al., 2017). Qualitative studies exploring women's experiences with healthcare access during the ACA era have focused on reproductive health services (Chor et al., 2018; Hailemariam et al., 2020; Mann et al., 2016; Phillippi et al., 2016; Roman et al., 2017), special women populations (Hailemariam et al., 2020), immigrant or refugee women (Mann et al., 2016; Olukotun et al., 2020), or general healthcare experiences (Cardoso et al., 2021) in several U.S. settings. A review of the literature found very few studies had explored low-income women's experiences accessing primary care during the ACA era.

1.11 Researcher background

As a nurse, public health professional, and educator working in higher education settings, I have worked with various funded public health programmes and interventions providing various healthcare services to low-income adults in California since the 1990s. I have been employed as nursing faculty with California State University since 2012. As clinical faculty, I supervise nursing students providing health screenings and other health-related services as part of their clinical training to low-income individuals in various community-based organisations. During this time, I have listened to many first-hand accounts about the barriers low-income individuals encounter when accessing primary care. These conversations left a deep impression. Barriers to access often lead to delayed healthcare-seeking, delayed diagnosis, and poorer health outcomes. Based on conversations and personal observations, I noted women from low-income backgrounds often face barriers to access due to personal characteristics, complex life histories, healthcare delivery system, and structural-level factors. These experiences and my long-time interest in women's healthcare issues inspired me to study the factors affecting low-income women's access to primary care.

Undertaking a PhD in Public Health fulfils a life goal. This course of study has allowed me to develop the research skills needed to conduct qualitative healthcare research. Designing and being involved in a lengthy research project allowed me to acquire the skills I need as a social scientist to conduct public health-related research in community-based settings. I learned why applied public health research is so important to ensure better health outcomes in our communities. I applied reflexivity as

I engaged with the data collection and analysis process during the PhD journey. Involvement in this research process provided me with the opportunity to contribute to evidence on the myriad and complex factors that influence low-income women's access to primary care in the context of broader social-ecological forces at play during the ACA era.

1.12 Organisation of thesis

Chapter 1 discusses factors which influence healthcare access in the U.S., and how ACA provisions have impacted healthcare access for working-age adults and women. In Chapter 2, several healthcare access theories are examined. The rationale for utilising Andersen's model of health service use for the mixed-method systematic review and Levesque's framework of healthcare access for the deductive approach used in the empirical study are reviewed. Chapter 3 reports findings from a mixed-method systemic review of individual and contextual determinants, and factors impacting working-age women's access to primary care in the ACA era. The review identifies what is known about this area of focus and current gaps in evidence.

The study aims, objectives, methodology, and methods are outlined in Chapter 4. Chapters 5 and 6 report the findings of a reflexive thematic analysis. Chapter 5 narrates the findings of a deductive analysis applying Levesque's framework, and Chapter 6 summarises the themes and subthemes relating to barriers and facilitators developed using an inductive approach. Findings from both the deductive and inductive reflexive thematic analysis are synthesised in Chapter 7. In Chapter 8, the findings of the mixed-method systemic review and qualitative study and the strengths and limitations of Andersen's model and Levesque's framework of healthcare access are discussed. The application of the social-ecological model and intersectionality framework helped to better understand how individual, interpersonal, institutional and societal levels of influence impact low-income women's access to primary care. Finally, the study's strengths and limitations and implications for policies, practice, and future direction for research are presented.

1.13. Conclusion

This chapter summarises several key aspects of primary care access in the U.S. in the ACA era and considers the myriad factors that can influence adults’ and women’s access to healthcare services. Despite ACA provisions, working-age adults continue to face barriers to access, and women, because of gender-related issues, often face additional barriers to access compared to men. Healthcare access is a complex topic, and many theoretical frameworks have been developed to expand our understanding of the complex dynamics involved with healthcare access. The next chapter explores several well-known frameworks, their strengths, and limitations, and provides a rationale for the choice of frameworks for the review and empirical study.

Chapter 2: Theoretical Frameworks and Models

2.1 Introduction

The previous chapter shows the need for more research to comprehend the factors that influence healthcare accessibility for working-age women during the ACA. To explore the topic, it was necessary to choose appropriate theoretical frameworks and models of access. Theoretical frameworks or models of access offer a structure for exploring relationships between individual and structural factors that establish if, how, and when a person accesses healthcare. To provide context, several theoretical frameworks and models commonly applied in health service research are reviewed (Section 2.2). Several theoretical frameworks and models were applied in this thesis to explore the research findings. These frameworks and models are described, and the strengths, limitations, and justification for their choice are discussed in Section 2.3. In Section 2.4, major similarities and differences of the theoretical frameworks and models applied in the systematic review and qualitative study are summarised.

2.2 Theories of healthcare access

Existing theoretical frameworks and models of healthcare access focus on different dimensions of access. Accessibility can be defined as the level of adjustment existing between accessible healthcare resources and populaces (Donabedian, 1973). The Penchansky model of healthcare access considers the degree of fit between healthcare consumers and health services and incorporates aspects of access, including availability (of health services to meet client needs), accessibility (location of services), accommodation (how services are provided to clients), affordability (whether healthcare services are affordable), and acceptability (association between individual attitudes and perceptions about providers practice and actual practice) in service design, implementation, and evaluation (Penchansky & Thomas, 1981).

Several authors define access as the interplay of demand-side factors associated with personal characteristics, such as health beliefs that influence health-related behaviours and health status, and supply-side factors such as the cost, appropriateness, and availability of healthcare services (Aday & Andersen, 1974; Andersen, 1995; Dutton, 1986; Levesque et al., 2013). Concepts associated with these frameworks or models include individual characteristics such as predisposing, enabling, and need factors, health behaviours including health service use, health outcomes, health system characteristics (such as resources and organisational factors), and healthcare policies (Aday & Andersen, 1974; Andersen, 1995; Dutton, 1986). The Conceptual Framework of Access to Healthcare (Levesque et al., 2013) builds on several influential frameworks and models of healthcare access (Aday & Andersen, 1974; Andersen, 1995; Bashshur et al., 1971; Donabedian, 1973; Frenk, 1992; Penchansky & Thomas, 1981; Shengelia et al., 2003). The framework identifies five dimensions associated with the ability of individuals to access care, including the ability to engage, pay, perceive, reach, and seek, and five components of healthcare service accessibility including acceptability, affordability, approachability, appropriateness, and availability and accommodation (Levesque et al., 2013).

Other access frameworks and models promote the ideal of social justice and emphasise the importance of equity in the distribution of resources to groups with similar needs. Healthcare policies should strive to create equal access by addressing healthcare inequalities; and while it may not be possible to eliminate differences in access, policies should aim to eliminate inequalities because of unfair or avoidable factors (Whitehead, 1992). Several countries provide universal healthcare, such as the publicly funded National Health Service in the United Kingdom (U.K.). But often inequalities exist across different groups according to socio-economic status or other characteristics, which significantly impact equitable healthcare access (Goddard & Smith, 2001).

Several existing frameworks and models of healthcare access have focused on individual or population-based barriers to care. The Institute of Medicine model for monitoring access assesses how personal, financial (insurance coverage, reimbursement levels), and structural (availability and organisation of health services, transportation) barriers influence healthcare utilisation (Institute of Medicine (U.S.) Committee on Monitoring Access to Personal Health Care Services, 1993). Different mediators (appropriateness, patient adherence, provider quality, and treatment efficacy), how these affect health outcomes (function, morbidity, mortality, and well-being), and health service equity are explored. Individuals need access to an available and adequate supply of healthcare services (Gulliford et al., 2002). Cultural, financial, organisational, or social barriers may limit the ability of individuals or populations to access and use healthcare services and depend on the accessibility, acceptability, affordability, and availability of services.

2.3 Theoretical frameworks utilised in this PhD

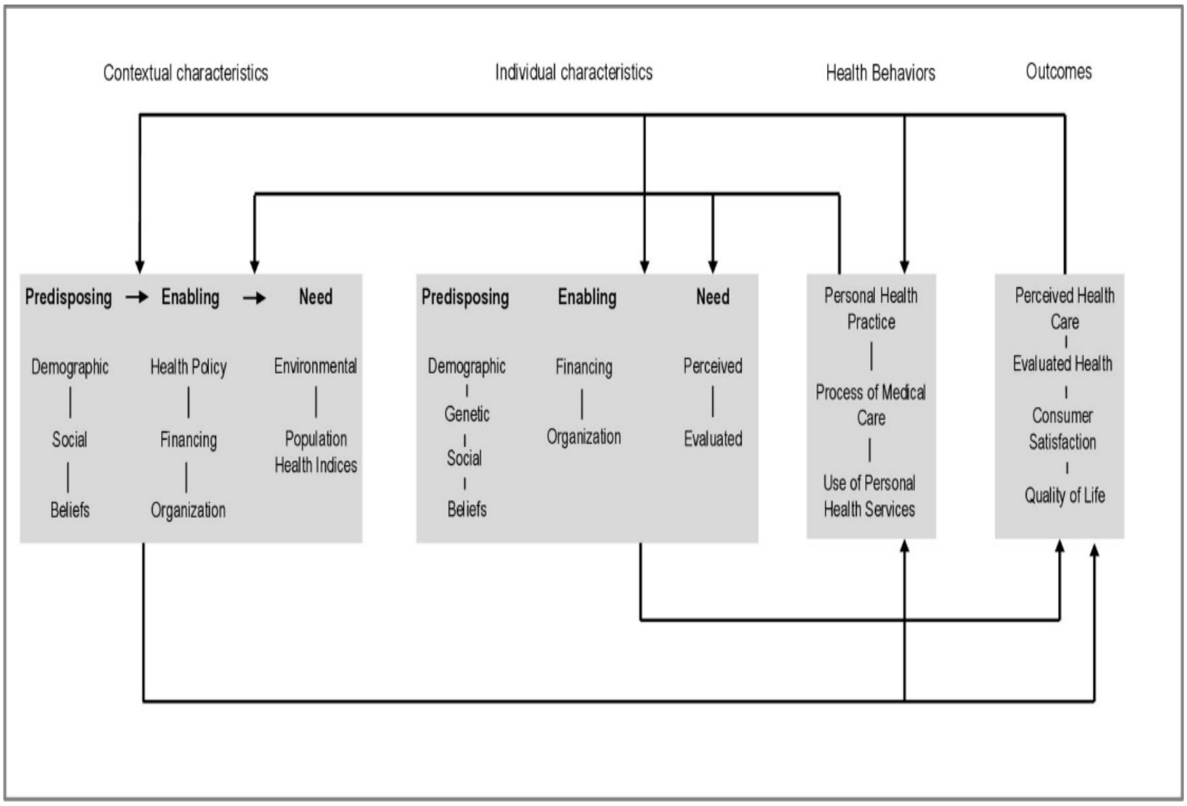
Researchers use theoretical frameworks and models to understand complex constructs, such as healthcare access. Frameworks or models examine the relationships between individuals, healthcare delivery systems, and structural determinants of access, and how these relationships shape an individual’s ability to access healthcare. The following section summarises four theoretical frameworks or models applied to the research conducted for this PhD. The strengths, limitations, and justification for the choice of frameworks and models for the mixed-method systematic review and empirical study are reviewed.

2.3.1 Andersen’s Behavioral model of health services use

Andersen’s Behavioral model of health service use is a model frequently used in healthcare research (Babitsch et al., 2012). The model incorporates individual and contextual determinants of health service access, which include predisposing, enabling, and need factors (Andersen et al., 2013). These predict or inform health behaviours, which include personal practices (alcohol or tobacco use, diet, physical exercise, and medication adherence), the medical care process (quality of patient-provider communication, education, and counselling), and healthcare service use. Health outcomes measured include consumer satisfaction, evaluated health status (biomarkers, tests, provider diagnosis, and prognosis), quality of care, and perceived health status (including functional status). Access is defined as potential access (medical insurance and usual source of care), and realised access (ambulatory healthcare service utilisation for acute, chronic problems, or preventive care). The sixth and latest iteration of Andersen’s Behavioral model of health service use is depicted in Figure 2.1.

Figure 2.1.

A Behavioral model of health services use - 6th revision



Notes

The above diagram depicts the sixth iteration of Andersen's Behavioral model of health service use. From Andersen et al., 2013. Copyright 2013 by John Wiley and Sons. Reprinted with permission.

Table 2.1. outlines the characteristics included in Andersen's model with examples.

Table 2.1.

Andersen's model: Individual and contextual predisposing, enabling, and need factors

Type of characteristics	Factors	Examples of factors
Individual predisposing characteristics	Heath beliefs	Knowledge, attitudes and values relating to health and health services (Babitsch et al., 2012)
	Demographic characteristics	Age, gender, education
	Genetics	Genetic susceptibility to disease
	Social	Ethnicity, occupation, social interactions, social network
Contextual predisposing factors	Demographic characteristics (community-level)	Age, marital status, sex/gender composition
	Social attributes	Education, ethnic, or racial composition, employment, crime rate
Individual enabling characteristics	Financing	Ability to pay for services, income, insurance
	Health organisation	Whether individuals have a usual source of care, transportation, travel time to health facilities, waiting time
	Social support	Emotional support available through social networks
Contextual enabling characteristics	Financing characteristics to pay for health services	Rate of insurance coverage or per capita community income
	Organisation	Quantity and supply of healthcare personnel and health services facilities or structures
	Public policies	Local, state, and national
Individual need characteristics	Individual perceived need	Perceptions about general health and functional status
	Individual evaluated health needs	Clinical judgement of providers and objective measures
Contextual need characteristics	Physical environment	Air, housing, and water quality
	Population health indices	Morbidity, mortality, and disability rates

Source: Andersen, R. M., Davidson, P. L., & Baumeister, S. E. (2013). Improving Access to Care. In G. F. Kominski (Ed.), Changing the U.S. health care system: key issues in health services policy and management (Fourth edition. ed.). Jossey-Bass.

The mixed-method systematic review aimed to identify individual and contextual factors that impact primary care access in working-age women in the ACA era. Andersen's Behavioral model of health services use was selected to guide the synthesis of findings relating to the aim and objectives of the review for several reasons. The model incorporates individual and contextual characteristics associated with healthcare use and considers the interrelationship of these with health behaviours, measures of potential and realised access, and health outcomes including patient satisfaction (Andersen et al., 2013). Andersen's model, a product of a national health survey, has informed the development of health service research in the U.S. over the past 40 years, in both its original and later iterations (Andersen, 2008). The model has often been used to examine the relationship between standard measures and outcomes of interest in national-based surveys.

Andersen's model has been frequently used in many quantitative and qualitative studies, and systematic reviews as a guide to explore the relationship between individual and structural determinants of healthcare access in diverse populations across multiple country settings (Babitsch et al., 2012; Lederle et al., 2021). From a social epidemiological perspective, Andersen's model empiricises and systematises the notion of equity in healthcare service access by defining predisposing and enabling versus need factors (von Lengerke et al., 2013). The model provides a broad structure for examining multiple determinants of healthcare access using multivariable analyses (Pescosolido & Kronenfeld, 1995). Since the fifth version of Andersen's model, both individual and contextual predisposing, enabling, and need factors have been included, which allows predictors to be examined using multi-level models (von Lengerke et al., 2013). However, Andersen's model has limited applicability for exploring underlying mechanisms associated with implementing health-related interventions, or identifying how these might be modified in different contexts to improve access to healthcare and related health outcomes (Ford et al., 2016).

Andersen's model was used a posteriori to categorise and analyse data from studies included in the mixed-method systematic review. As Andersen's model is based on commonly used variables and outcome measures in U.S.-based surveys of health service use, and considers contextual characteristics such as health policies, it was an appropriate choice for exploring individual and contextual factors in the ACA era.

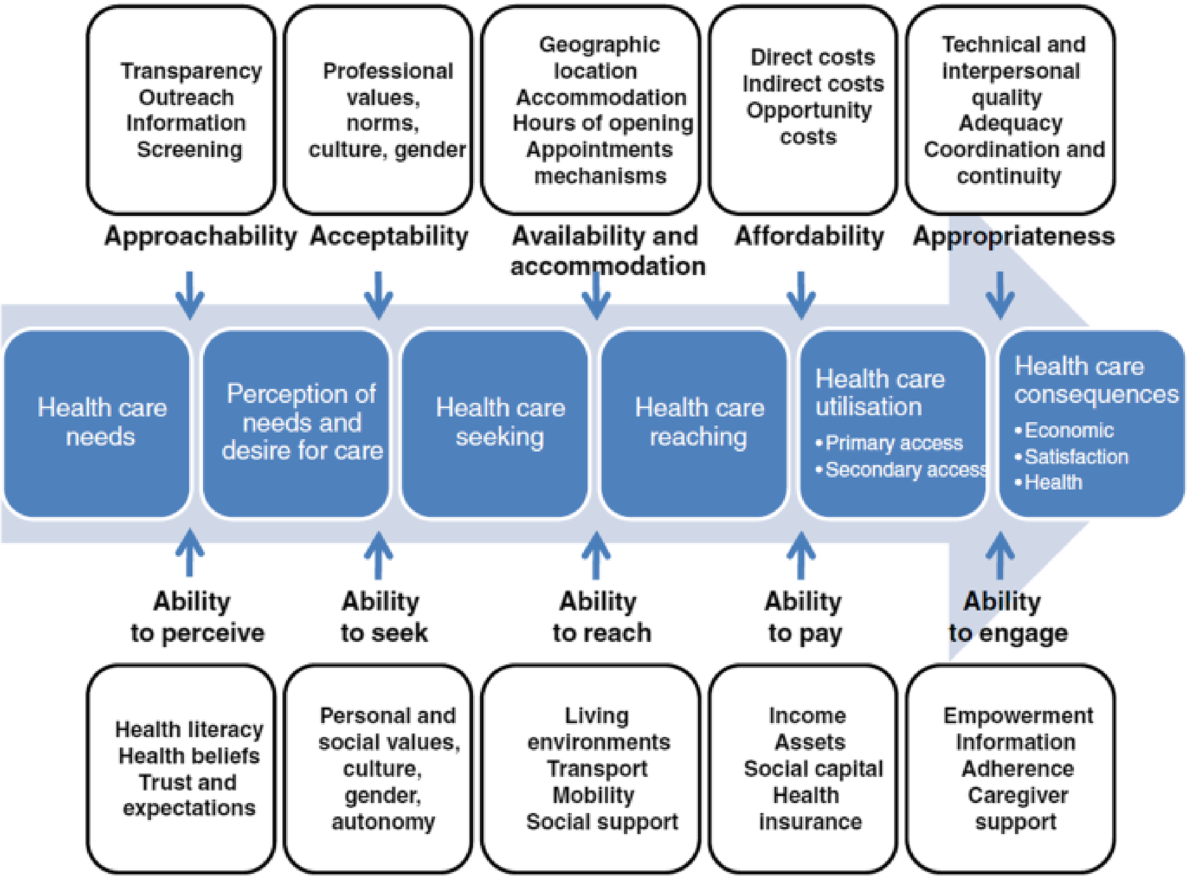
2.3.2 Levesque's conceptual framework of access to healthcare

For the qualitative study, the Andersen model was initially considered, however, Levesque's framework was considered a more appropriate choice. The framework adopts a person-centred focus that reflects the linear trajectory of healthcare-seeking, reaching, and use of healthcare services to improve health status, so was considered a better fit for an in-depth exploration of women's experiences with primary care. Levesque's framework is more compatible with a constructionist approach with an interpretive epistemology, which assumes women's healthcare-seeking behaviours are shaped by individual life experiences embedded within a specific socio-economic-cultural context.

Levesque's framework defines healthcare access as the interaction between individual or population demand-side factors and health system supply-side factors (Levesque et al., 2013). The framework captures five different attributes of healthcare access, including perception of need, seeking, reaching, use and outcomes (economic, health, and satisfaction). Access is depicted as a linear process that encompasses "the possibility to identify healthcare needs, to seek healthcare services, to reach the healthcare resources, to obtain or use healthcare services, and to be offered services appropriate to the needs for care" (Levesque et al., 2013, p. 4) (Figure 2.2.). Five dimensions connected with the ability of individuals or populations to interact with different aspects of access incorporate the ability to engage, pay, perceive, reach, and seek. The five dimensions related to accessibility of healthcare services involve acceptability, affordability, approachability, appropriateness, and availability and accommodation. Several dimensions are not captured by common access indicators in quantitative research (Cu et al., 2021). While the framework provides definitions for included dimensions, the complexity associated with measuring the construct "access" made it difficult to capture. Limitations include challenges organising and categorising results according to different dimensions.

Figure 2.2.

A Conceptual framework of access to healthcare



Source: From Levesque et al., 2013 (https://doi.org/10.1186/1475-9276-12-18). Distributed under terms of the Creative Commons Attribution License (CC BY).

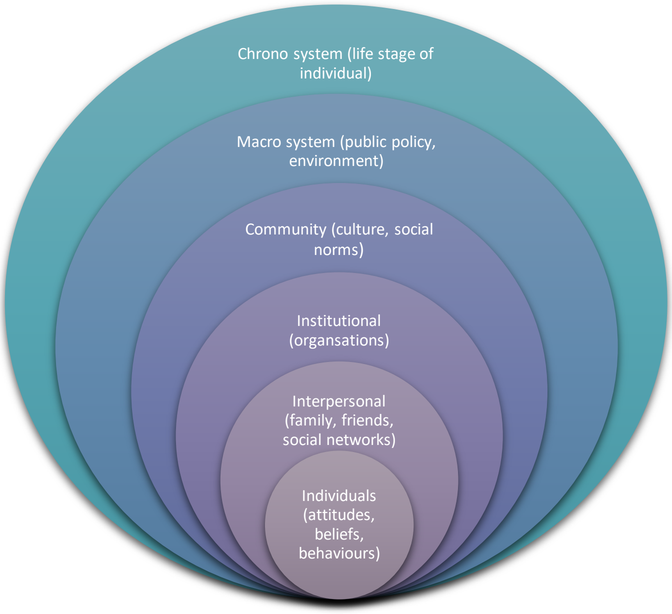
Levesque's conceptual framework of access to healthcare was chosen to guide the deductive portion of analysis for the qualitative study for several reasons. The framework incorporates individual-level demand-side factors and health system-related supply-side factors (Cu et al., 2021; Levesque et al., 2013) that easily capture women's experiences with healthcare access. The framework adopts a patient-centred approach, portraying a linear process which was beneficial for identifying women's healthcare needs, and the process engaged in seeking, reaching, and utilising health services, and health outcomes (economic, health-related, and patient satisfaction) associated with receipt of services (Levesque et al., 2013). Based on an extensive literature review, the framework is comprehensive because it incorporates elements from the most frequently cited theoretical frameworks. Levesque's framework is flexible in its application and has often been adopted in quantitative, qualitative, and mixed-methods studies to examine diverse populations' experiences with healthcare access in high, middle, and low-income country settings (Cu et al., 2021). Finally, it has been extensively applied in empirical qualitative research with reported advantages, which include the evaluation of dynamic and multi-faceted processes of access associated with individuals, populations, and health systems. Its emphasis on understanding individual experiences with healthcare access made the framework a good fit for exploring women's thoughts and perceptions about the process, events, and outcomes relating to primary care access.

2.*3.3 Social-ecological model*

The social-ecological model has been used extensively in health-related research to understand how the interface between the individual, interpersonal, community/institutional, socio-economic, political and environmental levels influences health, health-related behaviours and access to health-related resources (Israel et al., 1998; Sallis & Owen, 2015). The social-ecological model, or the "Ecology of Human Development" initially developed by Bronfenbrenner in the 1970s, examined the influence of social environments on children's development. Based on five levels of external influence, the ecological environment is presented topologically as a nested layout. Each layer is contained within the next layer, moving from the centre (individual) through subsequent layers, including the microsystem (interpersonal) or the individual's immediate environment, the mesosystem (organisational), or relationships between groups, the exosystem (community) or elements that affect an individual, the macrosystem, or cultural patterns, political systems, and economic systems, and chronosystem or the life stage of the individual (Bronfenbrenner, 1977). Key assumptions underpinning the social-ecological model are complex dynamics exist between the individual, interpersonal, institutional, community and wider macro-level socio-economic, political and environmental layers, which shape each other, and affect health (Stokols, 1992).

Figure 2.3.

The Social-ecological model



The relevance of the social-ecological model to numerous disciplines is a testament to its robustness in assessing how multiple layers of influence can impact individual health-related behaviours and outcomes. The model has been used extensively to develop interventions aimed at promoting change at the individual, interpersonal, community or institutional and macrosystem layers of influence to address complex public health issues. For example, the social-ecological model has been applied to create multi-level interventions addressing smoking cessation and sedentary behaviours (Sallis & Owen, 2015), and violence prevention interventions (Centers for Disease Control and Prevention, 2022b). While the model is not a theory and does not identify individual components that might most significantly impact behaviour, it can be applied as a guide in planning interventions at different levels to more effectively promote healthcare access in populations (Sallis & Owen, 2015). Application of the social-ecological model in the discussion in Chapter 8 allowed a more in-depth exploration of how different individual, interpersonal, institutional, and macrosystem layers of influence affect women's access to care, as several of these layers were not fully explicated in Levesque's framework.

2.3.4 Intersectionality framework

The intersectionality framework was developed by feminist and Columbia law professor Kimberle Crenshaw against the backdrop of Black feminist theory (Crenshaw, 1989). This framework regards social identities as multiple and intersecting, not autonomous and one-dimensional, and takes individuals who belong to historically marginalised or oppressed groups as the starting point (Bowleg, 2012). The intersectionality framework is ideally suited to and often applied in qualitative health research (Bauer, 2014; Bowleg, 2012). It has been increasingly adopted as a framework in quantitative research (Bauer et al., 2021). Often women's health-related research assumes that all women share the same experiences and priorities, regardless of differences in age, cultural background, geography, sexual orientation, socio-economic status, or other disparities, (Hankivsky & Christoffersen, 2008). Research that focuses on singular dimensions of women's lives, such as the influence of gender or ethnicity, often fails to discuss the multiple intersecting positions that women hold that shape their experiences. Intersectionality offers a way to explore these positions. For example, intersectionality can explore oppressions undergone by different groups as "not only do intersectional paradigms prove useful in explaining U.S. Black women's experiences, such paradigms suggest that intersecting oppressions also shape the experiences of other groups as well" (Hill Collins, 2000, p. 227).

The concerns of disenfranchised women including low-income, ethnic, or sexual minorities, or those with disabilities, are often excluded from mainstream research. While the intersectionality framework does not include components or elements that can be measured, it provides a valuable analytic framework to examine how "multiple social identities at the micro level (i.e., intersections of race/ethnicity, gender, and socio-economic status) intersect with macro-level structural factors (i.e., poverty, racism, and sexism) to illustrate or produce disparate health outcomes" (Bowleg, 2012, p. 1268). To strengthen the analysis in the discussion section, the intersectionality framework was used to consider how social categories such as gender, race/ethnicity, socio-economic status, or other identities assumed by women intersect and can create coinciding and interrelated inequalities associated with disadvantage or discrimination (Crenshaw, 1989). These interconnected inequalities often negatively impact low-income women’s ability to access primary care.

2.4 Comparison of different theoretical frameworks of access

The common attributes and unique characteristics of the different theoretical models applied in this thesis are presented in Table 2.2.

Table 2.2.

Comparison of applied theoretical frameworks and models

Framework/ Model	**Definition**	**Components of framework/model**	**Common attributes (similarities)**	**Unique characteristics (differences)**
Andersen's Behavioral model of health service use (Andersen et al., 2013)	The ability of individuals and populations to access health systems (potential access) and use health services (realised access).	Individual and contextual characteristics, including predisposing, enabling and need factors, health behaviours, and outcomes.	Examines how individuals, health systems, and structural characteristics affect health outcomes. Considers contextual characteristics, including macro-economic determinants.*	Distinguishes between measures of potential access (health insurance, source of usual care) and realised access (actual healthcare service use).
Conceptual framework of access to healthcare (Levesque et al., 2013)	Individuals identify they have healthcare needs, which leads to healthcare-seeking, reaching, and utilising healthcare services to meet healthcare needs.	<u>Demand for health services</u>: Dimensions include the ability to engage, pay, perceive, reach, and seek. <u>Supply of healthcare services</u>: Dimensions include acceptability, affordability, approachability, appropriateness, and availability and accommodation.	The framework considers demand-side (individual) and supply-side dimensions (health system) factors relating to access.	While living environments are included under the dimension - ability to reach, Levesque's framework does not elaborate on this sub-dimension. Effects of wider structural macro-economic determinants* not outlined.

Framework/ Model	Definition	Components of framework/model	Common attributes (similarities)	Unique characteristics (differences)
Social-ecological model (Bronfenbrenner, 1977)	Health is affected by interrelationships among individuals, communities, and environmental factors (Israel et al., 1998; Sallis & Owen, 2015).	Layers of influence include individual, interpersonal, institutional/ community, macrosystem, and chronosystem.	Examines individual, interpersonal, institutional, community, and macrosystems layers of influence.	Includes multiple layers of influence, including interpersonal, community, and macrosystem layers of influence not always considered in models of access.
The intersectionality framework (Crenshaw, 1989)	Explores how different social identities perpetuate systems or structures of inequality.	Key constructs include complexity, power, relationality, social context, social justice, and social inequality (Collins, 2019).	Examines the intersection of social identities (individual characteristics), and systems or structures (such as health systems or health policies).	Considers the intersection of separate individual identities such as gender, race/ethnicity, and socio-economic status, and how this can cause structural inequalities relating to access.

Notes

* Macroeconomic determinants such as market regulation of health-related goods, job market (employment opportunities, working conditions), population-level income, income inequalities, social deprivation, provision of welfare services, and related policies (Naik et al., 2019).

This thesis is strengthened by the application of several theoretical frameworks and models of access. Using Andersen's model to guide the analysis of the systemic review findings was advantageous for analysing quantitative studies examining determinants of healthcare access, as the model was easily applied to U.S.-based health service research based on national health surveys (Andersen, 2008). Levesque's framework, often applied in qualitative research (Cu et al., 2021), allowed an in-depth exploration of women's experiences with healthcare access using a deductive approach. The application of the social-ecological model to explore different layers of influence, and the intersectionality framework in the discussion section added depth and complexity to the deductive and inductive analyses conducted for the empirical study.

2.5 Conclusion

Healthcare access is a complex construct, influenced by the interaction of different dynamics across individual, community, social, and structural levels. Many frameworks and models of access have been developed to help explain the complexities of access. Several well-known theoretical frameworks and models were used in this thesis to inform a multi-dimensional and layered analysis of factors that impact women's experiences seeking and utilising healthcare services. This chapter reviewed the strengths, weaknesses, and rationale for the choice of frameworks and models used for the review and empirical study. The next chapter reports the methods, methodology, and findings of the mixed-method systematic review, and identifies what is known, as well as gaps in knowledge on factors that affect working-age women's access to primary care during the ACA era.

Chapter 3: Mixed-method systematic review

3.1 Introduction

This mixed-method systematic review provides a synthesis of literature about individual and contextual determinants, and emerging themes relating to facilitators and barriers to primary care access in working-age women post-implementation of the ACA. Prior systematic reviews report insurance coverage enhances health service access and leads to improved health outcomes in U.S. adults (Buchmueller et al., 2005; Freeman et al., 2008; Hadley, 2003). Systematic reviews on U.S. women's access to healthcare before or during the ACA era have targeted subgroups or specific healthcare services, including immigrant women (Seo et al., 2016; Tefera & Yu, 2022; Winn et al., 2017), women's reproductive healthcare services (Bellerose et al., 2022; Bossick et al., 2021; Sun et al., 2022; Winn et al., 2017), or breast and cervical cancer screening (Adunlin et al., 2019; Ahmed et al., 2017; Jerome-D'Emilia, 2015; Jerome-D'Emilia et al., 2019; Khan-Gates et al., 2015; Nelson et al., 2020; Oh et al., 2017).

A recent literature review found that while the ACA led to an overall improvement in health insurance coverage, healthcare access, affordability, contraceptive use, mental healthcare, perinatal outcomes, and use of preventive services for women, multiple barriers to access still exist (Lee et al., 2020a). This review had several methodological limitations. The authors did not conduct a systematic review and only reviewed a few studies. A search of the literature established a synthesis of evidence on factors that impacted primary care access for working-age women during the ACA era was lacking. To address this gap, a mixed-method systematic review was conducted, applying Andersen's Behavioral model of health service use as a framework to guide the synthesis. Unlike other U.S.-based systematic reviews of women's healthcare access, this review focused on working-age women and incorporated both quantitative evidence on individual and contextual determinants and qualitative evidence on facilitators and barriers to primary care access. The aim of this mixed-methods systematic review was to provide a synthesis of evidence on what is known about individual and contextual determinants, facilitators, and barriers that affect working-age women's access to primary care since the ACA.

The review questions are as follows.

- What individual and contextual determinants affect working-age women's access to primary care services in the U.S. during the ACA era?
- What facilitators and barriers are experienced by working-age women accessing primary care services?
- What knowledge gaps exist concerning determinants, facilitators, and barriers to working-age women's access to primary care services?

The findings reported in this chapter guided the design and implementation of the empirical qualitative study.

3.2 Methods

This review adopted a mixed-method systematic review design as findings from various quantitative, qualitative, or mixed-methods studies can offer a more in-depth understanding of evidence (Hong et al., 2017; Pace et al., 2012). This review was informed by a Pragmatist approach, which synthesised evidence from a positivist quantitative paradigm, and a qualitative paradigm informed by subjectivism and interpretivism, to provide a more thorough, multi-dimensional understanding of factors that influence women's access to primary care (Creswell & Creswell, 2018). A narrative synthesis approach was considered an appropriate method for synthesising diverse evidence using a theoretical model (Popay et al., 2006). Mixed evidence enhances the relevance of findings for different stakeholders.

3.3 Conceptual model

As described in Chapter 2, Section 2.3., Andersen's Behavioral model of health services use guided the analysis of the mixed-method systematic review. Andersen's model is frequently used in quantitative and qualitative studies, and systematic reviews to explore factors that shape healthcare access in different populations (Babitsch et al., 2012). The model incorporates individual and contextual characteristics associated with healthcare access, including predisposing, enabling, and need components (Andersen et al., 2013). These predict individual health-related behaviours, patterns of healthcare utilisation, evaluated and perceived health status, and satisfaction with quality of care.

3.4 Study selection

Several inclusion criteria were employed to select studies. First, studies had to report findings on working-age adult women (18-64 years). Second, only studies examining factors on the provision of formal, face-to-face primary health services to women were included. Third, studies had to report outcome measures of potential or realised access, including 1) health insurance (have coverage and type); 2) usual source of care and regular PCP; 3) healthcare service utilisation; 4) routine preventive health screenings and well visits, and 5) affordability or unmet healthcare needs. Fourth, only U.S.-based quantitative, qualitative, or mixed-methods studies published between 2010-2021 in English were included. Studies conducted in institutional settings, or studies reporting outcome measures for specialist or tertiary health services, disease-specific care, reproductive or sexual health services, and breast, cervical, or colorectal cancer screening for women were excluded. Book chapters, conference abstracts, dissertations, theses, editorial commentaries, opinion papers, and grey literature reporting non-peer-reviewed empirical research were excluded. A detailed outline of inclusion and exclusion criteria is summarised in Appendix 1.

3.5 Data sources and searches

Four databases, including Medical Literature Analysis and Retrieval System Online (MEDLINE), Cumulative Index to Nursing and Allied Health Literature (CINAHL), PsycINFO, and Web of Science were searched for peer-reviewed studies published in English from 2010 to January 2021. Search strategies were developed in consultation with a Lancaster University library information specialist. Search terms were broad to enhance the sensitivity of the search. Literature suggests that MEDLINE and Web of Science are key databases for searching biomedical research (Bramer et al., 2017; Rice et al., 2016). Coverage of specialist databases and qualitative research about the research topic was provided by searching CINAHL, and PsycINFO (Bramer et al., 2017). The search results were imported into EndNote referencing software for management.

The review question was developed using the Participants, Intervention, Control, Outcome, and Setting (PICOS) framework (see Table 3.1.).

Table 3.1.

PICOS framework

PICOS framework	**Components**
P (Population)	Working-age women
I (Intervention)	Primary care services/healthcare services
C (Comparison)	None
O (Outcome)	Potential access (such as insurance, usual source of care, regular PCP) Realised access (such as rates of utilisation of primary care services)
S (Setting)	U.S.

Search terms included the main subject domains, Medical Subject Heading (MeSH) or Free text terms for women, primary care, access, and utilization, and the U.S. The final searches included MeSH terms, Boolean operators (AND, OR), proximity functions, synonyms, and truncations (*) which were combined with the Boolean operator AND. Database searches were supplemented with forward and backward citation searches of references listed in eligible studies. An example of the search strategy conducted in MEDLINE is outlined in Appendix 2.

The first reviewer and author of this thesis designed and conducted the searches, screened the titles and abstracts (4196), reviewed the articles eligible for a full-text review (306), and completed data extraction for the eligible articles using a piloted data extraction form. The second reviewer (doctoral student) independently screened a random 10% sample (420/4196) of the abstracts and titles. The first and second reviewers agreed on 95% (397/420) of abstracts and titles, resolved most discrepancies (21/23, 91%), and the remaining (2/23, 9%) were arbitrated by the third reviewer (research supervisor). The second reviewer independently reviewed a random 10% sample (31/306) of full-text articles. The first and second reviewers agreed on 97% (30/31) of full-text articles, and subsequently met and resolved the remaining discrepancy (1/31, 3%). The second reviewer independently reviewed 25% of the data extraction forms for accuracy and consistent application of study criteria.

3.6 Data extraction and quality assessment

The primary reviewer developed a data extraction form modified from the Joanna Briggs Institute Mixed-Methods data extraction tool (Lizarondo et al., 2020). The extraction tool was piloted with 10 studies and revised. Extracted variables included authors, date of publication, title, journal, study aim/objectives, conceptual/theoretical model, study design, sample size, sample characteristics including year data collected, data sources including secondary datasets, geographic setting, time-frame, methods such as inclusion/exclusion criteria, data collection methods, measurement tools, relevant statistical findings of associations between determinants (independent variables), and outcome measures (dependent variables) of interest for quantitative studies or themes developed in qualitative studies. The primary reviewer used the revised data extraction form and extracted information from eligible articles.

Study quality was evaluated using the Mixed-Methods Appraisal Tool (MMAT) (2018), which provides critical appraisal checklists for quantitative, qualitative studies and mixed-methods studies (Hong et al., 2018a). The MMAT (2018) was developed following a literature review of critical appraisal tools, and an eDelphi study conducted with an international panel of experts, and evidence suggests the tool has ecological validity with transferability of findings to real-world settings (Hong et al., 2018b). The first and second reviewers independently evaluated the methodological quality of eligible studies using the criteria outlined in MMAT (2018) (Hong et al., 2018a) (see Appendix 3). Any disagreements in ratings were discussed and resolved, with arbitration by a third reviewer if necessary. No studies were excluded based on assessed quality.

3.7 Data synthesis and analysis

A narrative synthesis approach was used to address the study’s three research questions due to the heterogeneity of research methodologies, targeted populations, and the variability of reported outcomes (Popay et al., 2006). The narrative synthesis included a preliminary synthesis of eligible study findings, explored patterns, similarities, and differences between studies, examined relationships in reviewed data, and assessed the robustness of the synthesis. First, findings from 23 quantitative studies were extracted into an excel spreadsheet, then narratively summarised, synthesised, and presented in several tables. Statistically significant results were identified, categorised as positive, negative, or no relationship, and grouped under the Andersen model domains. Second, the researcher conducted a thematic analysis of the findings and discussion sections of the included qualitative studies. Major themes relating to facilitators and barriers to access were identified and grouped according to the dimensions of Andersen's model. Data extracted from eligible qualitative studies was imported into NVivo 12, a Computer-Assisted Qualitative Data Analysis Software programme, analysed, and organised into themes and sub-themes. Findings about themes and subthemes with illustrative quotes were documented in a tabular format. Finally, findings from quantitative and qualitative studies were integrated and synthesised to map the current evidence-base on determinants, facilitators, and barriers to women's access. Relationships within and between studies and differences across studies were explored.

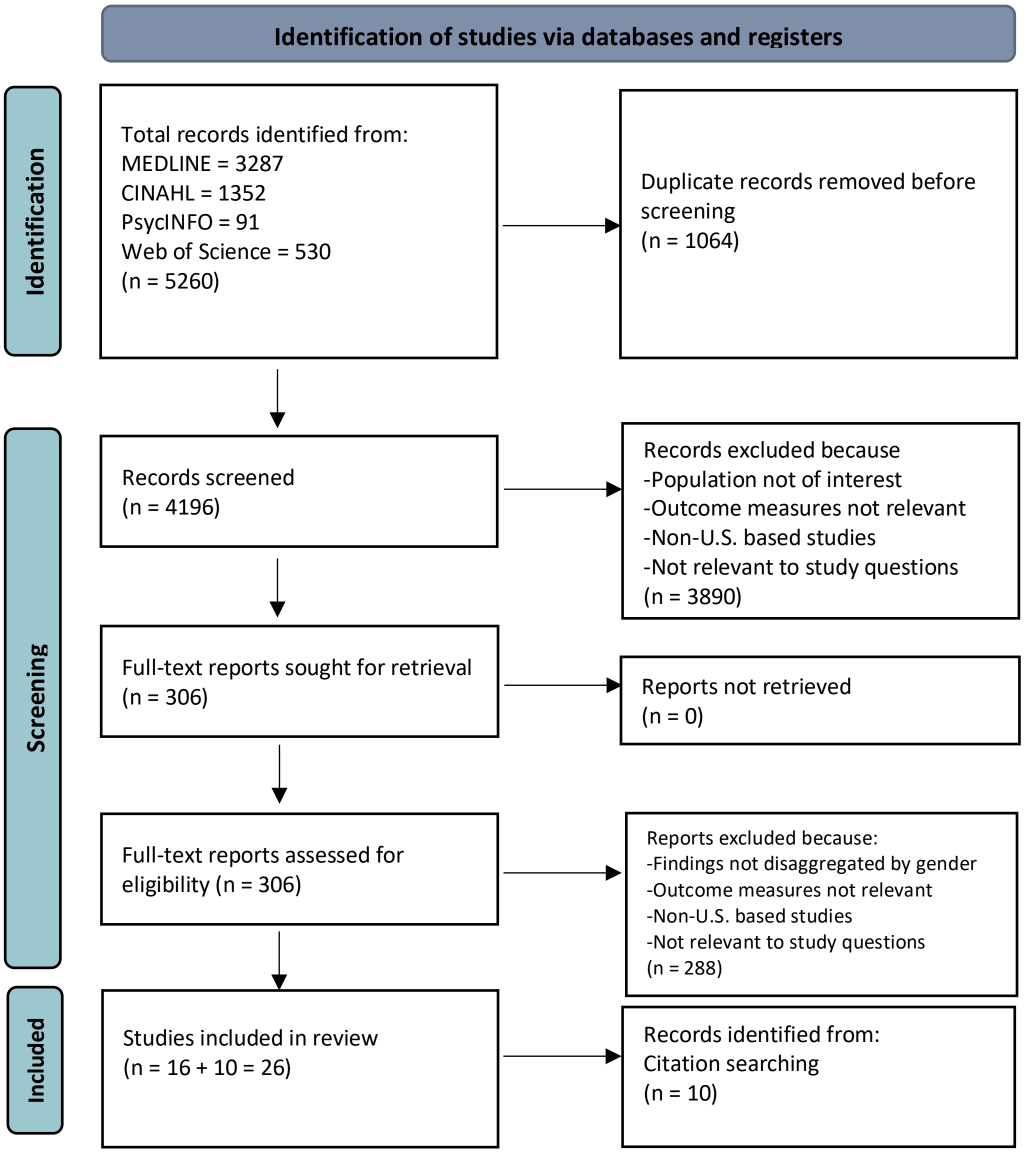
3.8 Results

The search strategy resulted in 4196 abstracts after the removal of duplicates. Following the assessment of eligible articles, 306 articles were identified for a full review, of which 16 were included. Citation-searching of the bibliographies of included studies and relevant systematic reviews identified 10 articles. Twenty-six articles were included in the review (see Figure 3.1.).

The review protocol was registered with the International Prospective Register of Systematic Reviews (PROSPERO) (Registration number: CRD42021265314) (Gilchrist et al., 2021). Results are presented according to Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) guidelines using the PRISMA 2020 Checklist (Page et al., 2021) (see Appendix 4).

Figure 3.1.

PRISMA flow diagram of the systematic review search process



Source. Adapted from Page et al. (2021)

3.8.1 Study characteristics

Most studies were quantitative (23/26, 88%), used a cross-sectional design (11/23, 48%), panel or interrupted time series without a control group design (2/23, 9%), or difference-in-difference (using a panel or repeated cross-sectional survey data) (10/23, 43%) design. Most of these studies were secondary data analyses of national household survey datasets (16/23, 70%). Three studies (3/26, 12%) used a qualitative design. The majority were conducted nationally, or in selected Medicaid expansion and non-expansion states (18/26, 69%), urban and rural settings (20/26, 77%), and targeted women (19/26, 73%). Studies were published between 2014-2021, and the majority (24/26, 92%) were published between 2016-2021. The quality score of studies assessed using the MMAT (2018) (Hong et al., 2018a) was 5/5 (13/26, 50%), 4/5 (9/26, 35%), and 3/5 (4/26, 15%), respectively (see Appendix 5). Table 3.2. reports the study design, sample characteristics, and key findings of the included studies.

Table 3.2.

Study design, sample characteristics, and quality assessment

Author, year	Study Type	Sample characteristics	Setting	Sample Size	Data source	Year data collected	Quality Score*
Cross-sectional, time series, and panel survey designs							
Ahad et al., 2019	Cross-sectional	Black and African immigrant women (18-64 years)	Urban setting, Utah	165	Coalition for a Healthier Community for Utah Women and Girls' Study	2012-2018	4/5, 80%
Dai & Meyer, 2019	Cross-sectional	Adults (50-64 years)	Select U.S. regions	350,778	Behavioral Risk Factor Surveillance System (BRFSS)	2014-2016	5/5, 100%
DiPietro Mager et al., 2021	Cross-sectional	Women (18-45 years)	Hardin County, Northwest Ohio	315	Survey	2019	3/5, 60%

Author, year	Study Type	Sample characteristics	Setting	Sample Size	Data source	Year data collected	Quality Score*
Early et al., (2018)	Cross-sectional	Low-income women (18-44 years)	California	4,567	The California Health Interview Survey	2013 versus 2014-2016	4/5, 80%
Farietta et al., 2018	Cross-sectional	Low-income women (19-44 years)	Ohio	489 (2012) 1273 (2015)	Ohio Medicaid Assessment Survey	2012, 2015	5/5, 100%
Johnson et al., 2020	Cross-sectional	Women (50-64 years)	Nationwide	8,838	National Health Interview Survey (NHIS)	2015-2016	4/5, 80%
Jones & Sonfield, 2016	Cross-sectional	Women (18-39 years)	Nationwide	8000	Two surveys developed by the Guttmacher Institute	2012, 2015	4/5, 80%
Massetti et al., 2017	Cross-sectional	Young adults (18-39 years)	Nationwide	90,821 48,915 (women)	BRFSS	2014	5/5, 100%
Pazol et al., 2017	Cross-sectional	Women (18-44 years)	Nationwide	8,244	NHIS	2013	3/5, 60%

Author, year	Study Type	Sample characteristics	Setting	Sample Size	Data source	Year data collected	Quality Score*
Seo et al., 2019	Cross-sectional	Foreign-born Asian immigrant (FBAI), and Native-born (Non-Hispanic) White American (NBWA) Women (18-64 years)	California	1,021	CHIS	2014-2015	5/5, 100%
SteelFisher et al., 2019	Cross-sectional	Women (18-64 years)	Nationwide	1596	SSRS National telephone survey	2017	3/5, 60%
Daw & Sommers, 2019	Interrupted time series without a control group	Women (18-44 years), Pregnant women	Nationwide	128,352 2,179 (Pregnant women)	NHIS	2010-2013, 2014-2016	5/5, 100%
Lee et al., 2020b	Panel Survey	Women (18-44 years)	Nationwide	37,026	Medical Expenditure Panel Survey (MEPS) and	2010-2015	5/5, 100%

Author, year	Study Type	Sample characteristics	Setting	Sample Size	Data source	Year data collected	Quality Score*
					Area Health Resource File		
<u>Difference-in differences design</u>							
Chen et al., 2020	Difference-in-differences	Low-income women (19-44 years)	Nationwide	1,124 (149 uninsured, 2013)	MEPS (2013-2014)	2013-2014	4/5, 80%
Courtemanche et al., 2019	Difference-in-differences	Adults (19-64 years)	Nationwide	10,537,667 5,473,836 (women)	American Community Survey (ACS)	2011-2013 versus 2014-2016	4/5, 80%
Johnston et al., 2018	Difference-in-differences	Low-income women (19-44 years)	Nationwide	24,955-25,816 according to the dependent variable	BRFSS	2012-2013 versus 2014-2015	5/5, 100%
Lee et al., 2018	Difference-in-differences	Women (19-64 years)	Nationwide	95,610,990 estimated women	NHIS	2010-2013 versus 2015	4/5, 80%

Author, year	Study Type	Sample characteristics	Setting	Sample Size	Data source	Year data collected	Quality Score*
Lee et al., 2019	Difference-in-differences	Women (19-64 years)	Nationwide	105,021 women representing 41,106,929 women	NHIS	2010-2013 versus 2014-2017	5/5, 100%
Margerison et al., 2020	Difference-in-differences	Low-income women (18-44 years)	38 states including Washington D.C.	58,365	BRFSS	2011–2013 versus 2015–2016	5/5, 100%
Simon et al., 2017	Difference-in-differences	Low-income childless adults (19-64 years)	Nationwide	147,353** (insured) 97,410** (women, insured)	BRFSS	2010-2013 versus 2014-2015	5/5, 100%
Sommers et al., 2014	Difference-in-differences	Low-income childless adults (19-64 years)	Washington D.C. versus Virginia, Connecticut versus the other Northeast States	35,013 16,098 (women)	ACS, Monthly Medicaid enrollment statistics	2008-2009 versus 2011	3/5, 60%

Author, year	Study Type	Sample characteristics	Setting	Sample Size	Data source	Year data collected	Quality Score*
Sommers et al., 2015	Difference-in-differences	Low-income adults (18-64 years)	Nationwide	507,055 240,855 (women)	National Gallup-Healthways Well-Being Index survey	2012-2013 versus 2014-2015	4/5, 80%
Wehby & Lyu, 2018	Difference-in-differences	Low-educated adults (19-64 years)	Nationwide	3,137,989 1,438,733 (women)	ACS	2011-2013 versus 2014-2015	5/5, 100%
Qualitative designs							
Greder et al., 2019	Qualitative - thematic analysis	Mexican immigrant women (21-47 years)	2 rural counties, in a Midwestern state	15	Qualitative interviews	2012	5/5, 100%
Luque et al., 2018	Qualitative - thematic analysis	Uninsured Latina immigrant women (21-64 years)	Charleston metro area	30	Semi-structured interviews	2016	5/5, 100%
Ross Perfetti et al., 2019	Qualitative - thematic analysis	Iraqi refugee women (18-64 years)	Philadelphia	14	Three focus groups	2016	4/5, 80%

Notes

*Quality score based on a 5-point scale used in the MMAT (2018) (Hong et al., 2018a).

** N varied according to the dependent variable. The sample size reported is for the dependent variable - Have insurance.

Outcome measures

The quantitative studies reported outcomes related to measures of potential access (including health insurance, usual source of care, and barriers to care such as cost), and measures of realised access (including primary care visits and receipt of preventive health services). Most quantitative studies (20/23, 87%) reported measures of potential access including insurance coverage and type (14/23, 61%), usual source of care/regular healthcare provider (9/23, 39%), cost or affordability (9/23, 39%), and delayed or foregone care (5/23, 22%). In comparison, fewer studies (11/23, 48%) examined measures of realised access or utilisation of healthcare services, such as visits to a healthcare provider for a routine check-up or health concerns (10/23, 43%), or receipt of preventive screenings (6/23, 26%). Definitions of outcome measures used to measure potential and realised access varied, making it difficult to compare findings across studies. Appendix 6 summarises the main outcomes reported in the 23 included quantitative studies.

3.8.2 Determinants associated with primary care access and health service utilisation

Identified determinants were classified according to Andersen's model. Most quantitative studies examined associations between individual predisposing, enabling, or contextual enabling factors. In contrast, few studies assessed contextual predisposing factors, individual and contextual need factors, or behaviours. Appendix 7 delineates the relationships (positive, negative, or insignificant) between the Andersen model's characteristics and measures of access.

Individual-level factors

Individual predisposing factors

Several studies found ACA's Medicaid expansion was associated with significant increases in insurance coverage rates for uninsured women (Jones & Sonfield, 2016; Lee et al., 2018; Wehby & Lyu, 2018) and Medicaid-insured women (Wehby & Lyu, 2018) across all age groups. A cross-sectional survey found older age was associated with having a regular provider (Ahad et al., 2019). Other studies found no association between age and various measures of access (DiPietro Mager et al., 2021; Lee et al., 2020b; Seo et al., 2019; SteelFisher et al., 2019).

Most studies reported an association between race and ethnicity and different measures of access (Jones & Sonfield, 2016; Lee et al., 2020b; Lee et al., 2018; Seo et al., 2019; SteelFisher et al., 2019; Wehby & Lyu, 2018). Several studies reported Medicaid expansion significantly reduced uninsured rates (Jones & Sonfield, 2016; Lee et al., 2018; Wehby & Lyu, 2018), and increased Medicaid coverage (Wehby & Lyu, 2018) across all racial and ethnic groups of adult women. Post Medicaid expansion, Hispanic women experienced higher gains in health coverage (Wehby & Lyu, 2018), and the largest decreases in uninsured rates in the lowest-income group (≤ 138% FPL) (Lee et al., 2018) compared to other racial-ethnic groups. Racial and ethnic differences in coverage or other measures of access persisted across most studies. For example, one study found despite decreased uninsured rates across all racial and ethnic groups, U.S. and foreign-born Hispanic women had significantly increased odds of being uninsured compared to White women after Medicaid expansion (Jones & Sonfield, 2016). Hispanic or Native American women avoided doctors because of concerns about discrimination (SteelFisher et al., 2019). Women from racial-ethnic minority groups had significantly fewer visits with family physicians, nurse practitioners, or physician assistants in the last year compared to White women (Lee et al., 2020b; Seo et al., 2019).

The evidence regarding an association between education, employment, family dependents, or marital status and various access measures was inconclusive. Several studies reported an association between educational level and various measures of access (Ahad et al., 2019; Farietta et al., 2018; Jones & Sonfield, 2016; Lee et al., 2020b; Seo et al., 2019). Other studies found no such association (DiPietro Mager et al., 2021; Farietta et al., 2018; SteelFisher et al., 2019). While one study found full-time employment led to lower uninsured rates after Medicaid expansion (Jones & Sonfield, 2016), other studies did not report a relationship between employment status and access measures (Ahad et al., 2019; DiPietro Mager et al., 2021; Lee et al., 2020b; Seo et al., 2019). Two studies reported married status was associated with increased health coverage rates (Jones & Sonfield, 2016; Margerison et al., 2020), check-ups in the last year, and reduced avoidance of healthcare due to cost, compared to non-married status after Medicaid expansion (Margerison et al., 2020). Other studies found no association between marital status and access measures (Ahad et al., 2019; DiPietro Mager et al., 2021; Lee et al., 2020b; Margerison et al., 2020; Seo et al., 2019).

There was limited evidence of associations between other individual predisposing factors, including discrimination (SteelFisher et al., 2019), English proficiency (Seo et al., 2019), family size or the number of births (Jones & Sonfield, 2016; Lee et al., 2020b), health literacy (Ahad et al., 2019), immigrant status (Ahad et al., 2019; Seo et al., 2019), information sources (Ahad et al., 2019), and sexual minority status (Dai & Meyer, 2019; SteelFisher et al., 2019) and various measures of access. Higher levels of health literacy were associated with significantly increased odds (OR=1.11, 95% Confidence Interval [CI] [1.02, 1.30], *p*<.05) of having a regular healthcare provider (Ahad et al., 2019). Immigrants were less likely to have a regular healthcare provider compared to those born in the U.S. (Ahad et al., 2019), and less likely to have visited a doctor at least once in the past year (Seo et al., 2019). No studies examined associations between health beliefs, occupation, religion, or social networks and different measures of access.

Individual enabling factors

Most studies found insurance coverage was associated with increased healthcare utilisation rates such as visiting a doctor in the last year (Lee et al., 2020b; Seo et al., 2019), and receipt of a BP check or influenza vaccination in the past year (Pazol et al., 2017). Women without insurance or Medicaid/Medi-Cal coverage were less likely to have a regular healthcare provider (Ahad et al., 2019). Evidence of an association between income and different access measures was inconclusive. For instance, one study reported uninsured rates for low-income women declined significantly primarily due to increased Medicaid coverage following Medicaid expansion (Jones & Sonfield, 2016). Another study found insurance affordability improved for women in lower-income groups (≤138% and 139% −399% FPL) (Lee et al., 2019). This study also found rates of doctor visits and receipt of preventive services in the past 12 months increased across all income groups. Other studies found no significant association between income levels and measures of access (Lee et al., 2020b; Seo et al., 2019; SteelFisher et al., 2019). In reproductive-age women, higher-income levels were associated with increased receipt of preventive health services such as BP checks or influenza vaccinations (Pazol et al., 2017). Only a few studies assessed associations between a usual source of care (Seo et al., 2019), access to public transit (Ahad et al., 2019), geographic residence (Lee et al., 2020b), and measures of access. Women with a usual source of care were more likely to have seen a physician at least once in the past year (Seo et al., 2019).

Individual need factors

The few studies that explored associations between need factors and measures of access found mixed evidence (Ahad et al., 2019; Johnson et al., 2020; Lee et al., 2020b; Massetti et al., 2017; Seo et al., 2019). Women with chronic diseases were more likely to have seen a doctor in the past year (Seo et al., 2019); while women with hypertension had significantly higher odds of having a regular healthcare provider (Ahad et al., 2019). Women diagnosed with mental health illness were less likely to have had a routine health check-up in the last 2 years (79.5% versus 82.2%) (Massetti et al., 2017). Few studies have explored associations between perceived health status and measures of access (Ahad et al., 2019; Lee et al., 2020b; Seo et al., 2019). Only one study assessed individual health behaviours, but found no association between tobacco use and having a regular healthcare provider (Ahad et al., 2019).

Contextual-level factors

No studies assessed contextual predisposing factors (such as community-levels of crime, education, or employment rates), or contextual need factors (such as environmental health-related measures including air, housing, or water quality, death, or injury rates) with measures of access. A study found rural areas had lower per capita county supplies of nurse practitioners or physician assistants compared to urban areas (Lee et al., 2020b). Urban-rural differences were not significant for per capita county supplies of family medicine physicians.

Several quantitative studies examined contextual enabling factors (such as the impact of ACA healthcare reform) on various measures of access. Medicaid expansion in designated states was associated with decreased uninsured rates (Chen et al., 2020; Daw & Sommers, 2019; Johnston et al., 2018; Jones & Sonfield, 2016; Lee et al., 2018; Sommers et al., 2015; Sommers et al., 2014; Wehby & Lyu, 2018), increased rates of insurance coverage (Courtemanche et al., 2019; Margerison et al., 2020; Simon et al., 2017), and increased Medicaid coverage (Chen et al., 2020; Courtemanche et al., 2019; Daw & Sommers, 2019; Lee et al., 2018; Sommers et al., 2014; Wehby & Lyu, 2018) in adult working-age women compared to non-expansion states.

Only two studies found Medicaid expansion was significantly associated with increased access to a usual source of care for reproductive-age women (Daw & Sommers, 2019), and a personal doctor for low-income women (Sommers et al., 2015). Other studies found no association between Medicaid expansion and improved access to a usual source of care (Early et al., 2018; Farietta et al., 2018); a personal doctor (Johnston et al., 2018; Simon et al., 2017), or decreased barriers to seeing a doctor because of cost (Johnston et al., 2018) for low-income women. Medicaid expansion was associated with a reduction in delayed care or non-receipt of medical care (Daw & Sommers, 2019; Lee et al., 2018), unaffordability of healthcare (Sommers et al., 2015), problems paying medical bills (Lee et al., 2018), not being able to see a doctor due to cost (Johnston et al., 2018), or avoidance of healthcare because of cost (Margerison et al., 2020) in different populations of adult women.

Only five studies assessed whether Medicaid expansion affected healthcare utilisation for working-age women. Medicaid expansion was associated with increased rates of doctor's visits in women in lower-income brackets (≤138% and 139%-399% FPL), preventive health screenings in all income brackets (Lee et al., 2019), and check-ups in low-income reproductive-age women (Margerison et al., 2020). Most studies found no association between Medicaid expansion and rates of provider visits (Farietta et al., 2018; Johnston et al., 2018), cholesterol checks (Margerison et al., 2020), routine check-ups, or flu shots (Simon et al., 2017) in the past year for low-income women.

3.8.3 Overall synthesis of qualitative evidence

A thematic analysis approach was used to identify facilitators and barriers to access for women. Data from three eligible qualitative studies with Latina immigrants (Greder & Reina, 2019; Luque et al., 2018), and Iraqi refugee women (Ross Perfetti et al., 2019) were analysed. Eleven themes were grouped according to the Andersen model domains (Andersen et al., 2013). These themes are listed in Appendix 8, with illustrative quotes or excerpts.

Facilitators

Five themes were developed for facilitators. The three themes linked to individual predisposing characteristics included: 1) positive health beliefs, 2) health-affirming behaviours, and 3) social support. Belief in the efficacy of biomedical options resulted in timely healthcare-seeking behaviours (Ross Perfetti et al., 2019). Women were often motivated to seek healthcare because they wanted to stay healthy so they could take care of their families (Luque et al., 2018). Health-affirming behaviours included recognising the importance of health, health literacy (such as being able to understand and use relevant health-related knowledge), and knowledge about community resources such as knowing where to access free, low-cost healthcare (Greder & Reina, 2019). Social support helped immigrant women navigate access to care and included family members providing language translation at doctor's visits, support from social networks including faith communities (Luque et al., 2018), and support from informal networks that assisted women in navigating difficult life circumstances (Greder & Reina, 2019).

Two themes related to individual and contextual enabling factors were identified: 4) healthcare safety net, and 5) healthcare organisation and delivery. Access to insurance promoted healthcare access (Greder & Reina, 2019). Low-income immigrant or refugee women often went to free or low-cost clinics for healthcare and medicine because they did not have insurance coverage (Luque et al., 2018). Healthcare organisation characteristics that facilitated access included the geographic proximity of clinics and culturally appropriate healthcare, such as translation services (Greder & Reina, 2019; Luque et al., 2018).

Barriers

Six themes related to barriers to access included 1) immigrant status and linguistic barriers, 2) negative health beliefs, 3) inadequate healthcare safety net, 4) healthcare organisation and delivery barriers, 5) delayed care, and 6) health service alternatives. The first two themes—immigrant status and linguistic barriers, and negative health beliefs related to individual predisposing characteristics. Immigrant status was linked to low-income status and a lack of English proficiency (Greder & Reina, 2019). Undocumented status was a substantial barrier, as undocumented women rarely qualified for medical assistance or insurance coverage under federally funded Medicaid or Medicare programmes (Greder & Reina, 2019; Luque et al., 2018). Negative health beliefs, such as perceiving health as the absence of illness, led to women delaying obtaining preventive care services (Greder & Reina, 2019).

Two themes of inadequate healthcare safety net, and healthcare organisation and delivery barriers related to individual and contextual enabling characteristics. Lack of insurance and the high cost of healthcare services posed significant barriers to access (Greder & Reina, 2019; Luque et al., 2018; Ross Perfetti et al., 2019). Several women could not enter the health insurance market if they were not eligible for Medicaid or other publicly funded health insurance. Instead, they relied on free or low-cost clinics, same-day appointments at urgent care, or a visit to the emergency room as a last resort (Luque et al., 2018; Ross Perfetti et al., 2019). Health system-related barriers such as difficulties making appointments, discriminatory practices, inadequate provider assessments, or treatments, inexperienced providers, lack of follow-up of test results, lack of translation services, language difficulties, long wait times, and unreliable public transportation often deterred access or led to ineffectual delivery of healthcare services (Greder & Reina, 2019; Luque et al., 2018; Ross Perfetti et al., 2019).

Finally, two themes, delayed care and health service alternatives related to Andersen's domain of health behaviours. Women often delay care because of financial constraints and unaffordable costs, competing needs (such as family and work commitments), or negative experiences with healthcare providers (such as not being listened to) (Ross Perfetti et al., 2019). Immigrants felt undeserving of government assistance programmes available to U.S. citizens (Luque et al., 2018). Shopping around for health services or prescription drugs that were free or low-cost was common (Luque et al., 2018). Women shopping around often led to delayed care or the receipt of low-quality or inappropriate care.

3.8.4 Methodological limitations of studies

Several quantitative studies used cross-sectional data so could not assess temporality, or whether causal relationships existed between variables of interest and outcome measures. Many quantitative studies used secondary datasets from large national surveys, which included standard self-reported healthcare survey variables. Secondary data were derived from cross-sectional surveys such as the MEPS and the NHIS, which had higher response rates than other surveys (such as the BRFSS) (Czajka & Beyler, 2016). The BRFSS survey uses random-digit dialled surveys, which may lower individual response rates and frame non-coverage, reducing representativeness (Rao et al., 2005). Limitations using national survey data included differences across datasets, such as variability in response rates and sampling methods, which may limit the applicability of findings.

Several quantitative studies may not have controlled for all confounders. Heterogeneity operationalising access measures made comparison of these difficult. For example, definitions of measures of affordability often differed across studies. Several difference-in-differences studies used logistic regression models, while others used linear regression models, which may make it easier to interpret the findings of difference-in-differences studies (Karaca-Mandic et al., 2012). Several studies employed difference-in-differences study designs to examine the effects of ACA. Because of potential confounding factors arising from contemporaneous socio-economic or political changes, the studies may not have distinguished pre-ACA effects from other concurrent changes.

3.9 Discussion

Synthesis of findings and comparison with previous literature

This systematic review provides an original synthesis of quantitative and qualitative evidence on determinants, facilitators, and barriers that influence working women's access to primary care during the ACA. Using Andersen's model, the review found moderate evidence that individual predisposing factors (such as age, race/ethnicity), and individual enabling factors (such as income and insurance) were associated with various measures of access. Certain individual predisposing factors, such as health literacy, positive health beliefs, and social networks facilitated access. Barriers encompassed cultural or language barriers, low health literacy, negative health beliefs, and undocumented status. Studies with women receiving reproductive health services found barriers to access included low health literacy (Mann et al., 2016; Murray et al., 2013; Roman et al., 2017).

Individual enabling factors that facilitated access since the ACA included available and reliable transportation, culturally appropriate healthcare, free or low-cost health services, insurance, and social support. Studies of women accessing reproductive health services during the ACA found social support was an important component of access (Chor et al., 2018; Mann et al., 2016). Barriers included high costs of healthcare, lack of insurance coverage, and transportation issues. These findings are consistent with several studies of women's reproductive health services that found barriers to access included lack of health coverage or high costs of healthcare (Chor et al., 2018; Mann et al., 2016), and transportation problems (Chor et al., 2018; Hailemariam et al., 2020; Mann et al., 2016; Peahl et al., 2022; Roman et al., 2017).

Overall, the review found that Medicaid expansion under the ACA led to lower uninsured rates and improved insurance coverage including Medicaid insurance, especially for women with low-to-moderate incomes. Medicaid expansion has mixed effects on other healthcare access indicators, including having a source of usual care, regular provider, and health service utilisation rates. This review builds on those of a literature review of 601 studies published between 2014 to 2021 that found Medicaid expansion was consistently associated with positive gains in insurance coverage (201/214=94%), financial security and healthcare affordability (66/80=83%) for U.S. adults (Guth & Ammula, 2021). The review found Medicaid expansion was less consistently associated with other access and utilisation measures (184/263=70%).

Other contextual enabling factors included the structure of health services and the provision of medical care. Culturally appropriate care (such as translation services), and supportive providers improved accessibility for low-income immigrant and refugee women (Greder & Reina, 2019; Luque et al., 2018; Ross Perfetti et al., 2019). These findings are consistent with other studies that found positive patient-provider interactions enhanced the accessibility of reproductive health services (Phillippi et al., 2016; Roman et al., 2017). This review identified barriers to access included inadequate translation services, lengthy wait times, low-quality care, communication problems with providers, and provider discrimination. Other studies show barriers encountered by undocumented immigrant African women receiving ambulatory and in-patient healthcare services included patient-provider communication problems and provider discrimination (Olukotun et al., 2020), and lack of interpreter services for East African women (18 years or older) (Murray et al., 2013). Women experienced difficulties accessing reproductive health services due to inadequate provider communication or provider mistrust (Chor et al., 2018; Roman et al., 2017). Very few studies considered contextual predisposing or individual or contextual need factors.

Significantly, this review found that following Medicaid expansion, working-age women continue to experience differential patterns accessing health coverage according to age, income, marital status, race, and ethnicity (Jones & Sonfield, 2016; Lee et al., 2018; Manuel, 2018; Margerison et al., 2020; Wehby & Lyu, 2018). These findings are consistent with other studies that found while inequalities in insurance coverage for adults by age, race/ethnicity, income level, and marital status decreased following Medicaid expansion, significant inequalities in coverage persist (Angier et al., 2015; Baumgartner et al., 2020; Buchmueller et al., 2016; Gonzales & Sommers, 2018; Lee & Porell, 2020; Yue et al., 2018). The findings of this review highlight the need for more research to further explore how inequalities associated with differential patterns of access intersect with gender and other determinants and shape working-age women's access to primary care.

Identifying the gap in the literature

Most of the quantitative studies in this review examined individual predisposing factors and individual and contextual enabling factors during the ACA era. These studies often failed to consider how individual predisposing or enabling factors such as health literacy, information sources, language barriers, social support networks, or transportation might influence women's access. There is a need for quantitative research to evaluate the longer-term impact of the ACA on women's coverage, access, and use of primary care services. There are gaps in our understanding of how ACA provisions such as Marketplace subsidies or the individual mandate affect coverage, affordability, and healthcare utilisation for women (Lee et al., 2020a). Guth and Ammula's (2021) recent literature review found most quantitative studies examining the impact of Medicaid expansion on women's access focused on reproductive healthcare services (Clapp et al., 2019; Daw et al., 2020; Dunlop et al., 2020; Gibbs et al., 2020; Gibbs et al., 2021; Harvey et al., 2021; Johnston et al., 2020; Moniz et al., 2018; Snyder et al., 2018). Overall few studies investigating access to or utilisation of health services in the context of the ACA disaggregate data by gender.

Since the ACA, limited qualitative or mixed-methods studies have explored women's perspectives on primary care access, facilitators, barriers to access, patient satisfaction, and health outcomes. Most qualitative research has focused on the healthcare experiences of specific subgroups of women, including the homeless (Biederman & Nichols, 2014), immigrants (Greder & Reina, 2019; Luque et al., 2018; Murray et al., 2013; Olukotun et al., 2020), refugees (Ross Perfetti et al., 2019), or disabled or older women (Hailemariam et al., 2020), and reproductive health services (Chor et al., 2018; Hailemariam et al., 2020; Mann et al., 2016; Phillippi et al., 2016; Roman et al., 2017).

Based on gaps in knowledge identified, more qualitative research is needed to explore the experiences of diverse groups of women of different ages, ethnicities, and cultural backgrounds with primary care access in the U.S. The ACA's provisions expanded Medicaid eligibility and insurance coverage to lower-income groups, however, little qualitative research has been conducted to understand the experiences of low-income women accessing primary care since the ACA. Qualitative research can provide rich, contextual information about women's experiences, and can help inform health-related policies, programmes, and interventions aimed at addressing inequalities associated with primary care access in vulnerable groups, such as low-income women.

3.10. Strengths and limitations

Adopting a mixed-methods approach allowed for the inclusion of heterogeneous study designs, analytic methods, measures, and outcomes to meet the broad research questions. Applying Anderson's model as a framework allowed a systematic exploration of determinants of access. The mixed-method systematic review process followed may contribute to the generalizability of findings to other settings. While this review only included U.S. studies, findings may apply to high or middle-income countries, especially those without universal healthcare coverage with significant uninsured or underinsured populations. More longitudinal studies using time series or repeated measures analysis are needed. Such studies can explore changes in trends relating to determinants of access after the ACA's major provisions were implemented.

Inevitably, the synthesis selected germane findings to illustrate relevant trends and themes based on the review's inclusion criteria, so certain relevant findings may not be reported. Although the inclusion and exclusion criteria were applied rigorously, bias in study selection may have occurred. Given the broad research questions, despite a systematic search of several databases, selective use of MeSH headings and key terms, and exclusion of non-English studies may have excluded eligible studies. Even with these limitations, it is unlikely that the review findings would be significantly altered as key relevant studies were included.

3.11 Conclusion

This chapter identifies major determinants, facilitators, and barriers that impact access in working-age women during the ACA era. Determinants of access, including individual, health system-related, and structural factors, are multi-dimensional and complex. It is impossible to separate women's attributes, lived experience, healthcare system delivery characteristics, and structural factors from each other, or the cultural, socio-economic and political context in which these women live. Following the identification of gaps in knowledge, several research questions were developed. The empirical qualitative study design chosen, and methods developed to address these research questions are outlined in Chapter 4.

Chapter 4: Methodology and Methods

4.1 Introduction

This chapter outlines the methodology and methods for the empirical qualitative study. Sections 4.2 to 4.4 cover the study's aims, objectives, research questions, ontology, epistemology, and theoretical framework. Sections 4.5 to 4.13 describe the study methods and the rationale for choices relating to study design, methods, data analysis, and the researcher's reflexivity. Section 4.14 outlines the study's limitations (these are discussed in more depth in Chapter 8). The chapter concludes with a discussion of ethical considerations, funding, competing interests, and data dissemination in Sections 4.15 to 4.17.

4.2 Study aims, objectives, and research questions

Study Aim: To explore low-income women's experiences accessing and utilising primary care services to meet health needs in an urban California setting following Medicaid expansion. This study will investigate the individual and structural-level facilitators and barriers encountered by low-income women accessing primary care services.

The study objectives are:

1. To explore the experiences of low-income women seeking access to and utilising primary care services to meet health needs following Medicaid expansion in an urban California setting, applying Levesque's framework of patient-centred access.
2. To examine the individual, health system, and structural-level facilitators and barriers low-income women encounter accessing and using primary care services, and how these influence health-seeking behaviours.

The research questions are:

1. What are the experiences of low-income working-age women seeking access to and utilising primary care services to meet their health needs following Medicaid expansion in an urban California setting?

2. What are the individual and structural-level facilitators and barriers that low-income women encounter accessing primary care services to meet their health needs, and how do these influence health-seeking behaviours?

4.3 Ontology and epistemology underpinning the choice of approach

This study is grounded in an ontological position of constructionism. Constructionism holds that “social phenomena and their meanings are continually being accomplished by social actors” (Bryman, 2012, p. 33). This approach examines social realities from the stance of individuals who experience and participate in these realities, and recognises that “social reality, experiences, and social phenomena are capable of multiple, sometimes contradictory interpretations and are available to us through social interaction″ (Cohen et al., 2018, p. 289). Knowledge is individually constructed through individuals’ interactions with their world, and the sense that they make of a phenomenon is grounded in a social context (Crotty, 1998). Constructionism is closely aligned with an interpretivist epistemological stance. An interpretivist epistemology posits that knowledge is generated by understanding the social environment and examining how individuals interpret their social world (Bryman, 2016).

Adopting a constructionist ontology and interpretivist epistemology stance provided a solid foundation for exploring the social phenomenon of access to primary care, influenced by multiple individual, socio-economic, or structural factors. A strength of the interpretivist approach is the researcher’s engagement with the research topic, and the lack of expectation that a researcher be entirely objective. A qualitative approach based on relativist and value-based methods allowed for the examination of different perspectives held by stakeholders. Research findings can help facilitate action and change by generating new insights and knowledge (Armour et al., 2009).

Qualitative research offers a unique opportunity to delve into individuals’ perspectives on diverse health-related topics, ranging from the impact of health policy changes on access to the quality of interactions between patients and doctors (Braun & Clarke, 2019a). A reflexive thematic analysis approach was chosen for this study, as this aligns with a constructionist approach which allows for critical framing of data, language, and meaning (Braun & Clarke, 2013). A relativist, constructionist approach permitted an exploration of low-income women's understanding of their experiences accessing healthcare within a specific social context.

Thematic analysis is a key term for a set of approaches used to analyse qualitative data and focuses on identifying patterns of meanings or themes across datasets (Braun & Clarke, 2019b). Reflexive thematic analysis encompasses a flexible, exploratory, iterative approach that can apply deductive, inductive, semantic, or latent coding, and is suitable for exploring complex multi-dimensional aspects associated with women's access to healthcare. The analytic process ranges across a deductive-inductive continuum, which allows a deductive approach that analyses and interprets data through the lens of an existing theoretical framework; or an inductive approach that seeks to ground the analysis in the data (Braun & Clarke, 2021a).

4.4 Theoretical Framing: Levesque conceptual framework for healthcare access

As discussed in Chapter 2, Section 2.3, Levesque's conceptual framework of access to healthcare (Figure 2.2.) was the framework of choice for the deductive analysis. The framework was an appropriate choice as it was valuable for capturing women's experiences with the typical linear trajectory of healthcare-seeking, reaching, and using healthcare services to improve health status from a patient-centred perspective. Levesque's framework is compatible with a constructionist approach that adopts an interpretive epistemology, which presumes women's experiences with healthcare-seeking and utilisation are embedded within a specific socio-economic-cultural context, and health-seeking behaviours are informed by individual life experiences.

4.5 Study setting

Women were recruited from three affordable housing organisations in an urban setting in California. Participating affordable housing organisations provided permanent housing to low-income individuals or families, including those who were disabled or previously homeless. The sites were located in multi-ethnic low-income neighbourhoods.

4.6 Site recruitment

The researcher contacted senior programme managers or key staff at eight local community-based agencies, explained the study’s purpose and provided programme staff with a written study summary. Four organisations, including three affordable housing agencies and a children’s services programme agreed to participate. Senior leadership staff provided written permission to conduct recruitment activities at various sites managed by these four agencies. These organisations provided a stable venue for recruiting eligible low-income women.

4.7 Sampling approach

Purposive, non-probability sampling was chosen as an appropriate sampling strategy for obtaining a well-defined sample of low-income women. Purposive sampling is congruent with a qualitative approach exploring different perspectives of low-income women and supports the transferability of findings to other settings (Bryman, 2016). Maximum variation sampling was used to elicit a diverse range of perspectives from low-income women on primary care access and achieve wider demographic variability in the sample (Sandelowski, 1995). Key dimensions of interest included age, race/ethnicity, education level, employment, and marital status.

4.8 Sample

The study aimed to gather sufficient rich and detailed data that offered diverse in-depth perspectives to generate themes (Braun & Clarke, 2019b). As the study aimed to capture variation across the sample of 18 low-income women of diverse ages, racial or ethnic identities, education, employment, and relationship status were recruited. Data collection was discontinued after the researcher had conducted various data analyses and determined that sufficient in-depth data had been collected to address the study's research questions. Inevitably, assessment of when to complete data collection is subjective, and can only be determined after analysis (Braun & Clarke, 2021b). Braun and Clarke (2013) suggest 10 to 20 participants is a sufficient sample size to conduct a thematic analysis in a medium-sized study.

4.9 Recruitment process

Study recruitment started in August 2021 with two agencies that had agreed to participate. Initially, a solo recruitment strategy of posting flyers in communal areas of low-income housing sites was adopted. This strategy was initially unsuccessful. The researcher then recruited two more community-based agencies and obtained an updated ethics approval for the researcher's place of employment to conduct multi-pronged recruitment strategies. The researcher met with key site staff and provided information on the study. Site staff were asked to post updated flyers on community bulletin boards at sites (see Appendix 9), place flyers in resident mailboxes, and/or send emails or texts with study information to site residents via the organisation's email or phone system. The researcher attended several food pantry events in-person at selected sites and handed out flyers to interested residents. Women who were interviewed were invited to share the study information with other women living at participating sites. This strategy led to the recruitment of several women. The researcher was contacted by interested women through a designated phone number or work email address. The researcher then phoned the women to determine eligibility using a recruitment script (see Appendix 10). Interviews were scheduled with eligible interested women at a convenient time and location. Active recruitment of participants was conducted from October 2021 through July 2022. Study recruitment stopped after 18 women enrolled in the study, and sufficient data was collected to answer the study's research questions.

Inclusion/exclusion criteria

Inclusion and exclusion criteria are outlined in Table 4.1.

Table 4.1.

Inclusion and exclusion criteria

Inclusion criteria	Exclusion criteria
Adult women (aged 18 to 64 years).	Women 65 years or older, or less than 18 years of age.
Has accessed primary care services since California adopted Medicaid expansion effective 1 January 2014.	Has not accessed primary care services since 1 January 2014.
Currently living in or receiving services from a participating agency.	Not currently living in or receiving services from a participating agency.
Able to speak and understand English	Unable to speak or understand English.
Able to provide written or verbal informed consent before initiation of any study procedures.	Unable to provide written or verbal consent before initiation of any study procedures (for example, due to language barriers or cognitive impairment).

4.10 Informed consent

Research requires informed consent to ensure participants are fully informed about the study, procedures, and their rights. The three major features of informed consent include the provision of relevant information to make an informed decision, understanding the information disclosed, and ensuring the participant's decision to participate in a study is voluntary (Office for Human Research Protections, 2021; World Medical Association, 2022).

Consenting process

Women who participated in the study received an electronic (sent via email or DocuSign software) or physical copy of the informed consent form (ICF) (see Appendix 11) to read before being interviewed. Women either signed the consent form electronically, provided verbal consent (recorded), or, if interviewed in-person, signed a physical copy of the ICF. Before women were interviewed, the researcher reviewed the ICF with them, and women were provided with the opportunity to ask questions. Women who signed the ICF in-person or electronically were provided a physical or electronic copy of the signed ICF. Verbal consent was recorded. Electronic, audio, or video files documenting informed consent were uploaded to a secure cloud server. These files were deleted from portable storage devices once uploaded to the secure cloud server.

Verbal consent process

Verbal consent was conducted by phone or using secure online video conferencing software, and recorded as a separate audio or video file. The researcher read the consent form verbatim and asked the participant to respond “I understand” or “I agree” after each section. Upon completing the consent process, every participant was requested to state, “I consent to participate in this interview.” The researcher then stopped the recording after appending the participant’s name and number.

4.11 Interview and data collection

Semi-structured interview guide

Assumptions about how individuals, institutions, and interactions construct their world or social reality provide the theoretical and epistemological underpinning for the choice of research methods, such as in-depth interviews (Gibbs, 2007; Kvale, 2007). Semi-structured interviews were chosen to explore the phenomenon of interest—access to primary care. This allowed the researcher to obtain in-depth personal accounts of women’s perspectives about their experiences with healthcare-seeking, and access to primary care services. Semi-structured interviews allow the researcher to modify any line of inquiry based on findings (Streubert & Carpenter, 2011). A flexible structure was used during the interview, which allowed participants to share what they considered essential, and the interviewer to adjust questions and prompts as needed (Braun & Clarke, 2013).

A semi-structured interview guide was developed to elicit depth and breadth of responses on the topic. Various literature informed the development of the interview guide (Brown et al., 2020; Galon & Graor, 2012; Luque et al., 2018; Quinn et al., 2017). The interview guide was initially piloted with four women (18 to 64 years) of different ages and ethnicities to ensure questions elicited relevant content. After the pilot was completed, the wording and organisation of open-ended questions and prompts were revised to ensure these were understandable and consistent. The first interview was considered a pilot interview and excluded, as the participant did not qualify as low-income based on self-reported data. The researcher initially conducted three interviews and then added several open-ended questions to the interview guide to elicit information on discrimination, social support, and treatment adherence (see Appendix 12). As part of the interview, women completed a socio-demographic survey administered by the researcher. The survey collected information on age, gender, race/ethnicity, educational level, employment status, household income (annual), insurance coverage and type, language, marital status, number of children, country of birth, and place of usual care (see Appendix 13). The socio-demographic data collected from participants was self-reported.

Interview process

Women who participated in the study could choose to be interviewed in-person (if local conditions relating to the COVID-19 pandemic when women were interviewed allowed), by telephone, or using secure video conference software. The option to meet in-person ensured equitable access to the study. Overall, 11 interviews were conducted using secure online video conferencing software with the interviewer's video-enabled (women chose whether they wanted to enable their video). Four interviews were conducted with women in-person, and three were conducted by phone. Several women preferred to be interviewed by phone, possibly because they were unfamiliar with online conferencing technology or did not have access to Internet services.

Face-to-face interviews were conducted with women in private community meeting rooms at participating sites. The researcher carried a charged cell phone and a lone worker policy was followed for safety. Following the interview, the researcher verified the interview had been completed with a trusted third party, such as the staff contact person at the site. Face-to-face and video interviews were not substantially different according to length, type of information elicited or established rapport. Video conferencing interviews provide similar opportunities to interviews conducted face-to-face for engagement in real-time dialogue with participants when conducting qualitative research (Irani, 2019; Krouwel et al., 2019).

The purpose, background, and reasons for conducting the study were reiterated to participants before the interview. The interview guide was used to explore several topics including the type of PCP, location of primary care services, insurance coverage, general health, behaviours regarding healthcare-seeking, positive and negative experiences while obtaining primary care services, unmet needs, experiences with discrimination, social support, and treatment adherence. Open-ended questions and prompts were used to elicit information. Participants were asked to elaborate further if responses were vague or needed further clarification. The researcher attempted to be as neutral as possible when asking questions to avoid biassed responses.

Each participant completed the interview, and none subsequently withdrew consent. Interview length varied between 36 to 88 minutes, and averaged 65 minutes. Interviews were recorded with a digital audio recorder or secure online conferencing software. Audio or video recordings of interviews and transcripts were uploaded to a secure cloud server, and files on portable storage devices were deleted.

COVID-19 precautions

Study recruitment occurred during the COVID-19 pandemic between October 2021 and July 2022. The researcher followed a stringent protocol when conducting in-person interviews according to current local and state health department guidance (see Appendix 14).

Debrief Process

The researcher monitored the women for psychological distress during the interview, even though the risk was assessed as low. Several interviews were conducted by phone or secure video conference software without an enabled video, which may have made it more difficult to detect distress. To mitigate this possibility, the researcher was sensitive to women’s responses, checked with women if they appeared distressed, and verified whether they wished to continue the interview. Several women became emotional while narrating key critical incidents such as family deaths, but recovered their equilibrium and could complete the interview.

The researcher conducted a short debriefing process to assess for psychological distress after each interview. Each woman was offered a list of referrals to local mental health resources, in case they developed psychological distress later (see Appendix 15).

Transcription and data familiarisation process

The researcher generated transcripts from video online conferencing software or Microsoft Word's transcription tool. Each participant was assigned a participant number to ensure the anonymity of the data. Braun and Clarke's orthographic transcription notation technique was used (Braun & Clarke, 2013). Each transcript was checked against the recording at least twice to ensure the content was accurate and complete.

The data familiarisation process continued during the data collection period. After each interview, the researcher wrote field notes reflecting on the interview. These reflections helped inform later interviewing techniques. The researcher reviewed the first 13 transcripts to identify key concepts and patterns before starting coding (Braun & Clarke, 2006). Subsequent interviews were transcribed, read, and then coded.

4.12 Data analysis

The choice of an analytic framework

A reflexive thematic analysis approach was used to analyse the data (Braun & Clarke, 2022). This included organising and describing the data and then identifying and reporting themes. The reflective thematic analysis focused on how participants' experiences, events, meanings, or realities were informed by theorising the "sociocultural contexts and structural conditions" relating to individual accounts (Braun & Clarke, 2006, p. 85). The researcher plays a key role in the construction of knowledge, and this is a key component of reflexive thematic analysis (Braun & Clarke, 2019b). This is aligned with the philosophical underpinnings of this study—constructionism. Reflexive thematic analysis offered a flexible yet robust method, eminently suitable for applied research exploring the complexities of healthcare access in low-income women to inform policy and practice (Braun & Clarke, 2014).

Both deductive and inductive approaches were adopted to explore the research questions. A unique feature of Braun and Clarke's reflexive thematic analysis is the flexibility to apply both approaches in a complementary fashion (Braun & Clarke, 2019b). Other researchers have used a hybrid approach, integrating inductive and deductive thematic analysis to generate participant-driven themes on health-related issues (Fereday & Muir-Cochrane, 2006). A deductive approach allowed a theoretical framework to be used as a lens to examine different facets of women's experiences with primary care access. In contrast, an inductive approach was suitable for deep reflexive engagement with new data on participant-generated concepts relating to individual and structural-level facilitators and barriers linked to different dimensions of access.

Other more structured thematic analysis approaches associated with post-positivist reliability coding (Boyatzis, 1998), or a codebook thematic analysis approach (Ritchie & Spencer, 1994) were considered. These approaches are more aligned with a positivist paradigm (Braun & Clarke, 2019b), and are not compatible with the ontological and epistemological underpinning of this study. An interpretative phenomenological approach exploring women's lived experience with primary care access was a possibility. As phenomenological study samples are typically small and homogenous, this approach would limit the exploration of the topic in a diverse sample. A grounded theory approach to the generation of theory applying an inductive approach (Charmaz, 2014) was an alternative. Using a deductive approach that applied existing research and theory as a lens to explore identified themes allowed for a more systematic exploration of the topic (Braun & Clarke, 2021c). Adopting a hybrid approach offered a broader, more flexible way of exploring the diversity and breadth of low-income women's experiences with primary care access and shared patterns of meaning (Braun & Clarke, 2019b).

Analytic process

To explore the significance of identified patterns of meaning identified in themes across the dataset, the analysis focused on semantic (explicit) as well as any discerned latent (implicit or deeper) meanings (Braun et al., 2019c). NVivo 12.0 Qualitative Data Analysis Software (QSR International) was used to organise and code the transcripts. Field notes of the researcher's impressions from the interviews were incorporated into transcripts, and informed the coding process, adding further nuances to interpreting the raw data. The researcher had regular meetings with the second and third team members (research supervisors) to discuss coding, themes, and interpretation.

Deductive analysis process

The deductive analysis was guided by Levesque’s conceptual framework of access to healthcare in a situated interpretative reflexive process which examined, organised, analysed, and interpreted data (Braun & Clarke, 2013). Levesque’s framework was chosen as it allows for the exploration of women’s experiences with healthcare access from a patient-centred perspective (Levesque et al., 2013) (Section 2.3). Braun and Clarke’s 6-stage iterative process for conducting a thematic analysis described above was modified for the deductive analysis. The coding tree for Levesque’s healthcare access framework was based on the dimensions and sub-dimensions outlined in the conceptual framework (see Appendix 16).

During the first round of coding, each transcript was coded broadly according to Levesque’s framework demand-side dimensions—the ability to engage, pay, perceive, reach and seek, and supply-side dimensions—acceptability, affordability, approachability, appropriateness, and availability and accommodation (Levesque et al., 2013). During the second round, the sub-dimensions of each dimension were coded (Figure 2.2.). For example, the sub-dimensions of ability to reach, which include living environments, mobility, social support, and transport, and the sub-dimensions of affordability, which include direct costs, indirect costs, and opportunity costs were coded.

Each of the 10 dimensions of Levesque’s theoretical framework was considered a theme, which was built on codes (sub-dimensions) with more subcodes added when needed. A deductive approach applying Levesque’s framework as an interpretive lens was used to find “patterns of shared meaning” in the dataset (Braun & Clarke, 2019b, p. 592). Exceptions to shared patterns of meaning were noted when present. The findings of the deductive analysis are discussed in Chapter 5.

Inductive analysis process

An inductive analysis was conducted to address the second research question exploring individual-level, health system-level, and structural-level facilitators and barriers low-income women encounter accessing primary care services. The researcher coded for the inductive analysis first, to minimise the possibility of categorising data according to Levesque's framework dimensions. The inductive analysis was informed by the 6-phase process outlined by Braun and Clarke (Braun & Clarke, 2006, 2013, 2021a, 2022; Braun et al., 2019c).

Coding was completed through an iterative coding process. Initially, open coding of broad segments of transcripts into six categories occurred. The six initial broad codes included facilitators, barriers, delayed care, discrimination, or stigma, structural (other), and treatment management strategies. The second coding round led to the creation of codes for facilitators and barriers. Later in the analytic process, codes created in the first coding round, including delayed care and discrimination or stigma, were subsumed under barriers, and structural (other) was recoded into several codes which were then placed under the code of facilitators or barriers. In a third round of coding, subcodes were created when needed. An iterative process of coding occurred after the initial round of first, second, and third-level coding. For example, in the later stages, several second-level codes were subdivided, or several third-level codes were incorporated into second-level codes. Codes and subcodes were refined through research memos. The codes were re-organised into related concepts, as themes and subthemes were developed.

An iterative process was followed during the development of themes and subthemes (Braun & Clarke, 2013, 2022). Patterns of meaning were explored across different subgroups of women (for example, younger women were compared with older women or women across different racial-ethnic groups were compared). During the analysis, semantic (explicit) as well as any discerned latent (implicit or deeper) meanings were considered when identifying patterns of meaning (Braun & Clarke, 2021c). Toward the end of the analysis, the nine initial themes were reduced to five themes, with 12 subthemes and 64 codes (see Appendix 17). Thematic maps and tables of themes and subthemes were created (Braun & Clarke, 2006, 2013, 2022). The final themes and subthemes developed during the inductive analysis are discussed in Chapter 6. Appendix 18 includes a completed Braun and Clarke 15-point Thematic Analysis

Checklist, which summarises the data analysis process (Braun & Clarke, 2006). An audit trail was maintained for confirmability and trustworthiness (Wolf, 2003).

4.13 Researcher reflexivity

Researcher reflexivity was essential to ensure that the findings reflected the voices of the participants (Armour et al., 2009). In reflexive thematic analysis, “meaning and knowledge are understood as situated and contextual, and researcher subjectivity is conceptualised as a resource for knowledge production” (Braun & Clarke, 2021a, pp. 7-8). Reflexivity relies on the researcher’s engagement with and deep reflection on the data, recognition, and acknowledgement of the researcher’s subjectivity, and transparency on how theory impacts analysis (Braun & Clarke, 2019b). My role as a researcher was to interpret the data through the lens of my theoretical assumptions, knowledge, ideological commitments, and social and cultural background (Braun et al., 2019c), and use these to guide the inquiry and add meaning to the research.

My long-time interest in primary care access stems from personal and professional experiences. As a Registered Nurse, I spent several years providing nursing care for individuals in different healthcare settings in the U.K. and the U.S. I also managed population-based health-related programs and interventions in community and tertiary care settings in the U.S. These experiences provided me with insider knowledge about the provision of healthcare services in several types of healthcare settings. Because of my professional background and experiences, I may harbour different perceptions and understandings about facilitators and barriers to primary care access experienced by low-income women to those who participated in the study. On a more personal level, as I am White, of British origin, identify as middle-class, and belong to a higher-income bracket, I am an outsider to those women I interviewed, especially those women belonging to racial-ethnic minority groups.

As a university lecturer and educator, I partner with multiple community-based organisations to provide clinical services to vulnerable populations living in a major metropolitan area in Northern California. I organise the delivery of health-related services to low-income individuals as part of community-health-related clinical practicums for undergraduate and graduate nursing students. Over the last 11 years, I have worked with many low-income, vulnerable populations living in shelters, transitional, and permanent low-income housing. During this time, I often resonated with individuals' narratives about the difficulties they face accessing primary care services. I observed while lack of insurance coverage is a barrier for some, many individuals encountered additional individual, healthcare delivery system or structural-level barriers to access. Barriers experienced often lead to delayed diagnosis and treatment and poorer health outcomes.

I often connected with the stories of younger women who reported gaps in insurance coverage. As a younger woman in my twenties and thirties, I occasionally worked as a contractor without healthcare benefits. I brought essential emergency coverage but was underinsured as I could not afford to pay expensive insurance premiums. As the health insurance I purchased did not provide coverage for routine or preventive care, I shopped around for free or low-cost primary care clinics for preventive care or treatment for minor ailments. These experiences provided me with an insider's perspective about the struggles that underinsured individuals can encounter when accessing healthcare. To conclude, my interest in researching healthcare access was inspired by personal and professional experiences. My cultural, personal, and social background and imbibed values, beliefs, and understandings about the research topic inevitably acted as a lens and influenced my interpretation of women's narratives.

Researcher reflexivity, an integral aspect of reflexive thematic analysis, is inherently subjective, making the meaning of the data an interpretative practice (Braun & Clarke, 2023). After each interview, I completed field notes on my overall impressions of the participants, their responses, the interview process, my interview style, and any areas of strength and weakness (see Appendix 19). It was essential to reflect on my positionality and consider how this might impact knowledge construction during analysis. I referred to field notes and memos on different aspects of the data analysis process and used these to guide my analysis. During the analysis, I discussed interpretations with the research team (PhD supervisors).

4.14 Limitations

Women were recruited from affordable housing organisations for low-income individuals. The requirements for low-income housing eligibility vary based on geographic location, and other factors such as cost of living. Women from specific racial-ethnic groups (such as Native Americans) and married women are not represented in the sample. Immigrants who could not speak English were excluded from study participation, due to lack of translation services. Women may have provided socially desirable responses, especially around sensitive topics, which could have distorted findings (Armour et al., 2009). The researcher's lack of experience conducting qualitative research, preconceived ideas or reactivity to participants might have affected the methodological rigour of this study. The transferability of findings to other settings may be limited as the sample of low-income women might not represent other groups of low-income women living in other urban areas in California or regions of the U.S.

4.15 Ethical considerations

Research ethics approval

The study was conducted in Northern California, U.S. The initial application and subsequent modifications or renewal were approved by the Institutional Review Board (IRB) of the researcher's place of employment - San Francisco State University (SFSU) (see Appendix 20). The researcher submitted the initial research ethics approval and later approved modifications and renewals to the Faculty of Health and Medicine Research Ethics Committee (FHMREC), Lancaster University, U.K., for approval by the Chair's action before starting the study or before initiating any approved modifications. Monitoring and guidance provided by SFSU's IRB ensured that the study was conducted according to California and U.S. regulatory guidelines for human subject research.

Data management

Research data collected was managed and stored as outlined by SFSU IRB and Lancaster University, according to the U.K. Data Protection Act (2018), General Data Protection Regulation principles, and the Code of Federal Regulations (CFR) -Title 45 CFR Part 46 (2018), and Title 21 CFR Parts 50 and 56 (Food and Drug Administration policy). Following completion of the interview, the researcher uploaded audio or electronic or scanned copies of completed consents, audio, and video recordings of the interviews, and transcription files to the researcher's encrypted cloud storage account, and deleted any copies on portable storage devices.

Confidentiality

The participant list, electronic copies of consent forms, and audio and video files of the consenting process and interviews will be deleted permanently from the researcher's OneDrive account at Lancaster University at the end of the study. Any direct extracted quotes from the transcripts or specific demographic data are anonymised in the thesis and will be anonymised in any future publications. Transcripts will be stored in the researcher's Box Account at SFSU for 3 years as required by California State University data storage policy. Transcripts are held in the Lancaster University Publications and Research electronic repository for 10 years, according to the U.K. Data Protection Act (2018), and Lancaster University FHMREC guidelines. Despite the anonymisation of the data, the small sample size increases the risk of participant identification. To mitigate this risk, data (transcripts) will only be available on request from Lancaster University FHMREC.

The study participants were informed that the data collected was confidential. Nonetheless, limits to confidentiality existed. If the researcher determined that a participant might be at significant risk for harming herself or someone else, the researcher was obliged to break confidentiality and speak to her supervisors or an appropriate member of the IRB at SFSU and the FHMREC at Lancaster University.

Benefits and Risks

There were no direct benefits for participating women. However, the research findings are valuable as these can help community-based organisation staff, healthcare workers, policymakers, and researchers to develop or enhance interventions and programmes aimed at improving low-income women's access to primary care. Women received a $25 gift card of their choice for their time and effort in participating in the study

4.16 Funding and competing interests

The mixed-method systematic review and empirical study were self-funded and did not receive funding from any research grants or other funding sources. The researcher and research supervisors declare no competing interests associated with the conduct of either study.

4.17 Dissemination plans

Research findings will be published as a Ph.D. thesis. Findings will be disseminated at professional conference presentations and published in peer-review journals. Copies of results will be submitted to participating affordable housing agencies, California-based advocacy, health policy, and public health institutions such as the San Francisco Department of Public Health and the California Department of Public Health.

Chapter 5: Findings on women's experiences accessing and using primary care services

5.1 Introduction

The research findings of this chapter focus on low-income women's primary care access in an urban setting in Northern California. A deductive analytic approach addressed the first research question: *What are the experiences of low-income working-age women seeking access to and utilising primary care services to meet their health needs following Medicaid expansion in an urban California setting?* The deductive analysis was guided by a priori codes based on Levesque's conceptual framework of access to healthcare. Braun and Clarke's reflexive thematic analysis methods were used to analyse data from interviews with 18 low-income women living in affordable housing (Braun & Clarke, 2006, 2013).

5.2 Sample characteristics

Women's ages ranged from 24 to 63, with a median age of 47 years, and a mean age of 45.8 years (*SD* = 14.4 years). Ten women were Black, four were Latina, one was Asian American, one was White, and two identified as Other (1 South Asian immigrant, and 1 who did not disclose race/ethnicity). Nine women reported an annual household income below \$20,000, five between \$20,000-\$40,000, three between \$40,000-80,000, and one chose not to disclose. Six women were employed full or part time, six were unemployed, and six were disabled and not working. Some women who were employed full or part time reported higher household income levels than those receiving unemployment or supplemental security income benefits. Nine women had an associate degree or some college, six were high school graduates or had some high school, and three had a bachelor's degree. Among the women, 7 were single, 6 were divorced, 3 were widowed, and 2 were separated. All women were born in the U.S. except one woman born in Pakistan. Overall, 14 women had Medicaid/Medi-Cal insurance, two had Dual Medi-Cal/Medicare insurance, one had insurance through her current employer, and one was covered through her parent's Covered California health plan.

Table 5.1. summarises the key socio-demographic characteristics of participants. Appendix 21 provides a more detailed summary of the individual socio-demographic characteristics of participating women.

Table 5.1.

Socio-demographic characteristics of low-income women in an urban setting

Characteristics	Total (n = 18)	%
Age		
18-29	3	17
30-39	4	22
40-49	3	17
50-59	4	22
60-64	4	22
Gender		
Female	18	100
Race/ethnicity		
White	1	5.5
Black	10	56
Latina	4	22
Asian American	1	5.5
Other*	2	11
Relationship status		
Single	7	39
Widowed	3	17
Divorced	6	33
Separated	2	11
Current employment status		
Full-time/part-time employment	6	33
Unemployed	6	33
Unable to work (Disabled)	4	22
Other: Disabled, not working	2	11
Education level		
Some high school	2	11
High school	4	22
Some college	4	22
Associate degree	5	28
Bachelors	3	17

Characteristics	Total (n = 18)	%
Annual household income**		
$20,000 or less	9	50
$20,000-$40,000	5	28
40,001-$60,000	2	11
60,001-$80,000	1	5.5
Prefer not to say	1	5.5
Citizenship		
U.S. citizen	17	94
Immigrant	1	6
Type of Insurance		
Medicaid/Medi-Cal	14	78
Current employer	1	5.5
Covered California	1	5.5
Dual Medi-Cal/Medicare	2	11

Notes

* Two women self-reported Other (one disclosed South Asian immigrant status, and one did not disclose race/ethnicity status).

** Household size varied. Eight women lived alone, Five lived in 2-person households, one lived in a 3-person household, two lived in 4-person households, and two lived in 5-person households.

Findings were mapped according to Levesque's framework of access. The framework incorporates individual-level demand-side and health system-related supply-side dimensions (discussed in Chapters 2 and 4).

5.3 Five dimensions of abilities capturing demand-side factors

Ability to perceive

Low-income women's perceived healthcare needs were shaped by beliefs related to health and illness, their understanding of health-related knowledge, trust, and expectations. Women sought primary care services for acute health concerns, chronic disease, and preventive healthcare from PCPs. Women went to urgent care or the emergency room if they felt their symptoms required immediate attention. Several women reported visits to urgent care or the emergency room for health conditions, such as dehydration, fracture, infection, or stroke. Women with chronic diseases recognised the need for ongoing treatment and mostly visited their providers regularly. Several women were motivated to stay healthy so they could take care of themselves or their families. For example, Ishani, diagnosed with an autoimmune disorder, recognised the importance of regular care.

> *I have autoimmune disease like thyroiditis [dis] order or Hashimoto's thyroid. So I do get like blood tests regularly, and I do go in for care, and I take daily medication. So, I am in contact with my doctor, receiving care fair amount of time, multiple times a year*. (Ishani, 24, South Asian immigrant)

Women mostly got regular check-ups, although a few reported not having a check-up since the COVID-19 pandemic. Overall, 15 women had received cervical cancer screening within the last 3 to 5 years per recommended screening guidelines (U.S. Preventive Services Task Force, 2018). Seven of eight women (50-64 years) received a mammogram in the past 2 years according to recommended screening guidelines (U.S. Preventive Services Task Force, 2016). One of three women (40-49 years) reported their provider had recommended a mammogram, but none had received one. Most women aged 50 years or older were screened for colorectal cancer per current recommended guidelines with either a colonoscopy or faecal occult blood test (U.S. Preventive Services Task Force, 2021). Of eight women eligible for colorectal cancer screening, two had received colonoscopies, three had received stool tests, and three had not been screened. Most women followed their providers' recommendations for cervical and breast cancer screening, however, several women were reluctant to get a colonoscopy. Colon cancer screening hesitancy was probably due to inconvenience, perceived risk of discomfort during a colonoscopy or invasiveness of testing.

Several women developed long-term trusting relationships with their providers and valued the continuity of care. For example, River (54, Black) reflected, "*I just liked that he was the doctor to me, my mom, my brother, my son*." Women emphasised the importance of choosing their PCP, valued a high-quality patient-provider relationship, and accentuated the importance of feeling known and cared for by their providers. Ellie (42, Black) recalled, "*I pick my doctors. I don't want my doctors picked for me. But she, I loved her. She, so it seemed like she cared.*" Conversely, several women had negative experiences with their providers, which eroded trust, led to diminished expectations, and made women less likely to seek care. A previously homeless woman, Delilah (62, Black) distrusted a few of her doctors because she felt they did not care about the homeless—so her by extension.

Ability to seek

Several women were resourceful and proactive in seeking the care they needed. For example, Carmelita sought family planning services from clinics and support networks after losing her Medi-Cal coverage at 18.

> *So I needed like birth control, so I went to [Clinic 13], and then I don't know how I got seen at [Hospital 1]. My first time actually, but I went to [Clinic 13], and then I think one of the nurses told me about [Hospital 1]. Like I could drop it over there.* (Carmelita, 31, Latina)

When she became pregnant, she sought information about healthcare insurance options and signed up for emergency Medi-Cal at Hospital 1.

Other women found it more challenging to exercise personal autonomy and seek the information or help they needed to navigate access to primary care. For example, Lyonesse, who had three children, struggled to find an effective method of birth control. She recalled her provider's recommendation.

> *He says, you know, you should just get your tubes tied, so you don't have any more babies. And at this time, I'm in my twenties, like early twenties. . . . So, I felt like kind of coerced, like [he] put that idea in my mind, which I didn't want that in my mind. I needed help, just regular conversations on something that's going to work for me.* (Lyonesse, 32, Other)

Based on the physician's recommendations, she underwent tubal ligation. She lacked the self-confidence to express her needs and was not provided with adequate counselling to make an informed decision. Ultimately, she felt coerced into a medical decision she was uncomfortable with.

Ability to reach

Factors which may impact women's ability to reach primary care services include geographic accessibility of healthcare facilities, knowledge about health services, mobility, occupational flexibility, social support, and transportation. This study was conducted in a large urban setting with a well-established transportation infrastructure, including buses, metros, and a heavy-rail public transit system. Women predominantly relied on public transportation, such as buses, trams, or walking to reach primary care services. A few women drove their cars, took taxis, Ubers, or para-transit, or got rides from a paid support person or a family member. Several women felt uncomfortable visiting clinics in run-down impoverished neighbourhoods because of safety concerns. Certain neighbourhoods were perceived as unpleasant because of drug use and homelessness, and to be avoided. Only one woman complained of lengthy bus travel times when travelling to a distant clinic.

Several women had mobility issues, however had access to transportation. For example, Ellie (42, Black) had mobility issues, so she either took the bus or got a ride from her paid support person to doctor’s appointments. Most women worked part time, were unemployed or disabled, so could schedule appointments during weekdays. Only two women worked full-time. Ellie (42, Black) took time off when needed. Delilah (62, Black) needed to give her work several weeks’ notice before taking time off. She found it easier to schedule telehealth visits when she was not working.

Several women relied on social support from family members, friends, adult children, or siblings who lived close by to attend provider visits. Family, friends, or paid caregivers helped by providing transportation, collecting prescriptions, and offering support. Often these women were single parents, raising their children on their own, or single women without significant social ties or close family networks nearby. Several women received help with navigation to care from paid caregivers.

> *There is a social worker then called me from my doctor’s office. . . . Signed me up for para-transit. Yeah, if I need something like that or in-home support, they signed me up. So whatever stuff like that, [she] called me from her doctor’s office and did* it. (River, 54, Black)

Other women were self-sufficient and did not ask others for assistance with healthcare access. For example, several women did not perceive they needed help and avoided seeking logistical or emotional support from others. Reasons were not wanting to request help from family or friends, or lacking a reliable support system. Independence and not wanting to lean on others were perceived to be important by several women. Ruby (62, Black) declared, “*Yeah, I don’t need no support. Yeah, I handle doing my business. Yeah, I do it on my own.*” Ellie (42, Black) affirmed, “*I mean, maybe if I ask, but I’m not the type to, really. If I need it, I’ll struggle. That’s just me.*” Several women, often survivors of traumatic life experiences, were wary of accepting help from others. Lack of or refusal of support from family or friends could lead to feelings of loneliness and isolation, triggering anxiety and depression.

Ability to pay

Access to health insurance coverage to pay for acute, chronic, and preventive care was essential for low-income women. Women often had low-paying jobs or relied on low fixed incomes from state unemployment or disability benefits. Each participant had health coverage. Fourteen women had Medi-Cal insurance, and two had Dual Medi-Cal/Medicare. Women with Medi-Cal or Dual Medicare-Medi-Cal usually received free care or had low out-of-pocket costs. With Medi-Cal coverage, prescription drugs were mostly free or very low-cost. One woman had health coverage through Covered California. Covered California is a health insurance marketplace for health insurance plans under ACA. Eligible individuals receive access to financial help and lower-cost plans with Covered California. Another woman had health insurance coverage through her employer. Both women had low copays or deductibles for services.

Most women reported continuous insurance coverage following ACA’s California Medicaid expansion in 2014. However, three Latina women and one Black woman had experienced gaps in coverage. Two young Latinas lost their Medi-Cal benefits once they turned 18 because they were no longer eligible for their parent’s coverage. Lack of healthcare coverage and high costs of care often led to delayed and non-receipt of healthcare services for these women. Kamella (25, Latina), while uninsured, could not afford to pay for treatment for a chronic knee issue. She sought treatment at several free clinics but was unable to obtain care because these clinics did not have the resources.

Women on Medi-Cal received free medical services or were charged minimal copays for office visits or prescriptions. Occasionally, women complained about expensive prescription copays. For example, two women on Medi-Cal received expensive bills for some prescription medications.

> *The Wellbutrin, they was charging me $300 for one bottle, and I take two bottles of those 300-mg and a 100-mg. The clonazepam which is anxiety, and it's another one. God, the clonazepam. . . . They was charging me $200 a bottle.* (Ruby, 62, Black)

Eventually, these costs were waived for both women, because insurance plans agreed to pay for the prescriptions, or the prescription was changed to a cheaper generic brand.

Several women could not afford specific healthcare costs. For example, Desiree (28, Latina), avoided subscribing to her employer's health plan for 18 months, because the plan was costly. She recalled, "*I would try not to go to the doctors because the copays were actually pretty expensive.*" Low-income women who are eligible for Medi-Cal have little or no savings to defray expensive healthcare costs. Interviews yielded limited data on how social capital might influence women's ability to pay for healthcare.

Ability to engage

Seeking and using healthcare services required women to perceive the need for care, and could be involved in decisions about prescribed treatment. Everyone but Desiree (28, Latina) had a PCP. Most women had a history of several chronic diseases and were usually motivated to engage regularly with their PCPs or specialist providers. Most women with a history of chronic disease were concerned about being diagnosed with chronic disease, went to see their provider regularly, and adhered to prescribed treatments. In contrast, three younger healthy women in their twenties and thirties often avoided or delayed getting routine check-ups or preventive screening. Preventive care was not seen as a priority by these women. Desiree (28, Latina) who had a usual source of care but no assigned PCP, typically only sought care for acute illnesses or pregnancy-related care. She stated, "*I do not get health screenings. I haven't gotten* *one in quite a while.*" Destiny (31, Black) had not seen her PCP for over 2 years. She recalled, "*I have not been since the COVID. The only time I've been up to [Hospital 1] was to get tested to make sure that I don't have COVID.*" Women did not access primary care services during the COVID-19 pandemic for various reasons, including fear of contracting COVID-19, restrictive healthcare facility protocols, and not prioritising preventive healthcare.

A strong sense of self-efficacy was exhibited by several women. This was evidenced by women actively engaging in healthcare decision-making about their health needs. For example, a strong sense of self-efficacy was shown when women outlined proactive strategies to access, understand and apply health information when seeking access to healthcare services. Knowing how to access healthcare information helped women to make personal choices about insurance coverage, weigh up different healthcare options, locate primary care services, and adhere to treatment. Several women proactively pursued different healthcare options. Ellie, diagnosed with diabetes and hypertension, wanted a child but was discouraged by her provider who recommended she adopt.

> *I let him know like I wanna have a kid or whatever. This was before my son and he told me to adopt. I don't wanna adopt. I want to experience motherhood you know. I want to experience everything. So that's when I started going to [Hospital 1] for them to help after that.* (Ellie, 42, Black)

Ellie took matters into her own hands. She circumvented her PCP who did not support her decision to conceive a child, and navigated a referral to an obstetrician-gynaecologist for conception services at a local hospital.

Positive affirming relationships with providers, where women felt respected and listened to, encouraged a process of mutual decision-making about healthcare options. Negative experiences included negative interactions with providers because of poor communication and listening skills, providers who were unresponsiveness to women's healthcare needs, and perceived provider discrimination. Hurried, rushed appointments with providers who had little time to listen to women's concerns often left women feeling frustrated, ignored, or excluded from medical decision-making processes.

Most women adhered to prescriptions and treatments ordered by their PCPs. However, several women did not always follow their PCPs recommendations for treatment, because of perceived risks associated with treatment, side effects, or lack of geographical accessibility. For example, Madeline, previously on Suboxone treatment for Opioid Use Disorder was anxious about the associated side effects.

> *Apparently, it saturates your muscle tissue, and that's what makes everybody kind of lean forward and being hunched over. So that has gotten increasingly worse with me, including my arthritis in my back and spine. I don't want to be crippled in stature and hunched over for the rest of my life.* (Madeline, 63, White)

Because of concerns about the side effects, she abruptly discontinued treatment, which placed her at risk of recidivism for drug use.

5.4 Five dimensions of access capturing supply-side factors

Approachability

Approachability is the ability to identify that health services exist and can be reached when needed. Women could access information on services and treatments primarily through their PCP. Most women recalled receiving information or reminders for recommended preventive health screenings from their PCPs or primary care clinics. Women's PCPs were the gatekeepers for specialist services. PCPs routinely provided women with referrals to cardiologists, mental health specialists, or obstetricians-gynaecologists.

Most women who received speciality care were satisfied with the information and referrals they received. Several women had trouble getting referrals or experienced delays in receiving referrals. Carmelita (31, Latina) could not get a referral to a specialist for a skin condition from her PCP at Hospital #1 because a dermatologist was not available.

As most women were covered by Medi-Cal insurance, they rarely had copays, deductibles, or prescription charges. Women were usually aware of healthcare costs. Conversely, several women reported receiving unexpected costly bills. Ellie was charged for expensive lab tests that her insurance did not fully cover after receiving conception services.

> *Insurance didn't cover all of it. So, what my insurance didn't cover, I have to pay, and I didn't know that. If I would have knew that, I wouldn't have said 'Okay, that's fine. Let's do them blood tests.' You know, like I have a lot of bills accumulated, and that don't make it no better.* (Ellie, 42, Black).

Occasionally, women mentioned outreach services which helped them to access services. For example, Madeline (63, White) read a flyer about Hepatitis C treatment while visiting a needle exchange programme followed up, and got treated.

Acceptability

Cultural and social factors affect the acceptability of healthcare services to healthcare consumers. Participating women found primary care and other healthcare services were culturally appropriate. Women may consider the gender of their doctor for reproductive or sexual health services. Three women preferred female providers; two wanted them for cervical cancer screening. Ishani, a 24-year-old South Asian immigrant, had never had a pap smear and wanted a female provider. She reflected, "*If it's possible, yeah, I would prefer a woman.*" Phoebe (58, Black) described an incident where she was touched inappropriately by a male provider during a physical examination. She was currently seeking a new PCP and was adamant she needed a female provider. She vehemently stated, "*I told them it can't be a guy. It got to be a woman.*"

Certain undesirable provider traits, such as not listening to women's stated concerns or lack of empathy, resulted in mistrust of providers. Occasionally, dissatisfaction with providers led to several women switching or contemplating changing providers.

> *After Doctor [name] retired, I didn't really like his replacement. So I couldn't find a doctor that was comfortable for me. And it was a transition that I went through because I was so used to my doctor and just talking about things and*

> *finding help when I needed it. It was hard. So I bounced around between a lot of different doctors before I found Doctor [name].* (Lyonesse, 32, Other)

While physician and patient-gender concordance were very important for several women, the acceptability of healthcare services seemed to be most consistently linked to an established ongoing relationship with a trusted provider.

Availability and accommodation

Women could usually access health services easily because they lived in a major metropolitan area populated with many hospitals and primary care clinics. The women lived in lower-income densely populated neighbourhoods. Most had easy access to healthcare services and took the bus or tram, got a ride, drove their car, or walked if they lived close by. Close geographic proximity to women's primary care clinics promoted easier access. Jasmine (59, Black) preferred walking to her primary care clinic. She stated, "*It's only three blocks that way. Three long blocks, but it's walking distance, and I like where it's at now.*" Most women could attend primary care appointments during weekday clinic hours because only two women had full-time jobs. The remaining women worked part-time, were disabled, or unemployed. Only Delilah, who worked full-time, found it difficult to take time off to attend a doctor's appointment.

> *Well, I'm one of the essential workers. So, it's hard to get time to take off to go to a doctor's appointment because I have to let 'em know three weeks in advance . . . They're good about having phone interviews. I appreciate that a whole lot 'cause that has helped me keep my job.* (Delilah, 62, Black)

Several women had regular virtual consultations with their providers during the COVID-19 pandemic. Others attended in-person appointments because they needed or preferred a physical examination. Concerns about exposure to COVID-19 or having to take a COVID-19 test sometimes prevented women from seeking care. For example, Kamella (25, Latina) was reluctant to schedule an in-person provider visit for stomach pain, as she had to provide proof of a negative COVID-19. She was afraid to get tested for COVID-19 in case she learned she was positive.

Wait time for appointments was typically short, with most women being seen on time or within five to 10 minutes of their scheduled appointment. Several women, especially those attending publicly funded healthcare facilities, experienced longer wait times. Carmelita (31, Latina) recalled, “*You wait, and it’s probably maybe like roughly 30 minutes, usually 45 minutes waiting to see the doctor.*”

Women scheduled appointments with their PCP by phone, online using phone or web-based apps, or in-office following a visit. Most women reported scheduling appointments was a straightforward process, however several experienced difficulties. Two women complained it was difficult to reach staff at Clinics #3 and #9 because employees failed to answer the clinic phone or return calls.

> *It’s getting an appointment. Getting someone to call you back is the issue I have with them. I have an issue with if I call the office and I’m a patient, within a reasonable amount of days, someone should call you back. I think they fired someone for not picking up the phone calls, but it hasn’t changed anything. Because there’s a person. They’re responsible to take the calls, to route them out, or whatever they need to do. So, this person, they don’t do it, so you have to walk in. You know it’s just a hassle*. (Phoenix, 63, Black)

Most women could schedule a primary care appointment within a few days or weeks, however, three women reported wait times of several months. Ruby (62, Black) recalled, “*So if you call for your check-up . . . you might have to wait 3 months to get an appointment.*” Women who received care from federally funded community health centres or outpatient clinics at local county hospitals commonly experienced extended wait times for scheduled appointments. Reasons may have included a heavy demand for appointments and a lack of providers and other resources.

Affordability

All women were insured and could mostly afford copays, prescriptions, and travel expenses. Women seldomly had unanticipated expenses. Several women did not have dental or vision insurance and could not afford to buy coverage or pay for these essential services. This resulted in delayed or avoided dental or vision care.

Very few women incurred significant healthcare-related costs for transportation or childcare. One-third of the women were raising children and relied on childcare services from family or friends. Most women walked or used low-cost transportation such as buses, para-transit, or got a ride from paid caregivers or family or friends. Women who were employed full or part time used paid time off to attend appointments or scheduled appointments with providers during extended hours of services.

Appropriateness

Mostly, women obtained primary care services from California Federally Qualified Health Centers (Health Resources and Service Administration programmes), which provide low-income communities with primary care services. Women's perceptions about the quality of interpersonal and technical care received were linked to satisfaction with the care received. Women's satisfaction with care depended on the healthcare facility and the provider. Most women recounted positive experiences of supportive interactions with their PCPs.

> *I have a 36-year-old and a 32-year-old [son]. So, I've been going through a lot of stress with him and so . . . she [PCP] wrote me a letter so I can get my own one-bedroom. . . . I have depression and she wrote me a letter so I can get me a service dog. . . . I just love her.* (Phoebe, 58, Black)

In contrast, a few women had negative interactions with providers who ignored or discounted their concerns. For example, Phoenix (63, Black) could not get the care she needed for a pain-related disorder at Clinic #10. Because of a prior history of substance use, her provider was reluctant to prescribe pain medications. Short encounters with rushed providers, with no time to listen to the women's concerns, often led to unmet needs and dissatisfaction with care.

> *I feel like if I have a list of concerns, which I usually do, then maybe I have to pick the three most important concerns, and then I deal with the others later. I feel like I always have to pick and choose what I want to address, instead of having to address everything.* (Trinity, 42, Black)

Most women perceived the quality of care was satisfactory. However, several complained about incidents where they felt they received poor quality of care. Women attending Hospital #1 often complained about long wait times, rushed appointments, and sub-optimal care. For example, Carmelita visited the urgent care at Hospital #1 when she was 22 for a skin condition. She told the doctor she might have scabies. When the doctor mistakenly assumed she was homeless and refused to examine her, she felt discriminated against and was dissatisfied with the care provided.

> *I remember vividly like the drop-in doctor came in and . . . wouldn't step into the room. She was literally at the door and said from there, 'What it like? What it could be?' And I'm literally like, 'Are you serious? You're not even gonna look? You're not even looking at my foot.' And then she was like, 'Oh, it sounds like this.' She was really rude, and she was not attending me at all.* (Carmelita, 31, Latina)

Dissatisfied with the encounter after being prescribed an anti-fungal cream, Carmelita went to another clinic at Hospital #1. She was examined by another doctor who diagnosed an allergy to sunscreen and prescribed a different medication.

Coordination and continuity of primary care were essential for women with chronic diseases and complex healthcare needs. The majority, except two of the women in their thirties, reported having one or more chronic diseases. Chronic diseases reported by women included autoimmune disorders, cancer, mental health issues, musculoskeletal disease, neurological disorders, and cardiovascular disease risk factors. Coordinated healthcare was essential for women with multiple health issues, and involved referrals from their primary care doctors to specialists. The quality of care coordination varied by facility and the insurance plan for women. Several women struggled to get referrals to speciality services from their PCPs. Lyonesse, enrolled in a Health Maintenance Organisation, recalled she waited months for her PCP to refer her to a mental health specialist.

> *Like I said, the only one I would have a problem with is the mental health. Like I feel like they're really dropping the ball on that. . . . So, I feel like there needs to be coordination on that part, yeah.* Lyonesse (32, Other)

A delayed referral from her PCP prevented her from obtaining mental health services.

5.5 Conclusion

Levesque's framework guided the analysis of women's perspectives on primary care access in an urban setting in California. Demand-side dimensions such as the ability to perceive, seek, reach, pay for and engage with healthcare services operated in tangent with supply-side dimensions of access (Levesque et al., 2013). Women's access to healthcare was influenced by the ability to recognise a health need existed, the ability to find and use health information, the motivation to maintain good health, and the willingness to seek treatment and adhere to medical advice. These demand-side dimensions affected health outcomes, including satisfaction with care. Women's access was shaped by supply-side dimensions, including access to public insurance coverage (Medicaid), a usual source of care, and the availability of healthcare facilities and providers. Healthcare access is impacted by factors such as health policies, political and economic systems, and living environments. Several of these dimensions were not clearly articulated in Levesque's framework. In the next chapter, generated participant-generated themes related to primary care access from an inductive analysis are presented.

Chapter 6: Findings on facilitators and barriers to access to primary care

6.1 Introduction

This chapter outlines the findings from an inductive analysis which addressed the second research question - *What are the individual and structural-level facilitators and barriers that low-income women encounter accessing primary care services to meet their health needs, and how do these influence health-seeking behaviours?* Braun and Clarke's guidance on reflexive thematic analysis (Braun & Clarke, 2013, 2021a, 2022; Braun et al., 2019c), informed the development of five themes and 12 related subthemes (see Table 6.1.). Themes and subthemes were generated from 64 codes; several of these codes were divided into subcodes as needed.

Table 6.1.

Themes on facilitators and barriers to low-income women's access to primary care

Themes	**Subthemes - Facilitators**	**Subthemes - Barriers**
1. Role of health beliefs, illness perceptions, and behaviours	1.1 Positive health beliefs, illness perceptions, and behaviours—benefits	1.2 Negative health beliefs, illness perceptions, and behaviours—risks
2. Health information, knowledge, and navigation	2.1 Health information and knowledge empowers access 2.2 Patient navigators guide access	2.3 Lack of health knowledge, diminished agency
3. Available Healthcare safety net	3.1 Accessible and affordable healthcare safety net	3.2 Difficulty navigating the healthcare safety net
4. Interfacing with the healthcare delivery system	4.1 Integrated personalised delivery of healthcare	4.2 Fragmented, inadequate healthcare delivery
5. The interplay of structural factors and access	5.1 Access to transportation infrastructure	5.2 Living environment - structural inequalities 5.3 Discrimination and stigma

6.2 Theme 1: Role of health beliefs, illness perceptions, and behaviours

Subtheme 1.1 - Positive health beliefs, illness perceptions, and behaviours—benefits

Women's health-seeking behaviours and use of primary care services were influenced by their perception of illness, medical history, belief systems, experiences with healthcare providers, and personal needs. Illness perceptions or beliefs about the value or the need to be treated for an acute or chronic illness or preventive care motivated women to seek care.

Women exhibited several positive coping mechanisms that promoted health-seeking behaviours. Individual coping mechanisms included proactively taking responsibility for personal health needs, engaging in problem-solving, expressing emotions positively, and addressing sources of psychological stress (for example, switching providers or clinics). Ishani (24, South Asian immigrant) previously diagnosed with Hashimoto's disease developed more self-assurance, and a better understanding of her body and disease as she grew older. She recalled, "*Understanding my body more, I can ask better questions, and I have more confidence in terms of, like, you know. I'm here to get the information and stuff I need because I'm paying my doctor to be here.*"

Coping mechanisms involving others included developing supportive relationships with providers, family members, or friends, or requesting help from social support networks when needed. For example, Phoebe discussed concerns with a supportive provider.

> *When something is wrong, she's on it. . . . So that's the good thing about her. She makes sure that whatever is wrong with me, we sit down, we talk about it, we discuss it, and you know, [she] make sure I understand it.* (Phoebe, 58, Black)

Several women showed resiliency by successfully adapting to challenging life circumstances, such as chronic disease, life-threatening conditions, family illness or death, or dependency on drugs. For example, Delilah (62, Black), a previously homeless woman with schizophrenia, had faced multiple life challenges and demonstrated her resilience by overcoming homelessness and finding a full-time job and permanent housing. She recalled, "*Well, you know. I do not live in a place called denial. I live in a place called recovery. If there's something wrong with me, I want to know about it. I want to get it treated.*"

Women with high self-efficacy, confidence, and self-esteem appeared able to navigate healthcare systems more easily to meet their needs. For example, Lyonesse, diagnosed 10 years earlier with a serious illness, successfully steered her way through a lengthy recovery process.

> *I was diagnosed with a brain tumour in 2012. So 2012, my whole life changed, and I didn't have any answers at the time what my conditions were. What I should be, do. . . . This was all new to me. And I've tried a lot of things, and trial and error, you know. And I'm glad I'm at a point now with my doctors and my*

> *support system that I'm comfortable knowing inside myself I'm healthy as I will ever be.* (Lyonesse, 32, Other)

The women were single, cohabitating, separated, divorced, or widowed. They either lived alone or were raising children on their own or with a partner. A few women had strong family support and received help from families for childcare or transportation to appointments. Psychological support from family and friends assisted women with healthcare decision-making processes. Most women had few competing needs, such as caregiver roles, full-time work or other commitments, and could attend medical appointments easily.

Positive relationships with healthcare providers encouraged women to use primary care services more. Desiree recalled a positive relationship with a PCP for 5 or 6 years:

> *I've actually always had good experiences, whether it's for pregnancy or just for my care, my healthcare. . . . I can either call him personally about any questions or concerns, and he will either address them over the phone, or he will call . . . schedule another appointment so I can see him right away.* (Desiree, 28, Latina)

Some providers and clinic staff were flexible, quick to respond to requests for information or other services, and provided timely, responsive care by addressing women's health concerns by phone, email, or during scheduled appointments.

Subtheme 1.2 - Negative health beliefs, illness perceptions, and behaviours—risks

Several women did not prioritise preventive healthcare due to competing needs, which could lead to delayed or avoided health check-ups. For example, Kamella had not gone for a check-up since she got a mandatory physical and well-visit check-up at her high school when she was 17. *I just didn't really get around to it . . . especially like during university time. If I wasn't working I was doing school, and the clinic was open from 9 to 5. Then I had class from 9 to 5 . . . sort of thing or like 8 to 5. So it was kind of like a schedule conflict, you know. I would have to sacrifice something to do that.* (Kamella, 25, Latina)

Women sometimes delayed or did not receive recommended routine cancer screenings. Often, cancer screening tests were perceived to be unnecessary, unimportant, uncomfortable, embarrassing, or invasive. For example, Ellie's provider recommended she get a mammogram, but she avoided getting one due to fear of discomfort.

> *It's time! I'm 2 years overdue this time, but I'm kind of scared, you know, to get smashed in that machine, you know. So, I've been thinking about it. I just haven't worked my nerves up to setting that appointment.* (Ellie, 42, Black)

Women exhibited unhealthy coping mechanisms when they ignored their health needs because of anxiety, denial, fear, or competing demands (family or work responsibilities). For example, Trinity took care of her ailing grandmother for a year before her death. Overwhelmed by caregiver responsibilities, she ignored her health needs.

> *When my grandmother got sick, I just completely shut down. I didn't do anything, I just stopped. I didn't have the time, or the energy, or I just could not focus on my own health. . . . So, for about a year, I just didn't do anything. No medical, no kind of medical attention.* (Trinity, 42, Black)

Low levels of resilience could create barriers to access. Women struggled more when they felt mistreated or overwhelmed by life circumstances. Low resiliency often appeared to be linked to unhealthy coping mechanisms, such as not seeking care when needed, or non-adherence to prescribed treatment. For example, Lyonesse (32, Other) sometimes avoided going to her doctor when she had symptoms because of anxiety and fear. She recounted, "*Sometimes I be scared to go to the doctors, 'cause I don't want to know what's really going on, or how I'm going to handle the information that they may give me.*"

Women with low resilience or low self-confidence may avoid tasks seen as difficult and struggled to navigate healthcare access. Often, they were afraid to reach out for help from their providers or family, friends, or social networks. Such behaviours may reflect women's perceptions that they have little control over their behaviours, or their environment—demonstrating low perceived self-efficacy. For example, Desiree struggled to find health coverage early in her third pregnancy. Ineligible for Medi-Cal, she qualified for coverage under the Covered California Health Exchange, which offered subsidised healthcare plans under the ACA. She had no assigned PCP, despite having a usual source of care, and was unsure how to register for a provider. Desiree reflected, "*I don't know how to do it or how to, the proper steps to go about picking a doctor.*" (Desiree, 28, Latina)

Several women expressed dissatisfaction with the healthcare services received. Factors contributing to dissatisfaction involved providers with poor listening skills rushed appointments that allowed little time to address concerns, insufficient information, negative interactions with providers or clinic staff resulting in disagreements and mistrust, perceived provider discrimination, and poor quality healthcare. Dissatisfaction with healthcare could lead to mistrust of providers. For example, Jasmine suffered from heavy menstruation, so went to a large publicly funded county hospital for medical care.

> *I knew something was wrong. I would go through 30 pads in 2 days: 30 pads and a half a box of tampons. Every time I make a move, I just mess everything. I would just have to lay in my bed, and they wasn't telling me nothing at Hospital #1.* (Jasmine, 59, Black)

Despite undergoing tests, including a biopsy, she did not trust her providers, as she felt they did not give her information about her diagnosis. This resulted in Jasmine feeling dissatisfied with the care she received. She only received an accurate diagnosis several years later, after she switched to another clinic where she was diagnosed with ovarian cysts, and underwent a hysterectomy.

6.3 Theme 2: Health information, knowledge, and navigation

Subtheme 2.1 - Health information and knowledge empowers access

Several women had the ability to comprehend and use health-related information to make educated decisions about their healthcare. For example, Trinity experienced migraines for several years, which resulted in disability status. She did research on healthcare options for her migraines and other symptoms, then contacted her PCP for advice on undergoing a diagnostic Magnetic Resonance Imaging (MRI) scan.

> *Recently I emailed him, and I asked him whether or not he thought I should get a full-body MRI done, because I had the opportunity to do one at a really discounted rate. And I've had some health issues that have gone on for some time that have no explanation. Still, my migraines have no physical explanation that they can* pinpoint. (Trinity, 42, Black)

Trinity's PCP advised her not to get the procedure and scheduled an appointment so they could discuss different options, including risks associated with getting an MRI scan.

Health-related information and education provided by providers or primary care clinics helped women to obtain, understand and make use of health information, so they could make informed decisions about healthcare for themselves and others. Most women were satisfied with the information they received on their diagnoses and medical treatments prescribed by their healthcare providers. For example, Sabina had borderline diabetes and hypertension.

> *My doctor will help me if I don't understand something. She'll help me clarify things. . . . She's hand me information about diabetes. She's hand me . . . clinical information about hypertension. I don't have those things, but I'm on the borderline. If I keep the old ugly habits that I have, I'm going to easily walk into those conditions. . . . I understand where I'm at health-wise, and I know where I need to go health-wise.* (Sabina, 47, Latina)

She felt reassured that her doctor took the time to educate her on modifying lifestyle choices.

Subtheme 2.2 - Patient navigators guide access

Women often struggled to navigate access to complex and burdensome health delivery systems. Patient navigators provided invaluable support to several women diagnosed with chronic disease. Several of the women's PCPs had referred women to patient navigators, including social workers, case managers, or In-Home Supportive Services (IHSS) workers funded by California's IHSS Programme (California Department of Social Services, 2023). Patient navigators provided support with appointment scheduling, prescriptions, social services, and transportation. For example, Talia (35, Black) had an autoimmune disorder, was disabled and often relied on an IHSS worker to accompany her to appointments. She recalled, "*Sometimes I either go by myself, or my in-home care worker goes with me.*" In another instance, Lyonesse, lacking an extensive social network, relied on her caseworker for assistance accessing primary care services.

> *She's a resource goddess. She's like a fantastic resource for me. Like if I need an eye appointment or a dentist appointment, or something's going on in my household, or something I feel like is going on with my body and, or maybe I need something from my personal care providers. She's like, 'I got it', and she's on it.* (Lyonesse, 32, Other)

Subtheme 2.3 - Lack of health knowledge, diminished agency

Poor communication skills and low confidence made it challenging for several women to navigate access to primary care. If women did not have strong communication skills, it was often harder to elicit desired health information from providers or other sources. Lack of self-advocacy could result in women receiving poorer quality of care or reduced access to healthcare services. For example, River started experiencing body pain, which led to repeated emergency room visits. She underwent diagnostic tests, which revealed no significant findings. She finally went to her primary care doctor, who ordered an MRI scan, which showed abnormalities.

> *I kept going back to the hospital because I was in so much pain. And so, when she [PCP] got the test, she saw the test. She should have referred me to a specialist because, obviously, she couldn't read cancer on an MRI. She saw a spot, and she said, we will talk about it. Why didn't she talk about it then and then? She said that the two lumps in my head were cysts, and it was a tumour that grew across my hea*d. (River, 54, Black)

When River's PCP mentioned abnormal findings, River did not follow-up with more questions about the MRI findings, possibly due to a lack of confidence or assertiveness, or the communication skills needed to follow-up for further information.

6.4 Theme 3: Available healthcare safety net

Subtheme 3.1 - Accessible and affordable healthcare safety net

California's Medicaid programme or Dual Medi-Cal/Medicare provided insurance coverage for 16 participating low-income women. Medicaid, a jointly funded state-federal programme, provides low-cost or free healthcare insurance to low-income individuals. The programme is administered by the California Department of Healthcare Services and Centers for Medicare and Medicaid Services. The two other women were covered through Covered California or employer's health insurance and had affordable copays and low deductibles.

Subtheme 3.2 - Difficulty navigating the healthcare safety net

Following Medicaid expansion in California in 2014, four women experienced gaps in insurance coverage. Lack of insurance coverage often led to delayed or fragmented care. Women often shopped around for alternative sources of healthcare that were free or low-cost services. Kamella depended on the free services she received from her university's student health centre for several years.

> *I didn't get the actual insurance stuff, or like, you know, I would pay for the medications, but the consultations and all that were free since, you know, as a student and taking classes and everything. So, I just relied on that for a while.* (Kamella, 25, Latina)

Because the student health services offered were not comprehensive, she often shopped around for other healthcare options to meet her healthcare needs. Healthcare costs were sometimes a barrier to obtaining primary care. For example, Desiree experienced a coverage gap early in her third pregnancy after losing her Covered California insurance, because she could no longer pay the insurance premiums. Because she did not have coverage, she delayed getting prenatal services until the third trimester of her pregnancy because she could not afford to pay for medical care.

Two Black and one Latina women were previously homeless, which led to periods of being uninsured. Often, these women struggled to navigate signing up for or maintaining health insurance coverage. For example, Delilah's insurance was suddenly switched to a different health plan.

> *They just decide your insurance is no good anymore and you have to switch to the insurance company that covers their services again. It's just a mix-up. It's a mix-up because usually, they switch back right away, but this time they didn't switch it back right away, and I didn't follow-up.* (Delilah, 62, Black)

Delilah failed to follow-up with her doctor's office to confirm her insurance had been switched to the new plan. This led to a 3 year gap in health coverage and foregone care. Possible reasons for her insurance coverage loss might include inadequate knowledge, competing needs, and poor coping mechanisms.

6.5 Theme 4: Interfacing with the healthcare delivery system

Subtheme 4.1 - Integrated personalised delivery of healthcare

Health systems providing coordinated, integrated, personalised services promoted better access to primary care services. Personalised health services were categorised by positive relationships with caring and trustworthy providers who listened to women's concerns and provided appropriate, knowledgeable care. Women's PCPs acted as gatekeepers to services, coordinated care, and made referrals to specialists. Continuity of care was fostered through long-term relationships between several women and their providers. Women consistently emphasised the importance of personalised healthcare services as an integral aspect of healthcare access.

Convenient appointment mechanisms for scheduling appointments by phone, phone-based apps and online secure health portals fostered easier access to primary care services. Several women found scheduled appointment reminders on upcoming appointments or screening tests helpful. Online health portals such as MyChart were used by several women to access health information, make appointments, and contact providers. Ellie (42, Black) sent her glucometer results to her provider through her phone using Bluetooth technology. She recalled, "*The metres are like a Bluetooth, so once I check my sugar. Bluetooth to my phone and it goes to them.*" Clinic wait times for appointments varied but were typically short. Most women were seen on time or within 5 to 10 minutes of scheduled PCP appointments.

Subtheme 4.2 - Fragmented inadequate healthcare delivery

Fragmented healthcare delivery systems can lead to inadequate, inconsistent, uncoordinated care that lacks continuity. Provider, clinic, or structural factors contributed to barriers to access. Publicly funded healthcare facilities or academic health centres were in high demand because these facilities provided superior healthcare services. Wait times for scheduled appointments were often lengthy at these healthcare facilities. After Kamella (25, Latina) received Medi-Cal coverage, she recollected, *"I tried going to like [Hospital #5]. . . . That's an option for us, but since everyone wants [Hospital #5], they said it'll be months until I get an appointment."*

Several women encountered issues scheduling appointments. For example, Kamella tried to make an appointment at another clinic after difficulties scheduling an appointment at Hospital #5.

> *I tried another clinic. This actually happened recently where I tried another clinic. Called them for a week straight, like two different numbers, and no one answered. And then, like 2 weeks later, they're like, 'Hey, sorry we missed your call.' I'm like, 'Wow . . . that took 2 weeks for you to get back to me, you know.' So that was just really frustrating where I just gave up on it.* (Kamella, 25, Latina),

Kamella eventually returned to the student health clinic where she had previously received free healthcare. Several other women reported trouble scheduling appointments at specific clinics because clinic staff did not answer the phone.

Several women recounted various publicly funded clinics had long clinic wait times to see the doctor. Carmelita (31, Latina) recalled, "*You wait, and it's probably maybe like roughly 30 minutes, usually 45 minutes waiting to see the doctor.*"

Short and rushed appointments made it difficult for several women to communicate with providers with high patient loads. Other concerns included disinterested providers who lacked compassion and empathy. These experiences often led to frustration, distrust, and dissatisfaction with the medical care provided. Often women switched providers because of communication problems.

6.6 Theme 5: The interplay of structural factors and access

Subtheme 5.1 - Access to transportation infrastructure

A reliable transportation structure assisted low-income women in accessing healthcare services. Most women depended on public transportation or family, friends, or patient navigators to get to their appointments.

Subtheme 5.2 - Living environment - structural inequalities

Challenging living environments such as clinics in impoverished, dangerous neighbourhoods posed barriers to access. Accessing healthcare facilities was difficult for a few women because of expensive or inconvenient transportation. For example, Lyonesse was deterred from seeking care at a geographically distant clinic because Ubers were expensive and long bus rides inconvenient.

> *I would get a Uber down there. Fifteen bucks! Fifteen bucks there, 15 bucks back. That's $30! No, but I'm paying that out of my own pocket. Nobody's helping me pay that, and then I say, 'Well, you know what, I'll take the bus.' Well, I take the bus, and it's a 45, 51-minute bus ride to your destination, and you stopped at every single bus stop possible, and it's just annoying and irritating. So, by the time I get to the doctors, I'm fed up from just having to fight to be here. I don't feel like being poked and (prodded). I just survived coming here.* (Lyonesse, 32, Other)

Several women wanted to switch their PCP due to inconvenience or safety concerns. Often the clinics were too far away or in run-down, impoverished neighbourhoods with indigents on the street and visible drug use. Ruby expressed a desire to find a new doctor.

> *I may not go down and see my primary doctor in the [local neighbourhood 2] because people out on the streets. Men sleep, or it's drugs, and I don't like seeing that. So, I'm in the process now, like I said, trying to get another primary care doctor.* (Ruby, 62, Black)

Women often lived in impoverished, environmentally polluted neighbourhoods with high crime rates, which included gang-related activity and gun violence. These neighbourhoods were often food deserts, with few existing grocery stores providing fresh, affordable food. Living in a food desert may contribute to women's risk for chronic diseases, including cancer, or risk factors for cardiovascular disease.

Women shared life traumas such as broken families, community violence, loss of a partner, divorce, family history of homicide, homelessness, isolation due to the COVID-19 pandemic, mental health issues, and drug use. Often, these traumas led to mental health issues. These affected women's ability to navigate access to primary care services, because of symptoms associated with anxiety or depression such as apathy, avoidance, or loss of motivation. Three Black women narrated their personal histories of losing a brother, father, nephew, or son to homicide, which caused anxiety, depression, and post-traumatic stress disorder (PTSD). For example, Ruby experienced anxiety, depression, and PTSD after the shooting of her son and nephew. Diagnosed with mental disorders, she relied on long-term mental healthcare services.

> *So, I've been in the programme with [Mental Health Services 2] since 2007. . . . I lost my son in front of my house. Someone killed him. I lost my nephew 6 months apart in the same area. So, I don't be home as much because of that. I can be in my house, hear things. So that's my paranoia. Now I have anxiety, I have PTSD; I have a little bit of everything. Far as my life, I'm trying to get it better. For me, because I have thought about suicidal a couple of times, but it stopped because I have grandkids. I have 11 whom I love dearly. I have two other kids.* (Ruby, 62, Black)

Stressful life experiences, such as a family death due to homicide, often adversely affect women's health outcomes.

Subtheme 5.3 - Discrimination and stigma

Several women reported experiencing healthcare provider discrimination in healthcare settings, which led to mistrust, and a reluctance to engage with healthcare delivery systems and providers. For example, Phoenix felt discriminated against when she visited her PCP to get treatment for back pain because of her previous history of substance use.

> *I had a really bad back problem. I hurt my back a few times, and before they were giving me pain medication. . . . I was in between jobs, and I needed it just to get up and go because when I got in that kind of pain. I fell a couple of times; I got depressed, and I kind of like gave up. And I found that the doctors there they treated me like you just want to get high.* (Phoenix, 63, Black)

Several women recalled various forms of discrimination and harassment from providers and staff in healthcare settings. Perceived discrimination was attributed to homeless status, history of mental health issues, pregnancy, or parental status, belonging to a racial-ethnic minority group, and history of substance use.

6.7 Conclusion

The five themes and 12 subthemes developed illustrate clearly how individual personal, cultural, health system and structural factors impact the ability of low-income women to access primary care services. Women's attitudes, beliefs, knowledge, perceptions, health values, healthcare, illness perceptions, and prior experiences with healthcare directly influenced their healthcare-seeking behaviours. Individual characteristics intersected with health system-related and provider factors and influenced access. Finally, structural factors such as discrimination, stigma, systematic racism, and living conditions can significantly affect access to care. The themes developed using an inductive approach have overlapping similarities, as well as differences to the deductive analysis findings. Chapter 7 compares and contrasts the findings of the deductive and inductive analyses, and provides a brief synthesis of results.

Chapter 7: A Comparison and synthesis of findings from deductive and inductive analysis

7.1 Introduction

This chapter presents a synthesis of the deductive and inductive analyses reported in Chapters 5 and 6. The similarities and differences between the deductive and inductive findings are compared and contrasted. Levesque’s framework was used as a guide in Chapter 5 to investigate low-income Californian women's experiences accessing primary care services following Medicaid expansion. In Chapter 6, an inductive analysis explores themes relating to facilitators and barriers that low-income women encounter accessing primary care services, and how these influence their health-seeking behaviours. Themes developed are categorised according to individual, health system, and structural levels. Table 7.1. compares different dimensions from the Levesque framework with the themes and subthemes identified during the inductive analysis.

Table 7.1.

Comparison of findings from the deductive and inductive analysis on factors that impact low-income women's access to primary care

Deductive analysis - Levesque's framework dimensions	Inductive Analysis - Themes	Inductive Analysis - Subthemes - Facilitators	Inductive Analysis - Subthemes - Barriers
	Individual		
Demand-side: Ability to engage, perceive, reach and seek Supply-side: N/A	1. Role of health beliefs, illness perceptions, and behaviours	1.1 Positive health beliefs, illness perceptions, and behaviours—benefits	1.2 Negative health beliefs, illness perceptions, behaviours—risks
	Individual/ Intrapersonal		
Demand-side: Ability to engage, perceive, reach and seek Supply-side: Approachability, appropriateness, and availability and accommodation	2. Health information, knowledge, and navigation	2.1 Health information and knowledge empowers access 2.2 Patient navigators guide access	2.3 Lack of health knowledge, diminished agency
	Healthcare delivery system/institutional		
Demand-side: Ability to engage, pay, perceive Supply-side: Affordability, approachability	3. Available Healthcare safety net	3.1 Accessible and affordable healthcare safety net	3.2 Difficulty navigating the healthcare safety net
Demand-side: Ability to engage, perceive, reach and seek Supply-side: Acceptability, availability and accommodation, appropriateness	4. Interfacing with the healthcare delivery system	4.1 Integrated personalised delivery of healthcare	4.2 Fragmented, inadequate healthcare delivery

Deductive analysis - Levesque's framework dimensions	**Inductive Analysis - Themes**	**Inductive Analysis - Subthemes - Facilitators**	**Inductive Analysis - Subthemes - Barriers**
	Structural		
Demand-side: Ability to seek, reach Supply-side: Acceptability, availability and accommodation	5. The interplay of structural factors and access	5.1 Access to transportation infrastructure	5.2 Living environment - structural inequalities 5.3 Discrimination and stigma

7.2 The individual level

1 Role of health beliefs, illness perceptions, and behaviours

1.1 Positive health beliefs, illness perceptions, and behaviours—benefits

Positive health beliefs may be related to self-efficacy, high self-esteem, resiliency, and satisfaction with care. The ability to perceive incorporates health beliefs, being able to understand and use health-related information, and trust and expectations. For example, women with positive health beliefs often exhibited confidence and a strong sense of self-efficacy and were motivated to seek health-related information and healthcare services after identifying an existing health need. Women's ability to perceive they were ill and needed medical attention, seek, reach, and engage with health systems and providers, demonstrated their capacity to exert power and control over their own lives. For example, Sabrina (47, Latina) engaged with primary care services and adhered to prescribed treatment because she was motivated to stay healthy so she could take care of her teenage son. Low-income women's ability to perceive the necessity for healthcare led to healthcare-seeking and engagement with health services. These positive behaviours were often informed by personal, cultural, or social values, such as personal autonomy.

1.2 Negative health beliefs, illness perceptions, and behaviours—risks

Women with negative health beliefs often have less confidence, lower perceived self-efficacy or resiliency, which may reduce their ability to access needed healthcare services and lead to dissatisfaction with healthcare services. This can make it harder for women to engage with healthcare services. Several women struggled with mental health issues, which led to low self-esteem that affected their ability to seek healthcare in a timely fashion. If women did not perceive the need for healthcare services when ill, this often led to delayed healthcare-seeking behaviours, negative coping mechanisms, or non-adherence to prescribed treatment. Reasons for not engaging with primary care services included competing needs (work or family commitments), poor coping mechanisms, and other personal factors. Past negative experiences with clinics or providers often resulted in women avoiding or engaging less with healthcare services.

7.3 Individual/interpersonal level

2 Health information, knowledge, and navigation

2.1 Health information and knowledge empowers access

The subtheme *Health information and knowledge empowers* exemplifies how women gathered relevant health information from different sources to make informed decisions about their healthcare. Women’s perceptions about personal illness or a need for preventive care motivated them to seek health information and engage with health services. Knowing how to access, understand and use health information enabled women to better seek, reach and engage with healthcare services. Patient navigation services and access to online health system websites and apps led to more approachable, available and accommodating primary care services. When providers offered appropriate health-related information, women’s understanding of, and use of information and services was enhanced.

2.2 Patient navigators guide access

Patient navigators improved women’s ability to seek, reach, and engage with healthcare services. In the Levesque framework, the ability to reach includes social support, while the ability to engage encompasses caregiver support. However, Levesque’s framework fails to consider the role that professional patient navigation services can play in enhancing access for individuals. The role of professional patient navigators can incorporate both support and caregiving roles. Patient navigators can assist women in accessing relevant health information or advocacy for needed health services, or help with medication adherence, appointment scheduling, transportation and accompanying women to provider appointments. Access to navigation services empowered women to reach and interact with healthcare providers and make informed healthcare choices. Patient navigation services enhanced the approachability and availability of healthcare services for women. For example, IHSS workers scheduled appointments, provided in-home care, collected prescriptions, provided transportation, and accompanied women to appointments.

2.3 Lack of health knowledge, diminished agency

Barriers included difficulties understanding and using health-related information. Diminished agency constrained women’s ability to perceive the need for relevant information to make informed healthcare decisions. Women who experienced difficulties accessing and using health-related information often struggled to navigate access and found it challenging to seek, reach, and engage with primary care services. Inadequate provision of health-related information by providers, staff, or health facilities made it challenging for women to access care because health services were less approachable, available or could accommodate women’s needs. For example, several women struggled to sign up for insurance coverage post California’s Medicaid expansion, due to health system-related barriers such as challenges accessing needed information.

7.4 Healthcare delivery system-level

3 Available Healthcare safety net

3.1 Accessible and affordable healthcare safety net

Women either had access to health coverage through Medicaid or employers’ insurance, which guaranteed access to affordable healthcare. Most women had Medicaid coverage, which was free or low-cost. Mostly, women could afford to pay low copays or charges for prescription medications. While health insurance does not guarantee women use primary care services, coverage provides women with the opportunity to engage with eligible healthcare services. Programmes and services designed to assist women in signing up for healthcare coverage enhanced the approachability of health services. For example, one previously homeless woman, Jasmine (Black, 59), received assistance signing up for Medi-Cal and Supplemental Security Income at a local primary care health centre.

3.2 Difficulty navigating the healthcare safety net

Difficulties navigating the health safety net led to periods of being uninsured for several women. Several women found it difficult to navigate access to information and engage with healthcare services to sign up for health insurance or a health provider. Navigating an unwieldy, bureaucratic healthcare system to sign up for health coverage was often burdensome. Often clinics or staff were unapproachable and difficult to reach, because of a lack of adequate patient navigation services. Sometimes women encountered high deductibles or copays which they could not afford to pay.

4 Interfacing with the healthcare delivery system

4.1 Integrated personalised delivery of healthcare

Women were more easily able to reach health services when clinics were accessible, offered convenient appointment scheduling, flexible hours of operation, and short clinic wait times. The availability and accommodation of healthcare services assisted women in seeking, reaching and engaging with primary care services. Healthcare provider-related factors that enhanced access included access to an assigned provider, positive interactions with providers and staff, proficient providers with good communication skills, and continuity and coordination of care, which led to better care and improved patient satisfaction. Trusting supportive relationships with providers improved the acceptability of healthcare services. Provision of appropriate, high-quality care promoted adherence to treatment recommendations, and increased satisfaction with healthcare services.

4.2 Fragmented, inadequate healthcare delivery

Fragmented, inadequate healthcare delivery at the health system-level can delay or prevent care access. Barriers to care included clinic-related issues such as long waits, scheduling difficulties, and uncooperative unsupportive staff. For several women, the lack of available healthcare services to accommodate their needs delayed or prevented access to care. For example, women faced delays accessing care when they had to wait months to get an appointment at local county hospital-based clinics.

Provider-related barriers, including provider incompetence, lack of continuity of care (due to change in providers), poor provider communication, mistrust of providers, and fragmented and uncoordinated care, resulted in poorer quality of care and lower patient satisfaction. These barriers reduced the ability of women to seek, reach, and engage with healthcare services, which often led to poorer health outcomes. Many of the women complained about frequent changes of providers, which disrupted the continuity of services, leading to fragmented care. When women perceived health services were unacceptable or inappropriate, this often reduced engagement with care, and could lead to delayed or missed diagnoses.

7.5 Structural factors

5 The interplay of structural factors and access

5.1 Access to transportation infrastructure

Access to transportation infrastructure is an important component of healthcare access. Most women had access to reliable transportation so could reach healthcare services without difficulty. Living in close geographic proximity to the healthcare facilities utilised by women made access to primary care easier.

5.2 Living environment - structural inequalities

However, several women lived in neighbourhoods with poorer access to public transportation, and travel to healthcare facilities was more inconvenient because of lengthy travel times. Structural inequalities embedded in living environments impacted women’s ability to reach healthcare services. While Levesque’s framework includes physical and social living environments as a sub-dimension of the ability to reach, the framework fails to elaborate on the myriad structural inequalities such as macro-level socio-economic and political factors that influence living environments or the pathways by which determinants of access can cause structural inequalities. Most women lived in economically deprived neighbourhoods, without basic amenities such as grocery stores, other essential services, and open spaces. Often, rates of homelessness and street drug use were high, which led to high crime rates, including gang-related activity and homicide. Several women had lost close family members to homicide, which emphasised the structural violence endemic in the low socio-economic neighbourhoods in which the women lived. Structural inequalities often constrained women's ability to seek care because of the stressors associated with living in poverty in low-income neighbourhoods with high population density, environmental pollution, and increased rates of crime and violence. These environmental stressors may have contributed to poorer health status, as most of the women reported chronic diseases.

5.3 Discrimination and stigma

Levesque's framework does not elaborate on how discrimination in healthcare settings might affect women's access to care, other than citing discrimination related to "female discrimination regarding the initiation of care or abuse and neglect discouraging ethnic minorities to seek care" (Levesque et al., 2013, p. 5). The inductive analysis explored how discrimination in the healthcare setting might influence women's health-seeking behaviours and act as a barrier to access. Several women recalled incidents where they felt discriminated against by providers or staff in healthcare settings. Perceived discrimination reduced the acceptability of services, increased dissatisfaction with care, and often led to women either seeking care elsewhere or avoiding care. Types of discrimination reported related to women's attributes such as belonging to a racial-ethnic minority group, gender, health status (for example, being overweight), history of substance use, homelessness status, mental health status, or pregnancy status.

7.6 Conclusion

This chapter explores how the demand and supply-side dimensions of Levesque’s framework examined in the deductive analysis, intersected with or differed from the five themes and 12 subthemes developed in the inductive analysis on individual, interpersonal, health system and structural-level facilitators and barriers to access. A key shortcoming of Levesque’s framework was the exclusion of dimensions that explore the interplay of wider structural factors, including macro-level socio-economic and political factors on healthcare access. Chapter 8 discusses the theoretical and empirical contributions of the mixed-methods and empirical study to the existing literature. The social-ecological model and intersectionality framework are used to more thoroughly explore the intersection between individual, interpersonal, community and structural layers and healthcare access. Based on study findings, implications for health policy are discussed with final recommendations.

Chapter 8: Discussion

8.1 Introduction

Most empirical research on women’s access to primary care during the ACA is quantitative. Very few qualitative studies have examined women’s experiences with general healthcare (Cardoso et al., 2021). Most qualitative studies on women’s access to healthcare during the ACA focus on preventive services, such as cancer screening (Allen et al., 2014; Murray et al., 2013), reproductive health services (Chor et al., 2018; Hailemariam et al., 2020; Hill et al., 2012; Mann et al., 2016; Peahl et al., 2022; Phillippi et al., 2016; Roman et al., 2017), or immigrants or racial-ethnic minority groups (Hailemariam et al., 2020) (Hailemariam et al., 2020; Hill et al., 2012; Mann et al., 2016; Olukotun et al., 2020).

The systematic review found limited evidence existed on factors that can affect women’s access to primary care. To address the gap in the literature, a qualitative study was conducted to explore the primary care experiences of low-income women following Medicaid expansion in 2014. As far as is known, this study is the first to investigate women’s experiences with primary care access in a sample of low-income women living in an urban Californian setting. The theoretical and empirical contributions of this PhD thesis are summarised in Sections 8.2 and 8.3. Study results are examined from the perspective of the social-ecological model and intersectionality framework in Sections 8.4 and 8.5. Study strengths and limitations are reviewed in Section 8.6. Finally, policy implications and key recommendations are outlined in Sections 8.7 to 8.9.

8.2 Theoretical contributions

This thesis used two different frameworks to explore healthcare access for women. Andersen’s model was a suitable choice for the mixed-method systematic review, which examined associations between individual and contextual determinants of access and health outcomes. Data on individual and contextual characteristics and health outcomes in many quantitative studies are derived from standard measures used in major U.S. national surveys (Andersen, 2008). Most quantitative studies included in the review were analyses of secondary data from national surveys of health service use. This may explain why Andersen’s model is frequently applied in U.S. health service research (Babitsch et al., 2012).

Several limitations are associated with Andersen’s model. The sixth iteration of Andersen’s model incorporates traditional and expanded social characteristics, including education, ethnicity, occupation, and social networks (Andersen et al., 2013). However, Andersen notes that several authors have critiqued the model for not paying adequate attention to culture, social interactions, and social networks (Andersen, 1995). While the Behavioral model for vulnerable populations, an earlier adapted version of Andersen’s model, identifies acculturation, country of birth and immigration as measures of social structure (Gelberg et al., 2000), these measures are not included in the most recent iteration of Andersen’s model (Andersen et al., 2013).

Andersen’s model could be enhanced by including expanded measures such as acculturation, female norms around preventive health behaviours, immigrant status, language/ability to speak English, nativity, perceived racial discrimination, and years lived in the country of migration. Several other studies applying various iterations of Andersen’s model have identified these as significant predisposing factors (Babitsch et al., 2012). Also, while Andersen’s model considers common outcome measures of potential and realised access, other useful outcome measures, such as unaffordability or unmet needs are ignored. To remedy this omission, the review’s inclusion criteria for outcome measures were expanded to include unaffordability and unmet needs.

Levesque’s framework was selected for the qualitative empirical study for several reasons. Based on several earlier frameworks of access, the model provided a solid foundation and clear structure for exploring multiple demand and supply-side dimensions associated with access (Levesque et al., 2013). The framework embraces a person-centred focus and considers how individuals make sense of and respond to identified health needs. While several qualitative studies applied Levesque’s framework to explore women’s access, these researched women’s experiences accessing reproductive health services in non-U.S. settings (Gomez et al., 2020; Henry et al., 2020; Matthews et al., 2019; Miteniece et al., 2019; Miteniece et al., 2018; Viveiros & Darling, 2018).

As the first study to apply Levesque's framework to conduct in-depth interviews with low-income women about their experiences accessing primary care in an urban setting under the existing California health safety net during the ACA era, the study is uniquely positioned to provide meaningful insights into the myriad, complex factors that shape women's access to primary care. Applying Levesque's framework in this PhD study enhances knowledge about and contributes to a better understanding of low-income women's experiences with primary care since ACA's Medicaid expansion in California. A deductive analytic approach explored how the complex interplay of individual demand-side and health system-related supply-side factors influence women's access. Using Levesque's framework highlighted how individual demand-side factors such as health beliefs, health literacy, trust, expectations, and social support, interact with health system factors such as geographic accessibility, availability and accommodation of services, and provider-patient relationships influence access in low-income women (Levesque et al., 2013). Significantly, the exploration of these factors is often overlooked in ACA-related literature on women's access.

Levesque's framework has several limitations. Certain dimensions of access, such as affordability, appropriateness, and availability and accommodation are more easily measured; while other less easily definable constructs, such as acceptability and approachability, may be more difficult to operationalise or measure directly (Cu et al., 2021). Often, similar findings can be attributed to more than one dimension, such as affordability and the ability to pay. Wider social determinants intersect with individual and health system factors and influence healthcare access. However, Levesque's framework does not emphasise the significant role that social determinants of health, such as wider cultural, economic, environmental, political or social factors play in healthcare access. For example, Levesque's framework does not consider how structural factors such as healthcare policies or funding influence the capacity of individuals and populations to access healthcare (Davy et al., 2016).

Given the limitations of Levesque's framework outlined above, it is important to consider the social and cultural context of women's healthcare experiences. Incorporating the social-ecological model allowed for an exploration of how interpersonal, community, and macrosystem factors influence women's access to primary care. The social-ecological model provided a valuable framework for identifying interrelationships between macro-level influences such as discrimination and stigma, employment status, environments, poverty, structural racism, violence, and women's experiences around healthcare access. However, while the social-ecological model can identify interactions and influences that may affect women's experiences with primary care access, it does not explain these interactions. To address these limitations, the intersectionality framework (Crenshaw, 1989) was used to consider how gender, ethnicity, and other social identities intersect and shape women's experiences with access. The application of a social-ecological model and intersectionality approach is an original contribution. As far as is known, no other qualitative study has adopted this analytic approach to explore factors that impact women's access to primary care.

This PhD thesis used two well-known healthcare access frameworks and critically evaluated their use in relation to women's access to health services. Unique contributions to the theoretical literature are several. First, the need for an expanded definition of predisposing factors for Andersen's model that includes cultural factors as part of social structure dimensions was identified. Second, the limitations of Levesque's framework due to its lack of emphasis on the role of wider macro-level social determinants of health in healthcare access are explicated. To better explore the concept of healthcare access, it is recommended that broader cultural, economic, environmental, political, or social factors are incorporated into the framework.

8.3 Empirical contributions

8.*3.1 Mixed-method systematic review*

The mixed-method review synthesised evidence from 26 quantitative and qualitative studies. Several earlier reviews have examined U.S. women's access to preventive and reproductive health services (Bellerose et al., 2022; Bossick et al., 2021; Sun et al., 2022). However, this review was the first to examine factors influencing working-age women's access to primary care during the ACA. In particular, this mixed-method systematic review was unique because it provided a synthesis of quantitative and qualitative literature, and provided a multi-dimensional, comprehensive overview of individual and contextual determinants and barriers and facilitators to access. Because qualitative research was included, the review could explore in more depth how social structure and cultural factors may have significant implications for access, particularly in racial-ethnic minority and immigrant groups of women. This review found few studies had examined whether contextual factors such as unemployment rate, provider density (Lee et al., 2020b) or discrimination in healthcare settings (SteelFisher et al., 2019) affected women's access. This finding prompted the exploration of low-income women's experiences with discrimination in healthcare settings in the empirical study.

The review found that ACA provisions led to essential gains in health insurance coverage across all groups of working-age women. Despite gains in coverage, ACA provisions did not always result in increased rates of health service utilisation for women. Few studies have assessed the effect of ACA provisions, such as Medicaid expansion, on women's coverage, utilisation of health services, or other measures of access. Under ACA provisions, insurance coverage may not sufficiently protect individuals against high costs, or networks may be so limited that the newly insured cannot find care (Dorner et al., 2015). A national U.S. survey in 2020 found 61% of low-income women and 48% of women reported medical bill issues, and difficulty paying for necessities such as food or housing (Long et al., 2021). Palanker & Davenport (2016) reported that U.S. health plans from 16 states excluded conditions from non-covered services (42%), health maintenance services (27%), genetic testing (15%), foetal reduction surgery (14%), self-inflicted conditions (11%), and preventive services not mandated by law (10%). This suggests that insurance companies often do not provide coverage for specific health-related services. The absence of coverage for specific health services leaves low-income women vulnerable to higher costs, and more likely to delay or forego care if healthcare costs are unaffordable.

Synthesis of evidence in the review revealed limited qualitative evidence on factors that affect working-age women's access to primary care in the ACA era. The second research question explored the facilitators and barriers that low-income women encounter accessing health services. Despite improvements in coverage, access, and affordability since ACA, women still encounter barriers to accessing care (Lee et al., 2020a). Women's access to primary care was affected by individual-level factors, such as health literacy, language proficiency, and social support. Health system-level factors that played an important role in women's access included insurance coverage, healthcare costs, availability of culturally appropriate services, discrimination, and transportation. These findings are consistent with another systematic review of immigrant women receiving perinatal care services in the U.S. that reports facilitators included positive provider interactions and social support (Winn et al., 2017). Challenges associated with access included financial and language barriers and lack of cultural sensitivity.

This systematic review considered the role of structural determinants, as well as individual and health system ones. Often structural determinants were not considered in systematic reviews of women's access to health services in the U.S. (Carter et al., 2016; Seo et al., 2016). Based on gaps in knowledge identified in the review, the qualitative study sought to extend knowledge about low-income women's experiences accessing primary care following Medicaid expansion in California and consider how individual, health system, and structural determinants influence access to health services.

8.3.2 Women's experiences accessing primary care

A deductive analytic approach applying Levesque's framework addressed the study's first research question, which explored low-income women's experiences with primary care following Medicaid expansion in California in 2014.

Perceptions about the need for healthcare and healthcare needs

Women were more likely to prioritise healthcare needs if they had acute or severe symptoms that required immediate attention. According to previous U.S. studies, often homeless women sought medical attention only when their symptoms were severe, and this affected their ability to meet basic needs for food, housing, childcare, or work (Gelberg et al., 2004; Schlossstein et al., 1991). In this study, most low-income women with chronic diseases understood and recognised the importance of treatment and followed through with care. Most women reported few competing needs relating to family, childcare, work, or other commitments, as most worked part-time, were unemployed, or disabled. In contrast, previous studies found family and work responsibilities were challenges for immigrant Latina women, women receiving reproductive healthcare and homeless women (Chor et al., 2018; Gelberg et al., 2004; Gelberg et al., 1997; Luque et al., 2018).

Health literacy or the extent to which women can “find, understand, and use information and services to inform health-related decisions and actions for themselves and others” (Centers for Disease Control and Prevention, 2022c), is an essential component of access. Several women proactively sought information from providers on diagnosed health conditions and treatment options. Women who were younger or had higher levels of education could more easily able to access and use healthcare information. Two-thirds of the women held a degree or had some college education. In earlier studies, educational attainment has been linked to higher levels of health literacy (Ayotte et al., 2009; Kickbusch, 2001; Rikard et al., 2016).

Several women experienced difficulties accessing coverage, finding a PCP, or engaging with care. Barriers included communication difficulties, lack of health information or knowledge about health-related services, and low perceived self-efficacy. Self-efficacy or “confidence in the ability to exert control over one’s own motivation, behaviour, and social environment” (Carey & Forsyth, 2009, para. 1), may influence low-income women’s ability to navigate access to primary care services to meet healthcare needs. Low health literacy is more common in low-income, racial-ethnic minority, or low-educated individuals (MacLeod et al., 2017). Often, low health literacy is related to lower patient satisfaction, reduced compliance with preventive services, poorer health status, and worse health outcomes (Dewalt et al., 2004; MacLeod et al., 2017). The term organisational health literacy has been defined as, “the degree to which organizations equitably enable individuals to find, understand, and use information and services to inform health-related decisions and actions for themselves and others” (Healthy People 2030, n.d.). Organisational health literacy is an important component of the supply-side dimension—approachability. Often consideration of how individual and health system factors including health beliefs, individual, and organisational health literacy, and self-efficacy might influence low-income women’s ability to access primary care is overlooked in ACA-related research.

Several women perceived they had experienced healthcare discrimination due to their racial-ethnic minority status, gender, mental illness history, or housing status, which led to provider mistrust. Discrimination or stigma can lead to medical distrust and delayed or non-receipt of care (Dawkins et al., 2021). Prior U.S. studies report discrimination and distrust are barriers to access for immigrant women (Hong et al., 2018c; Hong et al., 2018d; Nadeem et al., 2007; Olukotun et al., 2020), women receiving reproductive health services (Roman et al., 2017; Sheppard et al., 2004), rural women (Statz & Evers, 2020), and publicly insured adults (Allen et al., 2017). This evidence suggests that perceived discrimination in healthcare settings is commonly experienced by vulnerable groups, including low-income, racial-ethnic minority, and publicly insured women.

Healthcare-seeking behaviours and reaching primary care

Factors that helped women access primary care services included easy appointment mechanisms, flexible open hours, and living close to healthcare facilities. These findings are consistent with a study of prenatal care access in urban low-income or immigrant women that found short wait times and convenient appointment times improved access to care (Phillippi et al., 2016). Most women had access to convenient, affordable transportation, however, several reported transportation challenges. Other U.S. studies report inadequate transportation is a barrier to access for uninsured immigrant women (Greder & Reina, 2019; Luque et al., 2018), rural women (Statz & Evers, 2020), and women receiving reproductive healthcare services (Chor et al., 2018; Hailemariam et al., 2020; Mann et al., 2016; Roman et al., 2017).

Women's need for social support around navigating access was shaped by personal circumstances, cultural background, and individual and family values. Certain women seldom sought social support when getting primary care. Other women received help with transportation, childcare, and psychosocial support from family and friends. Several women reported they had no social support because they were estranged from, or lived far away from family or friends. Physical or mental health disabilities, and lack of a social network, often led to a need for professional support. When needed, several women had requested referrals from their healthcare providers for support services. For example, several women, often disabled, had paid case managers, IHSS workers or social workers who helped them access healthcare care. Prior research showed social support from friends and family helped immigrant women get healthcare (Greder & Reina, 2019; Hill et al., 2012; Luque et al., 2018; Sanchez-Birkhead et al., 2011; Tefera & Yu, 2022). For example, one study found a lack of social support posed a significant barrier to access for Latina immigrants (Luque et al., 2018). The study findings suggest that women's needs for social support accessing primary care vary according to women's individual characteristics, life circumstances, and needs.

Healthcare utilisation and consequences

Following Medicaid expansion in California in 2014, most women were continuously enrolled in Medi-Cal coverage. Most women had an assigned PCP (94%), while one had a usual source of care but no assigned PCP. Several younger Latina women lost their Medi-Cal coverage at 18 due to ageing out of their parent's insurance, which led to insurance instability and gaps in coverage. Reasons for insurance instability included ageing out of parent's insurance coverage, being unemployed, working part time and being ineligible for employer health insurance, or college enrollment. These findings are consistent with an earlier study conducted since the ACA that found many low-income, predominantly Black women receiving reproductive health services experienced insurance insecurity because of ageing out of parent's coverage, changes in employment status or administrative errors (Chor et al., 2018).

Women need to locate a PCP who will accept them after obtaining health insurance. To benefit from preventive services coverage with no out-of-pocket costs, providers need to belong to women's insurance network providers. The type and level of primary care services provided to women often depend on the type of insurance coverage held. Women with Medicaid benefits may have fewer health coverage options. The National Ambulatory Medical Care Survey found providers ordered fewer preventive services, such as pap smears and clinical breast exams for women with Medicaid insurance, compared to those with private insurance (McMorrow et al., 2015).

Despite ACA provisions that mandate coverage of selected preventive care without patient cost-sharing, this study found that several women covered by Medi-Cal were not up to date with providers' recommendations for breast, cancer, or colorectal cancer screenings according to the U.S. Preventive Services Taskforce guidelines. Several of the young Latina women had not had a recent check-up or received preventive care, including screening for cervical cancer. A national survey found low-income (64%), uninsured women (41%), younger (18-25 years) (59%), and Hispanic women (67%) were less likely to have had a check-up in the past 2 years (Long et al., 2021). Earlier studies found uninsured status is a barrier to preventive health screening among immigrant Latina women (Greder & Reina, 2019; Luque et al., 2018; Mann et al., 2016; Miller et al., 2021). In this study, 25% of women eligible for colorectal cancer screenings obtained a colonoscopy as recommended by their provider. Anxiety, inconvenience, embarrassment, or fear of discomfort may prevent individuals from getting screened for colon cancer (McLachlan et al., 2012). Other barriers to getting preventive care may include competing needs, such as work, child, or elder care, or transportation difficulties (Stolp & Fox, 2015).

Trusting relationships with providers encouraged regular health check-ups, preventive screening, and routine care. These findings are consistent with earlier research that found trusting patient-provider relationships promoted the receipt of preventive health services (O'Malley et al., 2004), or reproductive healthcare (Sheppard et al., 2004) in low-income women. Women who reported positive relationships with their providers appeared more satisfied with care and more likely to adhere to prescribed treatment. Prior research shows that caring compassionate providers, continuity of patient-provider relationships, effective provider-patient communication, and perceived provider competency improved low-income women's satisfaction with reproductive healthcare services (Phillippi et al., 2016; Sheppard et al., 2004).

The deductive analysis findings contribute to scarce existing evidence on low-income women's experiences accessing primary care. These findings offer new insights into the unique experiences of a diverse group of low-income women living in an urban setting who accessed primary care under California's existing health safety net following Medicaid expansion. Prior research has focused on the experiences of subgroups of immigrant or refugee women or women receiving reproductive health services. The application of Levesque's conceptual framework allowed its strengths and limitations to be examined. Levesque's framework could be improved by considering how community and macro-level structural factors influence low-income women's access to primary care. Study findings contest the notion that access to Medicaid coverage, part of California's safety net, inevitably results in health service use.

8.3.3 Facilitators and barriers to primary care access

An inductive analysis showed that low-income women encountered facilitators and barriers to accessing primary care at individual, health system, and structural levels. Facilitators and barriers were not always linked to individual demand-side factors and health system-related supply-side factors. While the straightforward trajectory often associated with the healthcare-seeking process is often predictable, factors that affect low-income women's access to primary care within a specific sociocultural context are multi-faceted and complex. Women's experiences with primary care access are unavoidably situated within a broader societal context. Access is influenced by wider structural determinants, which include environmental, political, and socio-economic factors. These observations lend credence to other well-known theories of healthcare access, which incorporate wider social determinants of health and are compatible with the underpinnings of social-ecological theory (Bronfenbrenner, 1977; Centers for Disease Control and Prevention, 2022b).

Identification of myriad and complex intersections between multiple overlapping layers of influence resulted in the application of the social-ecological model. The social-ecological model was a valuable framework for exploring the different layers of influences, including individual, interpersonal, health system, and macrosystem factors that shape women's access. The inductive analysis revealed structural and macro-level influences, such as discrimination, stigma, and environmental living conditions inadequately captured by Levesque's framework in the deductive analysis. Using the social-ecological model allowed for a deeper construction of meaning regarding women's experiences with primary care access within a specific social context.

8.4. Further empirical contributions: application of the social-ecological model

The ecology of human development examines humans' interaction with the immediate environment and broader social contexts, both formal and informal (Bronfenbrenner, 1977). Adopting a socio-ecological approach provided a framework for identifying the dynamic interaction between individuals, groups, and their socio-economic milieu, and how these interactions influence health and illness in humans (Stokols, 1996). The findings of this study suggest that individual health behaviours, health service use, and health outcomes are positioned within the context of social relationships, communities, healthcare institutions, and health systems. Myriad wider determinants encompassing environmental, political, and socio-economic factors including community violence, institutionalised discrimination, stigma, structural racism, poverty, urban neighbourhoods, unemployment, and state and national policies affect low-income women's access to healthcare. A unique contribution of this study is the application of the social-ecological model to examine how multi-layered levels of influence within a social context interact and shape women's experiences with primary care access during the ACA. While the social-ecological model has been applied extensively in health-related research, few U.S. studies targeting only specific groups of women or women's services have applied this model to explore women's healthcare access (Mahadevan et al., 2014; Thompson et al., 2023; Trego & Wilson, 2021). Table 8.1. outlines different components of levels of influence identified in this study that impact access.

Table 8.1.

Social-ecological model - factors (layers of influence) that affect low-income women's access to primary care in an urban California setting

Individual-level influences	Interpersonal-level influences	Community-level influences	Institutional/health system-level influences	Structural/Macro-level influences
Socio-demographic characteristics (age, race/ethnicity, cultural background)	Immediate family members, extended family	Neighbourhood environment, types of housing, businesses, and services	Healthcare facilities (accessible, open hours, appointment scheduling mechanisms, and physical infrastructure)	Policies (employment, public safety, and health policies, such as the ACA)
Biological status (existing physical health conditions, genetics, health status)	Home environment (apartment, house, single-room occupancy)	Accessibility to health-related services (dentist, vision services, pharmacies, and prescriptions)	Clinic staff (accessibility, availability, communication skills, level of support)	Transportation infrastructure (buses, trains), road systems
Psychological status (existing mental health conditions), coping mechanisms, illness perceptions, resiliency, confidence, self-esteem, perceived self-efficacy	Friends, neighbours	Available transportation (bus, para-transit, taxis. train, Uber)	Clinic providers (communication skills, cultural competency, professional competency, trustworthiness)	Public safety infrastructure (crime levels, neighbourhood safety, policing)

Individual-level influences	Interpersonal-level influences	Community-level influences	Institutional/health system-level influences	Structural/Macro-level influences
Health-related knowledge, attitudes, and beliefs	Social networks	Community-level violence, gang activity, guns, homicides	Health systems, structures, such as free or low-cost parking	Social safety network: Benefits (Supplemental Security Income, Unemployment), Low-income housing, Medi-Cal, Covered California
Housing status (such as a history of homelessness)	Faith communities (churches)	Open spaces, accessibility, walkability	Healthcare communications systems (phones, email, web or phone-based apps)	Structural racism
History of adverse childhood events, substance use, or trauma	Patient navigators (case managers, IHSS workers, social workers)	Types of people or activities on the street (homelessness, drug use)	Healthcare discrimination and stigma	Housing conditions (affordable housing units for low-income individuals)

Individual and interpersonal-levels

Biological or psychological conditions are some of the key drivers fuelling the need for healthcare services. Women's attitudes, beliefs, and knowledge on ways to meet their healthcare needs were dictated by personal characteristics, cultural and personal background, and circumstances. These determined the extent of social support required, or if patient navigation services were needed. The ability of women to access care was influenced by personal traits such as self-efficacy, resilience, and flexibility in adjusting to both internal and external demands generated by life challenges (American Psychological Association, 2022, para. 1). Individual-level attributes of women, including socio-demographic characteristics, biological and psychological interacted with interpersonal-level influences such as home environment and support systems (families, friends, social support networks) to facilitate or prevent access to care. Several women showed positive coping mechanisms by seeking support from family and friends, or patient navigation services to access primary care services. For example, three Latina women and one South Asian immigrant woman found the psychological support or childcare services provided by family members valuable in accessing primary care services. Prior research shows that U.S.-based immigrant women frequently rely on social support from family and community to access healthcare. (Greder & Reina, 2019; Hill et al., 2012; Luque et al., 2018; Sanchez-Birkhead et al., 2011; Tefera & Yu, 2022). Drug use, homelessness, mental health issues, and past trauma often intensified women's need for healthcare services. Interactions with providers and health systems were shaped by women's past histories, prior experiences with healthcare and psychological make-up, which contributed to negative or positive experiences, and facilitated or acted as barriers to primary care access.

Community and health system-level

Individual or interpersonal-level influences interacted with community and health system-level influences and affected women's ability to access primary care. Individual characteristics such as low self-esteem or low perceived self-efficacy, in combination with health system factors such as unwieldy bureaucratic administrative structures, hard-to-reach staff and cumbersome, inefficient appointment mechanisms, influenced whether women could access needed health-related information and navigate access. For example, several women lacking confidence or self-esteem struggled to interact with healthcare delivery systems and often experienced challenges navigating signing up for insurance coverage, making appointments or following up with referrals. On the other hand, women who displayed higher self-esteem and resiliency appeared better equipped to access the information and services needed and navigate health systems to meet their healthcare needs.

Several Black women and one Latina woman reported specific incidences of perceived discrimination from providers and staff that often led to mistrust and deterred healthcare-seeking. These findings suggest that structural and systematic racism is embedded in institutional health systems and structures. A recent nationwide U.S. survey found that racial-ethnic minority women had increased odds of reporting discrimination in healthcare settings compared to White women (SteelFisher et al., 2019). Across different racial groupings, individuals who avoided care because of cost reported an increased risk of perceived racial discrimination (Stepanikova & Oates, 2017), probably linked to lower socio-economic status and racial-ethnic minority status. In this study, perceived discrimination due to gender, racial-ethnic minority, or pregnancy status was reported by several low-income women, including those with disabilities in healthcare settings. A San Francisco-based study of low-income persons on disability benefits diagnosed with HIV and Type 2 diabetes mellitus found health-related stigma interacted with stigmas associated with disability, gender, poverty, race/ethnicity, and sexual orientation (Whittle et al., 2017).

Structural level (policies, socio-economic, environment)

Structural racism refers to ways in which discrimination is promoted within cultures and societies through mutually reinforcing patterns and practices inherent in criminal justice systems, education, employment, healthcare, housing, and federal or state benefits (Bailey et al., 2017). Systemic and structural racism has been defined as “systems, laws, written or unwritten policies, and entrenched practices and beliefs that produce, condone and perpetuate widespread unfair treatment and oppression of ‘people of color’” (Braveman et al., 2022, p. 171). Racism based on a belief system of difference and inferiority plays an important role in the health status of racial-ethnic minority and immigrant groups (Salway et al., 2020). Perpetrated in institutions and organisations, and disseminated through images, language, and symbols in the media and policies, racism often leads to differential access to health services and resources and exposure to health risks. In the U.S., discrimination, segregation, and historical laws have led to the oppression of women and Blacks, and continue to perpetuate racial and ethnic differences relating to education, employment, and housing outcomes (Chinn et al., 2021). These historic trends particularly affect women's and racial-ethnic minority groups' ability to access health services. Due to geographic segregation of racial and ethnic groups, Black, and Hispanic populations, compared to Whites with comparable income levels, often live in poorer neighbourhoods and experience worse health outcomes (Braveman et al., 2022). Often, health research does not include variables that measure living conditions and consider how these might influence access.

The social-ecological model was used to examine how structural-level influences might affect women's access to primary care. The model was useful in considering how macro-level factors such as poverty, crime, environmental pollution, income inequalities, unemployment, and joblessness might influence and interact with individual, intrapersonal and institutional factors, and shape healthcare access and health outcomes. This study found that low-income urban women lived in geographically dispersed, environmentally polluted, urban neighbourhoods rife with poverty, crime, drug use, gun-related violence, and homelessness. Several Black women had experienced personal homicide-related family deaths in the neighbourhoods where they lived. These experiences often led to chronic anxiety, depression, or PSTD, resultant healthcare-seeking, and may have caused or exacerbated pre-existing chronic health conditions. Another New York-based study found extreme poverty significantly correlates with homicide and occurs predominately in Black ethnic neighbourhoods (Hannon, 2005). Social determinants include adverse social conditions in the environments where low-income individuals live, which increase the risk of poorer health outcomes, and premature death (Daniel et al., 2018b; Whitehead, 1992).

8.5. The social-ecological model and intersectionality: Consideration of individual, interpersonal, organisational and structural determinants

Despite the widespread use of the social-ecological model, there is a lack of systematic guidance on how to examine the different layers of influence depicted in the model's ecologically nested systems. For this study, it was important to consider how individual, interpersonal, community, institutional, and structural layers of influence intersected, and formed risk environments relating to access for low-income women. The intersectionality framework was combined with the social-ecological model to better identify, interpret and understand the complex relationships between multiple layers of influence and women's access to primary care in a broader social context. Owing to the lack of theory and research on "multiple and interlocking influence of systems of privilege and oppression such as racism, sexism, and heterosexism" (Bowleg, 2012, p. 1267), intersectionality has seldom been applied in public health research focused on vulnerable historically oppressed groups. Incorporation of the intersectionality framework allowed for consideration of how "multiple intersecting identities" impact low-income women's healthcare experiences, and may exacerbate existing health inequalities (Bowleg, 2012, p. 1267), and is a unique contribution of this thesis.

This study determined that low-income women often had multiple social identities that placed them at higher risk for health inequalities. For example, the majority (17) were women belonging to racial-ethnic minority groups. Many lived alone (8), were heads of households with dependents (8), worked part time (3), or were unemployed or disabled and not working (12). Households headed by women are five times more likely to be extremely low income compared to married-couple households in California (Gender Equity Policy Institute, 2022). Most low-income women (16) were eligible for Medicaid or Dual Medicare/Medicaid coverage. The majority reported chronic disease (16), while a third reported disability (6) due to health-related conditions. These findings are consistent with a U.S. survey that found Medicaid beneficiaries are disproportionately affected by chronic illness, disability, and poverty (Kaiser Family Foundation, 2013b). Three of the younger Hispanic women had experienced gaps in insurance coverage in the past. At the time of the interview, one

Hispanic woman did not have a PCP, and two had not had a recent check-up. A U.S.-based survey found low-income women were less likely to have a usual source of care (74%) or a recent check-up (64%), while Hispanic women are less likely to have a usual source of care (76%) or a recent check-up (67%) compared to other ethnic groups in 2020 (Long et al., 2021). Despite access to public health insurance coverage, systematic inequalities impacted these women's ability to access quality care, which leads to better health outcomes.

Several women in this study had difficulties finding information or resources needed to navigate access to care, such as signing up for a healthcare provider or switching providers. These women often had a history of homelessness, substance use, or mental health issues. Although some had a college education, most of these women only attended high school. Low levels of education are often associated with gender, racial-ethnic, and socio-economic inequalities, and have been linked to low levels of health literacy (Ayotte et al., 2009; Kickbusch, 2001; Rikard et al., 2016). Lower health literacy may reduce women's ability to navigate access to care, even if insured.

Several Black women in their fifties and sixties recounted the loss of several family members, including a father, son, or nephew, from homicide. These women reported a history of mental health issues and other chronic illnesses. These personal family tragedies were often connected to gang-related violence. Concomitant stressors, including living in economically deprived, crime-ridden and often violent neighbourhoods, poverty, and structural racism, may have been linked to the high rates of chronic disease reported by the women in this study. The intersection of race and ethnicity and lower socio-economic status often leads to more severe disease and earlier onset in racial-ethnic minority populations compared to Whites; because of concomitant stressors associated with living in impoverished neighbourhoods, societal stigma associated with racial-ethnic minority status, racial bias in healthcare, or individual or institutional discrimination (Williams, 1999; Williams et al., 2019; Williams et al., 2010). The influence of social environment can foster disadvantage across manifold spheres of influence (Williams, 1999). Clear evidence exists of the ongoing impact of systematic bias and structural racism on health inequalities relating to healthcare access and poorer health outcomes in Blacks in the U.S. (Black Demographics, n.d.; Williams & Sternthal, 2010).

Recognising that different overlapping identities exist is important to understanding the extent of health inequalities that women from different historically disadvantaged groups encounter (Bowleg, 2012). Intersectionality allows for the identification of differing inequalities and oppressions that may impact women's access. To address health inequalities in disadvantaged groups, it is essential to collaborate with a wide range of stakeholders (such as policymakers, grassroots activists, and community groups), including disadvantaged communities that have experienced multiple kinds of oppression, conduct research, and develop policies to effect social change (Hankivsky et al., 2010). The complexity of interventions required to address these intersecting inequalities, however, challenges political strategies aimed at singular methods of change—which can lead to further inequalities in diverse populations of women (Hankivsky et al., 2010). To conclude, the intersectionality framework provided an appropriate lens to examine the multiple intersecting social identities of low-income women and explore how these overlapped with gender, race/ethnicity, and socio-economic status inequalities, and shaped their experiences around access.

8.6. Summary of contributions to knowledge

Through the application of several theoretical frameworks, this thesis contributes to several areas of research on women's access to primary care in the ACA era. The mixed-methods systematic review is the first to examine determinants, facilitators, and barriers associated with healthcare access in working-age women in the U.S. since the ACA. Several limitations identified with Andersen's model included a lack of expanded definitions relating to cultural factors for individual predisposing factors. Second, the empirical study is one of a few U.S. qualitative studies that have examined working-age women's lived experiences accessing primary care after Medicaid expansion. The study is one of the first to explore the experiences of a diverse group of low-income women with primary care access in an urban California setting in the ACA era. By applying the Levesque conceptual framework to explore women's experiences, limitations of the model were established, and areas where the model might be improved were identified. For example, Levesque's framework could be expanded by considering in more depth how community and macro-level structural factors influence access to healthcare. Finally, through a process of synthesis and critique of findings, this thesis provides a unique contribution by applying two broad theoretical frameworks, the social-ecological model and the intersectionality framework. The socio-ecological model and intersectionality framework are used to position the facilitators and barriers that low-income women encounter when accessing primary care services within a broader politico-socio-economic context. This is a unique approach not previously adopted by earlier studies on women’s access to primary care in the U.S.

8.7. Study strengths and limitations

Strengths

The nature of qualitative research is, by definition, exploratory. Low-income women’s individualised accounts provided rich, thick, and meaningful descriptions of the phenomenon of primary care access within a specific social context. These individual accounts allowed for an in-depth construction of women’s experiences. Purposive sampling of women living in eligible affordable housing sites and a maximum variation sampling strategy captured wide-ranging perspectives on primary care access (Palinkas et al., 2015). This was achieved by recruiting a diverse sample of 18 women from nine affordable low-income housing sites in several lower-income urban neighbourhoods. Designing and piloting the interview guide allowed necessary revisions to be made before beginning data collection. After the completion of three interviews, the researcher added prompts to solicit information on discrimination, social support, and treatment adherence. Individual semi-structured in-depth interviews allowed for a thorough exploration of women’s experiences and healthcare-seeking patterns relating to access. Data was collected, analysed, and interpreted through the lens of social constructionism. Despite limitations associated with purposive sampling, diverse perspectives obtained from mostly U.S.-born low-income women provided valuable information on healthcare access. The researcher’s in-depth reflection on women’s contributions assisted in the co-creation of knowledge. As a researcher, it was important to consider why vulnerable women exposed to discrimination because of their socio-economic status, racial or ethnic group, or history of substance use would choose to self-disclose personal data (Latkin et al., 2017). While it was not possible to authenticate self-reported information provided by women, the researcher elicited information using open-ended questions when clarification was needed.

Understanding the significance of self-reflexivity is essential when undertaking qualitative research (Bryman, 2016). The reflexive thematic analysis approach is based on the understanding that meaning derived from the data is inherently subjective. As a researcher, I reflected on personal assumptions based on my personal and professional healthcare background and experiences. I considered my insider-outsider perspectives and how these might influence my interpretation of the data. I wrote field notes after each interview and made annotations of each interview transcript. Research memos and notes on coding helped in reflecting on the analytic process of generating and refining themes and subthemes. While study findings are grounded in the data, my interpretation of the data is subjective and is informed by my personal and professional background.

Limitations

As women were recruited from low-income housing sites, this sample does not include perspectives from other groups of low-income women. As this qualitative sample used purposive sampling, the sample may not represent other women living in low-income housing or other settings. For example, eligibility for low-income housing varies across sites, different regions in California and the U.S., and is based on local cost of living and other factors. Women from several racial-ethnic minority groups and married women were not represented in this sample. Women who could not speak English were excluded from study participation due to a lack of translation resources. The perspectives of immigrant or refugee women with poor or no English were not included.

As women chose to participate in this study, this may have resulted in self-selection bias. Differences may exist between participants and non-participants. For example, employed women or those with children may have less time to participate in studies. As California’s Medicaid expansion went into effect on 1 January 2014, recall bias may have resulted in the collection of inaccurate information, as women were asked to recall their experiences with primary care during the previous eight years. Women might have provided socially desirable responses on sensitive topics, such as discrimination, resulting in social response bias (Armour et al., 2009). As a health literacy assessment tool was not used, the researcher could not assess health literacy in study participants.

Transferability of findings to other settings may be limited, as a sample of low-income women living in affordable low-income housing in one metropolitan area in Northern California may not represent other low-income women living in other urban settings in California or different regions of the U.S. The study's use of maximum variation sampling may further limit the applicability of findings to other populations and settings. Despite these limitations, this study provides valuable findings about low-income women living in an urban setting in Northern California, which may be transferable to other settings.

8.8. Implications and recommendations for policy and practice

Health inequalities are fuelled by the inequitable and unequal distribution of broader social determinants of health. To promote more equitable access, intersectoral and integrated multi-level and multi-pronged approaches are essential to tackle the manifold social determinants that influence low-income women's access to health services. A Health in All Policies approach, which incorporates policies from beyond the health sector to address environment, economic development, education, employment, housing, transport, and urban planning, can better address the key determinants that drive health inequalities and poor health outcomes in vulnerable populations (California Department of Public Health, 2020; World Health Organization & Government of South Australia, 2019).

The findings of the mixed-method systematic review and the empirical study provide a basis for U.S. and California policymakers, healthcare administrators, practitioners, and researchers to initiate or tailor existing programmes, interventions, and strategies to expand low-income women's access to high-quality primary care. To effect change, relevant interventions, and strategies should be implemented at the macrosystem-level by applying upstream population-based approaches (such as healthcare policy and reform), health system-level by adopting midstream approaches, and individual-level approaches (Brownson et al., 2010). The social-ecological model can be applied as a framework to develop mechanisms targeting mediators of access, to promote change at the individual, health system, and macrosystem-levels (McLeroy et al., 1988; Stokols, 1996). Also, a multi-faceted framework with a levelling up health approach implemented at the national, regional, and local levels, incorporating easy-to-apply health-by-default approaches including multi-sectoral initiatives over the long-term, can improve healthcare access by focusing on local needs in disadvantaged populations, and matching existing need with resources (Davey et al., 2022). The policy initiatives and recommendations discussed below highlight key areas to be addressed and include specific recommendations based on the findings of this study.

Health policies

Despite the ACA, persisting health inequalities continue to affect women's access to coverage in the U.S. To date, 41 states, including Washington D.C. have adopted Medicaid expansion (Kaiser Family Foundation, 2023). Adopting ACA provisions and expanding Medicaid eligibility to the remaining 10 non-expansion states could expand critical insurance coverage to newly eligible women. Efforts to expand Medicaid or marketplace coverage can lead to better access to healthcare (Crowley & Bornstein, 2019; Gunja et al., 2017). Expanding Medicaid managed care services, decreasing the time needed to enrol in Medi-Cal, allowing individuals to select a source of usual care or provider, and improving reimbursement of PCPs are strategies that can promote healthcare service use in Medi-Cal beneficiaries (Saluja et al., 2019).

Recommendation:

- Federal and state-level policymakers, healthcare system administrators, and providers should work together to fund, design, develop, and implement equitable healthcare policies, and programmes that expand low-income women’s eligibility for health coverage under ACA provisions.

Employment initiatives

Promoting economic equality during the COVID-19 pandemic and beyond can lead to better health coverage and the ability to pay for care. Federal, state, or local initiatives to increase employment levels in low-income working-age women, and business initiatives that offer more comprehensive health plans and benefits can expand access to primary care and mental health services, and address social determinants of health (Nundy et al., 2023). Employers can support women's access to affordable high-quality healthcare by providing comprehensive health insurance, which covers reproductive health services, offers low copays, deductibles or other out-of-pocket costs, and provides paid parental leave (Moniz et al., 2022). Policies and procedures can be redesigned in places of employment to support initiatives that improve women's access to healthcare.

Recommendations:

- Initiate and promote federal, state, and local initiatives to create employment for women, particularly those in low-income brackets.
- Promote business initiatives that provide full and part-time employed working-age women with more comprehensive health plans and benefits.

Health system initiatives

Federal, state, and local health system-level multi-pronged initiatives, programmes, and interventions can assist low-income women in accessing primary care. Programmes and interventions implemented at federal, state, local, and institutional health system levels should be tailored to provide culturally appropriate care (Handtke et al., 2019). Strategies include linguistic and cultural matching of providers with patients, translation services, culturally and linguistically appropriate materials, and encouraging family involvement. Incorporating curricula on the provision of culturally competent care early in clinician training programmes can help reduce provider implicit bias (Institute of Medicine (U.S.) Committee on Understanding and Eliminating Racial and Ethnic Disparities in Health Care, 2003). As of 2016, 32 states were engaged with implementing the National CLAS Standards published by the Office of Minority Health (Office of Minority Health, 2016). Programmes and interventions to address low levels of health literacy and other social vulnerabilities should include patient education by providers, provision of printed and online health information to promote patient-centred care, and processes to ensure patients understand the health information given (Paasche-Orlow et al., 2006).

Recommendations:

- Plan, develop and implement health policies, programmes, and interventions at federal, state, local, and institutional health system levels to improve low-income women's access and use of primary care services.
- Conduct outreach to improve the uptake of preventive services, and increase the supply of providers and staff in urban and rural areas or understaffed health facilities with inadequate provider coverage. Programmes, interventions and strategies to enhance the delivery of healthcare services can include more efficient appointment scheduling mechanisms, online health portals or apps, enhanced appointment availability to reduce appointment wait time, flexible walk-in appointment alternatives, expanded clinic hours such as evenings and weekend schedules, telehealth visits, and strategies promoting better provider-patient communication.
- Provide culturally appropriate programmes and interventions, including provider-patient concordance matching, translation services, and printed or electronic health information in different languages. Policies and initiatives aimed at increasing the number of healthcare providers from underrepresented ethnic and racial minorities can improve the quality of care for these groups.
- Develop a national curriculum for clinician training programmes that mandate training in culturally competent care.
- Promote health literacy through interventions and strategies that enhance access to health education materials, including eHealth tools such as videos and interactive self-help tools. Develop curriculum and provide training for healthcare providers in effective provider-patient communication and education.

Health navigation programmes

Patient navigation programmes initiated and funded by federal, state, or local governments and institutional health systems are vital in identifying and assisting low-income women eligible for Medicaid, tax credits, or marketplace schemes to sign up for Medicaid coverage or other ACA provisions. An example of this is an initiative established by the Centers for Medicare and Medicaid Services in 2021, which endowed $80 million to fund navigators ahead of, and during 2022's open enrollment for health insurance (Keith, 2021). This initiative supported educational outreach and help with navigation with a focus on culturally responsive strategies. Health navigation initiatives are supported by a review of 9 systematic reviews that found patient navigators enhanced healthcare access in vulnerable populations, including those with chronic disease (Budde et al., 2021). The Individualised Management for Patient-Centered Targets programme demonstrates healthcare or community-based organisations can employ Community Health Workers from local communities to provide advocacy, coaching, healthcare system navigation, and social support (Seervai, 2020). Several strategies, including community engagement, outreach efforts, patient navigation services, phone calls, patient education, and provider training reminders from lay health workers have been successful in increasing the rates of cancer screening (Nelson et al., 2020).

Recommendations:

- Develop policies, programmes, and interventions at the federal, state, and local government levels to assist low-income women with help in signing up for Medicaid, tax credits, or marketplace schemes under ACA provisions. Interventions include training community health workers or other healthcare workers to provide advocacy, coaching, education, outreach, patient education, patient navigation services, social support, and telephone call assistance.
- Health systems should invest in programmes and interventions that provide patient navigation services to assist low-income women including ethnic or sexual minorities, disabled, unemployed, immigrant, or refugee groups with assistance signing up for eligible health coverage and plans, and a usual source of care and healthcare provider.

Discrimination in healthcare

Healthcare institutions and providers have often perpetuated discriminatory practices in healthcare settings. Federal, state, local government, and institutional policies are needed to redress healthcare-related discriminatory practices that affect women's access to healthcare. To combat institutional discrimination, it is essential to develop long-term strategies focused on educating and training a diverse group of healthcare providers in different healthcare settings (National Academies of Sciences, 2021).

Recommendation:

- To address provider bias, educational programmes and interventions need to be developed and implemented at federal, state, local, and institutional health system levels, to develop curricula and provide training to all categories of healthcare providers and staff on ways to provide culturally competent care and mitigate implicit bias when providing care.

Need for research

All major stakeholders, including health policymakers, public health professionals, healthcare providers, and low-income women receiving health services, should be included in the planning, design, and implementation of programmes and interventions to enhance low-income women's access to care. Often, health service research does not consider the multi-faceted nature of ethnic and racial identities, or the role that these identities play in perpetrating health inequalities in access (Salway et al., 2020). Policy-making institutions and organisations should encourage effective mechanisms to apply new evidence to policy and practice. Qualitative research should focus on challenges that low-income, particularly vulnerable racial-ethnic or sexual minorities, immigrants, refugees, and disabled women continue to face accessing healthcare in the context of the ACA. Additional research will provide more contextual information on factors that shape the ability of low-income women living in urban or rural settings to access primary care. This evidence can be used by policymakers, clinicians, health system administrators, and managers to develop or enhance health-related interventions to improve low-income women's access to care.

8.9. Conclusion

This thesis provides valuable insights which deepen our understanding of the myriad individual and structural factors that influence low-income women’s access to healthcare in California during the ACA era. Study findings may be transferable to other populations of low-income women in urban settings in California and other states. Recommendations can be used by U.S. policymakers, healthcare administrators, healthcare providers, and public health professionals to design individual and population-based policy initiatives, programmes, interventions, and strategies to improve low-income women’s access to primary care. The study findings may also interest policy makers, healthcare administrators, and providers in other high-income countries that face challenges in providing healthcare services to their citizens in the absence of universal healthcare coverage.

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Appendices

Appendix 1

Summary of inclusion and exclusion criteria for the Mixed-Method Systematic Review

Parameters	Inclusion	Exclusion	Rationale
Population	1) Adult women of working-age (18-64 years). Studies must report factors, facilitators, or barriers to primary care service access, and report at least one of Anderson's domains associated with outcomes of interest.	1) Women (18-64 years) living in institutional settings, such as in-patient settings, prisons, residential care settings, and shelters.	These groups may have access to health coverage depending on the institutional or healthcare delivery system, or face other barriers to accessing primary care that warrant a focused review.
		2) Studies that target women who receive specific types of government-funded medical benefits or services. For example, women who receive medical care from the Veterans Health Administration, the Military Health System facilities, or the Indian Health Service.	Women who receive specific types of government-funded medical benefits or services, such as veteran medical benefits, active military personnel entitled to Military Health System health coverage, or women who receive medical assistance from the Indian Health Service. These women's experiences around access may differ from general populations of women.
		3) Women (65 years or older) with Medicare coverage.	Women 65 years or older are eligible for Medicare coverage, so facilitators and barriers to care will differ from working-age adult women. The health status of older women is usually poorer, compared to women

Parameters	Inclusion	Exclusion	Rationale
			younger than 65 years, which affects healthcare services use.
		4) Women experiencing homelessness.	Adult women who are homeless have focused health needs such as chronic diseases, mental health conditions, and Substance Use Disorder (SUD), which may affect primary care service utilisation.
		5) Children and adolescents (0-17 years).	Health services provided to children or adolescents require more investigation, as parental or guardian health services are linked to paediatric health services.
		6) Specific sub-populations of women impacted by ACA provisions. For example, the dependent-coverage mandate targeting 19 to 26-year-old individuals, which went into effect in 2010, and ACA provisions targeting pregnant women, such as increased contraceptive coverage, which went into effect in 2012.	These women may have specific primary care needs. For example, young, dependent adults under 26 years eligible for the dependent-coverage mandate, and pregnant women eligible for ACA-related provisions belong to subgroups affected by these provisions in different ways than the general population of working-age women.
		7) Women employed in specific occupations.	7) Women employed in specific occupations may have specific primary care needs based on their occupation.

Parameters	Inclusion	Exclusion	Rationale
Geographic location	The U.S.	1) All other high-income countries.	1) Only U.S.-based studies were included because of the unique characteristics of the U.S. healthcare delivery system based on a multi-payer system supported mainly by private funds. A significant proportion of U.S. residents are uninsured, compared to most high-income countries that provide universal healthcare coverage through single-payer systems backed by public funds.
		2) Middle or low-income countries.	2) Health services and access provision may differ widely in middle and low-income settings compared to high-income countries because of a lack of adequate resources.
Intervention	Provision of formal, face-to-face primary health services provided by a non-specialist PCP, such as a physician, Nurse Practitioner (NP), or Physician's Assistant (PA) in public or privately funded community or hospital-based outpatient clinics providing direct care or other	1) Studies reporting outcome measures relating to secondary or tertiary health services (such as emergency room, urgent care, speciality outpatient services provided by specialist providers, specialist mental health services, and hospital in-patient services) will be excluded.	1) Primary care is the gateway to most healthcare services in the U.S. system. Improved primary care access leads to improved secondary and tertiary healthcare services.

Parameters	Inclusion	Exclusion	Rationale
	appropriate community-based primary care settings.	2) Studies about online or telephone-based primary care services.	2) Factors impacting access to telehealth services may differ from primary care services provided in-person.
Study design	1) Primary peer-reviewed empirical research, including quantitative, qualitative, and mixed-methods studies. Extracted data must examine at least one of the dimensions of Andersen's Behavioral model of **h**ealth services use.	1) Consensus, health policy documents, grey literature reporting non-peer-reviewed empirical research, book chapters, conference abstracts, dissertations, editorial commentary, or opinion papers.	1) The focus is on peer-reviewed original empirical research. Included studies must examine at least one of the dimensions of Andersen's Behavioral model of health services use.
	2) Quantitative studies, use of regression analyses, adequate presentation of statistical findings.	2) Quantitative study designs: -Studies that report simple descriptive data without regression analyses. -Studies that do not disaggregate relevant findings by sex/gender. If authors have published multiple findings from the same dataset in peer-reviewed journals, only the	2) Quantitative studies not using regression analyses cannot detect and assess the association between independent and dependent variables. Results should be disaggregated by variables of interest and sex/gender to determine possible associations. Only the latest findings will be reported if authors have published the same dataset in multiple peer-reviewed journals.

Parameters	Inclusion	Exclusion	Rationale
		most recent findings will be reported.	
Outcomes	**Measures of potential access** -Health insurance -Usual/ongoing source of primary care or whether have a regular PCP. **Measures of realised access** -Utilisation (use/non-use as a binary variable or frequency of use) of primary care services, including acute, chronic healthcare, and routine preventive health screenings (such as an annual physical exam, BP, or cholesterol screening, influenza vaccination, and well visits) -Timeliness of care (availability of appointments and care for illness and injury when needed). -Unmet healthcare needs.	1) Studies that do not report outcomes of interest that measure potential or realised access to primary care services or routine preventive services (such as health insurance, source of usual care, regular PCP, utilisation of acute/chronic/preventive services).	1) Studies are not relevant as do not report outcomes of interest measuring either potential or realised access.
		2) Studies reporting access to or utilisation of sexual health services (screening for sexually transmitted diseases such as chlamydia, or Human Papilloma Virus), or reproductive healthcare services (such as prenatal, perinatal, or postnatal care).	2) Studies reporting sexual and reproductive health services may be offered by Obstetrician-Gynaecologist specialists. Studies regarding access to healthcare in pregnant women address the needs of a subgroup with a different visit behaviour to non-pregnant women; therefore, findings are not generalisable to all working-age women.
		3) Studies reporting on access to or utilisation of breast cancer screening (clinical breast exam or mammography), cervical	3) Many empirical studies and systematic reviews of preventive health services for breast, cervical and colorectal cancer have been conducted in high-income countries, including the U.S.

Parameters	Inclusion	Exclusion	Rationale
		cancer screening, or colorectal cancer (CRC) screening services.	
		4) Studies reporting on the utilisation of mental health services in speciality settings (such as psychiatry).	4) Studies that report on access to and utilisation of specialist mental health services provided by mental health specialists, as these services are not routinely provided by PCPs.
		5) Dental care services in community-based settings (such as dental offices).	5) Dentists provide dental services in the U.S., and PCPs do not provide these services.
		6) Studies reporting outcomes of treatment adherence, quality of treatment, patient, or provider preferences, or patient satisfaction measures in primary care settings.	6) These studies do not report outcomes relating to potential or realised healthcare access (such as insurance coverage, utilisation of health services, and timeliness of care).
		7) Studies that examine health access and utilisation measures associated with disease-specific care in primary care settings will be excluded unless findings are compared with populations	7) Studies focusing on women with specific diseases (such as cancer, mental health disorders, or SUDs) will be excluded as women with specific conditions often require disease-specific care, and their focused needs may impact access to and utilisation rates of primary care services. These groups may face other barriers to access and use of primary care services, which warrants focused reviews.

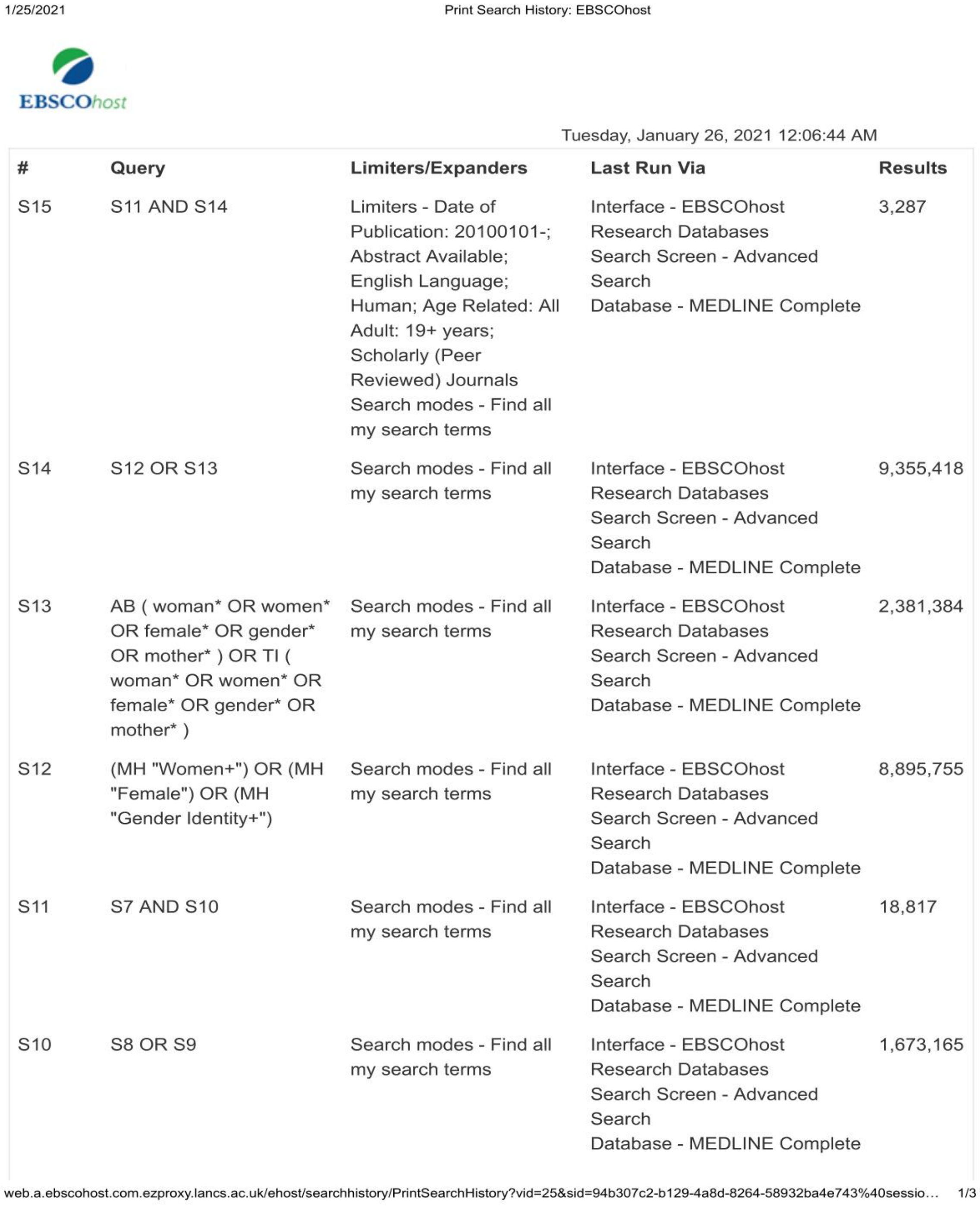
Parameters	Inclusion	Exclusion	Rationale
		of women without specific diseases or conditions.	
		8) Studies reporting the outcome of health-related interventions implemented to improve access to or utilisation of primary care in adult women.	8) Interventions implemented under study conditions may not reflect the standard of care practices in primary care.
Language	English language. Full-text is available.	1) Non-English language.	1) Non-English articles will be excluded due to the cost of using translation services.
		2) Full-text of study not available in English.	2) Unable to assess study findings.
Dates	1) 2010 to the current year.	1) Pre-2010.	ACA's expansion of healthcare coverage for women has led to significant changes in healthcare access. so only determinants of primary care access will be examined in the ACA era from 2010 onwards.

Appendix 2

Sample search strategy used in the Mixed-Method Systematic Review

PICOS framework	MeSH terms/Keywords
Population	(MH "Women+") OR (MH "Female") OR (MH "Gender Identity+") AB (woman* OR women* OR female* OR gender* OR mother*) OR TI (woman* OR women* OR female* OR gender* OR mother*)
Intervention	(MH "Primary Health Care+") OR (MH "Preventive Health Services+") OR (MH "Preventive Medicine+") OR (MH "Women's Health Services+") AB ((primary OR preventative OR preventive) N5 (care OR "health care" OR healthcare OR medicine OR service*)) OR TI ((primary OR preventative OR preventive) N5 (care OR "health care" OR healthcare OR medicine OR service*))
Comparison	N/A
Outcome	(MH "Health Services Accessibility+") OR (MH "Health Services Needs and Demand+") AB ((access* OR avail* OR use OR usage OR acceptance OR utili*) N5 (healthcare OR "health care" OR health-care) OR TI ((access* OR avail* OR use OR usage OR acceptance OR utili*) N5 (healthcare OR "health care" OR health-care)
Setting	(MH "United States+") AB ("united states" OR america OR usa OR u.s.a OR u.s OR "united states of america") OR TI ("united states" OR america OR usa OR u.s.a OR u.s OR "united states of america")

Search strategy conducted in MEDLINE (EBSCOhost)

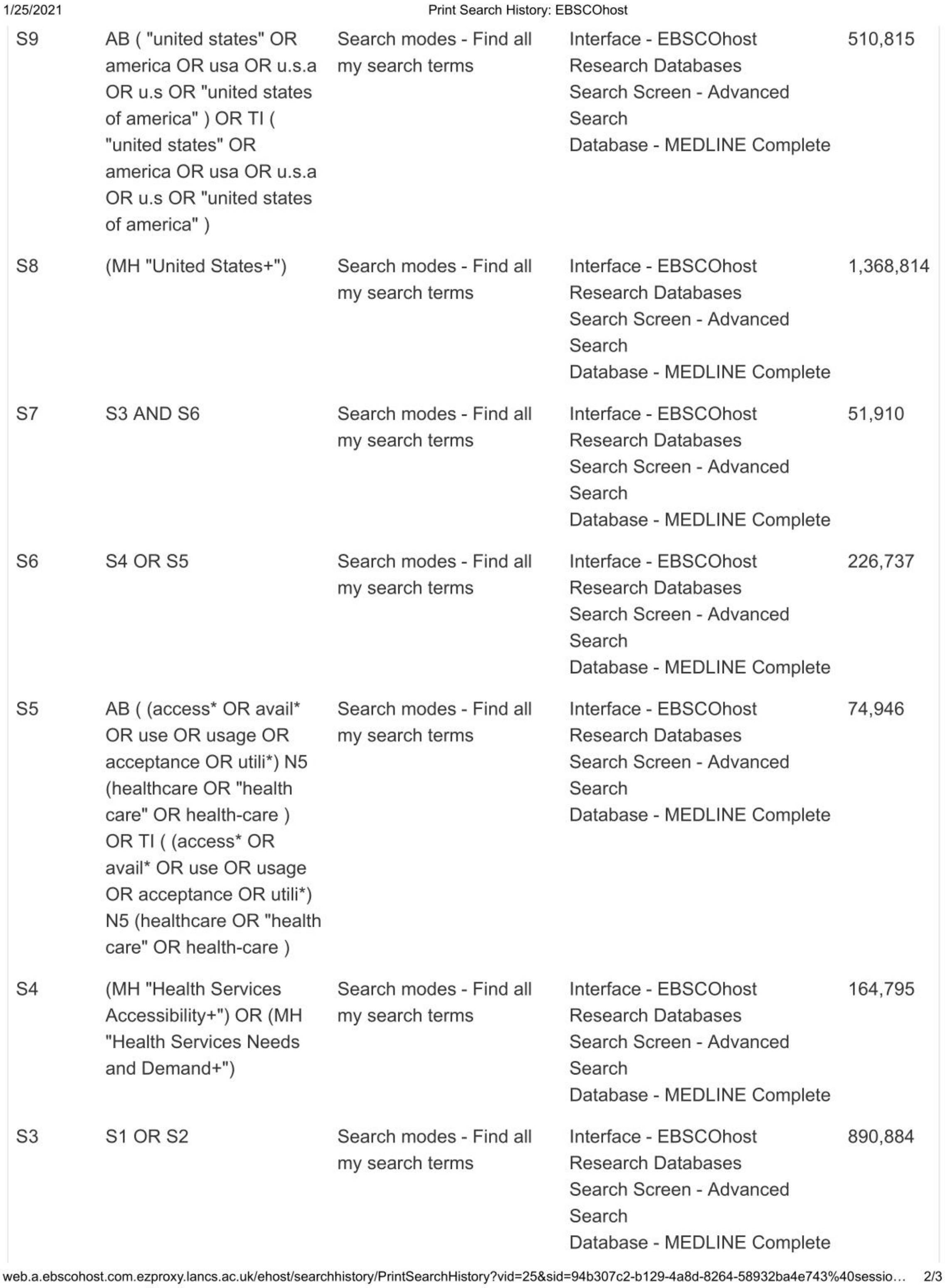


1/25/2021 Print Search History: EBSCOhost

Tuesday, January 26, 2021 12:06:44 AM

#	Query	Limiters/Expanders	Last Run Via	Results
S15	S11 AND S14	Limiters - Date of Publication: 20100101-; Abstract Available; English Language; Human; Age Related: All Adult: 19+ years; Scholarly (Peer Reviewed) Journals Search modes - Find all my search terms	Interface - EBSCOhost Research Databases Search Screen - Advanced Search Database - MEDLINE Complete	3,287
S14	S12 OR S13	Search modes - Find all my search terms	Interface - EBSCOhost Research Databases Search Screen - Advanced Search Database - MEDLINE Complete	9,355,418
S13	AB (woman* OR women* OR female* OR gender* OR mother*) OR TI (woman* OR women* OR female* OR gender* OR mother*)	Search modes - Find all my search terms	Interface - EBSCOhost Research Databases Search Screen - Advanced Search Database - MEDLINE Complete	2,381,384
S12	(MH "Women+") OR (MH "Female") OR (MH "Gender Identity+")	Search modes - Find all my search terms	Interface - EBSCOhost Research Databases Search Screen - Advanced Search Database - MEDLINE Complete	8,895,755
S11	S7 AND S10	Search modes - Find all my search terms	Interface - EBSCOhost Research Databases Search Screen - Advanced Search Database - MEDLINE Complete	18,817
S10	S8 OR S9	Search modes - Find all my search terms	Interface - EBSCOhost Research Databases Search Screen - Advanced Search Database - MEDLINE Complete	1,673,165

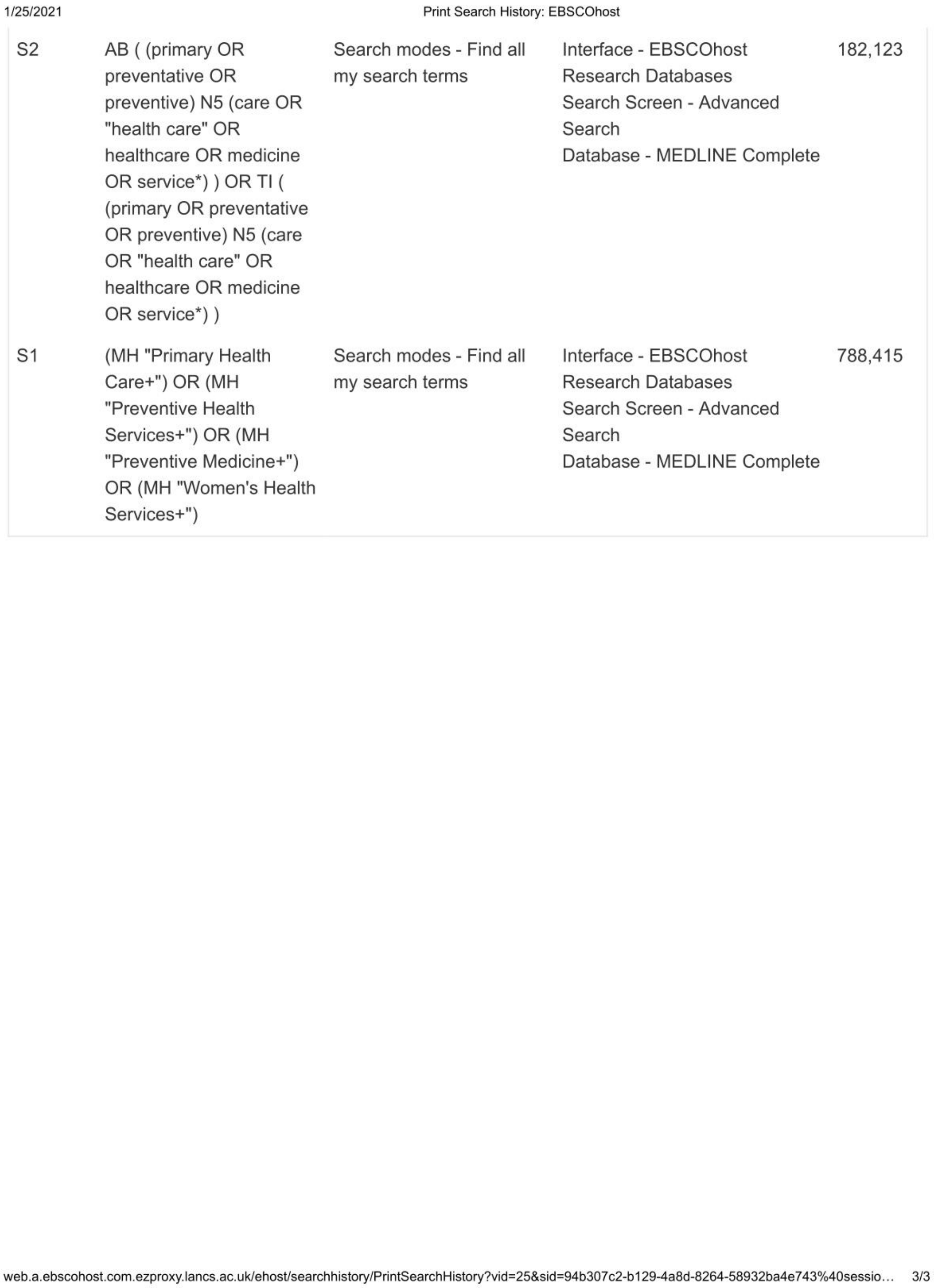
web.a.ebscohost.com.ezproxy.lancs.ac.uk/ehost/searchhistory/PrintSearchHistory?vid=25&sid=94b307c2-b129-4a8d-8264-58932ba4e743%40sessio… 1/3



1/25/2021 Print Search History: EBSCOhost

S9	AB ("united states" OR america OR usa OR u.s.a OR u.s OR "united states of america") OR TI ("united states" OR america OR usa OR u.s.a OR u.s OR "united states of america")	Search modes - Find all my search terms	Interface - EBSCOhost Research Databases Search Screen - Advanced Search Database - MEDLINE Complete	510,815
S8	(MH "United States+")	Search modes - Find all my search terms	Interface - EBSCOhost Research Databases Search Screen - Advanced Search Database - MEDLINE Complete	1,368,814
S7	S3 AND S6	Search modes - Find all my search terms	Interface - EBSCOhost Research Databases Search Screen - Advanced Search Database - MEDLINE Complete	51,910
S6	S4 OR S5	Search modes - Find all my search terms	Interface - EBSCOhost Research Databases Search Screen - Advanced Search Database - MEDLINE Complete	226,737
S5	AB ((access* OR avail* OR use OR usage OR acceptance OR utili*) N5 (healthcare OR "health care" OR health-care) OR TI ((access* OR avail* OR use OR usage OR acceptance OR utili*) N5 (healthcare OR "health care" OR health-care)	Search modes - Find all my search terms	Interface - EBSCOhost Research Databases Search Screen - Advanced Search Database - MEDLINE Complete	74,946
S4	(MH "Health Services Accessibility+") OR (MH "Health Services Needs and Demand+")	Search modes - Find all my search terms	Interface - EBSCOhost Research Databases Search Screen - Advanced Search Database - MEDLINE Complete	164,795
S3	S1 OR S2	Search modes - Find all my search terms	Interface - EBSCOhost Research Databases Search Screen - Advanced Search Database - MEDLINE Complete	890,884

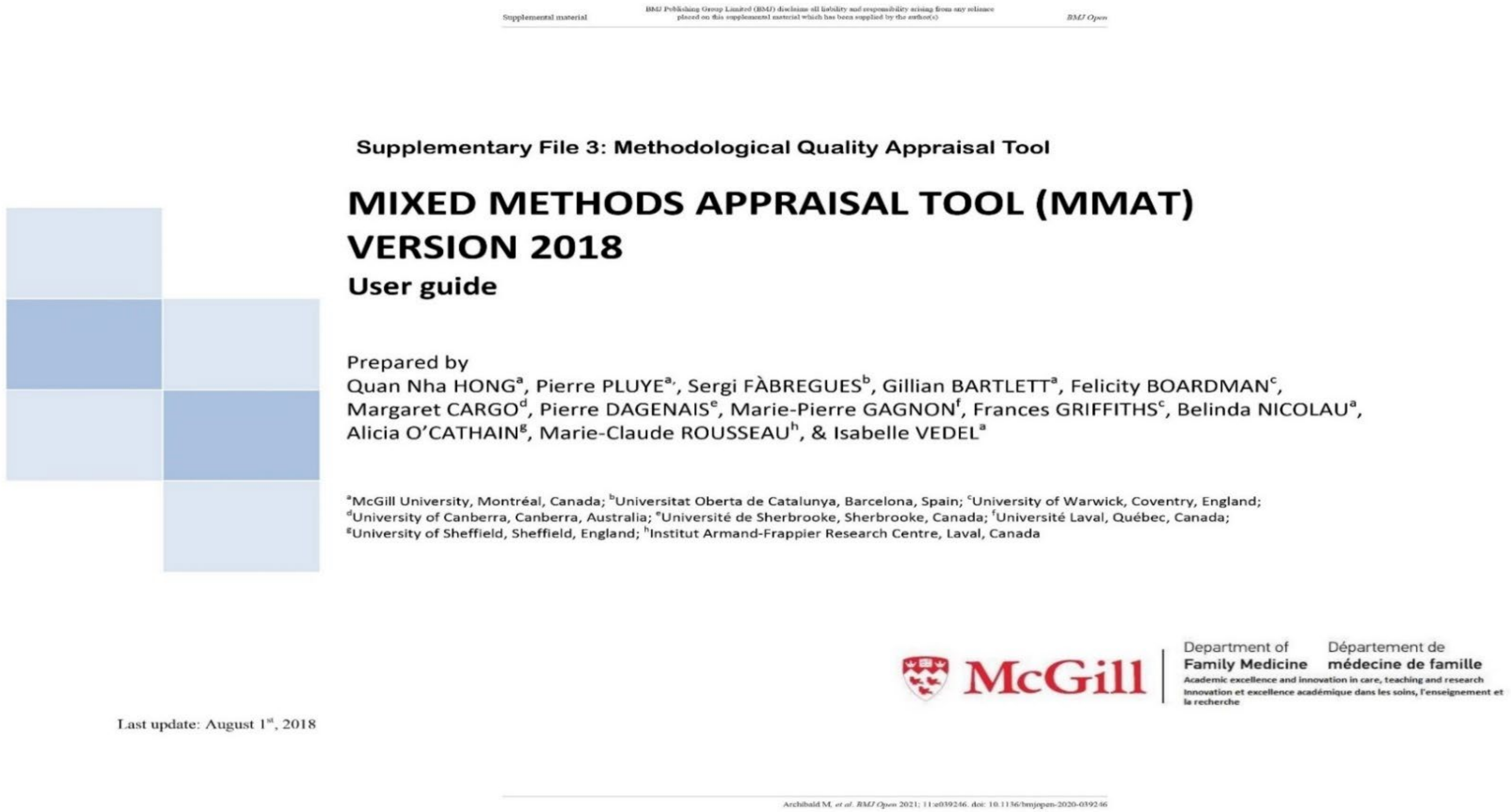
web.a.ebscohost.com.ezproxy.lancs.ac.uk/ehost/searchhistory/PrintSearchHistory?vid=25&sid=94b307c2-b129-4a8d-8264-58932ba4e743%40sessio… 2/3



S2	AB ((primary OR preventative OR preventive) N5 (care OR "health care" OR healthcare OR medicine OR service*)) OR TI ((primary OR preventative OR preventive) N5 (care OR "health care" OR healthcare OR medicine OR service*))	Search modes - Find all my search terms	Interface - EBSCOhost Research Databases Search Screen - Advanced Search Database - MEDLINE Complete	182,123
S1	(MH "Primary Health Care+") OR (MH "Preventive Health Services+") OR (MH "Preventive Medicine+") OR (MH "Women's Health Services+")	Search modes - Find all my search terms	Interface - EBSCOhost Research Databases Search Screen - Advanced Search Database - MEDLINE Complete	788,415

Appendix 3

Mixed-Methods Appraisal Tool (MMAT, VERSION 2018)



Supplementary File 3: Methodological Quality Appraisal Tool

MIXED METHODS APPRAISAL TOOL (MMAT) VERSION 2018

User guide

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Last update: August 1st, 2018

Archibald M, *et al. BMJ Open* 2021; 11:e039246. doi: 10.1136/bmjopen-2020-039246

What is the MMAT?

The MMAT is a critical appraisal tool that is designed for the appraisal stage of systematic mixed studies reviews, i.e., reviews that include qualitative, quantitative and mixed methods studies. It permits to appraise the methodological quality of five categories to studies: qualitative research, randomized controlled trials, non-randomized studies, quantitative descriptive studies, and mixed methods studies.

How was the MMAT developed?

The MMAT was developed in 2006 (Pluye et al., 2009a) and was revised in 2011 (Pace et al., 2012). The present version 2018 was developed on the basis of findings from a literature review of critical appraisal tools, interviews with MMAT users, and an e-Delphi study with international experts (Hong, 2018). The MMAT developers are continuously seeking for improvement and testing of this tool. Users' feedback is always appreciated.

What the MMAT can be used for?

The MMAT can be used to appraise the quality of empirical studies, i.e., primary research based on experiment, observation or simulation (Abbott, 1998; Porta et al., 2014). It cannot be used for non-empirical papers such as review and theoretical papers. Also, the MMAT allows the appraisal of most common types of study methodologies and designs. However, some specific designs such as economic and diagnostic accuracy studies cannot be assessed with the MMAT. Other critical appraisal tools might be relevant for these designs.

What are the requirements?

Because critical appraisal is about judgment making, it is advised to have at least two reviewers independently involved in the appraisal process. Also, using the MMAT requires experience or training in these domains. For instance, MMAT users may be helped by a colleague with specific expertise when needed.

How to use the MMAT?

This document comprises two parts: checklist (Part I) and explanation of the criteria (Part II).

1. Respond to the two screening questions. Responding 'No' or 'Can't tell' to one or both questions might indicate that the paper is not an empirical study, and thus cannot be appraised using the MMAT. MMAT users might decide not to use these questions, especially if the selection criteria of their review are limited to empirical studies.
2. For each included study, choose the appropriate category of studies to appraise. Look at the description of the methods used in the included studies. If needed, use the algorithm at the end of this document.
3. Rate the criteria of the chosen category. For example, if the paper is a qualitative study, only rate the five criteria in the qualitative category. The 'Can't tell' response category means that the paper do not report appropriate information to answer 'Yes' or 'No', or that report unclear information related to the criterion. Rating 'Can't tell' could lead to look for companion papers, or contact authors to ask more information or clarification when needed. In Part II of this document, indicators are added for some criteria. The list is not exhaustive and not all indicators are necessary. You should agree among your team which ones are important to consider for your field and apply them uniformly across all included studies from the same category.

How to score?

It is discouraged to calculate an overall score from the ratings of each criterion. Instead, it is advised to provide a more detailed presentation of the ratings of each criterion to better inform the quality of the included studies. This may lead to perform a sensitivity analysis (i.e., to consider the quality of studies by contrasting their results). Excluding studies with low methodological quality is usually discouraged.

How to cite this document?

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Part I: Mixed Methods Appraisal Tool (MMAT), version 2018

Category of study designs	**Methodological quality criteria**	**Responses**			
		Yes	No	Can't tell	Comments
Screening questions (for all types)	S1. Are there clear research questions?				
	S2. Do the collected data allow to address the research questions?				
	Further appraisal may not be feasible or appropriate when the answer is 'No' or 'Can't tell' to one or both screening questions.				
1. Qualitative	1.1. Is the qualitative approach appropriate to answer the research question?				
	1.2. Are the qualitative data collection methods adequate to address the research question?				
	1.3. Are the findings adequately derived from the data?				
	1.4. Is the interpretation of results sufficiently substantiated by data?				
	1.5. Is there coherence between qualitative data sources, collection, analysis and interpretation?				
2. Quantitative randomized controlled trials	2.1. Is randomization appropriately performed?				
	2.2. Are the groups comparable at baseline?				
	2.3. Are there complete outcome data?				
	2.4. Are outcome assessors blinded to the intervention provided?				
	2.5 Did the participants adhere to the assigned intervention?				
3. Quantitative non-randomized	3.1. Are the participants representative of the target population?				
	3.2. Are measurements appropriate regarding both the outcome and intervention (or exposure)?				
	3.3. Are there complete outcome data?				
	3.4. Are the confounders accounted for in the design and analysis?				
	3.5. During the study period, is the intervention administered (or exposure occurred) as intended?				
4. Quantitative descriptive	4.1. Is the sampling strategy relevant to address the research question?				
	4.2. Is the sample representative of the target population?				
	4.3. Are the measurements appropriate?				
	4.4. Is the risk of nonresponse bias low?				
	4.5. Is the statistical analysis appropriate to answer the research question?				
5. Mixed methods	5.1. Is there an adequate rationale for using a mixed methods design to address the research question?				
	5.2. Are the different components of the study effectively integrated to answer the research question?				
	5.3. Are the outputs of the integration of qualitative and quantitative components adequately interpreted?				
	5.4. Are divergences and inconsistencies between quantitative and qualitative results adequately addressed?				
	5.5. Do the different components of the study adhere to the quality criteria of each tradition of the methods involved?				

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Part II: Explanations

1. Qualitative studies	Methodological quality criteria
"Qualitative research is an approach for exploring and understanding the meaning individuals or groups ascribe to a social or human problem" (Creswell, 2013b, p. 3). Common qualitative research approaches include (this list if not exhaustive): **Ethnography** The aim of the study is to describe and interpret the shared cultural behaviour of a group of individuals. **Phenomenology** The study focuses on the subjective experiences and interpretations of a phenomenon encountered by individuals. **Narrative research** The study analyzes life experiences of an individual or a group. **Grounded theory** Generation of theory from data in the process of conducting research (data collection occurs first). **Case study** In-depth exploration and/or explanation of issues intrinsic to a particular case. A case can be anything from a decision-making process, to a person, an organization, or a country. **Qualitative description** There is no specific methodology, but a qualitative data collection and analysis, e.g., in-depth interviews or focus groups, and hybrid thematic analysis (inductive and deductive). Key references: Creswell (2013a); Sandelowski (2010); Schwandt (2015)	1.1. Is the qualitative approach appropriate to answer the research question? Explanations The qualitative approach used in a study (see non-exhaustive list on the left side of this table) should be appropriate for the research question and problem. For example, the use of a grounded theory approach should address the development of a theory and ethnography should study human cultures and societies. This criterion was considered important to add in the MMAT since there is only one category of criteria for qualitative studies (compared to three for quantitative studies).
	1.2. Are the qualitative data collection methods adequate to address the research question? Explanations This criterion is related to data collection method, including data sources (e.g., archives, documents), used to address the research question. To judge this criterion, consider whether the method of data collection (e.g., in depth interviews and/or group interviews, and/or observations) and the form of the data (e.g., tape recording, video material, diary, photo, and/or field notes) are adequate. Also, clear justifications are needed when data collection methods are modified during the study.
	1.3. Are the findings adequately derived from the data? Explanations This criterion is related to the data analysis used. Several data analysis methods have been developed and their use depends on the research question and qualitative approach. For example, open, axial and selective coding is often associated with grounded theory, and within- and cross-case analysis is often seen in case study.
	1.4. Is the interpretation of results sufficiently substantiated by data? Explanations The interpretation of results should be supported by the data collected. For example, the quotes provided to justify the themes should be adequate.
	1.5. Is there coherence between qualitative data sources, collection, analysis and interpretation? Explanations There should be clear links between data sources, collection, analysis and interpretation.

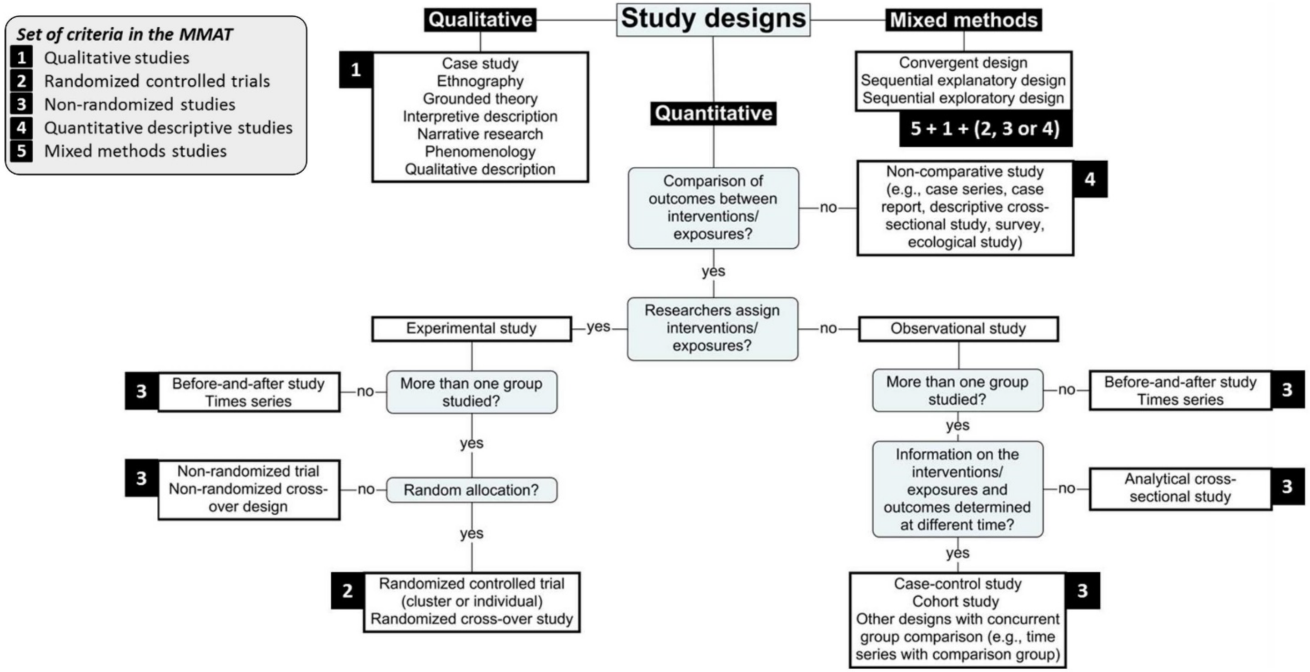
2. Quantitative randomized controlled trials	**Methodological quality criteria**
Randomized controlled clinical trial: A clinical study in which individual participants are allocated to intervention or control groups by randomization (intervention assigned by researchers). Key references: Higgins and Green (2008); Higgins et al. (2016); Oxford Centre for Evidence-based Medicine (2016); Porta et al. (2014)	2.1. Is randomization appropriately performed? Explanations In a randomized controlled trial, the allocation of a participant (or a data collection unit, e.g., a school) into the intervention or control group is based solely on chance. Researchers should describe how the randomization schedule was generated. A simple statement such as 'we randomly allocated' or 'using a randomized design' is insufficient to judge if randomization was appropriately performed. Also, assignment that is predictable such as using odd and even record numbers or dates is not appropriate. At minimum, a simple allocation (or unrestricted allocation) should be performed by following a predetermined plan/sequence. It is usually achieved by referring to a published list of random numbers, or to a list of random assignments generated by a computer. Also, restricted allocation can be performed such as blocked randomization (to ensure particular allocation ratios to the intervention groups), stratified randomization (randomization performed separately within strata), or minimization (to make small groups closely similar with respect to several characteristics). Another important characteristic to judge if randomization was appropriately performed is allocation concealment that protects assignment sequence until allocation. Researchers and participants should be unaware of the assignment sequence up to the point of allocation. Several strategies can be used to ensure allocation concealment such relying on a central randomization by a third party, or the use of sequentially numbered, opaque, sealed envelopes (Higgins et al., 2016).
	2.2. Are the groups comparable at baseline? Explanations Baseline imbalance between groups suggests that there are problems with the randomization. Indicators from baseline imbalance include: "(1) unusually large differences between intervention group sizes; (2) a substantial excess in statistically significant differences in baseline characteristics than would be expected by chance alone; (3) imbalance in key prognostic factors (or baseline measures of outcome variables) that are unlikely to be due to chance; (4) excessive similarity in baseline characteristics that is not compatible with chance; (5) surprising absence of one or more key characteristics that would be expected to be reported" (Higgins et al., 2016, p. 10).
	2.3. Are there complete outcome data? Explanations Almost all the participants contributed to almost all measures. There is no absolute and standard cut-off value for acceptable complete outcome data. Agree among your team what is considered complete outcome data in your field and apply this uniformly across all the included studies. For instance, in the literature, acceptable complete data value ranged from 80% (Thomas et al., 2004; Zaza et al., 2000) to 95% (Higgins et al., 2016). Similarly, different acceptable withdrawal/dropouts rates have been suggested: 5% (de Vet et al., 1997; MacLehose et al., 2000), 20% (Sindhu et al., 1997; Van Tulder et al., 2003) and 30% for a follow-up of more than one year (Viswanathan and Berkman, 2012).
	2.4. Are outcome assessors blinded to the intervention provided? Explanations Outcome assessors should be unaware of who is receiving which interventions. The assessors can be the participants if using participant reported outcome (e.g., pain), the intervention provider (e.g., clinical exam), or other persons not involved in the intervention (Higgins et al., 2016).
	2.5 Did the participants adhere to the assigned intervention? Explanations To judge this criterion, consider the proportion of participants who continued with their assigned intervention throughout follow-up. "Lack of adherence includes imperfect compliance, cessation of intervention, crossovers to the comparator intervention and switches to another active intervention." (Higgins et al., 2016, p. 25).

3. Quantitative non-randomized studies	**Methodological quality criteria**
Non-randomized studies are defined as any quantitative studies estimating the effectiveness of an intervention or studying other exposures that do not use randomization to allocate units to comparison groups (Higgins and Green, 2008). Common designs include (this list if not exhaustive): **Non-randomized controlled trials** The intervention is assigned by researchers, but there is no randomization, e.g., a pseudo-randomization. A non-random method of allocation is not reliable in producing alone similar groups. **Cohort study** Subsets of a defined population are assessed as exposed, not exposed, or exposed at different degrees to factors of interest. Participants are followed over time to determine if an outcome occurs (prospective longitudinal). **Case-control study** Cases, e.g., patients, associated with a certain outcome are selected, alongside a corresponding group of controls. Data is collected on whether cases and controls were exposed to the factor under study (retrospective). **Cross-sectional analytic study** At one particular time, the relationship between health-related characteristics (outcome) and other factors (intervention/exposure) is examined. E.g., the frequency of outcomes is compared in different population subgroups according to the presence/absence (or level) of the intervention/exposure. Key references for non-randomized studies: Higgins and Green (2008); Porta et al. (2014); Sterne et al. (2016); Wells et al. (2000)	3.1. Are the participants representative of the target population? Explanations Indicators of representativeness include: clear description of the target population and of the sample (inclusion and exclusion criteria), reasons why certain eligible individuals chose not to participate, and any attempts to achieve a sample of participants that represents the target population.
	3.2. Are measurements appropriate regarding both the outcome and intervention (or exposure)? Explanations Indicators of appropriate measurements include: the variables are clearly defined and accurately measured; the measurements are justified and appropriate for answering the research question; the measurements reflect what they are supposed to measure; validated and reliability tested measures of the intervention/exposure and outcome of interest are used, or variables are measured using 'gold standard'.
	3.3. Are there complete outcome data? Explanations Almost all the participants contributed to almost all measures. There is no absolute and standard cut-off value for acceptable complete outcome data. Agree among your team what is considered complete outcome data in your field (and based on the targeted journal) and apply this uniformly across all the included studies. For example, in the literature, acceptable complete data value ranged from 80% (Thomas et al., 2004; Zaza et al., 2000) to 95% (Higgins et al., 2016). Similarly, different acceptable withdrawal/dropouts rates have been suggested: 5% (de Vet et al., 1997; MacLehose et al., 2000), 20% (Sindhu et al., 1997; Van Tulder et al., 2003) and 30% for follow-up of more than one year (Viswanathan and Berkman, 2012).
	3.4. Are the confounders accounted for in the design and analysis? Explanations Confounders are factors that predict both the outcome of interest and the intervention received/exposure at baseline. They can distort the interpretation of findings and need to be considered in the design and analysis of a non-randomized study. Confounding bias is low if there is no confounding expected, or appropriate methods to control for confounders are used (such as stratification, regression, matching, standardization, and inverse probability weighting).
	3.5 During the study period, is the intervention administered (or exposure occurred) as intended? Explanations For intervention studies, consider whether the participants were treated in a way that is consistent with the planned intervention. Since the intervention is assigned by researchers, consider whether there was a presence of contamination (e.g., the control group may be indirectly exposed to the intervention) or whether unplanned co-interventions were present in one group (Sterne et al., 2016). For observational studies, consider whether changes occurred in the exposure status among the participants. If yes, check if these changes are likely to influence the outcome of interest, were adjusted for, or whether unplanned co-exposures were present in one group (Morgan et al., 2017).

4. Quantitative descriptive studies	Methodological quality criteria
Quantitative descriptive studies are "concerned with and designed only to describe the existing distribution of variables without much regard to causal relationships or other hypotheses" (Porta et al., 2014, p. 72). They are used to monitoring the population, planning, and generating hypothesis (Grimes and Schulz, 2002). Common designs include the following single-group studies (this list if not exhaustive): **Incidence or prevalence study without comparison group** In a defined population at one particular time, what is happening in a population, e.g., frequencies of factors (importance of problems), is described (portrayed). **Survey** "Research method by which information is gathered by asking people questions on a specific topic and the data collection procedure is standardized and well defined." (Bennett et al., 2011, p. 3). **Case series** A collection of individuals with similar characteristics are used to describe an outcome. **Case report** An individual or a group with a unique/unusual outcome is described in detail. Key references: Critical Appraisal Skills Programme (2017); Draugalis et al. (2008)	4.1. Is the sampling strategy relevant to address the research question? Explanations Sampling strategy refers to the way the sample was selected. There are two main categories of sampling strategies: probability sampling (involve random selection) and non-probability sampling. Depending on the research question, probability sampling might be preferable. Non-probability sampling does not provide equal chance of being selected. To judge this criterion, consider whether the source of sample is relevant to the target population; a clear justification of the sample frame used is provided; or the sampling procedure is adequate.
	4.2. Is the sample representative of the target population? Explanations There should be a match between respondents and the target population. Indicators of representativeness include: clear description of the target population and of the sample (such as respective sizes and inclusion and exclusion criteria), reasons why certain eligible individuals chose not to participate, and any attempts to achieve a sample of participants that represents the target population.
	4.3. Are the measurements appropriate? Explanations Indicators of appropriate measurements include: the variables are clearly defined and accurately measured, the measurements are justified and appropriate for answering the research question; the measurements reflect what they are supposed to measure; validated and reliability tested measures of the outcome of interest are used, variables are measured using 'gold standard', or questionnaires are pre-tested prior to data collection.
	4.4. Is the risk of nonresponse bias low? Explanations Nonresponse bias consists of "an error of nonobservation reflecting an unsuccessful attempt to obtain the desired information from an eligible unit." (Federal Committee on Statistical Methodology, 2001, p. 6). To judge this criterion, consider whether the respondents and non-respondents are different on the variable of interest. This information might not always be reported in a paper. Some indicators of low nonresponse bias can be considered such as a low nonresponse rate, reasons for nonresponse (e.g., noncontacts vs. refusals), and statistical compensation for nonresponse (e.g., imputation). The nonresponse bias is might not be pertinent for case series and case report. This criterion could be adapted. For instance, complete data on the cases might be important to consider in these designs.
	4.5. Is the statistical analysis appropriate to answer the research question? Explanations The statistical analyses used should be clearly stated and justified in order to judge if they are appropriate for the design and research question, and if any problems with data analysis limited the interpretation of the results.

5. Mixed methods studies	**Methodological quality criteria**
Mixed methods (MM) research involves combining qualitative (QUAL) and quantitative (QUAN) methods. In this tool, to be considered MM, studies have to meet the following criteria (Creswell and Plano Clark, 2017): (a) at least one QUAL method and one QUAN method are combined; (b) each method is used rigorously in accordance to the generally accepted criteria in the area (or tradition) of research invoked; and (c) the combination of the methods is carried out at the minimum through a MM design (defined *a priori*, or emerging) and the integration of the QUAL and QUAN phases, results, and data. Common designs include (this list if not exhaustive): **Convergent design** The QUAL and QUAN components are usually (but not necessarily) concomitant. The purpose is to examine the same phenomenon by interpreting QUAL and QUAN results (bringing data analysis together at the interpretation stage), or by integrating QUAL and QUAN datasets (e.g., data on same cases), or by transforming data (e.g., quantization of qualitative data). **Sequential explanatory design** Results of the phase 1 - QUAN component inform the phase 2 - QUAL component. The purpose is to explain QUAN results using QUAL findings. E.g., the QUAN results guide the selection of QUAL data sources and data collection, and the QUAL findings contribute to the interpretation of QUAN results. **Sequential exploratory design** Results of the phase 1 - QUAL component inform the phase 2 - QUAN component. The purpose is to explore, develop and test an instrument (or taxonomy), or a conceptual framework (or theoretical model). E.g., the QUAL findings inform the QUAN data collection, and the QUAN results allow a statistical generalization of the QUAL findings. Key references: Creswell et al. (2011); Creswell and Plano Clark, (2017); O'Cathain (2010)	5.1. Is there an adequate rationale for using a mixed methods design to address the research question? Explanations The reasons for conducting a mixed methods study should be clearly explained. Several reasons can be invoked such as to enhance or build upon qualitative findings with quantitative results and vice versa; to provide a comprehensive and complete understanding of a phenomenon or to develop and test instruments (Bryman, 2006).
	5.2. Are the different components of the study effectively integrated to answer the research question? Explanations Integration is a core component of mixed methods research and is defined as the "explicit interrelating of the quantitative and qualitative component in a mixed methods study" (Plano Clark and Ivankova, 2015, p. 40). Look for information on how qualitative and quantitative phases, results, and data were integrated (Pluye et al., 2018). For instance, how data gathered by both research methods was brought together to form a complete picture (e.g., joint displays) and when integration occurred (e.g., during the data collection-analysis or/and during the interpretation of qualitative and quantitative results).
	5.3. Are the outputs of the integration of qualitative and quantitative components adequately interpreted? Explanations This criterion is related to meta-inference, which is defined as the overall interpretations derived from integrating qualitative and quantitative findings (Teddlie and Tashakkori, 2009). Meta-inference occurs during the interpretation of the findings from the integration of the qualitative and quantitative components, and shows the added value of conducting a mixed methods study rather than having two separate studies.
	5.4. Are divergences and inconsistencies between quantitative and qualitative results adequately addressed? Explanations When integrating the findings from the qualitative and quantitative components, divergences and inconsistencies (also called conflicts, contradictions, discordances, discrepancies, and dissonances) can be found. It is not sufficient to only report the divergences; they need to be explained. Different strategies to address the divergences have been suggested such as reconciliation, initiation, bracketing and exclusion (Pluye et al., 2009b). Rate this criterion 'Yes' if there is no divergence.
	5.5. Do the different components of the study adhere to the quality criteria of each tradition of the methods involved? Explanations The quality of the qualitative and quantitative components should be individually appraised to ensure that no important threats to trustworthiness are present. To appraise 5.5, use criteria for the qualitative component (1.1 to 1.5), and the appropriate criteria for the quantitative component (2.1 to 2.5, or 3.1 to 3.5, or 4.1 to 4.5). The quality of both components should be high for the mixed methods study to be considered of good quality. The premise is that the overall quality of a mixed methods study cannot exceed the quality of its weakest component. For example, if the quantitative component is rated high quality and the qualitative component is rated low quality, the overall rating for this criterion will be of low quality.

Algorithm for selecting the study categories to rate in the MMAT*



*Adapted from National Institute for Health Care Excellence. (2012). *Methods for the development of nice public health guidance*. London: National Institute for Health and Care Excellence; and Scottish Intercollegiate Guidelines Network. (2017). *Algorithm for classifying study design for questions of effectiveness*. Retrieved December 1, 2017, from http://www.sign.ac.uk/assets/study_design.pdf.

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Appendix 4

PRISMA 2020 Checklist

Section and Topic	Item #	Checklist item	Location where item is reported
TITLE			
Title	1	Identify the report as a systematic review.	p. 42
ABSTRACT			
Abstract	2	See the PRISMA 2020 for Abstracts checklist.	N/A
INTRODUCTION			
Rationale	3	Describe the rationale for the review in the context of existing knowledge.	p. 42
Objectives	4	Provide an explicit statement of the objective(s) or question(s) the review addresses.	p. 43
METHODS			
Eligibility criteria	5	Specify the inclusion and exclusion criteria for the review and how studies were grouped for the syntheses.	p. 44, Appendix 1
Information sources	6	Specify all databases, registers, websites, organisations, reference lists, and other sources searched or consulted to identify studies. Specify the date when each source was last searched or consulted.	p. 44

Section and Topic	Item #	Checklist item	Location where item is reported
Search strategy	7	Present the full search strategies for all databases, registers and websites, including any filters and limits used.	p. 45, Appendix 2
Selection process	8	Specify the methods used to decide whether a study met the inclusion criteria of the review, including how many reviewers screened each record and each report retrieved, whether they worked independently, and if applicable, details of automation tools used in the process.	pp. 45-46
Data collection process	9	Specify the methods used to collect data from reports, including how many reviewers collected data from each report, whether they worked independently, any processes for obtaining or confirming data from study investigators, and if applicable, details of automation tools used in the process.	pp. 45-46
Data items	10a	List and define all outcomes for which data were sought. Specify whether all results that were compatible with each outcome domain in each study were sought (e.g., for all measures, time points, analyses), and if not, the methods used to decide which results to collect.	p. 44, Appendix 1
	10b	List and define all other variables for which data were sought (e.g., participant and intervention characteristics, funding sources). Describe any assumptions made about any missing or unclear information.	p. 44, Appendix 1
Study risk of bias assessment	11	Specify the methods used to assess risk of bias in the included studies, including details of the tool(s) used, how many reviewers assessed each study	p. 46, Appendix 3

Section and Topic	Item #	Checklist item	Location where item is reported
		and whether they worked independently, and if applicable, details of automation tools used in the process.	
Effect measures	12	Specify for each outcome the effect measure(s) (e.g., risk ratio, mean difference) used in the synthesis or presentation of results.	N/A
Synthesis methods	13a	Describe the processes used to decide which studies were eligible for each synthesis (e.g., tabulating the study intervention characteristics and comparing against the planned groups for each synthesis (item #5).	pp. 46-47
	13b	Describe any methods required to prepare the data for presentation or synthesis, such as handling of missing summary statistics, or data conversions.	N/A
	13c	Describe any methods used to tabulate or visually display results of individual studies and syntheses.	pp. 46-47
	13d	Describe any methods used to synthesize results and provide a rationale for the choice(s). If meta-analysis was performed, describe the model(s), method(s) to identify the presence and extent of statistical heterogeneity, and software package(s) used.	pp. 46-47
	13e	Describe any methods used to explore possible causes of heterogeneity among study results (e.g., subgroup analysis, meta-regression).	N/A
	13f	Describe any sensitivity analyses conducted to assess robustness of the synthesized results.	N/A

Section and Topic	Item #	Checklist item	Location where item is reported
Reporting bias assessment	14	Describe any methods used to assess risk of bias due to missing results in a synthesis (arising from reporting biases).	Appendix 3
Certainty assessment	15	Describe any methods used to assess certainty (or confidence) in the body of evidence for an outcome.	pp. 46-47, Appendix 3
RESULTS			
Study selection	16a	Describe the results of the search and selection process, from the number of records identified in the search to the number of studies included in the review, ideally using a flow diagram.	pp. 47-48
	16b	Cite studies that might appear to meet the inclusion criteria, but which were excluded, and explain why they were excluded.	p. 48
Study characteristics	17	Cite each included study and present its characteristics.	pp. 50-57, Appendix 6
Risk of bias in studies	18	Present assessments of risk of bias for each included study.	pp. 50-56, Appendix 5
Results of individual studies	19	For all outcomes, present, for each study: (a) summary statistics for each group (where appropriate) and (b) an effect estimate and its precision (e.g., confidence/credible interval), ideally using structured tables or plots.	Appendix 7
Results of syntheses	20a	For each synthesis, briefly summarise the characteristics and risk of bias among contributing studies.	p. 49

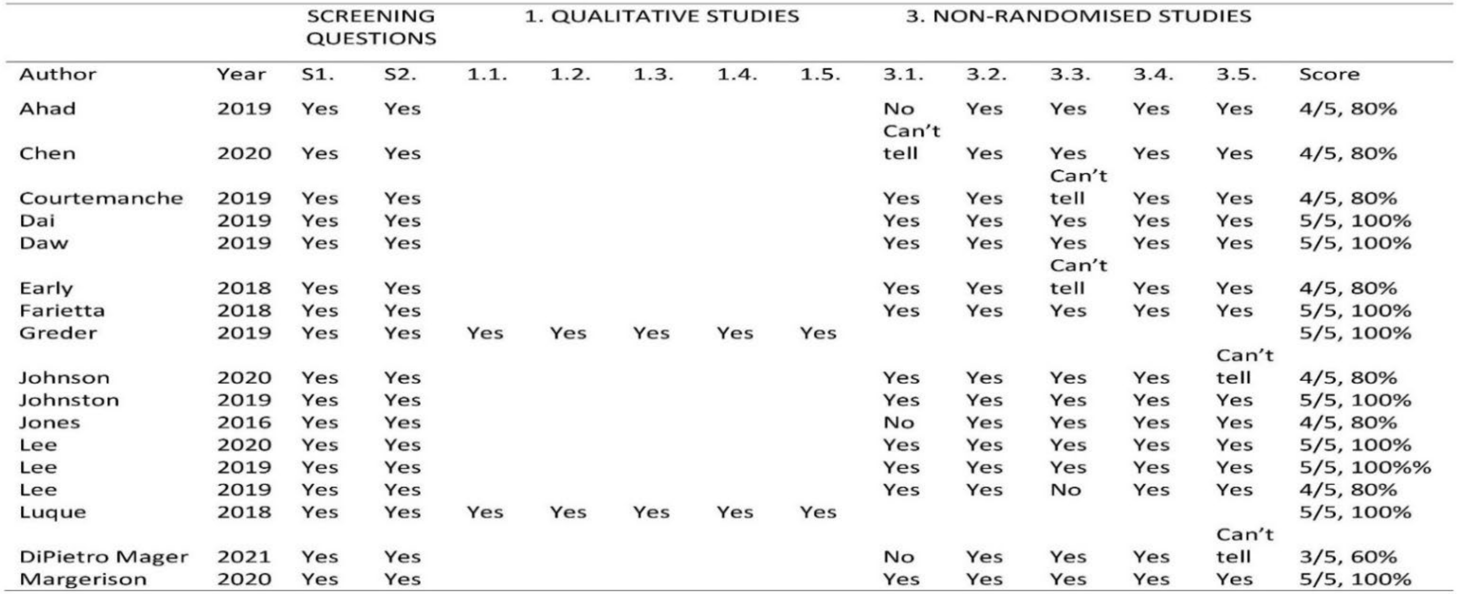
Section and Topic	**Item #**	**Checklist item**	**Location where item is reported**
	20b	Present results of all statistical syntheses conducted. If meta-analysis was done, present for each the summary estimate and its precision (e.g., confidence/credible interval) and measures of statistical heterogeneity. If comparing groups, describe the direction of the effect.	Appendix 7
	20c	Present results of all investigations of possible causes of heterogeneity among study results.	pp. 57-64, Appendix 6, Appendix 7, Appendix 8
	20d	Present results of all sensitivity analyses conducted to assess the robustness of the synthesized results.	N/A
Reporting biases	21	Present assessments of risk of bias due to missing results (arising from reporting biases) for each synthesis assessed.	Appendix 5
Certainty of evidence	22	Present assessments of certainty (or confidence) in the body of evidence for each outcome assessed.	pp. 57-64, Appendix 5
DISCUSSION			
Discussion	23a	Provide a general interpretation of the results in the context of other evidence.	pp. 64-67, pp. 129-131
	23b	Discuss any limitations of the evidence included in the review.	p. 64

Section and Topic	Item #	Checklist item	Location where item is reported
	23c	Discuss any limitations of the review processes used.	p. 68
	23d	Discuss implications of the results for practice, policy, and future research.	pp. 66-68, pp. 148-154
OTHER INFORMATION			
Registration and protocol	24a	Provide registration information for the review, including register name and registration number, or state that the review was not registered.	p. 47
	24b	Indicate where the review protocol can be accessed, or state that a protocol was not prepared.	p. 47
	24c	Describe and explain any amendments to information provided at registration or in the protocol.	N/A

From Page, M. J., McKenzie, J. E., Bossuyt, P. M., Boutron, I., Hoffmann, T. C., Mulrow, C. D., Shamseer, L., Tetzlaff, J. M., Akl, E. A., Brennan, S. E., Chou, R., Glanville, J., Grimshaw, J. M., Hróbjartsson, A., Lalu, M. M., Li, T., Loder, E. W., Mayo-Wilson, E., McDonald, S., McGuinness, L. A., Stewart, L. A., Thomas, J., Tricco, A. C., Welch, V. A., Whiting, P., & Moher, D. (2021). The PRISMA 2020 statement: an updated guideline for reporting systematic reviews. Bmj, 372, n71. https://doi.org/10.1136/bmj.n71

Appendix 5

Quality appraisal of included studies applying the MMAT (2018)



		SCREENING QUESTIONS		1. QUALITATIVE STUDIES					3. NON-RANDOMISED STUDIES					
Author	Year	S1.	S2.	1.1.	1.2.	1.3.	1.4.	1.5.	3.1.	3.2.	3.3.	3.4.	3.5.	Score
Ahad	2019	Yes	Yes						No	Yes	Yes	Yes	Yes	4/5, 80%
Chen	2020	Yes	Yes						Can't tell	Yes	Yes	Yes	Yes	4/5, 80%
Courtemanche	2019	Yes	Yes						Yes	Yes	Can't tell	Yes	Yes	4/5, 80%
Dai	2019	Yes	Yes						Yes	Yes	Yes	Yes	Yes	5/5, 100%
Daw	2019	Yes	Yes						Yes	Yes	Yes	Yes	Yes	5/5, 100%
Early	2018	Yes	Yes						Yes	Yes	Can't tell	Yes	Yes	4/5, 80%
Farietta	2018	Yes	Yes						Yes	Yes	Yes	Yes	Yes	5/5, 100%
Greder	2019	Yes	Yes	Yes	Yes	Yes	Yes	Yes						5/5, 100%
Johnson	2020	Yes	Yes						Yes	Yes	Yes	Yes	Can't tell	4/5, 80%
Johnston	2019	Yes	Yes						Yes	Yes	Yes	Yes	Yes	5/5, 100%
Jones	2016	Yes	Yes						No	Yes	Yes	Yes	Yes	4/5, 80%
Lee	2020	Yes	Yes						Yes	Yes	Yes	Yes	Yes	5/5, 100%
Lee	2019	Yes	Yes						Yes	Yes	Yes	Yes	Yes	5/5, 100%%
Lee	2019	Yes	Yes						Yes	Yes	No	Yes	Yes	4/5, 80%
Luque	2018	Yes	Yes	Yes	Yes	Yes	Yes	Yes						5/5, 100%
DiPietro Mager	2021	Yes	Yes						No	Yes	Yes	Yes	Can't tell	3/5, 60%
Margerison	2020	Yes	Yes						Yes	Yes	Yes	Yes	Yes	5/5, 100%

Author	Year	S1.	S2.	1.1.	1.2.	1.3.	1.4.	1.5.	3.1.	3.2.	3.3.	3.4.	3.5.	Score
Massetti	2017	Yes	Yes						Yes	Yes	Yes	Yes	Yes	5/5, 100%
Pazol	2018	Yes	Yes						Yes	Yes	Yes	No	Can’t tell	3/5, 60%
Ross Perfetti	2019	Yes	Yes	Yes	Yes	Yes	Can’t tell	Yes						4/5, 80%
Seo	2019	Yes	Yes						Yes	Yes	Yes	Yes	Yes	5/5, 100%
Simon	2017	Yes	Yes						Yes	Yes	Yes	Yes	Yes	5/5, 100%
Sommers	2014	Yes	Yes						Yes	Yes	Can’t tell	Yes	Can’t tell	3/5, 60%
Sommers	2015	Yes	Yes						Can’t tell	Yes	Yes	Yes	Yes	4/5, 80%
SteelFisher	2019	Yes	Yes						Yes	Can’t tell	Yes	Yes	Can’t tell	3/5, 60%
Wehby	2018	Yes	Yes						Yes	Yes	Yes	Yes	Yes	5/5, 100%

Appendix 6

Differences and variations in reported indicators of healthcare access in quantitative studies

Measures of potential access	Empirical studies
Health insurance/has healthcare coverage	(Courtemanche et al., 2019; Margerison et al., 2020; Massetti et al., 2017; Simon et al., 2017)
Uninsured/no healthcare coverage	(Chen et al., 2020; Dai & Meyer, 2019; Daw & Sommers, 2019; DiPietro Mager et al., 2021; Johnston et al., 2018; Jones & Sonfield, 2016; Sommers et al., 2015; Sommers et al., 2014; Wehby & Lyu, 2018)
Type of health insurance	(Chen et al., 2020; Courtemanche et al., 2019; Daw & Sommers, 2019; Early et al., 2018; Jones & Sonfield, 2016; Sommers et al., 2014; Wehby & Lyu, 2018)
Usual source of care/regular healthcare provider	
Has a personal doctor/regular healthcare provider	(Ahad et al., 2019; DiPietro Mager et al., 2021; Simon et al., 2017)
No personal doctor/healthcare provider/physician	(Dai & Meyer, 2019; Johnston et al., 2018; Sommers et al., 2015)
Usual source of healthcare	(Daw & Sommers, 2019; Early et al., 2018; Farietta et al., 2018)
Other barriers to access	
Ability to obtain needed medical care	(Early et al., 2018)
Avoided doctor or healthcare because of concerns about gender discrimination/poor treatment	(SteelFisher et al., 2019)
Barriers to receipt of health services	(DiPietro Mager et al., 2021)
Could not/difficulties/problems affording a doctor/medical care/medical bills due to cost/cost barrier to care	(Dai & Meyer, 2019; Lee et al., 2018; Simon et al., 2017; Sommers et al., 2015)
Delayed care or foregone/no receipt of medical care due to cost	(Daw & Sommers, 2019; Johnson et al., 2020; Johnston et al., 2018; Lee et al., 2018; Margerison et al., 2020)
Insurance affordability	(Lee et al., 2019)

Measures of potential access	**Empirical studies**
Unmet Need for mental health counselling, prescription drugs	(Farietta et al., 2018)

Measures of realised access	**Empirical studies**
Doctors visit, PCP visit, primary care visit	(Farietta et al., 2018; Johnston et al., 2018; Lee et al., 2020b; Lee et al., 2019; Seo et al., 2019)
Routine check-up	(Dai & Meyer, 2019; DiPietro Mager et al., 2021; Margerison et al., 2020; Massetti et al., 2017; Simon et al., 2017)
BP check	(Lee et al., 2019; Pazol et al., 2017)
Cholesterol check	(Lee et al., 2019; Margerison et al., 2020)
Influenza vaccination	(Dai & Meyer, 2019; Lee et al., 2019; Massetti et al., 2017; Pazol et al., 2017; Simon et al., 2017)

Appendix 7

Individual and contextual-level determinants of access and utilisation

Andersen's domains	Determinant	Potential access: Insurance coverage and type	Potential access: Usual source of care/regular PCP	Potential access: Barriers to care, delayed, foregone care, unmet need	Realised access: Utilisation (use/non-use or frequency of use)	Realised access: Preventive health visits	Realised access: Preventive health screening (BP)	Realised access: Preventive health screening (cholesterol screening)	Realised access: Preventive health screening (Influenza shot)
Individual Predisposing factors	**Age**	**Chen (2020),** **Gained Medicaid Coverage in 2014 in Expansion States (N=149)** **Uninsured in 2013:** NS (nonsignificant) (18-23 years); NS (24-33 years); (Ref = 34-44 years). **Jones (2016),** **Medicaid Expansion**	**Ahad (2019),** **Regular healthcare provider:** OR=0.35, 95% CI [0.14, 0.89], p<.05 (18-39 years).	**SteelFisher (2019),** **Avoided doctor due to discrimination concerns:** NS (30-49 years); NS (50-64 years) (Ref = 18-29 years).	**Lee (2020),** **Family physician visits (past year)**: 0.3%, 95% CI [0.2, 0.4], p<.001; **NP/PA visits (past year):** NS. **Seo (2019), Doctors visit in the past year:** NS (All women, 40-64); NS (NBWA, 40-64); NS (FBAI, 40-64)	**DiPietro Mager (2021),** **Routine check-up past year:** NS (age).	**Pazol (2017),** **BP checked by healthcare professional in the past year**: 76.3%, 95% CI [69.6, 81.9] (18-19 years); 77.5%, 95% CI [74.2, 80.5] (20-24 years); 82.0%, 95% CI [80.2, 83.6] (25-34 years); 82.9%, 95% CI [81.1, 84.5] (35-44 years).		**Pazol (2017),** **Received influenza vaccine in the past year**: 25.1%, 95% CI [19.6, 31.4] (18-19 years); 24.1%, 95% CI [21.2, 27.3] (20-24 years); 33.0%, 95% CI [31.1, 35.0] (25-34 years); 35.9%, 95% CI [33.8, 38.1] (35-44 years).

Andersen's domains	Determinant	Potential access: Insurance coverage and type	Potential access: Usual source of care/regular PCP	Potential access: Barriers to care, delayed, foregone care, unmet need	Realised access: Utilisation (use/non-use or frequency of use)	Realised access: Preventive health visits	Realised access: Preventive health screening (BP)	Realised access: Preventive health screening (cholesterol screening)	Realised access: Preventive health screening (Influenza shot)
		Uninsured: OR = 1.58, 95% CI [1.17, 2.12], *p* = .003 (25-29 years); OR=1.54, 95% CI [1.09, 2.18], *p* = -.014 (30-34 years); OR=1.47, 95% CI [1.04, 2.09], *p* = -.031 (35-39 years) (Ref = 18-24 years). **Lee (2018),** **Difference in percentage-point change between FPL groups** **Medicaid Expansion** **Uninsured:**			(Ref = 18-39 years).				

Andersen's domains	Determinant	Potential access: Insurance coverage and type	Potential access: Usual source of care/regular PCP	Potential access: Barriers to care, delayed, foregone care, unmet need	Realised access: Utilisation (use/non-use or frequency of use)	Realised access: Preventive health visits	Realised access: Preventive health screening (BP)	Realised access: Preventive health screening (cholesterol screening)	Realised access: Preventive health screening (Influenza shot)
		≤ 138% FPL -13.78%, 95% CI [-15.78, −11.77] (19-34 years); −14.03%, 95% CI [−17.08, −10.98] (35-44 years); -17.68%, 95% CI [−20.53, −14.84] (45-54 years); −12.88%, 95% CI [−15.81, −9.95] (55-64 years). **139-399% FPL** −9.57%, 95% CI [−11.08, −8.06] (19-34 years); −7.16%, 95% CI [−9.04, −5.29] (35-44 years); −10.06%, 95% CI [−11.61,							

Andersen's domains	Determinant	Potential access: Insurance coverage and type	Potential access: Usual source of care/regular PCP	Potential access: Barriers to care, delayed, foregone care, unmet need	Realised access: Utilisation (use/non-use or frequency of use)	Realised access: Preventive health visits	Realised access: Preventive health screening (BP)	Realised access: Preventive health screening (cholesterol screening)	Realised access: Preventive health screening (Influenza shot)
		−8.51] (45-54 years); −7.71%, 95% CI [−9.42, −5.99] (55-64 years). **Difference in percentage-point change between FPL groups** **≤ 138% FPL vs. 139-399% FPL** −4.21%, 95% CI [−6.87, −1.54] (19-34 years); −6.87%, 95% CI [−10.44, −3.30] (35-44 years); −7.62%, 95% CI [−10.95, −4.3] (45-54 years); −5.18%, 95% CI [−8.53, −1.82] (55-64 years). **Wehby (2018),**							

Andersen's domains	Determinant	Potential access: Insurance coverage and type	Potential access: Usual source of care/regular PCP	Potential access: Barriers to care, delayed, foregone care, unmet need	Realised access: Utilisation (use/non-use or frequency of use)	Realised access: Preventive health visits	Realised access: Preventive health screening (BP)	Realised access: Preventive health screening (cholesterol screening)	Realised access: Preventive health screening (Influenza shot)
		Medicaid Expansion (2014-2015) **Medicaid Insurance**: 6.9%, *p*<.01 (19-35 years); 6.5%, *p*<.01 (36-55 years); 5.5%, *p*<.01 (55-64 years); **Uninsured:** -4.9%, *p*<.01 (19-35 years); -4.8%, *p*<.01 (36-55 years); -4.0%, *p*<.01 (55-64 years); **Individually Purchased Coverage**: NS (19-35 years);							

Andersen's domains	Determinant	Potential access: Insurance coverage and type	Potential access: Usual source of care/regular PCP	Potential access: Barriers to care, delayed, foregone care, unmet need	Realised access: Utilisation (use/non-use or frequency of use)	Realised access: Preventive health visits	Realised access: Preventive health screening (BP)	Realised access: Preventive health screening (cholesterol screening)	Realised access: Preventive health screening (Influenza shot)
		-1.3%, *p*<.05 (36-55 years); -1.8%, *p*<.05 (55-64 years). **Employer-Sponsored Coverage**: -1.4%, *p*<.05 (36-55 years); NS (36-55 years); NS (55-64 years); **Any Private Coverage**: -2.0%, *p*<.01 (19-35 years); NS (36-55 years); NS (55-64 years).							
	Children/has dependents	**Johnston (2018),**	**Ahad (2019),**	**Johnston (2018),**	**Johnston (2018),**	**DiPietro Mager (2021),**		**Margerison (2020),**	

Andersen’s domains	Determinant	Potential access: Insurance coverage and type	Potential access: Usual source of care/regular PCP	Potential access: Barriers to care, delayed, foregone care, unmet need	Realised access: Utilisation (use/non-use or frequency of use)	Realised access: Preventive health visits	Realised access: Preventive health screening (BP)	Realised access: Preventive health screening (cholesterol screening)	Realised access: Preventive health screening (Influenza shot)
		Medicaid Expansion Uninsured: -10.1%, *p*<.05 (Women with Dependent Children < 100% FPL); -27.4%, *p*<.001 (Women without Dependent Children < 100% FPL. **Margerison (2020),** **Medicaid Expansion** **Has health coverage:** 7.6%, 95% CI [0.8, 14.4], *p*<.05 (Dependent children); 13.9%, 95% CI [8.7, 19.2],	**Regular healthcare provider:** OR=1.47, 95% CI [1.08, 2.01], p <. 05 (Children < 18 years). **Johnston (2018),** **Medicaid Expansion** **No personal doctor**: NS (Women with Dependent Children < 100% FPL); -13.3%, p <. 01 (Women without Dependent Children < 100% FPL).	**Medicaid Expansion** **Needed but could not see a doctor due to cost:** NS (Women with Dependent Children < 100% FPL); NS (Women without Dependent Children < 100% FPL); **Margerison (2020),** **Medicaid Expansion** **Avoided seeking care due to cost:** −6.7%, 95% CI [−11.9, −1.5], *p*<.05	**Medicaid Expansion** **Primary care visits in the last year:** NS (Women with Dependent Children < 100% FPL); NS (Women without Dependent Children < 100% FPL).	**Routine check-up past year:** NS (One or more children) (Ref = no children); **Margerison (2020),** **Medicaid Expansion Check-up in last year:** 4.6%, 95% CI [1.3, 7.9], *p*<.05 (Dependent children); 7.2%, 95% CI [2.5, 11.9], *p*<.05 (No dependent children).		**Medicaid Expansion Cholesterol check-in last year:** NS (Dependent children); NS (No dependent children).	

Andersen's domains	Determinant	Potential access: Insurance coverage and type	Potential access: Usual source of care/regular PCP	Potential access: Barriers to care, delayed, foregone care, unmet need	Realised access: Utilisation (use/non-use or frequency of use)	Realised access: Preventive health visits	Realised access: Preventive health screening (BP)	Realised access: Preventive health screening (cholesterol screening)	Realised access: Preventive health screening (Influenza shot)
		p<.05 (No dependent children).		(Dependent children); -10.5%, 95% CI [−16.2, −4.8], p<.05 (No dependent children).					
	Education	**Chen (2020),** **Gained Medicaid Coverage in 2014 in Expansion States (N=149)** **Uninsured in 2013:** NS (High school degree); NS (Some college); NS (College degree) (Ref = Less than high school).	**Ahad (2019),** **Regular healthcare provider**: OR=3.92, 95% CI [1.35, 2.70], p<.05 (> High school education). **Farietta (2018),** **Medicaid Expansion** **Usual source of care**: NS (High School); NS (Some college or	**Farietta (2018)** **Medicaid Expansion** **Unmet healthcare need, mental health**: OR=0.51, 95% CI [0.29, 0.93], p<.05 (High school); NS (Some college, associate degree); OR=0.35, 95% CI [0.17, 0.72], p<.01	**Farietta (2018),** **Medicaid Expansion** **Physician in the past year:** NS (High School); NS (Some college or associate degree); NS (Bachelor's degree or higher) (Ref = Less than high school).	**DiPietro Mager (2021),** **Routine check-up past year:** NS (College graduate or >) (Ref = less than a college degree).			

Andersen's domains	Determinant	Potential access: Insurance coverage and type	Potential access: Usual source of care/regular PCP	Potential access: Barriers to care, delayed, foregone care, unmet need	Realised access: Utilisation (use/non-use or frequency of use)	Realised access: Preventive health visits	Realised access: Preventive health screening (BP)	Realised access: Preventive health screening (cholesterol screening)	Realised access: Preventive health screening (Influenza shot)
		Jones (2016), **Medicaid Expansion** **Uninsured:** NS (High School); OR=0.49, 95% CI [0.34, 0.71], *p*<.001 (Some college); OR=0.22, 95% CI [0.14, 0.33], *p*<.001 (Bachelors or higher) (Ref = Less than high school).	associate degree); NS (Bachelor's degree or higher) (Ref = Less than high school).	(Bachelors or higher) (Ref = Less than high school); **Unmet healthcare need, prescription drugs**: NS (High School); NS (Some college or associate degree); NS (Bachelor's degree or higher) (Ref = Less than high school). **SteelFisher (2019),** **Avoided doctor due to**	**Lee (2020),** **Family physician visits (past year):** -2.3%, 95% CI [-4.2, -0.4], *p* = .020 (High School); NS (Bachelor/graduate degree) (Ref = Less than high school); **NP/PA visits (past year)**: NS (High School); 4.3%, 95% CI [2.7, 5.9], *p*<.001 (Bachelors/graduate) (Ref = Less than high school).				

Andersen's domains	Determinant	Potential access: Insurance coverage and type	Potential access: Usual source of care/regular PCP	Potential access: Barriers to care, delayed, foregone care, unmet need	Realised access: Utilisation (use/non-use or frequency of use)	Realised access: Preventive health visits	Realised access: Preventive health screening (BP)	Realised access: Preventive health screening (cholesterol screening)	Realised access: Preventive health screening (Influenza shot)
				discrimination concerns: OR=2.38, *p*<.05, 95% CI [1.00, 5.63] (College+) (Ref = < College).	**Seo (2019),** **Doctor's visits in the past year:** OR=2.35, 95% CI [1.25, 4.42], *p*<.001 (All women, High school graduate or General Educational Development [GED] test); OR=2.92, 95% CI [1.13, 7.50], *p* = .030 (NBWA, High school graduate or GED); OR=2.59, 95% CI [1.02, 6.57], *p* = .050 (FBAI, High school graduate or GED);				

Andersen's domains	**Determinant**	**Potential access: Insurance coverage and type**	**Potential access: Usual source of care/regular PCP**	**Potential access: Barriers to care, delayed, foregone care, unmet need**	**Realised access: Utilisation (use/non-use or frequency of use)**	**Realised access: Preventive health visits**	**Realised access: Preventive health screening (BP)**	**Realised access: Preventive health screening (cholesterol screening)**	**Realised access: Preventive health screening (Influenza shot)**
					NS (All women, Bachelor, and above); NS (NBWA, Bachelor, and above); NS (FBAI, Bachelor, and above) (Ref = Less than high school).				
	Employment status	**Jones (2016),** **Medicaid Expansion** **Uninsured**: NS (1-34 hours); OR=0.57, 95% CI [0.43, 0.76], p<.001 (35hours or more) (Ref = Not employed).	**Ahad (2019),** **Regular healthcare provider:** NS (Employed). **Farietta (2018),** **Medicaid Expansion** **Usual source of care:** NS (Working)	**Farietta (2018),** **Medicaid Expansion** **Unmet healthcare need, mental health:** OR=0.65, 95% CI [0.44, 0.97], *p*<.05 (Working) (Ref = Not working).	**Farietta (2018),** **Medicaid Expansion** **Physician in the past year:** NS (Working) (Ref = Not working). **Lee (2020),** **Family physician visits (past year):**	**DiPietro Mager (2021),** **Routine check-up past year**: NS (Not currently employed) (Ref = Currently employed).			

Andersen's domains	**Determinant**	**Potential access: Insurance coverage and type**	**Potential access: Usual source of care/regular PCP**	**Potential access: Barriers to care, delayed, foregone care, unmet need**	**Realised access: Utilisation (use/non-use or frequency of use)**	**Realised access: Preventive health visits**	**Realised access: Preventive health screening (BP)**	**Realised access: Preventive health screening (cholesterol screening)**	**Realised access: Preventive health screening (Influenza shot)**
			(Ref = Not working).	**Unmet healthcare need, prescription drugs**: OR=0.73, 95% CI [0.54, 0.98], *p*<.05 (Working) (Ref = Not working).	NS (Employed); **NP/PA visits (past year):** NS (Employed). **Seo (2019),** **Doctor's visits in the past year:** NS (All women, Unemployed); NS (NBWA, Unemployed); NS (FBAI, Unemployed); NS (All women, Self-employed or family business); NS (NBWA, Self-employed or family business);				

Andersen's domains	Determinant	Potential access: Insurance coverage and type	Potential access: Usual source of care/regular PCP	Potential access: Barriers to care, delayed, foregone care, unmet need	Realised access: Utilisation (use/non-use or frequency of use)	Realised access: Preventive health visits	Realised access: Preventive health screening (BP)	Realised access: Preventive health screening (cholesterol screening)	Realised access: Preventive health screening (Influenza shot)
					NS (FBAI, Self-employed or family business) (Ref = Employed by others).				
	English proficiency				**Seo (2019),** **Doctors' visits in the past year:** NS (All women, Well or very well)**;** N/A (NBWA); NS (FBAI, Well or very well) (Ref = not well or not at all).				
	Gender	**Dai (2019),** **No healthcare coverage:** NS (Lesbian); NS (Bisexual);	**Dai (2019),** **No personal care provider:** NS (Lesbian); NS (Bisexual);	**Dai (2019),** **Could not afford a doctor because of cost (past year):** NS (Lesbian);		**Dai (2019),** **Routine check-up in the past year:** NS (Lesbian);			**Dai (2019),** **Flu shot in the past year:** AOR=1.3, 95% CI [1.0, 1.6], *p*<.05 (Lesbian);

Andersen's domains	Determinant	Potential access: Insurance coverage and type	Potential access: Usual source of care/regular PCP	Potential access: Barriers to care, delayed, foregone care, unmet need	Realised access: Utilisation (use/non-use or frequency of use)	Realised access: Preventive health visits	Realised access: Preventive health screening (BP)	Realised access: Preventive health screening (cholesterol screening)	Realised access: Preventive health screening (Influenza shot)
		NS (Nonresponse group) AOR=2.5, 95% CI [1.3, 4.6], *p*<.05 (Other) (Ref = straight women).	NS (Nonresponse group); AOR=2.4, 95% CI [1.3, 4.4], p <. 05 (Other) (Ref = straight women).	NS (Bisexual);NS (Nonresponse group); NS (Other) (Ref = straight women). **SteelFisher (2019),** **Avoided doctor due to discrimination concerns:** NS (Lesbian, gay, bisexual, transgender, and queer) (Ref = Non-Lesbian, gay, bisexual, transgender, and queer).		NS (Bisexual); NS (Nonresponse group); NS (Other) (Ref = straight women).			NS (Bisexual); NS (Nonresponse group); NS (Other) (Ref = straight women).
	Health Literacy		**Ahad (2019),**						

Andersen's domains	Determinant	Potential access: Insurance coverage and type	Potential access: Usual source of care/regular PCP	Potential access: Barriers to care, delayed, foregone care, unmet need	Realised access: Utilisation (use/non-use or frequency of use)	Realised access: Preventive health visits	Realised access: Preventive health screening (BP)	Realised access: Preventive health screening (cholesterol screening)	Realised access: Preventive health screening (Influenza shot)
			Regular healthcare provider: OR=1.11, 95% CI [1.02, 1.30], *p*<.05 (Health Literacy Scale, range 4-20).						
	Citizenship status (immigrant status)		**Ahad (2019),** **Regular healthcare provider:** OR=0.27, 95% CI [0.08, 0.91], *p*<.05 (African immigrant).		**Seo (2019),** **Doctors visit in past year**: 88.6% (NBWA); 77.9% (FBAI) (At least one visit); 11.4% (NBWA); 22.1% (FBAI) (No visit);(comparison between groups, *p*<.001).				
	Information sources		**Ahad (2019),** **Regular healthcare provider:**						

Andersen's domains	Determinant	Potential access: Insurance coverage and type	Potential access: Usual source of care/regular PCP	Potential access: Barriers to care, delayed, foregone care, unmet need	Realised access: Utilisation (use/non-use or frequency of use)	Realised access: Preventive health visits	Realised access: Preventive health screening (BP)	Realised access: Preventive health screening (cholesterol screening)	Realised access: Preventive health screening (Influenza shot)
			OR=0.32, 95% CI [0.11, 0.89], *p*<.05 (respondent is the individual in the household most likely to obtain information to make health decisions).						
	Marital status	**Chen (2020),** **Gained Medicaid Coverage in 2014 in Expansion States (N=149)** **Uninsured in 2013:** NS (Married) (Ref = Not married). **Jones (2016),**	**Ahad (2019),** **Regular healthcare provider**: NS (Married).	**Margerison (2020),** **Medicaid Expansion** **Avoided seeking care due to cost:** −8.5%, 95% CI [−14.4, −2.6], *p*<.05 (Married); −6.8%, 95% CI [−11.5, −2.2], *p*<.05 (Not married).	**Lee (2020),** **Family physician visits (past year):** 1.5%, 95% CI [0.1, 2.9], *p* = .035 (Married); **NP/PA visits in the past year:** NS (Married). **Seo (2019),** **Doctor visit in the past year:**	**DiPietro Mager (2021),** **Routine check-up past year:** NS (Married); (Ref = not married). **Margerison (2020),** **Medicaid Expansion Check-up last year:** 6.2%, 95% CI [1.3, 11.2],		**Margerison (2020),** **Medicaid Expansion** **Cholesterol check-in last year:** NS (Married); NS (Not married).	

Andersen's domains	Determinant	Potential access: Insurance coverage and type	Potential access: Usual source of care/regular PCP	Potential access: Barriers to care, delayed, foregone care, unmet need	Realised access: Utilisation (use/non-use or frequency of use)	Realised access: Preventive health visits	Realised access: Preventive health screening (BP)	Realised access: Preventive health screening (cholesterol screening)	Realised access: Preventive health screening (Influenza shot)
		Medicaid Expansion **Uninsured**: OR=0.71, 95% CI [0.55, 0.92], *p* = .009 (married) (Ref = unmarried). **Margerison (2020),** **Medicaid Expansion** **Has healthcare coverage:** 11.9%, 95% CI [4.1, 19.7], *p*<.05 (Married); 7.6%, 95% CI [2.2, 12.9], *p*<.05 (Not married).			NS (All women, Married or living together); NS (NBWA, Married or living together); NS (FBAI, Married or living together) (Ref = Widowed/separated/divorced or never married).	*p*<.05(Married); 4.5%, 95% CI [1.3, 7.9], *p*<.05 (Not married).			

Andersen's domains	Determinant	Potential access: Insurance coverage and type	Potential access: Usual source of care/regular PCP	Potential access: Barriers to care, delayed, foregone care, unmet need	Realised access: Utilisation (use/non-use or frequency of use)	Realised access: Preventive health visits	Realised access: Preventive health screening (BP)	Realised access: Preventive health screening (cholesterol screening)	Realised access: Preventive health screening (Influenza shot)
	Number of births/Family size	**Jones (2016),** **Medicaid Expansion** **Uninsured:** OR=0.66, 95% CI [0.50, 0.89], *p* = .006 (1 birth); OR=0.63, 95% CI [0.47, 0.86], *p* = .003 (2 births) (Ref = 0 births).			**Lee (2020),** **Family physician visits (past year):** -0.7%, 95% CI [-1.1, -0.3], *p*<.001 (Family size); **NP/PA visits (past year):** -1.4%, 95% CI [-1.8, -1.1], *p*<.001 (Family size).				
	Race/ethnicity	**Chen (2020),** **Gained Medicaid Coverage in 2014 in Expansion States (N=149)** **Uninsured in 2013:**	**Farietta (2018),** **Medicaid Expansion** **Usual source of care**: NS (Non-Hispanic Black); NS (Other)	**Farietta (2018),** **Medicaid Expansion** **Unmet healthcare needs, mental health**: NS (Non-Hispanic Black);	**Farietta (2018),** **Medicaid Expansion** **Physician visit in the past year**: OR=1.54, 95% CI [1.06, 2.25], *p*<.05 (Non-Hispanic Black);		**Pazol (2017),** **BP checked by healthcare professional in the past year:** 84.9%, 95% CI [83.3, 86.4] (Non-Hispanic White); 82.5%, 95% CI [79.6, 85.2]		**Pazol (2017),** **Received an influenza vaccine in the past year:** 32.8%, 95% CI [30.9, 34.7] (Non-Hispanic White); 28.0%, 95% CI [24.8, 31.3]

Andersen's domains	**Determinant**	**Potential access: Insurance coverage and type**	**Potential access: Usual source of care/regular PCP**	**Potential access: Barriers to care, delayed, foregone care, unmet need**	**Realised access: Utilisation (use/non-use or frequency of use)**	**Realised access: Preventive health visits**	**Realised access: Preventive health screening (BP)**	**Realised access: Preventive health screening (cholesterol screening)**	**Realised access: Preventive health screening (Influenza shot)**
		OR=0.14, 95% CI [0.02, 0.97], *p* = .046 (Black); OR=0.12, 95% CI [0.03, 0.49], *p* = .003 (Hispanic); NS (Other); (Ref = White). **Jones (2016),** **Medicaid Expansion** **Uninsured:** NS (Black, Non-Hispanic); NS (Other, Non-Hispanic); OR=2.20, 95% CI [1.67, 2.9], p<.001 (Hispanic, born in the U.S.); OR=4.57, 95% CI [3.37, 6.20],	(Ref = Non-Hispanic White).	NS (Other) (Ref = Non-Hispanic White). **Unmet healthcare needs, prescription drugs**: NS (Non-Hispanic Black); NS (Other) (Ref = Non-Hispanic White). **SteelFisher (2019),** **Avoided doctor due to discrimination concerns:** OR=3.69, 95% CI [1.59, 8.58], *p*<.05	NS (Other) (Ref = Non-Hispanic White). **Lee (2020),** **Family physician visits (past year)**: -2.5%, 95% CI [-4.1, -0.9], *p* = .002 (Black, Non-Hispanic); -3.1%, 95% CI [-4.8, -1.4], *p*<.001 (Other race, Non-Hispanic); -3.4%, 95% CI [-5.2,-1.5], *p*<.001 (Hispanic) (Ref = White, Non-Hispanic); **NP/PA visits (past year)**:		(Non-Hispanic Black); 69.4%, 95% CI [66.5, 72.1] (Hispanic); 78.8%, 95% CI [74.9, 82.3] (Non-Hispanic Other or multiple races).		(Non-Hispanic Black); 27.6%, 95% CI [25.1, 30.2] (Hispanic); 39.9%, 95% CI [35.7, 44.4] (Non-Hispanic Other or multiple races).

Andersen's domains	Determinant	Potential access: Insurance coverage and type	Potential access: Usual source of care/regular PCP	Potential access: Barriers to care, delayed, foregone care, unmet need	Realised access: Utilisation (use/non-use or frequency of use)	Realised access: Preventive health visits	Realised access: Preventive health screening (BP)	Realised access: Preventive health screening (cholesterol screening)	Realised access: Preventive health screening (Influenza shot)
		$p<.001$ (Hispanic, not born in the U.S.) (Ref = White, Non-Hispanic). **Lee (2018),** **Medicaid Expansion,** **Difference in percentage-point change between FPL groups:** **Uninsured:** **≤ 138% FPL** **Race:** −14.67%, 95% CI [−16.43, −12.91] (White); −13.89%, 95% CI [−16.35, −11.44] (Black);		(Hispanic/Latina); OR=5.97, 95% CI [2.00, 17.87], $p<.5$ (Native American); NS (Black); NS (Asian) (Ref = White).	-6.7%, 95% CI [-8.2, -5.1], $p<.001$ (Black, Non-Hispanic); -6.4%, 95% CI [-7.8, -5], $p<.001$ (Other Race, Non-Hispanic); -6.7%, 95% CI [-8.7, -4.7], $p<.001$ (Hispanic) (Ref = White, Non-Hispanic). **Seo (2019),** **Doctors visits in the past year:** OR=0.54, 95% CI [0.35, 0.84], $p = .008$ (FBAI) (Ref = NBWA).				

Andersen's domains	Determinant	Potential access: Insurance coverage and type	Potential access: Usual source of care/regular PCP	Potential access: Barriers to care, delayed, foregone care, unmet need	Realised access: Utilisation (use/non-use or frequency of use)	Realised access: Preventive health visits	Realised access: Preventive health screening (BP)	Realised access: Preventive health screening (cholesterol screening)	Realised access: Preventive health screening (Influenza shot)
		−14.21%, 95% CI [−18.67, −9.76] (Other); **Ethnicity** −15.2%, 95% CI [−16.79, −13.61] (Hispanic); −13.47%, 95% CI [−16.07, −10.86] (Non-Hispanic); **139-399% FPL:** **Race:** −8.20%, 95% CI [−9.29, −7.12] (White); −8.35%, 95% CI [−10.17, −6.52] (Black); −14.16%, 95% CI [−16.64, −11.68] (Other); **Ethnicity:**							

Andersen's domains	Determinant	Potential access: Insurance coverage and type	Potential access: Usual source of care/regular PCP	Potential access: Barriers to care, delayed, foregone care, unmet need	Realised access: Utilisation (use/non-use or frequency of use)	Realised access: Preventive health visits	Realised access: Preventive health screening (BP)	Realised access: Preventive health screening (cholesterol screening)	Realised access: Preventive health screening (Influenza shot)
		−8.11%, 95% CI [−9.07, −7.15] (Hispanic); −14.19%, 95% CI [−16.42, −11.96] (Non-Hispanic); **Difference in percentage-point change between FPL groups** **≤ 138% FPL vs. 139-399% FPL:** **Race:** −6.47%, 95% CI [−8.57, −4.36] (White); −5.55%, 95% CI [-8.56, −2.53] (Black); NS (Other); **Ethnicity:**							

Andersen's domains	**Determinant**	**Potential access: Insurance coverage and type**	**Potential access: Usual source of care/regular PCP**	**Potential access: Barriers to care, delayed, foregone care, unmet need**	**Realised access: Utilisation (use/non-use or frequency of use)**	**Realised access: Preventive health visits**	**Realised access: Preventive health screening (BP)**	**Realised access: Preventive health screening (cholesterol screening)**	**Realised access: Preventive health screening (Influenza shot)**
		−7.09%, 95% CI [−9.02, −5.17] (Hispanic); NS (Non-Hispanic). **Wehby (2018),** **Medicaid Expansion** **Medicaid Insurance**: 5.7%, $p<.01$ (White); 6.6%, $p< .01$ (Black); 6.0%, $p< .01$ (Other); 7.5%, $p< .01$ (Hispanic); **Uninsured**: -3.9%, $p<.01$ (White);							

Andersen's domains	Determinant	Potential access: Insurance coverage and type	Potential access: Usual source of care/regular PCP	Potential access: Barriers to care, delayed, foregone care, unmet need	Realised access: Utilisation (use/non-use or frequency of use)	Realised access: Preventive health visits	Realised access: Preventive health screening (BP)	Realised access: Preventive health screening (cholesterol screening)	Realised access: Preventive health screening (Influenza shot)
		-3.8%, *p*<.01 (Black); -4.1%, *p*<.05 (Other); -5.1%, *p*<.01 (Hispanic); **Individually Purchased Coverage**: -0.8%, *p*<.05 (White); NS (Black); -3.1%, *p*<.05 (Other); NS (Hispanic); **Employer-Sponsored Coverage**: NS (White); NS (Black); NS (Other); NS (Hispanic);							

Andersen's domains	Determinant	Potential access: Insurance coverage and type	Potential access: Usual source of care/regular PCP	Potential access: Barriers to care, delayed, foregone care, unmet need	Realised access: Utilisation (use/non-use or frequency of use)	Realised access: Preventive health visits	Realised access: Preventive health screening (BP)	Realised access: Preventive health screening (cholesterol screening)	Realised access: Preventive health screening (Influenza shot)
		Any Private Coverage: -1.7%, *p*<.01 (White); -2.5%, *p*<.01 (Black); NS (Other); -2.4%, *p*<.05 (Hispanic).							
Individual **Enabling factors**	**Income**	**Jones (2016),** **Medicaid Expansion** **Uninsured:** OR=2.12, 95% CI [1.67, 2.69], *p*<.001 (≤138% FPL) (Ref = 139% or >). **Lee (2018),** **Medicaid Expansion, (Percent**		**Lee (2018),** **Medicaid Expansion (Percent difference before versus after ACA (percent change),** **Affordability:** **Delayed care:** -5.93%, 95% CI [-7.16, -4.71] (≤138% FPL);	**Lee (2019),** **Medicaid Expansion (Percent difference after ACA, percent change),** **Seen/talked to a doctor in 12 months:** 4.10%, 95% CI [2.70, 5.49], *p*<.05 (≤138% FPL);		**Pazol (2017),** **BP checked by healthcare professional in the past year:** 72.9%, 95% CI [70.5, 75.3] (≤138% FPL); 77.3%, 95% CI [74.3, 80.1] (139%-250% FPL); 83.0, 95% CI [80.1, 85.5]	**Lee (2019),** **Medicaid Expansion** **(Percent difference after ACA, percent change),** **Had Cholesterol screening (45-64 years):** 7.11%, 95% CI [4.86, 9.35], *p*<.05 (≤138% FPL);	**Pazol (2017),** **Influenza vaccine in the past year:** 24.2%, 95% CI [22.2, 26.4] (≤138% FPL); 28.6%, 95% CI [25.8, 31.6] (139%-250% FPL); 31.0%, 95% CI [28.2, 34.0] (251%-400% FPL);

Andersen's domains	Determinant	Potential access: Insurance coverage and type	Potential access: Usual source of care/regular PCP	Potential access: Barriers to care, delayed, foregone care, unmet need	Realised access: Utilisation (use/non-use or frequency of use)	Realised access: Preventive health visits	Realised access: Preventive health screening (BP)	Realised access: Preventive health screening (cholesterol screening)	Realised access: Preventive health screening (Influenza shot)
		difference before versus after ACA (percent change), **Insurance status:** **Private:** 4.36%, 95% CI [2.77, 5.95] (≤138% FPL); 3.60%, 95% CI [2.38, 4.83] (139-399% FPL); NS (≥ 400% FPL); **Medicare/Medicaid/Other Public:** 9.61%, 95% CI [7.75, 11.47] (≤138% FPL); 4.73%, 95% CI [3.83, 5.63] (139-399% FPL);		−3.44%, 95% CI [−4.28, −2.60] (139-399% FPL); -1.57%, 95% CI [−2.09, −1.04 (≥ 400% FPL); **Did not get care:** -5.04%, 95% CI [-6.25, -3.83] (≤138% FPL); −3.05%, 95% CI [−3.76, −2.34] (139-399% FPL); −1.09%, 95% CI [−1.46, 0.71] (≥ 400% FPL); **Problems paying medical bills:** -5.64%, 95% CI [-7.42, -3.86] (≤138% FPL);	2.31%, 95% CI [1.12, 3.51], *p*<.05 (139%–399% FPL); NS, (≥400% FPL). **Lee (2020),** **Family physician visits (past year):** NS (Middle-income); NS (High-income) (Ref = low-income). **NP/PA visits (past year):** NS (Middle-income); NS (High-income)		(251%-400% FPL); 89.4%, 95% CI [87.4, 91.2] (>400% FPL). **Lee (2019),** **Medicaid Expansion (Percent difference after ACA, percent change),** **Had BP screening:** 4.45%, 95% CI [3.21, 5.69], *p*<.05 (≤138% FPL); 2.92%, 95% CI [2.02, 3.81], *p*<.05 (139%–399%); 1.04%, 95% CI [0.32, 1.75], *p*<.05 (≤138%	4.71%, 95% CI [3.11, 6.31], *p*<.05 (139%–399% FPL); 1.78%, 95% CI [0.26, 3.30], *p*<.05 (≤138% FPL vs ≥400% FPL).	41.8%, 95% CI [38.9, 44.7] (>400% FPL). **Lee (2019),** **Medicaid Expansion (Percent difference after ACA, percent change),** **Receipt of Influenza immunisation**: 5.55%, 95% CI [4.17, 6.94], *p*<.05 (≤138% FPL); 4.17%, 95% CI [3.01, 5.34], *p*<.05 (139%–399% FPL); 3.47%, 95% CI [2.20, 4.73], *p*<.05 (≤138%

Andersen's domains	**Determinant**	**Potential access: Insurance coverage and type**	**Potential access: Usual source of care/regular PCP**	**Potential access: Barriers to care, delayed, foregone care, unmet need**	**Realised access: Utilisation (use/non-use or frequency of use)**	**Realised access: Preventive health visits**	**Realised access: Preventive health screening (BP)**	**Realised access: Preventive health screening (cholesterol screening)**	**Realised access: Preventive health screening (Influenza shot)**
		0.35%, 95% CI [−0.19, 0.89] (≥ 400% FPL); **Uninsured:** -14.5%, 95% CI [-15.9, -13.1] (≤138% FPL); −8.74%, 95% CI [−9.63, −7.85] (139-399% FPL); 1.92%, 95% CI [−2.34, −1.50] (≥ 400% FPL); **Difference in percentage-point change between FPL groups** **Insurance status:** **Private:** 2.84%, 95% CI [1.07, 4.60] (≤ 138% FPL vs. ≥ 400% FPL);		−4.36%, 95% CI [−5.56, −3.17] (139-399% FPL); -1.07%, 95% CI [-1.82, −0.31] (≥ 400% FPL); **Difference in percentage-point change between FPL groups,** **Affordability:** **Delayed care**: −4.37%, 95% CI [−5.73, −3.00] (≤ 138% FPL vs. ≥ 400% FPL); **Did not get care**: −3.95%, 95% CI [-5.24, −2.66] (≤ 138% FPL vs. ≥ 400% FPL);	(Ref = low-income). **Seo (2019),** **Doctors visits in the past year:** OR=0.65, 95% CI [0.45, 0.94], *p* = .026 (All women, 139%-399%); NS (NBWA, 139%-399%); NS (FBAI, 139%-399% FPL); NS (All women, 400% FPL or >); NS (NBWA, 400% FPL or >); NS (FBAI or 400% FPL or >) (Ref = 0%-138% FPL).		FPL vs ≥400% FPL).		FPL vs ≥400% FPL).

Andersen's domains	Determinant	Potential access: Insurance coverage and type	Potential access: Usual source of care/regular PCP	Potential access: Barriers to care, delayed, foregone care, unmet need	Realised access: Utilisation (use/non-use or frequency of use)	Realised access: Preventive health visits	Realised access: Preventive health screening (BP)	Realised access: Preventive health screening (cholesterol screening)	Realised access: Preventive health screening (Influenza shot)
		Medicare/Medicaid/Other Public: 9.26%, 95% CI [7.36, 11.16] (≤ 138% FPL vs. ≥ 400% FPL); **Uninsured**: -12.59%, 95% CI [−14.12, −11.07] (≤ 138% FPL vs. ≥ 400% FPL).		**Problems paying medical bills:** −4.57%, 95% CI [-6.49, −2.64] (≤ 138% FPL vs. ≥ 400% FPL). **Lee (2019),** **Medicaid Expansion (Percent difference after ACA, percent change)** **Insurance affordability (difficult to find affordable insurance):** -25.24%, 95% CI [−32.79, −17.68], $p<.05$ (≤138% FPL); −13.28%, 95% CI [−17.37, −9.19], $p<.05$					

Andersen's domains	Determinant	Potential access: Insurance coverage and type	Potential access: Usual source of care/regular PCP	Potential access: Barriers to care, delayed, foregone care, unmet need	Realised access: Utilisation (use/non-use or frequency of use)	Realised access: Preventive health visits	Realised access: Preventive health screening (BP)	Realised access: Preventive health screening (cholesterol screening)	Realised access: Preventive health screening (Influenza shot)
				(139%−399% FPL); NS (≥400% FPL). **SteelFisher (2019),** **Avoided doctor due to discrimination concerns:** NS ($25k-<50k); NS ($50k-<75k); NS ($75k+) (Ref = $<25k).					
	Insurance (no insurance)		**Ahad (2019),** **Regular healthcare provider:** OR=0.20, 95% CI [.06, .70], *p*<.05 (Medicaid or Medi-Cal health insurance);	**SteelFisher (2019),** **Avoided doctor due to discrimination concerns:** NS (Medicaid); OR=8.57, 95% CI [2.91, 25.24], *p*<.05 (Uninsured);	**Lee (2020),** **Family physician visits (past year):** 11.7%, 95% CI [10.2, 13.2], *p*<.001 (Health insurance); **NP/PA visits (past year):** 4.8%, 95% CI	**DiPietro Mager (2021),** **Routine check-up past year:** NS (Any insurance coverage) (Ref = no insurance).	**Pazol (2017),** **BP checked by a healthcare professional in the past year:** 87.3%, 95% CI [86.0, 88.5] (Had insurance coverage continuously		**Pazol (2017),** **Influenza vaccine in the past year:** 37.0%, 95% CI [35.4, 38.6] (Had insurance coverage continuously during the past year);

Andersen's domains	Determinant	Potential access: Insurance coverage and type	Potential access: Usual source of care/regular PCP	Potential access: Barriers to care, delayed, foregone care, unmet need	Realised access: Utilisation (use/non-use or frequency of use)	Realised access: Preventive health visits	Realised access: Preventive health screening (BP)	Realised access: Preventive health screening (cholesterol screening)	Realised access: Preventive health screening (Influenza shot)
			NS (No health insurance).	(Ref = Non-Medicaid).	[3.2, 6.4], *p*<.001 (Health insurance). **Seo (2019),** **Doctor's visits in the past year:** OR=0.29,95% CI [0.16, 0.52], *p*<.001 (All women, uninsured); OR=0.32, 95% CI [0.17, 0.61], *p*<.001 (NBWA, uninsured); OR=0.25, 95% CI [0.08, 0.79], *p* = .022 (FBAI, uninsured); NS (All women, Public insurance); NS (NBWA, Public insurance)		during the past year); 81.0%, 95% CI [77.4, 84.1] (Had insurance coverage with gaps during the past year); 51.6%, 95% CI [47.7, 55.4] (Did not have any insurance coverage during the past year).		24.0%, 95% CI [20.8, 27.6] (Had insurance coverage with gaps during the past year); 14.1%, 95% CI [11.8, 16.7] (Did not have any insurance coverage during the past year).

Andersen's domains	Determinant	Potential access: Insurance coverage and type	Potential access: Usual source of care/regular PCP	Potential access: Barriers to care, delayed, foregone care, unmet need	Realised access: Utilisation (use/non-use or frequency of use)	Realised access: Preventive health visits	Realised access: Preventive health screening (BP)	Realised access: Preventive health screening (cholesterol screening)	Realised access: Preventive health screening (Influenza shot)
					NS (FBAI, Public insurance); NS (All women, Privately purchased insurance); NS (NBWA, Privately purchased insurance) NS (FBAI, Privately purchased insurance) (Ref = Employment-based insurance).				
	Residence (Urban/Rural)				**Lee (2020),** **Any medical provider visits (past year):** NS (Rural/urban difference);				

Andersen's domains	Determinant	Potential access: Insurance coverage and type	Potential access: Usual source of care/regular PCP	Potential access: Barriers to care, delayed, foregone care, unmet need	Realised access: Utilisation (use/non-use or frequency of use)	Realised access: Preventive health visits	Realised access: Preventive health screening (BP)	Realised access: Preventive health screening (cholesterol screening)	Realised access: Preventive health screening (Influenza shot)
					Visits with PCPs (past year): 4.2%, 95% CI [1.1, 7.3], *p* = .008 (Rural/urban difference); **Family physician visits (past year):** NS (Rural/urban difference); **NP/PAs visits (past year):** 8.5%, 95% CI [4.9, 12.1], *p*<.001 (Rural/urban difference).				
	Access to Good Public Transit		**Ahad (2019) Regular healthcare provider:**						

Andersen's domains	Determinant	Potential access: Insurance coverage and type	Potential access: Usual source of care/regular PCP	Potential access: Barriers to care, delayed, foregone care, unmet need	Realised access: Utilisation (use/non-use or frequency of use)	Realised access: Preventive health visits	Realised access: Preventive health screening (BP)	Realised access: Preventive health screening (cholesterol screening)	Realised access: Preventive health screening (Influenza shot)
			NS. (Access to good public transit).						
	Usual Source of Care				**Seo (2019),** **Doctors visits in the past year:** OR=3.89, 95% CI [2.46, 6.15], *p*<.001 (All women, usual source of care); OR=4.64, 95% CI [2.77, 7.77], *p*<.001 (NBWA, usual source of care); OR=2.97, 95% CI [1.20, 7.32], *p* = .021 (FBAI, usual source of care) (Ref = no usual source of care).				
	BMI > 25.0		**Ahad (2019),**						

Andersen's domains	Determinant	Potential access: Insurance coverage and type	Potential access: Usual source of care/regular PCP	Potential access: Barriers to care, delayed, foregone care, unmet need	Realised access: Utilisation (use/non-use or frequency of use)	Realised access: Preventive health visits	Realised access: Preventive health screening (BP)	Realised access: Preventive health screening (cholesterol screening)	Realised access: Preventive health screening (Influenza shot)
			Regular healthcare provider: NS (BMI >25.0).						
	Depression (Patient Health Questionnaire-2 score > 2.0)		**Ahad (2019),** **Regular healthcare provider:** NS (Patient Health Questionnaire-2 score ≥ 2.0).						
	History of chronic disease				**Seo (2019),** **Doctor's visits in the past year:** OR=1.91, 95% CI [1.16, 3.13], *p* = .013 (All women, with chronic disease); OR=1.73, 95% CI [1.02, 2.93], *p* = .047 (NBWA,				

Andersen’s domains	Determinant	Potential access: Insurance coverage and type	Potential access: Usual source of care/regular PCP	Potential access: Barriers to care, delayed, foregone care, unmet need	Realised access: Utilisation (use/non-use or frequency of use)	Realised access: Preventive health visits	Realised access: Preventive health screening (BP)	Realised access: Preventive health screening (cholesterol screening)	Realised access: Preventive health screening (Influenza shot)
					with chronic disease); OR=2.39, 5% CI [1.07, 5.38], *p* = .038 (FBAI, with chronic disease) (Ref = Without chronic disease).				
	History of mental health illness	**Massetti (2017),** **Has healthcare coverage:** 79.9%, 95% CI [78.7, 81.1] (Mental Health problems); 80.5%, 95% CI [79.7, 81.3] (No Mental Health problems) (difference between groups NS).				**Massetti (2017),** **Had a check-up in 2 past years:** 79.5%, 95% CI [78.3, 80.6] (Mental Health problems); 82.2% 95% CI [81.5, 83.0] (No Mental Health problems) (difference between groups *p*<.001).			**Massetti (2017),** **Influenza vaccination in the past year:** 31.9%, 95% CI [30.6, 33.3] (Mental Health problems); 33.6% 95% CI [32.7, 34.5] (No Mental Health problems), (difference between groups NS).
	Hypertension		**Ahad (2019), Regular**						

Andersen's domains	Determinant	Potential access: Insurance coverage and type	Potential access: Usual source of care/regular PCP	Potential access: Barriers to care, delayed, foregone care, unmet need	Realised access: Utilisation (use/non-use or frequency of use)	Realised access: Preventive health visits	Realised access: Preventive health screening (BP)	Realised access: Preventive health screening (cholesterol screening)	Realised access: Preventive health screening (Influenza shot)
			healthcare provider: OR=8.57, 95% CI [1.45, 50.73], *p*<.05 (High BP).						
	Self-assessed health	**Chen (2020),** **Gained Medicaid Coverage in 2014 in Expansion States (N=149)** **Uninsured in 2013:** OR=4.50, 95% CI [1.23, 16.48], *p* = .024 (Health status - Fair or poor) (Ref = Health status excellent, very good, or good).	**Ahad (2019),** **Regular healthcare provider:** NS (Self-assessed health ≥ Good).		**Lee (2020),** **Family physician visits (past year):** 11.5%, 95% CI [8.4, 14.5], *p*<.001 (Poor or fair health status); **NP/PA visits (past year):** 3.4%, 95% CI [1, 5.9], p = -.006 (Poor or fair health status). **Seo (2019), Doctors visit in the past year:**				

Andersen's domains	Determinant	Potential access: Insurance coverage and type	Potential access: Usual source of care/regular PCP	Potential access: Barriers to care, delayed, foregone care, unmet need	Realised access: Utilisation (use/non-use or frequency of use)	Realised access: Preventive health visits	Realised access: Preventive health screening (BP)	Realised access: Preventive health screening (cholesterol screening)	Realised access: Preventive health screening (Influenza shot)
					NS (All women, Good or better); NS (NBWA, Good or better); NS (FBAI, Good or better) (Ref = Fair or poor).				
	Psychological distress			**Johnson (2020),** **Medical care delayed due to cost, past 12 months:** AOR=2.0, 95% CI [1.5, 2.6], *p*<.001 (Moderate distress); AOR=2.9, 95% CI [2.0, 4.4], *p*<.001 (Severe distress) (Ref = no distress);					

Andersen's domains	Determinant	Potential access: Insurance coverage and type	Potential access: Usual source of care/regular PCP	Potential access: Barriers to care, delayed, foregone care, unmet need	Realised access: Utilisation (use/non-use or frequency of use)	Realised access: Preventive health visits	Realised access: Preventive health screening (BP)	Realised access: Preventive health screening (cholesterol screening)	Realised access: Preventive health screening (Influenza shot)
				Needed but couldn't afford care, past 12 months: AOR=1.9, 95% CI [1.3, 2.6], *p*<.001 (Moderate distress); AOR=4.1, 95% CI [2.7, 6.4]; *p*<.001 (Severe distress) (Ref = no distress). **Needed but couldn't afford mental healthcare, past 12 months:** AOR=6.1, 95% CI [3.3, 11.2], *p*<.001 (Moderate distress);					

Andersen's domains	Determinant	Potential access: Insurance coverage and type	Potential access: Usual source of care/regular PCP	Potential access: Barriers to care, delayed, foregone care, unmet need	Realised access: Utilisation (use/non-use or frequency of use)	Realised access: Preventive health visits	Realised access: Preventive health screening (BP)	Realised access: Preventive health screening (cholesterol screening)	Realised access: Preventive health screening (Influenza shot)
				AOR=19.7, 95% CI [10.2, 37.8], *p*<.001 (Severe distress) (Ref = no distress); **Needed but couldn't afford prescription medicines, past 12 months:** AOR=2.2, 95% CI [1.6, 2.9], *p*<.001 (Moderate distress); AOR=4.1, 95% CI [2.7, 6.3], *p*<.001 (Severe distress) (Ref = no distress).					
	Perceived mental health status				**Lee (2020),**				

Andersen's domains	Determinant	Potential access: Insurance coverage and type	Potential access: Usual source of care/regular PCP	Potential access: Barriers to care, delayed, foregone care, unmet need	Realised access: Utilisation (use/non-use or frequency of use)	Realised access: Preventive health visits	Realised access: Preventive health screening (BP)	Realised access: Preventive health screening (cholesterol screening)	Realised access: Preventive health screening (Influenza shot)
					Family physician visits (past year): 6.4%, 95% CI [3, 9.9], *p*<.001 (Poor or fair mental health status); **NP/PA visits (past year):** NS (Poor or fair mental health status).				
Health Behaviours	**Tobacco Use**		**Ahad (2019),** **Regular healthcare provider:** NS (Tobacco use).						
Contextual Predisposing factors	**N/A**								

Andersen's domains	Determinant	Potential access: Insurance coverage and type	Potential access: Usual source of care/regular PCP	Potential access: Barriers to care, delayed, foregone care, unmet need	Realised access: Utilisation (use/non-use or frequency of use)	Realised access: Preventive health visits	Realised access: Preventive health screening (BP)	Realised access: Preventive health screening (cholesterol screening)	Realised access: Preventive health screening (Influenza shot)
Contextual Enabling factors	**County unemployment rate**				**Lee (2020),** **Family physician visits (past year):** 0.5%, 95% CI [0.2, 0.8], *p*<.001; **NP/PA visits (past year):** -0.5%, 95% CI [-0.8, -0.2], *p*<.001.				
	Family medicine physicians per 100,000 population				**Lee (2020),** **Family physician visits (past year):** 0.2%, 95% CI [0.1, 0.3], *p*<.001; **NP/PA visits (past year):** 0.1%, 95% CI [0, 0.2], *p* = .002.				

Andersen's domains	Determinant	Potential access: Insurance coverage and type	Potential access: Usual source of care/regular PCP	Potential access: Barriers to care, delayed, foregone care, unmet need	Realised access: Utilisation (use/non-use or frequency of use)	Realised access: Preventive health visits	Realised access: Preventive health screening (BP)	Realised access: Preventive health screening (cholesterol screening)	Realised access: Preventive health screening (Influenza shot)
	Nurse practitioners and physician assistants per 100,000 population				**Lee (2020),** **Family physician visits (past year):** NS; **NP/PA visits (past year):** 0.1%, 95% CI [0.1, 0.1], *p*<.001.				
	Pre/post-implementation of ACA Medicaid expansion (various outcome measures)	**Chen (2020),** **Probability of insurance type in 2014 based on 2013 insurance type - Expansion State** **Uninsured 2014:** 50.0%, *p*<.01 (Uninsured); 2.9%, *p*<.01 (Medicaid);	**Daw (2019),** **Medicaid Expansion** **Years 2 and 3 (Post policy)** **No Usual Source of Care**: -2.4%, 95% CI [-4.5, -0.3]. **Early (2018)** **Medicaid Expansion**	**Daw (2019),** **Medicaid Expansion** **Years 2 and 3 (Post policy)** **Delayed or did not receive medical care because of cost:** -1.5%, 5% CI [-2.6, -0.5]. **Farietta (2018),**	**Early (2018),** **Medicaid Expansion** **Ability to obtain timely medical care:** **(Prevalence Ratios)** NS (2014); NS (2015); NS (2016)	**Margerison (2020),** **Medicaid Expansion** **Check-up in last year:** 5.1%, 95% CI [1.8, 8.4], *p*<.05. **Simon (2017),** **Medicaid Expansion**		**Margerison (2020),** **Medicaid Expansion** **Cholesterol check-in last year:** NS.	**Simon (2017),** **Medicaid Expansion** **Flu shot:** NS.

Andersen's domains	**Determinant**	**Potential access: Insurance coverage and type**	**Potential access: Usual source of care/regular PCP**	**Potential access: Barriers to care, delayed, foregone care, unmet need**	**Realised access: Utilisation (use/non-use or frequency of use)**	**Realised access: Preventive health visits**	**Realised access: Preventive health screening (BP)**	**Realised access: Preventive health screening (cholesterol screening)**	**Realised access: Preventive health screening (Influenza shot)**
		NS (Group); **Medicaid 2014:** 38.7%, *p* <.01 (Uninsured); 94.6%, *p*<.01 (Medicaid); NS (Group); **Group (2014):** NS (Uninsured); NS (Medicaid); NS (Group); **Probability of insurance type in 2014 based on 2013 insurance type - Non-Expansion State** **Uninsured 2014:** NS (Uninsured); NS (Medicaid);	**Has Usual Source of Care:** **(Adjusted Prevalence Ratios)** NS (2014); NS (2015); NS (2016) (Ref = 2013); **Type of Health Insurance Coverage** 1.43 (Medi-Cal); 1.55 (Private); 1.39 (Other Public) (Ref = No insurance). **Farietta (2018),** **Medicaid Expansion**	**Medicaid Expansion** **Unmet healthcare need, mental health**: OR=0.57, 95% CI [0.39, 0.83], *p*<.01 (2015); **Unmet Need, Prescription drugs**: OR=0.60, 95% CI [0.45, 0.80], *p*<.0001 (2015). **Johnston (2018),** **Medicaid Expansion** **Needed but could not see a doctor due to the cost:**	(Ref = 2013); **Ability to obtain needed prescriptions:** NS (2014); NS (2015); NS (2016) (Ref = 2013); **Able to obtain timely medical care:** NS (Medi-Cal); NS (Private); NS (Public); Ref = No insurance). **Able to obtain needed prescriptions** NS (Medi-Cal); NS (Private);	**Routine check-up:** NS.			

Andersen's domains	Determinant	Potential access: Insurance coverage and type	Potential access: Usual source of care/regular PCP	Potential access: Barriers to care, delayed, foregone care, unmet need	Realised access: Utilisation (use/non-use or frequency of use)	Realised access: Preventive health visits	Realised access: Preventive health screening (BP)	Realised access: Preventive health screening (cholesterol screening)	Realised access: Preventive health screening (Influenza shot)
		NS (Group); **Medicaid 2014:** NS (Uninsured); NS (Medicaid); NS (Group); **Group (2014),** NS (Uninsured); NS (Medicaid); NS (Group). **Courtemanche (2019)** **Full ACA (with Medicaid):** 9.6%, p <. 001 (Any insurance); 3%, *p*<.001 (Any private); 2.3%, *p*<.001 (Employer-sponsored);	**Usual source of care**: NS. **Johnston (2018),** **No personal doctor:** NS. **Simon (2017),** **Medicaid Expansion** **Have a personal doctor:** NS. **Sommers (2015**), **Medicaid Expansion** **No Personal Physician**: -4.1%, 95% CI [-5.7, -2.5].	-3.8%, *p*<.05 (All Women < 100% FPL). **Margerison (2020),** **Medicaid Expansion** **Avoided seeking care due to cost:** –7.4%, 95% CI [–12.2, –2.6], *p*<.05. **Simon (2017),** **Medicaid Expansion** **Cost a barrier to care:** NS. **Sommers (2015),** **Medicaid Expansion**	NS (Public); Ref = No insurance). **Farietta (2018),** **Medicaid Expansion** **Physician in the past year**: NS. **Johnston (2018),** **Medicaid Expansion** **Primary care visit in the past year:** NS.				

Andersen's domains	**Determinant**	**Potential access: Insurance coverage and type**	**Potential access: Usual source of care/regular PCP**	**Potential access: Barriers to care, delayed, foregone care, unmet need**	**Realised access: Utilisation (use/non-use or frequency of use)**	**Realised access: Preventive health visits**	**Realised access: Preventive health screening (BP)**	**Realised access: Preventive health screening (cholesterol screening)**	**Realised access: Preventive health screening (Influenza shot)**
		0.8%, *p*<.05 (Individually purchased); 6.7%, *p*<.001 (Medicaid); NS (Other). **Daw (2019),** **Medicaid Expansion** **Years 2 and 3 (Post policy)** **Current insurance status:** -7.4%, 95% CI [-8.6, -6.2] **(**Uninsured); 3.6%, 95% CI [2.5, 4.7] (Medicaid); NS (Private, group); 3.1%, 95% CI [2.1, 4.1]		**Cannot Afford Care:** -4.2%, 95% CI [-5.9, -2.5].					

Andersen's domains	Determinant	Potential access: Insurance coverage and type	Potential access: Usual source of care/regular PCP	Potential access: Barriers to care, delayed, foregone care, unmet need	Realised access: Utilisation (use/non-use or frequency of use)	Realised access: Preventive health visits	Realised access: Preventive health screening (BP)	Realised access: Preventive health screening (cholesterol screening)	Realised access: Preventive health screening (Influenza shot)
		(Private, non-group); NS (Other). **Johnston 2018),** **Medicaid Expansion** **Uninsured:** -13.2%, *p*<.001 (All Women < 100% FPL). **Jones, 2016),** **Medicaid Expansion** **Currently uninsured:** OR=2.01, 95% CI [1.64, 2.47], *p*<.001 (Lived in non-expansion state) (Ref = Lived in Medicaid							

Andersen's domains	Determinant	Potential access: Insurance coverage and type	Potential access: Usual source of care/regular PCP	Potential access: Barriers to care, delayed, foregone care, unmet need	Realised access: Utilisation (use/non-use or frequency of use)	Realised access: Preventive health visits	Realised access: Preventive health screening (BP)	Realised access: Preventive health screening (cholesterol screening)	Realised access: Preventive health screening (Influenza shot)
		expansion state). **Margerison (2020),** **Medicaid Expansion** 9.0%, 95% CI [2.9, 15.2], *p*<.05 (Has healthcare coverage). **Simon (2017),** **Medicaid Expansion** **Has insurance:** NS. **Sommers (2014),** **Medicaid Expansion** **D.C versus Virginia:**							

Andersen's domains	Determinant	Potential access: Insurance coverage and type	Potential access: Usual source of care/regular PCP	Potential access: Barriers to care, delayed, foregone care, unmet need	Realised access: Utilisation (use/non-use or frequency of use)	Realised access: Preventive health visits	Realised access: Preventive health screening (BP)	Realised access: Preventive health screening (cholesterol screening)	Realised access: Preventive health screening (Influenza shot)
		NS (Medicaid); NS (Uninsured); NS (Private insurance); **Connecticut versus other NE States:** 1.5%, *p*<.01 (Medicaid); -2.8%, *p*<.01 (Uninsured); -2.6%, *p*<.01 (Private insurance). **Sommers (2015)**, **Medicaid Expansion** -8.6%, 95% CI [-10.1, -7.0] (Uninsured). **Wehby (2018),**							

Andersen's domains	**Determinant**	**Potential access: Insurance coverage and type**	**Potential access: Usual source of care/regular PCP**	**Potential access: Barriers to care, delayed, foregone care, unmet need**	**Realised access: Utilisation (use/non-use or frequency of use)**	**Realised access: Preventive health visits**	**Realised access: Preventive health screening (BP)**	**Realised access: Preventive health screening (cholesterol screening)**	**Realised access: Preventive health screening (Influenza shot)**
		Medicaid Expansion 6.4%, *p*<.01 (Medicaid Insurance); -4.7%, *p*<.01 (Uninsured); NS (Individually Purchased Coverage); NS (Employer-Sponsored Coverage); NS (Any Private Coverage).							
	Living in Medicaid expansion state	**Jones, 2016),** **Medicaid expansion (2012 versus 2015)** **Currently uninsured:**							

Andersen's domains	Determinant	Potential access: Insurance coverage and type	Potential access: Usual source of care/regular PCP	Potential access: Barriers to care, delayed, foregone care, unmet need	Realised access: Utilisation (use/non-use or frequency of use)	Realised access: Preventive health visits	Realised access: Preventive health screening (BP)	Realised access: Preventive health screening (cholesterol screening)	Realised access: Preventive health screening (Influenza shot)
		OR=0.50, 95% CI [0.40, 0.61], p <. 001 (2015) (Ref = 2012).							
Contextual **Need factors**	**N/A**								

Notes

CI - Confidence Interval

FBAI - Foreign-born Asian immigrant

NBWA - Native-born (Non-Hispanic) White American

NP Nurse Practitioner

NS - Nonsignificant

PA Physician's Assistant

Appendix 8

Thematic areas of interest and themes - Synthesis of evidence on facilitators and barriers

Thematic areas of interest	Themes	Salient Quotes from participants or excerpts from study findings or discussion
		Facilitators of access
Individual predisposing characteristics	**Positive health beliefs**	*"Your relationships . . . your emotional stability, that also influences your body's health. While you are stable in your family, where there is no conflict, and there are no problems . . . health is going to be okay."* (Greder & Reina, 2019) *"I don't think anyone has control [of their own health], but we do have lots of control over our nutrition and taking care of ourselves."* Participant #8, Mexico. (Luque et al., 2018) *"I believe that if a person is having psychological problems, this will surely affect his physical health. It will affect the BP and also increase the susceptibility for diabetes. That is why I think having good mental health is the most important thing to remain healthy."* Participant, Focus Group 3 (Ross Perfetti et al., 2019)
	Health-affirming behaviours	*"Avoid eating a lot of fat or meat. Like eating vegetables, fruits, drinking a lot of water and everything; do not drink soda . . . take vitamins and all that."* (Greder & Reina, 2019) *"I used to be overweight, but since then I decided to walk and walk."* Participant #27, age 25-29, Mexico. (Luque et al., 2018) "Participants reported that they primarily sought care from doctors when they were unwell. Home remedies and other treatments were mentioned secondary to biomedical options." (Ross Perfetti et al., 2019)

Thematic areas of interest	Themes	Salient Quotes from participants or excerpts from study findings or discussion
	Social support	"*Well, there are obstacles because I don't know how to drive. But, she (daughter) takes me (to the doctor).*" (Greder & Reina, 2019) "*When my daughter was little, I would go with my husband, and he understands English.*" Participant #17 (Luque et al., 2018) "*My daughters translate for me, and sometimes, when I need to go to the doctor, I say: 'When you get home from school, we're going to the doctor' [they say] 'Okay' and they translate for me*." Participant #30, age 40-44, Mexico (Luque et al., 2018)
Individual and contextual enabling characteristics	**Healthcare safety net**	"*They [clinic in Chalk] charge you according to your income . . . it is cheap. A visit can cost 15 or 20 dollars. There are many medicines that are generic. For example, a medicine for diabetes for every month can cost 4 dollars.*" (Greder & Reina, 2019) "*It's very expensive to go to the emergency room. So, for routine health, you go to different places where they give you free or low-cost care.*" Participant #23. (Luque et al., 2018) "*I had to fill an application, and then take it to have it approved, and then it was signed . . . I was originally being charged $400 and then I ended up with a $130 charge.*" Participant #27, age 25-29, Mexico. (Luque et al., 2018)
	Healthcare organisation and delivery	"*One receives quality and personal attention . . . and above all, the doctor speaks Spanish. That's what makes us feel good in that place.*" (Greder & Reina, 2019) "Half of the women were able to transport themselves to a healthcare provider either by driving or walking." (Greder & Reina, 2019) "In terms of facilitators to healthcare, some participants reported that they had not felt discrimination in healthcare facilities and received interpretation assistance and prescription drug

Thematic areas of interest	Themes	Salient Quotes from participants or excerpts from study findings or discussion
		discounts." One participant stated, "*Well, yes, they gave me an interpreter.*" Participant #29, age 55-59, Mexico (Luque et al., 2018)
		Barriers to access
Individual predisposing characteristics	**Immigrant status and linguistic barriers**	"*The first [barrier] is the language, after that it's not having health insurance and then not having money to pay for the appointments.*" Participant #4 (Luque et al., 2018)
	Negative health beliefs	"Findings in this study are consistent with prior studies (Schwingel et al., 2015; Woodward-Lopez & Flores, 2006) that found Latina immigrant women viewed health in terms of not being ill (theme - absence of illness) and may partially explain why some women delayed using healthcare preventive services." (Greder & Reina, 2019)
		"*The body tells us when we're sick, but sometimes we don't listen*." Participant #15 (Luque et al., 2018)
Individual and contextual enabling characteristics	**Inadequate healthcare safety net**	"*When we get sick we have to deal with it or take homemade medicines . . . my mom tells us what to do and we have to do it because if we go to the doctor, how much is it going to cost? We have to use the money to eat and send money to the girls there (Mexico) . . . That's why many people have died because of illnesses because for not having insurance to go to the doctor to get help.*" (Greder & Reina, 2019)
		"*One can afford to pay for the doctor's office visit to know what is wrong with you, but not for the treatment.*" Participant #1, age 35-39, Honduras (Luque et al., 2018)

Thematic areas of interest	Themes	Salient Quotes from participants or excerpts from study findings or discussion
		"It's very expensive . . . just one doctor's visit was $135 and then additionally, I had to pay for the medicine. Basically, there went half of my weekly income." Participant #24, age 40-44, Mexico (Luque et al., 2018) *"I don't have anyone at home to help me and I have 4 kids. The welfare programs provide food stamps and some money. I got $750. How are we supposed to survive?"* Participant, Focus Group 2 (Ross Perfetti et al., 2019)
	Healthcare organisation and delivery barriers	*"The first [barrier] is the language, after that it's not having health insurance and then not having money to pay for the appointments."* Participant #4, age 30-34, Mexico (Luque et al., 2018) "*Well, that is an obstacle here, there is no public transportation*." ID #17, age 60-64, Mexico (Luque et al., 2018) "Participants also reported discrimination in clinic waiting rooms due to language barriers and their uninsured status." (Luque et al., 2018) "The most salient barrier to receiving healthcare services were problems within healthcare structures. The women cited difficulty contacting the clinic, long wait times, and lack of follow-up with test results." (Ross Perfetti et al., 2019) "The women's reports of not being believed by healthcare providers raise questions about the role of race and gender in determining their experiences of barriers to care, and in particular, the intersection of anti-Muslim and anti-immigrant sentiment with cultural beliefs about health and illness to create barriers to care." (Ross Perfetti et al., 2019)
Healthcare behaviours	**Delayed care**	*"When oneself gets sick, there is nothing we can do, if I get sick it will last at least 2 weeks . . . I just spread myself with vapor rub or I take ibuprofen and that's it . . . the money is sometimes what impedes you . . . like we try to make home medicines at home and then if it is not working then we*

Thematic areas of interest	Themes	Salient Quotes from participants or excerpts from study findings or discussion
		go to the doctor." (Greder & Reina, 2019) "*Well, if something hurts . . . you wait until you feel really sick and then you run to the doctor. In the meantime, you take a pill or something for the pain.*" Participant #26, age 35-39, Mexico (Luque et al., 2018) "Through the course of interviews, a theme emerged that the delaying of accessing healthcare services was associated with an internalized feeling of not being worthy or deserving of care, as evidenced by not wanting to be perceived as using government assistance programs reserved for U.S. citizens." (Luque et al., 2018) "Participants pursued regular visits with health professionals for check-ups, screenings, and chronic illness management, however, some reported often avoiding visiting a health professional until symptoms were intolerable because of a variety of barriers to care." (Ross Perfetti et al., 2019)
	Health service alternatives	"*I don't like it here [Paris Hills], because they do not attend very well . . . sometimes one goes to the emergency room and they leave you there waiting for hours then the doctors gets there to see you, so I prefer to travel 45 minutes and once I get there they help me right away.*" (Greder & Reina, 2019) "A common theme that emerged was the idea of 'shopping around' from clinic to clinic based on cost, language access, and available services to avoid the high cost of emergency room care." (Luque et al., 2018)

Appendix 9

Study Flyer

Are you a woman who uses primary care services?

This San Francisco State University study is looking for women volunteers to talk about their experiences accessing and using primary health care services in San Francisco/Bay Area

Help make a difference to women's health care in the future by telling your stories about accessing primary care

You may be eligible to participate if you:

- Are a woman who is 18 to 64 years old
- Have visited a health care provider or clinic for primary care services (acute, chronic, preventive care

What will be asked of you:

You will be interviewed for about 1 hour in person, by phone or by zoom at a time/place that is convenient for you.

What you will receive:

- A $25.00 GIFT CARD

CONTACT US

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Appendix 10

Recruitment script for women

Lancaster University

San Francisco State University

Script (Recruitment of women)

Title: A qualitative exploration of women's access to primary care services and health-seeking behaviors in an urban setting in California in the Affordable Care Act (ACA) era.

Hello, my name is Allison Gilchrist, and I am a Registered Nurse (RN) and currently work as a lecturer and clinical instructor at the San Francisco State University School of Nursing. I am conducting this study as part of a Ph.D. program at Lancaster University in the United Kingdom.

The purpose of this study is to learn more about working-age women's experiences accessing and using primary care services in San Francisco Bay Area during the Affordable Care Act (ACA) era.

Would you be interested in learning more about this study and what you would need to do if you participate?

I will review information about the study with you and provide you with the opportunity to ask questions about the study before you sign a consent form or verbally agree to participate in the study (this will take approximately 10 – 15 minutes).

I will then interview you and ask you to share experiences you have had visiting your primary care provider or your usual source of care or seeking primary care for a health problem or preventive care during the ACA era.

[In 2014, the ACA authorized California to expand Medicaid eligibility to women under age 65 in families with incomes below 133 percent of the Federal Poverty Level (FPL) and standardizes the rules for determining eligibility and providing benefits through Medicaid, CHIP, and the health insurance Marketplace].

The interview will take approximately 1 hour and I will record this. Afterward, we will discuss how the interview went for you and I will provide you with some follow-up resources (5 – 15 minutes).

Overall, the whole process will take 1 to 1 ½ hour. I may follow up with you up to 3 months after the interview if I have any additional questions about anything we discussed during the interview.

Study eligibility [if interested in participation, assess for eligibility]

Can I ask you a few questions about your details and questions to determine whether you are eligible to participate in this study? **Yes/No**

If yes, ask the following:

Name:

Address of residence where you live/agency where you use services:

City where you live:

Email:

Cell Phone: Home Phone (if applicable):

Preferred mode of contact: cell phone/home phone/email/other (please specify):

Age (in years):

What gender do you identify as?

- Male
- Female
- Trans-gender
- Non-binary
- Prefer not to say
- Other ____________________

Since the beginning of 2014, have you ever visited or attempted to visit a primary care provider or source of primary care in the San Francisco/Bay Area to get care for an acute, chronic health problem or get preventive services? Yes/No?

Are you currently residing in/using the services of [insert name of participating site] [refer to address given]: Yes/No?

[Verify whether the individual has provided a different address to a participating affordable housing site or another participating organization].

Do you understand and speak English? *[probe for the level of proficiency]*

Are you willing to take part in this study? *[probe for understanding of the aim of the study]*

Can I ask a few additional questions? Yes/No.

If yes, ask the following:

What is your race and/or ethnicity?

- Caucasian
- Black/African American
- Latino or Hispanic
- American Indian, Alaska Native
- Asian American
- Two or more ethnicities
- Unknown
- Prefer not to say
- Other

What is your marital status?

- Single, never married
- Divorced
- Separated
- Married or cohabitating
- Widow or widower
- Prefer Not to Say
- Other

Which of the following best describes your current employment status?

- Full-time employment
- Self-employed
- Part-time employment
- Unemployed (looking for work)
- Unemployed (not looking for work)
- Student
- Unable to work
- Retired
- Prefer Not to Say
- Other

Thank you for providing this additional information. If you have any questions, you can reach me by phone at (510) 764-3599 by email at agilchri@sfsu.edu.

Appendix 11

Informed Consent to Participate in Research

San Francisco State University

Informed Consent to Participate in Research

Study Title: A qualitative exploration of women's access to primary care services and health-seeking behaviors in an urban setting in California in the Affordable Care Act (ACA) era.

PURPOSE AND BACKGROUND

The purpose of this research is to learn more about women's experiences accessing and using primary care services and health care-seeking behaviors in a major metropolitan area in California during the Affordable Care Act (ACA) era.

The researcher, Allison Gilchrist, is a Registered Nurse and works as faculty with San Francisco State University's School of Nursing and is conducting this research as part of a Ph.D. in Public Health degree at Lancaster University, United Kingdom. You are being asked to participate in this study because you are a woman between the ages of 18 to 64 years, have experience accessing primary care services, and live in San Francisco Bay Area.

A. PROCEDURES

If you agree to participate in this research, the following will occur:

- The purpose of the research and what participation in the study means for you will be explained to you and the researcher will ask you to sign a written consent form or verbally agree to consent to participate in the study (up to 15 minutes). If you verbally agree to consent, your verbal agreement will be audio recorded.
- You will be asked to provide some brief information about your personal characteristics before participating in an interview that will last approximately 1 hour. In the interview, you will be asked to share your experiences about seeking access to and receiving primary care services from your doctor or the usual place where you receive your health care.
- The interview will be conducted face-to-face, or by phone, or through secure online video conference software.
- The interview will be audio-recorded to ensure accuracy in reporting your statements, and if the interview is conducted with online video conference software, the interview will be video recorded (if you agree).
- After the interview is completed, the researcher will debrief with you and ask you how the interview was, and provide you with a list of additional resources (up to 15 minutes).
- The interview will take place at a time and location convenient to you.
- The researcher may contact you later to clarify the answers you gave during the interview (within three months of the interview) if any additional information is needed.
- Your total time commitment will be approximately 1 to 1 ½ hours (60 - 90 minutes).

San Francisco State University

Institutional Review Board

Approval Date: 9/22/2021

Expiration Date: 9/21/2022

Protocol No.: X21-018b

B. RISKS

There is a risk of loss of privacy, however, no names or identities will be used in any published reports of the research. There is a risk of discomfort or anxiety due to the nature of the questions asked, however, you can answer only those questions that you choose to answer and can stop participation in the research at any time. As part of the consenting process, you have the right to skip any questions or end the interview at any time. If you experience any distress following participation please inform the researcher. After the interview, the researcher will provide you with a list of resources in case you experience any distress during or after the interview.

C. CONFIDENTIALITY

The research data will be kept in a secure location such as in university-approved secure cloud storage and only the researchers conducting this study will have access to the research data. All research data will be stored in a device(s) with full disk encryption and password protection.

Your personal data will be kept in a Master List and will only be linked to research data (interview transcripts) using an assigned study code. All your personal data will be confidential and kept in a separate document to your interview responses. The typed version of your interview will be anonymized by removing any personal identifying information including your name or other identifiers.

Audio or video recordings will be destroyed at the end of the study.

Research data including anonymized transcripts of interviews will be stored in university-approved secure cloud storage at San Francisco State University according to California State University data policy for a minimum of three years. Anonymized transcripts of interviews will be stored at Lancaster University Publications and Research (PURE) data repository for ten years according to Lancaster University Data Policy. Due to the small sample size, even after full anonymization, there is a small risk that participants can be identified. Therefore, supporting data will only be shared on request. Access will be granted on a case-by-case basis by the Faculty of Health and Medicine at Lancaster University.

The results will be summarized and reported anonymously in a Ph.D. thesis and may be submitted for publication in academic or professional journal(s), presented at conferences, or shared with professional organizations. Anonymized direct quotations from your interview may be used in the reports or publications from the study, but your name will not be attached to these quotes. Published results may include anonymized group demographic data, but this data will not be linked to your name or other personal identifiers.

If a professional transcriber is used to transcribe research data, the transcriber will be required to sign a confidentiality agreement. Any research data provided to professional transcriptionists will be anonymized, and any personal information or any of the data generated or secured through transcription will not be disclosed to any third party.

Your personal data is confidential, however, there are some limits to confidentiality: if what is said in the interview makes me think that you are at significant risk for harming yourself, or someone else, I will have to break confidentiality and speak to my supervisors or an appropriate member of the university staff about this. If possible, I will tell you if I have to do this.

E. DIRECT BENEFITS

There will be no direct benefits to you as a participant.

F. COSTS

There will be no cost to you for participating in this research.

G. COMPENSATION

As compensation for your time and effort, you will receive a $25.00 gift card for participating in this research.

H. ALTERNATIVES

The alternative is not to participate in the research.

I. QUESTIONS

You have spoken with Allison Gilchrist about this study and have had your questions answered. If you have any further questions about the study, you may contact the researcher by email at agilchri@sfsu.edu or a.gilchrist1@lancaster.ac.uk or by phone at: (510) 764-3599. You may contact the researcher's Ph.D. supervisors at, Dr. Faraz Ahmed at fahmed@lancaster.ac.uk or Dr. Paula Holland at pholland@lancaster.ac.uk

Questions about your rights as a study participant, or comments or complaints about the study, may also be addressed to the San Francisco State University Human and Animal Protections at (415) 338-1093 or protocol@sfsu.edu.

J. CONSENT

You have been given a copy of this consent form to keep.

PARTICIPATION IN THIS RESEARCH IS VOLUNTARY. You are free to decline to participate in this research or to withdraw your participation at any point, without penalty. Your decision whether or not to participate in this research will have no influence on your present or future status at San Francisco State University.

Signature ______________________________ Date: _________

Research Participant

Signature ______________________________ Date: _________

Researcher

San Francisco State University

Institutional Review Board

Approval Date: 9/22/2021

Expiration Date: 9/21/2022

Protocol No.: X21-018b

Appendix 12

Interview Guide - Sample interview questions

In California, the Affordable Care Act (ACA) was passed into law in 2010, but most of the ACA provisions went into effect in 2014, including Medicaid expansion, which expanded health coverage to more Americans below a certain income level. I am interested in your experiences since the beginning of 2014 or over the last 7 to 8 years or so am going to ask you questions about your experiences accessing or using primary care services for an acute or chronic health concern, preventive healthcare (such as an annual check-up, health screening) and also your experiences around seeking primary care services for these services.

Instructions:

Explore what the participant calls the provider of primary care services and/or place of usual source of care. Once the provider and/or place of usual source of care reference terminology is identified, the interviewer will use this throughout the interview. Primary care providers might be doctors, Physician's Assistants, or Nurse Practitioners who provide care for acute or chronic health concerns or preventive healthcare such as health check-ups and screening tests (such as blood pressure checks, labs, or cancer screening tests such as pap smears, mammograms). A usual source of care might be a doctor's office, clinic, community health centre, hospital clinic, urgent care, or emergency room. Questions (and prompts) will be adapted or eliminated based on whether the participant covered the area of interest in sufficient detail for this study.

Access to primary care services

1. Usual source of care: Can you tell me where you usually get your primary care?

   Prompts: [Where do you go to get your primary care (e.g., a doctor's office, clinic, community health centre, hospital clinic, urgent care, or emergency room)? What type of provider do you see for your primary care (e.g., is there a particular doctor, nurse, or another health professional that you see most often for primary care services)? Where have you gone for primary care services over the past 7 to 8 years or so since the beginning of 2014? About how long has it been since you last visited a provider (e.g., doctor) for a routine check-up/annual physical exam? In the past 12 months, not counting the times you went to an emergency room, how many times did you go to your primary care provider to get care for yourself? How many times did you go to see specialists to get care for yourself?]

2. Health insurance: Do you have any kind of healthcare coverage (for example, including health insurance, prepaid plans such as Health Maintenance Organisations, or government or state-funded plans such as Medi-Cal or Medicare)?

   Prompts: [If yes, what type of healthcare coverage do you have? If not, where do you go to get healthcare if you need it? How do you pay for your healthcare? Since October of 2013, have you tried to get health insurance for yourself through the new federal healthcare law (e.g., through ACA's Medicaid expansion from healthcare.gov or a state website)? If yes, can you tell me about the process? How easy or difficult was it to obtain health insurance?]

3. General Health: Can you tell me about your general health?

   Prompts: [How would you describe your general health? Why? Overall, how confident are you about your ability to take good care of your health? How do you take care of your health? Do you have any chronic conditions that you are currently receiving care for? If yes, what conditions are you currently receiving care from your primary care provider for (e.g., explore different types of providers who receive care for all conditions discussed)]

4. Preventive Healthcare: Can you tell me about any preventive healthcare (such as health screenings) you get?

   Prompts: [Have you ever had a pap smear to check for cervical cancer? If yes, when was your last pap test/smear? Have you ever had a mammogram to check for breast cancer? If yes, when was your last mammogram? Have you ever had any kind of tests to check for colorectal cancer? If yes, what type of colon screening test did you have (e.g., colonoscopy or stool tested for blood)? When was your last test to check for colon cancer? Have you ever had your glucose checked for diabetes? If yes, when was your last blood test to check for diabetes? Do you get your BP checked by your provider (for example, a doctor or nurse)? If yes, when was your BP last checked? Where do you get your blood pressure checked? Do you know your blood pressure? (e.g., a normal BP is 120/80)? [If a woman of childbearing age] Have you used family planning services in the last 7 to 8 years? If yes, what type of services have you used? Have you used prenatal care services in the last 7 to 8 years? If yes, what type of services have you used? How does your provider's office reach out to you with appointment reminders about routine medical care (annual check-ups, preventive care screenings such as pap smears and mammograms)? Do you see other types of healthcare providers besides your primary care provider (doctor, nurse)? If yes, why do you go to see this/these provider(s)?]

5. Experiences with primary care services: Tell me about your experiences visiting your primary care provider or usual source of care.

   Prompts: [Tell me about the most recent visit to your primary care provider or usual source of care. When was it? Where was it? What was the reason? What took place during this visit? Was your health problem resolved? Tell me about your interactions (experience) with the staff. Tell me about your interactions (experience) with your primary care provider?]

6. What do you think about the primary care services at the place where you get care?

   Prompts: [What do you think about the quality of care? Ease of (easy to get) appointments? Hours of operation? Walk-in facilities? Geographic location? Friendliness of the staff? Average waiting time? Physical environment/condition of the healthcare facility? The neighbourhood of the facility? Cost of services (e.g., direct costs such as copays, deductibles, costs; indirect costs such as transportation costs, parking, babysitting; opportunity costs such as lost wages)? Technical and interpersonal skills of provider (e.g., communication skills, interpersonal skills, competent, knowledgeable, ethical)? What do you think about the quality of the information provided to you by your provider(s) about health problems, procedures, tests, labs, or treatments ordered for y*ou? Are you able to ask your provider questions? Explain. Are you satisfied with the answers that your provider gives you? Continuity of care? Coordination of care? Cultural appropriateness of care? Language? How good a job does a healthcare facility do with providing health-related information (e.g., brochures), language services, language forms, and education brochures in (language)?]*

   Are you likely to return to your primary care provider or usual source of care for primary care services/follow-up?

   Prompts: [Why, why not? What might make it difficult? What might make it easier? What would help you change your mind? Any suggestions about ways that the primary care services could be improved?]

7. Tell me about any experiences of problems or difficulties when you went to see your primary care provider.

   Prompts: [What was it about the visit that was a problem or difficult (e.g., issues with providers, staff, tests, examination)? Can you describe each problem or difficulty? Why was this a problem? How did the visit make you feel?]

8. Tell me about any experiences when your visit went well when you went to see your primary care provider.

   Prompts: [What was it about the visit that went well? Why did the visit go well? How did the visit make you feel?]

9. Unmet needs: Can you tell me about any health needs you have that have not been met?

   Prompts: [Describe how your health needs are not being met [by your primary care provider/usual source of care]? Why is it difficult to get your health needs met? How does this make you feel?]

10. Health-Seeking behaviour:

    a. What are some of the reasons you seek healthcare?

       Prompt: [What makes you seek help when you are sick?].

    b. Tell me about any experiences you had where you needed help for a health problem or preventive care, and you had a problem getting the care you needed.

       Prompts: [What made it difficult to get the care you needed? Probe for the following: difficulty getting an appointment, transportation issues, mobility, not having someone go with you to the provider, too many things going on, unable to take time off work, fearful or anxious about going to the provider (e.g., didn't want to know what was wrong), no social support, cost (direct cost, indirect cost, opportunity costs, e.g., loss of work, no insurance)? Why was it difficult? What did you do to overcome the difficulty and get the care you needed? What influenced your decision-making? How did the experience make you feel?]

    c. Tell me about any experiences you have where you needed help for a health problem or preventive care, and it was easy to get the care you needed.

       Prompts [What made it easy to get the healthcare you needed? Why was it easy to get the care? What influenced your decision-making? How did the experience make you feel?]

11. Discrimination: Can you tell me about any experiences with discrimination when seeking or getting primary healthcare services?

    Prompts: [What happened? How did this impact your willingness to seek primary care services? How did this impact your behaviour seeking primary care services? How did this impact your ability to get the primary care services you needed?]

12. Social Support: Can you tell me about any type of support you get from family members, friends, or other individuals, such as case managers and social workers, to get primary care services?

    Prompts: [Who helps support you with getting primary care services? What type of support do they provide? How does the support you receive help you to see your primary care provider/get the primary care services you need?]

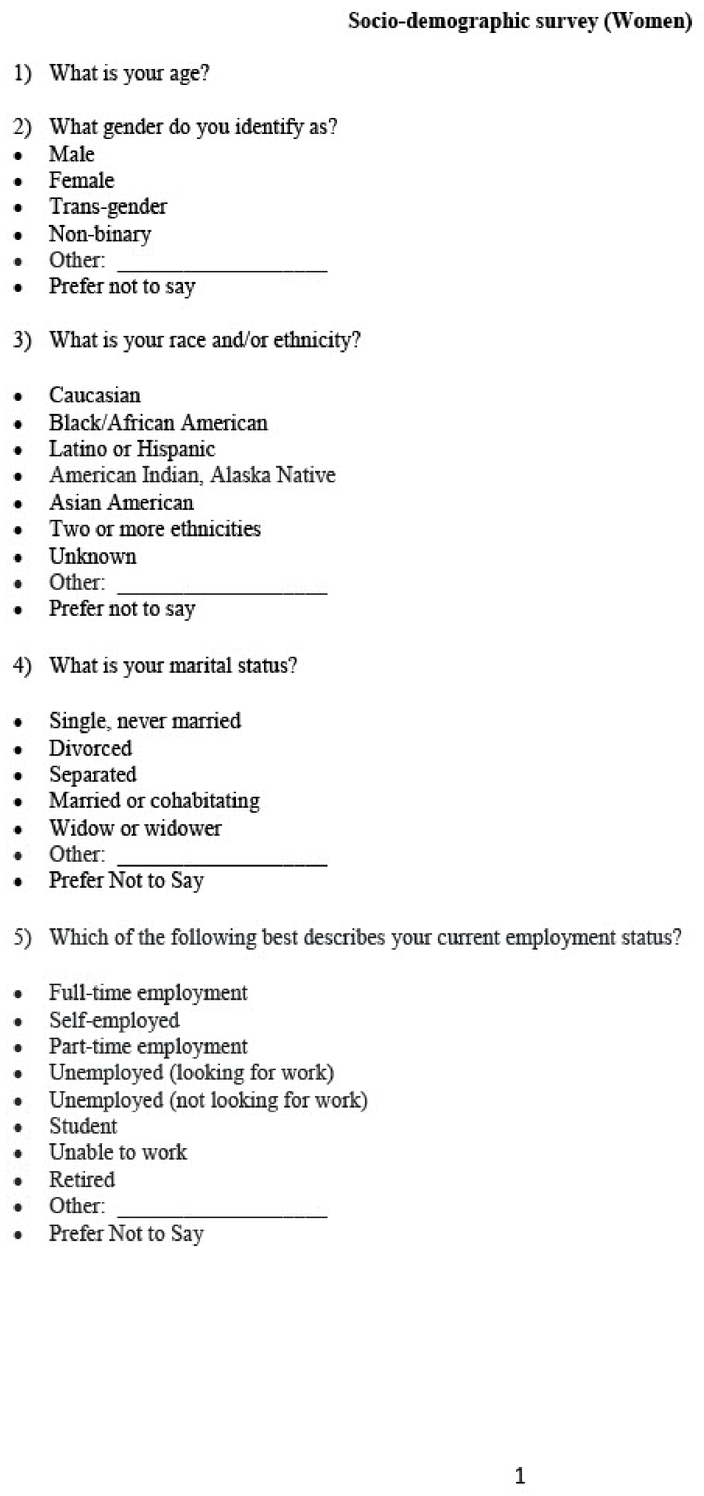
13. Treatment/management strategies: Can you tell me how you manage any treatments and/or medications that you receive for acute or chronic conditions from your primary care provider?

    Prompts [What information do you need to manage any conditions that you have? What helps you to adhere to your treatments/medications ordered by your provider? What support do you receive in helping you to manage your treatment/medications? Do you experience difficulties with managing your treatment/medications? If yes, why?]

14. Is there anything else you would like to say about your experiences accessing or using primary care services that you have not discussed already?

Appendix 13

Demographic Survey



Socio-demographic survey (Women)

1) What is your age?

2) What gender do you identify as?
- Male
- Female
- Trans-gender
- Non-binary
- Other: ___________________
- Prefer not to say

3) What is your race and/or ethnicity?

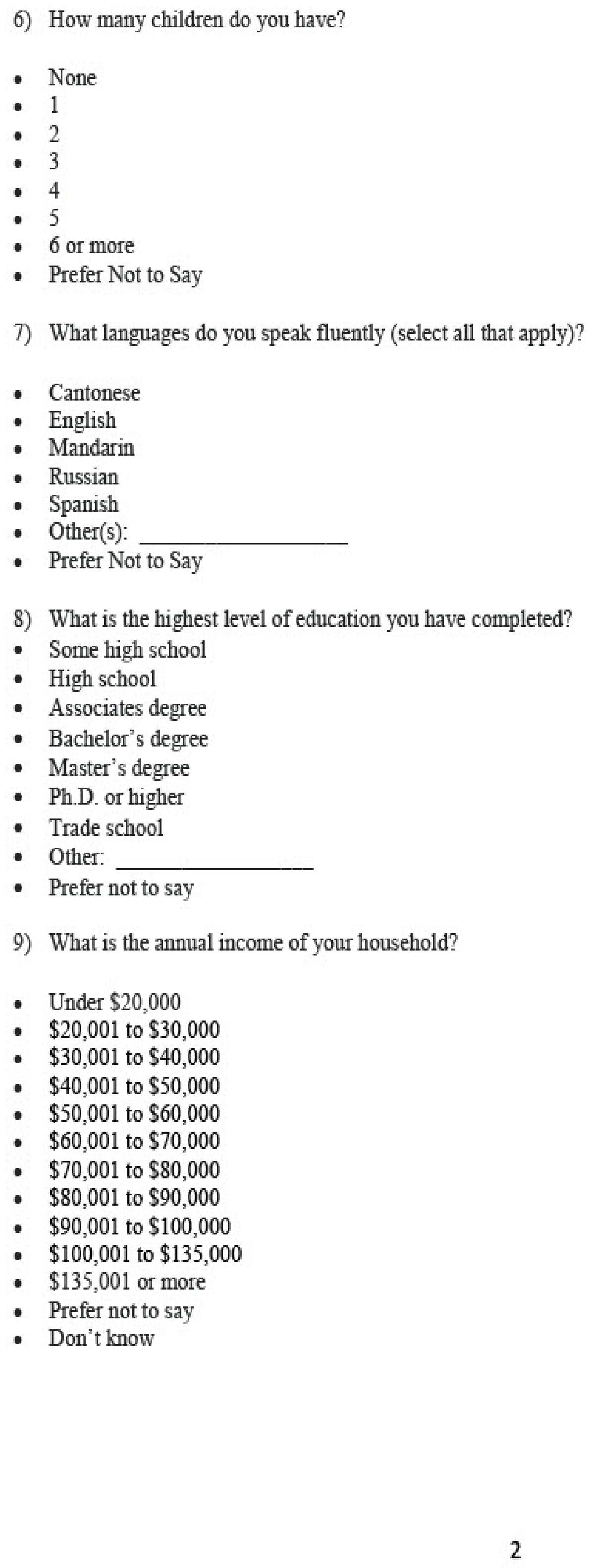
- Caucasian
- Black/African American
- Latino or Hispanic
- American Indian, Alaska Native
- Asian American
- Two or more ethnicities
- Unknown
- Other: ___________________
- Prefer not to say

4) What is your marital status?

- Single, never married
- Divorced
- Separated
- Married or cohabitating
- Widow or widower
- Other: ___________________
- Prefer Not to Say

5) Which of the following best describes your current employment status?

- Full-time employment
- Self-employed
- Part-time employment
- Unemployed (looking for work)
- Unemployed (not looking for work)
- Student
- Unable to work
- Retired
- Other: ___________________
- Prefer Not to Say



6) How many children do you have?

- None
- 1
- 2
- 3
- 4
- 5
- 6 or more
- Prefer Not to Say

7) What languages do you speak fluently (select all that apply)?

- Cantonese
- English
- Mandarin
- Russian
- Spanish
- Other(s): ____________________
- Prefer Not to Say

8) What is the highest level of education you have completed?
- Some high school
- High school
- Associates degree
- Bachelor's degree
- Master's degree
- Ph.D. or higher
- Trade school
- Other: ___________________
- Prefer not to say

9) What is the annual income of your household?

- Under $20,000
- $20,001 to $30,000
- $30,001 to $40,000
- $40,001 to $50,000
- $50,001 to $60,000
- $60,001 to $70,000
- $70,001 to $80,000
- $80,001 to $90,000
- $90,001 to $100,000
- $100,001 to $135,000
- $135,001 or more
- Prefer not to say
- Don't know

10) How many people are in your household? ___________________

11) Which country were you born in? ___________________

12) Do you have health insurance?

- Yes
- No
- Prefer Not to Say
- Don't know

13) Who pays for your insurance?

- Current employer/former employer/union (you and spouse/partner)
- School, Professional Association, Trade Group or other organization)
- Purchased directly from Health Plan
- Medicare
- Medicaid/Medi-Cal Assistance
- Champus/Champ-VA, Tricare, VA, or some other Military Health Care
- Indian Health Service, Tribal Health Program, or Urban Indian
- Covered California
- Shop through covered California
- Other Government Health Plan
- Other non-government health plans
- Other: ___________________
- Prefer Not to Say
- Don't know

Use of Primary Care Services

14) Is there a place that you usually go to when you are sick or need advice about your health?

- Yes
- No
- Doctor/My Doctor
- More than one place
- Prefer Not to Say
- Other: ___________________
- Don't know

15) What kind of place do you go to most often? Is your doctor in a private doctor's office, a clinic or hospital clinic, an emergency room, or some other place?

- Doctor's Office/Kaiser/Other HMO
- Clinic/Health Center/Hospital Clinic
- Emergency Room
- Some Other Place: ___________________
- No one place
- Prefer Not to Say
- Don't know.

Appendix 14

COVID-19-related precautions

If the researcher is conducting recruitment activities in-person at participating organisations, the researcher will follow all current San Francisco City and County Health Orders COVID-19 guidelines (https://www.sfdph.org/dph/alerts/coronavirus-healthorders.asp).

COVID-19 California Department of Public Health COVID-19 guidelines (https://www.cdph.ca.gov/Programs/CID/DCDC/Pages/Guidance.aspx) and guidance from Centers for Disease Control (https://www.cdc.gov/coronavirus/2019-ncov/communication/guidance.html) during the interview to prevent the spread of COVID-19.

c) The researcher and participant will follow all current Bay Area County Health Orders COVID-19 guidelines if visiting a research site in another Bay Area county, such as Alameda County (https://covid-19.acgov.org/index.page).

The following guidelines will be followed per current San Francisco City and County Health Orders or other Bay Area County COVID-19 guidelines:

1) wearing facial masks over the mouth and nose;

2) maintaining at least 6 feet distance from each other;

3) conducting any recruitment activities in a well-ventilated space with windows open;

4) operating air conditioning or fans, if available, to increase ventilation;

5) disinfecting any equipment, such as pens used, to sign consent forms before use.

Before conducting the interview, the researcher will provide surgical masks to participants who do not have one.

Appendix 15

Debrief guide

Study Title: A qualitative exploration of women's access to primary care services and health-seeking behaviors in an urban setting in California in the Affordable Care Act (ACA) era.

Debrief Guide

Thank you for your participation in this research study. I would like to discuss with you in more detail the study you just participated in and to explain exactly what we were trying to study.

The purpose of this study is to understand your experience around accessing and using primary care services in San Francisco in the Affordable Care Act era. Now that the study has been explained, do you agree to allow the investigator to use the data that we collected from your participation in this study?

We realize that some of the questions asked may have provoked strong emotional reactions. As researchers, we do not provide mental health services and we will not be following up with you after the study. However, we want to provide every participant in this study with a comprehensive and accurate list of available clinical resources, should you decide you need assistance at any time. Please see the information about local resources below.

Resources

If you feel upset after having completed the study or find that some questions or aspects of the study triggered distress, talking with a qualified clinician may help. If you feel you would like assistance please contact any of the following:

Your health care professional, who will determine how best to address your individual issues and provide referrals to mental health specialists, if appropriate.

- If you have health insurance, you can call the toll-free mental health services number on the back of your insurance card to learn how to access mental health services through your insurance.
- Mental Health Board of San Francisco. Call (415) 255-3737 or (888) 246-3333 Available 24/7.
- Mobile Crisis Treatment Team. Call (415) 355-8300. They are available Monday through Friday from 11 AM to 11 PM or on weekends, 12 PM to 7 PM.
- In a crisis, call 9-1-1 or the National Suicide Prevention Lifeline at 1-800-273-TALK (8255).

I hope you enjoyed your experience and I hope you learned some things today.

If you have any questions about the study, please feel free to contact the main researcher or her supervisors:

Allison Gilchrist, Ph.D. student; Email: agilchri@sfsu.edu or a.gilchrist1@lancaster.ac.uk; Phone: (510) 764-3599 or Phone: + 44(0)1524594794

Dr. Faraz Ahmed, Lecturer; Email: fahmed@lancaster.ac.uk; Phone: + 44(0)1524594794

Dr. Paula Holland, Senior Lecturer; Email: pholland@lancaster.ac.uk; Phone: +44 (0)1524 594762

Do you have any other questions or comments about anything you did today or anything we have talked about?

Thank you again for your participation.

Appendix 16

Coding tree for deductive data analysis according to Levesque's conceptual framework of access to healthcare

Accessibility of services (dimensions capturing demand-side of determinants)

Dimensions of access	Components (codes)	Definition
Ability to perceive	**Health literacy**	Personal health literacy can be defined as how well individuals can locate, understand and use health-related information and services to make health-related decisions and take action either for themselves or other individuals (Centers for Disease Control and Prevention, 2022c).
	Health beliefs	Individual beliefs about health, the cause of illness, and ways to prevent and overcome illness.
	Trust and expectation	Established trusting relationships with providers. Expectations about providers and healthcare services received.
Ability to seek	**Personal and social values, autonomy, culture, and gender,**	Personal, cultural, gender and social-related values that affect an individual's ability to seek care.
Ability to reach	**Living environments**	How physical and social environmental structures (e.g., housing, neighbourhood, or proximity to primary care services) affect health service use by individuals.
	Transport	Availability of transportation, and the ability to use transportation to reach primary care services.
	Mobility	Physical mobility, and the ability to reach primary care services.
	Social support	Availability of social support from family, friends, professional caregivers, and social services.
Ability to pay	**Income**	Income to pay for direct and indirect costs associated with using primary care services.
	Assets	Access to assets that can pay for healthcare costs.

Dimensions of access	**Components (codes)**	**Definition**
	Social capital	Networks of relationships between individuals that allow individuals access to care.
	Health Insurance	Access to health insurance, which covers expenses for medical treatment and preventive healthcare.
Ability to engage	**Empowerment**	The process by which an individual is empowered to make decisions and take actions relating to healthcare.
	Information	Individuals' ability to access and utilise information from their providers.
	Adherence	Ability to adhere to medications and treatments.
	Caregiver support	Need for caregiver support (e.g., from family, friends, professional caregivers, social workers).

Source. Levesque et al. (2013)

Accessibility of services (dimensions capturing supply-side determinants)

Dimensions of access	**Components (codes)**	**Definition**
Approachability	**Transparency**	Price transparency, provision of pricing estimates for select items and services before care is delivered.
	Outreach	Outreach activities to encourage individuals, and populations to access primary care services.
	Information	Information about services and treatments available.
	Screening	Knowledge about recommended screenings and utilisation of screening services.
Acceptability	**Professional values, norms, culture, gender**	Professional values of providers, norms associated with the delivery of healthcare services, cultural acceptability of healthcare services provided, and gender of provider.
Availability and accommodation	**Geographic location**	Access to the geographic location of healthcare services facility (e.g., accessible by public transportation).
	Accommodation	Accommodation of healthcare facilities. For example, flexible hours to accommodate work schedules, and flexibility in the provision of services (e.g., contact procedures, virtual consultations).
	Hours of opening	Hours services are available at healthcare facilities.
	Appointments mechanisms	Process by which appointments are made (e.g., by phone, in-person, using an online app).
Affordability	**Direct costs**	Direct price of services (e.g., copays, out-of-pocket costs, deductibles).
	Indirect costs	Cost related to transportation (e.g., cost of using own vehicle, taking public transportation, taxi, Uber).
	Opportunity costs	Lost income if not working (e.g., having to take unpaid time off work to attend appointments).

Dimensions of access	**Components (codes)**	**Definition**
Appropriateness	**Technical and interpersonal quality**	The technical ability of providers and staff to provide primary care services and interpersonal quality of interactions.
	Adequacy	Appropriateness and quality of services provided.
	Coordination and continuity	Continuity of care and coordination of services by a PCP.

Source. Levesque et al. (2013)

Appendix 17

Coding tree for inductive data analysis

Themes	Subthemes	Codes
1. Role of health beliefs, illness perceptions, and behaviours	**1.1. Positive health beliefs, illness perceptions, and behaviours—benefits**	1. Facilitators: Adherence to treatment
		2. Facilitators: Healthcare-seeking behaviours
		3. Facilitators: Healthcare utilisation
		4. Facilitators: Healthy behaviours
		5. Facilitators: High self-efficacy and self-esteem
		6. Facilitators: Illness or risk of illness perceptions
		7. Facilitators: No competing needs
		8. Facilitators: Other positive coping mechanisms
		9. Facilitators: Perceived benefits
		10. Facilitators: Positive health outcomes (perceived)
		11. Facilitators: Positive individual coping mechanisms
		12. Facilitators: Resiliency
		13. Facilitators: Satisfaction with care
	1.2. Negative health beliefs, illness perceptions, and behaviours—risks	14. Barriers: Competing Needs
		15. Barriers: Delayed care, timing
		16. Barriers: Dissatisfaction with care
		17. Barriers: Healthcare-seeking behaviours
		18. Barriers: Low perceptions of

Themes	Subthemes	Codes
		illness or risk of illness 19. Barriers: Low resiliency 20. Barriers: Low sense of self-efficacy, low confidence
		21. Barriers: Negative health outcomes (perceived) 22. Barriers: Negative individual coping mechanisms 23. Barriers: Non-adherence to treatment 24. Barriers: Other negative coping mechanisms 25. Barriers: Unhealthy behaviours 26. Barriers: Perceived barriers relating to healthcare access
2. Health information, knowledge, and navigation	**2.1. Health information and knowledge empowers access**	27. Facilitators: Organisational health literacy 28. Facilitators: Personal health literacy
	2.2. Patient navigators guide access	29. Facilitators: Patient navigation support
	2.3. Lack of health knowledge, diminished agency	30. Barriers: Low levels of personal health literacy 31. Barriers: Poor organizational health literacy
3. Available Healthcare safety net	**3.1. Accessible and affordable healthcare safety net**	32. Facilitators: Access to free, low-cost healthcare 33. Facilitators: Easy to navigate getting insurance 34. Facilitators: Has health insurance
	3.2. Difficulty navigating the healthcare safety net	35. Barriers: Cost of deductible, copays

Themes	Subthemes	Codes
		36. Barriers: No health insurance coverage 37. Barriers: Problems navigating health insurance
4. Interfacing with the healthcare delivery system	**4.1. Integrated personalised delivery of healthcare**	38. Facilitators: Accessible geographic location 39. Facilitators: Continuity and coordination of care
		40. Facilitators: Easy mechanisms for appointments 41. Facilitators: Flexible hours of operation 42. Facilitators: Has a regular provider 43. Facilitators: Positive provider, staff interactions 44. Facilitators: Provider technical competency, communication skills 45. Facilitators: Quality care, satisfied with care 46. Facilitators: Wait time, clinic condition
	4.2. Fragmented, inadequate healthcare delivery	47. Barriers: Challenges scheduling appointments 48. Barriers: Costs associated with healthcare 49. Barriers: Difficulties navigating access to the healthcare delivery system 50. Barriers: Incompetent providers 51. Barriers: Lack of continuity of care (such as frequent changes of healthcare providers) 52. Barriers: Long clinic wait times
		53. Barriers: Negative provider, or

Themes	Subthemes	Codes
		staff interactions 54. Barriers: Unsupportive staff or infrastructure
5. The interplay of structural factors and access	**5.1. Access to transportation infrastructure**	55. Facilitators: Accessible transportation infrastructure
	5.2. Living environment - structural inequalities	56. Barriers: Healthcare delivery system 57. Barriers: Homelessness 58. Barriers: Homicide-intentional deaths 59. Barriers: Mental illness 60. Barriers: Miscellaneous
		61. Barriers: Substance use 62. Barriers: Transportation difficulties
	5.3. Discrimination and stigma	63. Barriers: Discrimination 64. Barriers: Stigma

Appendix 18

A 15-point checklist of criteria for good thematic analysis

Phase	Item	Criteria	Response
Transcription	**1**	The data have been transcribed to an appropriate level of detail, and the transcripts have been checked against the tapes for 'accuracy.'	To make sure the transcripts were accurate, each recording was listened to twice and corrected.
Coding	**2**	Each data item has been given equal attention in the coding process.	Each transcript was coded consistently following the same process. The process involved two to three rounds of coding. During the first level of coding, six broad codes were created, which included a code for facilitators and a code for barriers. A second round of coding generated specific codes for facilitators and barriers, and the other four codes were subsumed under the relevant facilitators or barriers. A third level of codes was created where needed.
	3	Themes have not been generated from a few vivid examples (an anecdotal approach), but instead, the coding process has been thorough, inclusive, and comprehensive.	Themes and subthemes were developed after coding the entire dataset thoroughly and meticulously. Themes and subthemes were developed iteratively during several rounds. Nine initial themes generated were reduced to five broader themes.
	4	All relevant extracts for each theme have been collated.	Relevant quotes from participants were collated to illustrate themes and subthemes. These are presented as findings in Chapters 5 and 6 of the thesis.
	5	Themes have been checked against each other and back to the original data set.	Themes were compared for relevancy, and inclusivity, and rechecked with original data.

Phase	Item	Criteria	Response
	6	Themes are internally coherent, consistent, and distinctive.	Final themes were reviewed to ensure these were internally consistent with the data. All the major themes captured were distinctive and unique.
Analysis	**7**	Data have been analysed rather than just paraphrased or described.	The analysis both described and interpreted findings in the context of women's lives.
	8	Analysis and data match each other - the extracts illustrate the analytic claims.	Data were reviewed carefully to ensure that analytic claims were accurately reflected by the extracts. Extracts highlighting commonalities and differences were chosen for each theme and subtheme.
	9	Analysis tells a convincing and well-organised story about the data and topic.	Analysis was presented as an organised narrative. Quotations that illustrated descriptive as well as interpreted content were included.
	10	A good balance between analytic narrative and illustrative extracts is provided.	The presented findings had a good mix of analysis and relevant quotes that effectively illustrated the key elements of each theme.
Overall	**11**	Enough time has been allocated to complete all phases of the analysis adequately without rushing a phase or giving it a once-over-lightly.	Data coding and analysis was comprehensive, took 8 months and went through an iterative process.
Written Report	**12**	The assumptions about Thematic Analysis are clearly explicated.	The methods section of the thesis clearly outlines the assumptions underpinning the reflexive thematic analysis.
	13	There is a good fit between what you claim you do and what you show you	The analytic process undertaken is described in the methods section and is consistent with Braun and Clarke's 6-step

Phase	Item	Criteria	Response
		have done - i.e., described method and reported analysis are consistent.	process for reflexive thematic analysis
	14	The language and concepts used in the report are consistent with the epistemological position of the analysis.	The findings were carefully checked to ensure they agreed with the ontological position of constructionism and interpretivist epistemology.
	15	The researcher is positioned as *active* in the research process; themes do not just ‘emerge.’	Themes were carefully developed over several months through a comprehensive and inclusive iterative process.

Source. Braun and Clarke (2006)

Appendix 19

Sample memo

Participant self-presentation: Lyonnese was a 32-year-old woman, who had been previously married and had five children. She was currently single. Lyonnese was a very engaging young woman and was very direct, expressive, and emotionally vulnerable about her experiences. She was reticent about disclosing personal information, and only revealed she had 3 children later in the interview. When eliciting demographic information, she revealed she had been married and had 5 living children.

Surroundings: The interview was conducted using video conferencing software (Zoom) and Lyonnese turned her video camera on.

Personal reactions to the participant: I felt Lyonnese was very down-to-earth and friendly and I enjoyed my interaction with her. She was talkative and willing to answer questions, although did not elaborate on some topics. I enjoyed interviewing her, as she was very willing to engage and had a story to tell about her experiences with primary care services in the urban setting of the study.

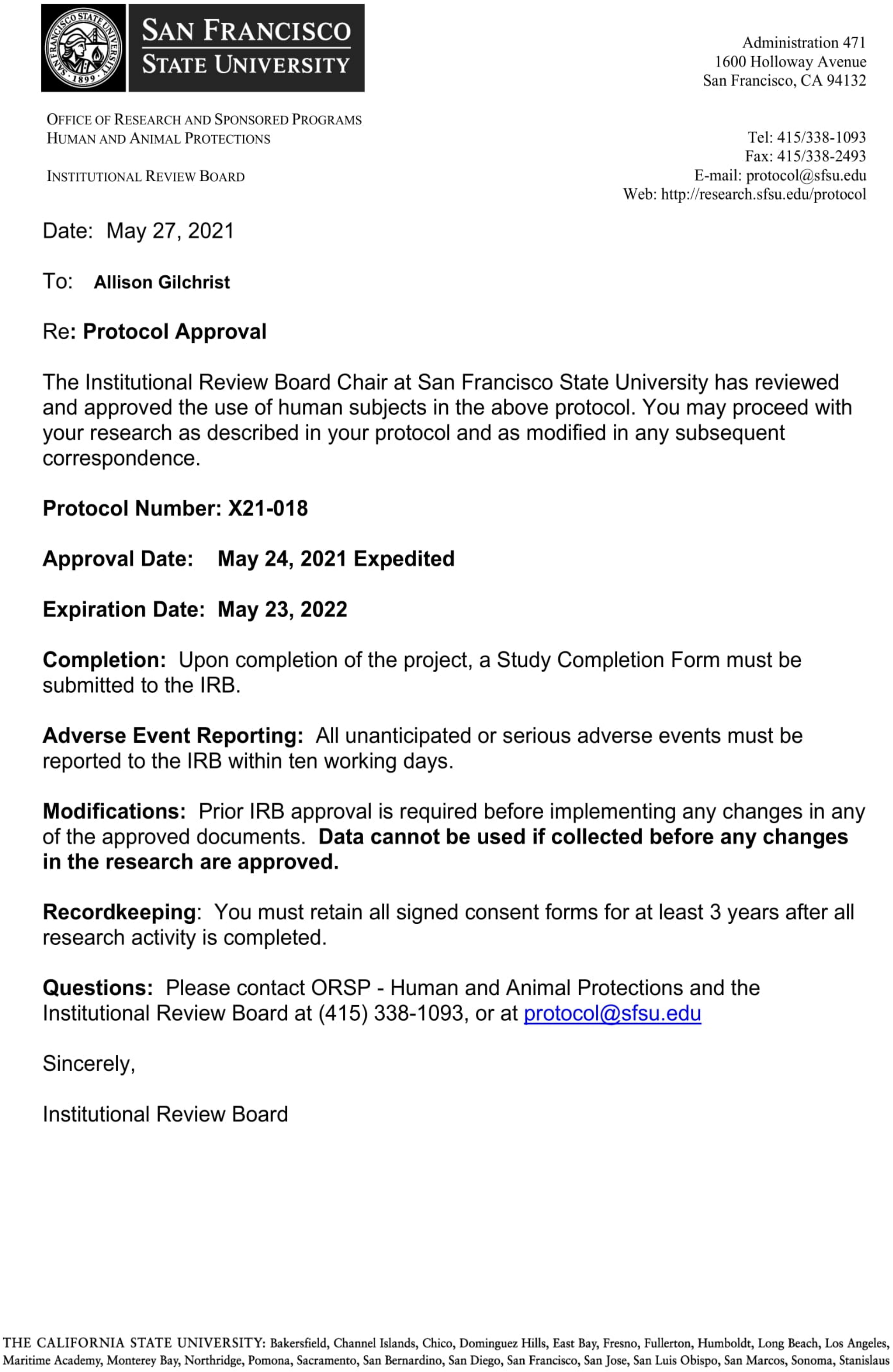
How do you feel the interview went? I felt the interview went well. Lyonnese was expressive and detailed in her responses. It was easy to elicit information from Lyonnese. She took each question seriously and responded carefully. She had a very positive experience with the Health Maintenance Organisation she was enrolled with, except for a delayed referral to mental health services. Lyonnese was disparaging about her experiences trying to access mental health services. She felt that her healthcare providers did not advocate for her to get mental health services.

Important features of participant's responses: Lyonnese utilised the Health Maintenance Organisation. She was born there, attended the Health Maintenance Organisation under her mother's healthcare insurance as a child, and enrolled in the Health Maintenance Organisation once she was an adult. She moved to [the urban setting of study] in 2018 and signed up for Medi-Cal here in [urban setting] through [local] Health Plan. Health history: Brain tumour in 2012 (changed her life forever), digestive issues (recently, not diagnosed). Lyonnese is currently seeing a dietician for digestion issues. Has a history of anxiety and depression. She had positive experiences with the Health Maintenance Organisation, however, her assigned PCP did not refer her to mental health services despite her request. She had issues with transportation to the Health Maintenance Organisation facility on [name of street] (too far away).

Ideas for data analysis: As a woman belonging to a racial-ethnic minority group, she perceived she was discriminated against for her family planning choices and coerced into getting a tubal ligation. This may be an example of structural racism built into healthcare institutions, which can be discussed during the analysis.

Appendix 20

SFSU IRB Protocol approval letters



SAN FRANCISCO
STATE UNIVERSITY

OFFICE OF RESEARCH AND SPONSORED PROGRAMS
HUMAN AND ANIMAL PROTECTIONS

INSTITUTIONAL REVIEW BOARD

Administration 471
1600 Holloway Avenue
San Francisco, CA 94132

Tel: 415/338-1093
Fax: 415/338-2493
E-mail: protocol@sfsu.edu
Web: http://research.sfsu.edu/protocol

Date: May 27, 2021

To: **Allison Gilchrist**

Re**: Protocol Approval**

The Institutional Review Board Chair at San Francisco State University has reviewed and approved the use of human subjects in the above protocol. You may proceed with your research as described in your protocol and as modified in any subsequent correspondence.

Protocol Number: X21-018

Approval Date: May 24, 2021 Expedited

Expiration Date: May 23, 2022

Completion: Upon completion of the project, a Study Completion Form must be submitted to the IRB.

Adverse Event Reporting: All unanticipated or serious adverse events must be reported to the IRB within ten working days.

Modifications: Prior IRB approval is required before implementing any changes in any of the approved documents. **Data cannot be used if collected before any changes in the research are approved.**

Recordkeeping: You must retain all signed consent forms for at least 3 years after all research activity is completed.

Questions: Please contact ORSP - Human and Animal Protections and the Institutional Review Board at (415) 338-1093, or at protocol@sfsu.edu

Sincerely,

Institutional Review Board

THE CALIFORNIA STATE UNIVERSITY: Bakersfield, Channel Islands, Chico, Dominguez Hills, East Bay, Fresno, Fullerton, Humboldt, Long Beach, Los Angeles, Maritime Academy, Monterey Bay, Northridge, Pomona, Sacramento, San Bernardino, San Diego, San Francisco, San Jose, San Luis Obispo, San Marcos, Sonoma, Stanislaus

SAN FRANCISCO STATE UNIVERSITY

Administration 471
1600 Holloway Avenue
San Francisco, CA 94132

OFFICE OF RESEARCH AND SPONSORED PROGRAMS
HUMAN AND ANIMAL PROTECTIONS

INSTITUTIONAL REVIEW BOARD

Tel: 415/338-1093
Fax: 415/338-2493
E-mail: protocol@sfsu.edu
Web: http://research.sfsu.edu/protocol

Date: 7/16/2021

To: Allison Gilchrist

Re: Protocol Modification

The Institutional Review Board at San Francisco State University has reviewed and approved the modification for the use of human subjects in the above protocol. You may proceed with your research as described in your protocol and as modified in any subsequent correspondence.

Protocol Number: X21-018a This number should be used on all correspondence.

Modification Approval Date: 7/16/2021

Completion: Upon completion of the project, a Study Completion Form must be submitted to the IRB.

Adverse Event Reporting: All unanticipated or serious adverse events must be reported to the CPHS within ten working days.

Modifications: Prior IRB approval is required before implementing any changes in the approved documents. **Data cannot be used if collected before changes in the research are approved.**

Recordkeeping: You must retain all signed consent forms for at least 3 years after all research activity is completed.

Questions: Please contact the IRB at 415-338-1093, or at protocol@sfsu.edu

Sincerely,

Institutional Review Board

SAN FRANCISCO
STATE UNIVERSITY

Administration 471
1600 Holloway Avenue
San Francisco, CA 94132

OFFICE OF RESEARCH AND SPONSORED PROGRAMS
HUMAN AND ANIMAL PROTECTIONS

INSTITUTIONAL REVIEW BOARD

Tel: 415/338-1093
Fax: 415/338-2493
E-mail: protocol@sfsu.edu
Web: http://research.sfsu.edu/protocol

Date: 8/4/2021

To: Alison Gilchrist

Re: Protocol Modification

The Institutional Review Board at San Francisco State University has reviewed and approved the modification for the use of human subjects in the above protocol. You may proceed with your research as described in your protocol and as modified in any subsequent correspondence.

Protocol Number: X21-018a This number should be used on all correspondence.

Modification Approval Date: 8/2/2021**, 2021**

Completion: Upon completion of the project, a Study Completion Form must be submitted to the IRB.

Adverse Event Reporting: All unanticipated or serious adverse events must be reported to the CPHS within ten working days.

Modifications: Prior IRB approval is required before implementing any changes in the approved documents. **Data cannot be used if collected before changes in the research are approved.**

Recordkeeping: You must retain all signed consent forms for at least 3 years after all research activity is completed.

Questions: Please contact the IRB at 415-338-1093, or at protocol@sfsu.edu

Sincerely,

Institutional Review Board

SAN FRANCISCO
STATE UNIVERSITY

OFFICE OF RESEARCH AND SPONSORED PROGRAMS
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Administration 471
1600 Holloway Avenue
San Francisco, CA 94132

Tel: 415/338-1093
Fax: 415/338-2493
E-mail: protocol@sfsu.edu
Web: http://research.sfsu.edu/protocol

Date: September 23, 2021

To: Allison Gilchrist

Re: Protocol Modification

The Institutional Review Board at San Francisco State University has reviewed and approved the modification for the use of human subjects in the above protocol. You may proceed with your research as described in your protocol and as modified in any subsequent correspondence.

Protocol Number: X21-018b This number should be used on all correspondence.

Modification Approval Date: September 22, 2021**, 2021**

Completion: Upon completion of the project, a Study Completion Form must be submitted to the IRB.

Adverse Event Reporting: All unanticipated or serious adverse events must be reported to the CPHS within ten working days.

Modifications: Prior IRB approval is required before implementing any changes in the approved documents. **Data cannot be used if collected before changes in the research are approved.**

Recordkeeping: You must retain all signed consent forms for at least 3 years after all research activity is completed.

Questions: Please contact the IRB at 415-338-1093, or at protocol@sfsu.edu

Sincerely,

Institutional Review Board

SAN FRANCISCO
STATE UNIVERSITY

OFFICE OF RESEARCH AND SPONSORED PROGRAMS
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Administration 471
1600 Holloway Avenue
San Francisco, CA 94132

Tel: 415/338-1093
Fax: 415/338-2493
E-mail: protocol@sfsu.edu
Web: http://research.sfsu.edu/protocol

Date: May 23, 2022

To: Allison Gilchrist

Re: Protocol Renewal

The Institutional Review Board Chair at San Francisco State University has reviewed and approved your renewal for the use of human subjects in the above protocol. You may proceed with your research as described in your protocol and as modified in any subsequent correspondence.

Protocol Number: X21-018R1

Renewal Approval Date: May 23, 2022 Expedited Review

Expiration Date: This approval expires on **May 22, 2023**

If the project will continue, it must be renewed **before** the expiration date.
Please allow at least six weeks for processing of the renewal application. **Data cannot be used in the research if collected after the expiration date, before the protocol has been renewed.**

Completion: Upon completion of the project, a Study Completion Form must be submitted to the IRB.

Adverse Event Reporting: All unanticipated or serious adverse events must be reported to the IRB within ten working days.

Modifications: Prior IRB approval is required before implementing changes in any of the approved documents.

Recordkeeping: You must retain all signed consent forms for at least 3 years after all research activity has stopped.

Questions: Please contact Human and Animal Protections at (415) 338-1093, or at protocol@sfsu.edu

Sincerely,

Institutional Review Board

Appendix 21

Individual socio-demographic characteristics of low-income women in an urban setting

Participant Pseudonym	Agency	Age	Race or ethnicity	Household income per annum	Employment status	# in household	Educational level	Marital status	Country born	Self-reported diseases	Type of insurance coverage
Delilah	1	62	Black	$30 - $40,000	Employed full-time	1	Associate Degree	Widowed	U.S.	MH	Medi-Cal/Medicaid
Talia	1	35	Black	No disclosure.	Disabled	1	Associate Degree	Single, never married	U.S.	AD, MSD	Medi-Cal/Medicaid
Jasmine	1	59	Black	< $20,000	Disabled	1	Other: Some high school	Widowed	U.S.	CVRF, MH	Medi-Cal/Medicaid
Phoebe	2	58	Black	< $20,000	Employed part-time	2	High school	Divorced	U.S.	CVRF, ED	Medi-Cal/Medicaid
Ruby	3	62	Black	< $20,000	Disabled	1	Other: Some college	Widowed	U.S.	CVRF, MH	Medi-Cal/Medicaid
River	3	54	Black	< $20,000	Disabled	2	Associate Degree	Divorced	U.S.	C, MSD	Current employer
Ellie	3	42	Black	$30 - $40,000	Employed full-time	2	High school	Divorced	U.S.	CVRF, ED	Medi-Cal/Medicaid
Kamella	3	25	Latina	$70 - $80,000	Employed part-time	5	Bachelors	Single, never married	U.S.	ED, GD, MH	Medi-Cal/Medicaid

Participant Pseudonym	Agency	Age	Race or ethnicity	Household income per annum	Employment status	# in household	Educational level	Marital status	Country born	Self-reported diseases	Type of insurance coverage
Trinity	3	42	Black	$20 - $30,000	Disabled	4	Associate Degree	Single, never married	U.S.	ND	Medi-Cal/Medicaid
Sabina	3	47	Latina	< $20,000	Unemployed, looking for work	2	Other: Some high school	Divorced	U.S.	CLD, CVRF	Medi-Cal/Medicaid
Desiree	3	28	Latina	$20 - $30,000	Unemployed, looking for work	4	Other: Some college	Separated	U.S.	MH	Dual Medi-Cal/Medicare
Phoenix	3	63	Black	< $20,000	Unemployed, looking for work	1	Other: Some college	Single, never married	U.S.	MH, MSD	Dual Medi-Cal/Medicare
Lyonesse	3	32	Other	< $20,000	Disabled	1	Other: Some college	Divorced	U.S.	GD, MH, ND	Dual Medi-Cal/Medicare
Josephine	1	59	Asian American	$20 - $30,000	Unemployed, not looking for work	1	Bachelors	Separated	U.S.	CVRF, MH, MSD	Medi-Cal/Medicaid
Destiny	3	38	Black	< $20,000	Unemployed, looking for work	2	High school	Single, never married	U.S.	N/A	Medi-Cal/Medicaid
Ishani	2	24	South Asian	$40 - $50,000	Unemployed, looking for work	5	Bachelors	Single, never married	Pakistan	AD	Covered California

Participant Pseudonym	**Agency**	**Age**	**Race or ethnicity**	**Household income per annum**	**Employment status**	**# in household**	**Educational level**	**Marital status**	**Country born**	**Self-reported diseases**	**Type of insurance coverage**
Carmelita	2	31	Latina	$40 - $50,000	Full-time employment	3	Associate Degree	Single, never married	U.S.	N/A	Medi-Cal/Medicaid
Madeline	1	63	White	< $20,000	Employed part-time	1	High school	Divorced	U.S.	SUD, MH, MSD	Dual Medi-Cal/Medicare

Notes

Agency #1 - < 10 sites and houses 1000-2000 residents

Agency #2 - 30-40 sites and houses 3000-4000 residents

Agency #3 - 100 to 200 sites and houses 20,000-30,000 residents in California. The agency operates in multiple states across the U.S.

Category of disease and abbreviation

AD - autoimmune disease
C - cancer
CLD - chronic liver disease
CVRF - cardiovascular risk factors
GD - gastrointestinal disease
MHD - mental health disease
MSD - musculoskeletal disorders
ND - neurological disease
SUD - substance use disorder