

Medicaid and the Life Course:  
An Intersectional Mixed-Methods Approach

By

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Dissertation submitted in partial fulfillment of  
the requirements for the degree of  
Doctor of Philosophy in Public Policy  
in the Graduate School  
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ABSTRACT

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## Abstract

Health insurance coverage is associated with better access to health care and better health outcomes at every age. The United States does not provide universal health insurance, and most people pay for private insurance that is linked to their job. Individuals whose jobs do not provide insurance have three choices: to remain uninsured, to buy their own insurance, or, in some cases, apply for public health insurance. Select populations in the US may be eligible for public health insurance coverage through Medicare and Medicaid. Medicare provides essentially universal insurance coverage for adults over 65, and, although enrollment is required, there is no application to determine eligibility. Alternately, Medicaid is a means-tested program with a stringent application process and recertification requirements, and take-up rates vary greatly across the US. In some states, individuals who do not have insurance through their employer can apply for and enroll in Medicaid. Individuals with Medicare coverage can also apply for Medicaid. Individuals who are “dually eligible” for Medicare and Medicaid, represent a uniquely vulnerable population due to their age, income, health, and life course exposures to marginalization, poverty, and other risk factors.

Medicaid provides an essential health safety net for people in the United States living in poverty, particularly for individuals with high health care needs and costs. Many adults over 65 will need Medicaid to cover health and long-term care costs, yet the process by which older adults gain access to Medicaid is complex and burdensome. Chapter 1 includes the results of a qualitative study of Medicaid enrollment among residents of a skilled nursing facility (SNF). In interviews with caregivers and staff at the Department of Social Services (DSS) in a large, urban county in North Carolina, I find that family members are often applying their aging relatives, and that these applicants have difficulty navigating the Medicaid application process. In addition, I find that prior exposure to institutional care settings facilitates knowledge about Medicaid

eligibility and enrollment criteria. Finally, all respondents commented on the costs associated with SNF care. In particular, respondents with higher incomes noted the long process of becoming eligible, while lower income respondents noted the inevitability of running out of funds. This qualitative study illustrates the distinct ways that older adults, marginalized due to their health and socioeconomic status, engage with social welfare programs in the US.

Building on the results from Chapter 1, in Chapter 2 I employ an intersectional, life course approach to assess predictors of Medicaid enrollment in later life. In Chapter 1 I hypothesize that, for institutionalized individuals, having living kin facilitates Medicaid enrollment. In addition, I hypothesize that individuals who have experienced health events requiring a skilled nursing facility (SNF) or other institutional care stay, as well as individuals who have low incomes are more likely to enroll in Medicaid as older adults. Using data from 10 waves of the Health and Retirement Survey I test each hypothesis, accounting for other dimensions of social and health disparities. Alternate to my expectations, individuals without living kin are more likely to enroll in Medicaid than those with living family members. Results from discrete-time logit models confirm the second hypothesis, that individuals who have had a short-term SNF stay are more likely to enroll in Medicaid over a two-year period. In addition, as expected from both interviews and Medicaid policy, income is the single greatest predictor of enrollment in late life. Enrollment odds, though, are distinctly racialized and gendered: Black and Hispanic individuals are more likely to enroll than whites, women are at a greater risk than men, and women of color are at the highest risk. In addition, having a higher income is less protective for marginalized racial and ethnic groups than for white populations.

In the third chapter, I examine late life health as an outcome of structural, state-level variations in Medicaid policy. Although every US state is required to provide some form of Medicaid coverage to “Aged, Blind, and Disabled” adults, each state establishes distinct requirements and benefits. In this study I use 10 waves of restricted data from the Health and

Retirement Survey (HRS) to examine late life consequences of state-level Medicaid generosity. Using multistate life tables, this study demonstrates that Medicaid generosity is associated with more years dually covered by Medicare and Medicaid. In addition, I demonstrate that racial and gender marginalization, low income, and specific late life health risks contribute to inequitable health and mortality outcomes in late life.

## Dedication

For Nancy, Ed, and Graham,

Who believed in me until the very end.

# Table of Contents

Abstract .....	iv
List of Tables .....	xiii
List of Figures .....	xiv
Executive Summary .....	1
Chapter 1: Experiences Gaining Access to Medicaid in Older Adulthood .....	2
Chapter 2: Policy Context, Intersectionality, and Medicaid Enrollment in Late Life ....	4
Chapter 3: Health Insurance and Care Transitions in Older Adulthood .....	5
Introduction .....	7
Literature Review .....	8
Structural Intersectionality: Socioeconomic Health Inequities .....	10
Structural Intersectionality: Racial Health Inequities .....	11
Structural Intersectionality: Intersectional Health Inequities .....	11
1 Experiences Gaining Access to Medicaid in Older Adulthood: A North Carolina Case Study .....	14
1.1 Introduction .....	14
1.2 Background .....	16
1.2.1 Administrative Burden .....	16
1.2.1.1 Learning Costs .....	17
1.2.1.2 Compliance Costs .....	17
1.2.2 Medicaid and Long-Term Care .....	18
1.2.3 Poverty and Health Policy .....	19
1.3 Methods .....	20
1.4 Analysis .....	21



1.4.1 Themes .....	22
1.4.1.1 Process of Eligibility .....	22
1.4.1.2 Barriers to Medicaid Access .....	24
1.4.1.3 Spend-Down .....	26
1.5 Conclusion .....	27
1.6 Discussion .....	29
2 Policy Context, Intersectionality, and Medicaid Enrollment in Late Life .....	32
2.1 Introduction .....	32
2.3 Background .....	34
2.3.1 Medicaid Policy Context .....	34
2.3.1.1 Medicaid & Skilled Nursing Care .....	35
2.3.2 Kinship in Older Adulthood .....	36
2.3.3 Health & the Life Course .....	37
2.3.4 Intersectionality & Medicaid .....	38
2.4 Data and Methods .....	39
2.4.1 Dependent Variables .....	40
2.4.2 Policy Context .....	41
2.4.3 Demographic Characteristics .....	42
2.4.3.1 Financial Security .....	43
2.4.3.2 Childhood Factors .....	43
2.4.3.3 Health & Wellbeing .....	43
2.4.4 Analytic Strategy .....	44
2.5 Results .....	45
2.5.1 Sample Description .....	45

2.5.2 Logistic Regression.....	49
2.5.2.1 White Sample.....	54
2.5.2.2 Black Sample .....	54
2.5.2.3 Hispanic Sample .....	55
2.5.2.4 Stratified Model Comparison.....	55
2.6 Conclusion .....	57
2.7 Discussion.....	58
3 Health Insurance and Care Transitions in Older Adulthood: Policy, Marginalization, and Life Expectancy .....	60
3.1 Introduction.....	60
3.2 Literature Review & Theoretical Framework.....	61
3.2.1 Insurance and Mortality .....	61
3.2.2 Medicaid Policy Implementation.....	62
3.2.2.1 State Medicaid Variability .....	63
3.2.2.2 Medicaid: Aged, Blind, Disabled.....	64
3.2.3 Health Disparities: Raced, Classed, & Gendered .....	65
3.3 Data and Methods .....	66
3.3.1 Data.....	66
3.3.1.1 Missingness.....	68
3.3.2 Analytic Strategy .....	68
3.3.2.1 Modelling Transitions.....	69
3.3.2.2 Analytic Strategy .....	70
3.4 Results.....	71
3.4.1 Sample Description .....	71

5.5.2 Medicaid & Health Insurance .....	73
3.4.2 Residential Status .....	74
3.4.3 Multi-State Life Tables: Health Insurance .....	75
3.4.3.1 Population-Based Life Table Results .....	77
3.4.3.2 State-Based Life Table Results .....	80
3.4.4 Multi-State Life Tables: Residency .....	82
3.4.4.1 Population-Based Life Table Results .....	82
3.4.4.2 State-Based Life Table Results .....	84
3.4.5 Multi-State Life Tables: Intersectionality .....	84
3.4.5.1 Race and Sex .....	86
3.4.5.2 Race and Class .....	86
3.5 Conclusion .....	88
3.6 Discussion .....	92
Conclusion .....	97
Appendix A. Division, States, and Summary Generosity Scores. ....	98
Appendix B. Medicaid Generosity, Means from 2000-2018. ....	99
Appendix C. Discrete-Time Logistic Regression: Median Generosity Score .....	100
Appendix D. Discrete-Time Logistic Regression: Time-Varying Score .....	101
Appendix E. Stratified Logistic Regression Results. Dummy Race/Ethnicity and Sex Categories. ....	102
Appendix F. Chi-Squared Results for Within-Race Stratified Model Coefficients. ....	103
Appendix G. Chi-Squared Results for Within-Sex (Female) Stratified Model Coefficients. ....	104
Appendix H. Chi-Squared Results for Within-Sex (Male) Stratified Model Coefficients. .....	105

References..... 106

## List of Tables

Table 1. Sample Characteristics (Total N=13). .....	21
Table 2. Themes (Caregivers N=7). .....	22
Table 3. Baseline Sample Description in Year 2000 (N=21,786 individuals). .....	46
Table 4. Baseline Means/Proportions by Race, Ethnicity, and Sex in 2000 (N=19,798).....	47
Table 5. Discrete-Time Logistic Regression. ....	51
Table 6. Stratified Logistic Regression Results.....	53
Table 7. Covariate Profile of the Overall Sample, Young Sample (age 50), and Older Adult Sample (age 65+): HRS 2000-2018 (N=169,171 Intervals).....	72
Table 8. Policy Context for all 50 states and D.C., from 2000-2018. N=510 observations. ....	73
Table 9. Observed Insurance Transitions (Age 65+).....	74
Table 10. Observed Residential Transitions (Age 65+).....	75
Table 11. Medicare and Dual Eligible Insurance State Expectancies by Medicaid Policy Generosity at age 65: HRS 2000-2018. ....	76
Table 12. Medicare and Dual Eligible Insurance State Expectancies by Sociodemographic and Health-related Risk Factors at age 65: HRS 2000-2018.....	78
Table 13. Home and Skilled Nursing Facility State Expectancies by Medicaid Policy Generosity at age 65: HRS 2000-2018.....	81
Table 14. Home and Skilled Nursing Facility State Expectancies by Sociodemographic Characteristics and Health-related Risk Factors at age 65: HRS 2000-2018. ....	83
Table 15. Medicare and Dual Eligible Insurance State Expectancies by Race and Sex Characteristics at age 65: HRS 2000-2018.....	85
Table 16. Medicare and Dual Eligible Insurance State Expectancies by Race and Income Characteristics at age 65: HRS 2000-2018.....	87

## List of Figures

Figure 1. Division-Level Medicaid Generosity Scores, 2000-2018. <sup>1</sup> .....	48
Figure 2. Health Insurance State Space, age 65.....	69
Figure 3. Residential State Space, age 65.....	70

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## Executive Summary

Aging is shaped by experiences in early life and moderated by access to resources at every age (Bengtson & Settersten, 2009; Gauthier & Aeby, 2023). Examining the consequences of early life exposures to policies and programs can reveal how trajectories of aging diverge based on both that access and other measurable, meaningful characteristics (Elder et al. 2003; Ferraro et al., 2015; Montez & Hayward, 2011; Montez & Hayward, 2014; Montez et al., 2017). Race, gender, class, and age marginalize, privilege, and otherwise impact the course of individuals' and populations' health and lives through both embodied consequences – experienced in the body and expressed through biological and physiological changes – and embedded ones – experienced in the relationship between one's body and environment and expressed through social or psychological changes (Crenshaw, 1989; Krieger, 2020; Pouw et al., 2014). It is critical to intentionally study how these statuses are co-constituted and inseparable from each other at every stage of the life course (Brown & Hargrove, 2013; Krieger, 2020; Richardson & Brown, 2016).

In their seminal paper, Hayward and Gorman (2004) report that men who were more socioeconomically disadvantaged in childhood had greater mortality risk in adulthood. Attempts to reduce or address disadvantage in childhood, then, might have profound consequences for health inequalities and mortality risk in later life (Adler & Newman, 2002; Hayward & Gorman, 2004). In addition, more recent research has examined whether aging – particularly associated and expected health decline – can be described as an intersectional process (e.g., Brown & Hargrove, 2013; Warner & Brown, 2011). These studies have demonstrated that various health outcomes in older adulthood are shaped not only by early life factors, such as socioeconomic disadvantage, but also by the lived experiences associated with race, class, and sex (Brown & Hargrove, 2013; Brown et al., 2016; Richardson & Brown, 2016; Warner & Brown, 2011).

Health and social policies in the United States since the 1960s have targeted the most economically and socially vulnerable populations (Davis & Schoen, 1978; National Research Council and Institute of Medicine, 2013; Starr, 1982). These groups are systematically marginalized as a consequence of racial, gendered, and classed social hierarchies and state-based oppression (Crenshaw, 1989; Michener, 2018). In some cases, policies designed to provide benefits and services to these groups improve health and socioeconomic outcomes for beneficiaries over the short- and medium-term (Brown et al., 2020; Campbell, 2014; Currie & Rossin-Slater, 2015). In other cases, though, these same benefits are not conferred to individuals who face systems of racial and gender marginalization (Brown et al., 2016; Hargrove & Brown, 2013). To what extent does Medicaid access in older adulthood structure health inequities? What are the health and mortality consequences of Medicaid enrollment in older adulthood?

This dissertation answers questions about exposure to Medicaid and the subsequent impact on health and aging in the United States today. This mixed methods dissertation examines the ways older adults interact with the Medicaid program, develops and assesses hypotheses related to accessing Medicaid in late life, and, finally, considers variations in life expectancy and late life health outcomes associated with Medicaid and other structural factors.

## Chapter 1: Experiences Gaining Access to Medicaid in Older Adulthood

In the first chapter, I explore how and why older adults apply for, access, and use Medicaid. I conduct qualitative interviews to develop hypotheses about what makes Medicaid enrollment easier or more challenging, as well as to determine potential pre-enrollment risk factors. I offer rich descriptions of how older adults and their families come to experience economic, physical, and cognitive vulnerability. I consider how these individuals navigate the bureaucratic and complex Medicaid program requirements to discern the ways in which Medicaid policy itself either helps or hinders this process. The first chapter is a crucial opening to this

dissertation as it is where I develop hypotheses and gain an in-depth understanding of how individuals in late life experience Medicaid firsthand.

First, I describe experiences during Medicaid application and enrollment. I observed that many older adults – especially those in poor health – do not themselves apply to Medicaid. Instead, a family member is often the person engaging with street-level bureaucrats. Family members noted, on the one hand, that “you’ve got a lot to prove” during this process. Others, though, reported the inevitability of running out of money to pay for their loved ones’ care in a skilled nursing facility (SNF), which in turn meant inevitably applying for Medicaid. These individuals noted that the application was “not a hard process.”

Based on my interviews, I first hypothesize that, for institutionalized adults, having living kin can ease the process of enrollment. More broadly, I hypothesize that individuals who have had prior exposure to institutional care (specifically in a SNF) have likely already been introduced to Medicaid as an option for their loved one, making it easier to ultimately apply and enroll. I further hypothesize lower income individuals enroll in Medicaid more rapidly than higher income peers, due to a more acute sense of the inevitability of Medicaid enrollment among individuals with fewer resources. Finally, I acknowledge that, for individuals who have to go through the legal “spend-down” process, income and wealth can both prevent individuals who could benefit from Medicaid from enrolling.

While my results are not representative or generalizable, this chapter illustrates the complex and burdensome process of Medicaid enrollment for SNF residents in one North Carolina County. Simplifying the application process or providing potential applicants with a list of requirements has the potential to ease the compliance costs of Medicaid enrollment in older adulthood.

## Chapter 2: Policy Context, Intersectionality, and Medicaid Enrollment in Late Life

The second chapter of this dissertation is deductive, rather than inductive. The first aim is to explicitly identify, restate, and test the three key hypotheses from my first chapter. Building on Chapter 1, I examine social and health determinants of Medicaid enrollment among adults aged 65 or older. Although in Chapter 1 I find that kin are often applying for a family member when that family member is institutionalized, the role of living kin may differ for community-dwelling older adults. Specifically, family members may be able to provide care and support to adults who are aging in place, thus reducing the odds of Medicaid enrollment. Indeed, results indicate that kinship is associated with lower odds of enrollment, relative to kinless-ness. As hypothesized, individuals who had a short-term SNF stay in the preceding two years have greater enrollment odds than those who have not had a SNF stay. My final hypothesis was similarly supported: in this sample, having a low income is the greatest predictor of enrollment.

A second aim of this chapter is to examine the ways in which the odds of Medicaid enrollment in older adulthood is patterned by social and structural factors across the life course. First, because my participants in my qualitative study were all white, I intentionally provide context regarding distinct racialized policy contexts and racial inequities in health and income as evident in late life. Taking an intersectional approach, I examine the overlapping consequences of experiencing raced, sexed, and classed oppression in determining Medicaid enrollment among adults over 65. I find that being marginalized by structures of racism and sexism, captured here by measures of race and sex, are significantly associated with enrollment. In addition, individuals who experience marginalization on account of both their race and their sex have higher odds of enrolling than either race or sex alone predict. Finally, higher income and education both reduce the odds of enrollment more for privileged groups relative to marginalized groups.

The final aim of this chapter was to assess how Medicaid policy itself predicts enrollment. Medicaid policy is implemented by states, such that geography structures access and benefits. I operationalize policy context at the US census division level (the smallest available in this data). By comparing these division-level differences in Medicaid generosity I find that individuals residing in more generous divisions are more likely to enroll than individuals in less generous divisions. These structural policy barriers are unevenly distributed across the US such that individuals face more or less by their geographic location. I conclude by noting that geographic variations in Medicaid shape inequities in health and other economic factors in late life.

### Chapter 3: Health Insurance and Care Transitions in Older Adulthood

The final chapter represents the culmination of this dissertation, “Medicaid and the Life Course.” In closing, I provide estimates of life expectancy at age 65 based on social, structural, and other factors experienced across the life course. Here I explicitly assess how long individuals can expect to live with Medicare only or dual coverage from both Medicare and Medicaid. In addition, I estimate how long individuals at age 65 can expect to live at home or a SNF before they die.

The findings build on and expand the earlier chapters. Furthering my findings in chapter 1 I find that being kinless in older adulthood is associated both with more years dually covered and with more years residing in a SNF than the population overall. Compared to having Medicare only, being dually enrolled in Medicare and Medicaid is associated with lower life expectancy at age 65 across all sociodemographic groups. In addition, individuals can expect to live a greater proportion of their remaining years dually covered where Medicaid policy is more generous. As in chapter 2, I find that having a low-income in late life is associated with spending more years

dually covered at age 65 and that having had a SNF stay results in the lowest observed life expectancy in this sample.

Finally, I return to an intersectional approach to examine the composite effects of racial, sex, and class discrimination experienced both individually and structurally over the life course. While women can, in general, expect to live longer than men, a unique pattern emerges when accounting for marginalization due to both race and class. Complementing Chapter 2 I find that higher income does not reduce the odds of Medicaid enrollment among Hispanic, non-Hispanic Black, and non-Hispanic other populations. For whites, higher income is associated with fewer years dually covered. Race, sex, and class interact over the life course to shape health and wellbeing in older adulthood, just as policy and structural oppression produce disparate late life outcomes and experiences.

## Introduction

The embodied consequences of a life lived in the context of US health and social policy are mediated by the lived experiences of race, sex, class, and health across the life course (Bengtson & Settersten, 2009). Understanding which mechanisms underly the relationship between social categories, resources, and health is increasingly relevant as the baby boomer cohorts reach the oldest ages and the proportion of US population over 65 increases (Ortman et al., 2014). This dissertation analyzes how systems of racism, sexism, and classism structure Medicaid enrollment among individuals now over 50 and to what extent these relationships vary across geographic policy contexts.

An individual's health is shaped by their experiences and exposures from the prenatal period until the end of their life. Individuals who experience childhood poverty or low educational attainment, for example, have worse self-rated health (Duncan et al., 2010.; Kim & Durden, 2007; Lynch, 2003; Mirowsky & Ross, 2008; Monnat & Chandler 2015; Willson et al., 2007), higher numbers of comorbidities in adulthood (Elo, 2009; Ferraro et al., 2015), and greater mortality risk across the life course than individuals from more advantaged homes (Elo, 2009; Hayward & Gorman, 2004; Hayward et al., 2015; Montez et al., 2019). Health at every age, then, is a consequence of broader societal patterns of inequality. Populations that are denied resources, such racially, economically, and socially marginalized groups in the US, will face significant health declines as they age (Burgard et al., 2021; Hargrove & Brown, 2015; Willson et al., 2007).

However, as the US welfare state expanded during the latter half of the 20<sup>th</sup> century, programs aimed at poverty alleviation and improving childhood wellbeing have proved durable and popular (Howell & Kenney, 2012; Starr, 1982). There is robust evidence that these social programs aimed at increasing resources in early life have profound, positive impacts on childhood health and wellbeing (Currie & Rossin-Slater, 2015; De La Mata, 2012; Goodman-Bacon, 2018;

Howell & Kenney, 2012). For example, early Medicaid expansions in the 1980s reduced infant and child mortality (Currie & Gruber, 1996; Goodman-Bacon, 2018) and were associated with greater childhood health care utilization (Currie & Gruber, 1996; De La Mata, 2012). Among marginalized groups, these policies targeting childhood health and nutrition can reduce the immediate, short-term experiences and consequences of disadvantage.

Emerging evidence suggests that these programs also have long term effects, impacting health well into adulthood (Boudreaux et al., 2016; Brown et al., 2019, Campbell, 2014; Duncan et al., 2010; Hoynes et al., 2016; Wherry et al., 2018). For example, exposure to Food Stamps in childhood reduces metabolic syndrome in young adulthood (Hoynes et al., 2016). Exposure to Medicaid in childhood is associated with lower mortality (Brown et al., 2019) and fewer hospitalizations in young adulthood (Wherry et al., 2018), and with fewer risk factors for cardiovascular and metabolic conditions in early- to mid-adulthood (Boudreaux et al., 2016; Campbell, 2014). Together, this suggest that policies aimed at improving health in early life can have profound impacts not only on short-term health outcomes, but also, critically, on later life health outcomes.

As more cohorts in the US reach older adulthood, facing greater medical and social needs, it is essential to consider how their health today has been shaped by processes that began in their early childhood. Even more pressing, though, is to determine whether, when, and how access to health and social programs cemented, altered, or radically disrupted individuals' expected trajectories of disadvantage as they age.

## Literature Review

There is a rich and developing body of research on health disparities (e.g., Farina et al., 2021; Hayward & Gorman 2004; Masters et al., 2015; Montez & Zajacova 2013; Montez et al., 2017; Sasson, 2016; Zang et al., 2022). Recent work in this area has increasingly examined the



contributions of macro-level structural factors to health inequities across the life course (e.g., Brown & Homan, 2022; Hardeman et al., 2022; Homan et al., 2021; Krieger, 2021; Montez et al., 2021). At the same time, health inequity research has centered marginalized populations and engaged with intersectionality theory (e.g., Brown & Hargrove, 2013; Brown & Homan, 2022; Homan & Brown, 2022; Homan et al., 2021; Warner & Brown, 2011). These two trends have produced what Homan et al. (2021) coined a *structural intersectionality* approach to health.

Structural racism and structural sexism conceptualize the ways in which US policies, programs, and institutions structure the racialized and sexed social system in this country to privilege certain people while marginalizing and racializing others (e.g., Krieger 2020). Here, “structures” can refer both to the institutionalized systems of power as well as to the process wherein those institutions structure social hierarchies and health inequity (Homan et al., 2021; Krieger 2020). Local, state, and federal policies in the US are embedded in the sociohistorical construction of racial hierarchies in the US context and continue to maintain, reify, and enforce racism and sexism (Hardeman et al., 2022; Homan et al., 2021; Krieger, 2020; Krieger, 2021).

There is mounting empirical evidence that structural racism and sexism contribute to inequitable health outcomes across the life course (e.g., Bailey et al., 2017; Kemp et al., 2022; Laster Pirtle & Wright, 2021; Lukachko et al., 2014; Montez, 2017; Montez et al., 2020; Montez et al., 2021; Phelan & Link, 2015). For example, disability in adulthood is lower in states with more equitable social policies and higher in states with greater inequality (Montez et al., 2017). In addition, in states with more liberal civil rights policies (relatively less structural racism), adults in midlife (ages 45-64) reported better health than those with more conservative policy environments (Kemp et al., 2022). In what follows, I review existing literature that documents socioeconomic, racial, and intersectional inequities in health.

## Structural Intersectionality: Socioeconomic Health Inequities

Socioeconomic status, SES, is commonly used as a measure of disadvantage, especially as operationalized with educational attainment (e.g., Hayward & Gorman, 2004; Lynch, 2003; Sasson, 2016). Education is consistently associated with a variety of health outcomes in adulthood. For example, college graduates experience “less increase in physical impairment over time regardless of age group (i.e., across adulthood) than do the less educated” (Kim & Durden, 2007, p. 2493). Lower levels of education are positively associated with either poor or fair self-rated health in adulthood (Lynch, 2003) and more highly educated individuals experience a slower erosion of self-rated health (Mirowsky & Ross, 2008). In addition, higher educated individuals live longer and healthier lives, and spend fewer years disabled or chronically ill (Dupre, 2007; Elo, 2009).

A structural approach takes this research further by considering institutional and historical factors that contribute to socioeconomic health inequities. The effect of education on self-rated health, for example, increases across birth cohorts (Lynch, 2003; Masters et al., 2015; Mirowsky & Ross, 2008). This suggested that education plays a more important role in one’s health for younger cohorts than for older cohorts. In addition, between 1960 and 1984, educational differentials in mortality risk increased for both middle-aged and older white men (Feldman et al., 1989). Similarly, educational differentials in mortality increased between 1986 and 2006 for non-Hispanic white and non-Hispanic Black men and women (Hayward et al., 2015; Montez & Zajacova 2013). Education has become an increasingly important predictor of mortality and health. This may be a result of sociohistorical institutions that structure economic returns to educational attainment (Hayward et al., 2015). Another proposed mechanism is the structural racism and sexism that contribute to differential health behaviors, lifestyle factors, and access to and use of medical care by individuals in different social classes (Feldman et al., 1989; Hayward et al., 2015). Given the permanence and persistence of structural classism, racism, and

sexism, socioeconomic inequities are likely to remain and worsen in years to come (Gutin & Hummer, 2021).

### **Structural Intersectionality: Racial Health Inequities**

Race is constructed in social and political contexts, but the lived experiences of racialization and racism have profound impacts on differently raced bodies that reach beyond the contexts in which they were constructed (Pouw et al., 2014). There are persistent racial inequities in both quantity and quality of education, and in the health and mortality benefits associated with higher educational attainment (Braveman et al., 2010; Gutin & Hummer, 2021; Masters et al., 2015; Montez et al., 2011). Explaining racial disparities in health as well as the contradictions that racial and ethnic groups pose to the seemingly robust relationship between SES and health requires a structural intersectional approach (Masters et al., 2015; Pearson, 2008).

Aging is both a biological and a social process. Biologically, the embodied consequences of ethnoracial assignment and the lived experience of racism are expressed in the body through physiological responses (Montez & Hayward, 2011). Socially, people are embedded in particular social and policy worlds that structure access to resources and wellbeing based on social categories of race, sex, and class (e.g., Montez et al., 2017). For example, Blacks who reside in states with high levels of structural racism are more likely to report myocardial infarction than Blacks residing in states with low levels of structural racism (Lukachko et al., 2014). Similarly, Black women's pain is often overlooked or ignored, even among women with high degrees of health literacy (Sacks, 2019). The structures and biases in health care contribute to health inequities (Laster Pirtle & Wright 2021; Sacks, 2019).

### **Structural Intersectionality: Intersectional Health Inequities**

Finally, in order to adequately understand the possible ways in which policies can alter expected cumulative disadvantage health processes, it is critical to acknowledge that

marginalization or disadvantage might be multifaceted and experienced differently based on overlapping identities. Feminist theorists provide a conceptual definition of intersectionality, based upon their own and others lived experiences of race and sex. However, it is necessary to operationalize and measure this concept to capture the effects of intersectionality in applied research. The intersectionality hypothesis is grounded in Crenshaw's (1989) proposition that, for Black females, "the intersectional experience is greater than the sum of racism and sexism" (p. 140). It follows that, in measuring intersectionality, race and sex will multiplicatively influence various outcomes (Crenshaw, 1989; Reynolds et al., 2022; Richardson & Brown, 2016).

An intersectional hypothesis complements and provides nuance to other theories that describe the relationship between age and health (Lu et al., 2022; Reynolds et al., 2022; Wang et al., 2022). For example, "A life course perspective on *the social stratification of health* might then suggest that exposures to risk factors over the life course will vary between social status groups, and that resulting differences in exposure trajectories underlie social inequalities in health trajectories" (Richardson & Brown, 2016, p. 427). Risk factors vary between and are compounded by the intersection of social status groups, such as race and sex. A structural framework may accurately represent varying health trajectories, as they are iteratively shaped and complicated by one's identity across the life course.

An intersectional approach highlights the importance of examining differential effects of certain statuses, for example, socioeconomic status, across different social groups, for example, racial groups. Having high socioeconomic status is typically considered to be associated with better health outcomes (e.g., Galama & van Kipperslui, 2019). However, socioeconomic advantage does not buffer against cognitive decline in later life for non-Hispanic Blacks (Reynolds et al., 2022). Similarly, racism does not operate in the same way for differently sexed individuals. For example, non-Hispanic Black Women can expect to spend more years at age 50

with disabilities than non-Hispanic Black men (Zang et al., 2022). These differential outcomes are produced by structural racism, sexism, and classism, as experienced by differently raced, sexed, and classed individuals.

Operationalizing and testing intersectionality, either on its own or in concert with other life course theories, such as cumulative disadvantage, can reveal relationships that have significant impacts on the health and wellbeing of marginalized groups. In addition, an intersectional lens can better capture how policies interact with disadvantage and health across the life course.

In each of the three papers to follow, I intentionally employ a structural and intersectional approach to develop my research questions, to select my data and methods, and to demonstrate the critical ways that policy matters for health across the life course.

# 1 Experiences Gaining Access to Medicaid in Older Adulthood: A North Carolina Case Study

## 1.1 Introduction

The United States and many countries around the world are facing an imminent demographic shift: population aging (Lee, 2011; Ortman et al., 2014). In North Carolina, some counties will experience rapid growth in the number of residents over 65, while others will see a decline (Reddy & Venkataganesan, 2021). As more people reach older adulthood, they enter systems that were not intended to support such a large group with such diverse needs (Blumenthal et al., 2015). These systems will face greater strain as older adults, who have complex health needs and are at risk for a variety of negative outcomes (Lochner & Cox, 2013; Martin et al., 2010), draw on programs and supports. Urban areas, where people can readily access health services and supports, are likely to see large growth in older populations (Reddy & Venkataganesan, 2021). As this trend continues, urban counties in particular will have to address the diverse needs of their aging residents.

Adults aged 65 and over are readily able to access health insurance through Medicare, but there are many gaps in what this program can cover, which has the potential to perpetuate both economic and health inequities. Medicaid, Medicare's means-tested partner in the US' public health insurance landscape, can fill some of those gaps. This group tends to be older, sicker, and poorer than either the Medicare-only or Medicaid-only populations. The proportion of the population eligible for both Medicare and Medicaid ("dual eligible" or "dual") is increasing, and with it the public cost of providing for the increasingly complex needs of a uniquely vulnerable subset of the population (Martin et al., 2010).

These costs are driven in part by the beneficiaries residing in long-term care (LTC) facilities (Young et al., 2013). Medicaid is the only public payer for LTC (Katz, 2019). This distinct feature of public health insurance in the US contributes to the many ways that the

population of dual eligible and the population residing in LTC facilities are similar, overlapping, and intertwined. In addition, this same policy feature ensures that Medicaid is an essential safety net for a particularly old, economically insecure, physically unhealthy, and cognitively impaired group of adults (Feng et al., 2019; Tavares et al., 2020; Willink et al., 2016).

Although Medicaid provides critical coverage for vulnerable individuals, it can be challenging to determine eligibility, apply, and enroll in the program. Scholars estimate that take-up rates are around 62-68% among Medicaid eligible adults over 18 (Sommers et al., 2012a; Kenney et al., 2012). Administrative burden provides a framework for understanding why take-up of public assistance programs may be low. This framework includes three costs that prospective beneficiaries may face: learning costs, compliance costs, and psychological costs (Moynihan et al., 2015). Adults seeking Medicaid coverage may face any of these barriers, deterring their application and enrollment.

The United States' population age 65 and over is increasingly large, increasingly racially, ethnically, and socioeconomically diverse, and is increasingly comprised of individuals with distinct lifetime health trajectories, care needs, and desires for this stage of their lives. Current research focuses on defining this groups' health care needs, and the public costs associated with providing this coverage. Little is known, though, about how older adults become eligible for Medicaid, whether they seek to enroll, how they make sense of these experiences, and what factors, at the individual and population level, might deter or facilitate Medicaid enrollment at older ages. In this paper, I describe how older adults make sense of their encounters with Medicaid policy and applications, I identify barriers to enrollment, and I examine potential facilitators.

## 1.2 Background

### 1.2.1 Administrative Burden

The United States' social welfare system is not universal, and most programs available require potential recipients to apply and demonstrate their eligibility (Soss, 1999). A recent, growing body of work describes the experiences of these potential beneficiaries through the administrative burden framework (e.g., Moynihan et al., 2015). Administrative burden refers to “individual’s experience of policy implementation as onerous” (Burden et al., 2012). Proponents of this framework argue that individuals face various burdens when seeking to gain access to various social programs due to the bureaucratic and administrative design of those same programs.

Scholars have described some barriers to accessing Medicaid and other means-tested programs (Barnes & Henly, 2018; Barnes & Petry, 2021; Campbell, 2014; Herd, 2015; Michener, 2018). Potential beneficiaries may face three kinds of costs in attempting to access the social welfare state: learning costs, compliance costs, and psychological costs (Burden et al., 2012; Herd et al., 2013; Moynihan et al., 2015). Learning costs refer to the cost of gathering information about a program, understanding the application process and requirements, and determining eligibility (Burden et al., 2012). Compliance costs refer to those costs of remaining eligible for and enrolled in benefits. These costs include recertifications, continued proof of eligibility, or other costs that arise over the course of participation. Finally, psychological costs refer to the ways in which stigma surrounding some programs can negatively impact beneficiaries, either leading to challenges enrolling in a program or to non-enrollment (Levinson & Rahardja, 2004).

The administrative burden framework has been applied to various social services and programs, revealing the diverse set of costs that potential beneficiaries face when seeking access. For example, Herd (2015) details the disproportionate impact of administrative burdens on older adults due to their health status, disability, and other limitations. Among populations eligible for



social programs, individuals may lack human capital or experience marginalization due to their socioeconomic status or other characteristics (Chudnovsky & Peeters, 2021; Herd, 2015).

Because older adults are more likely to be vulnerable due to their physical and cognitive health (e.g., Lochner & Cox, 2013; Martin et al., 2010), they may experience administrative burdens, such as learning costs, more acutely than younger populations (Herd, 2015).

#### *1.2.1.1 Learning Costs*

Social programs in the US are fragmented: some are administered at the federal level, such as Supplemental Security Income (SSI), others at the state-level, such as Medicaid, and eligibility and enrollment criteria can vary widely from one program or one state to another (e.g., Michener, 2018). Individuals attempting to navigate this fragmented system, then, may not apply because they do not have the correct information, or might not know they are eligible (Sommers et al., 2012a). Learning that a program exists, determining eligibility, and applying all require time and can be quite cumbersome to potential beneficiaries.

Even when individuals know a program exists, there may still be significant variability in enrollment levels because people “may not have encountered an institution that encouraged them to enroll” (Michener, 2018, p. 78). Navigating bureaucratic systems, too, requires knowledge and understanding, which may lead to divergent enrollment outcomes (Stuber & Kronebusch, 2004). The learning costs associated with Medicaid enrollment may be even more acute for older adults because of their age and health status.

#### *1.2.1.2 Compliance Costs*

Individuals may be deterred from enrolling in welfare programs, generally, if they find the application process itself too difficult or degrading (Soss, 1999). Complying with a welfare program’s application process may make potential recipients feel subordinated or stigmatized. In addition, long wait times can make potential beneficiaries feel unwelcome or unimportant (Soss,

1999). Some programs have easier modes of access that limit these wait times or remove the need to visit a physical location to apply. Individuals can apply for Medicaid benefits online or in person at a local DSS office (North Carolina Department of Health and Human Services [NCDHSS], 2023a). Older adults, who are likely to apply in person, may face wait times and stigmatization that may limit their uptake (Soss, 1999; Herd, 2015).

Older adults may face additional challenges due to mobility constraints (e.g., Martin et al., 2010), cognitive impairment (e.g., Goldfeld et al., 2013), or other health conditions (e.g., Lochner & Cox, 2013). Accessing social services may be onerous for older adults or their families, which may in turn contribute to low take-up rates among older populations (Herd, 2015). Finally, this may be further complicated by residential status: Medicaid receipt is intricately tied to receipt of LTC (Lochner & Cox, 2013; Willink et al., 2016). In the next section I describe this link and address potential consequences for older adults.

### 1.2.2 Medicaid and Long-Term Care

Although Medicaid is a means-tested program and a key component of the social safety net in the US, it is also a critical health insurance program. In the US, a country without universal health insurance, gaining access to health *insurance* (either public or private) is essentially a requirement to being able to access health *care*. For Medicaid eligible adults, then, overcoming learning, compliance, and psychological costs of enrollment can provide invaluable access to health care in a variety of settings.

Most prior work on duals focuses on skilled nursing facility (SNF) or long-term care (LTC) use, and the costs associated with this care to both Medicare and Medicaid (e.g., Kane et al., 2013; Rahman et al., 2015). Kane et al. (2013) study older duals, who they consider “frailer” than younger or disabled duals, and their use of LTC. They find that the higher costs attributed to older duals is due to their high disease burden and LTC use (Kane et al., 2013).

Because Medicare does not cover LTC, and because the out-of-pocket costs are so high, many LTC recipients either are duals or become dual eligible by spending “just about everything [they] have to qualify for Medicaid” (Katz, 2019, p. 9). Duals are overrepresented in SNFs (a particular LTC option; Rahman et al., 2015), and Medicare and Medicaid bear the cost burden of providing this care to this population. This literature describes the public cost of providing for dual eligible beneficiaries but fails to describe how these recipients navigate these systems – who is left uncovered, what it is like to become impoverished while living (and dying) in a SNF, and how gaining access to one of these insurers might impact beneficiaries.

Although many older adults become poor in late life, most individuals will not have to go through the *legal* process of “spend down” (American Council on Aging, 2023) Dual eligible beneficiaries can, in certain states, actively “spend down” their assets to qualify for Medicaid (Katz, 2019). North Carolina has a legal spend down process for both individual income and assets (NCDHSS, 2023b). For the latter, wealthier individuals whose assets exceed \$2,000 (or \$3,000 for a couple) may use those funds for specific non-countable purchases, such as home modifications or funeral costs (American Council on Aging, 2023). Although Medicare was intended to prevent health care costs from causing financial crises among the elderly (Barr, 2010), it is often the case – either practically or legally – that to become Medicaid eligible one must spend down a significant proportion of their wealth and assets first. It is possible that, for duals who were not living in poverty (at or below 100% of the FPL) prior to becoming Medicare eligible, it is their own assets and income that prevent them from accessing Medicaid benefits (NCDHSS, 2023c).

### 1.2.3 Poverty and Health Policy

Jamila Michener (2018) conducted a mixed methods study of Medicaid beneficiaries across the United States demonstrating how these socioeconomically marginalized beneficiaries

experience the fragmented landscape of this social policy. To do so, she conducted her study “in the ‘field’, where the participants live and work – these are important contexts for understanding what participants are saying” (Creswell, 2013, p20). By design, Michener (2018) and other qualitative researchers make an epistemological assumption that knowledge is co-created in the interviewer-interviewee relationship (Creswell, 2013). Medicare-Medicaid dual eligible beneficiaries live in particular contexts and "develop subjective meanings in their experiences” (Creswell, 2013, p24). Prior work has not considered how older adults construct their realities in reaction to unique, place-based experiences and how they make meaning of their situation.

### 1.3 Methods

This qualitative study is designed to capture the lived experiences of older adults as they become eligible for and apply for Medicaid benefits. I aim to describe this process thoroughly, pairing it with staff interviews to illuminate the bureaucratic processes that accompany Medicaid applications. I seek to offer a detailed illustration of aging in a skilled nursing facility (SNF) in Mecklenburg County, North Carolina, as well as how this population seeks to access Medicaid. I focus on the application process, perceived barriers to enrollment, and the ways in which Medicaid access impacts respondents and their loved ones in this later stage of life.

I conduct qualitative interviews with family members of SNF residents to gather personal accounts of these processes. No prior work has highlighted these voices. I demonstrate the ways that Medicaid policy directly impacts people at critical moments in their lives. In addition, I conduct interviews with two sets of experts: Medicaid and Adult Services staff at the Department of Social Services (DSS) and Centralina Area Agency on Aging staff. These respondents are experts in the Medicaid application process, oversee programs for older adults in the county, and connect older adults to programs, services, and long-term care facilities.

I conduct qualitative interviews with 7 caregivers of SNF residents, 4 Department of Social Services (DSS) workers, and 2 Centralina Area Agency on Aging employees in Mecklenburg County in North Carolina. I conducted interviews in-person and over the phone from February to April 2020. Caregiver participants were recruited through the Social Coordinator at one skilled nursing facility (SNF) in Mecklenburg County. This staff member provided phone numbers for family members (caregivers), who were then contacted to determine whether they were interested in participating and to schedule a time for a phone interview. Staff were recruited (in partnership the DSS) via emails from the researchers. Semi-structured interviews lasted 30-60 minutes and respondents received \$30 for their participation in this study. Table 1 displays participant characteristics.

#### 1.4 Analysis

All interviews were recorded and transcribed. Transcriptions were uploaded into NVivo 12 for coding. I used an inductive approach to coding to allow for emergent themes and to capture my respondents' perceptions of their experiences (Charmaz, 2006). I combined this with a deductive approach, drawing from the literature to examine a priori codes – such as uptake and barriers.

Table 1. Sample Characteristics (Total N=13).

<b>CAREGIVERS</b> N=7	Count (%)	<b>STAFF</b> N = 6	Count (%)
Sex		Sex	
Male	3 (42.9)	Male	4 (66.7)
Female	4 (57.1)	Female	2 (33.3)
Race		Race	
White	7 (100)	White	4 (66.7)
Black	0 (0)	Black	2 (33.3)
Caregiver Age (Average)	67	Age (Avg.)	51
Care Recipient Age (Avg.)	82	Monthly Income (Avg.)	\$6,232

I initially coded using a priori codes drawn from study objectives and prior literature. Deductively, I looked for descriptions of the spend down process (Katz, 2019), compliance costs or difficulties during navigating the application process (Moynihan et al., 2015; Stuber & Kronebusch, 2004). I examine respondents' descriptions of why they applied to Medicaid, the Medicaid application process itself, and their interactions with DSS staff. I coded inductively, line-by-line and then instance-by-instance, allowing other themes to emerge from respondents' descriptions. I presented initial findings to colleagues to refine these themes.

The following section describes and analyzes Medicare-Medicaid dual eligible beneficiaries' family members' evaluations of the process by which their loved one became dually eligible and their experiences during the Medicaid application process. Pseudonyms are used to ensure participants' confidentiality.

#### 1.4.1 Themes

The results are structured around two research questions: how do people make sense of the process of becoming eligible for Medicaid? What barriers do people face during this process?

Table 2 describes the key themes.

Table 2. Themes (Caregivers N=7).

<b>Theme</b>	<b>Number (percent)</b>
Exposure to Information About Medicaid	5 (71.4%)
Higher Income, Higher Costs	4 (57.1%)
Family Proximity Matters	7 (100%)

##### *1.4.1.1 Process of Eligibility*

In this sample of dual eligible SNF residents' family members, each respondent noted some awareness that their loved one would eventually need to apply for Medicaid. Some respondents framed this in terms of their income prior to their loved one entering a SNF, such as Shirley, a 62-year-old woman, whose brother has been a long stay resident in a SNF for 5 years:

“I would not consider us low-income at all, and what's so interesting is I would never have considered that we would be taking any sort of government assistance... But it stuns me how much money we've gone through and there was no way to head off eventually running now, short of his dying prematurely, which was not our wish.” Although her brother is not yet a dual eligible beneficiary, they are currently in the process of applying for Medicaid because they are almost out of funds to provide for his nursing home care.

Other respondents noted this inevitability of running out of money, such as Bradley, a 76-year-old man whose wife has been residing in a SNF for over a year. Bradley noted that after only 8 months, “And then when, and with the Social Security and the pension and the money from the condo, that money ran out in January, so we had to have Medicaid to pick up the balance of the bill.” Participants’ awareness of Medicaid’s potential financial role for long-term residents informed their understanding of when and how they might need to access this program for their loved one. Some respondents learned about this possibility from the staff at the facility. James, a 67-year old man whose 89-year old mother has resided in a SNF for four years, but who initially entered in their rehabilitation facility, knew from speaking with staff that once she transitioned to the long-term care facility she would likely need Medicaid: “For my mother, when we moved in that was one of the things I knew from talking to folks at the assisted living and the rehab she went in after she had her stroke was it was she ran out of funds that she would need to go on Medicaid.”

In spite of these family member’s awareness of Medicaid’s potential role in their loved ones’ care, and the inevitability that they would need to apply for this program eventually, many noted difficulties in gaining access to this program.

#### *1.4.1.2 Barriers to Medicaid Access*

Most of the barriers respondents faced were during the application process itself. Table 2 describes the perceived barriers and facilitators. As noted, all the family members who participated in this study remarked that applying for Medicaid was inevitable once their loved one became a long-term resident at this SNF. In addition, Denise, the Aged and Disabled Medicaid DSS staff member who participated in this study, noted that when she's processing an Aged Medicaid application, "somebody applied for them. I mean, because they have to be 65 or older, so maybe a sister, cousin, child – whoever put in the application." In the context of Aged and Disabled Medicaid, family members – especially spouses and adult children – are often the ones applying, especially if their loved one is a long-stay SNF resident.

Many family member respondents (N=4, 57%) noted difficulties during the application process itself. Most noted that the process was complicated and lengthy. Shirley remarked on how long the process takes: "But then you call to get a form and they said, no, that's incorrect, even though you've been told that. You get real mixed messages. It was interesting. What everybody told me is you need time, so that I should – in order to be seamless on getting enough money to keep his care covered, you need at least a 90-day period prior to his needing it where you've filed and worked on the paperwork, or you can get in a jam." Not knowing what was required and receiving mixed messages from DSS staff created difficulties for her during the process, so she made sure to apply before they actually ran out of money, knowing that otherwise they would not be able to pay while their application was being processed.

Denise, who processes Medicaid applications, affirmed that the process takes a long time: "You have to show that you have that need before and that you don't have all this stuff set to the side and we hope that you can – we can work it out by the end. No. I need to know what it is. And those are 45-day apps if you're aged and 90-day application if you're disabled." DSS sets



requirements for applicants as well as internal deadlines for their staff to process applications, both of which can extend the time between applying and gaining access to Medicaid. According to Denise, in order to process Medicaid applications, she needs a lot of information:

“Savings. Checking. More than one vehicle. More than one home. Generally, with my population on Medicaid, they have a lot of resources. You've lived a life, so you've acquired some things. You've retired from somewhere maybe. So, you're getting your social security that's due to you. You may also get a retirement from Duke Energy or wherever you worked or CMS. You know, whatever -- wherever you retired from. So, you may also have your 401k. You may also have stock in a company or whatever you were doing. You may have two cars and bought one for your daughters so it's in your name, or your kid's not quite on their feet so you got one for Suzy and Jim. And they're not mine, but [inaudible] for them to get a car. So just different things like that, and we've got to figure all that out. You know, so it's a lot more involved.”

Fulfilling these requirements during the application process can be a burden to family members. According to Phillip, a 56-year-old man whose father resides in a SNF, “you kind of feel like you've got a lot to prove to get there, more or less.”

Lilian, a 56-year-old woman whose 83-year-old mother has been a SNF resident for 2 years, said that, although the application itself was “relatively easy,” after she applied “It was very, very confusing. I'm not a stupid person but I couldn't understand it. And so I had to meet with the financial people several times, and then I had to call the ombudsman along with the insurance people, UnitedHealthcare, trying to figure out what was what and who was getting paid and what we owed versus Medicare and Medicaid.” Even though she had already applied, she had to contact several different actors to determine whether her application went through and how the financial aspects were going to work.

Only one other respondent said the application process was easy. James, who knew his mom would need Medicaid when she transitioned from the rehabilitation wing to long-term care, noted that applying for Medicaid for his mother did take a few weeks, but it wasn't difficult. He said, “It took somewhere between three to four weeks to get all the paperwork done and hear back from him. And like I said, it wasn't a hard process. They're the ones that, you know, once they get

all they want, I don't know what all, who all looks at it to say yes or no. But like I said, I think three to four weeks to process everything.”

One other respondent was unsure of how easy the process was because her sister has been residing in the SNF and on Medicaid for nearly fourteen years. Katherine, who is 76, remembered “The nursing home [completed her application].” She also recalled that her brother assisted during this process.

#### *1.4.1.3 Spend-Down*

Only one respondent had experience with trying to legally spend down assets in order to obtain Medicaid coverage for her brother. Shirley described this process, “And the first thing I was told to do was to get a lawyer because navigating the public Social Security system to get Medicaid... I don't know how people get there, because I find the paperwork incredibly daunting.” She did suggest that their own finances were a barrier, insofar as they’ve had to pay out of pocket since her brother moved into the facility five years ago. During that time, she said, “we will have run through, for his care, something over a million dollars, and that's just in five years.” But even for Shirley, whose family has been able to pay out of pocket, “it stuns me how much money we've gone through and there was no way to head off eventually running now, short of his dying prematurely, which was not our wish.” They are actively spending down, with the help of a lawyer who can navigate the complex legal requirements of this program.

In particular, Shirley noted, “Legally I've got to show that I've gone five years paying out of our pockets with no help from the government, with insurance or whatever. But we privately paid it and we have to have a five-year documentation of his finances.” This five-year lookback is, according to Shirley, one of the main aspects of the spend-down requirements that the lawyer has been able to help with. She also noted that as they start the Medicaid application process, the lawyer “will walk me through that process and in essence I think fight the battles with the

government, or at least use the right terminology that conforms – it's all just very daunting, I have to say.” Spending down is a complicated, “daunting” legal process, requiring legal assistance and well-documented spending for at least 5 years to demonstrate eligibility.

Although Shirley was the only respondent addressing the legal challenges of the spend down process, many respondents (N=4) noted that they ran out of funds due to high health care costs. These individuals then applied for Medicaid for their loved one.

One respondent, Patricia, noted that she and her husband (age 89) had been trying to apply for Medicaid, but ultimately noted, “I guess because of our assets I ruled it out.” She had not heard of spend-down policies, and she was, at the time of our interview, still paying out of pocket.

## 1.5 Conclusion

Medicare-Medicaid dual eligible beneficiaries are a particularly vulnerable and expensive subset of both Medicare and Medicaid recipients. Given that many dual eligible reside in long-term care facilities, these spaces provide a unique context to study duals with significant health care needs. In addition, SNF residents who become dual after moving into a facility are not likely themselves to apply for Medicaid and instead it is likely that a family member or friend will engage in this process.

Previous studies of Medicaid access have documented several barriers that potential beneficiaries face. These include geographic program variation (Michener, 2018), stigma (Levinson & Rahardja, 2004), lack of knowledge about eligibility or benefits (Sommers et al., 2012a), or difficulty navigating the bureaucratic systems (Stuber & Kronebusch, 2004). In general, administrative burden – learning, compliance, and psychological costs – is often cited as creating barriers to program uptake (Barnes & Henly, 2018). Older adults, or their caregivers, may face these or other barriers.

This study of 7 dual eligible SNF residents' family members and 6 staff members in Mecklenburg County, North Carolina, explored the extent to which previously identified barriers to social service receipt explain the experience of caregivers attempting to gain access to Medicaid for older adult relatives in SNFs. In addition, this study sought to identify other barriers that might be unique to this population in gaining access to Medicaid. In this sample, learning costs – the costs associated with the “search processes to collect information about public services, and assessing how they are relevant to the individual” – do not appear to deter applicants (Moynihan et al., 2015, p. 45). Indeed, most respondents noted that they knew their loved one would require Medicaid at some point and that Medicaid would provide funds when the family ceased being able to pay for SNF care. Learning costs for this population appear low.

Although respondents noted the inevitability of applying to Medicaid, many experienced difficulties during the application process itself. Family members described high compliance costs, including confusion about what forms and proof was required during the application process, as well as demonstrating financial need. However, most respondents noted that the recertification process, which takes place once a year, was not burdensome. This suggests that compliance costs are high early in the application process and are associated with fulfilling multiple complicated requirements beyond filling out the application itself. In addition, respondents overall noted difficulty navigating bureaucratic systems (Stuber & Kronebusch, 2004). Specifically, they experienced difficulty knowing who to contact and what information was required. Once SNF residents are dually eligible, though, maintaining that dual status is relatively easy for family members.

In this sample, neither geographic variation nor stigma seem to be barriers to Medicaid enrollment. This is likely because SNF residents, who have significant health care needs, are not themselves geographically mobile. Only one respondent noted geographic concerns: she and her

husband live in another state and have had trouble visiting her brother, who resides in a SNF in North Carolina. However, the geographic variation in Medicaid program requirements and benefits was not a concern. Similarly, none of the respondents described experiences of stigma, either during the application process or later. This is likely because, although several respondents remarked that they would not have previously considered themselves “low-income,” they are not applying for themselves, but rather for a loved one who would otherwise be unable to afford SNF care.

Finally, it does seem that actively attempting to legally “spend-down” to Medicaid eligibility is a barrier to Medicaid access. Although only one respondent had experience with this, she spoke at length about the “daunting” legal and bureaucratic procedures she would have to endure in order to obtain Medicaid coverage for her brother. However, it is also the case that she is able to afford a lawyer, who can aid them in this process.

Family members of dually eligible SNF residents are aware of Medicaid and the role it can play in financing their loved one’s care. They experience high compliance costs during the application process and feel burdened by how much they have to prove before obtaining Medicaid coverage for their relative. In addition, respondents also faced barriers when navigating the bureaucratic systems within the DSS. The legal requirements involved in Medicaid spend-down are also barriers, but, in this case, families who are attempting to gain access in this way have the means to hire legal assistance to navigate this process. Once their relative was enrolled in Medicaid, though, the recertification process was relatively easy. None of the respondents noted any gaps in Medicaid coverage.

## 1.6 Discussion

In this sample, family members who applied to Medicaid for a relative residing in a SNF faced high compliance costs and barriers during the initial application process. A simple way to

ease this process would be to provide a detailed list either at DSS or at SNFs, which includes all the requirements family members will need to fulfill during the application process. Indeed, several respondents, when asked what they would do to improve their experience with Medicaid, noted that having a list of requirements would have simplified this process. Given the high financial stakes for this population – paying out of pocket for expensive long-term care in a skilled nursing facility – easing the Medicaid application process could reduce compliance costs and make it easier for family members to apply for their loved one.

Another way to make this process easier for caregivers who must apply for their loved one would be to provide application advocates who could walk people through the application process. This would potentially be more expensive than simply providing a list. However, many SNFs already have a designated Medicaid staff member who currently helps family members with the application. Expanding this person's role to include more hands-on assistance might be a way to provide this service within existing financial constraints.

Similarly, Denise, who works for Aged and Disabled Medicaid in Mecklenburg, noted that much of her work processing applications is about meeting deadlines. A couple respondents noted not being able to pay for their loved ones' care for a month while they waited for Medicaid to kick in. This was stressful, because, according to another staff member, SNF residents can be asked to leave if they are unable to pay for more than one month. Although Medicaid does offer back-pay for those periods, if applicants are able to see how long the process is expected to take, based on these internal deadlines, they might be able to avoid these stressful financial situations and the potential threat of having to move their loved one.

These two simple policy changes could greatly improve the experiences of family members attempting to gain access to Medicaid for a relative residing in a SNF. Each of my respondents noted how emotionally stressful it was to have their loved one – their spouse, parent,

sibling – in a SNF, especially during the COVID-19 pandemic. Once their loved one was enrolled in Medicaid, several respondents noted, if not a reduction in emotional stress, at least a reduction in financial stress. However, many of my respondents also noted that once their loved one was receiving Medicaid, given how high their personal monthly liability (PML) was, they were only able to keep \$30 a month for their own personal spending. This amount has not been increased in North Carolina since 1987. Most respondents said their loved one uses this money to get a haircut, which, in this SNF, costs \$28. As one respondent succinctly noted, “you know, money doesn't buy happiness, but not having it can bring some real struggle.” Increasing the personal spending allowance for Medicaid beneficiaries in SNFs could tangibly improve their quality of life.

## 2 Policy Context, Intersectionality, and Medicaid Enrollment in Late Life

### 2.1 Introduction

Medicaid is the largest public health insurance program in the United States, funded through a federal-state partnership (Long et al., 2005; Michener, 2018). Eligible populations include children, families, and select individuals living near, at, or below the federal poverty line (FPL). One distinct eligible population is adults who are over 65 or disabled, who also meet low income and asset requirements (Dong et al., 2018; McInerney et al., 2021). Because Medicaid is administered at the state-level, each state has significant latitude in establishing program eligibility rules, application criteria, and associated benefits for enrollees (Mellgard et al., 2023). The present study seeks to assess how these variations in Medicaid policy across geographical areas are associated with Medicaid enrollment in late life.

For adults over 65, Medicaid can supplement their existing Medicare coverage. Individuals eligible for both programs are referred to as dual eligible beneficiaries or, simply, “duals” (Feng et al., 2019; Martin et al., 2010). Duals vary greatly in terms of their income and health status (Martin et al., 2010) and Medicaid’s role similarly varies across individuals (Roberts et al. 2021; Tavares et al., 2020; Willink et al., 2016). For example, for some qualifying individuals, Medicaid will cover the costs of Medicare premiums, while for others Medicaid will cover all costs associated with an individual’s care not covered by Medicare (Feng et al., 2019; Musimeci et al., 2019; Roberts et al., 2021). Medicare remains the primary insurance for duals, but Medicaid provides important supplements and fills existing gaps in Medicare coverage.

Medicaid expansion following the passage of the Affordable Care Act (ACA) exacerbated state-level variation (McInerney et al., 2021; Michener, 2018). Although the most significant state-level variations, including expansion status, apply most directly to populations under 65, there is evidence of some effects on older adults (McInerney et al., 2021; Michener,



2018). For example, Medicaid expansion to working age adults increased take up rates among older adults by 4.4% and, in those same states, there was an “on-ramp” effect: individuals residing in Medicaid expansion states who were gained coverage before turning 65 experienced a small increase in the likelihood they would remain enrolled in Medicaid after turning 65 (McInerney et al., 2021).

Medicaid for aged and disabled beneficiaries also varies from state to state (Mellgard et al., 2023; Roberts et al., 2021). For example, Medicaid spending per beneficiary varies across states (Mellgard et al., 2023). Increasingly, researchers have studied how macro-level geographic and policy environments effect health (Brown & Homan, 2022; Homan & Brown, 2022; Homan et al., 2021). Not only does Medicaid vary from one state to the next, but histories and social contexts vary across the country producing distinct racialized and classed contexts in which people live. Experiences of racial marginalization are associated with lower SES across the life course, as well as generally poorer health outcomes in later life.

However, race is not constructed in a vacuum: race is constructed and experienced in combination with sex, gender, class, and other categories of difference (Crenshaw, 1989). Taken together this suggests that marginalization, experienced in many forms across the life course, is associated late life socioeconomic and health outcomes. I take an intersectional approach, assessing the individual and combined effects of race and sex on Medicaid enrollment, while also accounting for the possibility that SES will differentially effect raced and sexed individuals in older adulthood.

Medicaid beneficiaries, then, can have distinct and potentially divergent experiences of their own health and their insurance coverage based on their geographic location. Other factors might affect how individuals navigate this program in late life, such as their health status and care needs (Chudnovsky & Peeters, 2021; Herd, 2015). In addition, more and more Americans are

taking on caregiving roles for their family members who need support, both physically and financially (Ornstein et al., 2017). Therefore, having living kin may be important in whether and when older adults enroll in Medicaid. Older adults, regardless of their race, sex, or class, are almost certainly going to need support as they age (Katz, 2019; Roberts et al., 2021). Medicaid is one program that can provide critical support in this vulnerable period of life.

Building on prior work exploring Medicaid enrollment in late life, I take a structural and intersectional approach, considering how policy and social factors within census divisions affect the probability of Medicaid enrollment in late life. Using longitudinal data from the Health and Retirement Survey (HRS) in combination with state- and division-level policy metrics, I aim to determine whether structural policy context is associated with Medicaid enrollment. I further assess the effect of race, sex, and class, independently and interactively, in changing the probability of Medicaid enrollment.

## 2.3 Background

### 2.3.1 Medicaid Policy Context

Medicaid is funded as a federal-state partnership, in which implementation occurs at the state level, resulting in at least 50 different versions of the program (Iglehart, 1999; Michener, 2018). In addition, even within states, Medicaid programs often take multiple forms based on the populations they cover (Campbell, 2014; McInerney et al., 2021). This fragmentation – at both the state and the beneficiary level – means that, although Medicaid beneficiaries share many common characteristics, such as low income, people can have drastically different experiences with this program across place, income level, and age.

For adults over 65, Medicaid can also provide different types and degrees of insurance coverage (Feng et al., 2019; Mellgard et al., 2022; Musimeci et al., 2019; Roberts et al., 2021). Like working age adults, many older adults may be eligible for Medicaid due to their income. In

particular, individuals receiving supplemental security income (SSI), a federal program that provides cash benefits to recipients earning less than 74% of the Federal Poverty Line (FPL), are eligible for Medicaid (Musimeci et al., 2019). Some states restrict income-based Medicaid eligibility for older adults to only SSI recipients, while many others extend eligibility to older adults earning up to 100% of the FPL (Feng et al., 2019; Musimeci et al., 2019). In some cases, older adults can also enroll in Medicaid if they are deemed “Medically Needy”, or if they are a long-term resident of a Skilled Nursing Facility (SNF; Kane et al., 2013; Feng et al., 2019; Musimeci et al., 2019; Rahman et al., 2015; Roberts et al., 2021).

### *2.3.1.1 Medicaid & Skilled Nursing Care*

Medicaid covers some services that Medicare does not; the most important – and costly – is long-term care, both in and out of SNFs. Because Medicaid will pay for LTC, often at a residential SNF, this is where Medicaid spending on duals is concentrated (Jacobson et al., 2012; Kane et al., 2013; Young et al., 2013). Half of the US population over 65 will need some form of LTC before they die, yet few people plan for this possibility (Katz, 2019; Roberts et al., 2021). Instead, many Americans believe, incorrectly, that Medicare covers the costs of these services (Katz, 2019). This practically results in older adults spending most or all of their income and wealth to pay for that care until they can qualify for Medicaid (Kane et al., 2013; Petry, forthcoming; Roberts et al., 2021).

Prior work focuses on skilled nursing facility (SNF) or long-term care (LTC) use, and the costs associated with this care to both Medicare and Medicaid (e.g., Kane et al., 2013; Rahman et al., 2015). Kane et al. (2013) study older adults who are dual eligible for Medicare and Medicaid in the context of LTC services. They find that the higher costs attributed to this population is due to their high disease burden and LTC use (Kane et al., 2013). Because Medicaid is means-tested, individuals who are eligible may be in poor health due to their socioeconomic status and

experiences of deprivation, which may contribute to higher care needs, often met in LTC facilities (Goldfeld et al., 2013; Lochner & Cox, 2013).

SNF residents are a uniquely vulnerable population across two dimensions. First, they are unhealthy: this population typically has high levels of physical and cognitive impairment, many comorbid and chronic conditions, and high levels of depression (Feng et al., 2019; Tavares et al., 2020; Willink et al., 2016). Second, this population is socially and economically marginalized: older adults in SNFs are most often female, from a racial or ethnic minority group, and have very low income and assets (Brown & Mutambudzi, 2022; Casanova, 2021; Willink et al., 2016). All of these characteristics may compound the vulnerability of this population, and all of these characteristics are also true of the population of Medicaid beneficiaries over 65, though less acutely (Tavares et al., 2020; Willink et al., 2016).

### 2.3.2 Kinship in Older Adulthood

Navigating means-tested social programs in the US can be challenging. One model for considering how people access these programs is the administrative burden framework (e.g., Moynihan et al., 2015). Administrative burden refers to “individual’s experience of policy implementation as onerous” (Burden et al., 2012, p. 742). Individuals face learning, compliance, and psychological that might deter or facilitate enrollment in various social programs. The costs of accessing Medicaid, or other programs, may be acute among older adults due to their health status, disability, and other limitations (Herd, 2015; Lochner & Cox, 2013; Martin et al., 2010).

Older adults who receive help during the application process may be better situated to ultimately enroll and receive benefits (Petry, forthcoming). Individuals whose family members reside in a SNF report that they applied for Medicaid on behalf of their relative, most often a parent or spouse (Petry, forthcoming). These family members, younger and healthier than their relative, noted that the process was challenging and demanding (Petry, forthcoming). This

suggests that individuals residing in SNFs who have living family members may be able to enroll in Medicaid more easily.

However, it is also the case that older adults are often receiving physical and financial support from their family members (Chari et al., 2015; López-Anuarbe, 2013). Informal caregiving is becoming an increasingly important component of the US health care system (American Association of Retired Persons [AARP], 2020; Chari et al., 2015). In 2020, nearly 48 million people in the US were providing care to another adult (AARP, 2020). Most of these informal or family caregivers are working age adults caring for someone over 65, and most are women (Chari et al., 2015; Ornstein et al., 2017). Family caregivers support health-related tasks, as well as managing financial and other needs (AARP, 2020; Halpern et al., 2017). Therefore, it is also reasonable to assume that older adults with living kin may be less likely to enroll in Medicaid because they are able to maintain their health and economic stability with the help of their family.

### 2.3.3 Health & the Life Course

People of color are disproportionately included in the population of Medicaid beneficiaries: although Blacks and Latinos comprise 30% of the US population, they account for 50% of all Medicaid beneficiaries (Michener, 2018). This is likely a result of the ways in which race and class are co-constituted in the US (Bonilla-Silva, 2014; Michener, 2018). In addition, Medicaid beneficiaries experience worse outcomes, such as higher rates of depression, asthma, diabetes, obesity, and hypertension than individuals with employer-sponsored insurance (Frakt et al., 2011; Michener, 2018). This is potentially driven by Black and Latinos' experiences of worse health outcomes across the life course e.g. (Fenelon, 2013), compounded by sex, gender, or SES e.g. (Brown et al., 2016). This convergence means that Medicaid beneficiaries represent some of the most vulnerable populations in the US.

#### 2.3.4 Intersectionality & Medicaid

Individuals must demonstrate a financial need in order to enroll in Medicaid. This program design, then, creates a context in which SES is hugely relevant in who is eligible for and who enrolls in Medicaid (Rahman et al., 2015). Similarly, because SES, race, and gender are highly correlated – such that marginalization in one area is associated with marginalization in the others – race and sex are both highly relevant predictors of Medicaid enrollment (Feng et al., 2019; Kane et al., 2013; Rahman et al., 2015). Indeed, groups marginalized due to their race, ethnicity, and sex are overrepresented in the population of Medicaid beneficiaries (Tavares et al., 2020; Willink et al., 2016).

However, research on health and aging lags behind other areas in terms of incorporating intersectional analyses into their repertoire (Holman & Walker, 2020; Warner & Brown, 2011). Most studies involving public health insurance in the US focus on race, ethnicity, sex, and SES as mutually exclusive categories (e.g., Feng et al., 2019). Race, sex, and SES though are constructed and experienced in combination, and intersect in unique ways (Crenshaw, 1989; Holman & Walker, 2020). Without an understanding of how these components of identity are co-constituted and inseparable from each other, studies offer an incomplete and incorrect description of how race, sex, and class marginalize, privilege, and otherwise impact the course of individuals' and populations' health and lives. This study intentionally utilizes an intersectional approach, centering marginalized groups to assess the interactive effects of marginalization.

In this study I answer four interrelated research questions. The first is whether and how one's structural policy context is associated with Medicaid enrollment. Next, furthering the results in Petry (forthcoming), I assess the relationship between prior SNF care and kinship with Medicaid enrollment. Third, I determine the how race, ethnicity, and sex affect the probability of Medicaid enrollment. Finally, I estimate whether SES and other relevant factors operate differently in predicting Medicaid enrollment among different raced and sexed populations.

## 2.4 Data and Methods

I use four data sources for this study. First, I employ the Health and Retirement Study (HRS), a longitudinal panel study conducted every two years including information on demographic characteristics, health insurance, timing of both eligibility for and enrollment in Medicare, Medicaid, and dual coverage, as well as robust financial, health, and mortality identifiers. RAND compiles a longitudinal data file, which I use for these analyses to promote replicability of my results (RAND Center for the Study of Aging, 2022). The RAND data file includes 14 waves, from 1992-2018. I include only 10 waves in this analysis, from 2000-2018, in order to merge with available Medicaid generosity data (which includes measures from 2000-2020). I keep only those respondents over 65 due to state-level variation in Medicaid benefits prior to that age. I exclude respondents who were living outside of the US during any wave.

The second and third data source provides state and year measures of Medicaid generosity (Fox et al., 2020; Musimeci et al., 2019). For the first source (Fox et al., 2020), data are publicly available upon request. Researchers construct a Medicaid generosity score for each state from 2000-2020. I use only the even-year data from 2000-2018 in order to merge this dataset with the HRS file. In addition, the smallest geographical area reported in the public RAND HRS data file is census division, so I condense the state-level data into division-level data. The second source (Musimeci et al., 2019) is from a Kaiser Family Foundation (KFF) report documenting Medicaid eligibility requirements at the state level in 2018. See Appendix A and Appendix B for the complete list of states, divisions, and generosity measures.

Finally, I include the HRS Childhood Family and Childhood Health Aggregated Data (HRS, 2020). This retrospective survey was introduced in 1998 and each subsequent HRS interview cohort completed this survey as part of their baseline interview, only once per respondent (HRS, 2020). Respondents are asked a variety of questions about their family

structure, their financial situation in childhood, and whether they were diagnosed with various health conditions during childhood.

After merging these four data sources, I exploit the longitudinal nature of the data to create a person-interval dataset, where an interval is the time between waves (2 years). I transform the wide format dataset (21,786 observations) into a long format dataset, with up to 10 observations for each person, depending on how many waves they were a respondent in the study. After this transformation, my final person-interval dataset consists of 106,720 person-intervals from 2000-2018.

### 2.4.1 Dependent Variables

The primary dependent variables are Medicaid eligibility and Medicaid enrollment. The HRS collects insurance information each time the survey is administered. Respondents are asked whether they are covered by a government health insurance program, and if so, whether they are covered by Medicare, Medicaid, or a VA plan.

There are four general pathways to Medicaid eligibility: low-income, Supplemental Security Income (SSI), “medically needy”, and other reasons (Feng et al., 2019). The HRS provides detailed income and asset information, as well as whether or not a respondent receives SSI. Income is a continuous measure (mean, min, max), as is wealth (mean, min, max), while SSI is a dummy variable, equal to 1 if a respondent reports receiving SSI. Using this information, I construct a dummy variable for Medicaid eligibility, which equals 1 only if a respondent’s reported assets and income are below the average Medicaid eligibility requirements in their census division. See Appendix A for division-level average Medicaid asset and income thresholds. Although there are other pathways to Medicaid eligibility in older adulthood, being “medically needy” or other reasons, the HRS does not provide that information. Medicaid enrollment is simply whether a respondent has Medicaid coverage in a given wave (1 if yes).



## 2.4.2 Policy Context

The independent variable of interest is macro-level policy context. The public HRS file includes census divisions as the smallest geographic area. There are nine census divisions in the US, each encompassing four to nine US states. Using the public data, this study relies on an imprecise measure of division-level policy context. In particular, this is measured using the Medicaid generosity score proposed by Fox et al. (2020), which is based on: the administrative burden (learning, compliance, and psychological costs; Burden et al., 2012; Moynihan et al., 2015) associated with enrollment, the breadth of eligibility (e.g., income limits), and the benefits associated with Medicaid insurance coverage. These are measures for the overall state Medicaid program and are not specific to adults over 65. To collapse this state-level measure into a division-level measure I report the (even) yearly within-division average for each division from 2000 to 2018. This division-level score ranges from 33.8 to 67.1 over this period. A higher score represents a more generous program, meaning that in that division there are fewer administrative burdens to Medicaid access, broader eligibility requirements, and greater benefits of coverage. I further collapse this variable, reporting only whether a respondent lives in a census division with high Medicaid generosity (greater than the 75<sup>th</sup> percentile) in a given wave.

Because this score is not specific to older adults, I also include a measure of Medicaid Asset Generosity. Using reported state-level individual and couple asset limits for adults who qualify for Medicaid based on their age (65 years or older) or disability from the KFF report (Musimeci et al., 2019), I determine division-level averages. The West South Central division (division 7) has the most generous average asset limits: \$3,390 for an individual and \$5,085 for a couple. I then calculate the proportion of the maximum possible individual assets and couple assets that each division allows, using division 7 as the maximum. This proportion ranges from 0.59 to 1.00, where lower scores indicate lower asset levels and 1.00 reflects allowing the

maximum asset levels. I include only the individual asset score due to correlation between these two measures.

Because Medicaid is only one of several social programs and only one measure of policy context, I include region as a dummy variable only for the South. The particular place-based history of the southern United States is deeply racist, founded on the violent institution of chattel slavery (Bonilla-Silva, 1997; Brown & Homan, 2022; Hardeman et al., 2022; Kramer et al., 2017). Although the entire country shares this sociohistorical context, the Deep South maintained and enforced this system of human ownership and exploitation as a particularly concentrated phenomenon, unlike other regions of the US (Kramer et al., 2017). In addition, prior to the Civil War, the Confederacy was comprised of only southern states (Alabama, Arkansas, Georgia, Florida, Louisiana, Mississippi, South Carolina, North Carolina, Tennessee, Texas, and Virginia) seceded from the Union to defend slavery as a necessary and positive institution to support southern economic interests (Barney, 2020; Robinson, 2017). In the century and a half since the American Civil War, the South abolished slavery, replacing it with strict Jim Crow laws and other forms of racial exploitation and oppression (Krieger et al., 2014). The policies that persist today are entrenched in this profoundly racist past, creating a distinct policy environment with racialized and classed effects that extend beyond those in other regions of the US (Hardeman et al., 2022; Kramer et al., 2017).

### 2.4.3 Demographic Characteristics

I include measures for age, sex, race/ethnicity, and education. Age is continuous, measured in years based on birth date. Cohort is based on birth year, with 1900 as the reference year (birth cohort=birth year-1900). Sex is a dummy variable (1=male). Race is measured with two dummy variables, where White is the reference category (white=0, black=1, other=1).

Ethnicity is measured by a dummy variable (Hispanic=1). Education is continuous, ranging from 0 to 17+ years of education.

#### *2.4.3.1 Financial Security*

In order to capture the financial situation of respondents I use three measures. Income and wealth are both used in constructing Medicaid eligibility. The third financial variable is out-of-pocket (OOP) medical costs. The HRS reports OOP health care spending per respondent for each 2-year period. I divide this total by two to reflect annual OOP spending, then divide this measure by annual household income. In this study having high OOP medical costs is a dichotomous variable where “High OOP” represents respondents who have OOP medical costs that are greater than 10% of their annual household income (Collins et al., 2015; Schoen et al., 2005; Willink et al., 2016).

#### *2.4.3.2 Childhood Factors*

Because health in late life is associated with disadvantage in early life (Hayward & Gorman, 2004; Reynolds et al., 2021), I include measures of childhood financial situation and health in childhood. Respondents are asked to rate their family’s financial situation during their childhood as pretty well off financially, about average, or poor. I construct a dummy variable for poor in childhood, equal to 1 if a respondent answered poor. In addition, respondents are asked to rate their health in childhood as excellent, very good, good, fair, or poor. I construct a dummy variable equal to 1 if a respondent reported either fair or poor health in childhood.

#### *2.4.3.3 Health & Wellbeing*

Finally, I include measures of adult health and wellbeing. Respondents are asked to rate their health in each wave, so I construct a time-varying dummy variable representing whether they reported fair or poor health in a given wave. In addition, based on qualitative results (Petry, forthcoming), I include a measure of whether a respondent had a short-term stay in a SNF over

the previous wave as well as a measure of whether a respondent is kinless. A respondent is considered kinless if they have no living spouse, no living children, and no living siblings (Margolis & Verdery, 2017).

#### 2.4.4 Analytic Strategy

To assess the association between policy context and Medicaid enrollment in late life I construct discrete time logit models clustered by respondent ID number (Shenyang, 2009; Maul, 1994; Menard, 2010; Pampel, 2000). The form of the parsimonious model is:

$$\ln\left(\frac{p_i}{1-p_i}\right) = \beta_0 + \beta_1(\text{age}_i) + \beta_2(\text{generous}_i) + \beta_3(\text{south}_i)$$

In this model,  $p_i$  is the probability of Medicaid enrollment.  $\beta_0$  is the overall intercept, which can be interpreted as the log-odds of Medicaid enrollment when age, generosity, and south are all equal to 0. In this case, age=0 reflects an actual age of 65. The following beta coefficients indicate the predicted contribution of the covariates, which may be either constant over time or time-varying (Allison, 1982; Shenyang, 2009).

First, I construct parsimonious models to capture the macro-level policy context. Here, the odds of enrolling in Medicaid at time  $t$  is a function of the respondents' age at time  $t$ , whether they live in census division with a generous Medicaid program at time  $t$ , and whether they live in the South at time  $t$ . I then include wellbeing factors, followed by demographic characteristics, before including the entire suite of relevant covariates.

To determine whether race and sex combine to affect Medicaid enrollment, first I include interaction terms (e.g., Hargrove, 2018; Holman & Walker, 2020; Reynolds et al., 2022). I interact Black with Female and Hispanic with Female, indicating whether the effect of being Female varies among Black respondents and among Hispanic respondents. Next, I construct stratified models (e.g., Homan et al., 2021; Holman & Walker, 2020; Lu et al., 2022) for the following four groups: Men only (of any race), Women only (of any race), Black respondents

only (men and women), Hispanic respondents only (men and women). In each of these intersectional models I first include only the macro policy context, then wellbeing factors and demographic controls, before specifying the complete model.

I conduct several sensitivity analyses to examine the robustness of these results. First, I include alternate operationalizations of Medicaid generosity. I include it as a continuous, time-varying covariate, then as dichotomous using the median as an alternative cut point. Additionally, I construct dummy variables for each of the race/ethnicity and sex groups I analyze here. My results are robust to each of these specifications; see Appendix C, Appendix D, and Appendix E for detailed results from robustness checks.

## 2.5 Results

### 2.5.1 Sample Description

Per my age restriction, respondents are first eligible when they are 65 or older, so individuals enter the sample at each wave from 2000-2018. Sample baseline descriptive statistics appear in Table 1. At baseline, 15% of this sample is eligible for Medicaid based on their income and assets, while only 8.24% are enrolled in Medicaid. Respondents are from all nine census divisions, but the largest group lives in the South Atlantic division, while the smallest number live in New England. Roughly four in 10 respondents reside in the South at baseline. Individuals range in age from 65 to 107, the average age is 70, while the median age is 66 years old. Women comprise more than half of the sample, Black respondents comprise 15% of the sample, and Hispanic respondents comprise 2.5%.

On average, respondents have a high school education. The mean annual income is \$54,000 and one in 10 respondents report having high OOP medical costs. Roughly 6% of this sample reported that their family was poor in childhood and 6% reporting having poor or fair SRH in childhood. Nearly 40% of this sample reported currently being in fair or poor health. Less

than 2% reported having a SNF stay in the previous two years, nearly 5% reported having no living spouse, siblings, or children, and roughly 7% of the sample at baseline died before the next wave.

Table 3. Baseline Sample Description in Year 2000 (N=21,786 individuals).

<b>Characteristic</b>	<b>N (%); Mean (SD)</b>
<b>Key Dependent Variables</b>	
Medicaid Eligibility	3,277 (15.04%)
Medicaid Enrollment	1,796 (8.24)
<b>Census Division</b>	
1 New England	822 (3.77)
2 Middle Atlantic	2,701 (12.40)
3 East North Central	3,465 (15.90)
4 West North Central	1,727 (7.93)
5 South Atlantic	5,435 (24.95)
6 East South Central	1,305 (5.99)
7 West South Central	2,401 (11.02)
8 Mountain	1,167 (5.36)
9 Pacific	2,723 (12.50)
Missing	40 (0.18)
<b>Southern Region</b>	9,141 (41.96)
<b>Demographics</b>	
Age	70.39 (7.08)
Sex (1=Female)	12,478 (57.28)
Black (non-Hispanic)	3,258 (14.95)
Hispanic	565 (2.59)
Education	12.12 (3.43)
<b>Financial</b>	
Total Income (\$)	54,575 (113,862)
High OOP medical costs	2,274 (10.44)
<b>Childhood Factors</b>	
Family was Poor	1,383 (6.35)
Fair/Poor SRH	1,350 (6.20)
<b>Adult Health &amp; Wellbeing</b>	
Fair/Poor SRH	7,844 (36.00)
SNF Stay (in prev. 2yr)	358 (1.64)
Kinless	1,003 (4.60)
Died (before next wave, year 2002)	1,182 (5.42)

Race, ethnicity, and sex are associated with many of the characteristics measured in this sample (e.g., Willink et al., 2016). Given that, I report baseline means and proportions for each of the following six groups: White Males (WM), White Females (WF), Black Males (BM), Black

Females (BF), Hispanic Males (HM), and Hispanic Females (HF). I conduct two-sample t-tests (assuming equal variance) to assess whether values are significantly different between racial, ethnic, and sex groups at baseline. Table 2 reports these results, indicating whether a given sample estimate is statistically significantly different from the observed estimate for WM, as well as whether a given estimate is statistically significantly different from that of men from the same racial/ethnic group (e.g., BF vs. BM).

Table 4. Baseline Means/Proportions by Race, Ethnicity, and Sex in 2000 (N=19,798).

Characteristic	White Male	White Female	Black Male	Black Female	Hispanic Male	Hispanic Female
South Region	0.382	0.380	0.584*	0.573*	0.331	0.348
Demographics						
Education	12.96	12.60**	10.86*	11.49**	8.70*	8.46*
Financial						
Tot Inc (\$)	72,149	53,490**	40,466*	28,740**	51,989*	29,568**
High OOP med	0.095	0.088	0.161*	0.112**	0.182*	0.118 <sup>+</sup>
Child Factors						
Family Poor	0.068	0.065	0.036*	0.042*	0.074	0.041
Fair/Poor SRH	0.068	0.078**	0.081	0.096*	0.141*	0.139*
Adult Health						
Fair/Poor SRH	0.317	0.305	0.497*	0.457**	0.517*	0.595*
SNF Stay	0.013	0.019**	0.019	0.018	0.011	0.007
Kinless	0.036	0.050**	0.047*	0.071**	0.030	0.027
Died	0.076	0.062**	0.080	0.071	0.067	0.061
N	6,945	9,030	1,248	2,010	269	296

<sup>1</sup>Note: not equal to full sample due to individual case missingness (9%); \*significantly different ( $p<0.05$ ) relative to WM; <sup>+</sup>significantly different ( $p<0.05$ ) from men of the same race/ethnicity.

As expected, more BM and BW live in the South than WM. WM have the greatest educational attainment in this sample (13 years), WF, BM, BF, HM, and HF all have significantly less education. In addition, BF attain more education than BM, while HF attain less education than HM. Income follows the same general pattern, though BF earn less than BM, and HF do not earn a significantly different income than HM. A greater proportion of WF, BF, HM, and HF reported having fair or poor health in childhood than WM. Similarly, more BM, BF, HM, and HF report poor or fair health at the time of the survey than WM. Finally, WF report greater incidence

of having a SNF stay in the previous two year and being kinless than WM. These results are consistent with prior literature documenting racial/ethnic and sexed differences in education, income, and health across the life course.

Next, I report division-level descriptive statistics. The Medicaid Generosity Score (Fox et al., 2020) captures administrative burden associated with enrollment, the breadth of eligibility (e.g., income limits), and the benefits associated with Medicaid insurance coverage. From 2000 to 2018, this score ranges from a minimum of 33.8 in the East South Central division in 2004 to a maximum of 67.1 in the Middle Atlantic Division in 2016. See Figure 1 for division-level generosity trends during this period. See Appendix B for detailed mean Medicaid generosity score for each division from 2000 to 2018, as well as the individual and couple asset generosity proportion in 2018.

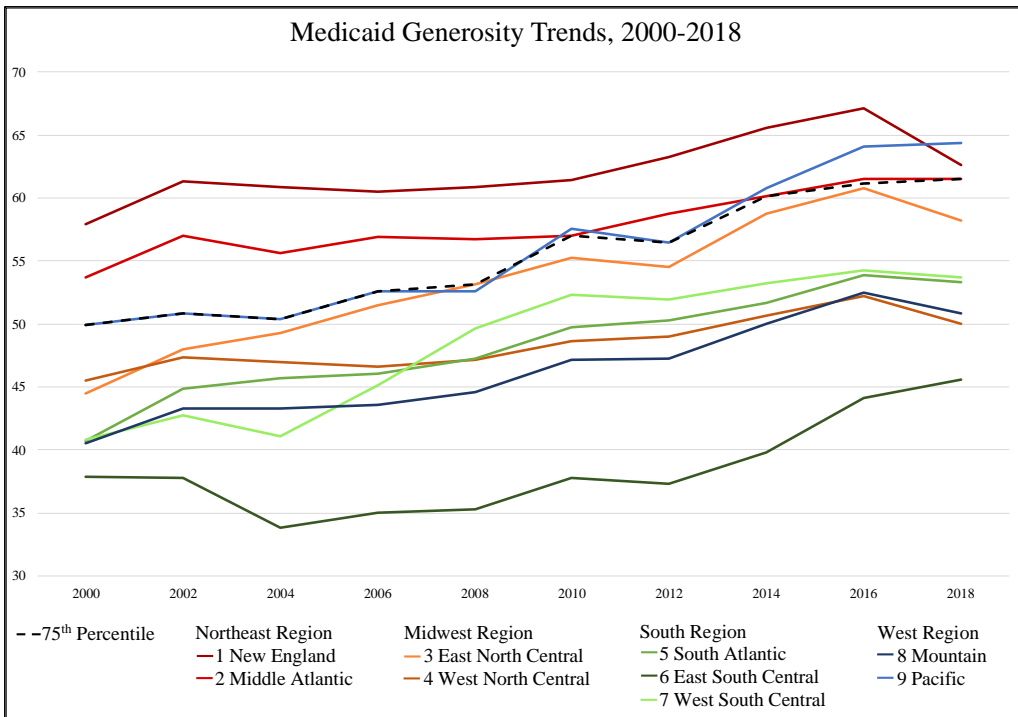


Figure 1. Division-Level Medicaid Generosity Scores, 2000-2018.<sup>1</sup>



On average over this study period, the Middle Atlantic division (2), is the most generous (61.94). The East South Central division (6) is the least generous (38.34). However, in terms of asset limits, in 2018 the West South Central division (7), has the most generous (highest) individual and couple asset limits for their Medicaid programs. This division (7), though, also has the fourth lowest average generosity score over this period. Interestingly, the division with the highest generous score, Middle Atlantic (2), has the second lowest asset thresholds. Three divisions, East North Central (3), East South Central (6), and Mountain (8) have the same proportion, 0.59, representing the least generous (lowest) asset limits. The East South Central division, then, has the lowest Medicaid generosity score as well as the lowest asset limits. Finally, the South is comprised of three divisions: South Atlantic (5), East South Central (6), and West South Central (7). Together, these divisions receive the lowest, second lowest, and fourth lowest Medicaid generosity scores. The asset limits are less clearly distinct, with the average region-level individual and couple asset limits being approximately 84% of the maximum.

### 2.5.2 Logistic Regression

Results are organized around my research questions. First, (1) how is the macro-level Medicaid policy environment associated with Medicaid enrollment in late life? Next, (2) does having had a SNF stay in the previous two years increase the odds of Medicaid enrollment and does having living kin increase the odds of Medicaid enrollment? Third, (3) are race and sex interactively or otherwise associated with Medicaid enrollment in late life? And finally, (4) how are childhood factors, late life health, and SES associated with Medicaid enrollment in late life? Table 3 includes results for Models 1-4, where each model includes the relevant variables responding to that research question. These results are for the full sample (N=106,720 person-wave observations, n=21,786 individuals). Robust standard errors are clustered at the individual level.

In the parsimonious model (Model 1), I account only for the macro-level policy context variables of relevance. Here, individuals living in a state with high Medicaid Generosity are 1.6 times more likely to enroll in Medicaid than individuals in non-generous states ( $p < 0.01$ ). In addition, individuals who live in the South have two times greater odds of Medicaid enrollment relative to individuals living in any other region ( $p < 0.01$ ). The individual asset threshold remains insignificant across all models. Across all models, living in a division with a high Medicaid Generosity score remains significantly ( $p < 0.01$ ) associated with a greater odds of Medicaid enrollment. The magnitude of this coefficient declines slightly from 1.62 in the parsimonious model (1) to 1.52 in the fully specified model (4). Similarly, living in the South remains significantly ( $p < 0.01$ ) associated with greater odds of Medicaid enrollment across all models, though it declines in magnitude from 2.13 in model 1 to 1.42 in model 4.

Individuals who have had a SNF stay in the previous two years are 1.2 times the odds of enrollment in Medicaid than those who have not had a SNF stay ( $p < 0.01$ ). Individuals without living kin have 1.8 times greater odds of enrollment in Medicaid than individuals with living kin ( $p < 0.01$ ). In model 4, having had a SNF stay in the previous two years is not statistically significantly associated with Medicaid enrollment. Having no living kin, though, remains significantly ( $p < 0.01$ ) associated with a greater odds of Medicaid enrollment in both model 3 and model 4.

Women are 1.7 times more likely than men to enroll in Medicaid (Model 3;  $p < 0.01$ ). However, upon including all other control variables, the effect dissipates. Both Black and Hispanic individuals are more likely to enroll in Medicaid than white respondents. In Model 4, being Black is associated with 1.9 times greater odds of Medicaid enrollment ( $p < 0.01$ ). Hispanic individuals are 2.4 times more likely to enroll in Medicaid than white individuals ( $p < 0.01$ ). The interaction terms between Black and female and Hispanic and female are insignificant in Model

Table 5. Discrete-Time Logistic Regression.

Variable	Dependent Variable: Medicaid Enrollment			
	Model 1 OR (Std. Error)	Model 2 OR (Std. Error)	Model 3 OR (Std. Error)	Model 4 OR (Std. Error)
Age	1.032 (0.002)**	1.030 (0.002)**	1.037 (0.002)**	0.994 (0.003)*
Policy Context				
High Score	1.621 (0.089)**	1.618 (0.089)**	1.512 (0.085)**	1.526 (0.094)**
High Asset	1.274 (0.255)	1.278 (0.150)	1.112 (0.228)	0.660 (0.421)
South	2.131 (0.150)**	2.136 (0.150)**	1.921 (0.140)**	1.421 (0.118)**
SNF Stay		1.208 (0.072)**	1.198 (0.074)**	1.057 (0.073)
Kinless		1.772 (0.155)**	1.627 (0.153)**	1.113 (0.109)**
Female			1.697 (0.106)**	1.099 (0.074)
Race (ref: white)				
Black			4.024 (0.367)**	1.915 (0.214)**
Hispanic			9.174 (1.481)**	2.377 (0.520)**
Interactions				
Black/Female			1.023 (0.112)	1.324 (0.173)*
Hispanic/Fem.			0.985 (0.212)	1.184 (0.327)
Income (ref: 1 <sup>st</sup> Quintile)				
2 <sup>nd</sup> Quintile				0.249 (0.162)**
3 <sup>rd</sup> Quintile				0.080 (0.005)**
4 <sup>th</sup> Quintile				0.035 (0.003)**
5 <sup>th</sup> Quintile				0.019 (0.003)**
High OOP Med. Costs				0.0632 (0.46)**
Childhood Factors				
Family was Poor				1.278 (0.162)
Poor SRH				1.362 (0.111)**
Poor SRH (adult)				1.819 (0.071)**
Education				0.839 (0.907)**
Constant	0.006 (0.002)**	0.007 (0.002)**	0.002 (0.001)**	3.229 (0.907)**
N (person-wave)	106,421	106,421	106,421	99,030
N (individuals)	21,749	21,749	21,749	20,977
*p<0.05, **p<0.01				

3. In Model 4, though, being both Black and female is associated with 1.3 times the odds of Medicaid enrollment compared to all others ( $p < 0.05$ ).

As expected, having a higher income is associated with decreased odds of Medicaid enrollment. Relative to individuals' whose income is in the bottom quintile of the income distribution, individuals with income in each of the subsequent quintiles are less likely to enroll in Medicaid ( $p < 0.01$ ). Similarly, individuals with greater educational attainment are less likely to enroll in Medicaid: each additional year of education is associated with a decrease in the odds of enrolling in Medicaid ( $p < 0.01$ ). Interestingly, individuals who report high OOP medical costs are also less likely to enroll in Medicaid than individuals who do not report high OOP costs ( $p < 0.01$ ). Finally, individuals who were in poor or fair health during childhood are 1.4 times more likely to enroll in Medicaid than individuals who were in good, great, or excellent SRH in childhood ( $p < 0.01$ ). Individuals reporting poor or fair health at the time of the survey are 1.8 times more likely to enroll in Medicaid than individuals in better health ( $p < 0.01$ ).

Next, I construct stratified models to further examine the third research question. Table 4 provides results of stratified logistic regression models, all with robust standard errors clustered at the individual level. There are twelve columns, two for each of the following subgroups: white males (WM), white females (WF), Black males (BM), Black females (BF), Hispanic males (HM), and Hispanic females (HF). The discussion of Table 6 results is organized by race and sex, followed by a comparison of the coefficients across models.

Table 6. Stratified Logistic Regression Results.

	WM OR (Std. Error)		WF OR (SE)		BM OR (SE)		BF OR (SE)		HM OR (SE)		HF OR (SE)	
	Model 1	Model 2	Model 1	Model 2	Model 1	Model 2	Model 1	Model 2	Model 1	Model 2	Model 1	Model 2
Age	1.024 (.007)**	0.994 (.008)	1.048 (.005)**	0.994 (.005)	1.042 (.009)**	1.003 (.010)	1.050 (.005)**	1.007 (.006)	1.095 (.025)**	1.048 (.028)	1.071 (.020)**	1.046 (.023)*
Policy Context												
High Gen.	1.498 (.253)*	1.483 (.260)*	1.398 (.134)**	1.317 (.136)**	1.472 (.342)	1.552 (.364)	1.060 (.153)	1.153 (.176)	1.064 (.351)	1.304 (.447)	1.347 (0.398)	1.434 (.504)
South	1.787 (.290)**	1.377 (.232)	1.750 (.170)**	1.282 (.131)*	2.176 (.450)**	1.522 (.333)	1.495 (.194)**	1.152 (.156)	1.414 (.518)	1.064 (.456)	0.822 (0.281)	0.391 (.158)*
SNF Stay		1.049 (.209)		1.119 (.119)		1.588 (.373)*		1.174 (.188)		0.328 (.269)		1.154 (.704)
Kinless		2.231 (.494)**		1.098 (.178)		1.520 (.429)		0.664 (.142)		9.940 (7.38)**		1.408 (.818)
Financial												
2 <sup>nd</sup> Inc. Q		0.178 (.020)**		0.193 (.015)**		0.385 (.050)**		0.336 (.030)**		0.499 (.138)*		0.200 (.056)**
3 <sup>rd</sup> Inc. Q		0.058 (.009)**		0.061 (.007)**		0.136 (.023)**		0.123 (.018)**		0.145 (.062)**		0.063 (.022)**
4 <sup>th</sup> Inc. Q		0.025 (.005)**		0.019 (.004)**		0.085 (.021)**		0.060 (.012)**		0.019 (.016)**		0.048 (.030)**
5 <sup>th</sup> Inc. Q		0.018 (.004)**		0.015 (.004)**		0.026 (.009)**		0.044 (.013)**		0.009 (.010)**		0.039 (.030)**
High OOP		0.753 (.164)		0.668 (.078)**		1.206 (.259)		0.681 (.100)**		0.170 (.078)**		0.606 (.298)**
Childhood												
Family was Poor		0.941 (.385)		1.594 (.178)*		1.310 (.646)		0.924 (.293)		3.848 (2.69)		0.954 (.756)
Poor SRH		1.934 (.394)**		1.383 (.193)*		1.283 (.381)		1.068 (.193)		0.542 (.316)		1.119 (.466)
Poor SRH		1.682 (.193)**		2.001 (.142)**		1.143 (.143)		1.723 (.143)**		1.259 (.316)		2.531 (.675)**
Education		0.906 (.020)**		0.836 (.015)**		0.947 (.021)*		0.878 (.017)**		0.928 (.034)*		0.892 (.033)**
Constant	0.003 (.002)**	0.833 (.559)**	0.001 (.000)**	1.477 (1.181)	0.007 (.004)**	0.656 (.595)	0.009 (.004)**	1.770 (.927)	0.001 (.001)**	0.072 (.142)	0.005 (.007)**	0.152 (.245)
N (total)	33,952	31,704	46,788	43,827	5,233	4,735	9,346	8,675	881	791	1,159	1,055
N (indiv.)	6,945	6,696	9,030	8,752	1,248	1,189	2,010	1,950	269	252	296	279

\*p<0.05; \*\*p<0.01

### *2.5.2.1 White Sample*

In both models, white males residing in a division with high Medicaid generosity have 1.5 times the odds of enrolling in Medicaid compared to males in non-generous divisions ( $p < 0.05$ ). In the parsimonious model (1), white males living in the South have 1.8 times greater odds of enrollment relative to males living elsewhere ( $p < 0.01$ ). This effect is diminished in the full model. Males without living kin have more than twice the odds of enrollment in Medicaid than males with living kin ( $p < 0.01$ ). Income, education, poor childhood health, and poor adult health all follow the same trends as the full sample and remain significant.

White females, similarly, are more likely to enroll in Medicaid if they reside in a generous division and if they reside in the South ( $p < 0.01$ ,  $p < 0.05$  for the South in Model 2). Neither being kinless nor having a SNF stay are significantly associated with Medicaid enrollment in this sample. White females who were poor during childhood have 1.6 times greater odds of Medicaid enrollment than white females whose families were financially well-off or average during childhood ( $p < 0.05$ ). Income, education, and both child and adult health follow the same patterns as the full sample.

### *2.5.2.2 Black Sample*

Black males residing in the South are twice as likely to enroll in Medicaid than Black males residing in other regions ( $p < 0.01$ ). This effect does not persist in the full model. Black males who have had a SNF stay in the previous two years have 1.6 times the odds of enrolling in Medicaid compared to Black males who did not have a SNF stay ( $p < 0.05$ ). Black males with higher incomes have decreased odds of enrollment. Among Black males, each additional year of education is associated with slightly decreased odds of enrollment ( $p < 0.05$ ).

In the sample of Black females, living in the South is associated with 1.5 times the odds of enrolling compared to living elsewhere ( $p < 0.01$ ). As with Black males, this does not remain

significant in the full model. Black females with incomes in each quintile above the first have lower odds of Medicaid enrollment than those with the lowest incomes ( $p < 0.01$ ), and each additional year of education is associated with decreased enrollment risk ( $p < 0.01$ ). Being in poor health is associated with 1.7 times greater odds of Medicaid enrollment for Black females.

### *2.5.2.3 Hispanic Sample*

Both Hispanic subsamples are small, therefore results are imprecise. Hispanic males who are kinless have nearly ten times greater enrollment odds than those with living kin ( $p < 0.01$ ), however the standard error is large (7.38). Income follows the same pattern as each other sample and the overall sample, significant at the 0.05 and 0.01 level. Finally, each additional year of education is associated with a small decrease in the odds of Medicaid enrollment among Hispanic males.

Hispanic females living in the South have lower odds of enrollment in Medicaid than those living elsewhere ( $p < 0.05$ ). Income and education follow the same trend in this sample as in all others ( $p < 0.01$ ). Hispanic females reporting poor health have 2.5 times the odds of enrollment than those in better health ( $p < 0.05$ ).

### *2.5.2.4 Stratified Model Comparison*

I conduct chi-squared tests on significant coefficients to determine whether coefficients are statistically different across models. See Appendices E, F, and G for coefficient comparison table. I compare coefficients within each racial group (Male to Female), between each sex group (White to Black, White to Hispanic, and Black to Hispanic), resulting in nine comparisons: WM vs WF, BM vs BF, HM vs HF, WM vs BM, WM vs HM, BM vs HM, WF vs BF, WF vs HF, and BF vs HF.

Among white respondents, education has a larger effect for females than for males. Similarly, Black females experience a greater decrease in their odds of Medicaid enrollment when

they receive additional education compared to males. Although the coefficient for the effect of having poor SRH is insignificant for Black males, it is significant for Black females and the difference is also statistically significant. This indicates that the odds of enrolling in Medicaid for Black females in poor health are greater than for Black males in poor health. In the Hispanic subsample, being in the second income quintile (relative to the first) is associated with lower odds of enrollment for both males and females, but the effect is stronger for females. Alternately, Hispanic males who are kinless have much greater odds of Medicaid enrollment relative to Hispanic females.

When comparing the coefficients for males across racial groups, it is evident that white males whose income is in the second through fourth quintiles, compared to those in the lowest quintile, have lower odds of Medicaid enrollment relative to Black males in the same income quintiles. This difference does not persist at the highest quintile. Similarly, white males with income in the second and third quintile, relative to the first, also have lower odds compared to Hispanic males with incomes in the same quintiles. The differences for Black and Hispanic males, however, are insignificant. Finally, the risk of enrolling in Medicaid for Black males who have had a SNF stay are greater than for Hispanic males who have had a SNF stay.

Similar patterns emerge in the female samples. The odds of Medicaid enrollment are reduced more white females with incomes in the second to fifth income quintiles relative to Black females in the same quintiles. There is no difference, though, between the effect of income between white and Hispanic females or between Black and Hispanic females. The odds of enrolling for Hispanic females who reside in the South are lower than those for either white or Black females in the South.



## 2.6 Conclusion

The odds of Medicaid enrollment in older adulthood are patterned by structural factors. Income is the single greatest predictor of Medicaid enrollment in this period of life. The income distribution in the US is racialized and gendered. Here, I demonstrate that having a low-income is linked to Medicaid enrollment, as is identifying as Black, Hispanic, as well as being female. Regardless of these factors, individuals who reside in states with higher Medicaid generosity are more likely to enroll than their counterparts in less generous states. In general, this suggests that where fewer structural and policy barriers exist it is easier to apply and enroll. In addition, income (and wealth) are themselves barriers to Medicaid access. So, where enrollment restrictions are less onerous, those barriers are less prescient.

Alternately, individuals who reside in the South are more likely to enroll in Medicaid than individuals in any other region. Counterintuitively, the South is the region with the least generous Medicaid programs and the greatest structural barriers to applying. However, income is inherently linked to Medicaid enrollment, and poverty is distinctly concentrated in the South. This finding, then, demonstrates the critical relationship between access and income, highlighted by the historical and contemporary distribution of income across the US. The US South, as the rest of the country, was founded on racism, compounded over centuries of racialization and exploitation. In the South, the racialized and intergenerational history of income and wealth accumulation points to deeper structural fracturing that itself produces differential Medicaid enrollment.

A key aim of this study was to assess whether race, sex, and income are independently or collectively associated with Medicaid enrollment during older adulthood. I find that being from a racially marginalized group, being female, and having a low-income are each individually associated with greater odds of enrollment. Further, I find that individuals who are marginalized on account of both their race and their sex have greater odds of Medicaid enrollment. Finally, I

find that having higher income is more strongly associated with lower odds of enrollment for privileged groups relative to marginalized ones, in terms of both racial and sexed identities.

Medicaid, funded through both federal and state mechanisms, is administered by states, producing a program patterned by geography and socio-historical context. In states with fewer barriers to enrollment, more people over age 65 are able to enroll. The individuals with the greatest odds of enrollment in this period of life are those with the lowest incomes, the most marginalized identities, and the worst health. Medicaid enrollment in this latest period of life, then, is a consequence of intersectional experiences of marginalization.

## 2.7 Discussion

Medicaid provides health insurance to some of the poorest and most vulnerable populations across the United States. Adults over 65 typically have fixed incomes and declining health. Both income and health in late life are associated with experiences of race, sex, and class over the life course. Therefore, older adults enrolled in Medicaid are likely to have poorer health outcomes than their peers (Chudnovsky & Peeters, 2021) and fewer resources to blunt the effects of poverty, poor health, and other experiences of marginalization (Tavares et al., 2020; Willink et al., 2016). Research on these populations is increasingly important as more and more people reach older ages and rely on social insurance. This study offers one examination of how both policy and life course factors are associated with Medicaid enrollment in later life.

Where Medicaid policies are more generous, with less onerous enrollment criteria, more people are able to enroll. Once enrolled, these individuals have access to greater (more generous) benefits. Roughly half of the older adults in this study whose income is less than the FPL live in these more generous states. However, Medicaid enrollment is also high in the US South, where roughly 6 in 10 Black respondents in this sample reside. In the South, Medicaid is characterized by high administrative burdens – significant learning and compliance costs – and more sparse

benefits for enrollees (Michener, 2018). Taken together, this suggests systemic and persistent marginalization, both at the individual level and the structural level.

In places with a greater proportion of racially marginalized individuals in the population, enrolling in Medicaid is more challenging and there are fewer benefits. However, it is exactly those marginalized populations most likely to access Medicaid in older adulthood. Medicaid policy is racialized, racializing, and racist. It is embedded in the racialized history of the US, and it contributes to the continuing racialization of minority groups as less deserving than their white peers (e.g., Triece, 2013). Medicaid policy is racially structured and structuring: there is a consistent trend toward requiring more onerous application processes and providing fewer benefits where more Black people live. This critical program is distributed inequitably and contributes to inequitable outcomes in late life.

Medicaid policy, as it is written and implemented, contributes to health and social inequity across the life course. However, there are several levers available to policy makers to improve this key program. First, most states in the South chose not to expand Medicaid following the passage of the Affordable Care Act (ACA; Michener, 2018). Increasing access by expanding eligibility to individuals with higher incomes, especially in older adulthood, can begin to address the racialized nature of this policy and enable more people to access care. Similarly, states can expand the benefits for older adults so that, once enrolled, they can access higher quality and more robust care. Finally, much of the financial burden of Medicaid is related to providing SNF care. To reduce these costs, opening up funds to expand access and benefits, the US – either federally or otherwise – can seek to enhance financial security in late life and to provide more options for at-home care. None of these recommendations will solve the underlying systemic factors: sexism, racism, and classism. However, they offer a first step at promoting more equitable public health in older adulthood.

## 3 Health Insurance and Care Transitions in Older Adulthood: Policy, Marginalization, and Life Expectancy

### 3.1 Introduction

In the US, health insurance is typically provided by employers to their employees (Hoffman & Paradise, 2008). Individuals who do not receive employer-sponsored insurance face an increasingly fragmented and complex insurance marketplace (Michener, 2018). Public Insurance provides some coverage for individuals without employer-sponsored insurance. In particular, Medicaid may be available for many low-income individuals and families, as well as low-income individuals who are 65 years old or older, disabled, or blind. Medicare is universally available to all US citizens 65 or older who paid qualifying taxes. For individuals who do not meet the eligibility criteria for these public programs, several private plans are available for purchase, more so given the emergence of health care exchanges implemented through the Affordable Care Act (ACA).

Medicare is the primary public health insurance program for people over 65 in the US, but Medicaid can cover some of the Medicare coverage gaps for those who qualify (Young et al., 2013). Those who are eligible for both Medicare and Medicaid are often referred to as dual eligible beneficiaries, or, simply, duals (e.g., Feng et al., 2019). Duals are a particularly expensive subgroup: they represent 20% of all Medicare beneficiaries and 15% of all Medicaid beneficiaries, yet they account for about a third of spending for both programs (Feng et al., 2019; Jacobson et al., 2012; Young et al., 2013). This may be because duals tend to be sick, poor, and often reside in long-term care (LTC) facilities (Young et al., 2013). The intersection of health, race, age, and SES that characterizes the position of many duals has profound consequences for the outcomes this population experiences.

The proportion of Medicare beneficiaries reporting multiple chronic conditions (comorbidities) increases with age and is particularly high among Non-Hispanic Black males and

females, as well as female dual eligible beneficiaries (Lochner & Cox, 2013). Given that comorbidities in older adulthood are concentrated among racial and gender minorities, older adults who will require LTC are also likely to be from these marginalized groups (Katz, 2019; Lochner & Cox, 2013; Rahman et al., 2015). Transitions in residential status – moving in or out of LTC, for example – in older adulthood can significantly impact health (Molony et al., 2011).

Understanding how often transitions occur between care at home and residential LTC, especially for marginalized populations, is critical to better coordinating that care. Similarly, knowing how long individuals can expect to live with either Medicare only or dual eligibility has significant implications for policy and for aging individuals in the US. Examining whether these significant later life outcomes vary by early life context can help policymakers better target those policies and be better prepared to address future cohorts' needs as they age into older adulthood.

## 3.2 Literature Review & Theoretical Framework

Both Medicare and Medicaid provide health insurance to vulnerable populations in the United States. In a country without universal health care, publicly funded health insurance can protect the health, wellness, and life of individuals who might be priced out of a private health insurance market. Understanding how these two programs (Medicare and Medicaid), together and separately, impact life expectancy is critical to targeting and extending these policies where they can be most beneficial.

### 3.2.1 Insurance and Mortality

Previous research has documented that insurance coverage reduces mortality (McWilliams et al., 2004; Sommers et al., 2012b; Wilper et al., 2009) and improves a variety of health outcomes (Brook et al., 1983; McWilliams et al., 2007a). In comparing privately insured and uninsured people between ages 17-64, people without insurance were likely belong to a racial or ethnic minority, be unemployed, report worse self-rated health, and have lower levels of both

income and education than insured individuals (Wilper et al., 2009). Similarly, in examining health insurance among the near elderly (ages 50-64), those without private insurance were less likely to be white, more likely to report worse self-rated health, and have lower levels of education and income than near elderly individuals with insurance (McWilliams et al., 2004). Lack of health insurance for both of these populations was associated with significantly greater mortality and higher Medicare service use after age 65 (McWilliams et al., 2004; McWilliams et al., 2007b; Wilper et al., 2009).

These studies, however, do not report the impact of insurance on mortality among adults over 65 and none compare Medicare-only to dually eligible beneficiaries. Because Medicaid is a means-tested program, gaining access to this program in older adulthood indicates some level of poverty, which may have unique consequences for older adults. In addition, residential status, or transitions in place of care may interact with insurance to create particular health trajectories. In this study I explicitly consider insurance type and geographic location to address this limitation.

### 3.2.2 Medicaid Policy Implementation

Medicaid covers hundreds of thousands of people in the US. Many of those beneficiaries become eligible for (and enroll in) Medicaid after enrolling in Medicare. Indeed, of newly dual eligible beneficiaries from 2007-2010, more than 67% first enrolled in Medicare, then later enrolled in Medicaid (Feng et al., 2019). One potential reason for the commonality of this pathway is that the largest gap in Medicare coverage involves LTC (e.g., Blumenthal et al., 2015). Because Medicaid will pay for LTC, often at a residential SNF, this is where Medicaid spending on duals is concentrated (Jacobson et al., 2012; Kane et al., 2013; Young et al., 2013). Half of the US population over 65 will need some form of LTC before they die, yet few people plan for this possibility (Katz, 2019). Instead, many Americans believe, incorrectly, that Medicare

covers the costs of these services (Katz, 2019). When individuals require this care, then, Medicaid may be a viable option for supplemental insurance coverage.

People of color are disproportionately included in the population of Medicaid beneficiaries: although Blacks and Latinos comprise 30% of the US population, they account for 50% of all Medicaid beneficiaries (Michener, 2018). This is likely a result of the ways in which race and class are co-constituted in the US (Bonilla-Silva, 2014; Michener, 2018). In addition, Medicaid beneficiaries experience worse outcomes, such as higher rates of depression, asthma, diabetes, obesity, and hypertension than individuals with employer-sponsored insurance (Frakt et al., 2011; Michener, 2018). This is potentially driven by Black and Latinos' experiences of worse health outcomes across the life course e.g. (Fenelon, 2013), compounded by sex, gender, or SES e.g. (Brown et al., 2016). This convergence means that Medicaid beneficiaries represent some of the most vulnerable populations in the US.

Medicaid beneficiaries are also *already* some of the most vulnerable among the US population: people living in poverty, people of color, people with disabilities and chronic health conditions, and people over 65. In 2017, 9% of Medicaid beneficiaries were elderly and dually eligible for Medicare and Medicaid (Michener, 2018). These “aged” beneficiaries are also among the most vulnerable, but that vulnerability may be compounded by their age. Women, Black and Hispanic individuals, and unmarried individuals are all overrepresented in the overall dual eligible population (Rahman et al., 2015; Willink et al., 2016). Access to Medicaid at older ages, then, provides those most disadvantaged in the US with access to services that might, quite literally, be the difference between life and death.

### *3.2.2.1 State Medicaid Variability*

Importantly, Medicaid is funded as a federal-state partnership: the federal government matches state Medicaid spending at least dollar for dollar (Kaiser Family Foundation [KFF],

2022a). However, the federal government determines what proportion of state-level Medicaid costs it will cover by comparing each state's average personal income to the national average. In states where the average personal income is lower than the national average the federal government contributes a greater proportion of Medicaid funds. For example, in 2021 federal government spending accounted 84.5% of Medicaid spending in Mississippi, while Mississippi funded the remaining 15.5% (KFF, 2022a). This program design is intended to produce more equitable Medicaid funding across states.

Although Medicaid funding is apportioned by the federal government based on state income and population, significant inequities remain. Fox et al. (2020) report state and year measures of Medicaid generosity from 2000-2020. Drawing on the administrative burden framework (Moynihan et al., 2015), these scholars compare state-level Medicaid implementation strategies to assess whether they facilitate or hinder individual access to Medicaid (Fox et al., 2020). In particular, they compare the proportion of applications the state processes rapidly, whether individuals can submit Medicaid applications online, and adoption of various policies associated with Medicaid expansion under the Affordable Care Act (ACA). These metrics capture variability in levels of administrative burden – the costs to individuals in learning about, enrolling in, and accessing Medicaid benefits – that individuals face in different states across the US.

#### *3.2.2.2 Medicaid: Aged, Blind, Disabled*

Every state has to offer Medicaid benefits to low-income individuals who are 65 or older, blind, or disabled. The same populations may be eligible for Supplemental Security Income (SSI), a federal benefit program. These select populations covered are in most cases also eligible for Medicare coverage, resulting in a significant proportion of individuals over 65, blind, or disabled dually enrolling in Medicare and Medicaid (Feng et al., 2019). However, states have different metrics for determining eligibility, even within this narrowly defined population. For example, in



33 states, individuals in this population must receive SSI to be eligible for Medicaid, while individuals considered “Medically Needy” or who reside in a SNF may be eligible in 34 states (KFF, 2022b). Medically needy individuals have income above their state’s threshold but have high medical expenses that reduce their income (Feng et al., 2019). Each state sets its own specific income threshold for medically needy beneficiaries. The variability of Medicaid programs and benefits may have significant consequences for how long people spend with a given insurance type, where they receive care, and how long they can expect to live.

### 3.2.3 Health Disparities: Raced, Classed, & Gendered

Evidence suggests that early life circumstances can have profound and lasting consequences for health across the life course. Socioeconomic status, SES, is commonly used as a measure of early life disadvantage, especially as operationalized with educational attainment (e.g., Hayward & Gorman, 2004). Education is consistently associated with a variety of health outcomes in adulthood. For example, college graduates experience “less increase in physical impairment over time regardless of age group (i.e., across adulthood) than do the less educated” (Kim & Durden, 2007, p2493). Lower levels of education are positively associated with either poor or fair self-rated health in adulthood (Lynch, 2003) and more highly educated individuals experience a slower erosion of self-rated health (Mirowsky & Ross, 2008). In addition, higher educated individuals live longer and healthier lives, and spend fewer years disabled or chronically ill (Dupre, 2007; Elo, 2009).

In the US, race is constructed in social and political contexts, and it is often related to socioeconomic disadvantage. The lived experiences of racialization and racism have profound impacts on differently raced bodies that reach beyond the contexts in which they were constructed. There are persistent racial inequities in both quantity and quality of education, and in the health and mortality benefits associated with higher educational attainment (Braveman et al.,

2010; Montez et al., 2011). Racially marginalized populations tend to have worse health outcomes across the life course (e.g., Haas & Rohlfen 2010; Phelan & Link, 2015). Racism and racialization, then, affect health trajectories and outcomes as populations age.

Race and sex overlap and the health consequences for differently raced and sexed bodies and populations might be multiplicative, rather than additive (Crenshaw, 1989; Richardson & Brown 2016). Emergent evidence that many health outcomes are intersectional: gender, race, and class interact across the life course to produce distinct health trajectories. For example, belonging to a racial or ethnic minority group and being female results in worse self-rated health and greater incidence of hypertension than either race or sex alone would suggest (Brown et al., 2016; Richardson & Brown, 2016). In addition, morbidity trajectories vary by age, and are compounded by race, ethnicity, & nativity (Brown, 2018). Operationalizing and testing intersectionality, either on its own or in concert with other life course theories can reveal relationships that have significant impacts on the health and wellbeing of marginalized groups.

I employ a novel intersectional approach to studying health insurance, health care, and life expectancy. Building on prior work examining the effect of health insurance coverage on mortality, I incorporate geographic identifiers, specific Medicaid policy implementation strategies, and the relevance of LTC in this space. I identify how long individuals from distinct racial/ethnic, gender, and class groups can spend with different types of insurance after age 65 as well as expected years of LTC use among adults 65 years old or more.

### 3.3 Data and Methods

#### 3.3.1 Data

Data for this project come from the Health and Retirement Study (HRS), a longitudinal panel study of adults over age 50 conducted every two years since 1992 (RAND Center for the Study of Aging, 2022). The HRS is commonly used in demographic and health research because

it includes detailed information on demographic characteristics, nursing home residency, health insurance, timing of eligibility for Medicare, Medicaid, and dual eligibility, as well as mortality. The sample (1992-2018) includes 42,233 individuals.

In order to access state of residence, I applied for access to the Health and Retirement Survey: Cross-Wave Geographic Information (State) data (HRS 2021). This dataset includes the state of residence for each respondent (N=43,398) from 1992-2016, matched to the 2018 tracker file. Because Medicaid is implemented at the state level, this granularity is critical to assessing whether and how access to Medicaid can improve health outcomes or access to resources. After merging these HRS datasets, my analytic sample is 42,232 matched individuals.

Due to limitations of other data sources (see below), I include only individuals interviewed from 2000-2018, but exclude individuals interviewed for the first time in 2018 (n=135). I drop any individuals who died in wave 4 (2000) or wave 5 (2002), individuals who were dropped from the sample in wave 5, and individuals who did not respond to the survey across this period (n=2,656, n=1,125, n=444, and n=1,333, respectively). I also drop anyone not in an HRS birth cohort (n=1,125) and anyone who reported living outside the US in one or more waves (n=107). After these specifications, my initial analytic sample consists of 36,325 respondents.

Next, I merge this dataset with data collected by the HRS regarding respondents' retrospective childhood family and health data. The Cross-Wave Childhood Health and Family Aggregated Data include information about a respondent's childhood family SES, parental education, parental alcohol or drug use, and any physical abuse. In addition, respondents report their childhood self-rated health as well as whether they had any of a collection of health conditions, including both physical and mental health measures. The latest release (Health and Retirement Survey 2020) includes 38,654 individual responses from 1992-2016.

The final data sources provide state and year measures of Medicaid generosity (Fox et al., 2020; Musimeci et al., 2019). Researchers construct a dataset including a Medicaid generosity score for each state from 2000-2020, which is publicly available upon request (Fox et al., 2020). I use only the even-year data from 2000-2018 in order to merge this dataset with the HRS data. Finally, I link data from a Kaiser Family Foundation (KFF) report documenting Medicaid eligibility requirements at the state level in 2018 (Musimeci et al., 2019). See Appendix A for the complete list of states, divisions, and generosity measures. For each interval, this sample includes a unique generosity score for each of the 50 US states and DC.

### *3.3.1.1 Missingness.*

Each of the 36,325 individuals could have been interviewed up to ten times, once during each 2-year interval (2000-2002, 2002-2004, etc.), contributing up to ten intervals. I drop all intervals contributed by individuals younger than 48 (n=1,974). Additionally, some respondents either die during the study period or are censored in 2018. After deleting intervals post-death and censored my analytic sample contains 169,171 person-interval observations (N=34,990 individuals) across all 50 US states and DC. Most person-interval observations (N=97,130) are contributed by 21,341 individuals aged 65 or older. For descriptive and comparative purposes, I keep the 72,041 person-intervals contributed by respondents aged 50-64 (N=22,937). Due to item missingness in terms of insurance, my final insurance transition sample is 88,635 person-intervals. Similarly, my final analytic sample for residential transitions is 91,941 person-intervals.

### **3.3.2 Analytic Strategy**

I generate multistate life tables to report years lived in various states of insurance and nursing home residency. This method enables me to model how individuals experience transitions in and out of various types of insurance coverage and residencies. Among respondents over 65, there are two relevant insurance states: Medicare-only and Dual eligible. Transitions between

states and from each state to dead do occur in this sample (see Figure 2). Similarly, there are two residential states: home and a SNF. However, individuals generally do not transition from SNF care back to home ( $n=209$ , 0.23%). I assign those individuals to transitioning from a SNF to a SNF, resulting in only 5 possible transitions (See Figure 3).

### 3.3.2.1 Modelling Transitions

Among the sample aged 65 or older, there are 2 possible insurance states. At each age, the transition probabilities implied by the state space can be represented by a 3-by-3 matrix in which each row in the matrix represents a respondent's state at time  $t$  and each column represents their state at the next time point, time  $t+2$ . Death is an absorbing state (once dead a respondent cannot return to a living state). Therefore, there are 6 possible insurance transitions that an individual might experience over each interval. Conditional on the starting state, then, there are 3 possible transitions: remain in current insurance state, transfer to the other insurance state, or die.

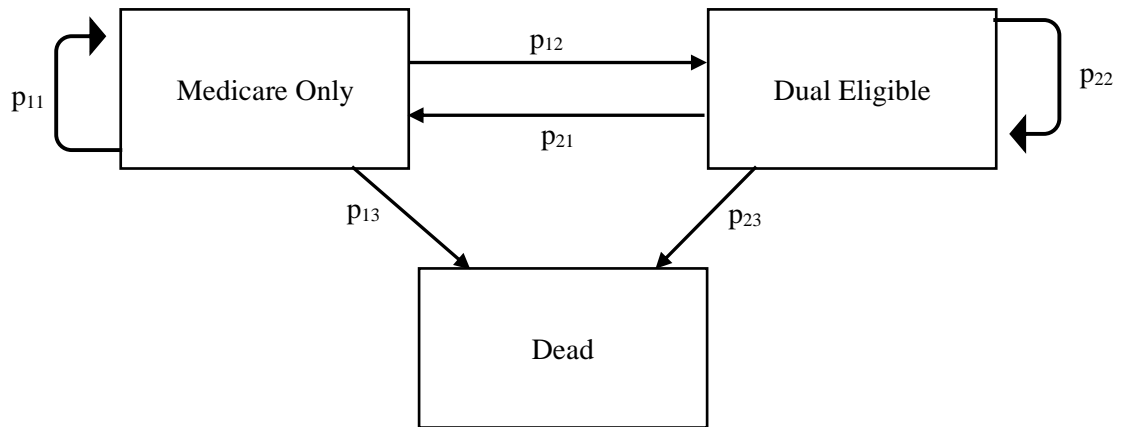


Figure 2. Health Insurance State Space, age 65.

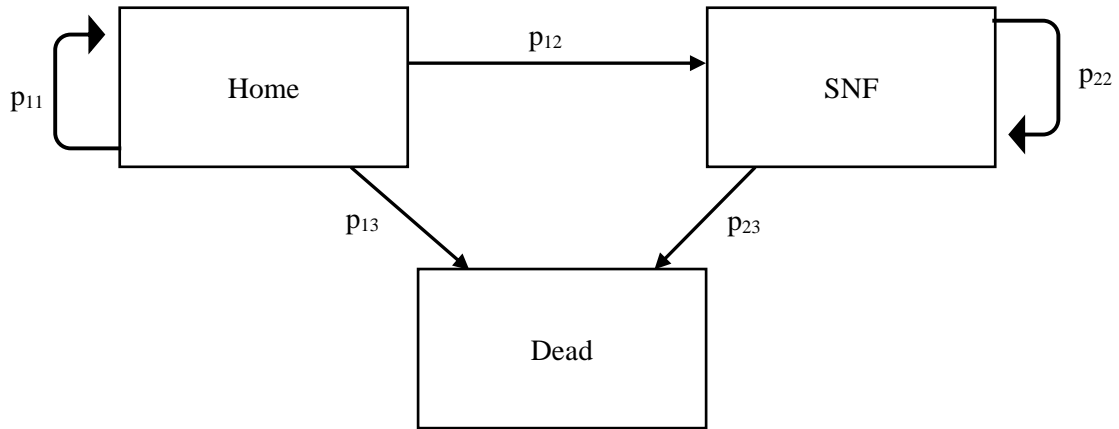


Figure 3. Residential State Space, age 65.

The age-specific residential transition probabilities are similarly represented by a 3 by 3 matrix, as above. However, because the transition from a SNF to home does not occur, the value in the second row of the first column is set to 0 at every age. There are only 5 possible transitions an individual might experience over each interval. Conditional on starting an interval at home, there are 3 possible transitions: remain at home, move into a SNF, or die. Conditional on starting an interval in a SNF, though, there are only 2 possible transitions: remain in a SNF or die. See Tables 3 and 4 for all observed transitions.

### 3.3.2.2 Analytic Strategy

I generate multistate life tables to report years lived in various states of insurance and nursing home residency (e.g., Bardo & Lynch, 2019; West & Lynch 2021; Zang et al., 2021). This method enables me to model how often individuals transition in and out of various types of insurance coverage and residencies. There are two relevant state spaces where each theoretical transition is labelled with an arrow (Figure 2, Figure 3).

I model insurance transitions between waves using a multinomial logit model with six outcomes for adults 65 or older. Each outcome is a possible transition. The reference transition is remaining with Medicare only. I model residential transitions using a multinomial logit model with five outcomes, where the reference transition is remaining at home. In all models, I include

policy metrics, age, and other covariates as transition predictors. From each of the multinomial logit model results, I construct age-specific transition probability matrices given several covariate profiles. Next, I construct life tables using traditional methods. I construct three distinct tables for each profile: population-based and state-based (for each state). The population-based results assume the same population proportions at age 65 as those represented in the data, while each state-based table assumes the entire population is in one state at age 65 (e.g., all with Medicare only or all with dual coverage). I report these results for different policy metrics and socio-demographic profiles to determine whether the likelihood of certain transitions vary based on Medicaid policy context and whether race, sex, and other measures of disadvantage intersect in predicting state and overall life expectancies (Bardo & Lynch, 2019; Lorenti et al., 2020).

## 3.4 Results

### 3.4.1 Sample Description

As reported in Table 7, most person-intervals overall are contributed by white individuals (76.6%), with a smaller proportion of intervals among the younger sample (68.8%) and a greater proportion of intervals among respondents aged 65 or older (82.4%). Black respondents contribute to 16.8% of all person-intervals, and this follows the same pattern as white respondents: a greater proportion of Black respondents are represented in the younger sample (20.8%) and a smaller proportion is represented among the older adult sample (13.9%). Most person-interval observations are from female respondents (58% of all samples), and roughly the same proportion of intervals are contributed by individuals with income below the FPL across all samples (17%). In addition, the proportion of person-intervals contributed by kinless individuals does not vary greatly across samples (5.2% of the younger sample, 4.5% of the older adult sample).

Table 7. Covariate Profile of the Overall Sample, Young Sample (age 50), and Older Adult Sample (age 65+): HRS 2000-2018 (N=169,171 Intervals)

<b>Characteristic</b>	<b>Overall Mean (SD); or %</b>	<b>Young Mean (SD); or %</b>	<b>Older Adult Mean (SD); or %</b>
Age	67.94 (10.74)	57.82 (3.93)	75.45 (7.56)
Birth Cohort	39.77 (12.15)	50.25 (6.99)	32.00 (8.89)
Female	58.02	57.92	58.10
Race			
<i>White (ref.)</i>	76.58	68.78	82.36
<i>Black</i>	16.84	20.82	13.89
<i>Other</i>	6.44	10.10	3.71
Hispanic	10.94	14.55	8.26
Total Income (\$)	63,150 (208,222)	80,108 (198,359)	50,572 (214,383)
Below FPL	16.77	17.07	16.54
Education (years)	12.46 (3.27)	12.91 (3.10)	12.13 (3.35)
Coupled	63.36	71.05	57.65
Kinless	4.82	5.21	4.53
SNF stay (since prev. IW)	4.75	0.92	7.59
Current Region			
<i>Northeast</i>	15.66	15.29	15.94
<i>Midwest</i>	23.62	21.84	24.93
<i>South</i>	41.35	41.64	41.13
<i>West</i>	19.38	21.23	18.00
Current State Medicaid Policy*			
<i>Least Generous</i>	33.76	33.19	34.19
<i>Most Generous</i>	25.33	26.56	24.43
<b>Total (Intervals)</b>	<b>N=169,171</b>	<b>N=72,041</b>	<b>N=97,130</b>

\**Least Generous* refers to the proportion of respondents residing in a state with a Medicaid generosity score in the bottom 10<sup>th</sup> percentile; *Most generous* refers to the top 10<sup>th</sup> percentile.



Individuals younger than 65 have higher incomes, on average, than individuals over 65 (\$80,108 and \$50,572, respectively). Similarly, more younger individuals are coupled (71%) than older adults (58%). Very few intervals observed in the younger sample are contributed by individuals who have had a short-term SNF stay since the previous wave (0.9%). Alternately, 7.6% of all intervals observed in the older adult sample are contributed by individuals who have had a SNF stay. Finally, and intuitively, the average age represented in the younger sample, 57.8 years old, is much lower than that of the older adult sample, 75.5 years old.

### 5.5.2 Medicaid & Health Insurance

Across all samples, roughly one third of person-intervals are contributed by individuals residing in a state with a Medicaid generosity score in the bottom 10th percentile (33.8%, 33.2%, and 34.2%). Similarly, one quarter of all person intervals are from individuals residing in states with a generosity score in the top 10<sup>th</sup> percentile (25.3%, 26.6%, and 24.4%). The most generous states are in the Northeast and West, while the least generous states are primarily in the South.

Table 8. Policy Context for all 50 states and D.C., from 2000-2018. N=510 observations.

	<b>2000</b>	<b>2008</b>	<b>2014</b>	<b>2018</b>
	<b>Mean (SD)</b>	<b>Mean (SD)</b>	<b>Mean (SD)</b>	<b>Mean (SD)</b>
Medicaid Generosity Score*	<b>44.94</b> (9.21)	<b>49.10</b> (10.72)	<b>53.86</b> (10.65)	<b>54.96</b> (10.82)
<b>Total</b>	<b>N=51</b>	<b>N=51</b>	<b>N=51</b>	<b>N=51</b>

\*See Fox et al. (2020) for detailed description of how Medicaid Generosity Score is calculated

Of the 169,171 person-interval observations (N=34,990 individuals aged 50 and older), most intervals are contributed by individuals remaining with Medicare coverage only (40%) or remaining with private insurance (29%). Roughly 5% of all observed transitions are contributed by individuals remaining with Medicaid only (4.9%), individuals transitioning from private insurance to Medicare (4.3%), and individuals transitioning from Medicare to death (4.2%). For older adults, though, the potential insurance states are restricted to Medicare only and dual

eligibility (see Table 9). Here, individuals remaining with Medicare only contribute most of the observed transitions.

Table 9. Observed Insurance Transitions (Age 65+).

Time 1 ↓	Time 2			Total
	Medicare	Dual	Dead	
Medicare	68,395 (86.33)	3,132 (3.95)	7,699 (9.72)	<b>79,226 (100%)</b>
Dual	2,252 (23.93)	5,280 (56.12)	1,877 (19.95)	<b>9,409 (100%)</b>
Dead	0	0	ALL	
<b>Total</b>	<b>70,647 (79.71)</b>	<b>8,412 (9.49)</b>	<b>9,576 (10.80)</b>	<b>88,635 (100%)</b>

When starting with Medicare only, nearly one in ten (9.72%) observed transitions are to death. When the starting state is dual coverage, though, one in twenty (19.95%) observed transitions are to death. Most observed transitions from the Medicare only state are contributed by individuals who remain with Medicare only (86%). Similarly, most observed transitions from the dual coverage are contributed by individuals remaining with dual coverage (56%). Nearly 4% of all transitions from Medicare only are to dual coverage, and approximately one in five observed transitions are contributed by individuals who transition from dual coverage to Medicare only.

### 3.4.2 Residential Status

Most observed transitions for those who start at home are contributed by individuals who remain at home (88.9%). However, 2% of all transitions from home are contributed by individuals who transition to a SNF. As with insurance, nearly one in ten observed transitions from home are contributed by individuals who die (8.6%). For individuals who start in a SNF, more transitions are contributed by individuals who die than by individuals who remain in a SNF (54% and 46%, respectively). See Table 10 for all observed residential transitions.

Table 10. Observed Residential Transitions (Age 65+).

Time 1 ↓	Time 2			Total
	Home	SNF	Dead	
Home	78,470 (88.92)	1,897 (2.15)	7,880 (8.93)	<b>88,247 (100%)</b>
SNF	0	1,606 (46.08)	1,879 (53.92)	<b>3,485 (100%)</b>
Dead	0	0	ALL	
<b>Total</b>	<b>78,470 (85.54)</b>	<b>3,503 (3.81)</b>	<b>9,759 (10.61)</b>	<b>91,941 (100%)</b>

### 3.4.3 Multi-State Life Tables: Health Insurance

As noted, I construct multinomial logit models to predict age-specific transition probabilities for each of the six observed transitions (see state space in Figure 1). Table 5 reports the state expectancies overall and at various levels of Medicaid policy generosity. The first column indicates the covariate profile used to determine state expectancies. For example, in row two, the covariate profile is “Generosity: Top 10<sup>th</sup> Percentile.” To determine state expectancies for this covariate profile, I predict transition probabilities by setting all covariates to their means except for the generosity score. For each generosity score profile reported, I construct a different multinomial logit model where the key predictor is a dummy variable for whether an individual lives in a state with a Medicaid generosity score above the given level (1 if yes, 0 if not). The second row, then, is state expectancies for individuals residing in a state with a generosity score in the top 10<sup>th</sup> percentile.

The second row indicates which life table the results refer to. Here, “P” indicates results from the population-based table, where, at age 65, I assume 82% of the population have Medicare and 18% the population have dual coverage (as observed in the sample). “M” indicates the results from the Medicare state-based table, where I assume 100% of the population at age 65 has

Medicare coverage only. Finally, the “D” in this column refers to the dual eligible state-based table, where 100% of the population is assigned to the dual coverage state at age 65.

Table 11. Medicare and Dual Eligible Insurance State Expectancies by Medicaid Policy Generosity at age 65: HRS 2000-2018.

<b>Policy Metric</b>	<b>Table</b>	<b>Total LE</b>	<b>Medicare LE</b>	<b>Dual LE</b>	<b>%Dual LE</b>
Overall	P	18.06	16.46	1.60	8.87
	M	18.32	17.23	1.09	5.94
	D	16.88	12.94	3.94	21.53
Generosity: Top 10 <sup>th</sup> Percentile	P	18.23	16.46	1.76	9.68
	M	18.45	17.25	1.21	6.54
	D	17.20	12.90	4.30	23.32
Generosity: Top 20 <sup>th</sup> Percentile	P	18.35	16.62	1.73	9.43
	M	18.58	17.40	1.18	6.37
	D	17.31	13.08	4.23	22.74
Generosity: Bottom 10 <sup>th</sup> Percentile	P	18.41	16.98	1.43	7.79
	M	18.69	17.74	0.96	5.12
	D	17.12	13.51	3.61	19.29
Generosity: Bottom 20 <sup>th</sup> Percentile	P	18.09	16.67	1.42	7.84
	M	18.37	17.41	0.95	5.20
	D	16.82	13.28	3.54	19.25
Generosity: Top 50 <sup>th</sup> Percentile	P	18.21	16.60	1.62	8.91
	M	18.46	17.35	1.11	6.04
	D	17.10	13.16	3.94	21.33
Generosity: Bottom 50 <sup>th</sup> Percentile	P	17.92	16.33	1.59	8.89
	M	18.20	17.13	1.07	5.89
	D	16.69	12.71	3.97	21.84
South	P	17.47	15.86	1.62	9.25
	M	17.73	16.66	1.07	6.02
	D	16.34	12.22	4.12	23.25

All covariates set to mean values (unless otherwise indicated): generosity=0.24, black=0.14, other=0.04, Hispanic=0.08, education=12.13, below FPL=0.16, sex=0.42, south=0.41, coupled=0.58, kinless=0.045, SNF stay=0.08

The subsequent rows are the state expectancies, in years, at age 65. The “Total LE” column is the overall life expectancy for each table. The “Medicare LE” and “Dual LE” sum to Total LE, and reflect years expected in each state before death. The last row, “%Dual LE” can be calculated as the “Dual LE” column divided by the “Total LE” column, producing the proportion of remaining years individuals can expect to spend with dual coverage.

#### *3.4.3.1 Population-Based Life Table Results*

For the overall population, life expectancy at age 65 is 18.06 years. This estimate varies slightly across policy metrics, however, there are no significant differences between the estimates for the top 10<sup>th</sup>, top 20<sup>th</sup>, bottom 10<sup>th</sup>, and bottom 20<sup>th</sup> percentiles (18.2, 18.4, 18.4, 18.1, respectively). This is broadly unsurprising, as the relationship between Medicaid generosity and life expectancy may only matter for individuals who are dually covered by Medicare and Medicaid.

Individuals can, on average, expect to spend more years with dual coverage if they reside in more generous states (top 10<sup>th</sup> and top 20<sup>th</sup>) relative to the least generous (bottom 10<sup>th</sup> and bottom 20<sup>th</sup>). Specifically, in the case of the most generous – top 10<sup>th</sup> percentile – individuals can expect to spend, on average, 9.7% of their remaining years dually eligible at age 65. This amounts to roughly 1.8 years with dual coverage. Alternately, for the least generous – bottom 10<sup>th</sup> percentile – individuals can expect to spend, on average, 7.8% of their remaining years with dual coverage. This is 1.4 years with dual coverage, approximately 0.4 fewer years or nearly 5 fewer months with dual coverage. When comparing the top 20<sup>th</sup> and bottom 20<sup>th</sup> percentiles, individuals residing in the higher generosity states can similarly expect to live approximately 4 more months with dual coverage than individuals residing in lower generosity states. When comparing states above and below the median Medicaid generosity score there is no observable difference in dual coverage expectancies.

Table 12. Medicare and Dual Eligible Insurance State Expectancies by Sociodemographic and Health-related Risk Factors at age 65: HRS 2000-2018.

<b>Covariate Profile</b>	<b>Table</b>	<b>Total LE</b>	<b>Medicare LE</b>	<b>Dual LE</b>	<b>%Dual LE</b>
Below FPL	P	15.49	12.15	3.34	21.57
	M	15.67	12.95	2.72	17.36
	D	14.70	8.53	6.17	39.38
NH Stay (since prev. wave)	P	8.80	6.96	1.85	20.98
	M	9.16	7.71	1.45	15.87
	D	7.15	3.52	3.63	39.63
Kinless	P	17.23	15.41	1.83	10.60
	M	17.53	16.32	1.21	6.88
	D	15.89	11.24	4.65	26.56
Female	P	19.96	18.17	1.60	1.78
	M	20.27	19.07	1.09	1.20
	D	18.53	14.11	3.94	4.42
Male	P	15.58	14.19	1.60	1.38
	M	15.77	14.82	1.09	0.94
	D	14.72	11.33	3.94	3.38
NH White	P	17.96	16.53	1.42	7.91
	M	18.23	17.34	0.89	4.89
	D	16.68	12.85	3.83	20.99
NH Black	P	17.73	15.37	2.36	13.32
	M	17.91	15.95	1.96	10.95
	D	16.90	12.72	4.18	23.35
NH Other	P	18.46	16.54	1.92	10.42
	M	18.81	17.38	1.43	7.62
	D	16.86	12.71	4.16	22.10
Hispanic	P	19.70	16.79	2.91	14.78
	M	19.87	17.51	2.36	11.88
	D	18.90	13.48	5.42	27.26

All covariates set to mean values (unless otherwise indicated): generosity=0.24, black=0.14, other=0.04, Hispanic=0.08, education=12.13, below FPL=0.16, sex=0.42, south=0.41, coupled=0.58, kinless=0.045, SNF stay=0.08

Finally, the South presents an interesting case as it includes many states with some of the least generous Medicaid programs. Individuals residing in the South can expect to live fewer years overall (17.47 years) than individuals overall (18.06 years). However, state expectancies in the South are most similar to estimates for the most generous states: dual coverage accounts for 9.25% of remaining years at age 65, on average, for individuals in the South.

Having an income below the FPL is associated with a shorter life expectancy relative to the overall population at age 65 (15.5 years, 18.1 years, respectively). In addition, individuals with incomes below the FPL can expect to live more years with dual coverage (3.4 years) than the overall population (1.6 years). Given these differing state expectancies, it follows that individuals with low incomes can also expect to live a substantially greater proportion of their remaining years at age 65 dually eligible for Medicaid and Medicare (21.6%) relative to the overall population (8.9%). Indeed, at age 65, individuals whose incomes are below the FPL can expect to live more than one fifth of their remaining years dually covered.

The lowest estimated life expectancy at age 65 in this study is attributable to individuals who have had a short (less than 30 day) stay in a SNF since the previous wave (e.g., in the previous two years). On average, individuals who have had a SNF stay since the previous wave can expect to live only 8.8 more years at age 65. That is less than half of the overall estimated life expectancy at age 65 (18.1 years). Much like individuals with low incomes, this population can also expect to live more than one fifth of their fewer remaining years with dual coverage (21%).

The observed racial and ethnic differences in total life expectancy and the proportion of remaining years spent with dual coverage are somewhat subtler than other differences. At age 65, Hispanic individuals have the greatest life expectancy of any racial or ethnic group: 19.7 years. Following this population are non-Hispanic individuals who identify as another race (e.g., Asian), who can expect to live, on average, 18.5 additional years at age 65 and non-Hispanic white

individuals, who can expect to live 17.96 more years at age 65. Finally, non-Hispanic Black individuals can expect to live the smallest number of years, on average, at age 65: 17.73.

Although average life expectancy at age 65 does not differ significantly for Hispanic and non-Hispanic individuals of another race, the expected proportion of those years spent with dual coverage does. Although both populations can expect to spend more years with dual coverage than the population overall, Hispanic individuals can expect to spend the greatest proportion of their remaining years at age 65 with dual coverage (14.78%). Individuals identifying as another race, though, can expect to spend only 10.42% of their remaining years at age 65 with dual coverage.

Non-Hispanic Black individuals have a similar life expectancy at age 65 to non-Hispanic white individuals, but non-Hispanic Black individuals can expect to spend one additional year with dual coverage relative to their white peers (2.4 years and 1.4 years, respectively). It follows that non-Hispanic Black individuals can expect to spend 13.3% of their remaining years at age 65 with dual coverage, compared to only 7.9% for white individuals.

#### *3.4.3.2 State-Based Life Table Results*

The “Medicare” state-based table results indicate state and life expectancies for individuals who begin with Medicare coverage only at age 65. The “dual” state-based table results represent state and life expectancy for individuals who have dual coverage at age 65.

Across all covariate profiles, the Medicare state-based total life expectancy results are greater than both the population-based and dual state-based results. Alternately, the dual state-based results are the smallest of these three estimates across all groups. For example, in the population overall, the Medicare state-based results indicate that life expectancy at age 65 is 18.32 years, which is greater than the population-based estimate (18.06 years), which is in turn greater than the dual state-based estimate (16.88). Consequently, the estimated number of years



Table 13. Home and Skilled Nursing Facility State Expectancies by Medicaid Policy Generosity at age 65: HRS 2000-2018.

<b>Policy Metric</b>	<b>Table</b>	<b>Total LE</b>	<b>Home LE</b>	<b>SNF LE</b>	<b>%SNF LE</b>
Overall	P	16.49	15.54	0.95	5.77
	H	17.87	17.23	0.60	3.38
	S	4.07	0	4.07	100
Generosity: Top 10 <sup>th</sup> Percentile	P	16.83	15.89	0.93	5.55
	H	18.20	17.66	0.54	2.96
	S	4.49	0	4.49	100
Generosity: Top 20 <sup>th</sup> Percentile	P	16.85	15.88	0.97	5.73
	H	18.23	17.65	0.58	3.20
	S	4.42	0	4.42	100
Generosity: Bottom 10 <sup>th</sup> Percentile	P	16.69	15.78	0.90	5.41
	H	18.11	17.54	0.57	3.17
	S	3.85	0	3.85	100
Generosity: Bottom 20 <sup>th</sup> Percentile	P	16.36	15.46	0.90	5.48
	H	17.76	17.18	0.58	3.26
	S	3.76	0	3.76	100
Generosity: Top 50 <sup>th</sup> Percentile	P	16.83	15.82	1.01	5.99
	H	18.20	17.58	0.63	3.44
	S	4.43	0	4.43	100
Generosity: Bottom 50 <sup>th</sup> Percentile	P	16.52	15.52	1.00	6.07
	H	17.89	17.24	0.64	3.60
	S	4.22	0	4.22	100
South	P	16.16	15.27	0.88	5.73
	H	17.50	16.97	0.53	3.20
	S	4.08	0	4.08	100

All covariates set to mean values (unless otherwise indicated): generosity=0.24, black=0.14, other=0.04, Hispanic=0.08, education=12.13, below FPL=0.16, sex=0.42, south=0.41, coupled=0.58, kinless=0.05, dual=0.10

spent with dual coverage and the proportion of remaining years dually covered follow the inverse pattern: dual state-based results indicate the greatest number and proportion of years with dual

coverage, followed by the population-based results, with the Medicare state-based results estimating the lowest number and proportion.

### 3.4.4 Multi-State Life Tables: Residency

#### 3.4.4.1 *Population-Based Life Table Results*

As reported in Tables 13 and 14, across all metrics, Medicaid generosity is not significantly associated with either overall life expectancy or the proportion of remaining years spent in a SNF. However, as observed with health insurance, the residency model results suggest that individuals with incomes below the FPL have shorter life expectancy at age 65 (14.9 years) and a larger proportion of those years in a SNF (6.3%) than the population overall. Individuals with dual coverage at age 65 can also expect to live fewer years overall (14.5) and a greater proportion in a SNF (6.9%) at age 65.

Results from the health insurance model imply that individuals without living kin at age 65 can expect to live fewer years, on average, than the overall population (17.2 and 18.1 years, respectively). The same trend appears in the residency model: individuals without living kin can expect to live fewer years at age 65 than the number estimated for the population overall (15.6 and 16.5 years, respectively). In this case, though, individuals without living kin at age 65 can also expect to spend more of those years in a SNF (6.7%) than the overall population (5.8%).

Female individuals can expect to live longer than males at age 65 (17.8 and 14.5 years, respectively). Females can also expect to spend more years in a SNF (1.2 years, 6.5%) than males (0.7 years, 4.9%). Finally, as observed in the health insurance results, Hispanic individuals have the greatest life expectancy at age 65 of any racial or ethnic group examined here (19.6 years).

Table 14. Home and Skilled Nursing Facility State Expectancies by Sociodemographic Characteristics and Health-related Risk Factors at age 65: HRS 2000-2018.

<b>Covariate Profile</b>	<b>Table</b>	<b>Total LE</b>	<b>Home LE</b>	<b>SNF LE</b>	<b>%SNF LE</b>
Below FPL	P	14.85	13.92	0.93	6.27
	H	16.07	15.46	0.60	3.75
	S	3.88	0	3.88	100
Dual Eligible	P	14.48	13.49	0.99	6.85
	H	15.64	14.98	0.66	4.20
	S	4.00	0	4.00	100
Kinless	P	15.57	14.53	1.04	6.67
	H	16.85	16.14	0.70	4.18
	S	4.04	0	4.04	100
Female	P	17.97	16.80	1.17	6.52
	H	19.46	18.67	0.79	4.06
	S	4.60	0	4.60	100
Male	P	14.48	13.77	0.71	4.93
	H	15.71	15.30	0.41	2.61
	S	3.46	0	3.46	100
NH White	P	16.13	15.15	0.98	6.07
	H	17.47	16.83	0.64	3.69
	S	3.98	0	3.98	100
NH Black	P	16.65	15.77	0.89	5.36
	H	18.02	17.52	0.51	2.83
	S	4.33	0	4.33	100
NH Other	P	16.77	15.85	0.92	5.49
	H	18.17	17.61	0.55	3.04
	S	4.23	0	4.23	100
Hispanic	P	19.59	18.74	0.85	4.35
	H	21.25	20.82	0.44	2.05
	S	4.60	0	4.60	100

All covariates set to mean values (unless otherwise indicated): generosity=0.24, black=0.14, other=0.04, Hispanic=0.08, education=12.13, below FPL=0.16, sex=0.42, south=0.41, coupled=0.58, kinless=0.05, dual=0.10

#### *3.4.4.2 State-Based Life Table Results*

The “home” state-based results represent estimated state and life years for individuals who reside at home at age 65, while the “SNF” state-based results estimate state and life years expected for individuals who reside in a SNF at age 65. In parallel to the trends observed in the population- and state-based estimates for the health insurance models, across all covariate profiles the home state-based total life expectancy results are the largest, followed by the population-based results, and the SNF state-based results are the smallest. Because the state space and model does not allow for transitions from a SNF to home, the total life expectancy reported for the state-based model is equivalent to the SNF life expectancy (e.g., Overall SNF state-based Total LE is 4.07, SNF LE is 4.07). The number and proportion of remaining years at age 65 expected to spend in a SNF are similarly patterned: the SNF state-based tables provide the greatest estimates, followed by the population-based estimates, and the home state-based estimates are the smallest.

#### *3.4.5 Multi-State Life Tables: Intersectionality*

I examine two different intersections. First, I examine differences in racial/ethnic groups separately by sex. I produce health insurance state expectancies for NH Black females and NH Black males, NH white females and NH white males, NH other females and NH other males, and Hispanic females and Hispanic males. Next, I examine differences in racial/ethnic groups separately by poverty status. In particular, for each racial/ethnic group, I produce life table results for individuals whose income is below the FPL and individuals whose income is above the FPL.

These analyses are more precise than those reported in Tables 12 and 14 because I do not set all other covariates to their means. In those tables, some of the differences between racial and ethnic groups appear washed out due to assuming all other covariates are at their mean values. Instead, I set the racial/ethnic identifier in question to 1, as well as the other metric (sex or

poverty status). The distinctions between racial, ethnic, sex, and class groups become more apparent when comparing within groups, not only between groups.

Table 15. Medicare and Dual Eligible Insurance State Expectancies by Race and Sex Characteristics at age 65: HRS 2000-2018.

<b>Covariate Profile</b>	<b>Table</b>	<b>Total LE</b>	<b>Medicare LE</b>	<b>Dual LE</b>	<b>%Dual LE</b>
NH Black Female	P	19.53	16.92	2.60	13.33
	M	19.75	17.59	2.16	10.92
	D	18.51	13.87	4.64	23.50
NH Black Male	P	15.38	13.32	2.06	13.40
	M	15.50	13.79	1.71	11.05
	D	14.80	11.16	3.63	23.45
NH White Female	P	19.86	18.28	1.58	7.97
	M	20.20	19.21	0.99	4.88
	D	18.33	14.03	4.30	21.28
NH White Male	P	15.79	14.24	1.22	7.92
	M	15.67	14.89	0.77	4.93
	D	14.52	11.24	3.28	20.94
NH Other Female	P	20.33	18.20	2.13	10.47
	M	20.73	19.16	1.58	7.60
	D	18.46	13.82	4.65	22.42
NH Other Male	P	16.01	14.34	1.67	10.43
	M	16.28	15.03	1.25	7.69
	D	14.76	14.76	3.58	21.97
Hispanic Female	P	21.62	18.63	2.99	13.81
	M	21.84	19.51	2.33	10.67
	D	20.59	14.62	5.97	27.34
Hispanic Male	P	17.14	14.84	2.30	13.42
	M	17.27	15.46	1.81	10.50
	D	16.56	12.03	4.53	26.21

Covariates set to mean values: generosity=0.24, black=0.14, other=0.035, Hispanic=0.08, education=12.13, below FPL=0.16, sex=0.42, south=0.41, coupled=0.58, kinless=0.045, SNF stay=0.08

#### *3.4.5.1 Race and Sex*

Within all racial/ethnic groups, females can expect to live longer than males. Hispanic females have the greatest overall life expectancy at age 65, and the subsequent pattern is the same as observed in previous tables: NH Other, NH white, then NH Black. The same pattern is evident among males of each racial and ethnic grouping.

Females and males of the same race and ethnicity can expect to live approximately the same proportion of their remaining years at age 65 with dual coverage. However, because their overall life expectancy varies, it follows that the number of years spent with dual coverage does vary between males and females. Across all racial/ethnic groups, females can expect to live more years with dual coverage than men.

The sex-based results in Table 12 indicated that males could expect to spend fewer years and a smaller proportion of their remaining years dually covered. The state-based results in Table 15, however, indicate that males and females (within the same racial/ethnic group) can expect to spend roughly the same proportion of remaining years with dual coverage. The number of years differs, but that is a result of the differing TLE estimates for each state-based table.

#### *3.4.5.2 Race and Class*

Across all racial and ethnic groups, individuals below the poverty line can expect to live roughly 2 years less, overall, than those with higher incomes. There is a racially classed pattern to these results, as well. In particular, among individuals whose income is above the FPL, Hispanic individuals have the greatest life expectancy, followed by NH other individuals, then NH white individuals, with NH Black individuals estimated to live the fewest additional years at age 65. A similar pattern emerges for those whose incomes are below the FPL. However, the differences observed in life expectancy overall for NH white, NH Black, and NH other are not observably distinct.

Table 16. Medicare and Dual Eligible Insurance State Expectancies by Race and Income Characteristics at age 65: HRS 2000-2018.

<b>Covariate Profile</b>	<b>Table</b>	<b>Total LE</b>	<b>Medicare LE</b>	<b>Dual LE</b>	<b>%Dual LE</b>
NH Black Above FPL	P	18.28	16.25	2.04	11.15
	M	18.47	16.83	1.65	8.93
	D	17.43	13.62	3.81	21.84
NH Black Below FPL	P	15.54	10.76	4.78	30.74
	M	15.67	11.32	4.35	27.78
	D	14.94	8.24	6.70	44.88
NH White Above FPL	P	18.56	17.33	1.24	6.67
	M	18.85	18.11	0.74	3.91
	D	17.25	13.73	3.52	20.41
NH White Below FPL	P	15.32	12.38	2.94	19.15
	M	15.51	13.23	2.28	14.69
	D	14.45	8.53	5.92	40.95
NH Other Above FPL	P	19.10	17.44	1.66	8.71
	M	19.46	18.27	1.19	6.13
	D	17.47	13.66	3.81	21.81
NH Other Below FPL	P	15.96	11.76	3.94	25.10
	M	15.97	12.58	3.39	21.23
	D	14.49	8.04	6.45	44.51
Hispanic Above FPL	P	20.26	17.96	2.29	11.33
	M	20.45	18.71	1.74	8.52
	D	19.37	14.56	4.81	24.84
Hispanic Below FPL	P	17.58	11.91	5.68	32.27
	M	17.68	12.65	12.65	28.43
	D	17.16	8.52	8.63	50.33

Covariates set to mean values: generosity=0.24, black=0.14, other=0.035, Hispanic=0.08, education=12.13, below FPL=0.16, sex=0.42, south=0.41, coupled=0.58, kinless=0.045, SNF stay=0.08

The number and proportion of years individuals in each racial/ethnic class group can expect to spend with dual coverage varies observably. Specifically, among individuals with

incomes above the FPL, NH Black and Hispanic individuals can expect to live more years and a greater proportion of their remaining years with dual coverage, relative to NH white and NH other individuals. Similarly, NH Black, NH other, and Hispanic populations with income below the FPL can expect to live more years and a much greater proportion of their remaining years with dual coverage.

The state-based tables follow the same pattern as observed in Tables 12 and 13. The TLE estimate for the Medicare state-based is greatest, followed by the population-based estimate, followed by the dual state-based estimate. The distinctions between each state-based table are much more obvious when examining groupings of both race and class. For example, in Table 12, the dual state-based results indicate that Hispanic individuals can expect to live almost 30% of their remaining years dual eligible at age 65. In Table 16, there are observable class differences in both dual state-based expectancies and Medicare state-based expectancies.

### 3.5 Conclusion

Adults aged 65 and older are guaranteed Medicare coverage provided they are a US citizen and they paid qualifying taxes during their working years. This federal program provides basic health insurance at low-cost to beneficiaries but does not necessarily prevent excessive medical bills or serious health declines and care needs in older adulthood. Instead, many adults will experience some degree of poverty in their later life, and many will need substantial hands-on care (Cubanski et al., 2018; Katz, 2019). Medicaid can provide additional coverage for these older adults, but state-level variability in this program produces inequities in coverage, care types, and life expectancy.

One key aim of this study was to identify disparities in life expectancy based on health insurance coverage, residence in a SNF, and state policy context. Across all populations considered, if all individuals have Medicare coverage at age 65, they can expect to live 0.25 more



years (3 more months), on average, than the population-based estimates. Compared to the dual state-based estimates, having Medicare coverage only at age 65 is associated with a 1.4 year longer life expectancy. Similarly, assuming the entire population resides at home at age 65 produces smaller estimates of the number of years spent in a SNF. In addition, because I restrict the state space and don't allow transitions from a SNF to home, the SNF residency state-based results predict very few remaining years at age 65 (4.07 overall, on average). For individuals who are dual eligible at age 65, overall life expectancy is shorter than non-duals.

Taken together, this suggests that being dually covered is itself indicative of poorer health. Indeed, prior research indicates that dual eligible beneficiaries are likely to be in worse health, have fewer economic resources, and require LTC services (Young et al., 2013). This selection effect, while expected, suggests that Medicaid, in combination with Medicare, is insufficient to protect the health and wellbeing of the many Aged, Blind, and Disabled beneficiaries across the country.

I hypothesized that state-level Medicaid policy would be associated with life expectancy. In particular, I predicted that individuals residing in states with more generous Medicaid programs would live longer than individuals residing in states with less generous Medicaid programs. The results do not indicate any effect of state Medicaid generosity on overall life expectancy at age 65 or expected years in a SNF at age 65. While most low scoring states tend to have fewer dually covered older adults than high scoring states, southern states, which have some of the lowest scores, have high proportions of dual eligibility among older adults (KFF, 2023). Life expectancy may differ between high and low-generosity states, but in this analysis, those differences are averaged out by the effects of southern states.

However, I do find that state Medicaid generosity is positively associated with years spent dually covered by Medicare and Medicaid. Specifically, in states with Medicaid generosity

scores in the top 20th percentile, individuals can expect to live five more months with dual coverage than individuals in states with scores in the bottom 20th percentile. Because Medicaid can fill in several Medicare coverage gaps, often critical for health in late life, this suggests that individuals in less generous states are more likely to have incomplete and insufficient health care coverage relative to their peers in generous states.

The South presents a unique case study in public health insurance and life expectancy. Although the southeastern US is comprised of states with some of the lowest Medicaid generosity scores, and the majority of all non-expansion states are in the South, individuals in this region have similar state-expectancies to individuals residing in more generous US states. Living in the South is associated with an expected 1 in 10 remaining years spent with dual coverage at age 65. This is effectively equivalent to the proportion expected in the most generous states. The South is also a fundamentally racist and racialized sociopolitical environment. The same can be said of the entire US, but racism is more deeply entrenched in Southern states as a result of the enduring context of slavery, Jim Crow, and state-based racial violence in that region (Bonilla-Silva, 1997; Brown & Homan, 2022; Hardeman et al., 2022; Kramer et al., 2017). It is unsurprising, then, that estimates for the South closely resemble those for non-Hispanic Black individuals.

In the second chapter of this dissertation, I find that being kinless is positively and significantly associated with dual enrollment after age 65 (see page 59). These results further indicate that being kinless is associated with more expected years with dual coverage and more years in a SNF than the population overall. In combination with the findings reported in Chapter 2, as well as those in Petry (forthcoming), this implies that older adults without living kin are highly susceptible to poverty, as indicated by dual enrollment, and to significant health care needs, requiring specialized SNF care.

A second aim of this study was to examine racial, ethnic, and sexed differences in overall and state-based life expectancies. The results here indicate that average total life expectancy does not differ between racial and ethnic groups. However, a wealth of prior literature has documented persistent disparities in life expectancy by race and ethnicity (e.g., Fenelon, 2013; Montez et al., 2011; Phelan & Link, 2015). I present estimates for each racial and ethnic group where all other covariates are set to the population mean values. It is likely that the results are not as racially patterned due to this analytic choice, which presumes more similarity between racial and ethnic groups than is actually observed in the population. It is also possible this a result of health selection, with healthier individuals surviving to older ages, inflating life expectancy estimates at age 65 for racially marginalized groups. In spite of this limitation, I do find that race is associated with years dually covered by Medicare and Medicaid at age 65. All non-white populations can expect to spend a greater proportion of their remaining years with dual coverage than non-Hispanic whites.

As expected, these results indicate that women can expect to live longer than men at age 65. In addition, women can expect to spend a marginally greater proportion of those years dually eligible than men, as well as a greater proportion residing in a SNF. Similarly, individuals whose income is below the FPL have a shorter life expectancy at age 65 than most other populations examined. Living in poverty is also associated with more years spent dually covered: approximately one in five of their remaining years. Having had a SNF stay since the previous wave is associated with the lowest predicted life expectancy at age 65. Having had a SNF stay is indicative that an individual experienced a period of dependency and poor health, so it is quite reasonable that these estimates are so low.

Finally, intersectional analyses demonstrate that, across all racial and ethnic groups, individuals below the poverty line can expect to live fewer years, overall, than those with higher

incomes. There is a racial pattern to these results, as well. In particular, among individuals whose income is above the FPL, Hispanic individuals have the greatest life expectancy, followed by NH other individuals, then NH white individuals, with NH Black individuals estimated to live the fewest additional years at age 65. A similar pattern emerges for those whose incomes are below the FPL. However, the differences observed in life expectancy overall for NH white, NH Black, and NH other are not observably distinct.

The number and proportion of years individuals in each racial/ethnic class group can expect to spend with dual coverage varies observably. Specifically, among individuals with incomes above the FPL, NH Black and Hispanic individuals can expect to live more years and a greater proportion of their remaining years with dual coverage, relative to NH white and NH other individuals. Similarly, NH Black, NH other, and Hispanic populations with income below the FPL can expect to live more years and a much greater proportion of their remaining years with dual coverage. At age 65, Hispanic females can expect to live longer than NH Other, NH white, and NH Black females (in that order). The same pattern is evident among males of each racial and ethnic grouping. Race and sex, then, are both relevant predictors of life expectancy at age 65.

### 3.6 Discussion

Medicare and Medicaid provide health insurance to populations vulnerable to adverse health outcomes and who have been exposed to various positive, negative, and neutral health and social factors over the course of their lives. Cohorts born in the US in the 1930s, 40s, and 50s have experienced some of the same social and political contexts: the second World War, the Civil Rights Movement, the end of Jim Crow legislation in the South, and a variety of medical and technological advancements. However, the past century produced differing and, in some cases,

divergent health trajectories into older adulthood (e.g., Brown & Homan, 2022; Montez & Hayward, 2011).

A life course approach enables us to account for the many ways that race, sex, and class interact with a person's structural policy context over their lifetime. The results presented here reaffirm the notion that examining only one dimension of social stratification, such as race, can obscure the more nuanced associations between differing types of marginalization and late life health (Crenshaw, 1989). While poverty is, by design, linked to Medicaid enrollment, income does not operate the same way for different racial and ethnic groups. Having a higher income reduces the proportion of years spent with dual coverage more for NH white and NH other individuals than for NH Black or Hispanic individuals. Race and class are irrevocably linked, and this finding suggests that regardless of actual income, racially marginalized groups are still more likely to rely on Medicaid in their late life than privileged groups. Further research is needed to explore whether this is a product of more rapid financial decline, health decline, or some combination of the two in late life among racially and ethnically minoritized groups relative to more privileged peers.

Increasingly, researchers and practitioners have taken a structural approach to examining health disparities. Given the high likelihood that older adults will require SNF care (Katz, 2019) and require dual coverage (Feng et al., 2019) at some point after age 65, Medicaid policy critically structures how older adults experience late life health and care needs. In particular, Medicaid generosity is associated with longer Medicaid enrollment after age 65. This implies that, all else equal, individuals in states with a more generous program can access and utilize benefits for longer. While some argue this is a negative outcome, due to the high costs of care associated with dual eligible beneficiaries (e.g., Kane et al., 2013; Rahman et al., 2015), others interpret this as a positive finding: individuals who need more substantial care or who are

particularly economically vulnerable face fewer barriers to enrollment and can access critical health insurance coverage during this late life stage.

Although the South has some of the least generous Medicaid programs in the US, individuals in this region spend more years, on average, than individuals elsewhere in the country. The geopolitical history of the South has produced and reproduced racialized economic, social, and health inequities. Studying population health in the South, then, is complicated by the entrenched relationship between race and class. While I find that individuals in the South can expect to spend more years dually covered, further research is needed to disentangle the complex relationships between race, class, and public assistance in the region. In future studies I will assess the structural and intersectional consequences of being Black, low-income, and in poor health in the South. In addition, taken in combination with the results presented in Chapter 2, it is evident that Medicaid policy is racialized. Systematically, where more Black individuals live, Medicaid policy is less generous. Yet even where Medicaid policy is less generous, more Black individuals enroll.

A first and necessary step state lawmakers can take is to expand Medicaid. North Carolina, where one in ten individuals who could have benefitted from expansion live, recently indicated that Medicaid expansion will begin this year. One in three individuals who could benefit from expansion live in Texas, one in five reside in Florida, and more than one in ten reside in Georgia, all states in the South. Expanding Medicaid in this region will provide critical health insurance coverage to adults with low incomes, many of whom have racially or ethnically marginalized identities. While Medicaid expansion broadly benefits non-elderly adults, in states where Medicaid has been expanded there is a slight on-ramp effect: near-elderly adults are more likely to have Medicaid coverage and to transition into dual coverage near or after age 65 (McInerney et al., 2020).

Finally, decades of research have demonstrated that dual eligible beneficiaries and SNF residents overlap, especially among marginalized populations (Brown & Mutambudzi, 2022; Casanova, 2021; Feng et al., 2019; Tavares et al., 2020; Willink et al., 2016). In addition, because Medicaid covers SNF care, while Medicare does not, it is difficult to discern the causal pathways between dual coverage, age, health, and SNF care. Having had a SNF stay is associated with shorter life expectancy and more years with dual coverage; dual coverage is associated with spending more years in a SNF. This suggests, as in Chapters 1 and 2, that individuals who have had a short-term SNF stay are at a greater risk, relative to those who haven't, of enrolling in Medicaid in late life. Intervening to provide more support when individuals first experience a SNF stay, then, can potentially reduce the likelihood of Medicaid enrollment and increase their overall life expectancy. Similarly, intervening when individuals first enroll in Medicaid to assess their health needs could prevent or reduce their later life SNF utilization. Because dual eligible beneficiaries and long-stay SNF residents account for a significant portion of Medicaid spending, policy makers and the public have a vested economic interest in reducing the incidence of dual eligibility and long-term SNF care.

Costs associated with providing public health insurance are increasing, as is the population likely to rely on these public programs in late life. The economic argument is clear: preventing poverty and substantial health care needs in older adulthood can tangibly decrease the number of people who rely on Medicaid and SNF care. The structural argument, though, differs. Medicaid policy has been implemented by states, producing and replicating distinctly racialized contexts across the US. Preventing poverty and substantial health declines in late life requires not only Medicaid expansion and early intervention, but it also requires dismantling the racist policy structure and foregrounding intersectional theory in generating novel approaches to late life health. Among adults in the US who are today over 65, many experienced the harsh realities of

Jim Crow, institutional and individual racism, and state violence. Many carry the intergenerational trauma of slavery, sex and gender oppression, poverty, and disenfranchisement. Health in older adulthood is shaped by those experiences, molded within structural policy environments, and profoundly personal and political.



## Conclusion

This research can inform policies targeting adults over 65, particularly Medicare and Medicaid. Given the increasing need to long-term care in this population, modeling the ways that care setting and insurance status are correlated, especially for demographic subgroups, can show how and for how long these programs offer support to the most vulnerable groups at the end of their lives. This dissertation can also inform policies such as Medicaid and WIC that are targeted at childhood, especially at groups who are experience marginalization on multiple dimensions, to improve early life health and its long arm into health in older adulthood. While promoting more equitable health during early life might disrupt expected trajectories of disadvantage into older adulthood, people today experience the effects of life course inequities in acute and meaningful ways. Medicaid and Medicare, then, remain salient programs to address health care needs for adults aged 65 or older in the US.

Health inequities will persist so long as structural racism, sexism, and classism persist. Medicaid expansion is a necessary but insufficient tool to address these inequities and promote more equitable outcomes across the life course. Intervening during transitional periods in late life, such as enrolling in Medicaid or entering a SNF, is yet another necessary but insufficient tool. To acknowledge structural oppression is to acknowledge that no single policy lever can possibly eradicate health inequities, rather the system itself must be dismantled. Audre Lorde (2003) said it best, “the master’s tools will never dismantle the master’s house.” Medicaid expansion is one of the master’s tools: it has the potential to reduce health inequities, but not to eliminate them. Using the master’s tools to rethink the provision of public health insurance across the life course will continue to reproduce observable and preventable disparities in health and life expectancy.

## Appendix A. Division, States, and Summary Generosity Scores.

Division	States	Medicaid Generosity Score, 2000-2018 <sup>1</sup> Mean	% FPL	Individual Asset Limit, 2018 <sup>2</sup> \$ (Proportion) <sup>3</sup>	Couple Asset Limit, 2018 <sup>2</sup> \$ (Proportion) <sup>3</sup>
(1) New England	Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, Vermont	57.63	85%	\$2,183 (0.64)	\$3,150 (0.62)
(2) Middle Atlantic	New Jersey, New York, Pennsylvania	61.94	94%	\$2,667 (0.69)	\$4,000 (0.79)
(3) East North Central	Illinois, Indiana, Michigan, Ohio, Wisconsin	53.05	91%	\$2,000 (0.59)	\$3,000 (0.59)
(4) West North Central	Iowa, Kansas, Minnesota, Missouri, Nebraska, North Dakota, South Dakota	48.31	83%	\$2,714 (0.8)	\$4,714 (0.93)
(5) South Atlantic	DC, Delaware, Florida, Georgia, Maryland, North Carolina, South Carolina, Virginia, West Virginia	48.28	85%	\$3,173 (0.94)	\$4,593 (0.90)
(6) East South Central	Alabama, Kentucky, Mississippi, Tennessee	38.34	74%	\$2,000 (0.59)	\$3,000 (0.59)
(7) West South Central	Arkansas, Louisiana, Oklahoma, Texas	48.41	82%	\$3,390 (1.00)	\$5,085 (1.00)
(8) Mountain	Arizona, Colorado, Idaho, Montana, Nevada, New Mexico, Utah, Wyoming	49.49	81%	\$2,000 (0.59)	\$3,000 (0.59)
(9) Pacific	Alaska, California, Hawaii, Oregon, Washington	55.23	84%	\$2,000 (0.59)	\$3,000 (0.59)

<sup>1</sup>Fox et al., 2020; <sup>2</sup> Musimeci et al., 2019; <sup>3</sup>1.00=\$3,390; <sup>4</sup>1.00=\$5,085

## Appendix B. Medicaid Generosity, Means from 2000-2018.

	2000	2002	2004	2006	2008	2010	2012	2014	2016	2018
(1) New England	53.66	57.05	55.60	56.89	56.70	57.03	58.77	60.13	61.55	61.50
(2) Middle Atlantic	57.91	61.37	60.89	60.46	60.89	61.42	63.25	65.57	67.09	62.59
(3) East North Central	44.47	47.98	49.25	51.51	53.19	55.25	54.49	58.77	60.76	58.20
(4) West North Central	45.52	47.37	46.97	46.64	47.17	48.64	48.97	50.68	52.19	50.01
(5) South Atlantic	40.70	44.85	45.70	46.02	47.29	49.75	50.26	51.70	53.86	53.29
(6) East South Central	37.85	37.81	33.81	35.00	35.32	37.80	37.36	39.78	44.11	45.62
(7) West South Central	40.81	42.76	41.11	45.12	49.68	52.35	51.91	53.27	54.27	53.72
(8) Mountain	40.58	43.32	43.31	43.56	44.60	47.18	47.22	49.99	52.48	50.83
(9) Pacific	49.88	50.83	50.42	52.62	52.62	57.55	56.50	60.74	64.12	64.32
Median	49.88	50.83	50.42	52.62	53.19	57.03	56.50	60.13	61.16	61.50

## Appendix C. Discrete-Time Logistic Regression: Median Generosity Score

Variable	Dependent Variable: Medicaid Enrollment			
	Model 1 OR (Std. Error)	Model 2 OR (Std. Error)	Model 3 OR (Std. Error)	Model 4 OR (Std. Error)
Age	1.032 (0.002)**	1.030 (0.002)**	1.037 (0.002)**	0.994 (0.003)*
Policy Context				
Score > Median	1.438 (0.090)**	1.435 (0.090)**	1.327(0.088)**	1.223 (0.091)**
High Asset Limit	1.593 (0.330)	1.599 (0.331)*	1.384 (0.228)	0.834 (0.184)
South	1.837 (0.166)**	2.087 (0.166)**	1.837 (0.152)**	1.274 (0.120)*
SNF Stay		1.208 (0.072)**	1.196 (0.074)**	1.057 (0.073)
Kinless		1.772 (0.155)**	1.623 (0.153)**	1.113 (0.110)
Female			1.696 (0.106)**	1.098 (0.074)
Race (white is ref.)				
Black			4.039 (0.369)**	1.923 (0.214)**
Hispanic			9.371 (1.516)**	2.424 (0.536)**
Interaction Terms				
Black x Female			1.019 (0.112)	1.321 (0.172)*
Hispanic x Female			0.984 (0.213)	1.184 (0.330)
Financial (1 <sup>st</sup> is ref.)				
2 <sup>nd</sup> Income Quintile				0.249 (0.010)**
3 <sup>rd</sup> Income Quintile				0.079 (0.005)**
4 <sup>th</sup> Income Quintile				0.035 (0.003)**
5 <sup>th</sup> Income Quintile				0.019 (0.003)**
High OOP Med. Costs				0.629 (0.045)**
Childhood Factors				
Family was Poor				1.298 (0.165)*
Poor SRH				1.359 (0.111)**
Poor SRH (adult)				1.823 (0.071)**
Education				0.839 (0.007)**
Constant	0.005 (0.001)**	0.002 (0.0005)**	0.002 (0.001)**	2.879 (0.828)**
N (person-wave)	106,421	106,421	106,421	99,030
N (individuals)	21,749	21,749	21,749	20,977

\*p<0.05, \*\*p<0.01

## Appendix D. Discrete-Time Logistic Regression: Time-Varying Score

Variable	Dependent Variable: Medicaid Enrollment			
	Model 1 OR (Std. Error)	Model 2 OR (Std. Error)	Model 3 OR (Std. Error)	Model 4 OR (Std. Error)
Age	1.031 (0.002)**	1.030 (0.002)**	1.037 (0.002)**	0.992 (0.003)**
Policy Context				
High Score	1.031 (0.003)**	1.031 (0.003)**	1.020(0.003)**	1.076 (0.005)**
High Limit	0.782 (0.168)	0.775 (0.167)	0.855 (0.187)	0.131 (0.033)**
South	2.383 (0.178)**	2.087 (0.181)**	1.952 (0.150)**	3.132 (0.319)**
SNF Stay		1.185 (0.071)**	1.181 (0.073)**	1.006 (0.070)
Kinless		1.811 (0.159)**	1.652 (0.155)**	1.150 (0.113)
Female			1.695 (0.106)**	1.092 (0.074)
Race (white is ref.)				
Black			4.004 (0.366)**	1.787 (0.199)**
Hispanic			9.030 (1.461)**	2.030 (0.448)**
Interactions				
Black/Female			1.017 (0.112)	1.319 (0.172)*
Hispanic/Female			0.993 (0.214)	1.254 (0.350)
Income (1 <sup>st</sup> is ref.)				
2 <sup>nd</sup> Quintile				0.234 (0.010)**
3 <sup>rd</sup> Quintile				0.073 (0.004)**
4 <sup>th</sup> Quintile				0.031 (0.003)**
5 <sup>th</sup> Quintile				0.016 (0.003)**
High OOP Med. Costs				0.606 (0.045)**
Childhood Factors				
Family was Poor				1.243 (0.160)*
Poor SRH				1.340 (0.110)**
Poor SRH (adult)				1.838 (0.072)**
Education				0.830 (0.045)**
Constant	0.007 (0.002)**	0.002 (0.0005)**	0.001 (0.0003)**	0.297 (0.090)**
N (person-wave)	106,421	106,421	106,421	99,030
N (individuals)	21,749	21,749	21,749	20,977

\*p<0.05,

\*\*p<0.01

## Appendix E. Stratified Logistic Regression Results. Dummy Race/Ethnicity and Sex Categories.

	White Male OR (Std. Error)	White Female OR (Std. Error)	Black Male OR (Std. Error)	Black Female OR (Std. Error)	Hispanic Male OR (Std. Error)	Hispanic Female OR (Std. Error)
Age	1.023 (0.007)**	1.045 (0.004)**	1.040 (0.009)**	1.051 (0.006)**	1.103 (0.026)**	1.072 (0.016)**
Policy Context						
High Gen. Score	1.444 (0.246)*	1.357 (0.163)**	1.480 (0.346)	1.060 (0.153)	1.171 (0.375)	1.369 (0.402)
South	1.796 (0.294)**	1.758 (0.171)**	2.174 (0.454)**	1.494 (0.195)**	1.567 (0.561)	0.831 (0.285)
SNF Stay	1.253 (0.236)	1.427 (0.142)**	1.708 (0.373)*	1.283 (0.183)	0.377 (0.197)	1.336 (0.691)
Kinless	5.792 (1.158)**	1.568 (0.247)**	2.908 (0.864)**	0.842 (0.175)	7.868 (5.828)**	2.470 (1.601)
Constant	0.004 (0.002)**	0.002 (0.001)**	0.007 (0.005)**	0.009 (0.001)**	0.000 (0.001)**	0.005 (0.007)**
N	6,945	9,030	1,248	12,478	269	296

## Appendix F. Chi-Squared Results for Within-Race Stratified Model Coefficients.

Comparison Groups	Variable	Coefficients	Chi Square Test
White Male White Female <i>N=75,531 obs.</i> <i>N=15,448 indiv.</i>	South	0.394 0.248	$\chi^2(1)=0.13$ $p=0.7170$
	2 <sup>nd</sup> Inc. Q	-1.728 -1.643	$\chi^2(1)=0.38$ $p=0.5355$
	3 <sup>rd</sup> Inc. Q	-2.842 -2.793	$\chi^2(1)=0.07$ $p=0.7976$
	4 <sup>th</sup> Inc. Q	-3.695 -3.953	$\chi^2(1)=0.80$ $p=0.3704$
	5 <sup>th</sup> Inc. Q	-4.022 -4.177	$\chi^2(1)=0.17$ $p=0.6784$
	Education	-0.099 -0.180	$\chi^2(1)=8.22$ $p<0.01$
	Poor SRH	0.520 0.696	$\chi^2(1)=1.72$ $p=0.1903$
Black Male Black Female <i>N=13,410 obs.</i> <i>N=3,139 indiv.</i>	SNF Stay	0.463 0.160	$\chi^2(1)=1.13$ $p<0.01$
	2 <sup>nd</sup> Inc. Q	-0.955 -1.092	$\chi^2(1)=0.75$ $p=0.3863$
	3 <sup>rd</sup> Inc. Q	-1.993 -2.093	$\chi^2(1)=0.20$ $p=0.6556$
	4 <sup>th</sup> Inc. Q	-2.466 -2.807	$\chi^2(1)=1.12$ $p=0.2898$
	5 <sup>th</sup> Inc. Q	-3.651 -3.132	$\chi^2(1)=1.34$ $p=0.2473$
	Education	-0.054 -0.130	$\chi^2(1)=6.46$ $p<0.05$
	Poor SRH	0.134 0.544	$\chi^2(1)=0.743$ $p<0.01$
Hispanic Male Hispanic Female <i>N=1,846 obs.</i> <i>N=531 indiv.</i>	South	0.062 -0.939	$\chi^2(1)=2.90$ $p=0.0884$
	Kinless	2.297 0.342	$\chi^2(1)=4.30$ $p<0.05$
	2 <sup>nd</sup> Inc. Q	-0.695 -1.608	$\chi^2(1)=5.41$ $p<0.05$
	3 <sup>rd</sup> Inc. Q	-1.930 -2.766	$\chi^2(1)=2.31$ $p=0.1285$
	4 <sup>th</sup> Inc. Q	-3.985 -3.035	$\chi^2(1)=0.81$ $p=0.3681$
	5 <sup>th</sup> Inc. Q	-4.722 -3.235	$\chi^2(1)=1.27$ $p=0.2595$
	Education	-0.075 -0.114	$\chi^2(1)=0.56$ $p=0.4542$
	Poor SRH	0.230 0.929	$\chi^2(1)=3.64$ $p=0.0563$

## Appendix G. Chi-Squared Results for Within-Sex (Female) Stratified Model Coefficients.

Comparison Groups	Variable	Coefficients	Chi Square Test
White Female Black Female <i>N=52,502 obs.</i> <i>N=10,702 indiv.</i>	2 <sup>nd</sup> Inc. Q	-1.643 -1.092	$\chi^2(1)=21.26$ $p<0.001$
	3 <sup>rd</sup> Inc. Q	-2.793 -2.093	$\chi^2(1)=13.97$ $p<0.001$
	4 <sup>th</sup> Inc. Q	-3.953 -2.807	$\chi^2(1)=15.10$ $p<0.001$
	5 <sup>th</sup> Inc. Q	-4.177 -3.132	$\chi^2(1)=6.56$ $p<0.05$
	Education	-0.180 -0.130	$\chi^2(1)=3.50$ $p=0.0613$
	Poor SRH	0.696 0.544	$\chi^2(1)=1.96$ $p=0.1612$
White Female Hispanic Female <i>N=44,882 obs.</i> <i>N=9,031 indiv.</i>	South	0.248 -0.939	$\chi^2(1)=8.17$ $p<0.005$
	2 <sup>nd</sup> Inc. Q	-1.643 -1.608	$\chi^2(1)=0.01$ $p=0.9035$
	3 <sup>rd</sup> Inc. Q	-2.793 -2.766	$\chi^2(1)=0.01$ $p=0.9403$
	4 <sup>th</sup> Inc. Q	-3.953 -3.035	$\chi^2(1)=1.93$ $p=0.1644$
	5 <sup>th</sup> Inc. Q	-4.177 -3.235	$\chi^2(1)=1.32$ $p=0.2503$
	Education	-0.180 -0.114	$\chi^2(1)=2.56$ $p=0.1096$
	Poor SRH	0.696 0.929	$\chi^2(1)=0.71$ $p=0.3992$
Black Female Hispanic Female <i>N=9,730 obs.</i> <i>N=2,229 indiv.</i>	South	0.142 -0.939	$\chi^2(1)=2.90$ $p=0.0884$
	2 <sup>nd</sup> Inc. Q	-1.092 -1.608	$\chi^2(1)=3.09$ $p=0.0787$
	3 <sup>rd</sup> Inc. Q	-2.093 -2.766	$\chi^2(1)=3.25$ $p=0.0715$
	4 <sup>th</sup> Inc. Q	-2.807 -3.035	$\chi^2(1)=0.02$ $p=0.8998$
	5 <sup>th</sup> Inc. Q	-3.132 -3.235	$\chi^2(1)=0.15$ $p=0.7001$
	Education	-0.130 -0.114	$\chi^2(1)=1.90$ $p=0.1677$
	Poor SRH	0.544 0.929	$\chi^2(1)=6.48$ $p<0.05$



## Appendix H. Chi-Squared Results for Within-Sex (Male) Stratified Model Coefficients.

Comparison Groups	Variable	Coefficients	Chi Square Test
White Male Black Male <i>N=36,439 obs.</i> <i>N=7,885 indiv.</i>	SNF Stay	0.048 0.463	$\chi^2(1)=1.82$ $p=0.1775$
	2 <sup>nd</sup> Inc. Q	-1.728 -0.955	$\chi^2(1)=20.38$ $p<0.001$
	3 <sup>rd</sup> Inc. Q	-2.842 -1.993	$\chi^2(1)=13.80$ $p<0.001$
	4 <sup>th</sup> Inc. Q	-3.695 -2.466	$\chi^2(1)=15.14$ $p<0.001$
	5 <sup>th</sup> Inc. Q	-4.022 -3.651	$\chi^2(1)=0.79$ $p=0.3729$
	Education	-0.099 -0.054	$\chi^2(1)=2.04$ $p=0.1536$
White Male Hispanic Male <i>N=32,495 obs.</i> <i>N=6,948 indiv.</i>	Kinless	0.803 2.297	$\chi^2(1)=3.73$ $p=0.0534$
	2 <sup>nd</sup> Inc. Q	-1.728 -0.695	$\chi^2(1)=12.10$ $p<0.001$
	3 <sup>rd</sup> Inc. Q	-2.842 -1.930	$\chi^2(1)=4.01$ $p<0.05$
	4 <sup>th</sup> Inc. Q	-3.695 -3.035	$\chi^2(1)=0.11$ $p=0.7391$
	5 <sup>th</sup> Inc. Q	-4.022 -3.235	$\chi^2(1)=0.41$ $p=0.5235$
	Education	-0.099 -0.075	$\chi^2(1)=0.31$ $p=0.5750$
Black Male Hispanic Male <i>N=5,526 obs.</i> <i>N=1,441 indiv.</i>	SNF Stay	0.463 -1.114	$\chi^2(1)=3.43$ $p=0.0640$
	Kinless	0.419 2.297	$\chi^2(1)=5.60$ $p<0.05$
	2 <sup>nd</sup> Inc. Q	-0.955 -0.695	$\chi^2(1)=0.73$ $p=0.3921$
	3 <sup>rd</sup> Inc. Q	-1.993 -1.930	$\chi^2(1)=0.02$ $p=0.8919$
	4 <sup>th</sup> Inc. Q	-2.466 -3.985	$\chi^2(1)=2.94$ $p=0.0862$
	5 <sup>th</sup> Inc. Q	-3.651 -4.722	$\chi^2(1)=0.91$ $p=0.3395$
	Education	-0.054 -0.075	$\chi^2(1)=0.23$ $p=0.6318$

## References

- American Association of Retired Persons and National Alliance for Caregiving. (2020). *Caregiving in the United States 2020*. <https://www.caregiving.org/wp-content/uploads/2021/01/full-report-caregiving-in-the-united-states-01-21.pdf>
- Adler, N. E., & Newman, K. (2002). Socioeconomic disparities in health: pathways and policies. *Health Affairs (Project Hope)*, *21*(2), 60–76. <https://doi.org/10.1377/hlthaff.21.2.60>
- Allison, P. D. (1982). Discrete-time methods for the analysis of event histories. In S. Leighardt (Ed.), *Sociological Methodology 1982* (pp. 61–98). San Francisco, CA: Jossey-Bass.
- American Council on Aging. (2023). *North Carolina Medicaid Income & Asset Limits for Nursing Homes and In-Home Long-Term Care*. Medicaid Planning Assistance, Retrieved February 27, 2023, from <https://www.medicaidplanningassistance.org/medicaid-eligibility-north-carolina/>
- Bardo, A. R., & Lynch, S. M. (2021). Cognitively intact and happy life expectancy in the United States. *The Journals of Gerontology. Series B, Psychological Sciences and Social Sciences*, *76*(2), 242–251. <https://doi.org/10.1093/geronb/gbz080>
- Barnes, C. Y., & Henly, J. R. (2018). “They Are Underpaid and Understaffed”: How Clients Interpret Encounters with Street-Level Bureaucrats. *Journal of Public Administration Research and Theory*, *28*(2), 165–181. doi:10.1093/jopart/muy008
- Barnes, C., & Petry, S. (2021). “It Was Actually Pretty Easy”: COVID-19 Compliance Cost Reductions in the WIC Program. *Public Administration Review*. <https://doi.org/10.1111/puar.13423>
- Barney, W. L. (2020). *Rebels in the Making: The Secession Crisis and the Birth of the Confederacy*. Oxford University Press.
- Barr, D. H. (2011). *Introduction to U.S. Health Policy*. Baltimore, MD: The Johns Hopkins University Press.
- Bengtson, V. L., & Settersten Jr, R. (Eds.). (2016). *Handbook of theories of aging*. Springer Publishing Company.
- Blumenthal, D., Davis, K., & Guterman, S. (2015). Medicare at 50--moving forward. *The New England Journal of Medicine*, *372*(7), 671–677. <https://doi.org/10.1056/NEJMhpr1414856>
- Bonilla-Silva, E. (1997). Rethinking racism: toward a structural interpretation. *American Sociological Review*, *62*(3), 465–480. <https://doi.org/10.2307/2657316>
- Bonilla-Silva, E. (2014). *Racism without Racists: Color-blind racism and the persistence of racial inequality in America*. Rowman & Littlefield Publishers, Inc.

- Boudreaux, M. H., Golberstein, E., & McAlpine, D. D. (2016). The long-term impacts of Medicaid exposure in early childhood: Evidence from the program's origin. *Journal of Health Economics*, *45*, 161–175. <https://doi.org/10.1016/j.jhealeco.2015.11.001>
- Braveman, P. A., Cubbin, C., Egerter, S., Williams, D. R., & Pamuk, E. (2010). Socioeconomic disparities in health in the United States: what the patterns tell us. *American journal of public health*, *100 Suppl 1*(Suppl 1), S186–S196. <https://doi.org/10.2105/AJPH.2009.166082>
- Brook, R. H., Ware, J. E., Jr, Rogers, W. H., Keeler, E. B., Davies, A. R., Donald, C. A., Goldberg, G. A., Lohr, K. N., Masthay, P. C., & Newhouse, J. P. (1983). Does free care improve adults' health? Results from a randomized controlled trial. *The New England journal of medicine*, *309*(23), 1426–1434. <https://doi.org/10.1056/NEJM198312083092305>
- Brown, D. W., Kowalski, A. E., & Lurie, I. Z. (2020). Long-Term Impacts of Childhood Medicaid Expansions on Outcomes in Adulthood. *The Review of economic studies*, *87*(2), 792–821. <https://doi.org/10.1093/restud/rdz039>
- Brown, & Hargrove. (2013). Multidimensional approaches to examining gender and racial/ethnic stratification in health. *Women, Gender, and Families of Color*, *1*(2), 180. <https://doi.org/10.5406/womgenfamcol.1.2.0180>
- Brown, T. H., & Homan, P. A. (2022). Frontiers in measuring structural racism and its health effects. *Health Services Research*, *57*(3), 443–447. <https://doi.org/10.1111/1475-6773.13978>
- Brown, M. T., & Mutambudzi, M. (2022). Risk of nursing home use among older americans: the impact of psychiatric history and trajectories of cognitive function. *The Journals of Gerontology. Series B, Psychological Sciences and Social Sciences*, *77*(3), 577–588. <https://doi.org/10.1093/geronb/gbab045>
- Brown, T. H., Richardson, L. J., Hargrove, T. W., & Thomas, C. S. (2016). Using Multiple-hierarchy Stratification and Life Course Approaches to Understand Health Inequalities: The Intersecting Consequences of Race, Gender, SES, and Age. *Journal of Health and Social Behavior*, *57*(2), 200–222. <https://doi.org/10.1177/0022146516645165>
- Burden, B. C., Canon, D. T., Mayer, K. R., & Moynihan, D. P. (2012). The Effect of Administrative Burden on Bureaucratic Perception of Policies: Evidence from Election Administration. *Public Administration Review*, *72*(5), 741–751. <http://www.jstor.org/stable/41687989>
- Campbell, A. L. (2014). *Trapped in America's Safety Net: One Family's Struggle*. Chicago: University of Chicago Press.
- Casanova M. (2021). Revisiting the Role of Gender and Marital Status as Risk Factors for Nursing Home Entry. *The journals of gerontology. Series B, Psychological sciences and social sciences*, *76*(Suppl 1), S86–S96. <https://doi.org/10.1093/geronb/gbab004>

- Chari, A. V., Engberg, J., Ray, K. N., & Mehrotra, A. (2015). The opportunity costs of informal elder care in the United States: new estimates from the American Time Use Survey. *Health services research, 50*(3), 871–882. <https://doi.org/10.1111/1475-6773.12238>
- Charmaz, K. (2006). *Constructing grounded theory: A practical guide through qualitative analysis*. Sage.
- Chetty, R., Stepner, M., Abraham, S., Lin, S., Scuderi, B., Turner, N., Bergeron, A., & Cutler, D. (2016). The Association Between Income and Life Expectancy in the United States, 2001–2014. *JAMA, 315*(16), 1750–1766. <https://doi.org/10.1001/jama.2016.4226>
- Christensen, J., Aarøe, L., Baekgaard, M., Herd, P., & Moynihan, D. P. (2020). Human Capital and Administrative Burden: The Role of Cognitive Resources in Citizen-State Interactions. *Public Administration Review, 80*(1), 127–136. <https://doi.org/10.1111/puar.13134>
- Chudnovsky, M., & Peeters, R. (2021). The unequal distribution of administrative burden: A framework and an illustrative case study for understanding variation in people’s experience of burdens. *Social Policy & Administration, 55*(4), 527–542. <https://doi.org/10.1111/spol.12639>
- Collins, S. R., Gunja, M. Z., Doty, M. M., & Beutel, S. (2015). How High Is America’s Health Care Cost Burden? *Commonwealth Fund*. <https://doi.org/10.26099/bwk6-zh82>
- Crenshaw, K. (1989). Demarginalizing the Intersection of Race and Sex: A Black Feminist Critique of Antidiscrimination Doctrine, Feminist Theory and Antiracist Politics. *U. Chi. Legal F., 1989*, 139.
- Creswell, John W. (2013). *Qualitative Inquiry and Research Design: Choosing Among Five Approaches*. Thousand Oaks, CA: Sage Publications.
- Cubanski, J., Koma, W., Damico, A., & Neuman, T. (2018). *How many seniors live in poverty?* Kaiser Family Foundation. <https://www.kff.org/medicare/issue-brief/how-many-seniors-live-in-poverty/>
- Currie, J., & Gruber, J. (1996). Health insurance eligibility, utilization of medical care, and child health. *The Quarterly Journal of Economics, 111*(2), 431–466. <https://doi.org/10.2307/2946684>
- Currie, J., & Rossin-Slater, M. (2015). Early-life origins of life-cycle well-being: research and policy implications. *Journal of policy analysis and management : [the journal of the Association for Public Policy Analysis and Management]*, 34(1), 208–242. <https://doi.org/10.1002/pam.21805>
- Dannefer, D. (2003). Cumulative advantage/disadvantage and the life course: cross-fertilizing age and social science theory. *The Journals of Gerontology. Series B, Psychological Sciences and Social Sciences, 58*(6), S327–37. <https://doi.org/10.1093/geronb/58.6.s327>

- Davis, K., & Schoen, K. (1978). *Health and the War on Poverty: A Ten-Year Appraisal*. Washington: Brookings Institution.
- De La Mata D. (2012). The effect of Medicaid eligibility on coverage, utilization, and children's health. *Health economics*, 21(9), 1061–1079. <https://doi.org/10.1002/hec.2857>
- DeFriese, G. H., & Welsh, P. G. (2010). Long-term care challenges ahead for North Carolina: 2010 and beyond. *North Carolina Medical Journal*, 71(2), 133–139. <https://doi.org/10.18043/ncm.71.2.133>
- Dong, J., Smieliauskas, F., & Konetzka, R. T. (2018). Effects of long-term care insurance on financial well-being. *The Geneva Papers on Risk and Insurance - Issues and Practice*, 44(2), 1–26. <https://doi.org/10.1057/s41288-018-00113-7>
- Duncan, G. J., Ziol-Guest, K. M., & Kalil, A. (2010). Early-childhood poverty and adult attainment, behavior, and health. *Child development*, 81(1), 306–325. <https://doi.org/10.1111/j.1467-8624.2009.01396.x>
- Dupre M. E. (2007). Educational differences in age-related patterns of disease: reconsidering the cumulative disadvantage and age-as-leveler hypotheses. *Journal of health and social behavior*, 48(1), 1–15. <https://doi.org/10.1177/002214650704800101>
- Elder, G. H., Johnson, M. K., & Crosnoe, R. (2003). The emergence and development of life course theory. In J. T. Mortimer & M. J. Shanahan (Eds.), *Handbook of the life course* (pp. 3–19). Springer US. [https://doi.org/10.1007/978-0-306-48247-2\\_1](https://doi.org/10.1007/978-0-306-48247-2_1)
- Elo, I. T. (2009). Social class differentials in health and mortality: patterns and explanations in comparative perspective. *Annual Review of Sociology*, 35(1), 553–572. <https://doi.org/10.1146/annurev-soc-070308-115929>
- Feldman, J. J., Makuc, D. M., Kleinman, J. C., & Cornoni-Huntley, J. (1989). National trends in educational differentials in mortality. *American journal of epidemiology*, 129(5), 919–933. <https://doi.org/10.1093/oxfordjournals.aje.a115225>
- Fenelon A. (2013). An examination of black/white differences in the rate of age-related mortality increase. *Demographic research*, 29, 441–472. <https://doi.org/10.4054/DemRes.2013.29.17>
- Feng, Z., Vadnais, A., Vreeland, E., Haber, S., Weiner, J., & Baker, B. (2019). *Analysis of Pathways to Dual Eligible Status*. RTI International. <https://aspe.hhs.gov/basic-report/analysis-pathways-dual-eligible-status-final-report>
- Fox, A. M., Stazyk, E. C., & Feng, W. (2020). Administrative easing: rule reduction and medicaid enrollment. *Public Administration Review*, 80(1), 104–117. <https://doi.org/10.1111/puar.13131>
- Frakt, A., Carroll, A. E., Pollack, H. A., & Reinhardt, U. (2011). Our flawed but beneficial Medicaid program. *The New England Journal of Medicine*, 364(16), e31. <https://doi.org/10.1056/NEJMp1103168>

- Galama, T. J., & van Kippersluis, H. (2019). A Theory of Socio-economic Disparities in Health over the Life Cycle. *Economic Journal (London, England)*, *129*(617), 338–374. <https://doi.org/10.1111/eoj.12577>
- Geronimus A. T. (1992). The weathering hypothesis and the health of African American women and infants: evidence and speculations. *Ethnicity & disease*, *2*(3), 207–221.
- Geronimus, A. T., Hicken, M., Keene, D., & Bound, J. (2006). "Weathering" and age patterns of allostatic load scores among blacks and whites in the United States. *American journal of public health*, *96*(5), 826–833. <https://doi.org/10.2105/AJPH.2004.060749>
- Geronimus, A. T., Pearson, J. A., Linnenbringer, E., Schulz, A. J., Reyes, A. G., Epel, E. S., Lin, J., & Blackburn, E. H. (2015). Race-Ethnicity, Poverty, Urban Stressors, and Telomere Length in a Detroit Community-based Sample. *Journal of health and social behavior*, *56*(2), 199–224. <https://doi.org/10.1177/00221465155582100>
- Goldfeld, K. S., Grabowski, D. C., Caudry, D. J., & Mitchell, S. L. (2013). Health insurance status and the care of nursing home residents with advanced dementia. *JAMA Internal Medicine*, *173*(22), 2047–2053. <https://doi.org/10.1001/jamainternmed.2013.10573>
- Goodman-Bacon, A. (2018). Public Insurance and Mortality: Evidence from Medicaid Implementation. *Journal of Political Economy*, *126*(1), 216–262. <https://doi.org/10.1086/695528>
- Gutin, I., & Hummer, R. A. (2021). Social inequality and the future of U.S. life expectancy. *Annual Review of Sociology*, *47*(1), 501–520. <https://doi.org/10.1146/annurev-soc-072320-100249>
- Haas, S., & Rohlfen, L. (2010). Life course determinants of racial and ethnic disparities in functional health trajectories. *Social science & medicine (1982)*, *70*(2), 240–250. <https://doi.org/10.1016/j.socscimed.2009.10.003>
- Halpern, M. T., Fiero, M. H., & Bell, M. L. (2017). Impact of caregiver activities and social supports on multidimensional caregiver burden: analyses from nationally representative surveys of cancer patients and their caregivers. *Quality of life research : an international journal of quality of life aspects of treatment, care and rehabilitation*, *26*(6), 1587–1595. <https://doi.org/10.1007/s11136-017-1505-9>
- Hargrove, T. W. (2018). Intersecting Social Inequalities and Body Mass Index Trajectories from Adolescence to Early Adulthood. *Journal of Health and Social Behavior*, *59*(1), 56–73. <https://doi.org/10.1177/0022146517746672>
- Hardeman, R. R., Homan, P. A., Chantarat, T., Davis, B. A., & Brown, T. H. (2022). Improving the measurement of structural racism to achieve antiracist health policy. *Health Affairs (Project Hope)*, *41*(2), 179–186. <https://doi.org/10.1377/hlthaff.2021.01489>
- Hayward, M. D., & Gorman, B. K. (2004). The long arm of childhood: the influence of early-life social conditions on men's mortality. *Demography*, *41*(1), 87–107. <https://doi.org/10.1353/dem.2004.0005>

- Hayward, M. D., Hummer, R. A., & Sasson, I. (2015). Trends and group differences in the association between educational attainment and U.S. adult mortality: implications for understanding education's causal influence. *Social science & medicine (1982)*, *127*, 8–18. <https://doi.org/10.1016/j.socscimed.2014.11.024>
- Health and Retirement Study (HRS), Childhood Family and Childhood Health Aggregated Data public use dataset. Produced and distributed by the University of Michigan with funding from the National Institute on Aging (grant number NIA U01AG009740). Ann Arbor, MI, (2020).
- Health and Retirement Study (HRS), Cross-Wave Geographic Information (State) data restricted use dataset. Produced and distributed by the University of Michigan with funding from the National Institute on Aging (grant number NIA U01AG009740). Ann Arbor, MI, (2021).
- Health and Retirement Study (HRS), RAND HRS Longitudinal File 2018 (v2) public use dataset. Produced and distributed by the University of Michigan with funding from the National Institute on Aging (grant number NIA U01AG009740). Ann Arbor, MI, (2022).
- Herd, P. (2015). How administrative burdens are preventing access to critical income supports for older adults: the case of the supplemental nutrition assistance program: table 1. *Public Policy & Aging Report*, *25*(2), 52–55. <https://doi.org/10.1093/ppar/prv007>
- Herd, P., DeLeire, T., Harvey, H., & Moynihan, D. P. (2013). Shifting Administrative Burden to the State: The Case of Medicaid Take-Up. *Public Administration Review*, *73*(s1), S69–S81. <https://doi.org/10.1111/puar.12114>
- Hoffman, C., & Paradise, J. (2008). Health insurance and access to health care in the United States. *Annals of the New York Academy of Sciences*, *1136*, 149–160. <https://doi.org/10.1196/annals.1425.007>
- Holman, D., & Walker, A. (2021). Understanding unequal ageing: towards a synthesis of intersectionality and life course analyses. *European Journal of Ageing*, *18*(2), 239–255. <https://doi.org/10.1007/s10433-020-00582-7>
- Homan, P. A., & Brown, T. H. (2022). Sick and tired of being excluded: structural racism in disenfranchisement as A threat to population health equity. *Health Affairs (Project Hope)*, *41*(2), 219–227. <https://doi.org/10.1377/hlthaff.2021.01414>
- Homan, P., Brown, T. H., & King, B. (2021). Structural intersectionality as a new direction for health disparities research. *Journal of Health and Social Behavior*, *62*(3), 350–370. <https://doi.org/10.1177/00221465211032947>
- Howell, E. M., & Kenney, G. M. (2012). The impact of the Medicaid/CHIP expansions on children: a synthesis of the evidence. *Medical care research and review : MCRR*, *69*(4), 372–396. <https://doi.org/10.1177/1077558712437245>

- Hoynes, H., Schanzenbach, D. W., & Almond, D. (2016). Long-Run Impacts of Childhood Access to the Safety Net. *American Economic Review*, 106(4), 903–934. <https://doi.org/10.1257/aer.20130375>
- Jacobson, G., Neuman, T., & Damico, A. (2012). *Medicare's Role for Dual Eligible Beneficiaries*. Kaiser Family Foundation. <https://www.kff.org/wp-content/uploads/2013/01/8138-02.pdf>
- Kaiser Family Foundation. (2022a, August 22). *Federal and state share of Medicaid spending*. Kaiser Family Foundation. Retrieved February 10, 2023, from <https://www.kff.org/medicaid/state-indicator/federalstate-share-of-spending/?currentTimeframe=0&sortModel=%7B%22colId%22%3A%22Federal%22%2C%22sort%22%3A%22desc%22%7D>.
- Kaiser Family Foundation. (2022b, September 8). *Medicaid Eligibility through the Medically Needy Pathway*. Kaiser Family Foundation. Retrieved February 10, 2023, from <https://www.kff.org/other/state-indicator/medicaid-eligibility-through-the-medically-needy-pathway/?currentTimeframe=0&sortModel=%7B%22colId%22%3A%22Location%22,%22sort%22%3A%22asc%22%7D>.
- Kaiser Family Foundation. (2023, January 26). *Medicare-Medicaid enrollees as a share of Medicaid enrollees*. Kaiser Family Foundation. Retrieved February 6, 2023, from <https://www.kff.org/other/state-indicator/medicare-medicare-enrollees-as-a-share-of-medicare-enrollees/?activeTab=map&currentTimeframe=0&selectedDistributions=all-medicare-medicare-enrollees-as-a-share-of-total-medicare-enrollees&sortModel=%7B%22colId%22%3A%22Location%22%2C%22sort%22%3A%22asc%22%7D>
- Kane, R. L., Wysocki, A., Parashuram, S., Shippee, T., & Lum, T. (2013). Effect of long-term care use on Medicare and Medicaid expenditures for dual eligible and non-dual eligible elderly beneficiaries. *Medicare & Medicaid research review*, 3(3), mmrr.003.03.a05. <https://doi.org/10.5600/mmrr.003.03.a05>
- Katz, R. (2019). America's long-term-care conundrum. *Generations (San Francisco, Calif.)*.
- Kenney, G. M., Lynch, V., Haley, J., & Huntress, M. (2012). Variation in Medicaid eligibility and participation among adults: implications for the Affordable Care Act. *Inquiry : a journal of medical care organization, provision and financing*, 49(3), 231–253. [https://doi.org/10.5034/inquiryjrn1\\_49.03.08](https://doi.org/10.5034/inquiryjrn1_49.03.08)
- Kim, J., & Durden, E. (2007). Socioeconomic status and age trajectories of health. *Social science & medicine* (1982), 65(12), 2489–2502. <https://doi.org/10.1016/j.socscimed.2007.07.022>
- Kramer, M. R., Black, N. C., Matthews, S. A., & James, S. A. (2017). The legacy of slavery and contemporary declines in heart disease mortality in the U.S. South. *SSM - population health*, 3, 609–617. <https://doi.org/10.1016/j.ssmph.2017.07.004>



- Krieger, N. (2014). Discrimination and health inequities. *International Journal of Health Services: Planning, Administration, Evaluation*, 44(4), 643–710. <https://doi.org/10.2190/HS.44.4.b>
- Krieger, N. (2020). Measures of Racism, Sexism, Heterosexism, and Gender Binarism for Health Equity Research: From Structural Injustice to Embodied Harm-An Ecosocial Analysis. *Annual Review of Public Health*, 41, 37–62. <https://doi.org/10.1146/annurev-publhealth-040119-094017>
- Krieger, N. (2021). Structural Racism, Health Inequities, and the Two-Edged Sword of Data: Structural Problems Require Structural Solutions. *Frontiers in Public Health*, 9, 655447. <https://doi.org/10.3389/fpubh.2021.655447>
- Krieger, N., Chen, J. T., Coull, B. A., Beckfield, J., Kiang, M. V., & Waterman, P. D. (2014). Jim Crow and premature mortality among the US Black and White population, 1960-2009: an age-period-cohort analysis. *Epidemiology (Cambridge, Mass.)*, 25(4), 494–504. <https://doi.org/10.1097/EDE.0000000000000104>
- Lea, S. (2023). Long-term Care Cost in North Carolina Medicaid. *North Carolina Medical Journal*, 84(2). <https://doi.org/10.18043/001c.73002>
- Lee, R. (2011). The outlook for population growth. *Science*, 333(6042), 569–573. <https://doi.org/10.1126/science.1208859>
- Levinson, A., & Rahardja, S. (2004). Medicaid Stigma. *Georgetown University Working Paper*.
- Lochner, K. A., & Cox, C. S. (2013). Prevalence of multiple chronic conditions among Medicare beneficiaries, United States, 2010. *Preventing chronic disease*, 10, E61. <https://doi.org/10.5888/pcd10.120137>
- Lorde, A. (1984). The Master's Tools Will Never Dismantle the Master's House. *Sister Outsider: Essays and Speeches*. Ed. Berkeley, CA: Crossing Press. 110-114. 2007.
- Long, S. K., Coughlin, T., & King, J. (2005). How well does Medicaid work in improving access to care? *Health services research*, 40(1), 39–58. <https://doi.org/10.1111/j.1475-6773.2005.00341.x>
- López-Anuarbe, M. (2013). Intergenerational transfers in long term care. *Review of Economics of the Household*, 11(2), 235–258. <https://doi.org/10.1007/s11150-012-9156-7>
- Lorenti, A., Dudel, C., Hale, J. M., & Myrskylä, M. (2020). Working and disability expectancies at older ages: The role of childhood circumstances and education. *Social Science Research*, 91, 102447. <https://doi.org/10.1016/j.ssresearch.2020.102447>
- Lu, P., Kong, D., Shelley, M., & Davitt, J. K. (2022). Intersectional discrimination attributions and health outcomes among american older adults: A latent class analysis. *International Journal of Aging & Human Development*, 95(3), 267–285. <https://doi.org/10.1177/00914150211066560>

- Lynch, S. M. (2003). Cohort and life-course patterns in the relationship between education and health: a hierarchical approach. *Demography*, *40*(2), 309–331. <https://doi.org/10.1353/dem.2003.0016>
- Margolis, R., & Verdery, A. M. (2017). Older Adults Without Close Kin in the United States. *The journals of gerontology. Series B, Psychological sciences and social sciences*, *72*(4), 688–693. <https://doi.org/10.1093/geronb/gbx068>
- Masters, R. K., Link, B. G., & Phelan, J. C. (2015). Trends in education gradients of “preventable” mortality: a test of fundamental cause theory. *Social Science & Medicine*, *127*, 19–28. <https://doi.org/10.1016/j.socscimed.2014.10.023>
- Martin, L. G., Freedman, V. A., Schoeni, R. F., & Andreski, P. M. (2010). Trends in disability and related chronic conditions among people ages fifty to sixty-four. *Health affairs (Project Hope)*, *29*(4), 725–731. <https://doi.org/10.1377/hlthaff.2008.0746>
- Maul, A. (1994). A discrete time logistic regression model for analyzing censored survival data. *Environmetrics (London, Ont.)*, *5*(2), 145–157. <https://doi.org/10.1002/env.3170050205>
- McInerney, M., Mellor, J. M., & Sabik, L. M. (2021). Welcome Mats and On-Ramps for Older Adults: The Impact of the Affordable Care Act’s Medicaid Expansions on Dual Enrollment in Medicare and Medicaid. *Journal of Policy Analysis and Management : [The Journal of the Association for Public Policy Analysis and Management]*, *40*(1), 12–41. <https://doi.org/10.1002/pam.22259>
- McInerney, M., Winecoff, R., Ayyagari, P., Simon, K., & Bundorf, M. K. (2020). ACA Medicaid Expansion Associated with Increased Medicaid Participation and Improved Health Among Near-Elderly: Evidence From the Health and Retirement Study. *Inquiry : A Journal of Medical Care Organization, Provision and Financing*, *57*, 46958020935229. <https://doi.org/10.1177/0046958020935229>
- McWilliams, J. M., Zaslavsky, A. M., Meara, E., & Ayanian, J. Z. (2004). Health insurance coverage and mortality among the near-elderly. *Health affairs (Project Hope)*, *23*(4), 223–233. <https://doi.org/10.1377/hlthaff.23.4.223>
- McWilliams, J. M., Meara, E., Zaslavsky, A. M., & Ayanian, J. Z. (2007a). Health of previously uninsured adults after acquiring Medicare coverage. *JAMA*, *298*(24), 2886–2894. <https://doi.org/10.1001/jama.298.24.2886>
- McWilliams, J. M., Meara, E., Zaslavsky, A. M., & Ayanian, J. Z. (2007). Use of health services by previously uninsured Medicare beneficiaries. *The New England journal of medicine*, *357*(2), 143–153. <https://doi.org/10.1056/NEJMsa067712>
- Mellgard, G., Ankuda, C., Rahman, O.-K., & Kelley, A. (2022). Examining variation in state spending on medicaid long-term services and supports for older adults. *Home Health Care Services Quarterly*, *41*(1), 54–64. <https://doi.org/10.1080/01621424.2021.2004286>
- Menard, S. (2010). *Longitudinal panel analysis with logistic regression*. SAGE Publications, Inc., <https://doi.org/10.4135/9781483348964>

- Michener, J. (2018). *Fragmented Democracy: Medicaid, Federalism, and Unequal Politics*. Cambridge: Cambridge University Press.
- Mirowsky, J., & Ross, C. E. (2008). Education and Self-Rated Health. *Research on Aging, 30*(1), 93–122. <https://doi.org/10.1177/0164027507309649>
- Molony, S. L., Evans, L. K., Jeon, S., Rabig, J., & Straka, L. A. (2011). Trajectories of at-homeness and health in usual care and small house nursing homes. *The Gerontologist, 51*(4), 504–515. <https://doi.org/10.1093/geront/gnr022>
- Monnat, S. M., & Chandler, R. F. (2015). Long term physical health consequences of adverse childhood experiences. *The Sociological Quarterly, 56*(4), 723–752. <https://doi.org/10.1111/tsq.12107>
- Montez, J. K., & Hayward, M. D. (2011). Early life conditions and later life mortality. In R. G. Rogers & E. M. Crimmins (Eds.), *International handbook of adult mortality* (Vol. 2, pp. 187–206). Springer Netherlands. [https://doi.org/10.1007/978-90-481-9996-9\\_9](https://doi.org/10.1007/978-90-481-9996-9_9)
- Montez, J. K., Hummer, R. A., Hayward, M. D., Woo, H., & Rogers, R. G. (2011). Trends in the Educational Gradient of U.S. Adult Mortality from 1986 to 2006 by Race, Gender, and Age Group. *Research on aging, 33*(2), 145–171. <https://doi.org/10.1177/0164027510392388>
- Montez, J. K., & Zajacova, A. (2013). Why have educational disparities in mortality increased among white women in the United States? Policy brief. *Journal of Health and Social Behavior, 54*(2), 165. <https://doi.org/10.1177/0022146513491066>
- Moynihan, D. P., Herd, P., & Harvey, H. (2015). Administrative Burden: Learning, Psychological, and Compliance Costs in Citizen-State Interactions. *Journal of Public Administration Research and Theory, 25*(1), 43–69. <https://doi.org/10.1093/jopart/muu009>
- Musimeci, M., Chidambaram, P., & M.O. Watts. (2019). *Medicaid Financial Eligibility for Seniors and People with Disabilities: Findings from a 50-State Survey*. Kaiser Family Foundation. <https://www.kff.org/report-section/medicaid-financial-eligibility-for-seniors-and-people-with-disabilities-findings-from-a-50-state-survey-issue-brief/>
- National Research Council and Institute of Medicine. (2013). Public Health and Medical Care Systems. In S. H. Woolf & L. Aron (Eds.), *U. S. Health in International Perspective : Shorter Lives, Poorer Health* (pp. 106–137).
- North Carolina Department of Health and Human Services. (2023a). *Apply for Medicaid or Health Choice*. Retrieved February 27, 2023, from [https://ncgov.servicenowservices.com/sp\\_beneficiary?id=bnf\\_apply](https://ncgov.servicenowservices.com/sp_beneficiary?id=bnf_apply)
- North Carolina Department of Health and Human Services. (2023b). *Medical Assistance to the Aged, Blind and Disabled (MAABD) Eligibility Overview Chart for 2022*. Retrieved February 27, 2023, from

[https://ncgov.servicenowservices.com/sp\\_beneficiary?id=search&spa=1&t=kb&q=spend%20down](https://ncgov.servicenowservices.com/sp_beneficiary?id=search&spa=1&t=kb&q=spend%20down)

- North Carolina Department of Health and Human Services. 2023c. "Medicaid Income and Resources Requirements." Retrieved February 27, 2023, from [https://ncgov.servicenowservices.com/sp\\_beneficiary?id=bnf\\_eligibility](https://ncgov.servicenowservices.com/sp_beneficiary?id=bnf_eligibility)
- Ornstein, K. A., Kelley, A. S., Bollens-Lund, E., & Wolff, J. L. (2017). A National Profile of End-Of-Life Caregiving In The United States. *Health affairs (Project Hope)*, 36(7), 1184–1192. <https://doi.org/10.1377/hlthaff.2017.0134>
- Ortman, J. M., Velkoff, V. A., & Hogan, H. (2014). *An aging nation: the older population in the United States*. US Census Bureau. Retrieved February 1, 2020, from <https://www.time.com/wp-content/uploads/2015/01/p25-1140.pdf>
- Pais J. (2014). Cumulative structural disadvantage and racial health disparities: the pathways of childhood socioeconomic influence. *Demography*, 51(5), 1729–1753. <https://doi.org/10.1007/s13524-014-0330-9>
- Pampel, F. (2000). *Logistic Regression*. SAGE Publications, Inc. <https://doi.org/10.4135/9781412984805>
- Pearson, J. A. (2008). Can't Buy Me Whiteness. *Du Bois Review: Social Science Research on Race*, 5(01), 27–48. <https://doi.org/10.1017/S1742058X0808003X>
- Petry, S. (forthcoming). Experiences gaining access to Medicaid: a North Carolina case study.
- Phelan, J. C., & Link, B. G. (2015). Is racism a fundamental cause of inequalities in health? *Annual Review of Sociology*, 41(1), 311–330. <https://doi.org/10.1146/annurev-soc-073014-112305>
- Pouw, W. T. J. L., van Gog, T., & Paas, F. (2014). An Embedded and Embodied Cognition Review of Instructional Manipulatives. *Educational Psychology Review*, 26(1), 51–72. <https://doi.org/10.1007/s10648-014-9255-5>
- Rahman, M., Tyler, D., Thomas, K. S., Grabowski, D. C., & Mor, V. (2015). Higher Medicare SNF care utilization by dual-eligible beneficiaries: can Medicaid long-term care policies be the answer? *Health services research*, 50(1), 161–179. <https://doi.org/10.1111/1475-6773.12204>
- Reddy, S., & Venkataganesan, D. (2023). Running the numbers: how north carolina's population is changing and why it matters. *North Carolina Medical Journal*, 84(2). <https://doi.org/10.18043/001c.73019>
- Reynolds, A., Greenfield, E. A., Moorman, S., & Reyes, L. (2022). Race, Childhood Socioeconomic Status, and Region of Childhood Residence as Intersectional Life-Course Predictors of Cognitive Aging in the United States. *Innovation in Aging*, 6(3), igac020. <https://doi.org/10.1093/geroni/igac020>

- Richardson, L. J., & Brown, T. H. (2016). (en)gendering racial disparities in health trajectories: A life course and intersectional analysis. *SSM - Population Health*, 2, 425–435. <https://doi.org/10.1016/j.ssmph.2016.04.011>
- Roberts, E. T., Glynn, A., Cornelio, N., Donohue, J. M., Gellad, W. F., McWilliams, J. M., & Sabik, L. M. (2021). Medicaid Coverage “Cliff” Increases Expenses and Decreases Care For Near-Poor Medicare Beneficiaries. *Health Affairs (Project Hope)*, 40(4), 552–561. <https://doi.org/10.1377/hlthaff.2020.02272>
- Robinson, M. D. (2017). *A Union Indivisible: Secession and the Politics of Slavery in the Border South*. UNC Press Books.
- Sacks, T. K. (2018). *Invisible visits: Black middle-class women in the American healthcare system*. Oxford University Press.
- Schoen, C., Doty, M. M., Collins, S. R., & Holmgren, A. L. (2005). Insured but not protected: how many adults are underinsured? *Health affairs (Project Hope), Suppl Web Exclusives*, W5–W302. <https://doi.org/10.1377/hlthaff.w5.289>
- Shenyang, G. (2009). *The Discrete-Time Models*. In *Survival Analysis* (pp. 56–72). Oxford University Press. <https://doi.org/10.1093/acprof:oso/9780195337518.003.0003>
- Sommers, B. D., Tomasi, M. R., Swartz, K., & Epstein, A. M. (2012). Reasons for the wide variation in Medicaid participation rates among states hold lessons for coverage expansion in 2014. *Health affairs (Project Hope)*, 31(5), 909–919. <https://doi.org/10.1377/hlthaff.2011.0977>
- Sommers, B. D., Baicker, K., & Epstein, A. M. (2012). Mortality and access to care among adults after state Medicaid expansions. *The New England journal of medicine*, 367(11), 1025–1034. <https://doi.org/10.1056/NEJMsa1202099>
- Soss, J. (1999). Lessons of Welfare: Policy Design, Political Learning, and Political Action. *The American Political Science Review*, 93(02), 363–380. <https://doi.org/10.2307/2585401>
- Starr, P. (1982). *The Social Transformation of American Medicine*. New York: Basic Books.
- Stevens, R.B., & Stevens, R. (1974). *Welfare Medicine in America: A Case Study of Medicaid*. New York: Free Press.
- Stuber, J., & Kronebusch, K. (2004). Stigma and other determinants of participation in TANF and Medicaid. *Journal of policy analysis and management : [the journal of the Association for Public Policy Analysis and Management]*, 23(3), 509–530. <https://doi.org/10.1002/pam.20024>
- Tavares, J., Cohen, M. A., Silberman, S., & Popham, L. (2023). Medicaid Utilization among Middle-age and Older Adults: A Health and Retirement Study Longitudinal Analysis (1998 to 2014). *Journal of aging & social policy*, 35(3), 343–359. <https://doi.org/10.1080/08959420.2020.1824538>

- Triece, M.E. (2013). *Tell It Like It Is: Women in the National Welfare Rights Movement*. Columbia, South Carolina: University of South Carolina Press.
- Wang, K., Marbut, A. R., Zheng, D., & Peet, J. Z. (2022). Stressor appraisals among adults in late middle age and late adulthood in the United States: Applying the intersectionality framework. *International Journal of Stress Management*. <https://doi.org/10.1037/str0000283>
- Warner, D. F., & Brown, T. H. (2011). Understanding how race/ethnicity and gender define age-trajectories of disability: an intersectionality approach. *Social science & medicine* (1982), 72(8), 1236–1248. <https://doi.org/10.1016/j.socscimed.2011.02.034>
- West, J. S., & Lynch, S. M. (2021). Demographic and socioeconomic disparities in life expectancy with hearing impairment in the United States. *The Journals of Gerontology. Series B, Psychological Sciences and Social Sciences*, 76(5), 944–955. <https://doi.org/10.1093/geronb/gbaa166>
- Wherry, L. R., Miller, S., Kaestner, R., & Meyer, B. D. (2018). Childhood Medicaid Coverage and Later-Life Health Care Utilization. *The review of economics and statistics*, 100(2), 287–302. [https://doi.org/10.1162/REST\\_a\\_00677](https://doi.org/10.1162/REST_a_00677)
- Willink, A., Davis, K., Schoen, C., & Wolff, J. (2016). Physical and/or Cognitive Impairment, Out-of-Pocket Spending, and Medicaid Entry among Older Adults. *Journal of urban health : bulletin of the New York Academy of Medicine*, 93(5), 840–850. <https://doi.org/10.1007/s11524-016-0078-1>
- Willson, A. E., Shuey, K. M., & Elder, Jr., G. H. (2007). Cumulative advantage processes as mechanisms of inequality in life course health. *American Journal of Sociology*, 112(6), 1886–1924. Wilper, A. P., Woolhandler, S., Lasser, K. E., McCormick, D., Bor, D. H., & Himmelstein, D. U. (2009). Health insurance and mortality in US adults. *American journal of public health*, 99(12), 2289–2295. <https://doi.org/10.2105/AJPH.2008.157685>
- Young, K., Garfield, R., Musumeci, M., Clemans-Cope, L., & Lawton, E. (2013). *Medicaid's Role for Dual Eligible Beneficiaries*. Kaiser Family Foundation. <https://www.kff.org/wp-content/uploads/2013/08/7846-04-medicaids-role-for-dual-eligible-beneficiaries.pdf>
- Zang, E., Lynch, S. M., Liu, C., Lu, N., & Banas, J. (2022). Racial/Ethnic and Educational Disparities in the Impact of Diabetes on Population Health Among the U.S.-Born Population. *The Journals of Gerontology. Series B, Psychological Sciences and Social Sciences*, 77(8), 1519–1528. <https://doi.org/10.1093/geronb/gbab149>