HEALTH INSURANCE LITERACY:
HOW PEOPLE UNDERSTAND AND MAKE HEALTH INSURANCE PURCHASE DECISIONS

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ABSTRACT

Emily Vardell: Health Insurance Literacy: How People Understand and Make Health Insurance Purchase Decisions
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The concept of health insurance literacy, which can be defined as "the extent to which consumers can make informed purchase and use decisions" (Kim, Braun, & Williams, 2013, p. 3), has only recently become a focus of health literacy research. Though employees have been making health insurance decisions for many years, the Affordable Care Act has brought the issues of health insurance literacy to the spotlight. For the large number of adults with lower levels of health literacy, their ability to procure appropriate levels of health insurance coverage and interact with the health care system successfully may be limited. While a considerable amount of literature has focused on studying health literacy in general, the information seeking and decision-making process regarding health insurance has not been studied as thoroughly. If this process is studied in a sample group of users, their information needs and use might be better understood.

This qualitative study explores how individuals understand health insurance concepts and make health insurance purchase decisions. This study used semi-structured interview questions supplemented with a demographic questionnaire and the Health Insurance Literacy Measurement (HILM) developed by Paez et al. (2014). The study was conducted with newly hired employees at a large university in the southeastern United States.

The collected data formed the foundation for the construction of a model of the health insurance decision-making process. This study identified information tactics used by individuals when evaluating health insurance materials, such as comparing plans side-by-side, calculating costs, and

eliminating irrelevant information. The findings also shed light on the personal reflection individuals undertake when making their health insurance choices, including past experience with health insurance and forecasting their needs for the next year. The participants in this study characterized their health insurance choice as a shared decision, consulting others during their decision-making. The HILM, coupled with discussions during the semi-structured interviews, identified demographic implications of individuals' health insurance literacy skills. In addition, the information needs and preferred information sources identified in this study will be of interest to human resources officers and other information professionals providing assistance with health insurance enrollment.

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TABLE OF CONTENTS

LIST OF TABLES xii
LIST OF FIGURES xiii
CHAPTER 1: INTRODUCTION 1
1.1 Health Insurance in the United States 1
1.1.1 Traditional Model of Private Insurance: Employer-Sponsored Insurance 1
1.2 Health Insurance and Health Disparities 2
1.3 The Politics of Health Care Reform 3
1.4 Medicare and Medicaid 6
1.5 Consumer-Driven Health Care 8
1.5.1 High Deductible Health Plans 10
1.6 The Affordable Care Act 11
CHAPTER 2: LITERATURE REVIEW 13
2.1 Health Information Behavior 13
2.1.1 The Health Information Consumer 13
2.1.2 The Consumer Movement 14
2.1.3 Channels 15
2.1.4 Information Fields 19
2.2 Models of Information Seeking 20
2.2.1 Health Information Acquisition Model 21
2.2.2 Risk Information Seeking and Processing Model 23
2.2.3 Comprehensive Model of Information Seeking 25
2.3 Types of Information Seekers 26
2.4 Health-Related Decision-Making 27
2.4.1 Decision-Making Theories 27
2.4.2 The Information Processing Theory of Consumer Choice 28

2.4.3 The Process of Choice of Health Care Plan 30
2.4.4 Conceptual Framework of Consumer Selection of Health Plans 33
2.4.5 Decision Psychology 34
2.5 Health Literacy 35
2.5.1 Defining Health Literacy 36
2.5.2 Assessing Health Literacy 42
2.5.3 Assessing Health-Related Materials 44
2.5.4 Health Literacy Interventions 44
2.6 Health Insurance Literacy 46
2.6.1 Setting the Stage for Understanding Health Insurance Literacy 46
2.6.2 Awareness of Health Insurance Literacy 47
2.7 Models of Health Insurance Literacy 48
2.7.1 McCormack et al.'s Conceptual Framework for Health Insurance Literacy 48
2.7.2 Paez et al.'s Health Insurance Literacy Conceptual Model 49
2.7.3 Integrated Framework for Health Insurance Literacy 50
2.8 Measurements of Health Literacy and Health Insurance Literacy 51
2.9 Health Insurance Literacy Research 55
2.9.1 Literacy Demands in the Health Insurance Process 55
2.9.2 Readability of Health Insurance Materials 56
2.9.3 Health Insurance Information Sources 58
2.9.4 Resistance to Health Insurance 59
2.9.5 Impact of Health Insurance Literacy 60
2.10 Health Insurance Choice 61
2.11 Research in Health Insurance Choice 63
2.11.1 Highlights from a Comparison of Results 69
2.12 Developing Health Insurance Choices and Designing Health Plans 71
2.12.1 Potential Solutions 72
2.13 Semi-Structured Interviews in Health Insurance Literacy Research 73
CHAPTER 3: METHODS 76
3.1 Research Questions 76
3.2 Research Design: Sample of Participants 76
3.3 Semi-Structured Interviews 79

3.3.1 Creating the Interview Guide 79
3.3.2 Conducting the Semi-Structured Interview 81
3.4 Research Methods: Analysis 84
3.4.1 Analyzing Semi-Structured Interviews 84
CHAPTER 4: RESULTS 86
4.1 Demographic Characteristics of Participants 86
4.2 Tracing the Timeline 87
4.2.1 Micro-Moment Time-Line Interview Findings 87
4.2.2 Orientation Session 89
4.2.3 Review Printed Materials 91
4.2.4 Review Information on the State Health Plan Website 93
4.2.5 Most Helpful Information 94
4.3 Information Tactics 96
4.3.1 Comparing Plans Side-by-Side 97
4.3.2 Cost 98
4.3.3 Calculate Costs 100
4.3.4 Ignoring and/or Eliminating Information 101
4.3.5 Avoiding Overthinking 102
4.3.6 Should Have Done More 102
4.3.7 Not a Logical Choice 102
4.3.8 Personal Information Management 103
4.4 Personal Reflection 104
4.4.1 Past Experience with Health Insurance 104
4.4.2 Reflecting on Past Year's Use of Coverage 106
4.4.3 Reflecting on Health Status 107
4.4.4 Age as a Factor 107
4.4.5 Forecasting Needs for the Next Year 108
4.4.6 Forecasting the Worst-Case Scenario/Unknown 109
4.5 Interpersonal Information Sources 110
4.5.1 Spoke with Spouse/Partner 110
4.5.2 Spoke with a Colleague 111
4.5.3 Spoke with Parent(s) 113

4.5.4 Spoke with Benefits Officer 114
4.5.5 Spoke with Friends 115
4.5.6 Spoke with Other Interpersonal Source(s) 115
4.6 Priority Coverage Areas 116
4.6.1 Prescription Coverage 116
4.6.2 Preventive Care 117
4.6.3 Coverage for Dependents 118
4.6.4 Specific Coverage Need 118
4.6.5 Out-of-Pocket Maximums 118
4.7 Evaluating the Choices 119
4.7.1 Reasons for Selecting the 80/20 Plan 120
4.7.2 Unfamiliar with How CDHPs Work 122
4.7.3 Reasons for Selecting the CDHP 124
4.7.4 Reasons for Selecting the 70/30 Plan 125
4.7.5 Reasons for Eliminating the 70/30 Plan as an Option 126
4.7.6 Plans Designed for Families 126
4.7.7 Test out a Type of Coverage 127
4.7.8 Ability to Switch Plans is Comforting 127
4.7.9 Flexibility in Coverage 127
4.7.10 Overwhelmed by Multiple Supplemental Insurances 128
4.7.11 Too Much Paperwork 128
4.7.12 Flexible Spending Account 129
4.8 Reflecting on the Process 131
4.8.1 Time Spent on Decision-Making Process 132
4.8.2 Most Amount of Time in Decision-Making Process 133
4.8.3 Open Enrollment Window as Factor 133
4.8.4 Short-term Decision 134
4.8.5 New to the Area 135
4.8.6 Advice I Would Give 135
4.8.7 Most Number of Benefits Questions 136
4.8.8 Additional Resources 138
4.8.9 Comparisons with Other Purchase Decisions 140

4.9 General Reflections on Health Insurance 141
4.9.1 Psychological Security 142
4.9.2 Affordable Care Act 143
4.9.3 Increase in Costs over Past Five Years 145
4.9.4 Impact on Decision to Take the Job 145
4.10 Use of Health Insurance 145
4.10.1 Looking Forward to Having Coverage 146
4.10.2 Peace of Mind 147
4.10.3 Aspects that Participants Were Not Looking Forward To 148
4.10.4 Most Likely Course of Action if Coverage Did Not Go as Expected 149
4.10.5 Desire to Stay Healthy 150
4.11 Participants Reflect on Their Health Insurance Literacy 150
4.11.1 Questions about Terminology 151
4.11.2 Complicated Information 152
4.11.3 Confusion Remaining 152
4.11.4 Confidence Navigating Health Insurance 153
4.11.5 Experience Working in Health Care 154
4.11.6 Demonstrated Clear Understanding of Coverage 155
4.11.7 Demonstrated Misunderstanding of Coverage 156
4.12 Health Insurance Literacy Measurement Findings 158
CHAPTER 5: DISCUSSION 161
5.1 Model of the Health Insurance Decision-Making Process 162
5.1.1 Obtain Overview: Orientation Session 163
5.1.2 Obtain Overview: Printed Materials and Website 164
5.1.3 Utilize Strategies: Information Tactics 165
5.1.4 Utilize Strategies: Personal Reflection 167
5.1.5 Utilize Strategies: Interpersonal Information Sources 167
5.1.6 Select Preferred Option 168
5.2 Feelings about Risk 168
5.3 Health Insurance Use 169
5.4 Participants' Health Insurance Literacy 169
5.4.1 Demographic Implications 170

5.5 Possible Solutions 171
5.6 Limitations 173
5.7 Future Research 175
CHAPTER 6: CONCLUSION 179
APPENDIX 1: RECRUITMENT MATERIALS 183
APPENDIX 2: CONSENT FORM 186
APPENDIX 3: DEMOGRAPHIC QUESTIONNAIRE 190
APPENDIX 4: SEMI-STRUCTURED INTERVIEW GUIDE 191
APPENDIX 5: READABILITY SCALE TO ASSESS HEALTH INSURANCE MATERIALS 194
APPENDIX 6: HEALTH INSURANCE LITERACY MEASUREMENT 195
APPENDIX 7: RECEIPT FOR PARTICIPANT INCENTIVE 197
APPENDIX 8: CODEBOOK 198
APPENDIX 9: SIDE-BY-SIDE COMPARISON CHART 211
APPENDIX 10: MONTHLY PREMIUM RATES FOR INDIVIDUAL COVERAGE 213
REFERENCES 214

LIST OF TABLES

Table 1: Comparison of Health Literacy Assessment Instruments 43

Table 2: Comparison of Health Literacy Interventions 45

Table 3: Health Insurance Choice Articles by Population, Insurance Type, Factors Studied, Method(s), and Results 69

Table 4: Health Insurance Coverage Plans at University 77

Table 5: Total Number of Hires by Employee Type in 2015..... 78

Table 6: Number of Hires Who Selected to Enroll in a University-Sponsored Health Insurance Plan 78

LIST OF FIGURES

Figure 1: Summary of Benefits and Coverage for Childbirth and Type 2 Diabetes (Assistant Secretary for Public Affairs, 2014) 12

Figure 2: Kuhlthau's Information Search Process Model (Kuhlthau, 2004, p. 82) 21

Figure 3: Health Information Acquisition Model (Freimuth, Stein, & Kean, 1989, p. 8) 22

Figure 4: Risk Information Seeking and Processing Model (Griffin, Dunwoody, & Yang, 2012, p. 23) 23

Figure 5: Comprehensive Model of Information Seeking (Johnson & Case, 2012, p. 40) 25

Figure 6: The Information Processing Theory of Consumer Choice (Bettman, 1979, p. 17) 29

Figure 7: Klinkman's The Process of Choice of Health Care Plan Framework (Klinkman, 1991, p. 312) 31

Figure 8: Klinkman's The Consumer's Choice of Health Care Plan Framework (Klinkman, 1991, p. 317) 32

Figure 9: Sainfort and Booske's Conceptual Framework of Consumer Selection of Health Plans (Sainfort & Booske, 1996, p. 37) 33

Figure 10: Potential Points for Intervention in the Health Literacy Framework (Nielsen-Bohlman, Panzer, & Kindig, 2004, p. 6) 39

Figure 11: Conceptual Model of the Relationship between Individual Capacities, Health-Related Print and Oral Literacy, and Health Outcomes (Baker, 2006, p. 879) 40

Figure 12: Factors that Contribute to Health Literacy (Paasche-Orlow, 2011, p. 1124) 41

Figure 13: Conceptual Framework for Health Insurance Literacy (McCormack et al., 2009, p. 228) 48

Figure 14: Health Insurance Literacy Conceptual Model (Paez et al., 2014, p. 229) 49

Figure 15: Integrated Framework for Health Insurance Literacy 50

Figure 16: Participant 15 Timeline 88

Figure 17: Participant 19 Timeline 88

Figure 18: Participant 24 Timeline 88

Figure 19: Participant 20's Annotation from the Orientation Session 90

Figure 20: Participant 15's Annotated Printed Materials 93

Figure 21: One of the Provided Coverage Scenarios 96

Figure 22: Participant 1 Eliminated the 70/30 Option 102

Figure 23: Participant 20's Bookmarks 104

Figure 24: Participant 28's Estimated Expenses for FSA Contributions 130

Figure 25: Participant 20's Notes on What is Reimbursable through the FSA 130

Figure 26: Amount of Time Spent Making Decision by Health Insurance Coverage Choice 133

Figure 27: Participant 9's Open Enrollment Annotations 134

Figure 28: Cumulative HILM Score by Race/Ethnicity 158

Figure 29: Cumulative HILM Score by Coverage Selection 159

Figure 30: HILM Behavior Scale by Education Level 160

Figure 31: Model of the Health Insurance Decision-Making Process 162

Figure 32: Participant 26's Annotations of the Enrollment Instructions 172

CHAPTER 1: INTRODUCTION

1.1 Health Insurance in the United States

This introductory section traces the history and development of health insurance and health care reform in the United States. This evolution demonstrates the competing interests at play in how health insurance should be and is organized and what information should be and is made available. The different types of health insurance coverage that have evolved over many decades (e.g., employer-sponsored insurance, Medicare, Medicaid, and high deductible health plans) require varying levels of involvement and literacy skills of enrollees. This discussion underpins the importance of health insurance literacy skills in navigating the health care system.

1.1.1 Traditional Model of Private Insurance: Employer-Sponsored Insurance

Employer-sponsored insurance (ESI) is the most common type of health insurance in the United States, with over 150 million Americans procuring their health insurance through their employers every year (Kaiser Family Foundation, 2015). ESI has been the foundation of the United States (U.S.) health care system since the 1930s and 1940s. In the U.S., health insurance began during the Great Depression, where hospitals would offer prepayment plans to employment-based groups to ensure that patients would pay their bills. The health insurance system continued to develop as a product of wage freezes during World War II (Glied & Borzi, 2004, p. 404). The federal government imposed price and wage controls on employers, and, in response, savvy companies began offering health insurance to combat the wage freeze and entice employees.

Private health insurance is a mechanism by which individuals can protect themselves from the tremendously high costs of medical care due to severe illness or accident (Kaiser Family Foundation,

2008). When an individual has health insurance, the person can use this coverage to subsidize the cost of a visit to their physician. In the case of a physician visit, the insurance company will pay a portion of the cost (sometimes dependent on whether the physician is in the insurance company's preferred network) and the individual will pay a remaining portion (i.e., a copay).

ESI is an economically effective system in that it allows companies to have a diverse group of people (often of mixed ages and health statuses) and provides a convenient risk pool. This reduces administrative costs and allows employees to cancel out each other's risk. Because insurance comes through an employer, health insurance companies also see it as a reliable way to be paid. Premiums paid via payroll deductions are a much more reliable way to fund coverage than requiring each individual to pay for their insurance separately.

Some of the benefits of ESI are that individuals do not have to spend their time managing their insurance benefits, an employer screens plans and administers them for the employee. The ESI system also plays into cultural attitudes in the United States about work. Rather than a national system (such as the systems in Europe) where everyone has coverage regardless of how "deserving" they are of coverage (i.e., whether or not they have paid into the system), the U.S. health care system requires that individuals be employed to receive health insurance coverage.

1.2 Health Insurance and Health Disparities

Access to health insurance and health care coverage are vital in addressing health status disparities. A recent study of citizens in Massachusetts demonstrated overall improvements in individuals' self-assessed health following Massachusetts' health care reform which required universal coverage of all citizens and which is an antecedent model for the Affordable Care Act (Courtemanche & Zapata, 2014). Physical health, mental health, joint disorders, and body mass index were all demonstrated to improve following health care reform. In addition, the improvements were strongest

for people with lower incomes, nonwhites, and near-elderly adults, many of whom have been shown to be more greatly affected by health disparities.

This initial study by Courtemache and Zapata demonstrates promise for health care reform as a method for reducing health care disparities. Health insurance information seeking is an important precursor to effective health care reform. As summarized by the Department of Health and Human Services (2008), "the success of health system reform will depend in large part on the capacity of individuals, families, and communities to make informed decisions about their health" (p. 7).

1.3 The Politics of Health Care Reform

The first attempt at health care reform in the United States was launched prior to World War I by progressives who sought to fight governmental corruption (Starr, 1982, p. 244). Between 1883 and 1913, many countries across the world were establishing national health care plans and the timing seemed fruitful for reform. Originally, special interest groups such as the American Medical Association (AMA) were in favor of universal health insurance. However, in a short amount of time, as debates and discussion grew, state chapters of the AMA took issue with national leadership and demanded that the association take a stand against national, universal health insurance in 1916 (p. 247-248).

In the end, this turning of the tide was a key factor in the defeat of reform. The AMA was joined by labor unions (who did not want to sacrifice power) and insurance companies. This coalition against universal coverage was far more vocal and stronger than any group lobbying in favor of universal coverage.

This inequity in lobbying power between those against universal coverage (i.e., the AMA, labor unions, insurance companies, and employers; p. 249-253) and those in favor of universal coverage would prove to be a recurring theme throughout 20th century American politics. While well-funded, politically-astute, and powerful groups rallied against universal coverage, and there was not a strong

voice in favor of it. The uninsured are a diverse group with nothing but their lack of coverage in common. Pro-reformers were not able to gain the political heft to fight against powerful interest groups.

The push for universal coverage emerged again in 1934, following Franklin D. Roosevelt's election and The New Deal. However, the AMA, stronger than ever, continued to lobby against it and universal coverage lost steam before it even had the chance to take off under Roosevelt's watch. Though Roosevelt was elected with an overwhelming Democratic majority, this issue was never seriously pushed through during his administration (p. 280).

While a drop off in steam during a president's term and redirected attention to foreign policy would continue to be a theme throughout the pursuit of universal coverage, special interest group politics would continue to play a leading role. Perhaps the strongest example of this can be identified during Truman's term. Truman was the first president to run on the idea of universal coverage and his election came as a bit of a surprise. As soon as he took office, he took steps toward constructing a universal health insurance coverage plan. The AMA, however, was once again completely against this agenda. They launched the most expensive lobbying campaign of the time, which strongly influenced public perception and once again stopped the debate before it had the chance to start. That expensive campaign, coupled with the anti-Communist propaganda that equated national, universal health insurance with socialized medicine (p. 285), created a perception of universal coverage that is often employed even in today's discussions.

When Richard Nixon was elected in 1968, he also thought he might be able to establish a national health care plan. However, the Nixon administration, too, would only see failure when it came to passing his agenda for universal coverage, which the general public interpreted as a push for more centralized government. During the early 1970s, the country was wary of centralized government and strong governmental influence (solidified during the Watergate scandal; p. 404-407), and groups such as

the AMA and health insurance companies (stronger than ever before) were able to capitalize on these concerns and thwart any possible health reform.

The final attempt of the 20th century was led by President William Clinton and First Lady Hillary Clinton during President William Clinton's first term, which began in 1993. Once again, the administration was confident that they would be able to pass national health care reform and that the timing was right. Their reform was centered on the idea of managed care, which would create an intermediary gatekeeper between employees/patients and health insurance companies. The gatekeepers were designed to address cost control issues that were plaguing the nation and to improve quality of care by holding health care providers accountable for health care outcomes (Enthoven, 1993).

Under traditional insurance physicians had very little oversight and, therefore, little incentives to control costs. This led to unnecessary tests and procedures and health care costs spiraling out of control. Clinton's managed care plan hoped to help curb unnecessary costs, but the creators of the plan overlooked a key trend in health care reform named the Cosmic Law of Health Care by Reinhardt (2008): health care costs and expenditures are someone else's income and they will fight to keep them.

Large, strong, politically powerful special interest groups such as the American Hospital Association (AHA), Pharmaceutical Research and Manufacturers of America (PhRMA), the AMA, and America's Health Insurance Plans (AHIP, representing the health insurance companies) were completely opposed to the idea of managed care and governmental interference and oversight of cost control (Starr, 1995). While Clinton's plans may have helped curb individual's health care costs, this cost control would also mean lower profits for the AHA, PhRMA, the AMA, and AHIP. These well-funded, politically powerful groups were able to lobby successfully against Clinton's plan, which eventually led to its defeat.

Throughout 20th century American health politics, each attempt to reform health care was defeated by special interest groups. This historical precedent confirms Quadrango's assertion that these groups have "used every weapon on hand to keep the financing of health services a private endeavor" (2005, p. 205).

1.4 Medicare and Medicaid

An example of health care reform success during the past century is that of Medicare. Political factors such as timing, political sympathies, partisanship, and special interest group politics all played roles in defining the success of the 1965 legislation creating Medicare. Perhaps the biggest reason why the Medicare legislation was so successful was that it focused on a very politically sympathetic demographic group – the elderly (Oberlander, 2012).

First, older, retired Americans were uninsured through no fault of their own; most simply were not eligible for employer-sponsored insurance. The fact that the elderly were uninsured due to age (rather than due to being unemployed, for example) played a key role in Medicare's success as it built upon very American political ideas of earning. Instead of being seen as a system that would be giving anything away unmerited, the program had working individuals pay into a Medicare account (building on the model set by Social Security benefits). Then, once they had retired, they would have "earned" coverage. The way this was constructed fought against the idea of government handouts. Since they had paid in, they were eligible for coverage. This aspect appealed to both parties and ensured its passage (Ball, 1995, p. 65).

It was also closer to true insurance in that, at the beginning, it only covered catastrophic events such as surgeries and/or hospitalizations. It also required higher deductibles, which resulted in many

seniors enrolling in supplemental "Medigap" insurance[1] from health insurance companies (this trend continues today). This opportunity may have kept some special interest group opposition at bay. Medicare was also particularly popular as it relieved the burden on children taking care of their elderly parents' medical expenses.

The legislation that created Medicare also created Medicaid. Medicaid was seen as a way to cover some uninsured populations and fight the slippery slope to national health insurance (Oberlander, 2012). Special interest groups that represented physicians and hospitals were in favor of Medicaid as a way to recoup costs. County hospitals are required to treat all patients and some are not able to repay hospital bills. Having Medicaid meant that more services would be reimbursed, if not from the patients themselves then through Medicaid coverage. This aspect secured support from physician and hospital groups for this legislation.

This legislation was the first example of demographic incrementalism (Oberlander & Lyons, 2009). This technique was used to provide coverage demographic group by demographic group. It started with the elderly (through Medicare), one of the most politically sympathetic groups in existence. It then expanded to the medically indigent (those going bankrupt due to health care costs), people with disabilities, kidney patients, pregnant mothers, and children. It was hard to argue against covering these segments of the population.

Those who feared that Medicare and Medicaid were a slippery slope towards national health insurance may have been right. Ultimately, Medicare became enormously successful with good approval ratings and a nearly 100% enrollment rate. It also created a vocal and strong interest group – Medicare enrollees. They like their coverage and will fight to keep it. In many ways the success of Medicare

[1] As defined by Medicare.gov, a Medicare Supplement Insurance (Medigap) policy is sold by private companies and is designed to help pay for health care costs not covered by original Medicare (e.g., copayments, coinsurance, and deductibles). https://www.medicare.gov/supplement-other-insurance/medigap/whats-medigap.html

became a warning against further health care reform. Any discussion of health care reform must include Medicare as part of the picture. This creation of a health care juggernaut made many politicians wary of creating further, untouchable health care programs.

1.5 Consumer-Driven Health Care

Managed competition (MC), the model proposed under the Clinton Plan, and consumer-driven health care (CDHC), the currently popular model, are examples of persuasive labeling in health care (Marmor & Oberlander, 2012). They are named after what they aspire to be, but it can be difficult to determine what they are and are not. They are also difficult to disagree with, as both names sound like rational things that most people should agree with.

Both represent ways of fighting against traditional insurance models and the inequities, inefficiencies, and cost control issues that accompany them. In traditional insurance models, physicians were subjected to very little cost control oversight. This led to unnecessary tests and procedures being performed, exacerbating cost issues currently confronting the industry. Both MC and CDHC seek to reduce unnecessary costs and improve quality of care.

MC and CDHC also vary in their approaches to addressing health care issues. MC is a set of strategies and guidelines that seek to provide oversight of health care delivery (Enthoven, 1993). MC is characterized by neutral intermediaries between patients/employees and health insurance companies. It would require health insurance companies to be more transparent. They would have to have a standard set of coverage options for everyone. Then, people would be able to select an insurance option solely based on cost and quality. This is designed to reduce inequalities and offer fair access to standard coverage (this would especially reduce the concerns of people with preexisting conditions and people with higher medical bills).

The largest concern that people have with MC is determining who would be the neutral enforcers. What unbiased group could effectively mediate between patients and insurance companies without being swayed by the special interests in either group? In addition, managed competition creates more work for employers. Employers prefer to work with a small number (often one) of insurance companies to reduce administrative burden. Access to more insurance options would require greater administration by employers, as they would be working with multiple companies.

CDHC also strives to improve quality and reduce costs. The hallmark of CDHC is that it seeks to encourage active participation in health care. Patients are encouraged to become active consumers and price shop their health services. They also generally have access to more providers with fewer plan limitations. The idea would be that more information on cost and quality would be available to make informed decisions.

Unfortunately, this kind of information (e.g., exact costs of procedures, medications, tests at different facilities under the supervision of different health care providers) is currently not widely available. For example, if an individual wanted to find out how much it would cost to have an appendix removed at three different local hospitals, it would be difficult to locate the exact costs at each of the three institutions. In addition, this reliance on the active consumer can exacerbate inequality issues. Many people do not have the health literacy and financial literacy to navigate CDHC (Miller, 2007). If they are not able to make effective decisions, their health care outcomes and costs may be adversely affected. A similar concern is that of the frame of mind of sick people. When a person is ill, she or he may not have the wherewithal to be able to shop around for the most cost-effective option.

Managed competition and consumer-driven health care seek to address cost control issues in health care and to make the industry more transparent with a focus on quality of care. Whereas MC requires an intermediary between a patient and the health insurance company, CDHC relies on

individual consumers to make informed health care decisions and is of particular interest when studying health insurance literacy concerns. In other words, how prepared is the general public to make these decisions?

1.5.1 High Deductible Health Plans

One example of CDHC is the use of high deductible health plans (HDHPs), sometimes also called consumer-directed health plans (CDHPs). HDHPs are designed to put the control in the consumer's hands and make health care costs more transparent. HDHPs are characterized by low monthly premiums but high deductibles at the point-of-care. This, too, is designed to encourage patients to shop around for good quality and low cost services, but so much of this information is unavailable.

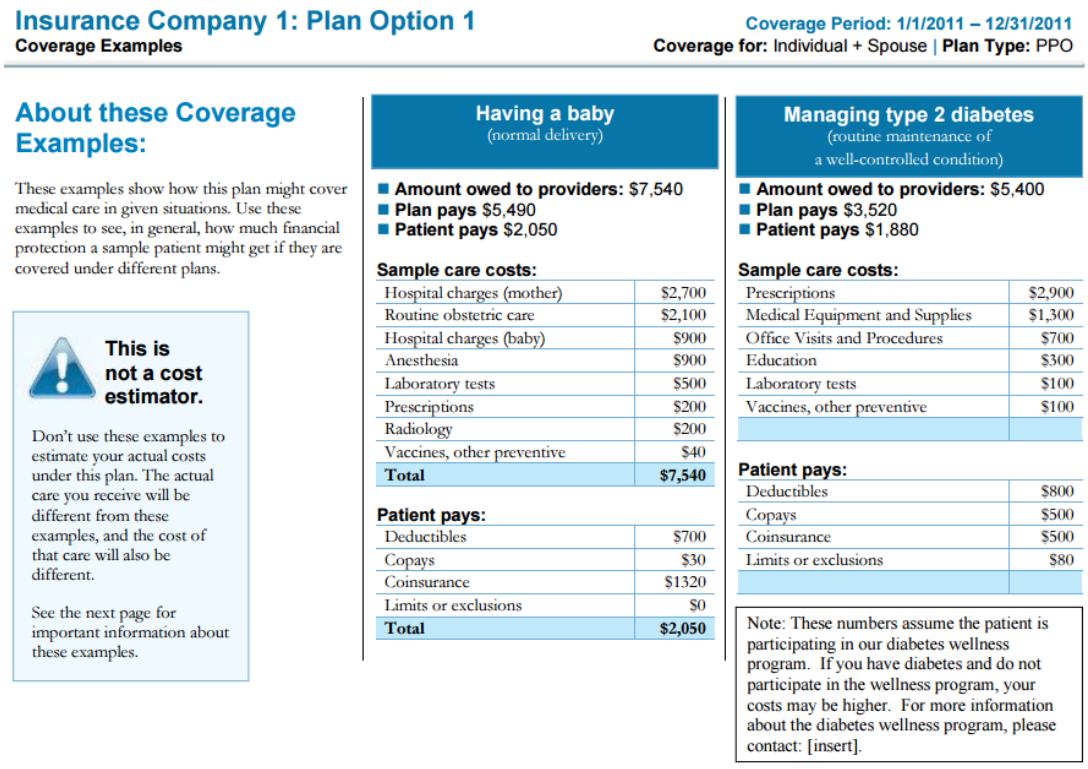
HDHPs may also lead to lower use of preventative care. In a large study conducted by the RAND Corporation, they randomly sorted people into different kinds of health plans. Those in HDHPs went to the doctor less frequently (Beeuwkes, Haviland, McDevitt, & Sood, 2011). While this may reduce unnecessary costs, it may also reduce preventative care, which can exacerbate health problems and possibly lead to treatment at an emergency room. The ACA may have addressed some of these concerns, as it requires coverage of some types of preventative services.

HDHPs can also weed out the healthy people from an insurance plan's risk pool. Generally, people attracted to HDHPs are healthy, young people who do not require a lot of health care interventions. If the young, healthy people are not present to offset costs in a large risk pool, the traditional models that feature diverse risk pools may cease to be financially viable when monthly premiums are not being paid at the level that could balance the costs of less healthy individuals who require more health care interventions.

1.6 The Affordable Care Act

The most recent major development in the history of health care reform came on March 23, 2010, when United States President Barack Obama signed into law the Patient Protection and Affordable Care Act (P.L. 111-148) and the Health Care and Education Reconciliation Act of 2010 (P.L. 111-152), commonly referred to as the Affordable Care Act (ACA). In June 28, 2012, the Supreme Court rendered a final decision to uphold the ACA. At its core, the ACA extends health care coverage to all people. The individual mandate included in the law requires all individuals to obtain health insurance. If an individual elects not to obtain coverage, they must pay a tax penalty. Subsidies are available to help cover the costs of coverage for those individuals whose earnings are below a threshold. In addition, even though many people had health insurance before the Act, the ACA also offers services and coverage that exceeds previous options. For example, the ACA lengthens the amount of time a child can be covered by her parents' health insurance. Children can now be covered under their parents' insurance until the age of 26. In addition, plans may no longer deny coverage to individuals based on a preexisting condition.

The ACA also called for the creation of Health Insurance Exchanges. The Exchanges are designed to make it easier for the average individual to select the health care plan best for him/her. The Exchanges are available through http://healthcare.gov, where people can go to find information about health insurance options and purchase their preferred plan. Insurers bid to have their plans included in the online Exchange portals. The information available for each plan includes a summary of benefits and detailed descriptions of coverage for two common groups: women giving birth and individuals with diabetes (see Figure 1 for a sample version from the Healthcare.gov website).



Insurance Company 1: Plan Option 1
Coverage Examples

Coverage Period: 1/1/2011 – 12/31/2011
Coverage for: Individual + Spouse | **Plan Type:** PPO

About these Coverage Examples:

These examples show how this plan might cover medical care in given situations. Use these examples to see, in general, how much financial protection a sample patient might get if they are covered under different plans.

This is not a cost estimator.

Don't use these examples to estimate your actual costs under this plan. The actual care you receive will be different from these examples, and the cost of that care will also be different.

See the next page for important information about these examples.

Having a baby
(normal delivery)

- **Amount owed to providers:** $7,540
- **Plan pays** $5,490
- **Patient pays** $2,050

Sample care costs:

Hospital charges (mother)	$2,700
Routine obstetric care	$2,100
Hospital charges (baby)	$900
Anesthesia	$900
Laboratory tests	$500
Prescriptions	$200
Radiology	$200
Vaccines, other preventive	$40
Total	**$7,540**

Patient pays:

Deductibles	$700
Copays	$30
Coinsurance	$1320
Limits or exclusions	$0
Total	**$2,050**

Managing type 2 diabetes
(routine maintenance of a well-controlled condition)

- **Amount owed to providers:** $5,400
- **Plan pays** $3,520
- **Patient pays** $1,880

Sample care costs:

Prescriptions	$2,900
Medical Equipment and Supplies	$1,300
Office Visits and Procedures	$700
Education	$300
Laboratory tests	$100
Vaccines, other preventive	$100

Patient pays:

Deductibles	$800
Copays	$500
Coinsurance	$500
Limits or exclusions	$80

Note: These numbers assume the patient is participating in our diabetes wellness program. If you have diabetes and do not participate in the wellness program, your costs may be higher. For more information about the diabetes wellness program, please contact: [insert].

Figure 1: Summary of Benefits and Coverage for Childbirth and Type 2 Diabetes (Assistant Secretary for Public Affairs, 2014)

These coverage example vignettes show what the health care costs would look like for individuals in these two groups and are designed to make the coverage options more relevant to the reader. If a reader does not fit into one of the two groups, he or she will be required to look deeper into the insurance materials to make comparisons. Users must review the options available to them and select their preferred coverage. The health insurance mandate provided by the law is requiring many Americans to make health insurance decisions for the first time, providing fertile ground for exploring issues of health insurance literacy.

CHAPTER 2: LITERATURE REVIEW

This literature review builds on the overview of health insurance in the United States, beginning with a discussion of health information behavior, with a focus on the information seeking models and decision-making theories that are most relevant to health insurance literacy research. Next, general health literacy research, health literacy measurements, and health insurance literacy research is discussed. This is followed by a discussion of choice in health insurance decision-making and the research that has been done in this area. Finally, since semi-structured interviews were used in this study, the chapter concludes with a discussion of health insurance literacy research that has been conducted using semi-structured interviews.

2.1 Health Information Behavior

2.1.1 The Health Information Consumer

In recent years there has been an increase in the importance of the patient role. Whereas in the past the physician and health care team often had the final word and would even conceal information from patients, now the onus is often on the patient to consult multiple information sources to make the ultimate treatment choice. In addition, the patient is often expected to locate and evaluate information sources on their own either before or after consulting with a physician; in other words, "today's world is one of active information seeking rather than passive reception" (Johnson & Case, 2012, p. xiii).

In fact, a patient's ability to consult information sources and make the final decision is often now seen as a right. In a discussion of information policy, Thorelli and Engledow (1980) highlight the trend that "consumers' freedom to choose, to be informed, to be heard, and to be safe seem to be accepted as classic rights. The right to choose assumes an open market and a true open market assumes

informed consumers" (p. 10). The responsibility and right of individuals to remain informed consumers echo throughout health information seeking research. The examples that will be used in this section will draw attention to how health information behavior research relates to health insurance information seeking and use.

2.1.2 The Consumer Movement

This recognition of the rights of the consumer is termed the consumer movement. The rise of the consumer movement in the United States is credited to Ralph Nader, who brought to light car manufacturers' resistance to safety features. First in an article from *The Nation* in 1959, and then in his book *Unsafe at Any Speed* in 1965, Nader ignited the consumer movement, beginning with safe cars and followed by increased demands by consumers across the board.

Jacoby and Hoyer (1987) identify a speech given by United States President John F. Kennedy in 1962 as solidifying the consumer movement's national prominence. In this speech Kennedy articulated four basic consumer rights: to be informed, to choice, to safety, and to be heard (redress). The idea of intelligence as capital also came to light during the consumer movement and led to increased patient demand for health information (Huber, Shapiro, & Gillaspy, 2012). The demand for information, coupled with the right to be informed and the right to choose, resounds through health information research.

These rights have also been upheld by the health provider and health administration communities. Hibbard and Weeks (1987) underscore this agenda and write that "current efforts to contain health care costs include a variety of strategies aimed at the users of health services. These approaches attempt to encourage users to be more cost-conscious and to shop for lower-cost services and more efficient health care plans" (p. 1019). This idea is echoed in consumer-directed health plans (CDHPs) that ask patients to research their most cost-effective options and take a strong role in determining their course of care (see the previous section for a further discussion of the CDHPs). The

access and use of this information is both constrained and enabled by the information channels and fields available to consumers.

2.1.3 Channels

"Knowing who knows what is a fundamental issue in communication networks" (Johnson & Case, 2012, p. 100). This question rings particularly true in the space of health insurance information seeking. It is likely that an individual cannot turn to just one information source for effective health insurance decision-making. First, the individual may need to talk to a human resources officer to understand his/her options. Then, the individual may be advised to contact the insurance company about a specific inquiry. Finally, the individual may need to discuss the particulars with a spouse, parent, or child to evaluate the information for his/her particular health and financial situation. Individual preferences for channels of health insurance information have not yet been studied and present an opportunity for future research.

The uses and gratification theory (Katz, Blumler, & Gurevitch, 1974) posits that information use is goal-oriented, with users selecting different media and content to fulfill needs. It also shows this as a process initiated by individuals, indicating that people are active information seekers. In addition, communication channels must compete with other channels for satisfying information needs, with individuals selecting channels based on "normative images those channels are perceived to possess" (Perse & Courtright, 1993, p. 501). The motivation for selecting a librarian, for example, as a desired information channel may indicate that the individual perceives librarians as being helpful and a source of authoritative information assistance.

Dervin, Jacobson, & Nilan (1982) demonstrated that information seeking in health settings was designed to bridge gaps in knowledge. They posit that individuals ask questions directly related to their current information need. For those making health insurance decisions in the Health Insurance

Marketplace, the individual is faced with a certain number of coverage options from which to choose. The individual can then employ their own information seeking strategies to determine which choice is most appropriate for them, including asking a human resources officer and/or librarian for help with enrollment. Their choice of channels will be directly related to their information need. It is unlikely, for example, that they would continue to locate information about health insurance information or the Affordable Care Act (ACA) that is not directly relevant to their own needs.

Individuals seeking health insurance information do not usually have a multitude of channels from which to select. Generally, users are given a summary of benefits and coverage information brochure written by a health insurance company and provided by employers. Health insurance information beyond that can be difficult to obtain. While there may not be multiple channels, the uses and gratification theory may suggest that users may select different content to fulfill needs and the information gaps model proposes that they will only select those that are directly related to their own needs. They may only read through the portions of the distributed health insurance information that most closely pertains to their needs. For example, a young woman interested in starting a family may review maternity coverage closely, whereas an older employee may look at prescription coverage for maintenance medications.

It may even be true that when individuals seek information from outside channels, such as the mass media, the information contained therein may present conflicting information (potentially even misinformation). As health insurance coverage has been in the spotlight following the implementation of the ACA, many media outlets have covered health care reform. Those interested in health insurance information may be exposed to channels with unrelated information and not realize that the information may or may not pertain to their situation.

Johnson and Case (2012) argue that "face-to-face, interpersonal communication is the preferred mode of communication for information seeking" (p. 163). Interpersonal communication channels may be a more frequently called upon and used channel in health insurance information seeking. Most new employees meet (either one-on-one or in a group) with human resources managers who detail the health insurance coverage options at their institution. "Characterized by its intimacy and the awareness of other's needs" (p. 67), interpersonal communication about health insurance may be targeted to specific information needs. The content-heavy Healthcare.gov or health insurance information packets may be daunting; a one-on-one session with a librarian or benefits manager may be a more satisfying information seeking session than left to one's own devices. Communication channel preferences might be quite interesting to explore with health insurance information seeking. In addition to asking individuals to list their sources of information for health insurance, it may also be helpful to inquire about which sources are preferred or most helpful.

An individual's social network comprising of family, friends, and colleagues may be one preferred source of health insurance information. A 26-year-old purchasing health insurance for the first time may turn to her parents for guidance on which plan to select. A new employee may survey his colleagues to see which health insurance options have worked best within those office's options. In a study of information seeking of job opportunities, Granovetter (1973) demonstrated that weak ties, or less-developed relationships, might actually be greater sources of information. Individuals in that study expressed that the most helpful information came from people in their extended networks (e.g., casual acquaintances or friends of friends). For newly-hired employees, new colleagues may be an effective source of information as they are not as emotionally invested and may be able to provide an outsider's perspective.

Daft and Lengel's (1986) media richness theory argues that individuals will select a channel that matches the "level of uncertainty reduction they feel is required in any one information-processing task" (Sitikin, Sutcliff, & Barrios-Choplin, 1992). The more complex the information need, the richer the desired channel. Richer media channels (e.g., face-to-face consultations with human resource managers) may be the most appropriate for health insurance information, often seen as complex and convoluted.

In evaluating different channels of information, many individuals may make their selections based on the "costs" of information seeking, including psychological, temporal, and material. "Most seekers appear to assume it is better to rely on easily obtained information (they have an answer after all) no matter how dubious, than to spend the effort necessary to get complete information" (Johnson & Case, 2012, p. 165). The effort and time required to collect additional information may be too great a cost for casual information seekers. Many have suggested that the principle of least effort may explain why individuals consult a limited number of information sources (Broadbent & Koenig, 1988).

In a study of young adults (ages 18 to 30), Wong et al. (2015) asked participants to identify whom they spoke with regarding their health insurance options and which communication channels were pursued. The two most popular channels of health insurance information identified by their participants were their parents (61%) and their friends (52%). Additional sources of information included Internet searches on Google.com (45%), the HealthCare.gov call center (24%), health insurance company websites (24%), a federal navigator or certified application counselor (18%), and news articles on HealthCare.gov and the ACA (18%). This initial study demonstrates the wide range of information sources individuals pursue when seeking to understand health insurance information and their available coverage options.

2.1.4 Information Fields

Selected information channels make up an individual's information field(s). Johnson and Case (2012) identify an individual's information field as a space "within which the individual is embedded, … [which] encompasses the carriers of information an individual is normally exposed to and the sources an individual would normally consult when confronted with a problem" (p. 28). Their research has shown that "people seem to construct their information fields so that channels are segmented and specialized as to the functions they perform" (p. 92). Through repeated use of different information sources and their related successes and failures, individuals establish information seeking and use patterns for particular situations. While individuals may be able to "arrange … elements of their information fields to maximize their surveillance of health information" (p. 29) for general health information needs, the same may not be true of health insurance information needs. The paucity of information resources on health insurance information underscores this point.

In addition to formal information resources, "individuals are embedded in a physical world that involves recurring contacts with an interpersonal network of friends and/or family" (p. 97). It could be argued that this piece of the information field is a strong indicator of an individual's information behavior for health insurance information. Health insurance information seeking is generally an infrequent event most often pursued at the beginning of new employment, sometimes pursued during annual enrollment, and perhaps further explored when an individual is confronted with a new health condition. Because the information need is infrequent and the available information so different from most general health information, an individual's existing information field may be the first place he/she will turn. The individual may start with friends, family, and colleagues to determine the best choice.

To that end as information seeking becomes more focused, individuals change their information fields to support specific information related to the needs at hand (Kuhlthau, 1991). Once the individual

has exhausted resources from their standard information field, they may begin collecting further information specifically related to their health insurance information need. This may include summary of benefits and coverage forms and other insurance provider materials. It may also include information materials packaged by the individual's employer.

There are limits in the information available within an individual's information field. To start, "the arrangement of an individual's information field limits the degree to which that individual can act on his/her predispositions" (Johnson & Case, 2012, p. 28). In the context of health insurance information seeking, an individual's information field is limited by the information offered by their insurance provider (e.g., employer) and insurance company. This information may be incomplete and the information seeker is limited in outside resources that may further elucidate any remaining questions. In addition, the information provided may be written in a way to make the insurance provider/company appear favorable and may not be free of bias. Research has shown that the information provided by insurance companies is not written at a reading level appropriate for most audiences (McCormack, Bann, Uhrig, Berkman, & Rudd, 2009; Pati et al., 2012; Vardell, 2013; Wallace, DeVoe, & Hansen, 2011). Models of information seeking may shed further light on the process users experience as they navigate through their information fields.

2.2 Models of Information Seeking

Kuhlthau (1991) developed the Information Search Process model with students conducting research projects. Kuhlthau's model (see Figure 2) is unique in that it includes the affective aspects of information search in addition to specific thoughts and actions. The stages outlined in her model, including task initiation, topic selection, prefocus exploration, focus formulation, information collection, search closure, and starting writing are supplemented with three layers: feelings, thoughts, and actions. Many of the affective aspects addressed in the model, including uncertainty, confusion, frustration,

doubt, clarity, and relief may relate to the variety of emotions that individuals face when making health insurance decisions.

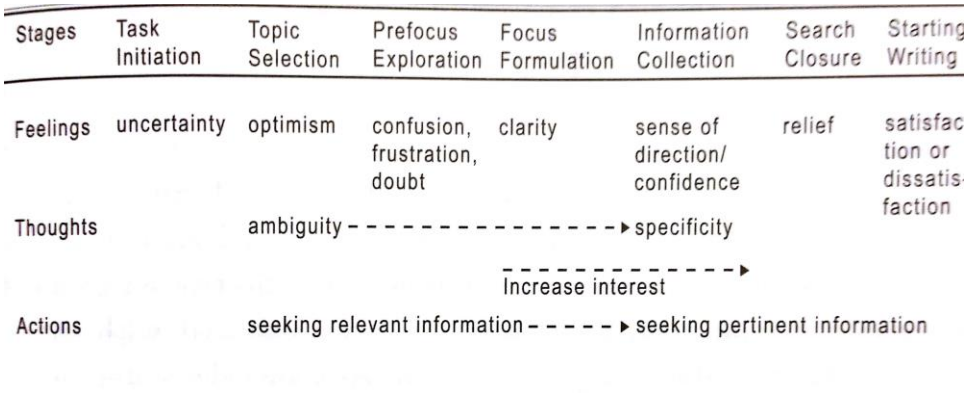


Figure 2: Kuhlthau's Information Search Process Model (Kuhlthau, 2004, p. 82)

2.2.1 Health Information Acquisition Model

The Health Information Acquisition Model developed by Freimuth, Stein, and Kean (1989) uses a flow-chart-style model to track acquisition and evaluation of health information (see Figure 3; the model does not include use of the information). The figure begins with a stimulus which requires an individual to evaluate his/her current information. The stimulus for health insurance information seeking might be the need to select a coverage option from a limited number of choices offered by an employer or a television advertisement for health insurance. Individuals needing to select a coverage option would begin by evaluating existing information (e.g., perhaps the summary of benefits and coverage form from the human resources office or the ACA site, http://www.healthcare.gov). Depending on whether the individual evaluates that information to be adequate, he/she will either stop searching for further information or set additional information goals to locate further information.

The information goals will be informed by a cost/benefit analysis, where the individual will decide whether to engage in an active search or pursue other options (e.g., speaking directly with a human resources officer). If the individual decides to engage in an active search, her/his search behaviors may include intrapersonal (internal), interpersonal, or mass mediated (external sources). For

example, an individual may consider previous experiences with health insurance (intrapersonal); meet with a librarian (interpersonal) to discuss how a website works, what the insurance terminology means, and/or how to begin enrolling searching a health insurance company's website; or search a health insurance company website (mass mediated).

The model depicts this process with feedback loops, indicating that an individual may constantly be evaluating his/her information need. The model includes information evaluation following search behavior. In this piece of the model, individuals consider each information source (intrapersonal, interpersonal, and mass mediated) in comparison with prior information to assess the cost-benefit ratio (p. 11). The process continues until the individual reaches her/his desired level of certainty. While this model focuses on an individual's information acquisition, information mediators may also play a role in supporting the information seeking and searching process.

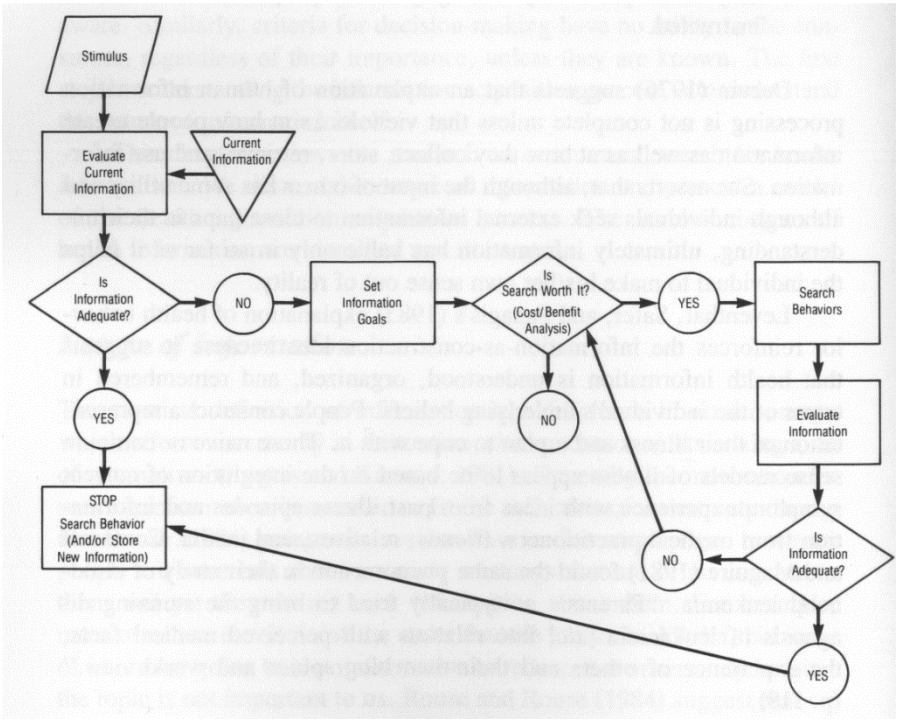


Figure 3: Health Information Acquisition Model (Freimuth, Stein, & Kean, 1989, p. 8)

2.2.2 Risk Information Seeking and Processing Model

Perhaps one of the most relevant models of health information seeking to health insurance information is the Risk Information Seeking and Processing (RISP) Model developed by Griffin, Dunwoody, and Neuwirth (1999) to model how individuals respond to information regarding health risk. While the RISP Model was written with such topics as seatbelts, recycling, healthy diets, and other risk-reduction topics in mind, the relationship between insurance choice and risk tolerance suggests that a model which includes perceived hazard characteristics may relate well to health insurance information seeking. The model was reformatted by Griffin, Dunwoody, & Yang in 2012 and is shown in Figure 4.

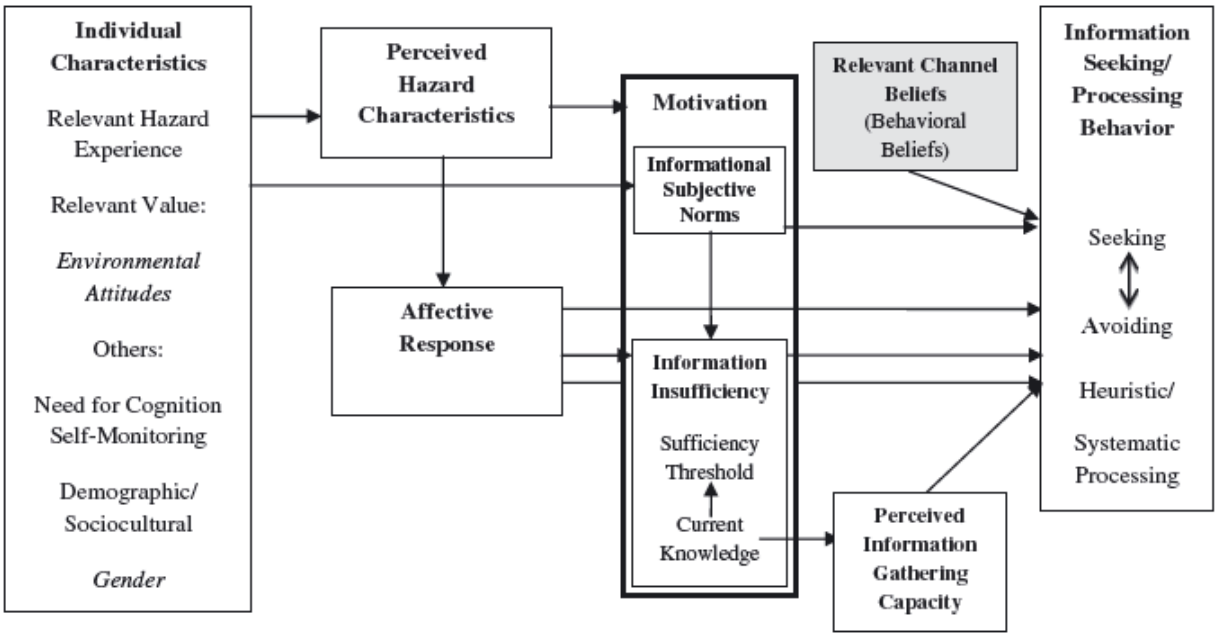


Figure 4: Risk Information Seeking and Processing Model (Griffin, Dunwoody, & Yang, 2012, p. 23)

The RISP Model shows several factors influencing the extent to which a person would seek out risk information, including which channels and the amount of effort used to critically analyze the information (see Figure 4). Motivation, including informational subjective norms and information insufficiency, describes the amount of information individuals indicate is necessary to understand and manage a risk in their own lives. For example, some individuals may seek out a lot of information on

health insurance options, while others may seek out very little. Perceived information gathering capacity relates to an individual's own assessment about his/her ability to learn more and understand the risk involved. This aspect seems particularly apt in the field of health insurance, as so many people are unfamiliar with health insurance terms (Blumberg, Long, Kenney, & Goin, 2013) and seem to resign themselves to an inability to fully understand their options. Lastly, relevant channel beliefs describes the individual's beliefs about relevant information sources (e.g., concern about bias in the information provided by health insurance companies).

These three factors in the RISP Model are in turn impacted by affective response to risk, subjective and/or social norms about information gathering related to the risk, perceived hazard characteristics, and characteristics of the individual (e.g., demographics, political leanings, relevant hazard experience, etc.). Affective response to risk, for example preoccupation with worry, may certainly cloud the insurance decision-making process, while the perception that others believe knowledge gathering is important (i.e., subjective normative component) may play a strong role in health insurance selection. When individuals are responsible for selecting the health insurance choice for their entire family this additional weight of responsibility may factor in considerably. Lastly, individual characteristics clearly play a role in personal views about the characteristics of a given hazard (e.g., previous illness, social status, etc. will most likely impact the selection of health insurance).

In a meta-analysis conducted by Yang, Aloe, and Feeley (2014), the RISP Model was shown to be most effective in explaining information seeking when the risk information is familiar or particularly relevant to an individual. In studies where the risk information was less familiar to participants, the RISP Model was not as effective in explaining information seeking and systematic processing.

2.2.3 Comprehensive Model of Information Seeking

The Health Belief Model (HBM) provided foundational elements for the Comprehensive Model of Information Seeking (CMIS) developed by Johnson and Case (2012; see Figure 5). Johnson and Case posit that while the HBM "assigns a passive role to individuals…, the CMIS… recognizes individuals as more active in seeking and processing information" (p. 42). This active information seeker (who can be characterized by her/his health-related factors) operates within the available range of information-carriers to perform information seeking actions. In the case of requesting librarian assistance, the librarian may be a potential information-carrier as well as the receiver of an information seeking action.

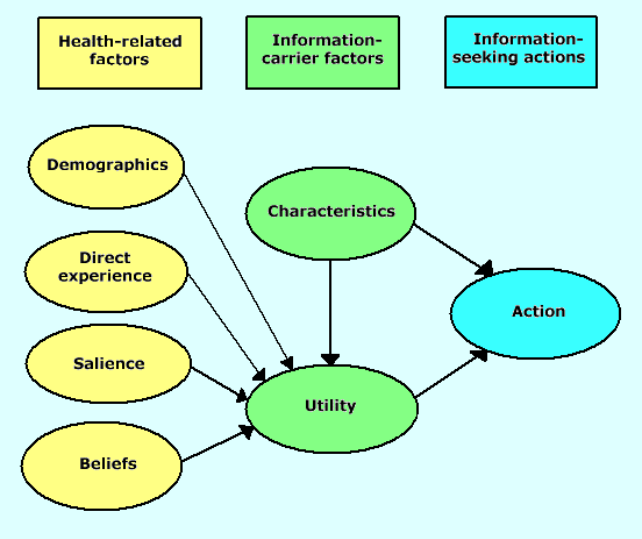


Figure 5: Comprehensive Model of Information Seeking (Johnson & Case, 2012, p. 40)

As demonstrated in the CMIS, health-related factors, such as demographics and personal experience, are antecedents to information seeking. These background factors "often affect the choice of communication channels for information seeking" (p. 46). Because there are not many choices of communication channels in health insurance information seeking, personal experience may play a key role here. For example, a young, newly hired employee may recall her parents sharing advice on health insurance. She may select to use interpersonal sources as a possible channel, based on her demographics (i.e., age) and personal experience. An individual who has experience asking for help

filling out a job application at the library may turn to a librarian for help with navigating the Health Insurance Marketplace.

One of the Personal Relevance Factors included in the CMIS is salience, the degree to which information is valued (Evans & Clarke, 1983). The ACA's requirements for all health insurance companies (including those that are the source of employer-sponsored insurance) to include vignettes in coverage descriptions (e.g., for a middle-aged woman with diabetes or for a pregnant woman, this is what the coverage would look like) is a step forward to increasing the saliency of health insurance information. Many individuals who are healthy may assume that they are not in need of health insurance or require only very basic coverage. While the ACA requires that all individuals obtain health insurance, these case scenarios may provide more context to the information, therefore increasing its value or saliency to the individual. This information may be built upon by a human resources officer and/or librarian providing individual assistance. By focusing on the most salient information, the individual may have a more enriching information exchange.

2.3 Types of Information Seekers

While models present larger trends in information seeking, it may also be useful to explore differences in individual behavior. Through the International Consumer Information Survey, Thorelli and Engeldow (1980) identified a "fairly homogeneous and cosmopolitan group of information-sensitive consumers" (p. 12) who can be characterized by higher socio-economic class, high education, high ownership of durable goods, high sensitivity to information, high confidence in product tests, skepticism about the purchase process, and likely to be an opinion leader. Interestingly, Thorelli and Engeldow's research demonstrated that information seekers often acted as vigilantes, who "search diligently, complain vigorously, join organizations, pinpoint fraud and deception, and generally police the market"

(p. 14). It would be interesting to see if this trend could also be identified in a small subset of health insurance information seekers.

Miller (1987) classified people's stress coping styles. Her research identified two types of information seekers: monitors seek out information to help them cope, while blunters avoid information. While this was written with individuals faced with the possibility of electric shock, the same styles of information users may be also true in the realm of health insurance information. Some individuals may monitor health insurance information closely, while others may blunt information about health insurance and make decisions that are not as informed.

2.4 Health-Related Decision-Making

Once the health information consumer has gone through the information seeking journey, consulting different information channels and fields, that individual must make use (or not) of the information that they have obtained. Patients are confronted with medical decisions that must be made at all steps along the medical treatment path. The process by which patients make health decisions has a tremendous impact on health outcomes. As emphasized by Fowler, Levin, and Sepucha (2011), "high-quality medical decisions require that patients be fully informed and involved in the decision-making process" (p. 699). Individuals are often not left on their own to make health-related decisions. As discussed previously in this chapter, individuals often make health insurance decisions after consulting with other people (e.g., human resources officer, librarian, colleagues, partner, etc.).

2.4.1 Decision-Making Theories

Several theories have been used to explore decision-making patterns. One example is the fuzzy trace theory (Brainerd & Reyna, 1990), which argues that people form two kinds of memory representations, verbatim and gist, and that they rely on the fuzzier version to reason and make decisions. This theory has been used to explore physician decision-making that relies on intuition

(Spring, 2008) but could also be used to explore health insurance decision-making. Additional models such as the Transtheoretical Model, which models stage-of-change thinking, and the Theory of Reasoned Action, which posits that individual's intention to perform a behavior is the best indicator of motivational readiness, focus on behavioral decision-making and are not as relevant to health insurance decision-making.

Bettman's (1979) Information Processing Theory of Consumer Choice connects the information seeking process with the decision-making process. Klinkman (1991) and Saintfort and Booske (1996) developed frameworks to model the health plan decision-making process and are most relevant to studying health insurance decision-making. This theory and these two frameworks will be outlined below with close attention to how they relate to health insurance decision-making.

2.4.2 The Information Processing Theory of Consumer Choice

The main elements in Bettman's theory are processing capacity, motivation, attention and perception, information acquisition and evaluation, use of memory, decision rules and processes, and consumption and learning (see Figure 6). Processing capacity is built on the body of research that shows that individuals have a limited capacity to take in new information and carry out more than one task at a time, "affect[ing] the kinds of strategies or rules that are feasible for consumers to use in various choice situations" (p. 18). One common effect of limitations of processing capacity is the heuristics that individuals develop to help them deal with complex situations.

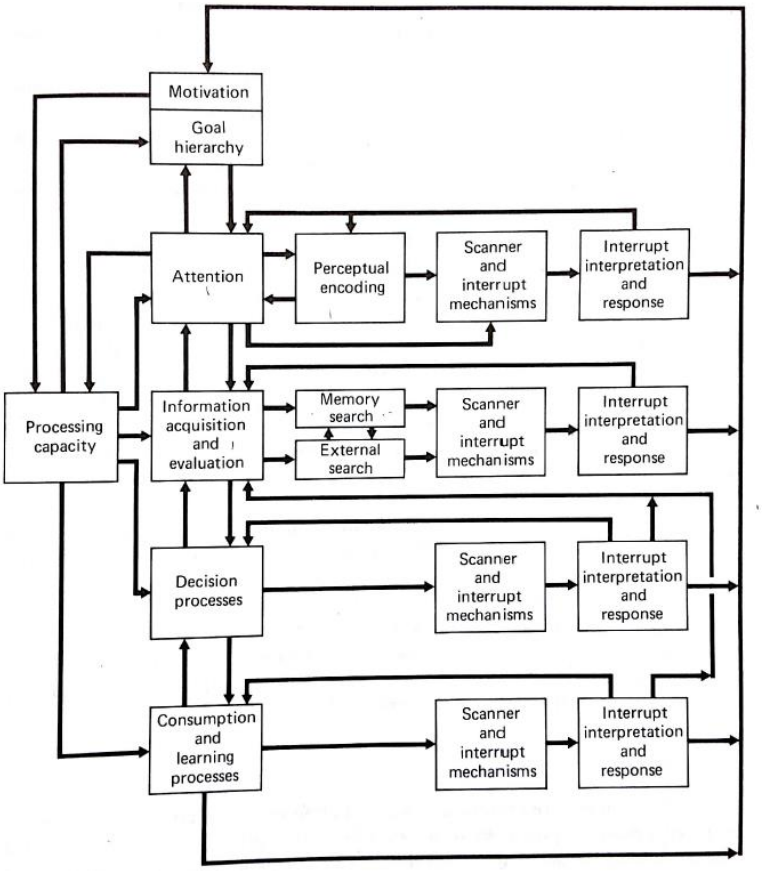


Figure 6: The Information Processing Theory of Consumer Choice (Bettman, 1979, p. 17)

Bettman's motivation variable is driven by the desire to accomplish certain things through the choices individuals make. The attention variable refers to both voluntary, the "conscious allocation of processing effort to activities related to current goals or plans" (p. 25), and involuntary attention, the "allocation of effort to stimuli based more upon automatic mechanisms." In the information acquisition and evaluation piece of the theory, individuals may retrieve information from their memory or may seek out additional information to aid in their choice. Because the "goals being pursued will clearly influence the direction of attention and hence the information examined" (p. 28), this variable is heavily influenced by motivation, attention, and perception (as seen in Figure 6). The major piece of the decision processes variable is comparison and selection of alternatives. Finally, after an alternative is chosen, the "outcomes experienced can serve as a source of information to the consumer" (p. 35) and

are reflected in the consumption and learning processes variable. This more generalized theory of consumer choice is unique in that integrates information seeking and use within the theory, and, therefore, may shed some light on the health information seeking and decision-making processes.

2.4.3 The Process of Choice of Health Care Plan

Klinkman (1991) proposes a model of health insurance decision-making (see Figure 7) that begins with the contract between employer and guarantor. An employer will contract with an insurance company to select a set number of health care plans to offer their employees. The employer must weigh the costs of the different available options and what that will cost the institution (as most employers subsidize the cost of insurance for their employees). This understudied area is outlined in Klinkman's framework where the guarantor will offer plans with a focus on the costs, comprehensiveness, monitoring options (available to employers), and quality. The employer will focus on the costs, quality, stability, and acceptability of the available options from the guarantors and will make a choice, resulting in a menu of vendor options.

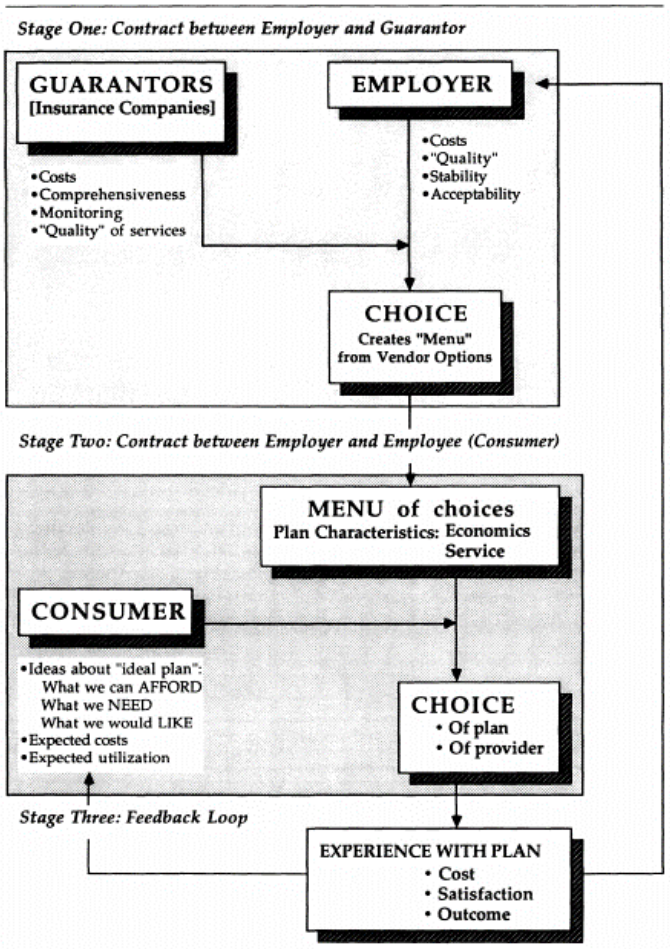


Figure 7: Klinkman's The Process of Choice of Health Care Plan Framework (Klinkman, 1991, p. 312)

The second stage, of greater interest to health insurance literacy researchers, outlines the interactions between the menu of available choices, the consumer, and the consumer's ultimate choice. Klinkman outlines the consumer's decision-making processes through three questions (each with subsections, outlined in depth in Figure 8):

1. What is our ideal plan?
    a. What can we afford?
    b. What do we need? (This factor is defined by Klinkman as a mix of the consumer's perceived health risk, demographics, and health beliefs.)
    c. What would we like? (e.g., desired provider attributes, desired plan attributes)

2. What are our choices?
    a. Freedom of choice, convenience of use
    b. Financial characteristics of plans
    c. Service characteristics of plans
3. After a choice is made, how satisfied are we?

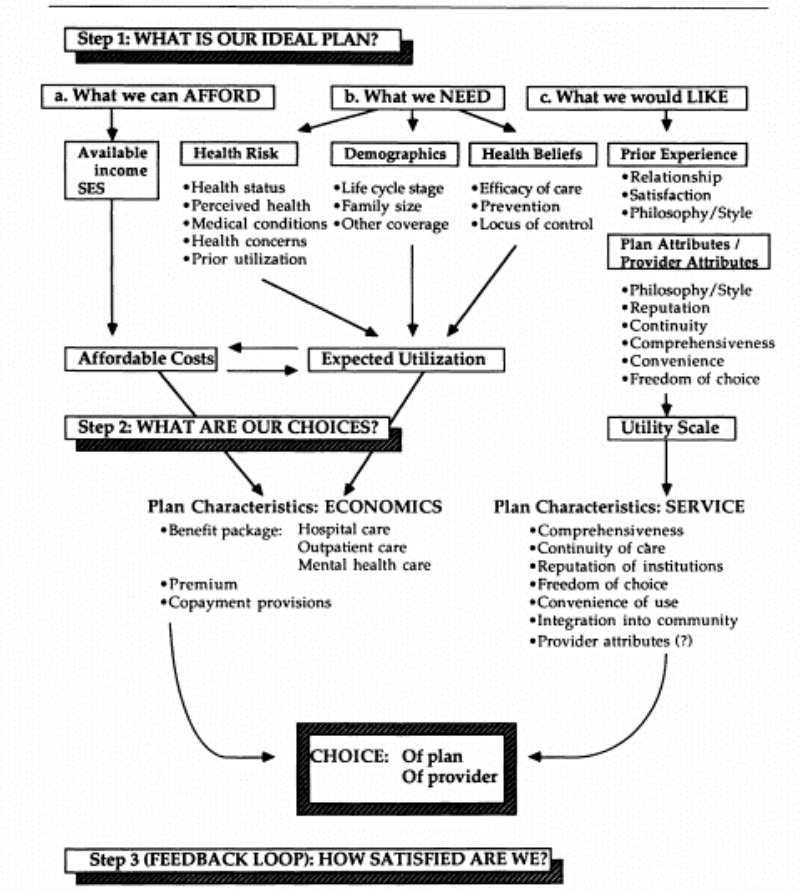


Figure 8: Klinkman's The Consumer's Choice of Health Care Plan Framework (Klinkman, 1991, p. 317)

The final question above reflects a feedback loop that Klinkman includes to suggest adjustments that individuals may make in their coverage. As this is a decision that is made annually, individuals may reflect on their satisfaction with their plan over the past year and make adjustments as needed. As Klinkman himself notes, "In the real world the … process is nowhere nearly as clear or rational as that described; it is difficult to picture a human being proceeding through the steps on this pathway" (p.

319). However, the factors identified by Klinkman may be used as variables in a research study on this topic and may enhance understanding of consumer information processing.

2.4.4 Conceptual Framework of Consumer Selection of Health Plans

Sainfort and Booske (1996) built on the work by Klinkman and other health insurance researchers to create a conceptual framework of consumer selection of health plans that features a hypothesized relationship between background variables, choice elements, and information (see Figure 9).

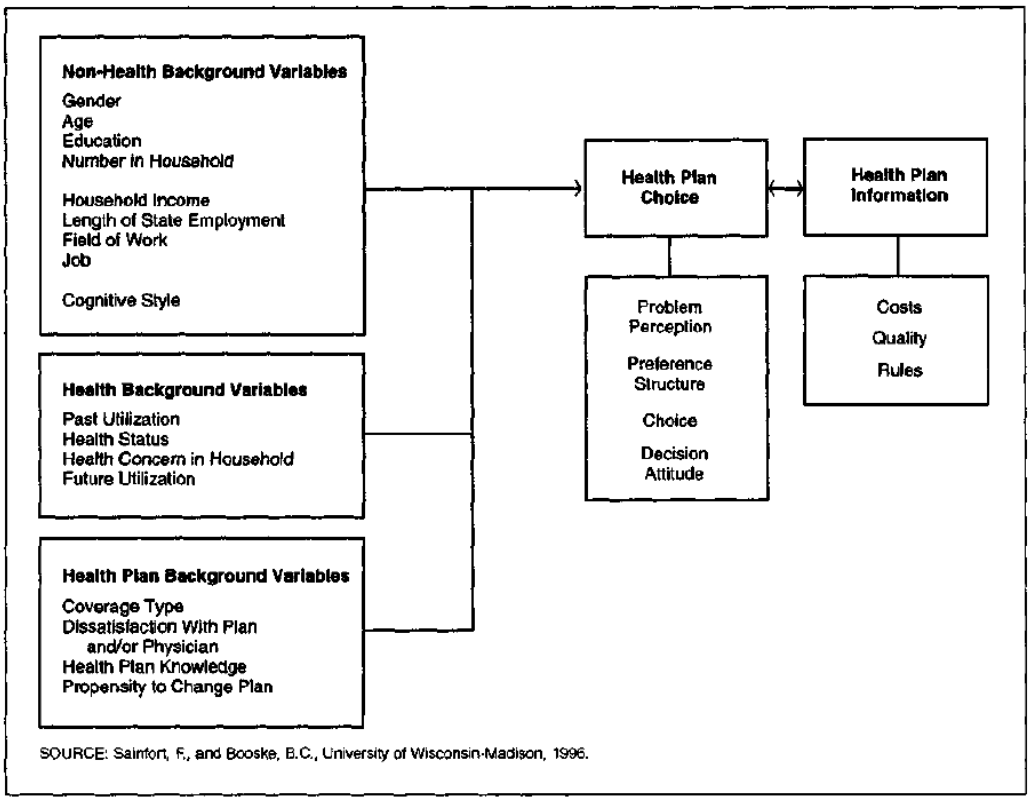


Figure 9: Sainfort and Booske's Conceptual Framework of Consumer Selection of Health Plans (Sainfort & Booske, 1996, p. 37)

As Sainfort and Booske state, "background characteristics are likely to influence the amount and type of information that individuals desire in selecting a health plan" (p. 37). These background characteristics include common demographic characteristics, as well as health-specific characteristics and the variables specific to the health plan (e.g., coverage type, health plan knowledge, etc.).

In the study where Sainfort and Booske tested the relationship between choice elements and information, there was a clear relationship between information amount and plan choice. Individuals who looked at a greater amount of information were more likely to change their choice. In addition, individuals felt greater satisfaction with their selections after viewing detailed information (p. 51).

2.4.5 Decision Psychology

As stated by Fowler et al., "… a core principle of shared decision-making is that the value of benefits and risks should be determined by those who have to live with them" (p. 700). Because many medical decisions are "'preference sensitive,' where the best choice depends on the values a specific patient places on relevant outcomes" (Ubel, 2010, p. 5), many researchers have turned to decision psychology to explore the contextual factors that may influence medical decision-making.

Whereas most research has focused on individuals' cognitive capacities to make decisions, Loewenstein, Weber, Hsee, and Welch (2001) argue that "emotional reactions to risk situations often diverge from cognitive assessments of those risks, [and] when such divergence occurs, emotional reactions often drive behavior" (p. 267). This risk-as-feelings hypothesis argues that emotions and affect play a strong role in decision-making. Previously many decision scientists assumed that when a patient made an "error" and selected a treatment option that was not ideal, it was caused by cognitive limitations that led to biased decision-making. In a study conducted by Ubel (2010) to explore this topic, participants selected the less ideal treatment option because they *felt* the other treatment option was preferable. As Ubel summarizes "risk information is rarely received dispassionately, but is usually processed by people in affective and intuitive ways, too. Risks create feelings" (p. 7). Exploring the role of feelings in health insurance decision-making is supported by these findings.

Risk is perceived and acted upon in two ways: risk as feelings ("our instinctive and intuitive reactions to danger" (Slovic & Peters, 2006, p. 322)) and risk as analysis ("bring[ing] logic, reason, and

scientific deliberation to bear on risk assessment and decision making" (p. 322)). As an extension of this, Slovic and Peters argue that individuals understand reality in two fundamentally different ways, "one labeled intuitive, automatic, natural, nonverbal, narrative, and experiential" (based in affect) and "the other analytical, deliberative, and verbal" (p. 322). Research in this area has indicated that "affect influences judgment directly and is not simply a response to a prior analytic evaluation" (p. 323). It is clear that rather than focusing solely on individuals' intellectual capabilities for processing health information, it is also necessary to explore the role of affect in health-related decision-making.

Heuristics have emerged as another aspect that may explain less than ideal decision-making. Heuristics are "efficient cognitive processes, conscious or unconscious, that ignore part of the information" (Gigerenzer & Gaissmaier, 2011, p. 451). With health insurance information, it is very possible that some aspects of coverage are ignored by individuals as they select their preferred health coverage option. While it had been widely assumed that using heuristics led to greater errors, research has shown that, in fact, ignoring part of the information can lead to more accurate judgments.

In conclusion, decision psychology and shared decision-making research shed light on the medical decision-making process and demonstrate areas for potential future research. The role of affect and feelings in decision-making, as well as situations in which patients select less-than-desirable options, are potential areas for future research on the health insurance decision-making process.

2.5 Health Literacy

"Health care has changed significantly over the last few decades, with a greater emphasis on self-management for long-term health conditions and personal responsibility for maintaining good health" (Smith & Duman, 2009). Navigating the American health care system requires several skills of a patient. The patient must be able to schedule appointments, discuss sensitive health issues effectively with a health care professional, determine appropriate medication dosages, and decipher insurance

bills. The ability to execute this array of skills effectively is referred to as health literacy, and the success of such interactions with the health care system can have a direct effect on an individual's health outcomes.

A systematic review of health literacy research demonstrated that much of the population in fact, has low health literacy, or limited ability to comprehend medical information (Paasche-Orlow, Parker, Gazmararian, Nielsen-Bohlman, & Rudd, 2005). Studies conducted by Cho, Lee, Arozullah, and Crittenden (2008); McCormack, Bann, Uhrig, Berkman, and Rudd (2009); and Sentell (2012) have shown that minority populations and those with less health insurance coverage in particular have exponentially lower levels of health literacy. The combination of low health literacy and greater responsibility to manage one's health can have "dire individual consequences" (Kilker, 2000, p. 2) and result in poor health outcomes.

This literature review will present a review of the evolving definition of health literacy and assessments of health literacy. The review will then explore the health literacy demands users face in the health care system as well as summarize tested health literacy interventions.

2.5.1 Defining Health Literacy

The definition of health literacy has evolved and expanded over time. The term "health literacy" was first published in the proceedings of a health education conference (Simonds, 1974). In this publication, Simonds argues that health education is a social policy issue affecting the health care system, mass communication, and the education system. However, the efforts to address health literacy concerns predate its official nomenclature; the military recognized the need for plain-language materials for returning World War II veterans in the 1940s (Huber et al., 2012).

In 1985, Doak, Doak, and Root published the book *Teaching Patients with Low Literacy Skills*, which provided practical advice for nurses and other health care providers on how to work with patients

with limited literacy skills. The Rapid Estimate of Adult Literacy in Medicine (REALM) was created in 1991 (Davis et al.). The term "*health* literacy," however, did not appear in the published medical literature until 20 years after Simonds work when, in 1995, Parker, Baker, Williams, and Nurss developed the Test of Functional Health Literacy in Adults (TOFHLA). Their preliminary results demonstrated a deficiency in health literacy skills and a need for future research.

One of the TOFHLA researchers, Ruth Parker, went on to chair the American Medical Association's Ad Hoc Committee on Health Literacy for the Council on Scientific Affairs (1999), where health literacy was defined as the "constellation of skills, including the ability to perform basic reading and numerical tasks required to function in the health care environment … [including] the ability to read and comprehend prescription bottles, appointment slips, and other essential health-related materials" (p. 553). In the Healthy People 2010 initiative, the Department of Health and Human Services adopted Ratzan and (Ruth) Parker's (2000) definition: "the degree to which individuals have the capacity to obtain, process, and understand basic health information and services needed to make appropriate health decisions" (p. vi); this is also the definition of health literacy that is included in the Affordable Care Act. These definitions view health literacy as "competence in a set of skills" (Paasche-Orlow, 2011, p. 1123) that enable individuals to acquire and use information as they interact with the health care system.

The Medical Library Association recognized the importance of an individual identifying an information need before being able to find, evaluate, and use information in their definition of health information literacy. The Medical Library Association Health Information Literacy Task Force defined health information literacy as ''the set of abilities needed to recognize a health information need, identify likely information sources and use them to retrieve relevant information, assess the quality of the information and its applicability to a specific situation, and analyze, understand, and use the information to make good health decisions'' (Rambo, 2004). This definition is unique in its connection of

health literacy to information literacy as well as its emphasis on the individual as someone with agency who must identify an information need before taking action.

The impact of improving individual's access and use of health information is echoed in the World Health Organization's definition of health literacy as "the cognitive and social skills which determine the motivation and ability of individuals to gain access to, understand and use information in ways which promote and maintain good health" (Nutbeam, 1998, p. 357). This definition focuses on health literacy interventions as "critical to empowerment," connecting the personal and social benefits of a health-literate population. This definition of health literacy, as well as the Medical Library Association definition, emphasize the ethical imperative of improving health literacy for the greater good (Huber et al., 2012, p. 437). Studies that focus on individual's abilities and information needs, such as the research study described in this document, may support the idea of an individual as an agent of change, rather than the traditional top-down approach that is characteristic of many health literacy reports and efforts (Huber, 2012).

While some view health literacy as a set of individual capacities, others view ability as a dynamic state dependent upon "the characteristics of both the individual and the health care system" in a health care encounter (Baker, 2006, p. 878). In this case, the medical condition, the health care providers, and the health care system providing the care may impact an individual's health literacy. These outside factors were identified by the Institute of Medicine's Committee on Health Literacy members Nielsen-Bohlman, Panzer, and Kindig (2004), who cited culture and society, health system(s), and education system(s) as both influencing factors and opportunities for public health intervention (see Figure 10).

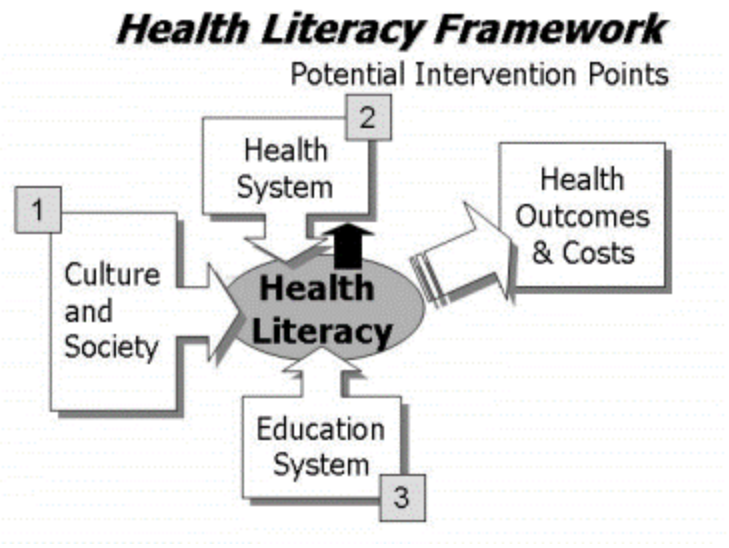


Figure 10: Potential Points for Intervention in the Health Literacy Framework (Nielsen-Bohlman, Panzer, & Kindig, 2004, p. 6)

While health literacy is considered by some to be a set of skills or dependent on a health care encounter, yet others identify "health knowledge as a part of health literacy" (Baker, 2006, p. 878). This is exemplified by the Institute of Medicine's expert panel, which divided health literacy into cultural and conceptual knowledge, oral literacy, print literacy, and numeracy (Nielsen-Bohlman et al., 2004). A researcher's perspective on health literacy dictates the measurements of health literacy considered most useful. If a researcher considers it dependent on an individual, then tests of an individual's comprehension may be appropriate. However, if a researcher considers it a dynamic state dependent on the health care encounter, "measures at the individual level are inadequate" (Baker, 2006, p. 878). In an effort to address these multiple layers, Baker created a conceptual model (see Figure 11) that is oft-cited (according to Scopus, 414 times).

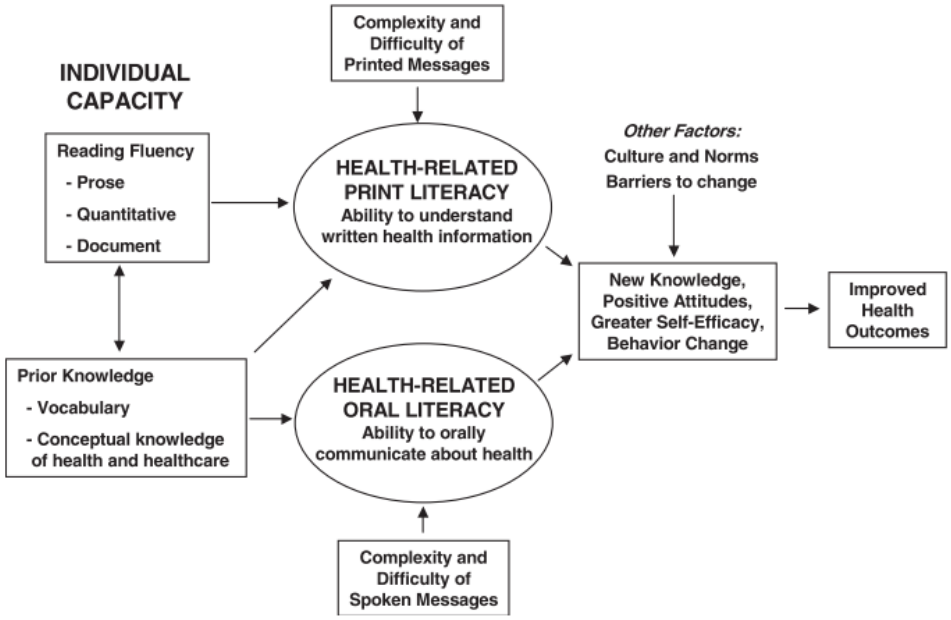


Figure 11: Conceptual Model of the Relationship between Individual Capacities, Health-Related Print and Oral Literacy, and Health Outcomes (Baker, 2006, p. 879)

As expressed in Baker's model, individual capacity is comprised of two parts, reading fluency and prior knowledge. An individual's capacity then dictates an individual's health literacy, both print and oral. While these two are separated in Baker's model (see Figure 11), it is difficult to measure the concepts separately (Baker, 2006) and most health literacy research conflates the two. The aspects of reading fluency and prior knowledge as components of health literacy are the most often explored concepts in health literacy research. For a further discussion of the research on the complexity and difficulty of printed and spoken messages, please see the Readability of Health Insurance Materials subsection in the Health Insurance Literacy section, which follows this Health Literacy section.

Paasche-Orlow (2011) explored the factors that contribute to health literacy and expressed them in another model (see Figure 12). While Paasche-Orlow's definition of health literacy in the figure focuses on an individual's capacity, his inclusion of contextual factors acknowledges the multi-faceted nature of health literacy as described by Baker's description of health literacy as a dynamic state dependent on the health care encounter.

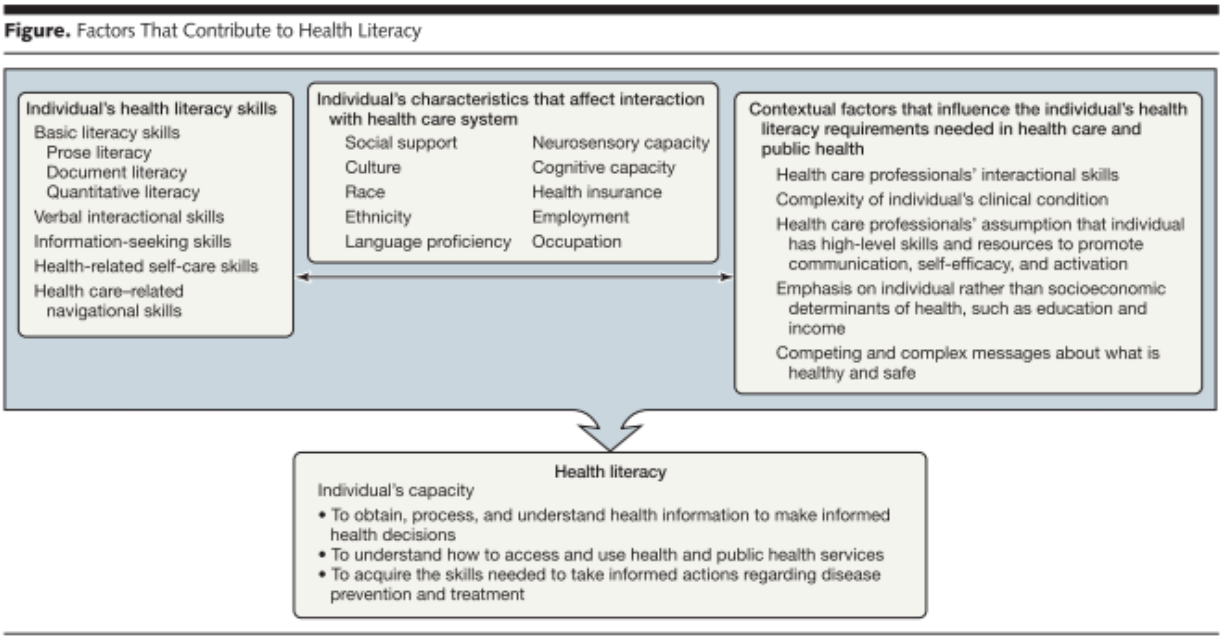


Figure 12: Factors that Contribute to Health Literacy (Paasche-Orlow, 2011, p. 1124)

Paasche-Orlow articulates that an individual's background and characteristics may impact health literacy. He names aspects that are often explored in health literacy research such as culture, race, ethnicity, language proficiency, health insurance, and employment/occupation, as well as factors that are not as well-researched including social support, neurosensory capacity, and cognitive capacity. Paasche-Orlow emphasizes the importance of determining "patients' specific barriers to health literacy, and [designing] interventions … [that] match a patient's particular issues" (p. 1124). These underexplored aspects present opportunities for further research.

Rather than view health literacy as a patient's individual responsibility and concern, the Institute of Medicine's 2004 report stresses that health literacy should be viewed as a challenge and an opportunity for improving communication skills among health care practitioners and public health professionals (Nielsen-Bohlman et al., 2004). Public health expert Ilona Kickbusch (2009) emphasized the universal importance of health literacy by stressing that "it can empower and enable people to make sound health decisions in the context of everyday life – at home, in the community, at the workplace, in the health care system, in the market place, and – above all – in the political arena" (p. 132).

2.5.2 Assessing Health Literacy

The first text readability formulas were created in the 1920s (Zakaluk & Samuels, 1988), followed by Flesch (1946), who argued for using word count, sentences, affixes, and personal references to assess written materials. The first tool to measure health literacy specifically appeared in 1991, and researchers have been toiling at this effort for many years since then. A comparison of the available tools to measure health literacy can be found in Table 1. This table is based on Mancuso's (2009) integrative review of health literacy literature.

Instrument	Summary	Advantages	Limitations	Additional Versions	Citations*
Rapid Estimate of Adult Literacy in Medicine (REALM; Davis et al., 1991)	Rapid-screening, reading recognition test to assess how well patients read common medical and lay terms. Administered orally, patients are tested on pronunciation. Consists of 125 words arranged in four columns according to number of syllables and difficulty level. Words were selected from patient education materials and intake forms.	Quick and easy to administer and score. "Acceptable to patients in a health-care setting because they use health-related words" (Mancuso, p. 84). Well-established criterion validity and highly positively correlated with other standardized reading recognition tests.	Does not measure understanding or words but rather sight-reading ability. Only assigns grade range equivalents. All three versions are only available in English. Test may not be as relevant in health insurance literacy research, as individuals may be able to pronounce health insurance terminology (e.g., copay) but may have no idea what it means.	Shortened REALM (Davis et al., 1993) Consists of 66 words in three columns REALM-R (Bass et al., 2003) Consists of eight words	446 citations (Davis et al., 1991) 1330 citations (Davis et al., 1993) 252 citations (Bass et al., 2003)
Test of Functional Health Literacy in Adults (TOFHLA; Parker et al., 1995)	Measures a patient's ability to perform health-related tasks that require reading and numerical skills. Consists of a 12-minute, 50-item reading comprehension section and a 10-minute, 17-item numerical ability test.	"Considered 'gold standard' of health literacy testing" (Mancuso, p. 84). Strong reliability and validity data. 14-point font print version available. Measures reading, numeracy, and comprehension skills. Enhanced content validity from using actual hospital medical texts. Spanish version is available.	22 minutes to administer could lead to participant frustration. No validity data for the Spanish version.	TOFHLA-S (Parker et al., 1995) -Spanish version -excellent reliability but criterion validity has not been established S-TOFHLA (Brief; Baker et al., 1999) -7 minute, 36-item reading com-prehension section and 5 minute, 4-item numerical ability test S-TOFHLA (Short; Baker et al., 1999) -Only consists of a reading comprehension section, no numeracy	1455 citations (Parker et al., 1995) 1059 citations (Baker et al., 1999)

Instrument	Summary	Advantages	Limitations	Additional Versions	Citations*
Medical Achievement Reading Test (MART; Hanson-Divers, 1997)	Terminology literacy test. Consists of 42 medically-related words. Scored on correct pronunciation. Scoring correlated with grade level. Designed with three common "excuses" in mind to help patients feel less intimidated to express difficulty.	Based on the Wide Range Achievement Test (WRAT), a test with strong validity and reliability. Quick to administer, scoring in 3-5 minutes. Unthreatening appearance. More precise in grade-level placement; places respondents into exact grade levels.	Only measures recognition of words by sight and not by understanding. Small sample size; not generalizable to a greater population. Assumption of content and criterion validity; further students are needed.	none	57 citations (Hanson-Divers, 1997)
Newest Vital Sign (NVS; Weiss et al., 2005)	English and Spanish screening tool. Consists of a nutrition label and 6 related questions. Literacy is determined by a range.	Easy to administer, scoring in 3-5 minutes. Sensitivity in both English and Spanish.	Criterion validity for both English and Spanish was poor/unacceptable. Reliability of Spanish version was low. Scoring descriptives are imprecise.	none	1005 citations (Weiss et al., 2005)
Short Assessment of Health Literacy for Spanish-Speaking Adults (SAHLSA; Lee et al., 2006)	Spanish test. Consists of 50 words each on a flash card to test for comprehension. Based on the 66-item REALM. Terms were translated into Spanish. Requires participants to read aloud from a list of 50 medical terms and associate similar terms. Scores <37 indicate inadequate health literacy.	Easy to administer, minimal training required for those who administer the test. Scoring in 3-6 minutes. Good reliability.	Questionable criterion validity. Does not recognize the heterogeneity of the Spanish language, including idiomatic expressions that differ across Latino populations. Measures only word recognition and comprehension; no numeracy section.	none	150 citations (Lee et al., 2006)

Table 1: Comparison of Health Literacy Assessment Instruments

**Google Scholar citations recorded on March 16, 2017*

All of the health assessments evaluated above focus on medical terms or informational materials commonly found in medical settings. This indicates that the assessment may not be as applicative to other areas of health literacy. The instruments, for example, may not be as applicative to health insurance materials, as the terms used in those documents may include words not restricted to the medical domain (e.g., beneficiary, deductible, etc.). In addition, because these tests are conducted in medical settings, participants may be experiencing confounding variables that affect their performance.

For example, ill health or unease in medical situations may cause poorer performance in the assessments.

2.5.3 Assessing Health-Related Materials

In addition to assessing patients' literacy levels, health care professionals and health educators are also encouraged to assess the literacy levels of their materials. Doak, Doak, and Root (1996) recommend three possible options for assessing the difficulty and suitability of patient education materials: a checklist of attributes, analysis via readability formulas, and analysis using Suitability Assessment of Materials (SAM), with each subsequent method increasing in both rigor and time commitment.

Their proposed checklist asks practitioners to evaluate the organization, writing style, appearance, and appeal of the printed materials. In addition to their SAM tool, the authors recommend the Fry (1977) readability formula, which uses the number of sentences and syllables to assess a document's complexity. The authors also acknowledge that additional factors, such as print size, type style, color contrast, concept density, and unfamiliar context also impact the readability of a document. While some of the aspects are incorporated within SAM, many of these aspects are not as easy to assess using a standard readability formula and should be taken into consideration.

2.5.4 Health Literacy Interventions

To address health literacy barriers, researchers have explored a host of health literacy interventions, such as alternative approaches to document design, numerical presentation, pictorial representations, media, and readability (Berkman et al., 2011). Researchers develop these strategies to "promote improvements in patient knowledge, self-efficacy, behavior, adherence, disease, quality of life, and health care services use" (p. 144). Berkman et al. acknowledge a limitation in that many studies on health literacy interventions do not focus on the effects in particular sub-groups of individuals with

low health literacy, but rather study the effects in groups of mixed health literacy levels. The following overview of health literacy interventions in Table 2 is drawn from the systematic review Berkman et al. conducted in 2011.

Intervention	**Approaches**	**Strength of Evidence as Assessed by Berkman et al.**
Alternative document design	• Highlighting common features of comparative information • Presenting only essential information • Putting key information first	Insufficient
Alternative numerical presentation	• Presenting information on quality with higher number (rather than lower number) indicating better quality • Modifying denominators • Presenting predictive values (conditional probabilities or natural frequencies) in alternate numerical formats	Low
Alternative pictorial presentation	• Adding symbols to hospital quality information to indicate concepts of "more" or "less" • Varying symbol types • Adding icon arrays (i.e., pictographs) to numerical information about treatment benefits • Adding a mind map (pictorial representation linking key concepts and ideas) • Adding illustrations to auxiliary prescription labels	Insufficient
Alternative media	• Adding or substituting media (e.g., video, computer, or slide show presentations) for printed materials • Adding video to verbal narratives • Comparing print-only to print plus video	Insufficient
Alternative readability and document design	• Combining simplification of readability with document redesign (e.g., using a chart, larger font sizes, plenty of white space, etc.)	Insufficient
Physician notification of patient literacy status	• Notifying physicians of patient literacy status • Increasing physicians' use of communication-enhancing strategies	Low

Table 2: Comparison of Health Literacy Interventions

As Table 2 demonstrates, the strength of evidence supporting research health literacy interventions is low. The limited strength of evidence is attributable to differences in broadly grouped interventions, as well as the neglect of researchers to separate out participants by health literacy prior to administering the intervention and/or stratifying analyses by literacy level. Clearly additional studies are needed to explore health literacy interventions in broader populations.

This literature review section has traced the history of the term health literacy as well as the notable research studies in this area. In addition, this review has evaluated the most common health

literacy assessment tools and explored health literacy interventions. As researchers, health care providers, and health policy analysts search for best practices, “health literacy is increasingly described as the currency for improving the quality of health and health care in America” (Paasche-Orlow et al., 2005).

2.6 Health Insurance Literacy

2.6.1 Setting the Stage for Understanding Health Insurance Literacy

While health literacy and its ramifications on understanding general health information have been studied extensively (see the previous section of this document), only a limited amount of research has been focused on health *insurance* literacy. In fact, though it may seem apparent that many individuals lack clear understanding of their health insurance, it is a “widely perceived but poorly documented problem” (Loewenstein et al, 2013, p. 851). One of the first formally proposed definitions of health insurance literacy describes it as “the extent to which consumers can make informed purchase and use decisions” (Kim, Braun, & Williams, 2013, p. 3).

Employees have been making health insurance decisions for many years, and now the Affordable Care Act (ACA) has brought the issues of health insurance literacy to the spotlight. Through the ACA, millions of previously uninsured persons are making health insurance choices for the first time and Americans with employer-sponsored insurance will see a change in coverage benefits (*Patient Protection & Affordable Care Act*, 2010).

For the 77 million adults with basic or below basic health literacy (Kutner, Greenburg, Jin, & Paulsen, 2006), their ability to procure appropriate levels of health insurance coverage and interact with the health care system successfully may be limited. Initial research in this area has shown that health insurance information materials are not written with low-literacy users in mind (Pati et al., 2012; Vardell, 2013). To date researchers have assessed health insurance literacy in selected populations (Cho,

Lee, Arozullah, & Crittenden, 2008; Hibbard, Jewett, Engelmann, & Tusler, 1998; McCormack, Bann, Uhrig, Berkman, & Rudd, 2009; Politi, 2014; Wong et al., 2015; Yin et al., 2009), as well as explored the effects of demographics (Hira & Loibl, 2005; Norton, Hamel, & Brodie, 2014; Sentell, 2012) and human resources departments in health insurance education (Moses & Hogg, 2009). To further the area of research in health insurance literacy levels, researchers at the American Institutes for Research (AIR) have recently released a validated measure of health insurance literacy (Paez et al., 2014).

This section will discuss literacy concerns across the health insurance process, beginning with awareness of health insurance. Next, a model of health insurance literacy will be presented, followed by a discussion of large-scale assessments of health insurance literacy. A discussion of the role of choice in health insurance decision-making; resistance to health insurance; and literacy demands in the health insurance process, with a focus on the readability of health insurance informational materials and forms, will follow. Finally, research on the role of human resources departments in addressing health insurance literacy will be explored.

2.6.2 Awareness of Health Insurance Literacy

The first step in effective use of the health care system is awareness of the available resources. Federman et al. (2009) conducted a study of inner-city seniors to determine awareness of pharmaceutical cost-assistance programs, such as Medicaid supplemental programs. The researchers interviewed inner-city seniors about their awareness of programs, participation in health insurance presentations, and other demographic factors. Male gender, black race, inadequate health literacy (measured using the Short Test of Functional Health Literacy in Adults), and receiving care in a clinic setting (as opposed to private or group practice) were associated with low awareness of cost-assistance programs. Study participants who had heard a live presentation about health insurance were more likely to be aware of such programs. The authors suggest that their findings support the “use of live presentations, in addition to health literacy materials and messages, [as] … important strategies in

promoting knowledge of and enrollment in state and federal pharmaceutical cost-assistance programs for low-income seniors" (p. 127-129).

2.7 Models of Health Insurance Literacy

2.7.1 McCormack et al.'s Conceptual Framework for Health Insurance Literacy

Using data collected from 1,202 Medicare beneficiaries, McCormack et al. (2009) developed a conceptual framework for health insurance literacy to "integrate a range of health- and insurance-related variables" (p. 227). Their model (see Figure 13) includes factors such as health status, age, education, race, culture, financial literacy, numeracy, health literacy, and health care decision-making. Since these conclusions were drawn from a population of older adults, only 12.7% of whom were under age 65, further studies should be conducted to extend the implications to a wider group.

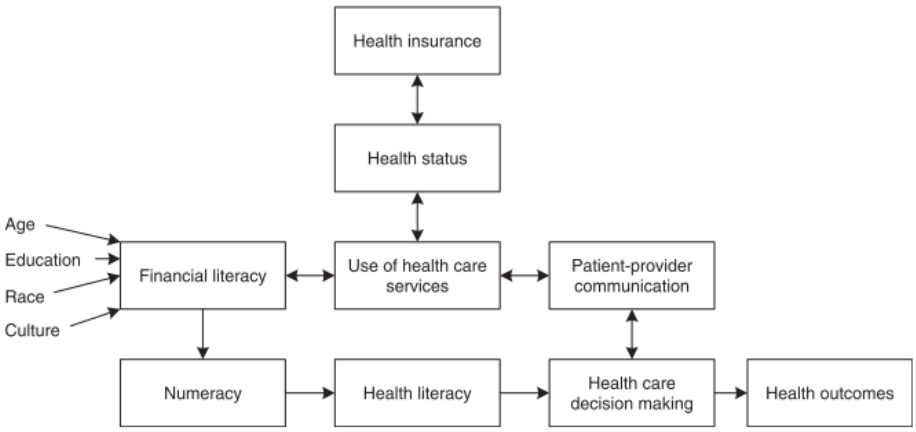


Figure 13: Conceptual Framework for Health Insurance Literacy (McCormack et al., 2009, p. 228)

The framework developed by McCormack et al. is novel in that it was the first to model health insurance literacy. In addition, it combines multiple facets, such as financial literacy and health literacy, building on strong areas of research ripe for further exploration in a new context.

2.7.2 Paez et al.'s Health Insurance Literacy Conceptual Model

In developing their Health Insurance Literacy Measurement (discussed further in the following section), Paez et al. (2014) created a Health Insurance Literacy Conceptual Model (see Figure 14). Their model identifies knowledge, information seeking, document literacy, and cognitive skills as the four domains that impact individuals' health insurance literacy, with self-efficacy as an underlying domain. These domains were identified through a combination of a literature review, key informant interviews, and a stakeholder group. They are operationalized in Paez et al.'s Health Insurance Literacy Measurement (see next section, "Measurements of Health Literacy and Health Insurance Literacy").

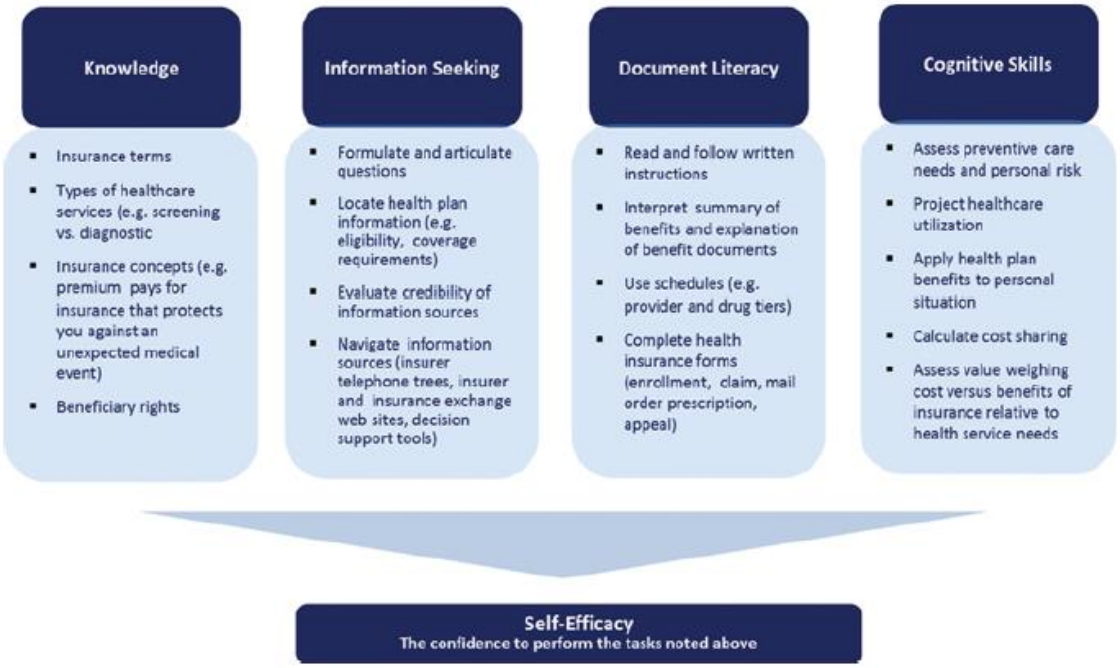


Figure 14: Health Insurance Literacy Conceptual Model (Paez et al., 2014, p. 229)

In comparing the two models/frameworks for health insurance literacy, the model presented by Paez et al. includes more domain-specific tasks, such as completing health insurance forms, calculating cost-sharing, and other insurance-related skills to model the concept. McCormack et al. focus more on the underlying causes of differences in health insurance literacy, such as demographics and health status. Barnes, Hanoch, and Rice (2015) stress the multi-dimensionality of this topic, stating that health

insurance literacy is "likely influenced by cognitive abilities consumers possess (e.g., numeracy) and the amount of information available in the decision environment" (p. 60). It may be necessary to combine multiple models to create a fuller picture of health insurance literacy, understanding both the individual characteristics as well as individual abilities that form an individual's health insurance literacy.

2.7.3 Integrated Framework for Health Insurance Literacy

The Integrated Framework for Health Insurance Literacy (see Figure 15) was created in an attempt to combine existing models, including Klinkman's The Consumer's Choice of Health Care Plan Framework, Sainfort and Booske's Conceptual Framework of Consumer Selection of Health Plans, McCormack et al.'s Conceptual Framework for Health Insurance Literacy, and Paez et al.'s Health Insurance Literacy Conceptual Model.

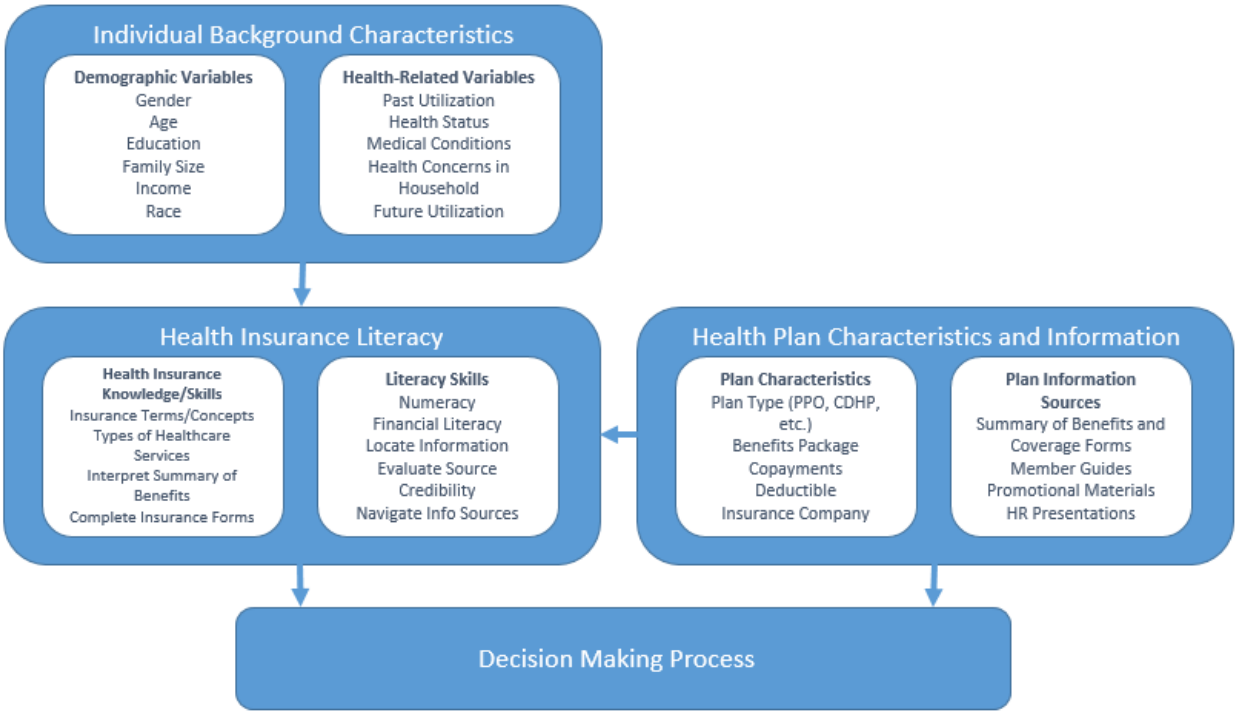


Figure 15: Integrated Framework for Health Insurance Literacy

This framework was created through identifying common characteristics in the models (e.g., demographic variables, health-related variables), as well as common relationships (e.g., relationship

between background characteristics and literacy levels). The framework demonstrates the relationship between an individual's traits (i.e., demographic and health-related variables) and their ability to use a health insurance literacy skill set.

The framework also depicts the impact that available health plan characteristics and information plays on an individual's ability to use their skills effectively. For example, if an individual does not have access to helpful information sources, they may not be able to identify definitions and make the necessary summaries and comparisons to select an appropriate insurance choice. In addition, the presence of multiple plan types (i.e., multiple plan characteristics) may also impact an individual's ability to use their health insurance literacy skill set; that is, it may be easier to compare between two PPOs and less feasible to compare between a PPO and a CDHP. The framework was used to create the research questions for this study and analyze individuals' reported health insurance decision-making strategies and health insurance literacy skills.

2.8 Measurements of Health Literacy and Health Insurance Literacy

More than one quarter of the population with employer-based insurance demonstrated little to no "simple and concrete literacy skills" (Kutner et al., 2006, p. 5) in the 2003 National Assessment of Adult Literacy (NAAL). The U.S. Department of Education National Center for Education Statistics administered the NAAL to more than 19,000 adults, making the NAAL the largest-scale measurement of health literacy in the United States to date. A total of 24% of the adult participants with employer-based insurance had basic or below basic health literacy skills (17% had basic health literacy and 7% had below basic health literacy).

While the greatest percentage of adults with employer, military, or private insurance had intermediate or proficient health literacy, individuals with Medicare, Medicaid, or no insurance had the greatest percentage of below basic health literacy (more than half of that population had basic or below basic health literacy skills; 25% had basic health literacy and 28% had below basic literacy). This statistic

is particularly significant given that individuals with no insurance comprise the majority of those seeking insurance within the Health Insurance Marketplace. In addition, individuals who struggle the most with understanding health care information were more likely to be 65 years or older, male, Black or Hispanic, and/or have spoken another language besides English prior to formal education. These findings are a strong reminder that health literacy skills cannot be generalized to particular populations. While there are demonstrable trends, low health literacy levels can be observed in portions of most populations.

McCormack et al. (2009) used principles of financial literacy, coupled with previous research on health literacy, to examine health insurance literacy. Their group created a two-part instrument to assess health insurance literacy, including questions designed to gauge prior knowledge and familiarity with health insurance terminology and questions aimed at assessing proficiency using the Medicare insurance system (as their focus was on older adults). The study sample was comprised of 1,202 Medicare beneficiaries participating in the longitudinal Medicare Current Beneficiary Survey. For the terminology section, the terms that were the most misunderstood included "provider network" (41%), "formulary" (44%), and "Medigap" (56%). This indicates a lack of prior knowledge of insurance concepts and supports the need for dictionaries or glossaries in Medicare informational materials, such as the handbook *Medicare & You* (http://www.medicare.gov/medicare-and-you/).

In the proficiency exercises designed by McCormack et al., the questions requiring interpretation of the Medicare Explanation of Benefits form proved to be the most difficult. The authors demonstrated that "certain vulnerable subgroups also had significantly lower levels of health insurance literacy relative to their counterparts" (p. 236), including adults over the age of 85, women, ethnic minorities, adults from a lower socio-economic level, and those who reported a lower health status. A 2005 systematic review of health literacy research corroborates these findings as it demonstrated that lower levels of health literacy are associated with level of education, ethnicity, and age; however, the systematic review also demonstrated that lower health literacy is not associated with gender or

measurement instrument (Paasche-Orlow, Parker, Gazmararian, Nielsen-Bohlman, & Rudd, 2005). The relationship between gender and health insurance literacy may require additional research due to conflicting findings, some of which show males with lower health insurance literacy (Federman et al, 2009; Kutner et al., 2006; Politi et al., 2014), while others show women with lower levels (McCormack et al., 2009).

In 2014, Norton, Hamel, and Brodie at the Kaiser Family Foundation conducted a large-scale assessment of Americans' familiarity with health insurance terms and concepts by surveying 1,292 U.S. adults. Overall, 52% of the public were able to answer 7 out of 10 questions correctly. However, 28% answered four or fewer questions correctly, 8% gave no correct answers, and only 4% answered all 10 questions correctly. The majority of respondents (79%) correctly answered that health insurance premiums must be paid monthly rather than only when health care services are used. Many were able to identify the correct definitions for premium (76%), provider network (76%), annual deductible (72%), and annual out-of-pocket limit (67%). The concepts of a formulary and in-network providers were the least understood by participants. The questions that drew upon individuals' numeracy skills to calculate out-of-pocket expenses proved to be the most difficult. Demographically, individuals with lower levels of education, younger Americans, and the uninsured scored lower on the health insurance literacy quiz.

Politi et al. (2014) examined 51 uninsured adults' (mostly low-income and African-American) health insurance literacy and preferences using semi-structured interviews. The participants demonstrated minimal understanding of common health insurance terminology (coinsurance, deductible, out-of-pocket maximum, prior authorization, and formulary were the most difficult). Participants with no previous history of health insurance demonstrated lower health insurance literacy than those who had previously been insured. In addition, their study demonstrated that those with lower general health literacy also had poorer understanding of insurance-specific topics.

In an examination of the strategies that participants used to understand health insurance terms, Politi et al. observed that about half of participants connected concepts from non-health contexts to understand the terminology. For example, participants recognized the term “deductible” from car insurance and “referral” from searching for jobs. These results suggest that providing context around terminology may aid in understanding these complex concepts.

Wong et al. (2015) used semi-structured interview techniques to assess young adults’ understanding of health insurance terms and to identify participants’ perceived advantages and disadvantages of obtaining health insurance coverage. In their participant group of 33 young adults (between the ages of 19 and 30), participants demonstrated poor health insurance literacy skills, with 48% incorrectly defining deductible and 78% incorrectly defining coinsurance. When the researchers asked participants to self-rate their ability to understand health insurance terminology, confidence was poorly correlated with true understanding of the concepts. Cost-sharing concepts, such as deductibles, coinsurance, and out-of-pocket maximums were particularly confusing for their group of participants.

The Health Insurance Literacy Measurement (HILM) Project at the American Institutes for Research released a measurement of health insurance literacy in October 2014 (Paez et al., 2014). The HILM is comprised of four scales. The first two are designed to understand how individuals select a health plan by asking individuals to report their confidence in choosing a health plan and their behavior regarding comparing health insurance plans. The second two scales assess how consumers navigate and use health plans by asking individuals to report their confidence and past behavior with using health insurance. The HILM questions are designed to gauge an individual’s self-efficacy, and, therefore, match self-efficacy as the underlying domain in Paez et al.’s Health Insurance Literacy Conceptual Model. The HILM is available to those who register for an account at http://healthinsliteracy.airprojects.org/. The only published studies to date that have used the HILM employed it to measure the effectiveness of a health insurance literacy training program (Bartholomae et al., 2016; Brown et al., 2016).

2.9 Health Insurance Literacy Research

Each year the 150 million Americans with employer-sponsored health insurance (Kaiser Family Foundation, 2015) must select their preferred insurance coverage option from a handful of choices. These decisions are often made with only Summary of Benefits and Coverage (SBC) forms as guides. SBC forms are designed to provide standardized information about different options to enable employees to select their optimal option. Assessments of health insurance informational materials have demonstrated high literacy demands (Pati et al., 2012; Vardell, 2013), indicating that individuals with lower health literacy levels may not have the skills necessary to interpret SBC forms.

There is a growing trend in health care to encourage healthy individuals to enroll in consumer-directed health plans. Consumer-directed health plans (CDHPs), or low copay, high deductible plans, require enrollees to compare costs between providers and treatment options. Those who do not have high levels of health insurance literacy may not have the skills to participate effectively in a consumer-directed health plan. The disconnect between insurance plan literacy demands and the literacy levels of enrollees may increase health disparities and health care costs among a large portion of the population (Miller, 2007).

2.9.1 Literacy Demands in the Health Insurance Process

Lawson, Carreón, Veselovskiy, and Escarce (2011) explored the role of culturally and linguistically appropriate services (CLAS) in health insurance literacy. They surveyed 123 health plans about their language data collection and determined that 74.0% of health plans collected language data (commercial 60.0%, Medicaid 89.1%, Medicare 91.7%). Nearly all of the health plans reported offering language services, including interpretation services via phone, multilingual informational handouts, and access to bilingual providers. The authors suggested that the “availability of a full range of culturally and linguistically appropriate health care services is essential for overcoming barriers and accessing timely care” (p. e479).

2.9.2 Readability of Health Insurance Materials

Yin et al. (2009) extracted data from the 2003 NAAL to explore the ability to fill out health insurance forms by the parents of young children. In this population of 6,100 parents, 68.4% were unable to complete a health insurance form properly, and 65.9% were unable to calculate the annual cost of a health insurance policy on the basis of family size. Perhaps it follows logically that the parents with below-basic health literacy were more likely to have a child without health insurance in their household. The authors conclude that given the large proportion of U.S. parents with low health literacy, "decreasing literacy demands on parents, including simplification of health insurance and other medical forms … is needed to decrease healthcare access barriers for children and … ameliorate existing child health disparities" (p. S289).

The reading levels of Medicaid and other health care plan applications continue to be a popular research area. Pati et al. (2012) examined compliance of Medicaid-renewal applications to the established state reading level guidelines. The reading levels were assessed using three readability tests: Flesch-Kincaid Grade Level Index, New Fog Count, and FORCAST. As of 2008, 45 states had reading level guidelines for the Medicaid-related materials, yet 24 (52.2%) of the states failed to meet their own guidelines on all three readability tests. As the authors emphasize, "Complying with established reading level guidelines for Medicaid-related materials is one simplification strategy that should be implemented to improve access" (p. 297).

Wallace, DeVoe, and Hansen (2011) conducted a more holistic assessment of Children's Health Insurance Program (CHIP) applications by assessing reading demands, layout characteristics, and document complexity. They assessed these characteristics of online English-language (n = 50) and Spanish-language (n = 39) Medicaid/CHIP enrollment applications through Lexile Analyzer (to assess reading demands), the User-Friendliness Tool (to assess layout), and the PMOSE/IKIRSCH scale (to assess document complexity). While the low-literacy guidelines state that applications should be written at a

6th grade or lower reading level and using a font of 12 points or larger, the results showed that the application ‘‘Signature’’ pages were written at a high school reading level and only five enrollment applications (5.6%) consistently used a 12-point or larger font size throughout. Wallace et al. determined that document complexity was above recommended levels, with the majority of the applications ranking at level 4 (high). In addition, the authors noted that to increase access for all populations, every state should provide an online Spanish-language version of the Medicaid/CHIP enrollment application, whereas at the time of their study only 39 of the states provided a Spanish-language version.

To address these demonstrated gaps, Gazmararian, Beditz, Pisano, and Carreón (2010), comprising a team of researchers from Emory University and America's Health Insurance Plans, sought to develop a health literacy assessment tool for health plans. Gazmararian et al. designed the tool to serve as a benchmark to address the "magnitude and consequences of low health literacy… [and] the role health plans are playing and the activities they undertake to address this problem" (p. 93). The areas of focus were identified through discussion with health plan representatives and a brief survey of health plans. Through this work they proposed six main areas of evaluation: information for members/navigation, member services/communication, web navigation, forms, nurse call line, and nurse case/disease management. They conducted a pilot study of their assessment tool on eight health plans. After incorporating reactions from this pilot study, the researchers launched the full assessment tool in 2009, available at https://ahip.org/wp-content/uploads/2017/01/HealthPlanOrganizationalAssessmentofHealthLiteracyActivities.pdf.

The Maine Area Health Education Center (AHEC) Health Literacy Center created a national skills training workshop called Writing for the Medicaid Market to address the issue of a lack of easy-to-read Medicaid materials (Root & Stableford, 1999). The Maine AHEC Health Literacy Center designed the training for public and private organizations providing Medicaid managed care services, gearing the

training towards alleviating the mismatch between the low literacy skills of the target population and the high reading level of most health and managed care materials. While post-training survey data demonstrated that the workshop was successful, the authors state that "faulty and/or nonexistent communication planning limits the success" (p. 1). That is, lack of attention to relaying the changes in Medicaid to consumers effectively has resulted in widespread confusion. Workshops and assessment tools that promote the skills necessary to develop easy-to-read application materials provide a starting off point for greater discussion of building effective health insurance systems.

2.9.3 Health Insurance Information Sources

Once patients are aware of their health care plan options, they are confronted with a barrage of insurance choices. Hibbard et al. (1998) conducted a study of 1,673 Medicare beneficiaries to assess ability to make informed choices about fee-for-service (FFS) and managed care options. Their cross-sectional telephone survey results indicated that participants use a variety of information sources to learn about health plans, with an average of 2.8 sources each. For both HMO and traditional Medicare enrollees, HMO advertisements were the most common information source for learning about health plans. In addition, "30 percent of beneficiaries know almost nothing about HMOs; only 11 percent have adequate knowledge to make an informed choice; and HMO enrollees have significantly lower knowledge levels of the differences between the two delivery systems" (p. 181).

These findings have implications for educating beneficiaries about their expanded choices and highlight the importance of addressing information needs in this population, as well as their susceptibility to "aggressive marketing." Hibbard et al. encourage moving from mere information dissemination to active education. Targeted educational efforts aimed at intermediaries such as patient advocates, consumer health librarians, family members, and health professionals, will be needed to enhance their ability to assist seniors in making informed health care choices. For a further discussion of

choice in health insurance decision-making, please see the Health Insurance Choice section following this review of health insurance literacy.

Brown et al. (2016) developed the Smart Choice Health Insurance© education program to enhance individuals' health insurance literacy. An interdisciplinary team of financial and health educators developed a curriculum with the "goal of reducing confusion and increasing confidence in the consumer's ability to make a smart health insurance decision" (p. 209). The research team used the Health Insurance Literacy Measurement (HILM) to assess the effectiveness of the program. Their results indicated that the workshop increased individuals' confidence in health insurance decision-making. A related study by the same research teams identified greater gains in health insurance literacy among Smart Choice Health Insurance© participants who were female, had higher income, and resided in states that showed supportiveness of the ACA (Bartholomae et al., 2016).

2.9.4 Resistance to Health Insurance

Villaire and Mayer (2009) contend that if patients are empowered to use health care services more effectively by funding preventive and education measures, "we end up with a true health care system, rather than a sick care system" (p. 56). In addition, there is a better chance of achieving positive health outcomes and a reduction of necessary use of the health care system, with a final outcome of a "system that costs a lot less" (p. 56). However, many Americans elect not to obtain health insurance. In an effort to determine reasons for resistance to health insurance, researchers used theories of behavioral economics and polling data to study those who elected not to obtain health insurance. Their findings may also have implications for resistance to the ACA and other barriers to enrollment.

Baicker, Congdon, and Mullainathan (2012) used the theories of behavioral economics, a combination of psychology and economic analysis, to explore why uninsured Americans do not take advantage of the insurance options available to them. Baicker et al. point out "while prices and information are undeniably key factors for understanding and achieving socially optimal health

insurance coverage, … there is mounting evidence that a third factor, the psychology of individual decision making, plays a central role in driving coverage outcomes" (p. 108-109).

Baicker et al. demonstrated that transaction costs such as long Medicaid applications and social stigma can impede enrollment. Assistance with enrollment has been proven to improve participation, presenting a strong argument for the need for librarians and other information professionals to offer support in this area. An additional reason for non-enrollment may be the perception of limited benefits, as the true benefit only arises once one is sick and requires medical attention.

Although the ACA's individual mandate now requires all Americans to obtain health insurance, there are still individuals who select not to enroll in health insurance and, consequently, pay an individual shared responsibility payment (frequently called a tax penalty). This fee is calculated as paid when an individual files his/her federal tax return and is calculated based on a percentage of the individual's income or per person (whichever is higher). The individual shared responsibility payment is increasing each successive year following the implementation of the Affordable Care Act (i.e., the per person fee was $95 per adult in 2014, $325 in 2015, and $695 in 2016).

Collins, Gunja, Doty, and Beutel (2015) surveyed a random, nationally representative survey of 4,881 adults to determine reasons individuals elected not to procure health insurance following the ACA. Their survey determined that affordability was the most significant factor in adults' choice of plans and enrollment decision. In addition, obtaining personal assistance (e.g., telephone hotlines, navigators, and insurance brokers) makes a critical difference in whether individuals elect to enroll.

2.9.5 Impact of Health Insurance Literacy

Individuals can actually make better informed choices through their employers, particularly when employers provide a short list of options for employees choose from, as well as provide administrators to offer guidance. Barnes, Hanoch, and Rice (2015) drive home the importance of providing assistance with health insurance literacy concerns: "whether the policy goals for the

Affordable Care Act are achieved will be shaped in no small part by the extent of Americans becoming engaged consumers of health insurance. To do so … they will need a great deal of help understanding and comparing coverage options when making these important decisions" (p. 76).

Health insurance literacy concerns also extend beyond selecting a health insurance coverage option. Once individuals are insured, their health insurance literacy levels may dictate how effectively they are able to navigate the health care domain. For example, if an individual unwittingly uses an out-of-network physician or hospital, it could cost the person thousands of dollars more than selecting health care providers within their insurer's network. As Levitt (2015) underscores "the lack of health insurance literacy (and numeracy) has important implications for how effectively people use health care services and their insurance" (p. 556).

2.10 Health Insurance Choice

This section presents an overview of the research that has been conducted to study individuals' health insurance choice. Many of these studies focus on individuals' abilities to select from Medicare Part D prescription drug coverage options (Barnes et al., 2013; Barnes, Hanoch, Wood, Liu, & Rice, 2012; Hanoch, Wood, Barnes, Liu, & Rice, 2011; Heiss, Leive, McFadden, & Winter, 2013; Kan, Barnes, Hanoch, & Federman, 2015; Szrek & Bundorf, 2014; Wood et al., 2011; Zhou & Zhang, 2012); however, there have also been studies focused on the increasingly popular consumer-directed health plans (CDHPs; Greene, Peters, Mertz, & Hibbard, 2008; McDevitt et al., 2014), mock-ups of the Health Insurance Marketplace (Barnes, Hanoch, & Rice, 2015; Johnson, Hassin, Baker, Bajger, & Treuer, 2013; Ubel, Comerford, & Johnson, 2015), as well as other formats of health insurance coverage. These studies demonstrate the multiple factors that can be studied when assessing individuals' abilities to choose a health insurance plan. Most of the studies have employed survey methods to explore this area, suggesting there may be a need to employ other methods (e.g., interviews) to create a broader picture of this puzzle. The results overwhelmingly indicate that most individuals are not able to make effective

health insurance decisions. Some solutions are suggested here, but there is more work to be done in addressing this gap in ability to make effective health insurance choices.

The success of the Health Insurance Marketplace depends on the ability for consumers to select the most appropriate policy for their needs and that this effective consumer choice will drive price competition that will lower prices (Johnson et al., 2013). As Nadash and Day (2014) highlight: "the ACA's goal of making health care more affordable through health plan competition can be met only if consumers are able to make good choices among plans" (p. 210).

Underpinning health insurance choice research is the idea that individuals should select the health care coverage that matches their anticipated health care utilization. Health insurance companies should, in a fair market, compete to attract subscribers with a financially competitive offering. However, as will be outlined in this section, consumers are often unable to select the most financially appropriate option. Consequently, the competition in the market is minimized and "naïve consumers pay prices substantially above marginal cost, and effectively subsidize sophisticated consumers who are able to exploit the mispricing" (Loewenstein, 2013, p. 851). This section of the literature review focuses on research that looks at consumers' abilities to make effective health insurance choices.

The ACA has some recognition of the need to support consumers' health insurance decision-making. The law requires that coverage options within the Health Insurance Marketplace provide information in a standardized format, in the hopes of enabling plan comparisons by consumers. States who selected to participate in the Health Insurance Marketplace are required to provide information to residents, including in-person assistance, a hotline, and a website. However, it is yet unclear how many individuals take advantage of these resources or even how helpful these resources are in practice.

When assessing individuals' abilities to make health insurance decisions, researchers often concentrate on the ability of individuals to ascertain the cheapest health insurance coverage option

given their health history and health needs (Barnes et al., 2012; Barnes et al., 2013; Barnes et al., 2015; Hanoch et al., 2011; Heiss et al., 2013; Johnson et al., 2013; Szrek & Bundorf, 2014; Wood et al., 2011; Zhou & Zhang, 2012). Researchers are also interested in the roles that numeracy, health insurance literacy, demographics, and other individual characteristics might play in people's ability to select the most appropriate option. In addition to individual characteristics, researchers have explored how information presentation might impact individual choice ability. For example, many researchers have looked at choice set size (or the number of insurance choices available) as a factor in effective insurance decision-making (Barnes et al., 2012; Barnes et al., 2013; Hanoch et al., 2011; Szrek & Bundorf, 2014; Wood et al., 2011). These factors and other relevant results will be explored in this literature review.

2.11 Research in Health Insurance Choice

The following chart (Table 3) is a breakdown of research studies on individual's insurance choices. This table presents the populations of focus, insurance type, factors studied, method(s) employed, and the research results to assist with quick comparison among the available studies on this topic. The articles featured here were found using a PubMed search for choice behavior or decision making and health insurance (("Choice Behavior"[mh] OR "Decision Making"[mh]) AND ("Insurance, Health"[mh])). This list was supplemented through citation chaining. Search results and citations were selected for inclusion if they were research studies and were relevant to the topic of choice and decision-making in health insurance.

Article	Population	Insurance Type	Factors Studied	Method(s)	Results
Barnes, Hanoch, & Rice, 2015	Uninsured: a) 276 young, healthy, tech-savvy individuals; b) 161 low-income, rural Virginians	Hypothetical health insurance marketplace	Health insurance comprehension (using four-item questionnaire), numeracy (using the Lipkus scale), choice consistency, and number of plan choices	Online questionnaire	Individuals with higher numeracy levels showed higher health insurance comprehension, those with more health insurance comprehension made choices more consistent with stated preferences, those who chose plans more consistent with preferences were more likely to choose a cheaper health plan, and those facing more plan choices showed lower health insurance comprehension.
Barnes, Hanoch, Martynenko, Wood, Rice, Federman, 2013	70 medical students and internal medicine residents (many patients expect physician help with selection)	Medicare Part D plans (prescription drug program)	Decision processes, strategy, and ability to pick the cheapest drug plan	Within-subject design using Mouselab (which allows information-acquisition to be studied)	Choice set size plays significant role. Participants were more likely to identify lowest cost plan when presented with 3 rather than 9 choices.
Barnes, Hanoch, Wood, Liu, & Rice, 2012	126 participants, ages 18-91	Medicare Part D plans (prescription drug program)	Effects of price frames, brand names, and choice set size on ability to choose lowest cost plan	2 x 2 x 2 within-subjects design using Mouselab to track drug plans choice across 8 trials	Numeric prices decreased likelihood of choosing lowest cost plan when compared with symbolic prices. Likelihood of choosing lowest cost plan decreased as amount of information increased.
Danis, Abernethy, Zafar, Samsa, Wolf, Howie, & Taylor, 2014	246 patients with cancer history and 194 of their family members	Medicare	Socio-demographics, health status, Choosing Health plans All Together (CHAT) exercise assessments, and group benefit selections	70 CHAT exercises, an interactive decision tool designed to facilitate group deliberation	Participants concluded that the CHAT exercise led to fair decisions about coverage priorities.

Article	Population	Insurance Type	Factors Studied	Method(s)	Results
Green & Peters, 2009	Florida Medicaid consumers	Medicaid	Medicaid information comprehension, numeracy, literacy skills	Six focus groups (n = 59) and a survey to test simp-lification of Medicaid comparison chart	While participants were enthusiastic about having choices in their health care coverage, this did not mean that participants in fact spent more time comparing health plan options.
Greene, Peters, Mertz, & Hibbard, 2008	303 participants, ages 18-64, with a focus on low-income adults	Consumer-directed health plans (CDHPs) and preferred provider organizations (PPOs)	Literacy demands of consumer-directed health plans, presentation of information, numeracy, literacy, socio- demographic factors	Six different formats for displaying CDHP/PPO information (side-by-side, common/ unique, and/or long, short, or no format)	Side-by-side comparisons were more effective at conveying CDHP information. The framework reduced comprehension for the less numerate and increased comprehension for the highly numerate. Numeracy level was the greatest indicator of comprehension.
Hanoch, Wood, Barnes, Liu, & Rice, 2011	129 individuals, ages 18 and above	Medicare Part D plans (prescription drug program)	Age, strategy selection, choice set size	Mouselab study (a process-tracing program), participants randomly assigned to 3 or 9 drug plans	Participants identified lowest cost plan only 46% of the time. Increase in choice set size and increase in age also increased the odds of selecting a less-desirable plan. Older adults more likely to use attribute-based rather than alternative-based search approach.
Heiss, Leive, McFadden, & Winter, 2013	Administrative data from Medicare Part D claims records (a 20% representative sample from 2006-2008)	Medicare Part D plans (prescription drug program)	Ability of consumers to optimize plan choice	Analysis of administrative data, including simulation of costs consumers might face under the different plans	Fewer than 25% of individuals enroll in plans that are as good as the least cost plan offered by Medicare's Plan Finder tool. Consumers value other plan features over cost.

Article	Population	Insurance Type	Factors Studied	Method(s)	Results
Hibbard, Jewett, Englemann, & Tusler, 1998	1,673 Medicare beneficiaries, ages 65 to 80; half enrolled in traditional Medicare, half enrolled in a Medicare risk HMO	Medicare	Ability to make informed choices about fee-for-service (FFS) and managed care options	Telephone survey designed to gauge knowledge needed to make informed choices	Participants use a variety of information sources to learn about health plans, with an average of 2.8 sources for HMO enrollees and 3.3 sources for traditional Medicare enrollees. For both groups, HMO ads were the most common information source for learning about health plans. 30% of beneficiaries know nothing about HMOs.
Johnson, Hassin, Baker, Bajger, & Treuer, 2013	992 individuals selected to reflect the average population seeking insurance through the Health Insurance Marketplace plus 76 MBA students selected to represent highly trained, financially literate individuals	Hypothetical health insurance marketplace choices	Ability to select most cost-effective plan	In Experiment 1 participants selected an insurance option for a family of three, once from a set of 4 plans and one from a set of 8. In Experiment 2 participants were financially incentivized to select the most cost-effective policy. A cost-calculator and tutorial inter-ventions were tested.	Respondents perform at near chance level, show a significant bias towards out-of-pocket costs and deductibles, financial incentives do not improve performance, individuals do not recognize their poor performance. Educational tutorials, calculation aids, and smart defaults improved respondents' performance.

Article	Population	Insurance Type	Factors Studied	Method(s)	Results
Kan, Barnes, Hanoch, & Federman, 2015	250 English- and Spanish-speaking adults 65-years and older without Medicaid	Medicare Part D plans (prescription drug program)	Self-efficacy regarding insurance plan selection (i.e., preferences for delegating insurance decision to others)	Self-efficacy measured with 7-item assessment of perceived understanding of Medicare, preferences for support, and decision-making anxiety; Medicare knowledge assessed with 9 true-or-false questions	Despite 53% reporting difficulty understanding insurance information, most subjects (89%) prefer to make decisions themselves. Many also report a preference for receiving advice. Preference for delegating (i.e., lower insurance decision self-efficacy) was associated with lower Medicare knowledge, females, having a spouse, and having worse health.
McDevitt, Haviland, Lore, Laudenberger, Eisenberg, & Sood, 2014	200,000 families at 16 large employers offering both CDHP and traditional plans	Consumer-directed health plans (CDHPs) and traditional plans	CDHP choice, using risk scores, family, choice setting, and plan characteristics as predictors	Risk scores, family charac-teristics, and enrollment decisions derived from medical claims and enrollment files; interviews with HR	Single person families, younger people, highly educated people, and those who received greater communication from HR were more likely to enroll in CDHPs. Predicted medical spending (i.e., risk scores) was lower for CDHP enrollees. Those without default plan options were more likely to choose a CDHP. CDPHs with higher employer contributions and lower deductibles were more popular.
Szrek & Bundorf, 2014	229 Internet-enabled individuals over the age of 65	Medicare Part D plans (prescription drug program)	Choice set size, numeracy	Simulation of enrollment, randomly assigned to two sets of 2, 5, 10, or 16 drug plans; Numeracy assessed with Lipkus, Samsa, and Rimer items	Numerate adults made better decisions (i.e., more likely to enroll in plans more beneficial to them) when choice set size was small. When choice set size was large, numeracy had no effect, all decisions were poorer.

Article	Population	Insurance Type	Factors Studied	Method(s)	Results
Ubel, Comerford, & Johnson, 2015	Convenience sample of participants from public buses (number of participants not stated in the article)	Hypothetical health insurance marketplace	Influence of labels on perception of health insurance plans	Plans were described as bronze, silver, and gold, with the bronze and gold categories being labeled correctly with one set of participants and switched with the other set. Math ability was measured (test not described in the study). In a second survey, plans were shown with weekly premium information listed for half of participants and monthly premiums for the other half.	The majority of participants with lower mathematical ability said they preferred gold plans over bronze plans regardless of which plan was labeled gold (i.e., high cost/low deductible vs. low cost/high deductible). Participants were less likely to select the higher-premium, lower-deductible plans when presented with monthly premiums than with weekly premiums.
Wood, Hanoch, Barnes, Liu, Cummings, Bhattacharya, & Rice, 2011	121 adults, ages 18-91	Medicare Part D plans (prescription drug program)	Choice set size, numeracy, age	Questionnaire resembling Medicare site developed to test compre-hension; numeracy assessed with Lipkus, Samsa, and Rimer; tests of mental state, pro-cessing speed, crystallized knowledge, executive functioning, working memory, and personality.	Participants performed better with fewer choices and older adults performed worse. Results demonstrate that numeracy plays a significant role regardless of age.

Article	Population	Insurance Type	Factors Studied	Method(s)	Results
Zhou & Zhang, 2012	Medicare Part D enrollees (5% random sample; n = 412,712)	Medicare Part D plans (prescription drug program)	Overspending (difference in total beneficiary spending between patient's choice and cheapest alternative option); demographics (age and ethnicity)	Pulled from national 2009 Part D data linked with public formulary files	Beneficiaries do not select the most cost effective plan given their medication needs. As beneficiaries aged, they overspent more. Blacks, Hispanics, and Native Americans chose cheaper plans. Overspending increased with larger sets of choices.

Table 3: Health Insurance Choice Articles by Population, Insurance Type, Factors Studied, Method(s), and Results

2.11.1 Highlights from a Comparison of Results

Many of the studies presented here focused on individuals enrolling in the Medicare Part D, a federal program that subsidizes the cost of prescription drugs for Medicare beneficiaries (i.e., generally adults over the age of 65). Medicare Part D, implemented in 2006, may be a particularly popular health plan to study when assessing choice abilities, as individuals must select from somewhere between 40 and 60 competing private insurers in their area (Szrek & Bundorf, 2014, p. 340). Barnes et al. (2012) summarize the imperative of this research focus thusly "many seniors choose Medicare Part D plans offering poorer coverage at greater cost" (p. 460). Results from studies focusing on this publicly subsidized prescription drug insurance program may be precursors of the results that will come from studying the Health Insurance Marketplace, as it is also a collection of publicly subsidized health plan options from private insurers.

Several studies focused on overspending of individuals by comparing what would be the cheapest plan given an individual's health with what the individual would or actually did choose. Zhou and Zhang (2012) and Heiss et al. (2013) used existing Medicare Part D data to illustrate that beneficiaries do not select the most cost effective plan, while Johnson et al. (2013) used a simulated health insurance selection environment, demonstrating that individuals perform at near chance levels

and are not able to select the most cost effective option. These studies demonstrate the financial implications of individuals' abilities or inabilities to select the appropriate health insurance plan for their needs.

Several studies presented in this literature review isolated numeracy as an important factor in determining individuals' abilities to select appropriate health insurance coverage (Green et al., 2008). Wood et al. (2011) demonstrated that numeracy plays a significant role regardless of the age of the individual. Szrek and Bundorf (2014) concluded that while higher numeracy skills were beneficial with a small choice set size, when studied with a large choice set size, numeracy showed no effect.

In fact, several studies have shown that the choice set size (i.e., the number of choices available to individuals) plays a significant role in individual's ability to select the most economical insurance option (Barnes et al., 2013, 2015; Hanoch et al., 2011; Szrek & Bundorf, 2014; Wood et al., 2011; Zhou & Zhang, 2012). When more choices are presented, individuals have a more difficult time selecting the best option. This research demonstrates the importance of employing tools or other kinds of assistance to narrow down the options to a smaller set of appropriate choices.

Barnes et al. (2015) underscore the significance of both choice set size and numeracy in stating that health insurance literacy is "likely influenced by cognitive abilities consumers possess (e.g., numeracy) and the amount of information available in the decision environment" (p. 60). Information presentation was studied by a handful of studies covered here. The display of information was shown to be more effective when symbolic representations were used (Barnes et al., 2012) and with side-by-side comparisons of plan options (Green et al., 2008). Ubel, Comerford, and Johnson (2015) demonstrated that naming conventions (e.g., bronze vs. gold) and premium pricing breakdown (i.e., weekly vs. monthly) has an impact on selection of preferred coverage. Johnson et al. (2013) showed that

educational tutorials, calculation aids, and smart defaults (which preselect the most cost effective option given an individual's usage) improved individual's choice performance.

2.12 Developing Health Insurance Choices and Designing Health Plans

A handful of studies that focus on health insurance choice take a more preliminary approach by assessing what role allowing individuals to shape the available choices might play in the development of health plan options. Abiiro, Leppert, Mbera, Robyn, and De Allegri (2014) used focus groups and interviews to develop attributes that could be used in a discrete choice experiment focused on micro health insurance (an emerging insurance model designed for people in low- and middle-income countries). Through focus groups with laypeople and interviews with key informant health workers, Abiiro et al. identified the following attributes as being the most significant when choosing a health insurance option: unit of enrollment (i.e., how many people within a family structure would be covered), management (who manages the "common basket"), health service benefit package, copayment (i.e., the proportion of health services a member is expected to pay out-of-pocket), transportation to health facilities, and premiums per person per month.

These six attributes were then put to the test in the continuation of this study, published by Abiiro, Torbica, Kwalamasa, and De Allegri in 2014. They conducted the discrete choice experiment (using the six attributes identified in the previous study) with 814 households in two rural districts in Malawi. Their results indicate that all of the attributes except management significantly influenced respondents' choice behavior. The relative order of importance identified by their participants is as follows: transport, health services benefits, enrollment unit, premium, copayment, and management (only the last of which was not statistically significant). These aspects should be kept at the forefront when investors are interested in developing micro health insurance options.

These two studies by Abiiro and team do not fit within the chart, because they are not focusing on understanding or choosing within a particular set of insurance choices. Rather these two studies are more appropriate for exploring the preliminary stages of insurance development and may be appropriate when deciding which aspects are the most important for consumers, particularly within low- and middle-income countries. These studies are also unique in their application of a discrete choice experiment (DCE) within health insurance choice, particularly in their detailed explanation of the use of qualitative methods to identify appropriate attributes for inclusion.

Similarly, the Choosing All Together (CHAT) exercise has been used with over 4,000 lay participants to obtain input on health insurance priorities from the general public. Danis et al. (2014) were the first research team to employ the CHAT exercise to identify coverage priorities within a specific disease population (cancer patients). They argue that "if use of the CHAT exercise is of value to this patient population and the Medicare program regarding alignment of priorities, it may prove to be similarly useful with other patient populations in the United States or other nations interested in undertaking patient-centered health plan design" (p. 2). Participants in the study conducted by Danis et al. expressed that the CHAT exercise led to fair coverage decisions, took individual viewpoints into account, involved realistic discussions and decisions, and led to feasible group decisions.

2.12.1 Potential Solutions

While all of the studies presented here demonstrate a general lack of ability to make effective health insurance decisions, potential solutions to the issues can be hard to identify within the research. A small handful of studies shared results with information presentation suggestions in mind. In addition to suggesting symbolic representations of numerical information (Barnes et al., 2012) and side-by-side comparisons of plan options (Green et al., 2008), Johnson et al. (2013) featured the most concrete suggestions, including educational tutorials, calculation aids, and smart defaults.

Johnson et al. (2013) designed their experiment to test three potential interventions for improving consumers' choices. All three of their interventions improved participants' abilities to select the most cost-effective option in a statistically significant way. Their findings demonstrate that just-in-time education (through tutorials about computing annual cost), smart defaults, and cost calculators (when combined with education) can be effective tools for guiding individuals to the most appropriate options for insurance coverage.

There is a strong imperative in place to encourage future research in this area. Insurance providers, human resource officers, Health Insurance Marketplace navigators, librarians, and other insurance professionals and volunteers may need to explore methods for helping individuals understand different health care plans, compare their options, and make effective choices.

Because "we know little about whether and how health insurance comprehension is related to insurance choices" (Barnes, 2015, p. 60), it is clear that additional research may need to be conducted in this area. The use of alternative methods – beyond the surveys commonly employed by the research presented here – may be able to shed light on the why and how questions of individuals' abilities to make effective insurance choices.

2.13 Semi-Structured Interviews in Health Insurance Literacy Research

Most researchers studying health insurance literacy and health insurance choice have employed surveys or quantitative techniques (see the previous sections of this literature review, including Health Insurance Literacy and Health Insurance Choice). These methods have been used to demonstrate the lack of understanding of health insurance terminology as well as the tendency for many individuals to select suboptimal insurance coverage options. What is less understood is the information process individuals undergo to assess health insurance information and make health insurance choices. Semi-

structured interviews may be an effective research method for understanding the why and how of health insurance literacy.

Politi et al. (2014) conducted semi-structured interviews with 51 uninsured individuals (ages 18 to 65) in Missouri. The interviews began by asking participants to discuss past experience with health insurance and whether any insurance-related words were unclear based on these past experiences. The researchers then provided passages describing key insurance terms. Following the introduction of these passages, participants were asked whether and where they had heard the term and what they knew about the term. Research staff used probes, including the tell-me-more probe, to better understand or clarify a response and to gather more in-depth information. Participants were then asked to identify aspects of plan details that were most important. Finally, the researchers described eight features of typical plans often identified as important to individuals' decision-making and then asked the participants how important each of the features would be. Through these methods, Politi et al. demonstrated poor understanding of common health insurance terminology by the participants in their study.

Wong et al. (2015) used semi-structured interviews to study young adults' (ages 18-30) understanding of health insurance terminology, general opinions about health insurance, and the most salient factors in selecting a health insurance coverage option. To assess health insurance literacy, the researchers asked participants to self-report their understanding and define a set of 12 health insurance-related terms. They then asked participants to free list attitudes towards health insurance by having them identify the advantages and disadvantages of health insurance and the factors participants considered most important in selecting a health plan. Their results showed that their participants had low levels of health insurance literacy (e.g., 48% of participants incorrectly defined deductible and 78%

incorrectly defined coinsurance). Through the free list technique, participants identified deductible, premium amounts, and preventive care coverage as the most salient factors.

These recent studies of health insurance literacy using semi-structured interview techniques suggest that this research method may be an appropriate way to obtain a deeper perception of individuals' understanding of health insurance terminology and their individual preferences in choosing a health insurance plan. In addition, because this study focuses on the decision-making process, semi-structured interviews may enable participants to trace and elaborate on the multiple steps involved.

CHAPTER 3: METHODS

3.1 Research Questions

This qualitative study explores how people understand and make decisions relating to health insurance. The overarching research questions were informed by the Integrated Framework for Health Insurance Literacy (see Figure 15) and include:

1. How do people understand health insurance concepts?
2. How do individuals make their own health insurance decisions?
3. What are the factors that impact health insurance literacy and decision-making?

3.2 Research Design: Sample of Participants

Study participants were recruited through the pool of new employees who participate in benefits training from the Office of Human Resources at a large university in the southeastern United States. Participants were recruited at the weekly benefits training sessions, which they attend on their first day of work. These orientation sessions introduce approximately 20-40 new hires each week to information about university benefits, such as vacation and sick leave, health insurance, retirement benefits, tuition remission, etc. At the conclusion of the benefits training session, the benefits officer conducting the training announced the study and introduced the researcher to the attendees using the following script (see Appendix 1 for additional, sample recruitment materials):

> "Emily is studying how individuals understand health insurance concepts and make health insurance decisions. She will be interviewing new [university] employees to understand how they make their health insurance choices. Her study should take less than an hour and participants will receive a $25 Target gift card for their time. Participation is optional. If you are interested in participating, please talk with Emily after the training session to set up a time to meet one-on-one."

Between July and November 2016, the researcher attended nine orientation sessions when recruitment took place and collected the names and email addresses of interested participants at the end of the orientation session. The researcher sent an email to each individual who indicated interest in participating in the study. A sample of the follow-up email can be found in Appendix 1.

All new hires are strongly encouraged to attend the sessions. An online version is offered to those who cannot make the in-person training. The online version is usually only taken by high-level administrators and faculty members, who may not have been as well represented in the orientation sessions used for recruitment.

The university in the study offers a small set of options (three choices, see Table 4 and Appendix 9 for descriptions of the available choices), which (as demonstrated in the Health Insurance Choice section) has been shown to increase comprehension and may minimize confounding variables in this study.

Plan Name	**Enhanced 80/20 PPO Plan**	**Traditional 70/30 PPO Plan**	**Consumer-Directed Health Plan (CDHP)**
Plan Characteristics	participant pays 20% of eligible, in-network expenses after $700 deductible ($2,100 deductible for family); $30 copay for primary doctor [$15 for primary care provider (PCP) on ID card] and $70 for specialist highest premiums	higher copays ($39 for primary/$92 for specialist), higher coinsurance (participant pays 30%), and higher deductibles ($1,054 for individual, $3,162 for family) than 80/20 plan no cost to full-time employees for employee-only coverage	high deductible ($1,500 for individual, $4,500 for family), lower coinsurance (15%), office visits cost 15% after deductible includes $600 Health Reimbursement Account (HRA) lowest premiums

Table 4: Health Insurance Coverage Plans at University

The total number of hires in 2015 can be seen in Table 5. This table is broken down by EPA (non-faculty employees), Faculty, and SPA (staff employees). Not all of these individuals elected to obtain health insurance through the university, however, as they may have coverage options elsewhere (e.g., a

spouse's plan). The total number of hires who selected to enroll in a university-sponsored health insurance plan over the previous seven years can be seen in Table 6. These counts were used to help with sampling.

	EPA Non-Faculty	Faculty	SPA
January hires	27	22	51
February hires	23	8	50
March hires	12	7	48
April hires	10	6	42
May hires	11	16	49
June hires	29	15	83
July hires	28	113	81
August hires	25	36	93
September hires	21	21	60
October hires	17	11	68
November hires	9	8	91
December hires	10	5	43

Table 5: Total Number of Hires by Employee Type in 2015

2014	1,122
2013	1,137
2012	1,027
2011	938
2010	940
2009	929
2008	1,526

Table 6: Number of Hires Who Selected to Enroll in a University-Sponsored Health Insurance Plan

The researcher used fluency in English, employment at the university, and ages 18 through 64 as inclusion criteria. This was designed to ensure the participants are homogeneous enough to observe patterns in the data; for example, as university employees, all participants will be interacting with the same information and enrollment interface in their health insurance decision-making process. Due to

high interest in the study and diversity among recruited participants, it was not necessary to recruit participants outside of the inclusion criteria.

Because enough participants were recruited through the orientation sessions, no alternative recruitment strategies were necessary. Participants were recruited to address the multiple aspects of the health insurance decision-making process. Recruitment was designed to enable the researcher to identify common concepts that arose with multiple participants. Recruitment ceased at 30 participants when the concepts of interest reached saturation.

3.3 Semi-Structured Interviews

Semi-structured interviews are a qualitative research method designed to capture a well-rounded picture of an individual's experience. For researchers interested in understanding information behavior, "[interviews] are particularly useful in uncovering the story behind a participant's experiences" (Doody & Noonan, 2013, p. 28). Interviews allow researchers to gain insight and context and provide interviewees with the platform for describing their unique experiences. The back-and-forth of a natural conversation is mirrored in interviews, allowing researchers to ask more complex questions and participants to seek clarification and shed light on previously unanticipated areas (Smith, 1995, p. 13). The researcher selected semi-structured interviews as the method for this study to obtain rich descriptions of the process and explore in-depth the factors that play a role in individuals' health insurance choice and literacy barriers.

3.3.1 Creating the Interview Guide

"Developing [an interview] guide requires planning for difficulties that may arise ... includ[ing]: the phrasing of complex questions, discussions of sensitive topics" (Doody & Noonan, 2013, p. 30). It is imperative that a researcher consider difficulties that may be encountered in advance, particularly "in terms of question wording or sensitive areas and to give some thought to how these difficulties might

be handled" (Smith, 1995, p. 13). To avoid biasing responses and to maximize the quality of the information collection, Smith recommends questions that are "neutral, avoid jargon, [and are] open-ended" (p. 14). This may be particularly important when asking research participants' questions about the politically-heated topic of health insurance (or even more so if asking directly about the Affordable Care Act) and underscores the importance of carefully wording questions to avoid relaying any potential researcher bias.

The semi-structured interview questions were carefully worded to be non-leading and reduce as much bias as possible, maintaining the interpretive validity of the interview guide as a research instrument. In addition, the more sensitive questions (regarding the Affordable Care Act and specific health care needs) were asked at the end of the interview to allow time for the interviewer to build rapport with the interviewee. The interview guide also began with questions about recent events (i.e., health insurance enrollment within the past seven days) and then ended with asking the interviewee to reflect on changes over the past five years, as asking questions in reverse chronological order has been shown to increase the accuracy of collected responses (Doody and Noonan, 2013, p. 31).

One specific example of a semi-structured interview technique that relates to interviewing a participant about a process over time is Dervin's (1983) Micro-Moment Time-Line Interview. In the Micro-Moment Time-Line Interview, a researcher asks a participant to list step-by-step everything that went into a situation, writing each of the steps down on a card. Then the researcher asks specific questions about each card, including "what questions he or she had, what things he/she needed to find out, learn, come to understand, unconfuse, or make sense of" (p. 10). This technique helps a researcher methodically discuss a process with a participant and obtain rich descriptions of each step involved.

3.3.2 Conducting the Semi-Structured Interview

The qualitative, semi-structured interviews took place in person, one-on-one. To make participation as convenient as possible, the researcher offered to travel to wherever was convenient for the individual participants. The researcher also offered a quiet space to conduct the interviews. The interviews were recorded using an audio recording application on the researcher's cellular phone (following permission of the interviewees). Each participant was given a participant ID which was used to track their audio recordings and additional materials as described below. One interview (Participant 11) was conducted via Skype as she worked at a geographically distant institutional site.

After talking through the consent form (see Appendix 2), participants were asked to complete a short demographic questionnaire (see Appendix 3). This questionnaire included demographic characteristics featured in health insurance literacy models and research and shown in the Integrated Framework for Health Insurance Literacy (see Figure 15), including race, age, educational level, family status, and job title (to determine EPA/SPA status).

The researcher used the interview guide (see Appendix 4) to conduct the interview session. The one-on-one interviews were recorded. The researcher asked participants to reflect on the process they went through to select a health insurance plan. The researcher brought official state health plan handouts to help refresh participants' memories. To obtain as close an approximation as possible to the actual experience, individuals who participated in the study were interviewed seven days or less from when they made their decisions and submitted the online forms. The interview guide began with open-ended questions to start the interview, including:

- How do you make your health insurance choice(s)?
- What goes through your mind as you think about the choices?

Next, the researcher used Dervin's (1983) Micro-Moment Time-Line Interview technique to ask participants to list each step in their decision-making process. The researcher wrote down each step on a note card and then ask specific questions about each individual note card to obtain a rich depiction of the process (see Appendix 4 for further details).

The additional questions in the semi-structured interview guide were developed using sensitizing concepts from the Integrated Framework for Health Insurance Literacy (see Figure 15) and the concepts represented in Klinkman's frameworks, Sainfort and Booske's Conceptual Framework of Consumer Selection of Health Plans, McCormack et al.'s Conceptual Framework for Health Insurance Literacy, and Paez et al.'s Health Insurance Literacy Conceptual Model. Some of these concepts included financial and health literacy, health care decision-making, and use of health care services. For example, if an individual referred to their health status as being a driving factor in their selection or if they expressed difficulty understanding what the numbers in the forms mean, the researcher would be able to suggest in the Discussion section that health status and financial literacy are playing a role in their decision-making process. The interview guide was piloted with participants recruited at the benefits orientation sessions and was refined using the pilot data.

After asking broader questions geared at assessing the individual's health insurance decision-making strategies, the researcher asked that the participants reflect on any health insurance materials they brought with them (whether they used them to make any decisions or not, see Appendix 1 for follow-up email). This included notes they made in discussions with others and during the new employee orientation sessions. The researcher photographed the materials that the interviewee brought to the interview and asked participants to describe the notes contained within the materials. The printed orientation materials were evaluated using the only readability form designed for charts, the FORCAST Readability Test (see Appendix 5), which is included in the analysis of research findings.

For interviewees that did not bring any printed material, the researcher provided a copy for reference. The researcher asked which page(s) or section(s) of the materials were most helpful in making the decision. This line of questioning was conducted to determine the most salient information for the participants.

After the semi-structured interview, the researcher asked participants to complete the first two scales of HILM measurement (see Appendix 6). The first two scales were selected as these are the two that pertain to health insurance enrollment (the last two scales look at the use of health insurance). The HILM was administered after the interview so that participants would not be sensitized to focus on any of the concepts in the HILM during the discussions. In addition, because the HILM provides definitions of some terms (i.e., deductible), not having the participants view it in advance revealed that some participants did not have a clear, working definition of a deductible in their minds.

The HILM was selected as it is the only measurement of health insurance literacy currently available in the published literature. Because it relies exclusively on self-reporting self-efficacy, the results may not accurately reflect an individual's true health insurance literacy skills (e.g., the ability to define core terms such as copay, coinsurance, and deductible; the ability to select a health insurance plan that matches anticipated health care expenditures). However, because there have been published studies on individuals' HILM scores, it is possible for the researcher to compare her participants with previous studies to determine how the participants in this study compare with participants in other health insurance literacy studies to assess the validity of this study's findings.

The data collection session concluded with an opportunity for the participants to ask any questions of the researcher. The researcher only answered questions regarding the study and did not provide guidance on the health insurance selection process. Each of the 30 participants was compensated with a $25 Target gift card for their time (see Appendix 7 for receipt form). The researcher

provided contact information should the participants have wished to provide additional information or ask any questions after the interview date.

3.4 Research Methods: Analysis

Each participant was given a participant number and all related data was stored using only the participant number. The interview recordings were transcribed through the Rev.com transcription service and were stored in a secure location to minimize security threats. In addition, analysis focused on aggregated trends to minimize any individual risks. The researcher omitted identifying information for the quotes from particular individuals. The researcher wrote memos to document the process and note reflections during the interview and analysis stages.

3.4.1 Analyzing Semi-Structured Interviews

Once the semi-structured interviews have been conducted, it is time for the researcher to turn to analysis. While it can be tempting to begin with generalizations of the data, Smith (1995) encourages researchers to "look in detail at one transcript before moving on to the others. This follows an idiographic approach to analysis, beginning with particulars and only slowly working up to generalizations" (p. 20). Staying close to the data may increase the accuracy of the results and, once again, minimize researcher-induced bias. This approach also prevents privileging the first few transcripts, which can lead to premature closure.

The interview transcripts were coded to determine trends using the qualitative analysis software Atlas.ti. The researcher used the constant-comparison method of content analysis (Lincoln & Guba, 1985, pp. 339–344) to analyze the interview transcripts. Transcripts were coded individually by inductive reasoning, allowing themes to emerge, with specific codes drawn from participants' words when possible (Wildemuth, 2016). The researcher began with open coding three interviews to establish a codebook (see Appendix 8). The researcher then used this codebook to code the remaining interviews,

adding additional codes when necessary and going back to recode the original transcripts to ensure consistent coding across all interviews. The codes were constantly compared to one another to minimize redundancy and aim for thoroughness. In transcripts where multiple themes were identified in a single block of text, multiple codes were assigned. After identifying more than 62 individual codes (see Appendix 8), the researcher began to identify connections between the codes to develop larger themes (discussed in the Results and Discussion sections).

The researcher used the artifact model from the discipline of contextual inquiry to analyze the photographs of participants' decision-making aids. An artifact is a physical thing that is created while working or a physical item that is used to support the work. An artifact "reveals the assumptions, concepts, strategy, and structure that guide ... people" (Beyer & Holtzblatt, 1998, p. 102-103). For this study, examples of artifacts included sections of the university-provided documentation that participants indicated were most helpful or least helpful, as well as handwritten notations that participants made on the university-provided documentation. The content of these resources was analyzed using the same codebook that was used to code the interviews. Photographs of the artifacts are included throughout the Results section to provide examples of key themes.

This data was compared with existing information seeking and use models. In addition, the Integrated Framework for Health Insurance Literacy was reviewed to determine its relevance in this setting.

CHAPTER 4: RESULTS

The findings of the demographic questionnaire, semi-structured interview, and Health Insurance Literacy Measurement (HILM) will be presented in this results section. The demographics of study participants demonstrate a cross-section of new hires at the institution. The semi-structured interview and the accompanying Micro-Moment Time-Line interviews reveal detailed findings on the health insurance decision-making process. Participants discussed their information tactics and the personal reflection they undertook to evaluate their needs. They also identified their interpersonal information sources and priority coverage areas. They discussed what went into evaluating the choices available to them and reflected on the process they took and the United States health insurance system in general. Participants also outlined aspects of the use of health insurance and pondered their own health insurance literacy skills. These discussions were echoed in the results of the HILM.

4.1 Demographic Characteristics of Participants

Participants came from diverse backgrounds and represented a variety of demographics. Fourteen participants (46.7%) were between 27-35 years old, six (20.0%) were 18-26 years old, six (20.0%) were 36-45 years old, three (10.0%) were 46-55 years old, and one (3.3%) was 56-64 years old. The racial and ethnic composition was as follows: 63.3% White, 13.3% Black/African American, 13.3% Asian or Asian American, 6.7% Hispanic/Latino, and 3.3% American Indian. Thirteen participants (43.3%) had a Master's degree, eleven (36.7%) had a Bachelor's degree, four (13.3%) had a Doctoral degree, and two (6.7%) had some college. Twenty-four participants (80.0%) were female and six (20.0%) were male.

There were also a variety of family make-ups represented by the participants. Seventeen participants (56.7%) were single, eleven (36.7%) were married, and two (6.7%) had a domestic partner. One participant shared that she was widowed but preferred to be characterized as single. Seventy percent of participants had no dependents, and 30.0% had dependents. Two-thirds (66.7%) selected 80/20 coverage, 26.7% selected the consumer-directed health plan, and 6.7% selected the 70/30 plan.

4.2 Tracing the Timeline

All of the participants in this study had one month following their first day of work to make their health insurance enrollment decisions. On their first day of work, they all attended one of the weekly orientation sessions where a Benefits Officer provided an overview of the plans available to them. Then they were given a month to make their selection. For Participant 8, this one-month period provided the opportunity for self-reflection and evaluation of the options. “At my previous job, ... when it came time to make the decisions, I was sitting with an insurance person and they were like talking through it. Which is fine, but I like to have some time to understand it a little bit.”

During this one-month period, individuals pursued a variety of techniques and approaches to make their health insurance decisions. These individual timelines were constructed using Micro-Moment Time-Line Interviews. Individuals’ timelines included discussing the orientation session they were all required to attend, reading the printed materials provided for them, reviewing information on the state health plan website, and identifying the most helpful information for their needs.

4.2.1 Micro-Moment Time-Line Interview Findings

During the course of the Micro-Moment Time-Line Interviews, participants reflected on their techniques for reviewing the information available to them, narrowing down their choices, searching for answers to specific questions, and using available tools (e.g., online benefits calculator). Participants also

spoke about discussing their health insurance coverage options with others perceived as having more experience (e.g., a parent), those with similar coverage (e.g., colleagues), and those involved in their financial decisions (e.g., a spouse). Three timelines are shown below (see Figure 16, Figure 17, and Figure 18) to provide examples of the decision-making processes undertaken by participants.

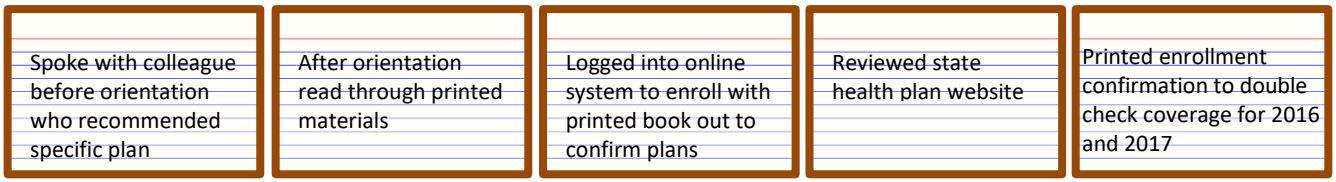


Figure 16: Participant 15 Timeline

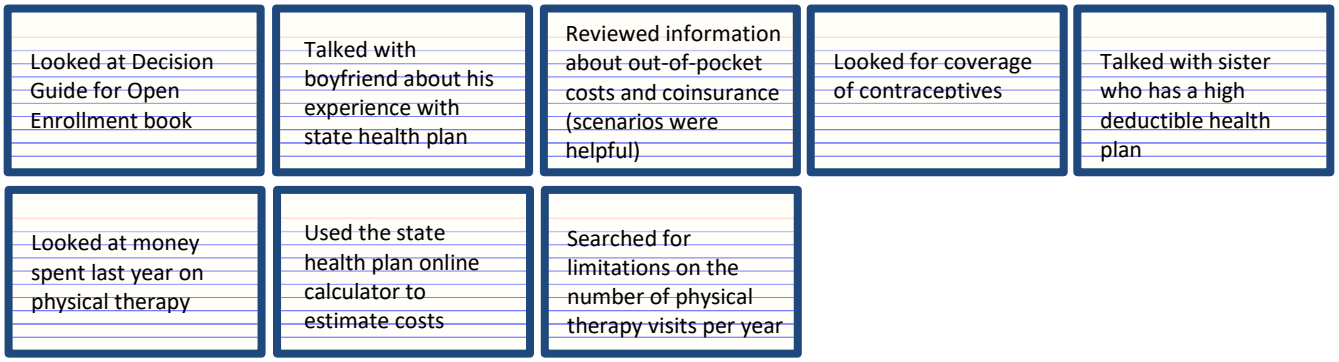


Figure 17: Participant 19 Timeline

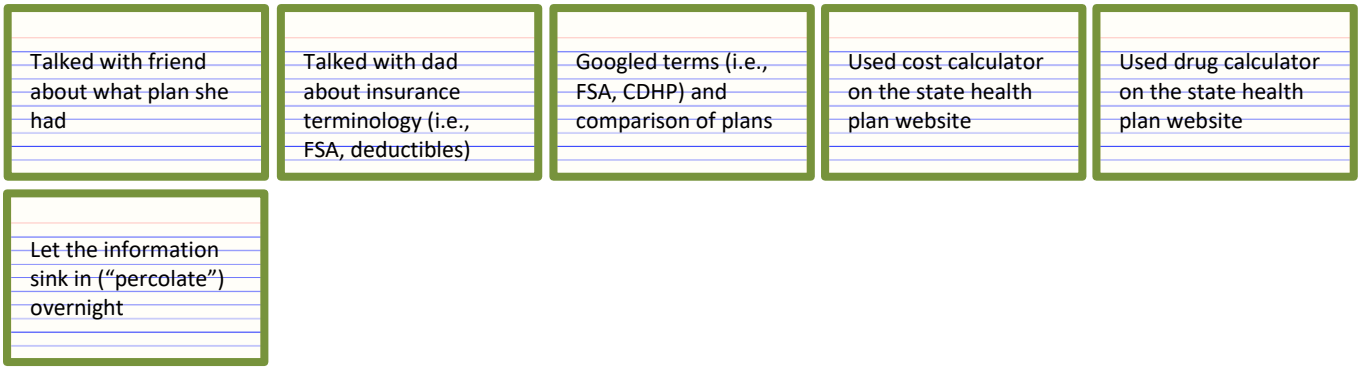


Figure 18: Participant 24 Timeline

As a result of using the Micro-Moment Time-Line Interview technique, participants were better able to estimate the amount of time spent on the health insurance decision-making process. They were also more thorough in identifying the helpful individuals they spoke with during their decision-making process. While some at first said they did not consult with any other individuals, after seeing the timeline cards in front of them, several recalled specific individuals with whom they talked. In addition, seeing each step of their process reminded them of the questions that arose and the resources they used to address them. The detailed findings of the timeline interviews will be discussed throughout the Results section.

4.2.2 Orientation Session

Twenty-one participants mentioned the orientation session as playing a role in their insurance decision-making process, often citing it as the beginning of their choice journey. Eight participants shared that the orientation session was not helpful (due to the information being too general or being presented in a format that did not match preferred learning styles), while six participants deemed the orientation session a helpful step that provided psychological reassurance. Seven participants did not classify the session as helpful or unhelpful and some mentioned annotating materials during the session to provide reminders. Three participants looked at insurance information prior to attending the orientation session and two participants discussed how they felt the benefits officer was promoting one choice over another during the orientation session presentation.

Eight participants (P6, P12, P16, P23, P25, P27, P28, and P30) shared that the orientation session was not as helpful and/or that they were not able to pay full attention. One aspect that Participant 28 attributed to his lack of attention was the general nature of information provided at the orientation session. "I admit that I paid very little attention to that. Those things are generally so broad and they're covering so much information at once that it's not terribly useful" (P28).

Another reason to which participants attributed a lack of attention was the method in which the information was presented. "I sort of half paid attention to her talking. It's difficult. I'm just not a very auditory learner" (P12). To address this disconnect with learning styles, Participant 12 suggested that "it might have been more useful if when she was talking about specific things, she referenced specific page numbers within the booklet in the packet so when she was talking, at least I knew where to go to follow along."

Six participants (P1, P4, P5, P13, P14, and P26) shared that the orientation session was helpful preparation for making their health insurance decision. "I've never been in an orientation where they led you through your options step-by-step. I thought that was really helpful and set a nice foundation for my understanding of the plans side-by-side. Also to be in a room with a bunch of other people in the same thing was kind of psychologically reassuring" (P13).

Seven participants (P3, P9, P15, P19, P20, P21, and P24) cited the orientation session as part of their decision-making process but did not classify it as either helpful or unhelpful. Some of those participants discussed making annotations on the materials during the session "I took down notes on the slides during orientation, things that stood out that I didn't know yet" (P20). Figure 19 shows an example of the type of annotations Participant 20 made in her materials during the orientation session.

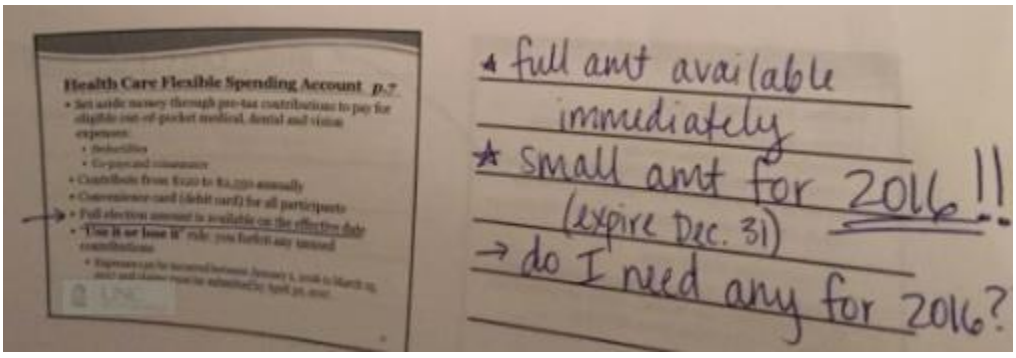


Figure 19: Participant 20's Annotation from the Orientation Session

Participants 1, 6, and 25 looked at health insurance information (on the state health plan website) prior to the orientation. These participants wanted to obtain some information prior to the session and came away with an initial predisposition towards one of the options. Participant 1 changed her mind following the orientation: “I knew like at this orientation they would be covering it, so I like looked online a little bit before. Just to try to figure out what the options were. I had an idea, completely changed my mind after orientation.”

Participants 5 and 6 spoke about the advice of the benefits officer leading the orientation. "I will say it definitely felt like the orientation was biased against not choosing the 70/30 plan… The person who was leading the discussion kind of looked like they were trying to sway people away from that and I can't say I fully understand why... I definitely took his advice even though he shouldn't be leaning people anyway in terms of health insurance plans."

In addition to presenting information about the plans verbally, the benefits officers also distributed printed material for individuals to refer to during their decision-making process. Reviewing these printed materials was often the next step in the participants’ decision-making timelines.

4.2.3 Review Printed Materials

The majority of participants (n = 24) discussed reviewing the printed insurance materials distributed at the orientation session as a key step in their decision-making process, often at the beginning as they were surveying the information landscape and beginning to make comparisons between plans. “I think that from the presentation I had a pretty good understanding, but then just wanted to look over it one more time and look at my options” (P14).

Generally reviewing the printed information materials was the step taken to get a wide view of all the options rather than to answer specific questions. As Participant 3 explained, “sometimes I just

read things without any question in my mind." When participants were interested in obtaining information about a particular coverage need, they often consulted the website rather than searching the paper materials to locate an answer. As Participant 25 summarized, "in between the orientation and actually doing the stuff online, I actually went through a lot of the booklets. And actually had to go to the website to try to find some of the information that I was looking for."

Participant 13 spoke about reviewing the printed materials in tandem with her husband. She shared that she "look[ed] at the materials myself and with him in depth. That is more broad and over-arching, and then just taking time once the kid's in bed where we can really delve into the materials." In particular, Participant 13 liked having a printed chart for side-by-side comparisons "The first one was for picking your Consumer Health Directed Plan or your 80/20 or 70[/30] and it explained all the ones. Then you turned the page and it was very friendly on the eyes because it was all laid out on a page, whereas to find it on the internet, you only see that little bit and you have to scroll up and down. Having it all laid out, page to page in the order was so, so helpful. I liked it. I definitely had that open next to me as I was going through" (see Appendix 9 for the side-by-side comparison chart).

Some participants engaged with the printed materials by annotating them. Participant 15 used highlighting and sticky note tabs to break up the printed information into helpful sections (see Figure 20 for photographs of Participant 15's annotated materials). "I highlighted and then tabbed in the book. To see really what the cost was and see what it actually covered."

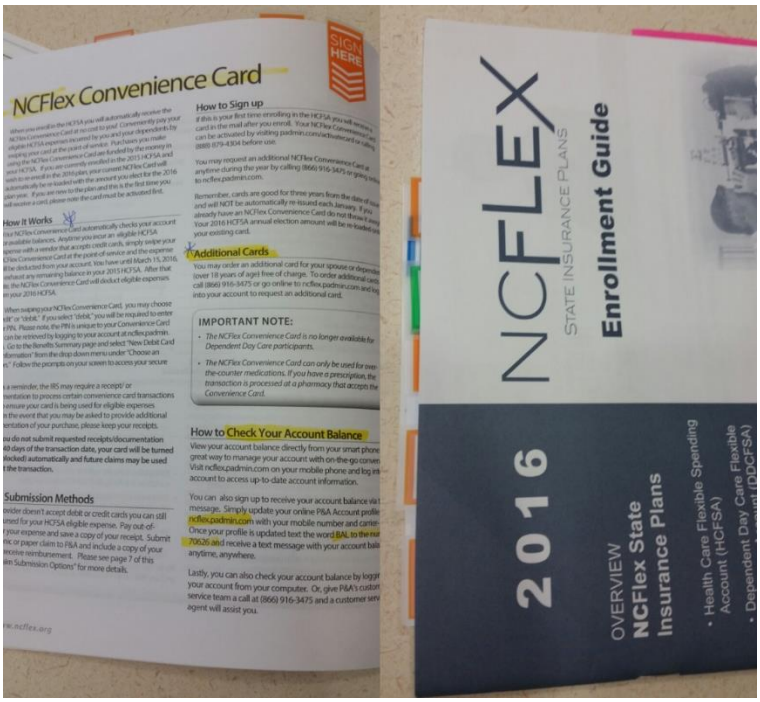


Figure 20: Participant 15's Annotated Printed Materials

The printed orientation materials were analyzed using the FORCAST readability formula in the Oleander Readability Studio Software. The side-by-side comparison chart (see Appendix 9) rated a 12.4 grade level, indicating it is suitable for a reader who has completed most of her/his senior year in high school. The open enrollment decision guide, designed to elaborate on the options and provide helpful scenarios of coverage, rated a 10.9 grade level.

4.2.4 Review Information on the State Health Plan Website

In addition to reviewing the printed materials distributed at the orientation session, sixteen participants used the state health plan website to gather information and make their decision. Participants used the online information to support the printed materials, researched answers to specific questions, and some reviewed information in advance of the orientation session.

The website was often used in conjunction with the printed materials. "Looking over all of the material provided, and kind of going in and just checking out the website, and then coming back in and putting what I thought I needed and saving it..." (P11).

Ten participants searched the state health plan website for the answers to specific questions about the plans. Participant 19 "wanted to see if there was a limit on physical therapy... I think I found a PDF of the consumer-directed plan and the 80/20 plan. A PDF of explanation of benefits or whatever online." Participant 20 discussed her strategy for locating specific information within the general overviews. "I would find a PDF like this and Ctrl Find for ultrasound or specialist."

Three participants (P1, P13, and P20) reviewed the state health plan website prior to the orientation session to obtain information about the benefits available to them. "I had gotten a verbal offer but nothing from HR yet. I went through … the benefits page online... I just wanted to know what … the different plans looked like, the different options. I've never worked for the state before, so I had heard that it was really good but didn't really know about it" (P20).

In contrast, Participant 3 (a married, Asian man with a Doctoral degree) elected not to review the information on the website. "The original plan was to check the website to get more information, but I think the information from the handout [was] already overwhelming."

4.2.5 Most Helpful Information

Participants reflected on the information most helpful to them. The side-by-side comparison chart and the scenarios were the most often identified helpful piece of information. Participants also identified the chart of monthly premiums, the preventive care sections, the insurance plan guide, the benefits calculator, and the coverage scenarios as helpful. Nine participants (P1, P5, P7, P10, P12, P13, P16, P25, and P27) pointed to the side-by-side plan comparison chart (see Appendix 9) as the most

helpful during their decision-making process. "Charts like this are helpful. Comparison charts... Generally I look at the benefits before the costs" (P12). The most helpful information for six participants (P6, P9, P11, P15, P18, and P22) was the chart with the monthly premiums demonstrating which wellness credits were necessary to reduce the monthly cost. As Participant 18 highlighted, "affordability is like my number one concern." Other sources of information identified as most helpful were the parts on preventive care (P4 and P23), the insurance plan guide (P14 and P26), and the benefits calculator (P24). Participant 24 pointed to the online calculator as most helpful because "it made me feel better about the decision." These helpful information sources will be discussed further in the Information Tactics section.

In addition to these areas identified as most helpful, nine people (P2, P12, P19, P20, P21, P22, P24, P25, and P29) spoke about the coverage scenarios as being particularly helpful for seeing what the plan looked like in action. The scenarios (see Figure 21) provide information about the health needs of an individual and show what the coverage options look like for each of the scenarios. “I read through a couple of the scenarios that they put of people using this plan, … and it kind of helped me think about it in a more real world application instead of just looking at the chart. Helped me understand it a little bit more” (P19).

Meet Pete

Pete is a State Health Plan member with employee-only coverage, who visits doctors regularly, and is trying to decide which plan is right for him.

A year of medical and pharmacy services for Pete might include:

- 1 preventive care visit with PCP
- 3 additional Primary Care visits
- 2 specialist visits
- 2 chiropractor visits
- 1 urgent care visit
- 4 Tier 1 prescriptions
- 2 Tier 2 prescriptions

"I don't have any major conditions, but I do get sick and visit the doctor more often than I used to. I'm trying to determine how much I will have to pay under each plan option."

Pete's Health Plan Costs

		CDHP (85/15)				ENHANCED 80/20 PLAN				TRADITIONAL 70/30 PLAN			
		NON-ENGAGED		ENGAGED		NON-ENGAGED		ENGAGED		NON-ENGAGED		ENGAGED	
		UNIT COPAY/ COST	TOTAL COST	UNIT COPAY/ COST	TOTAL COST	UNIT COPAY/ COST	TOTAL COST	UNIT COPAY/ COST	TOTAL COST	UNIT COPAY/ COST	TOTAL COST	UNIT COPAY/ COST	TOTAL COST
MEDICAL SERVICES	#												
Preventive Visits with PCP	1	$0	$0	$0	$0	$0	$0	$0	$0	$40	$40	$40	$40
Primary Care Visits	3	$150	$450	$150	$450	$25	$75	$10	$30	$40	$120	$40	$120

Figure 21: One of the Provided Coverage Scenarios

4.3 Information Tactics

Each individual employed his/her own unique combination of information tactics to select the health insurance plan that best met his/her needs. Participant 11 highlighted that the onus falls on the individual to take charge. "It's a matter or looking it up and kind of actively finding it for yourself. I mean, I guess the information is there."

Tactics discussed by participants included comparing plans side-by-side, evaluating and calculating costs, ignoring/eliminating information, avoiding overthinking, and managing their personal information. Some of these tactics were undertaken in conjunction with one another: "The way my brain works it's usually like several things at one time" (P18).

Participants spoke about the difficulty that came with translating the information to the real world. "I guess, again, trying to figure out the specifics of what it actually means on a practical level. It

gets very number specific, and that sometimes ... It's ten o'clock at night and I've been staring at this for a couple hours. I'm like, I don't know, whatever. I guess trying to figure out whatever data is presented, what that means on a practical level" (P12).

Some information tactics are harder to quantify or specifically trace. "I call it percolating. I like things to percolate especially for bigger decisions" (P24).

4.3.1 Comparing Plans Side-by-Side

Comparing plans side-by-side was a common strategy identified by participants. Participants spoke of the benefits of numerical information presented in chart form and the ability to focus on relevant sections. One participant even created his own chart to compare the plans according to his anticipated health care needs.

All 30 participants spoke about comparing plans during their decision-making process. Even those who were inclined to go with one plan from the beginning compared their preferred plan with at least one of the other options to make sure they were satisfied with their choice. "I was pretty sure that I was going to go with the 80/20 plan... I read through this to see like for the types of things that I typically use. So like if I had a copay for a prescription or just going to primary care. Usually I just kind of do like a yearly checkup and get a prescription refilled... So I was looking though to see what that would look like" (P8).

Participants spoke positively of having the coverage information provided to them in a chart form. Participant 30 shared that the chart made it "easier to compare things. I think in general when numbers are involved, it's easier to see them in a chart instead of embedded in a paragraph of text. I guess I would say I look at the chart first, probably. Then I would read, possibly as well, to see if my understanding matches up with what it's saying."

Participant 25 noted that the chart allows users to hone in on the most helpful information. "I think just because you can pick out the things like, I want to know how much maximum will come out of my pocket, let me look at these. Okay, this is the maximum that can come out of my pocket. Or I have a medication I take regularly and I know that it's generic tier two." This allows users to connect their anticipated needs with the differing coverage choices. If a user has remaining questions, she/he can then turn to other information materials to locate information that is more specialized. "The charts were great because then you could just take a snapshot look, decide, look at the coverage in the books [which] have more detail, and then make a decision" (P15).

While some participants spoke about focusing on a particular section of the comparison chart, Participant 6 spoke about the helpfulness of looking thoroughly through the comparisons. "I really like the comparison so I definitely looked at the monthly costs. All of these apply to me so I looked through everything. Even if they don't really apply now, there's a chance it could later so I wanted to know."

Participant 27 (a single, White man between the ages of 18-26 with a Bachelor's degree) described creating his own chart to help with comparing plans (in this case the dental insurance options) and their coverage of his specific coverage needs. "I made a chart [to compare the high vs. low dental options]. I made rows for wisdom teeth, retainer, and cleaning and compared what the low and high coverage looked like for each. I got the amounts from the packet to do comparison. I got out a calculator to see price difference" (P27). Online calculators (such as the one available for the medical coverage) assist users in making comparison charts customized to their health care needs (see the Calculate Costs section for further discussion).

4.3.2 Cost

Cost was the most commonly mentioned topic by participants. It was discussed by all 30 participants a total of 96 times. While cost was the most significant factor mentioned by all participants,

some discussed cost in relation to the monthly premiums while others focused on the costs within the plans (e.g., deductibles, copays, etc.).

Most participants (n = 19) discussed balancing the monthly premium costs with the coverage costs. As Participant 12 explains, "it's sort of looking at a trade-off between the premium costs and the deductibles and contracts, and the nuts and bolts it would actually end up being in the short-term of what my projected needs are, and in a horrible what-if scenario, if something catastrophic happens." (P12). For these participants, costs include all aspects from paying for coverage to paying for care. For three participants (P4, P14, and P23), it was unclear which type of costs were most significant in their decision-making process.

Four participants (P2, P6, P17, and P26) mentioned costs associated with deductibles, copays, etc. as a more significant factor in their decision-making process than the monthly premiums. "Cost was a driver. I was looking at the overall deductibles, out-of-pocket expenses for each visit, co-pays, and ... coinsurance" (P2). This may be a result of the lower premium costs across the board at the institution (see Appendix 10), which led these individuals to focus on the costs of care over the monthly premiums.

Three participants (P1, P5, and P22) focused solely on the monthly premium costs when mentioning cost as a driving factor. For example, "it was the monthly amount that was the big determinant, not necessarily what the co-pays were or things like that" (P22). In this example, the participant selected the consumer-directed health plan, which has a $0 copay after wellness credits. However, the two other participants (P1 and P5) who mentioned monthly premium costs as a driving factor selected the 80/20 plan, which is the plan with the highest monthly premiums (approximately $15 per month after wellness credits). That is, even though the monthly premiums were the most important aspect of cost for these participants, they still selected the plan with the highest monthly premium. The researcher hypothesizes that the low monthly premiums across the board may confound some of the

results here. Further research should be conducted to determine the role that monthly premium costs play in individuals' decision-making processes.

4.3.3 Calculate Costs

Eighteen participants performed calculations in their effort to determine the most appropriate coverage type for their needs. Nine participants used mental calculations, six used an actual calculator and/or wrote out their calculations, and three used the online benefits calculator provided through the state health plan website.

Nine participants discussed tabulating up the costs of the monthly premiums versus the other coverage charges but did not formally compute using any formal tools (e.g., a phone calculator or the online benefits calculator). "So I kind of just played around with it. I didn't do any serious calculations. I just sort of played around in my head" (P16).

Six participants spoke about using a calculator (often either on their phone or computer) to compute specific amounts related to their predicted medical costs. "I pulled out my calculator and then I read through the plans again and just tried to do an estimate of what I thought I would need health care-wise this year...I knew about what visits I'll do each year so I calculated the copays and prescriptions and then I balanced that against the monthly charge that you do have with the 80/20" (P6).

Three participants used the online benefits calculator provided through the state health plan website, which enables users to input their number of expected doctor visits, medications, and other health care needs. For example, Participant 19 and her boyfriend used the online calculator together to estimate the next year's expenses. "I know that he used the online calculator a lot and put in every scenario that you can think of. I put in a couple of urgent care visits or things that I thought could

feasibly happen. A couple of visits to a specialist, things like that. Maybe put in five preventative care or something, but I didn't use that much this past year, but I was like maybe..." Participant 24 underscored the benefit of using the online calculator: "It made me feel better about the decision. I had no idea how much ... It's hard to visualize what the real cost is."

4.3.4 Ignoring and/or Eliminating Information

Sixteen participants spoke about mentally ignoring or eliminating information to help them focus on the information most relevant to their decision-making process. Individuals eliminated or ignored information in coverage areas that did not apply to them (e.g., inpatient, prescription drug, and/or dependent coverage). Individuals also eliminated entire plans (e.g., 70/30 or the CDHP) to simplify their choice.

Eleven participants eliminated information on irrelevant coverage areas. Participant 3 confessed, "inpatient hospital I didn't read." Some participants who do not take prescription drugs mentally ignored that section of information. "I don't take any prescription drugs, so none of this really applied to me" (P5). In addition, family structure was another measure by which individuals ignored information. Participant 10 explained, "The family doesn't apply, of course, because it's just going to be me."

Ten participants eliminated plans altogether (see Figure 22 for Participant 1's annotations denoting the rejection of the 70/30 plan). "At that point I had pretty much eliminated one of the plans just based on the research I had done, so then it was comparing two of them" (P12). The 70/30 and the Consumer-Directed Health Plans were the most frequently mentally rejected plans.

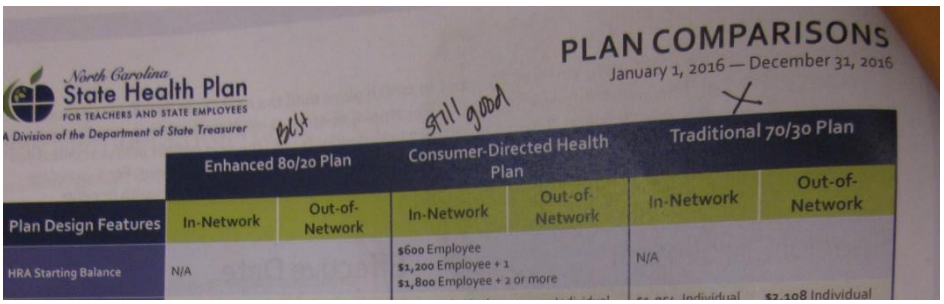


Figure 22: Participant 1 Eliminated the 70/30 Option

4.3.5 Avoiding Overthinking

Nine participants (P4, P5, P6, P9, P18, P19, P21, P23, and P28) talked about avoiding overthinking. For some participants explained that it was due to the fact that they would be able to choose again during open enrollment. Participant 4 shared, "I thought, 'Okay, I'm not going to stress over it and just pick the minimum and bare bones and then, when October rolls around, I'll do more research then'" (P4).

4.3.6 Should Have Done More

Four participants (P3, P15, P19, and P30) admitted that they should have done more during their decision-making process. Participant 19 confessed, "Well, I've never actually told someone what I'm doing right now which is really good exercise and shows me that maybe I should have done that. I'm not totally naïve when it comes to trying to understand it. I guess I'm a little bit confused..." (P19).

4.3.7 Not a Logical Choice

Four participants (P3, P6, P14, and P21) divulged that it was not a logical choice that they made. “You know, it was between the 80/20 and the consumer-directed, and I guess it was mostly just a kind of a gut decision on the fact of, I thought the 80/20 was better for me. I guess there wasn't a really strong, oh, this is the light bulb kind of thing…” (P14).

4.3.8 Personal Information Management

In talking about how they manage health insurance information, participants shared some of their personal information management habits. Techniques included printing out insurance materials, rectifying receipts, filing statements, and bookmarking information.

Eight participants (P1, P2, P10, P15, P16, P17, P28, and P29) printed out insurance materials during and/or after making their decision and enrolling online. Participant 10 explained, "Sometimes I do like printing out stuff to be able to really look over it." In addition to liking to view the information in a printed format, others printed out the materials to confirm enrollment, "Just as a safeguard in case the system wasn't saving. I know that we had a small [enrollment] window" (P15).

Participants 3 and 21 talked about rectifying receipts with insurance statements. "I need to make sure I get all of the documents as far as billing and things like that. Just to follow up and make sure I'm actually getting what I'm supposed to get" (P21).

Participant 13 discussed filing Explanation of Benefits statements without clearly understanding them: "they're just going to continue to confuse me and be incomprehensible, but I usually just file them away." Participant 30 had plans for managing her health information in the upcoming year to help her during open enrollment season. "I've been telling myself that this year I will pay attention and maybe make a spreadsheet or something of that stuff. So I would know at the next open enrollment if it would make sense [to pick a different plan]."

Participant 20 (a single, White woman between the ages of 27-35 with a Bachelor's degree) bookmarked the information about her selected health insurance plan in her Internet browser (see Figure 23). "I have the Main Benefits HR page. I have the summary of the 80/20... Oh, yeah, the smaller decision guidebook and the examples in here... Then the Flex Guide, which I think was the same as the

printed book we got." Additional personal information management techniques included saving receipts by the door until they could be filed for reimbursement (P17), shredding old insurance cards (P23), and opening a tab with each of the plans while weighing the options (P25).

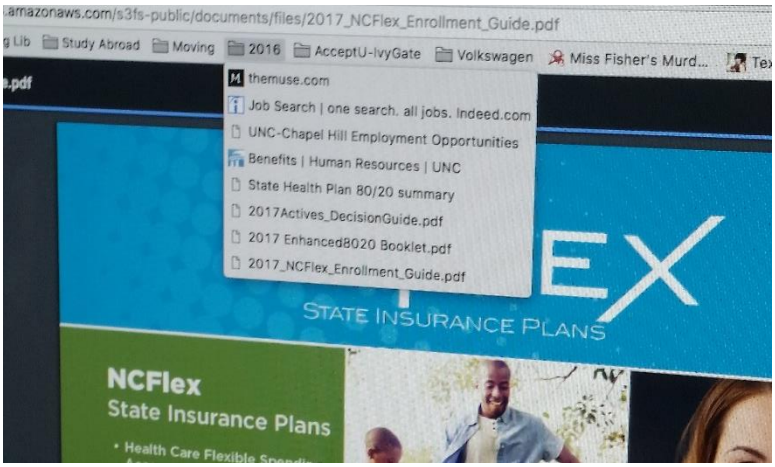


Figure 23: Participant 20's Bookmarks

4.4 Personal Reflection

In addition to reviewing provided information and using formal information tactics, participants also discussed personal reflection as a step in their choice journey (often in response to the interview guide question “What goes through your mind as you think about the choices?”). Participants looked at their past behavior and personal health, including experience with health insurance, past use of coverage, and their health status and age. They also discussed future forecasting including their anticipated needs for the next year and what would occur in the event of a worst-case scenario.

4.4.1 Past Experience with Health Insurance

Past experience with health insurance impacted the enrollment decisions that individuals made. Twenty-seven participants specifically spoke about how their experience with health insurance informed their decisions this time around. Familiarity with particular types of coverage (e.g., high deductible

health plan), experience selecting a plan, past use of coverage, and experience with the U.S. health care system are examples of how previous experience with insurance played a role in the decision-making process.

Previous experience with a particular type of coverage may explain why some individuals are more comfortable with some types of coverage than others (in particular why some are willing to enroll in a high deductible health plan and others are not). Participant 23 explains the CDHP thusly: it "was very similar to what I had before, so it was easy to just understand that that's how it worked." As a new hire, Participant 8 sought to ease the transition from one position to another by "remember[ing] what I had from my previous job [and] just figuring out what was comparable coverage [to] that I had."

Participant 2 selected the 80/20 plan in part due to negative past experience with different types of insurance coverage. She was disinclined to select the consumer-directed health plan, and shared, "I suspected that it meant processing more paperwork, which I dreaded this flex spending account in previous years because of the amount of receipts, the paperwork you had to process. I just found it dreadful."

Some participants reflected on specific aspects of past use of health insurance as a factor. For example, Participant 6 shared, "Definitely I think it will go through a deductible, and I know that from past years." Knowing how the coverage played out in practice was a key aspect for Participant 6's calculations to identify the best plan.

Four participants (P6, P15, P20, and P22) connected their past experience with health insurance with their confidence navigating the system. "Several years ago when I got onto my own insurance plan, I spent some time learning about the ins and outs a little more. In general, I feel pretty comfortable with those, but there are certainly some things that [are unclear]" (P6).

Eight participants (26.7% of the participants in this study) shared that this was in fact their first time selecting health insurance coverage. This was the first full-time position for many of these participants, several of whom mentioned they were transitioning from being full-time students (on student health coverage) to being full-time employees. Many of the participants who were selecting health insurance for the first time were also young (four were between 18-26 years old, three between 27-35 years old, and one between 36-45 years old).

These individuals may have different health insurance information needs due to their unfamiliarity with this process. Participant 21 shared, “It's very complicated, a lot of overlapping concepts. Things aren't necessarily as clear as they could be for a first-time person selecting insurance. I guess there should just be more clarification on some things.” The average cumulative HILM score for those selecting health insurance for the first time was 2.82, below the average HILM score for participants in this study (3.00).

Participants 3 and 23 had more familiarity with a health care system outside of the United States (China and India, respectively). Because more of their experience was outside of the U.S. system, they felt less confident in their ability to navigate the U.S. health insurance system and had lower cumulative HILM scores (2.08 and 1.92, respectively). These two HILM scores are the lowest of any of the participants.

4.4.2 Reflecting on Past Year's Use of Coverage

When making this year's health insurance selection, nine participants (P3, P17, P19, P20, P22, P23, P24, P25, and P26) reflected on their use of health insurance coverage over the past year in particular. Participant 25 used the following questions to get started on the decision-making process: "So what happened last year? Has anything changed? Those things affect what I choose."

Participant 19 (a White woman between the ages of 27-35 who works as a Project Coordinator) spoke about reflecting on past coverage of specific health needs: "I looked a little more at the deductible cost this year just because I've had significant injuries the past two years... When I looked at my out-of-pocket costs for the past year, if I had gone with a different plan then I would have spent less money. It would be more money up front but overall it would be less money over the whole year."

Participant 22 (a married, White man between the ages of 36-45 who works in technology support) focused on coverage areas that caused concern in past years. He spent time "looking at some of the stuff that has been questions for me in the past, with previous insurances, you know, and knowing my medical and knowing what's come up..."

4.4.3 Reflecting on Health Status

Sixteen participants spoke about reflecting on their health status as a key step in determining the best coverage for them and, when applicable, for their family. Participant 13 reflected that her high health status and that of her family meant the consumer-directed health plan was a good fit. "I think consumer-directed worked for our family and I would say it might work for someone else, too, who is healthy and wasn't expecting ... I guess if another family needed particular diabetes drugs or something like that, it might be more helpful to go with an 80/20 plan" (P13). Others acknowledged they might need more coverage due to their health status'. "I understand that I have more medical needs than your average person or that I would like to. I need to make sure I can get everything that I need, that my health is taken care of" (P21).

4.4.4 Age as a Factor

Fourteen participants cited their age as a factor in their decision-making process. Nine participants (P1, P3, P5, P6, P11, P12, P13, P14, and P17) spoke about how the process was simpler for a

younger, healthy person. "At this age I don't expect many things, any bad things, to occur in the next year" (P3).

Five participants (P2, P18, P22, P26, and P30) spoke about their age as a reason they spent more time and effort selecting health insurance. "I feel like, and maybe just because I'm getting older and having to be more responsible and I actually have health issues, that maybe I had to spend more time thinking about it" (P2).

Participant 18 described her personal growth thusly: “I think previous times… I was really young… [so] I was just like okay sign, sign, sign, sign, I didn't really think about it. I was like, yeah, I have health insurance, put the cards in my wallet and didn't do anything with it. It was kind of like development in a way, like a transition. Then when I got to the age of thinking about having kids, it meant something different. It depends on what it means at that point in my life. The past couple years I went back down to the 70/30, like, I'm not having kids anymore, I need to try to save some money. Now I'm like okay, you got a new job, it's a better job, I make a little bit more money. Maybe I should start thinking about what could happen and preparing for those things, whatever they might be.”

Participant 12 (a married, White woman between the ages of 27-35 who works as a Research Specialist) attributed her youth and comfort with technology as making her more comfortable with selecting the CDHP. "Probably to some extent it's an age thing. I'm pretty comfortable with technology. I know other people who have used health saving accounts ... to get reimbursed for things."

4.4.5 Forecasting Needs for the Next Year

When asked about what goes into their health insurance decision-making process, twenty-six participants mentioned forecasting their needs for the next year as a key technique. As Participant 8 describes, “Typically, I think of what I generally need, like, in a year. Thinking about how many times I

might go to the doctor, prescription drugs that I need to get and make sure that I have good coverage for that and then also maybe sort of general emergency, just thinking in that way. I don't really go to the doctor that often, so I kind of just want to make sure my general bases are covered."

4.4.6 Forecasting the Worst-Case Scenario/Unknown

During the decision-making process, fifteen participants forecasted their health care needs in the event of a worst-case scenario (e.g., a major accident) or the unknown (e.g., an unexpected medical diagnosis). Participant 6 explained, "I was just thinking about what I think my medical costs will be and ... being covered in case of emergencies, so I thought about which plan had a better emergency coverage."

Participants shared that this tendency to prepare for the unknown was not necessarily born out of past experience. "If you want to do a worst-case scenario, you get into an accident, well, what does that actually end up looking like in terms of how that affects your health insurance? If you haven't experienced it, you really don't know. You just hear horror stories" (P12).

Participant 21 (a single, Black woman between the ages of 18-26 with a Bachelor's degree) saw covering the unknown as a personality trait. "I like to plan for just-in-case situations." Participant 26 (a single, Asian-American woman between the ages of 36-45 who works as a Research Assistant) demonstrated why some individuals might select an insurance plan with coverage beyond their needs. "You never know what's going to happen, so better to pick a plan where you have more coverage, which would be the 80/20." Future studies may consider using the Risk Information Seeking and Processing (RISP) Model (Griffin et al., 1999) to explore further the connections between personality and health insurance choice.

4.5 Interpersonal Information Sources

A key element of many of the participants' timelines was discussing their choice(s) with trusted individuals. Participants spoke with spouses/partners, colleagues, parents, benefits officers, and friends. Reasons for consulting other individuals included obtaining advice from individuals with more health insurance experience, those with similar coverage, and those involved in their financial decisions.

4.5.1 Spoke with Spouse/Partner

Participants consulted their spouses/partners during their decision-making process. Many participants (n = 13) spoke with their spouse/partner to determine whose coverage to use. Even when the participant's spouse or partner was not going to be covered under the plan, many participants still chose to discuss their options with their significant other. Additional reasons for consulting with spouses/partners included the desire to obtain input, domain expertise, familiarity with the available plans, and previously established roles regarding who takes the lead on financial decisions.

The most common reason for discussing the decision with a spouse or partner was to determine through whom to obtain coverage. "So it was about whether she wanted to move to mine or whether we should keep ours individually and what we should change" (P23). Participants compared their options with the options available through their spouse to determine the most feasible coverage option for them and, when applicable, for their dependents.

Participant 12 spoke about a desire to have someone from whom to obtain input. "There's probably a moment where I just threw the packet at him and said, 'Tell me what to do.' At that point I had been looking at it for an hour and a half, two hours, something like that. It was more trying to bounce ideas off of somebody and figuring out what would end up being best for our situation." Individuals who are part of a couple may rely on their partner/spouse as a second/confirmatory opinion.

Participant 1 consulted with her partner due to his domain expertise. When asked for the reasoning behind sharing the decision-making with her spouse, she said, "Since he has to work so much with health insurance... He can read that language better than I can."

Participant 19 consulted her boyfriend due to his familiarity with the specific options available: "He's a state employee as well so he changed his health plan last year and so I talked to him about the way he used his health plan this year." The personal connection with her boyfriend was an additional reason Participant 19 asked for assistance: "But I feel really comfortable asking my boyfriend about it, because I don't worry about sounding ignorant or not understanding."

Participant 13 shared that her spouse was usually the one to make financial decisions, so he took a lead role: "My husband is probably the bigger driving force in our marriage in terms of making financial decisions, so he has opinions."

Conversely, Participants 10 and 18 decided not to discuss the plan with their spouse/partner because they knew that they were not going to be covered under their plan. As Participant 18 described it, "Your health is your business."

4.5.2 Spoke with a Colleague

Twelve participants consulted with colleagues to learn about their experiences with the plans and to solicit advice. Because their colleagues have the same plans available to them through the institution, their experience with the plans was a valuable source of information for many of the participants. Participants sought feedback on plans, compared insurance needs with colleagues, and obtained recommendations on physicians. Ultimately, the advice of their colleagues had varying levels of influence.

Some participants solicited general advice to gauge negative or positive experiences; for example, “the one colleague that mentioned the consumer-directed health plan seemed happy with it. It makes you look at it because it wasn't where somebody said, ‘Ew that's a terrible [plan] ...’” (P16). Others specifically sought out the advice of people they respect; "I had a couple of people whose advice I trust tell me this is the plan that you want. So I was already predisposed to a particular plan" (P28).

Four participants compared their experiences with their colleagues’ to ascertain whether their coverage needs were similar, due to health reasons (P12), age (P29), or family make-up and the need to cover dependents (P15 and P28). Participant 12 spoke with her boss who "told me what she'd done in the past, and then we were talking about the health saving accounts things and whether we thought that was a way that we had to go, or ... if our medical needs were similar enough that it's even worth comparing, things like that. It was probably a little bit more general and theoretical."

Because some of the wellness credits available to employees require that they select a primary care physician, two participants (P16 and P30) also sought physician recommendations in conjunction with insurance advice. “I'm new to the area, and my work supervisor had said that she could recommend doctors to me so I just checked in with her and wrote down the names of the doctors that she recommended. Then I went online to see if the primary care doctor was accepting new patients” (P30).

Two participants (P3 and P4) recognized, upon reflection, that they considered speaking with a colleague, but in fact did not. Participant 3 shared that, “I didn't do it. I had an idea but I didn't do it.” Privacy concerns and colleagues’ unawareness of his particular medical needs were the reasons that he decided not to ask for colleagues’ opinions.

Participant 30 (a single, White woman between the ages of 36-45 with a Master’s degree) shared that, while she listened to advice from colleagues, it did not influence her ultimate decision. “I

guess it's always interesting to know, but I feel like everyone has a different idea of their own needs. I don't think I would've just signed up for a plan because it was the same one that she had."

4.5.3 Spoke with Parent(s)

Ten participants spoke with their parents as part of their decision-making process. Their reasoning behind doing so included more experience with insurance, familiarity with individual health care needs, domain knowledge, assistance with terminology, and to outsource decision-making. Consulting with parents during the decision-making process varied by age. Five-sixths (83.3%) of the participants between the ages of 18 and 26 spoke with their parents during the process, 35.7% of participants between the ages of 27 and 35 consulted their parents, and none of the participants above the age of 36 sought parental advice.

Many of the participants who consulted with their parents did so due to their experience with insurance. "I asked my mother if she would help me decipher between the different plans and help me choose because she's done that before" (P21). In addition to being more familiar with navigating the health insurance system, parents may also be a source of lessons learned: "My dad always jokes that he didn't do a lot of it right. So he doesn't want me to make the same mistakes that he did" (P1).

Participants identified parents as individuals most familiar with their health care needs. As Participant 21 explained, "[my mother has] attended all of my doctor's appointments with me so she knows my needs." Other participants (P20 and P29) cited their parents' domain knowledge as a contributing factor: "she's an RN so I always consult [with her] about that stuff" (P20).

Participants 8 and 24 also consulted their parents to help with terminology. "I just Googled a few things. Some of them, too, I just asked my parents when I was talking about it with them because

they have a much more extensive plan than I've had. So, pretty much everything at the end of this book, I didn't know what it meant. So, it was just like looking them up quickly or talking to my parents" (P8).

Participant 6 (a single, White woman between the ages of 18-26 who works as a Research Coordinator) consulted with her parents to alleviate some of her mental burden. “If it's something I've done before, I probably won't [consult my parents]; but anything entering into a new thing, I like to outsource my decision-making.”

While some participants consulted their parents in person (e.g., "He was sitting there with me," P8), others had to call or email their parents due to geographic location (P5, P21, and P24). “I also called my mom and my dad was home at that time so I was able to speak with them both at the same time. I mentioned to them that I might take some pictures of the documents that we have and then email them just so they could review them, but I ended up not doing that because I felt like I was equipped to make a decision, and I felt confident in that decision based on the information that we got in the orientation session” (P5).

4.5.4 Spoke with Benefits Officer

Ten participants contacted benefits officers during their health insurance decision-making process. Participant 7 shared her strategy for answering health insurance questions: "The first thing I'm probably going to do is I'm going to e-mail the ... benefits guy, and see if he can fill in anything. I think he's very knowledgeable. It seemed like he didn't mind helping and he gave us his card, so I'm just going to use it."

Participants 10 and 27 emailed the benefits office with specific coverage questions (i.e., identifying a primary care physician and to confirm enrollment deadlines). Participant 2 contacted a

benefits officer to ask about insurance terminology. She shared "I remember asking [name of benefits officer], 'Well, what is coinsurance? Is that the same thing as the co-pay?'"

4.5.5 Spoke with Friends

Eight participants spoke with friends during their health insurance decision-making process. Participants spoke with friends who worked at the same institution, compared health needs with friends, and sought out friends with insurance expertise.

Four participants (P5, P10, P11, and P28) sought advice from friends who were employees of the same institution. Participant 10 obtained advice through social media comments: "I went on Facebook and posted, because I know some of my friends are on the 80/20 plan."

Two participants (P1 and P24) compared health care needs in obtaining advice. "Just the brief texting with my friend. That probably helped the most. Just seeing that she did it with as many medical expenses as pharmacy expenses as they have" (P24). Participants 1 and 8 sought out family friends with insurance expertise. "I ended up calling a family friend who is in the insurance business as well" (P8).

4.5.6 Spoke with Other Interpersonal Source(s)

Two participants (P2 and P4) spoke with a financial advisor, one participant spoke with her daughter (P16), and one participant (P27) spoke with the insurance company. Participant 19 spoke with her sister: "My sister is not a state employee, but she has a high deductible health plan, so I talked to her about some of the pros and cons of hers."

4.6 Priority Coverage Areas

Participants reflected on their priority coverage areas. These areas included in-network vs. out-of-network, sufficient coverage, copays/office visits, prescription drug coverage, preventive care, coverage for dependents, specific coverage needs, and out-of-pocket maximums.

Fourteen participants spoke about the significant role in-network versus out-of-network coverage played in their decision-making. "I was looking at what doctors were in-network compared to out-of-network. Could I find a doctor in-network that I wanted to use?" (P25). Participant 18 further explained, "It mattered a lot to me that my doctor was covered... I've been with him for so long I don't want to switch. That's important. My preferred provider and my preferred hospital. "

Ten participants (P2, P8, P11, P15, P17, P20, P21, P22, P23, and P28) wanted to make sure they had “sufficient coverage” (P2). Participant 21 elaborated, " I need to make sure I can get everything that I need, that my health is taken care of.”

Six participants (P5, P6, P9, P10, P20, and P24) pointed to the costs of office visits and copays as a priority. Participant 20 said, "I probably go to the office visits first."

4.6.1 Prescription Coverage

Another significant priority coverage area for participants was pharmaceutical coverage. Participants researched the pricing for specific medications, and two participants wanted examples of the medication tiers to understand the pricing structure.

Sixteen participants mentioned the prescription coverage as a key factor when they were comparing the three available plans. “The copays for drugs are lower on the 80/20. Again, that's probably why I was drawn towards that because I know I have a tendency to get sick a couple times a year, and I'll be buying more prescription drugs” (P20).

Six participants (P2, P11, P18, P19, P24, and P28) looked up the coverage for their specific medications. “I also have medications that I take, and I wanted to be sure that I wouldn't be paying an exorbitant amount for those medications; preventative medications that I must take, at least if I want good health” (P2).

Participants 3 and 5 wanted specific examples of the different drugs that fall under each of the tiers. “Maybe some examples of what is a tier one versus a tier two versus a tier three drug is. Because I wouldn't know. Is the birth control pill a tier one? Or, my dad is high blood pressure medications, like where does that fall? What are the common drugs that many people take, and where do they fall under these tiers?" (P5).

4.6.2 Preventive Care

Fourteen participants looked at preventive care as a key factor in their decision-making process. Participant 4 said that she looks at "preventative care, again, because I'm the kind of person that really does try to take care of herself so that for me was important." For some participants preventive care was a matter of principle: “I also liked that preventative care is really covered. I just agree with that on principle” (P6).

Participants 4, 10, and 15 hoped that preventive care would be the only health care services they required in the next year. Participant 4 explained, "To me was, this is my deductible for the year, which to be honest with you, didn't factor in to me because he did mention preventative is covered at 100%. I'm like, 'Okay, then that covers everything.' I'm trying to be healthy enough to where I just do the preventative."

Participants 5 and 21 were interested in clear definitions of preventive care. "I think it'd be helpful to have some examples of like what constitutes an office visit versus what constitutes preventative care" (P5).

4.6.3 Coverage for Dependents

Twelve participants discussed coverage for dependents as a key factor in their health insurance decision-making. This was a priority factor for Participant 15, who focused on "making sure my son is covered. Then myself, but thinking about him is the first thing" (P15). In addition to covering children, the needs of a spouse also influence the decision. As Participant 23 explained, "Now that I'm married, my wife's needs and her choices come into play."

Participants discussed that having children made them more likely to require health care services. "I probably would look at the 80/20, just primarily because I have a small child, and I'm going to end up paying. She's going to go to the doctor at some point, so it would work out better for the extra $100 a month" (P17).

4.6.4 Specific Coverage Need

Thirteen participants spoke of a specific coverage need that dictated their health insurance choice. For example, Participant 19 said, "I use a lot of physical therapy services so that was what I based my decision on." This often led to researching specific coverage information that pertained to their need.

4.6.5 Out-of-Pocket Maximums

Eight participants (P3, P7, P12, P13, P19, P20, P21, and P24) pointed to out-of-pocket costs as a significant piece of information during their decision-making process. Out of those eight participants, five selected the consumer-directed health plan, which has the lowest out-of-pocket maximums. This

may point to one of the reasons why the high deductible in the CDHP was not a deterrent for these participants. Participant 3 cited the out-of-pocket maximum as a comfort: "[I] also considered whether there is an out-of-pocket limit. Unexpected things happen at some point in your life. It's sort of given me a psychological security that it's not going to break my life."

4.7 Evaluating the Choices

“Mostly I'm just grateful to have the choices. I would say that making the choice between the different plans … didn't seem like a huge decision to me before. I'm just glad to have insurance” (P30). During the course of the interviews, participants spoke about the choices available to them and the importance of the choice itself. These decisions were not undertaken lightly. “Having the choice is nice. Also, even though it's a small decision, I thought about it more just because I am the one making the decision” (P6).

Participants reflected on the choices available to them. “I didn't know really what I was going to have when I came here. I looked at the job and all the other things and the fact that there were health benefits. But I didn't know whether they would be restricted or broad. So I was pleased with the choices. I thought they were good” (P16). They shared their reasoning for selecting their preferred plans. “I guess looking at it, initially, I wish I would've had more choices. But after going through the materials, I kind of realized that more choices would've made things more confusing so I'm glad that there were only three for me to choose from. Seeing as how I got something that I'm confident will satisfy my needs, I'm definitely okay with it now, only having three choices” (P21).

Participants discussed what they wanted out of an insurance plan, considered testing out a new type of coverage, took comfort in the ability to switch plans, and sought flexibility in coverage. “We have so many opportunities for benefits to be covered on so many fronts. It's trying to figure out which one is the best fit for our family” (P15).

4.7.1 Reasons for Selecting the 80/20 Plan

Two-thirds (n = 20) of the participants selected the 80/20 coverage. They shared a variety of reasons for selecting the 80/20 coverage, including costs shown as a fixed amount rather than a percentage, the low deductible, the low monthly premium, that the plan met their anticipated needs, past experience with health insurance, and advice they had received.

Ten participants (P1, P2, P7, P8, P10, P16, P20, P21, P25, and P29) specifically mentioned the structuring of the costs as a reason for selecting the 80/20. The information on the CDHP is presented in a percentage format (i.e., 15% coinsurance after deductible), whereas the information on the 80/20 plan is presented in a fixed amount (i.e., $30 copay). This discrepancy between percentage and fixed amount was a deterrent for selecting the CDHP for many participants. Participant 2 explains, "I didn't know what the 15% was because ... when you pay for medications and you have insurance, you don't know what the real cost is and I thought, 'Oh, that could be scary.' This gave me an exact dollar amount" (P2). Participants expressed a preference for having a fixed dollar amount copay to reduce unexpected costs, as demonstrated by Participant 8: "I guess I like the idea of having a copay, and I know this is how much it's going to cost each time."

Seven participants (P2, P5, P7, P8, P16, P26, and P29) cited the lower deductible as a key reason for selecting the 80/20 plan. Participant 7 simply put it this way: "I picked that because the deductible is lower." This may be an example of a heuristic that people employ to make their health insurance decision. It is possible that individuals focus on the deductible as a key factor and base a disproportionately large part of their decision on that specific aspect. As Participant 2 argued, "If I'm going to be going out-of-pocket for the first number of dollars, I wanted to bring that threshold down as much as possible."

Six participants (P1, P8, P9, P10, P16, and P18) pointed to the low monthly premium as a reason for enrolling in the 80/20. "This is safe, and this is cheap. It's not zero dollars cheap, but it's doable... Why wouldn't I want the best one?" (P9). Interestingly, the 80/20 has the highest monthly premiums of all three plans and yet the low monthly premium (see Appendix 10) was still cited as a reason for enrolling in the plan. This is most likely because, even though it is the highest, it is still fairly low. Participant 1 indicated a desire to get the best coverage available as an investment: "This is the maximum coverage offered for $14 a month. I'm pretty healthy, and I'd rather just have that investment in myself."

Other participants shared that the 80/20 plan seemed best designed for their needs. As an unmarried individual with no dependents, Participant 5's family make-up played a role in "leaning towards the 80/20 plan. It seemed like the consumer-directed health plan was much more geared to families as opposed to individuals so that also steered me away from that plan as well."

In addition to family make-up, anticipated medical costs were another reason for enrolling in the 80/20. "I understand that I have more medical needs than your average person or that I would like to. I need to make sure I can get everything that I need, that my health is taken care of. I may have to pay a little more for it up front, but as long as I can get my money's worth it'll be fine" (P21).

Past experience with health insurance was another factor that led some to enroll in the 80/20 plan. "I went with 80/20, too, because in the past I've had 80/20 with other insurance companies. Probably a sense of familiarity" (P15). Participant 27 cited advice from his colleagues as a significant reason: "They both spoke highly of the 80/20 plan."

Lastly, while many participants gave specific reasons for their decision, one participant noted that it was not a logical choice. "I guess it was mostly just a kind of a gut decision on the fact of I thought the 80/20 was better for me" (P14).

4.7.2 Unfamiliar with How CDHPs Work

Many of the study participants spoke about how they were unfamiliar with how a consumer-directed health plan (CDHP) works. Participants spoke about relying on the familiar and being skeptical of the way CDHPs are structured. Some participants enrolled in the CDHP despite unfamiliarity and sought unbiased information about the plan.

Unfamiliarity with CDHPs often led participants to select a more traditional coverage choice (e.g., the 80/20 plan). Participants 15 and 18 both spoke about the tendency to go with what was familiar, particularly given the time constraints of the enrollment period: “I was too lazy to become familiar. I knew the clock was ticking. I'm like, go with what you know” (P15). Participant 18 connected familiarity with a desire to avoid risk: “I'm a creature of habit and I just kind of go with what I know and have been through. I'm not much of a risk taker and figured that if this could get me through pregnancy and childbirth and postpartum care, then it could carry me through.”

Nine participants (P9, P13, P18, P19, P20, P21, P22, P28, and P30) reflected on their tolerance for risk, particularly in association with their willingness to try out the CDHP. In some cases participants reflected that they were willing to take on a risk to save money. “This is part of my husband's and I discussion, is that the consumer-directed health plan, we would be responsible more initially out-of-pocket. We were okay with that because we have enough in savings. We don't have any debt" (P13). Participant 22 summarized: "That's primarily what the insurance game is all about ... It's a bet. It's a gamble."

Even those who considered themselves fairly health insurance savvy shared a skepticism about CDHPs. “It seemed awfully risky… And I'm not unintelligent. It just didn't make sense to me” (P9). Still another participant thought that it simply sounded “too good to be true. If I'm not mistaken, that's the plan where the state provides you with funds. Like they deposit it into an account for you, if I'm not

mistaken. For me, I don't know, it sounded too good" (P21). Participant 21 continued her explanation thusly: "I have my own savings account. I don't need any more accounts to have to worry about."

A few participants said that the higher deductible was an automatic deterrent from enrolling in the CDHP. Participant 29 asserted, "I think once I heard higher deductible, I was out."

While many participants mentioned unfamiliarity with consumer-directed health plans (CDHPs) as a deterrent, Participant 4 selected the CDHP plan despite unfamiliarity: "I'm not familiar with this one but I also was like, 'Okay, let me try it.'" The ability to switch plans during open enrollment helped her feel comfortable in making this choice: "It's a short enough time period that I can see if I like it or not."

Participant 19 shared that speaking with trusted loved ones about their experiences with CDHPs helped alleviate her anxiety about selecting an unfamiliar option: "From my sister using the high deductible plan and my boyfriend using it, it kind of made me be like, 'Okay maybe it's not so crazy.' I just really needed to understand all the ins and outs of it to start to feel comfortable to come around to using it."

Participant 12 spoke about trying to locate resources to rectify her unfamiliarity with CDHPs but shared that it was difficult to locate unbiased information about health insurance, saying that it was challenging to locate "a central place to find information that didn't have a stake in the game."

Other participants expressed little interest in familiarizing themselves with CDHPs. As Participant 7 said, "I don't know. I don't want to know... For this one, it has too many questions." Participant 30 alluded to The Principle of Least Effort to explain her reasoning: "just trying to understand exactly what it meant seemed like too much effort" (P30).

4.7.3 Reasons for Selecting the CDHP

Eight participants (26.7%) selected the consumer-directed health plan (CDHP). Participants cited the health reimbursement account, the online calculator, contributing to the greater good, health status, family structure, and familiarity with the type of coverage as significant reasons for selecting the CDHP.

Participants 12 and 22 cited the funds that are provided in the health reimbursement account as a compelling reason for selecting the CDHP. Participant 22 presented the benefits thusly: "Having the reimbursement account, HRA, and automatically having stuff put in there to cover stuff, that was more than a zero-sum game" (P22).

Participant 12 (a married, White woman between the ages of 27-35 who works as a Research Specialist) confirmed her preference for the CDHP through the online calculator. As she explained, the CDHP “ended up being the most economical according to the benefits calculator thing.” The control of funds offered by the HRA was particularly appealing to Participant 12: "I liked the ability to feel like I have money there that I can access that isn't tied down by somebody at the other end of an insurance claim, which I know probably it still is, it just doesn't necessarily feel that way. I just would at least like to know where that money is coming from and where it's going and that I'm actually paying a cost and not some cost that's been inflated because of insurance companies that then gets passed on and you actually don't know the value of the health care you've received. I feel with the health savings account, if I just get the bill that's fine, I can pay for it... It's probably entirely more perception than how it actually works, but I feel like in this modern day and age, perception is nine-tenths of the truth."

She also added that contributing to the greater good was a compelling reason for selecting the CDHP. “I feel like it's a good system. If there are problems with it, I'd like to be part of making it work better, because I think it's a good idea” (P12).

Participant 13 shared that her health status and family structure were the reasons for which she identified the CDHP as the most appropriate choice: “For us, it was an okay risk as two younger, healthier people, to take on more of that personal responsibility.”

Participant 23 selected the CDHP due to familiarity with the coverage type: "Somehow this jumped out at me, consumer-directed health plan, because it seemed exactly like the higher deductible health plan I had before."

4.7.4 Reasons for Selecting the 70/30 Plan

Two participants (P17 and P30) selected the 70/30 coverage. Reasons for selecting the 70/30 coverage included lower monthly premiums and an external incentive. Participant 30 explained the calculations she undertook to determine that the 70/30 plan best met her needs: "The 70/30 one, there's no monthly fee if you do the tobacco attestation, which I did. The 80/20 one seems like it's probably, the coverage is maybe somewhat better but there is the monthly fee. I think I multiplied $15 dollars or whatever it is. I tried roughly to think if that's close to what I'd spent on copays in the last year."

Participant 17 selected the 70/30 plan due to an unusual system at her husband's work place where they pay their employees to stay off the plan by obtaining comparable coverage through a spouse's employer. "My husband's company pays us to stay off of their plan. They compensate us the difference between their plan and the plan that we pick, as long as I'm employed full-time. Then they pay in addition to the difference, they pay all of our copays. Apparently, it's cheaper somehow for them to do that, so that makes it really easy."

4.7.5 Reasons for Eliminating the 70/30 Plan as an Option

Fourteen participants spoke about their reasoning behind deeming the 70/30 a poor choice. Reasons included insufficient coverage, ACA non-compliance, advice from the orientation session, the high out-of-pocket maximum, and the higher deductible.

Six participants (P7, P14, P19, P21, P24, and P26) shared that the 70/30 plan offered poor or insufficient coverage. "It seems like there's hardly any scenarios except for the one lady who had crazy pharmacy costs where 70/30 was the best" (P19).

Three participants (P1, P2, and P6) eliminated the 70/30 plan as a choice because it was not ACA compliant. "The 70/30, because it didn't incorporate some of the new Affordable Care Act, what's been implemented under Affordable Care Act, I just sort of nixed it all together. It just seemed outdated to me" (P2).

Two people (P5 and P6) spoke about the orientation session and the benefits officers seemed to sway people against the 70/30. "The guy running it made a strong pitch against the 70/30. That factored in because I did look at it and when I calculated out, it kind of made sense" (P6). Additional reasons included the high out-of-pocket maximum (P12 and P21), that it seemed like the 70/30 option would be not available soon (P4 and P23), and the higher deductible (P9).

4.7.6 Plans Designed for Families

Nine participants characterized plans as being more relevant for dependent coverage. Seven participants (P5, P6, P7, P13, P16, P19, and P29) spoke about the CDHP as more designed for families. "It seemed like the consumer-directed health plan was much more geared to families as opposed to individuals so that also steered me away from that plan as well" (P5).

Two participants (P15 and P28) selected the 80/20 because they deemed it most appropriate for dependent coverage. "Of course, if I did not have a child, I would have gone with 70/30. Because I have one, I went with 80/20. I just thought that made better sense" (P15).

4.7.7 Test out a Type of Coverage

Three participants (P4, P12, and P14) were looking forward to the opportunity to test out a type of coverage that was new to them. Though unfamiliar with the CDHP, Participant 4 divulged, "I kind of want to test it out. I wanted to see if it was something I could do in the long run or if I had too many restrictions."

Participant 12 specifically discussed testing out the HRA: "I've never used a health [reimbursement account]. I don't exactly know how it's going to work, but that doesn't make me not willing to try it." She continued that testing it out had the potential to contribute to improving the health care system more globally: "I'd like to be part of making it work better."

4.7.8 Ability to Switch Plans is Comforting

Eight participants (P1, P3, P4, P8, P9, P18, P24, and P29) found comfort in the ability to switch plans. "I felt like, with the health insurance, it's like you're not locked into it, so if you don't like it one year, you can change it the next year" (P29).

4.7.9 Flexibility in Coverage

Six participants (P4, P9, P12, P14, P16, and P18) spoke about wanting flexibility in their coverage, often in supporting their choice to select 80/20. "There is more flexibility for me to get this one, because I can go to any doctor, know that it's my 20%, and then I feel comfortable with, 'Okay, if I don't like you, I can pick a different doctor.' This one seems a little more constrictive in that this is it, this is the choices you're getting and you have to make one" (P4).

Participant 16 (a married, White woman between the ages of 56-64 with a higher-level position at the university) spoke about coverage flexibility as a top priority. "Well, I would look at basically the cost of what's offered. The scope of what's offered. It's important to me to have freedom, flexibility."

4.7.10 Overwhelmed by Multiple Supplemental Insurances

Five participants (P2, P13, P15, P17, and P23) were overwhelmed by the multiple forms of supplemental insurance. "This was different in that there were a lot more options. I don't think I've ever selected so many options in one sitting. There was vision and dental and lots of flex plans and accidental death and dismemberment, which is an absolutely terrifying name for a plan" (P13).

4.7.11 Too Much Paperwork

Four participants (P2, P10, P22, and P29) lamented how much paperwork was involved in the choice and use of health insurance. Sources of excessive paperwork included the health reimbursement account (HRA) and the orientation session. Participant 29 shared that the overwhelming amount of information made it hard to know where to start: "I guess, there was a lot of information, but I ... didn't know where to start or what I should actually be looking for."

One of the reasons that Participant 2 (a single, Black woman between the ages of 46-55 with a higher-level position) elected not to enroll in the CDHP with its accompanying HRA was to avoid excessive paperwork: "I suspected that it meant processing more paperwork, which I dreaded -- this flex spending account in previous years -- because of the amount of receipts, the paperwork you had to process. I just found it dreadful."

Participant 10 (a single, White woman between the ages of 27-35 who works in technology support) found the amount of paperwork distributed at the orientation session to be overwhelming. "Especially with the stuff from the orientation session, I've got like ... this thing, and that thing, and the

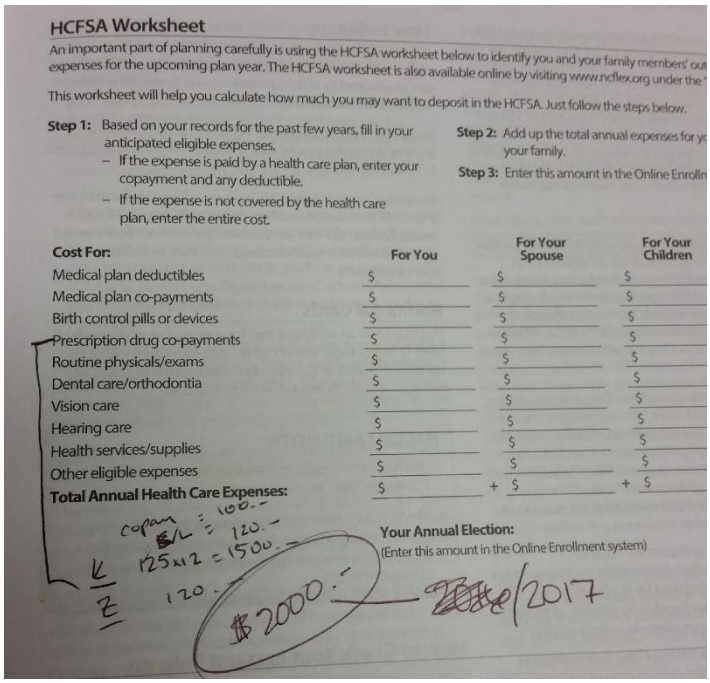
other thing. Then I'm like, 'Okay, was this a single sheet, or was it one of those stapled things? Was it in the presentation?'"

4.7.12 Flexible Spending Account

Ten participants shared their reasoning for either selecting or not selecting to participate in an optional flexible spending account (FSA). The seven participants who elected to enroll in an FSA (P7, P15, P20, P22, P24, P25, and P28) discussed forecasting their health needs to estimate the amount they wanted to contribute, taking notes during the orientation session, and reviewing bulleted lists of what is reimbursable through the FSA. The three participants who discussed their decision not to enroll in an FSA (P2, P12, and P27) spoke about the short amount of time before open enrollment, minimal health needs, and the CDHP health reimbursement account as reasons for not enrolling in the FSA.

Three participants (P7, P20, and P24) used forecasting to determine the level of their FSA contributions. For example, Participant 7 shared, "I look at the cost first, also taking into consideration what I might need in that particular moment or what I think I might need for that particular year. When I signed up this time ... I used the flex spending, because I want to get a new pair of glasses. It's easier for me to go ahead and just take 300 and have them divide it up for the remaining of the calendar year as opposed to me just trying to dish out $300."

Participant 28 (a married, White man between the ages of 46-55 who works as a Business Manager) used a provided FSA worksheet to help him estimate his costs for the next year to select the best amount to contribute to his FSA (see Figure 24): "So we just said okay, we're assuming that between the medication, doctor's visits, mileage, we'll just call this $125 [per month]. We didn't want to overdo it because you lose whatever you don't use, I guess."



HCFSA Worksheet

An important part of planning carefully is using the HCFSA worksheet below to identify you and your family members' out
expenses for the upcoming plan year. The HCFSA worksheet is also available online by visiting www.ncflex.org under the

This worksheet will help you calculate how much you may want to deposit in the HCFSA. Just follow the steps below.

Step 1: Based on your records for the past few years, fill in your anticipated eligible expenses.
- If the expense is paid by a health care plan, enter your copayment and any deductible.
- If the expense is not covered by the health care plan, enter the entire cost.

Step 2: Add up the total annual expenses for y
your family.

Step 3: Enter this amount in the Online Enrolln

Cost For:	For You	For Your Spouse	For Your Children
Medical plan deductibles	$	$	$
Medical plan co-payments	$	$	$
Birth control pills or devices	$	$	$
Prescription drug co-payments	$	$	$
Routine physicals/exams	$	$	$
Dental care/orthodontia	$	$	$
Vision care	$	$	$
Hearing care	$	$	$
Health services/supplies	$	$	$
Other eligible expenses	$	$	$
Total Annual Health Care Expenses:	$	+ $	+ $

copay = 100.-
125 x 12 = 1500.-
120.-
$2000.-

Your Annual Election:
(Enter this amount in the Online Enrollment system)

2017

Figure 24: Participant 28's Estimated Expenses for FSA Contributions

During the orientation session, Participant 20 took notes of which health services and supplies are reimbursable through the FSA to help forecast the right amount for her (see Figure 25): "I'm pretty sure I jotted down notes on, yeah I did, on which of the covered FSA products I would use just to help me come up with how much I wanted to deduct for that."

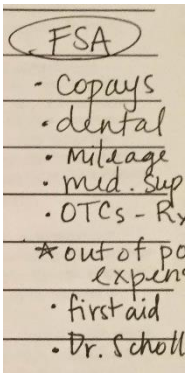


Figure 25: Participant 20's Notes on What is Reimbursable through the FSA

The bulleted lists of the type of expenses that can be reimbursed with the FSA were particularly helpful for Participant 15: "This was great... because it actually gave you a breakdown."

Participants 2, 12, and 27 shared their reasoning for not enrolling in an FSA. Participant 2 selected not to enroll in the flexible spending account, in part due to the short window before open enrollment. "In the past year or two I haven't even used my flex spending because it was not worth the hassle... I did not sign up for it now because of the open enrollment, and there's the small window. I know I don't have any expenses now." Participant 27 determined that his health needs were not high enough to warrant the FSA: "Next year I plan to have a general physical, see the dentist maybe one or two times in the year, and maybe a specialist. It doesn't make it worth the cost of NC Flex." Participant 12 elected to sign up for the CDHP with its accompanying health reimbursement account rather than signing up for the FSA. She and her husband discussed "if it was worth doing the one with the health savings account versus putting our own money into something that was pre-tax dollars and making our own savings account that way... I ended up going with the consumer-directed health plan, in part because at the moment I don't feel like I really have any health needs for 2016 and 2017. The rollover is attractive in terms of having more money immediately available should I need it."

Unfamiliarity with what an FSA actually is may be another reason why individuals select not to enroll in an FSA. Participant 24 (a White, woman between the ages of 27-35 with a Doctoral degree) spoke with her parents to find out what an FSA is. She shared that she spoke with her "parents, like I talked with them about the flexible spending account. I had no idea what that was."

4.8 Reflecting on the Process

Participants reflected on the process of selecting a health plan and enrolling in their choice. The open enrollment period and being new to the area were discussed as factors in participants' choices. Participants considered the advice they would give others undertaking the same choice. They identified the source of their questions and resources they wish they could have to support the choice journey. Lastly, they compared the process with other purchase decisions.

4.8.1 Time Spent on Decision-Making Process

Participants were asked to estimate the amount of time they spent on making their health insurance decision. The amount of time spent on the decision-making process did not vary considerably according to age or racial/ethnic demographics. Three hours was the average amount of time spent across the board.

When broken down by age, the average for participants between 18-26 years old (n = 6) and between 27-35 years old (n = 14) was 3 hours. For those between 36-45 years old (n = 6) the average was 2.28, those between 46-55 (n = 3) was 3.42, and for the one participant between 56-64 years old it was 2 hours. When broken down by education level, for those with some college (n = 2) the average was 3 hours, for those with a Bachelor's degree (n = 11) it was 3.89 hours, with a Master's degree (n = 13) 2.12, and those with a Doctoral degree (n = 4) 2.42.

On average those who selected the consumer-directed health plan (n = 8) spent slightly more time making their decision (average of 3.34 hours, see Figure 26). Those who selected the 80/20 plan (n = 20) spent an average of 2.76 hours, and those that selected the 70/30 plan (n =2) both spent 2 hours.

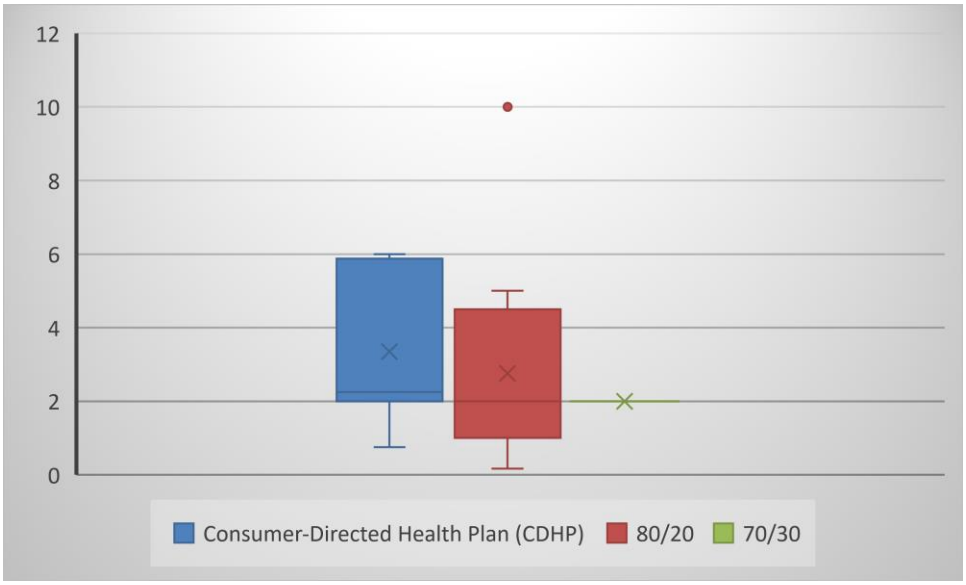


Figure 26: Amount of Time Spent Making Decision by Health Insurance Coverage Choice

4.8.2 Most Amount of Time in Decision-Making Process

Participants were asked to reflect on which step in the health insurance decision-making process took the longest. Seven participants pointed to rereading the provided information (P9, P20, P21, P22, P23, P28, and P30); six participants specified comparing plans (P2, P10, P17, P24, P27, and P29); and four participants spent the most time on the wellness credits (P4, P5, P13, and P25). Three participants spent the most time conducting research related to their needs (P1, P12, and P18); three participants estimated their time was evenly spread out (P14, P15, and P16); two participants cited making decisions about the supplemental insurance (P7 and P11); and Participant 19 said speaking with her boyfriend took the most amount of time.

4.8.3 Open Enrollment Window as Factor

Nine participants (P2, P4, P6, P7, P9, P14, P15, P20, and P22) spoke about the open enrollment window as a factor in their decision. As Participant 9 explained, "Part of [this] was that I know I'm only electing October through December right now, and in two weeks I get to go back in and make different

changes for January. So it was kind of like, 'How big of a deal could it be?' I'm going to choose the cheapest, quickest thing now, and in two weeks when I have to think harder about this, I will probably revisit the sheet that has all the deductible information. If I need a deductible in the last three months of this year, something big happened." Participant 9's notes on her different choices for enrollment can be seen in Figure 27.

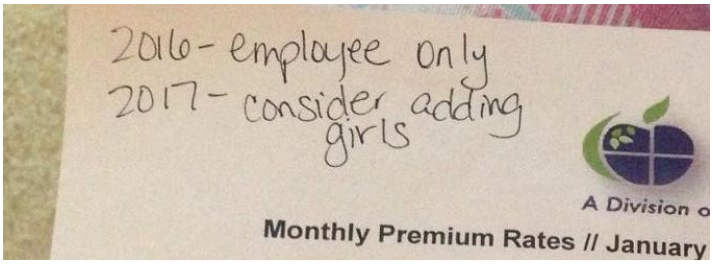


Figure 27: Participant 9's Open Enrollment Annotations

The open enrollment window also played a role in Participant 15's supplemental health insurance selection. "There's a couple that I declined, just because financially wise it didn't make sense, because we weren't going to utilize it between now and January."

4.8.4 Short-term Decision

Similarly, five participants (P1, P3, P4, P6, and P14) spoke about health insurance enrollment as a short-term decision. In some cases, that presented an opportunity to try something out for a limited time. "It's such a short term, you can test it out" (P4).

For Participant 6 (a single, White woman between the ages of 18-26 who works as a Research Coordinator), the short-term nature of her position meant selecting health insurance was also a short-term decision: "This is a temporary job. I'm planning to be here for not too long."

4.8.5 New to the Area

As newly hired employees, many participants were new to the area and reflected on the health insurance decision process as part of a bigger piece of settling into a new place. Six participants (P4, P5, P16, P20, P22, and P30) spoke about how relocating to a new place influenced their choice and use of health insurance. Participant 30 mentioned a list of all the things necessary after moving to a new home and how that left her with little energy to put a lot of thought into her health insurance choice: "It just seems right now, I just moved here, and it feels a little too chaotic to really put a lot of effort." Participant 16 spoke about how moving into a new home meant it was harder to access health information that she needed to complete the wellness activities: "And I'm thinking oh my gosh, my medical records. Luckily, I brought them with me because my furniture is in storage. So, I went digging. I had to stop, go dig things up, see what information they had, start it up again." The move to a new area also affected Participant 20's use of health insurance. Prior to being hired, she "wanted to keep my prescription going so I got the Obamacare, scheduled an appointment for a primary care physician in Greensboro where I was staying, so I had to go through the thought process in my mind. How does this work, once I move to Chapel Hill, I have to go get another appointment for a new prescription or can I just keep refilling from the doctor's office from Greensboro?" As individuals unfamiliar with the area, four participants (P4, P5, P16, and P30) specifically spoke about seeking recommendations on health care providers from colleagues. "I'm looking forward to the office recommendations to see if, 'Hey, this doctor's really good, you should check him out'" (P4).

4.8.6 Advice I Would Give

Participants were asked what advice they would give if someone asked about the available health insurance plans. The advice they suggested mirrored the strategies used by study participants. A variety of advice types were mentioned including estimating expenses, forecasting health care needs,

selecting the 80/20 plan, researching available options, reflecting on one's health status, and testing out a plan.

Eleven participants recommended that people estimate their expenses and/or forecast their health care needs. Participant 3 recommended making "your own decision based on your income, your expense[s], how you spend money." Participant 10 suggested others forecast their needs and "think about what they think is likely what they might need."

Five participants (P11, P15, P26, P27, and P28) specifically suggested that individuals select the 80/20 plan. "You never know what's going to happen, so better to pick a plan where you have more coverage, which would be the 80/20" (P26). In contrast, Participant 5 explained, "I would also emphasize to, like, make sure you research each of them and see what's going to fit you best because just because it's going to work for me does not mean it's going to work for you." Four participants (P2, P5, P14, and P20) in total recommended that others research the options available to them.

Four participants (P8, P13, P19, and P23) suggested that the individual reflect on their health status. As Participant 23 stated, "I would really tell them, actually, to not look at the options but look at themselves first."

Participants 4 and 9 suggested testing out a coverage option to see if they liked it. Participant 1 said if asked for advice, she would "definitely mention ACA compliances" as a factor in deciding in which plan to enroll.

4.8.7 Most Number of Benefits Questions

The researcher asked participants to reflect on all the content covered in the orientation session and to identify what they had the most number of questions about after leaving the orientation session. Aspects that contributed to the number of questions included the multi-faceted nature of insurance,

unfamiliarity with retirement plans, difficulty forecasting future needs, and the short-term nature of the insurance decision given annual enrollment.

Eight participants (P7, P15, P16, P18, P22, P25, P26, and P28) had the most number of questions about health insurance. Participant 15 cited the multi-faceted nature of health insurance as the source of the questions: "I think I had more questions about health insurance. Not because they didn't cover it, but because we have so many options." Only one of these participants (P26) was selecting health insurance for the first time.

Eight participants (P1, P2, P3, P5, P14, P19, P21, and P24) had the most number of questions about retirement. Participant 21 clarified that "at the moment, not health insurance. I feel like it's something I have to experience before I can really understand all of the questions that I'll have. I think I'll definitely have more along the way. The retirement, I feel like I'm absolutely clueless on. I don't know anything about it, never looked into it." Four of these participants (P1, P5, P21, and P24) were selecting health insurance for the first time. It may be reasonably concluded that they were also selecting retirement plans for the first time (during their first full-time position). The average age of participants with the most number of questions about retirement was lower than those who had the most number of questions about health insurance.

Six participants (P8, P10, P12, P13, P20, and P30) estimated they had an equal number of questions about health insurance and retirement. Participant 12 drew parallels between the difficulties for selecting health insurance and retirement: "Probably similar to retirement questions, just in terms of ... Again, you're asking people to plan for events that they maybe haven't experienced yet, and that sort of forecasting is hard, and not necessarily intuitive."

Five participants (P9, P11, P17, P23, and P29) said they had more questions about other benefits discussed in the orientation session (e.g., parking, tuition remission, paid time off, etc.). Participant 29

attributed the short-term nature of the decision to this: “I felt like with the health insurance, it's like you're not locked into it, so if you don't like it one year, you can change it the next year, so my questions about that weren't ... I feel like I had more questions about other parts.”

Three participants (P4, P6, and P27) did not have many questions following the orientation session. “I think he did a pretty good job with the health insurance. I felt like it was pretty well covered especially for my needs... I don't remember thinking of too many questions during this” (P6).

4.8.8 Additional Resources

Participants were asked to share resources that they wish they had to support them in their decision-making process. They shared creative solutions including a dictionary of insurance terminology, one-on-one assistance, step-by-step enrollment instructions, wellness incentives, ability to customize the information displayed in a comparison chart, reminders to those moving to keep health information handy for the enrollment process, and an insurance system that would allow package customization to fit anticipated needs.

Participant 1 shared that "a dictionary would've been nice for health insurance language." Other participants requested additional information on specific terminology, such as "the out-of-pocket maximum" (P7 and P21), primary care provider (P10), FSA (P24), and CDHP (P24). Participant 5 was interested in specific examples of qualifying preventive care: "I think it'd be helpful to have some examples of, like, what constitutes an office visit versus what constitutes preventative care."

Participants 3, 12, and 30 were interested in one-on-one assistance. "The ideal situation is that someone sits down with me or in an orientation session have a representative from the company explain things that weren't explained when after I left. Also give me some examples” (P3). Participant 12 suggested a chat feature that would enable more personalized assistance: "Some sort of live chat thing

for somebody looking at the website, trying to make a decision on a plan, being able to talk to somebody who understood all of these things in terms of what the best option was." Participant 30 echoed this desire by sharing that "it would've been nice to have a coach sitting next to me while I did the whole thing."

Participants 9 and 16 requested more details about how to complete the enrollment page. Participant 9 suggested a slide or a demonstration during the orientation showing, "Step One: Go to this page. Step Two: Click on this link."

As an active person, Participant 19 was interested in wellness rewards that would acknowledge physical activity: "I think that would be neat because I would definitely get credit for it, but I don't know. It's not high on the priority list because it hasn't really been something I feel like that's been in the forefront of health plans." Participant 23 echoed this desire and acknowledged the gap by noting, "The cost calculation never seems to include things that people can do in their own lives to really take control of their health."

Participant 12 envisioned a system that would allow users to display the most relevant information and hide irrelevant information. As she explained, "It would have been nice to be able to then, once you at least eliminated a choice or if you had specific questions about something, being able to get more information in a more easily comparable way."

Participant 16 noted that, as someone who had recently moved to the area and did not have all of her files handy, an early warning about having some health information material available in order to complete the wellness credit would have been helpful: "I wished someone had told me about was the health assessment. I got to that question, or that part, and it was like, 'What's your blood pressure? What's your this? What's your that?' And I'm thinking, 'Oh my gosh, my medical records.' Luckily I brought them with me because my furniture is in storage."

Participant 9 was interested in a more flexible insurance system that would allow customization: "I would love for it to be more a la carte. If there was a plan that could be like, 'We'll pay for this many of this type of visit. You can get six specialist visits for free.' And pick your package, which you can do, but it's like a cable plan. When really, I just want to pick my channels."

4.8.9 Comparisons with Other Purchase Decisions

Participants were asked to compare the steps they took to select a health insurance choice with other purchasing decisions, such as a laptop or an automobile. Twenty-three participants estimated that the process was very similar to other purchasing decisions, whereas four participants spent less time and three participants spent more time on the decision about their insurance. Four participants expressed a desire for online reviews of the insurance coverage to assist with their decision-making process since they find reviews helpful for other purchases.

Twenty-three participants shared that the process they used to select a health insurance plan was similar to their behavior with other purchase decisions. Participant 28 summarizes it this way: "They'd actually be fairly similar. It's a cost/benefit analysis, regardless. ... You've got an idea of what you want. We'll say a car, for instance... You start with an idea you want and then you go, okay, this car company's got this model. This car company's got this model. Now you're looking [at] which of these fits all the basic needs? These three fit the basic needs. Okay. Now the stuff that you actually want, as opposed to need. Then, it becomes a cost/benefit analysis. The health care stuff is easier because you can sit down and do it all just right there on your desk without having to go talk to anybody necessarily, but it's the same process."

Four participants (P3, P9, P17, and P30) estimated they spent less time on insurance than other purchase decisions. Participant 9 attributed that to the time pressure of enrollment, "Because I have two weeks to make real decisions, it was much quicker. It was a more quick and dirty version."

Three participants (P1, P6, and P25) estimated that they spent more time on their health insurance decision than they generally do with other purchase decisions. In explaining that rationale, Participant 6 shared, "I spent more time on this probably. Health insurance seems like an important thing to me so I learned a bit more about it."

When reflecting upon purchase behavior, many participants spoke about the benefits of online reviews to help guide them. Four participants (P5, P20, P29, and P30) mentioned that it would also be helpful to have online reviews of health insurance to learn from others' experiences with the available plans. “One thing I do a lot when I make a bigger purchase … is I read online reviews, which sounds silly but … this is a good that you are purchasing, and you would love to hear about other people's experiences with it in a way that you can review restaurants on Yelp” (P5).

4.9 General Reflections on Health Insurance

In addition to discussing the specific coverage options available to them, participants also shared general reflections on health insurance. They talked about the psychological security they procure through health insurance coverage. Participant 26 underscored, “It's just, health insurance is important. Anything could happen anytime, so I didn't want to be in a situation where I let too much time go and forget about [enrolling].” Participants also indicated whether obtaining employer-sponsored insurance influenced their decision to take the position.

Participants shared their experiences and opinions about the Affordable Care Act, indicated a feeling that health care costs have been increasing over the past five years, and reflected on the health insurance system as a whole. “Since I have a health problem, I want to make sure that I get something that can cover me the most… This sounds so horrible to say, but it's like [there were] days I was like, if I didn't have any health insurance at all, I would've done better than I would if I had my health insurance. If you come in and you don't have any insurance, and there's a financial counselor [who] come[s] in and

talk[s] to you about getting indigent care... It's like you realize, I would've done so much better if I just walked off the street without any insurance… Sometimes, when I look at my medical expenses, I'm like, I'm killing myself just to go to the doctor. For me, medical insurance is just important because I want to make sure ... that I have the most coverage available for me. There's a lot of people who get sick. Those are the ones who have the GoFundMe accounts because they just cannot afford their medical care. It's insane" (P7).

Participant 24 also discussed the political aspects of the United States health care system: "I get very confused by it all. Yeah. I think it's expensive. It's a shame that it has to cost so much, and I guess with the whole political situation I'm like, why? Why did the government never intervene more and why is it privatized? Stuff like that. Probably stuff you don't need to know, or yeah, why is it privatized and why is it not more affordable?"

4.9.1 Psychological Security

Six participants (P3, P6, P8, P9, P13, and P18) spoke about the psychological security they associate with health insurance. Participants discussed their general security in the knowledge that they were covered, the out-of-pocket maximum as a source of reassurance, and the orientation session as a comforting experience.

When asked about what went into her decision-making process, Participant 9 (a married, White mother between the ages of 27-35 who works as an Associate Director) spoke of the importance of the psychological security she would obtain through the coverage options. "I make [my health insurance coverage choices] based on how secure, ultimately, I will feel once I have them." She further explained, "I like to feel secure that my insurance is such that if something catastrophic happens, I'm gonna be good." Participant 18 echoed this theme and spoke about how her personal experience with health

insurance led to this being a significant aspect for her. "Just knowing that if I need it I have it. That wasn't always the case growing up, so it's a big deal."

Participant 3 pointed to the out-of-pocket maximum as a source of psychological security. "I think [I] also considered whether there is an out-of-pocket limit. Unexpected things happen at some point in your life. It's sort of given me a psychological security that it's not going to break my life."

Participant 13 found the orientation session to be an additional source of psychological comfort: "Also to be in a room with a bunch of other people in the same thing was kind of psychologically reassuring."

4.9.2 Affordable Care Act

Eleven participants (P1, P2, P6, P12, P13, P15, P16, P18, P20, P22, and P29) discussed the Affordable Care Act during the course of the interview. Discussions included experience obtaining coverage through the Health Insurance Marketplace, seeking coverage outside the Marketplace, ACA compliance of the available plans, better coverage of women's health, and the ACA as a source of stress.

Five participants (P12, P13, P20, P22, and P29) had experience obtaining coverage through the Health Insurance Marketplace prior to being hired. "The last time I ended up picking my own insurance plan was through the Marketplace, and that ended up being fairly easy because there was only one that was a reasonable price what I thought, and I was fine with it, and I really didn't have any health care needs at that time" (P12). In contrast, Participant 22 found the amount of available choices overwhelming, particularly in comparison with the three available through her new employer: “It went a lot more smoothly than I anticipated because I remember looking into the Health Marketplace. I played around with that a little bit - I want to say a year or two ago - and there are just so many plans to choose from. It's just very complicated. The fact that there were only three [now], and it was fairly simple, so I

really appreciated that.” Participant 29 also drew comparisons between the experience of selecting a coverage plan through the Marketplace and through the three available employer-sponsored plans: "My previous time I used the Marketplace, so there were a ton of options there, but now it's smaller, but then I was looking at different companies, so with this one, I was just given the three to look at."

Three participants (15, 18, and 21) chose to select a coverage plan outside of the Marketplace when they were seeking coverage outside the employer-sponsored system. "I just went directly with Blue Cross Blue Shield. I had that long ago. The Marketplace seemed a little cumbersome when the law was first passed. I just thought, let's go with the company that you know" (P15).

Whether a plan was ACA compliant was a factor for three participants (P1, P2, and P6). "I will say that the 70/30 wasn't ACA compliant just made me hesitate a little bit" (P6).

Two participants (P5 and P13) reflected on better coverage of women's health following the passage of the ACA. "As a female I found, before the ACA, it was very hard to get coverage that wasn't astronomically expensive, because I have a womb and wombs are very expensive to maintain" (P13).

Two participants (P16 and P22) saw the Affordable Care Act as a source of stress. "And now all you hear on the radio is all the different things about companies opting out because of ... Obamacare, and it's stressful to people" (P16). Participant 22 shared his personal experience with the ACA penalty tax: "I was working four part-time jobs to make ends meet, and I made too much money to qualify for free medical care, but I didn't make enough money to actually be able to afford insurance. I was essentially being told, 'Well you're going to have to pay $500,' or whatever the penalty is for not having insurance. Great, here's another tax."

4.9.3 Increase in Costs over Past Five Years

When asked to reflect on changes over the past five years, ten participants (P2, P4, P9, P11, P14, P16, P22, P23, P25, and P27) spoke about the rising costs of health care. Specifically mentioned costs included copays (P2, P9, P22, and P25); deductibles (P9, P22, P23, and P25); monthly premiums (P14, P16, and P27); and emergency room visits (P9 and P22). Participant 27 summarized: "Rates have gone up higher. Coverage and benefits have tapered off. That's why I didn't go with insurance when I was part-time – the deductible was too high." Participant 22 explained that the increase in costs might actually lead to avoiding seeking care. "There used to be a $100 emergency room visit and a $50 urgent care, and then it's now $250. It makes you think twice, of course, about going to the emergency room."

4.9.4 Impact on Decision to Take the Job

The researcher also asked participants whether receiving health insurance influenced their decision to take the job. Twenty-one participants said that receiving insurance did affect their decision to take the job; "if it hadn't [come with insurance], I wouldn't have taken the job" (P26). Nine participants said it did not affect their decision; Participant 20 called it "a bonus."

For those who mentioned insurance as playing a role in the decision to take the job, the fact that it was a large, public, government institution was mentioned as especially appealing. "Working for the university, one of the huge things is the fantastic benefits, so that played a big role in me applying for the job. Not so much in accepting it, because I knew those benefits would be there, but that's why I applied. One of the reasons I applied" (P13).

4.10 Use of Health Insurance

Beyond discussions of insurance choice, participants also talked about future use of their coverage. Participants outlined what they were looking forward to, the peace of mind they obtain

through coverage, and what they were not looking forward to. "Until you actually use it with a particular condition, I think you don't know. You don't know what you're up against. But I felt like, if you got the basic, a reasonable deductible, and you know your copay and you've got coverage for different levels of prescription drugs, then it's a matter of navigating and hope that you won't need much of it" (P16).

Participants also detailed their most likely course of action if using their coverage did not go as expected and their desire to remain healthy in an effort to avoid using insurance all together. Some of the participants would be using health care services for the first time in a while because they were underinsured prior to obtaining their new positions. "I also need to follow up with the endocrinologist, which I haven't been able to do in about four years… I'm just hoping that I can monitor it better. I think with the wellness programs that they offer it could improve. For me, I'm not 100% sure where my health stands. I feel fine, but that doesn't mean anything. I've felt fine before and things were wrong. I think once I have that starting point and know where I am then I can go from there" (P21).

Participant 29 shared her concerns about using her new health insurance coverage: "I am kind of scared because, not scared, but it kind of encourages you to go to your PCP more, so I'm worried that I won't be able to get in, like I'll call and they'll be like, 'Oh, we don't have anything for the next two weeks.' If I'm really sick, then it would be hard to get in and then, I might end up using urgent care and paying $100 for that. I guess, the important thing it seems, is to be able to get those preventative screenings done."

4.10.1 Looking Forward to Having Coverage

Participants were asked what they were most looking forward to about their health insurance coverage. Participants indicated they were looking forward to having the coverage itself, not having to use it, seeking out specific services, taking advantage of the HRA funds, lower medical costs, and more.

Eleven participants said they were most looking forward to having coverage itself. "Just knowing that if I need it I have it. That wasn't always the case growing up so it's a big deal" (P18). Four participants (P3, P5, P6, and P14) look forward to not having to use their health insurance. "Hopefully, I won't have to use it" (P14).

Four participants (P1, P11, P22, and P27) were looking forward to seeking out specific services, such as Participant 11 who was happy to have "my medications to be paid for again. That'd be nice." Four participants (P12, P19, P23, and P24) were looking forward to taking advantage of their HRA funds to cut down on out-of-pocket expenses. Participant 12 saw the HRA as an incentive: "I really like the rollover thing. Health care's not something that's static, so I think it sort of is a little silly to not have anything to show for paying for a health insurance plan for a whole year where you don't get anything out of it."

Four participants (P24, P25, P28, and P29) were looking forward to having lower medical costs, like the "lower cost of medicines" (P24). Two participants each were interested in the following: preventive care/wellness visits (P6 and P15), being a part of a large health care system (P9 and P17), and lower premiums (P20 and P21). Two participants (P7 and P16) were not particularly looking forward to anything, and one participant (P4) was looking forward to trying it out.

4.10.2 Peace of Mind

Eight participants (P6, P7, P8, P9, P13, P15, P16, and P29) spoke about the peace of mind they procure through their health insurance coverage. Participant 8 explained, "I don't really get sick very often or really have too many health issues, so just kind of peace of mind, full coverage, and not spending too much money on it." In addition to the peace of mind through having access to health care, participants saw insurance as a source of financial peace of mind. "This might be super cliché, but some

peace of mind that if I get something abominable in my abdominals, that we'll have coverage, that won't bankrupt our family" (P13).

4.10.3 Aspects that Participants Were Not Looking Forward To

When asked about what they were not looking forward to, participants discussed health insurance literacy concerns, having to go to the doctor and/or use their plan, having to find a doctor, losing money on the coverage, the deductible, the copays, hearing that something is not covered, the monthly premiums, and the paperwork.

Eleven participants shared there was in fact nothing about which they were apprehensive. Participant 11 elaborated there was "not necessarily anything I'm upset about because it's a lot better than what I was kind of being covered for before." However, most participants (n = 17) were able to point to something they were concerned about. As one of the four participants (P1, P12, P13, and P25) who expressed apprehension about being confronted with health insurance literacy concerns, Participant 1 shared she was not looking forward to "probably learning about what ... I didn't know to ask questions about or what I didn't understand." Three participants (P8, P23, and P26) were not looking forward to having to go to the doctor and/or use their health insurance coverage. Participant 8, for example, was not looking forward to having to see a health care provider: "I just hate going to the dentist so much." Two participants each expressed anxiety about finding a doctor (P4 and P5), the deductible (P19 and P24), and losing money on insurance (P14 and P17). Participant 14 explained, "If you're healthy you're not using [it], you're not really getting as much as if you were unhealthy, you were sick or did have an accident." Participant 27 was not looking forward to hearing something was not covered, Participant 28 dreaded the monthly premiums, and Participant 30 cited the paperwork as a source of trepidation.

4.10.4 Most Likely Course of Action if Coverage Did Not Go as Expected

Participants were asked to reflect upon their most likely course of action in the event that their health insurance coverage did not go as expected. The most commonly mentioned strategies included changing plans during open enrollment (n = 13), calling the insurance company (n = 10), contacting a benefits officer (n = 5), and attempting to figure out what they misunderstood (n = 3). Some participants discussed using these type of strategies in conjunction with each other, such as Participant 14 who said, "I will probably pull the information out to see if I read something incorrectly and then, if it's a big disparity, I'll go back to the benefits people here."

Thirteen participants said they would consider changing plans during open enrollment in the event that the plan they selected did not go as expected. "If it didn't [go as expected], I might consider trying to do more research about the office visits for the consumer-directed plan. If I found that that is more suitable, then I might switch to that" (P7).

Ten participants guessed they would probably call the insurance company if something unexpected occurred with the coverage. "What I usually do is call a representative from an insurance company and [have them] explain things to me" (P3). Five participants (P2, P5, P14, P17, and P20) supposed they would contact a benefits officer for clarification. Participant 17 would "probably [contact] HR because I don't know who I'm supposed to talk to figure out what the problem is." Three participants (P1, P2, and P14) would attribute the misunderstanding to their own faulty interpretation of the plan. As Participant 14 (a single, White male between the ages of 27-35 with a higher-level position) explained, "unfortunately, I'd probably just say, oh, well I guess I misunderstood." Two participants (P9 and P11) admitted they would most likely complain if things went in an unexpected way. Participant 9 shared she would "moan and groan about it. Complain verbally. I would do it anyways, because that's what you do. It's insurance." Additional strategies included asking friends/coworkers (P10 and P25), doing nothing

(P23 and P29), contacting a consumer protection agency (P13), trying to make the best of it (P15), not going to the doctor as much (P19), expecting glitches (P21), and using alternative coverage (P22).

4.10.5 Desire to Stay Healthy

Five participants (P4, P7, P18, P22, and P23) spoke about their desire to stay healthy, often in relation to wanting to avoid using their health insurance. Participant 4 shared, "I still feel very lucky and that's also part of the reason that I'm like, 'Don't get sick. Don't overdo it.' I don't want to take medications; I don't like popping the pills."

Participant 18 (a married, American Indian woman between the ages of 27-35 with a Master's Degree) reflected on the risk factors affecting her family and the actions she takes to minimize her personal risk: "I think about my family's health history and what [the] risk factors are for that particular population, especially being an American Indian person, and you have to think about higher rates of diabetes and hypertension and those kind of things that have run in my family historically. Also, I think about my level of fitness and the things that I try to do to stay healthy and not fall into some of the things that I've seen people in my family fall into. It's probably easier for me to do that because I don't live in the area where they all are." These comments on the impact of family and geographic proximity to cultural influences present promising avenues for future research.

4.11 Participants Reflect on Their Health Insurance Literacy

Even outside of the formal Health Insurance Literacy Measurement (HILM), discussions of health insurance literacy cropped up in the interviews, including questions about terminology, lingering confusion, and confidence navigating the health insurance system. In talking through the coverage details, participants revealed both clear understanding and misunderstandings.

4.11.1 Questions about Terminology

Fourteen participants spoke about their unfamiliarity with insurance-related terminology. Participants used a variety of strategies to locate definitions including Google, consulting an individual, and reviewing the printed materials provided to them. Some participants revealed that they did not seek out definitions of unfamiliar terms. Other participants used Google to locate opinions about health insurance rather than specifically to locate definitions.

The confusing terms identified by participants included: coinsurance (P5, P13, P17, and P19); health reimbursement account (P2, P3, and P12); CDHP (P5 and P24); deductible (P8 and P13); premium credit (P1); preventive care (P5); inpatient hospital stay (P5); monthly premiums (P13); out-of-pocket maximum (P19); flexible spending account (P24); and primary care physician (P28).

Five participants (P3, P8, P12, P20, and P24) used Google to locate definitions of unfamiliar terms. Participant 12 shared that "it took a little bit of finagling search terms to be happy at least with the quality of the results... Lots of the other ones that were there were posted by insurance companies... There was information out there, it just took a little bit of filtering to find." Five participants (P5, P6, P17, P21, and P28) shared that while there were terms that they did not understand, they did not take any steps to locate a definition. "I remember looking at it in the session and being like I don't know what coinsurance means but ... I didn't look it up" (P5). Four participants (P1, P2, P8, and P24) consulted with an individual to obtain clarification on specific definitions. "I talked with my dad on the phone, and he told me about some of the terminology that I didn't get" (P24). Two participants (P13 and P19) looked in the provided insurance materials to locate information about unfamiliar terms to limited success. "I was still kind of confused between the whole out-of-pocket maximum, coinsurance, etc. I was not able to find those answers in the PDF" (P19). Some participants used a combination of several strategies to understand health insurance terminology better. "I looked some up and then I just Googled

a few things. Some of them too, I just asked my parents when I was talking about it with them because they have a much more extensive plan then I've had" (P8).

Participants 12, 13, 25, and 30 used Google to obtain opinions on health insurance coverage rather than solely locate definitions. As Participant 13 explained, "One thing we talked about, too, was whether or not we wanted the cancer coverage, and then we decided that, is this something we need? [So we] Googled extra coverage." Participants 25 and 27 also used Google to locate estimated health care costs.

4.11.2 Complicated Information

Ten participants (P3, P9, P12, P14, P15, P20, P21, P22, P23, and P24) characterized health insurance information as complicated during the discussions. "It's very complicated, a lot of overlapping concepts" (P21). Three of those individuals who reflected on health insurance as complicated were also the three individuals with the lowest HILM scores (P3, P23, and P24). The average HILM score for those who characterized health insurance as complicated was 2.99, comparing similarly with the average HILM score of 3.00 for participants in this study.

4.11.3 Confusion Remaining

Eleven participants shared that, even after going through their decision-making process, they still had lingering confusion. Participant 2 was confused about how parts of the coverage worked: "I found that a little confusing. I kind of understood here much more, ‘What am I going to paying out-of-pocket?’ As opposed to, ‘What am I going to get through this HRA? How much do I put in?’ It was just too much for me to spend even more time to try to understand it, so I just decided it's not worth my time to figure that one out" (P2). Some who sought clarification continued to remain in the dark. "I was still kind of confused between the whole out-of-pocket maximum, coinsurance, etc. I was not able to

find those answers in the PDF. My boyfriend tried to explain it to me unsuccessfully three times. That's a question for me about insurance in general" (P19).

It may be that individuals are not sure to whom to reach out. "I think sometimes the whole process is just a little bit intimidating with the whole coinsurance, out-of-pocket maximum, maximum this, minimum that. Sometimes I feel like I don't even know exactly who to ask about it" (P19).

4.11.4 Confidence Navigating Health Insurance

Confidence navigating the health insurance system came up in the interviews with twelve participants. Those with high confidence attributed their comfort to a variety of factors, including access to resources. The confidence levels shared by participants were reflected in their HILM scores.

Ten participants reflected positively on their confidence navigating health insurance. Participant 5 attributed her high confidence in navigating the system to her access to resources: "I feel like I'm equipped to navigate that system just given that I'm educated, and I have access to the Internet, and I have access to other sources in terms of like family and friends that I can reach out to. So, I feel equipped to navigate picking health insurance." This finding was born out in the HILM Scale 1 scores, which measures confidence. For the nine participants who spoke about their confidence in navigating the system, their average Scale 1 scores were 3.15, above the 2.85 Scale 1 average of all the participants in this study.

Two participants (P3 and P13) shared they were not as confident navigating health insurance. Participant 3 attributed his doubt in his ability to navigate the system to being new to the country: "I'm always worrying that the system is so new to me that I'm always hav[ing] the pressure of learning new systems. In this country, I have to say tax, health insurance, and car insurance, any insurance, and the health one is so complicated." This low confidence was reflected in the HILM scores for the participants

who spoke about their lack of confidence (P3 scored a 2.17 and P13 scored a 2.83). Their average Scale 1 score was 2.5, below the 2.85 average for all participants. Participant 13 shared this caveat for her Scale 1 answers: “It's hard to answer these questions, because if you were to isolate me alone to make these decisions, I would scale farther down. If I'm making these decisions with my husband, I feel much more confident, so I think I'm mixing up as I'm going down through this [measurement].”

4.11.5 Experience Working in Health Care

Six participants (P4, P5, P6, P7, P18, and P21) pointed to their experience working in the health care industry as a reason they are more confident navigating health insurance. The benefits to this experience included having a network of people to reach out to, observing emergency coverage without experiencing it, and greater familiarity with health insurance terminology.

Participant 5 (a single, White woman between the ages of 27-35 who works as a Research Manager) pointed to her experience in the health care industry as providing her with a network of people to reach out to with questions. "Maybe it gives me a slight advantage in terms of being, like, maybe I have research that other people don't have. I definitely feel like I can go to people in the office if I have a question about something."

As a health care provider, Participant 6 has observed the benefits of insurance coverage for emergencies even without having personally experienced it herself. “I've been lucky enough to never have any real emergencies in my life so it's easy to think, ‘Oh, I'll just go with the cheap one.’ Working in the hospital, it's kind of good to see this happen any time and people are really glad to have insurance.”

Participant 7 (a single, Black woman between the ages of 27-35 who works as a Business Services Coordinator) pointed to her experience working with health care billing as showing her what the terminology and coverage looks like in action: “One of the jobs I had before dealing with some of

that and looking at different stuff and knowing about coinsurance and out-of-pocket expenses and realizing how long it takes you to get to 100% to cover something."

4.11.6 Demonstrated Clear Understanding of Coverage

Fourteen participants demonstrated sophisticated understanding of health insurance concepts. The well-described concepts included the health reimbursement account, copays, deductible, out-of-pocket maximums, coinsurance, prescription coverage, and in-network versus out-of-network coverage. Examples of the descriptions provided by participants are included below.

Six participants (P3, P7, P17, P19, P22, and P25) provided thorough descriptions of *how a health reimbursement account (HRA) works*. "[The] 80/20 doesn't have this HRA where the CDHP does and from what I understand, I will start basically in a HRA account, ... and I'll have six hundred dollars to use" (P19). Six participants (P5, P7, P9, P10, P25, and P30) supplied strong definitions for *how copays work* with the plans. "So it looks like $30 for my primary doctor, and then $15 for the PCP that you chose in your health plan so that's something I would definitely take advantage of..." (P5). Five participants (P3, P7, P19, P20, and P25) demonstrated understanding of *how a deductible works*. "Our deductible is not covered by insurance, that I have to pay out of my pocket" (P3). Participant 19 explained the nuances of the deductible thusly: "the deductible for the 80/20 is $700, but if I go to just to see my primary care provider, then that's just a copay. It doesn't go into the deductible, but if I were to have an MRI per se, then that's not a copay, that pays towards the deductible."

Five participants (P7, P10, P20, P25, and P28) provided insightful examples of *how out-of-pocket maximums work* in practice. Participant 7 spoke about looking at "out-of-pocket expenses and realizing how long it takes you to get to 100% to cover something and thinking, 'Okay, so they'll cover at a 100%, but I'm stuck with the 3,000 like [I] have to pay $3,000 out-of-pocket.'" Four participants (P7, P10, P19, and P21) offered sound *definitions of coinsurance*. "Coinsurance then would be the percent of whatever

comes after the deductible that I would have to pay, that I would be responsible for" (P10). Two participants (P10 and P25) clearly explained *prescription drug coverage* in the available plans. While most health care costs are lower on the 80/20, the specialty prescription drug copays are, in fact, lower with the 70/30. Participant 10 described this surprising difference: "Your generics in the first couple of tiers are lower on the 80/20. Then the specialty drugs seem lower on the 70/30." Participant 12 provided a perceptive definition of *in-network versus out-of-network coverage*: "In-network and out-of-network refer[s] to which doctors are providers that the insurance companies have had arrangements with and services are then billed differently. Out-of-network most of the time being more expensive than in-network."

4.11.7 Demonstrated Misunderstanding of Coverage

Through the course of the interviews, five participants (P3, P4, P8, P16, and P23) demonstrated some misunderstandings around specific coverage items. Misunderstood coverage areas included ability to select a preferred physician (P4), coinsurance (P8), pharmacy coverage (P16), and required appointments (P23). On average participants who demonstrated misunderstanding scored lower on the cumulative HILM (2.82) than the average (3.00).

Participant 8 (a single, White woman between the ages of 27-35 with a Master's degree) demonstrated a misunderstanding when explaining *how coinsurance works*: "...The employer pays 80% of it, and I pay 20%." In this case, the insurance company pays the 80% coinsurance rather than the employer. This misunderstanding was reflected when Participant 8 completed the HILM, where she indicated she was slightly confident (score of 2) that "you understand health insurance terms." Her overall HILM score was 2.92.

Participant 4 (a single, Latina woman between the ages of 46-55 with a Bachelor's degree) shared that she had concerns about the *ability to select her preferred provider* in the CDHP: "There is

more flexibility for me to get [the 80/20], because I can go to any doctor, know that it's my 20%, and then I feel comfortable with, 'Okay if I don't like you, I can pick a different doctor.' This one [the CDHP] seems a little more constrictive in that this is it, this is the choices you're getting and you have to make one." In fact, the in-network list of providers is identical between all the coverage options at the study site institution. There would be no difference between the providers available for Participant 4 whether she selects the 80/20 plan or the CDHP. Perhaps surprisingly, Participant 4 indicated she was moderately confident (score of 3) that she would "look to see which doctors and hospitals are covered in each plan" when she completed the HILM. Her overall HILM score was 2.75.

Participant 16 (a married, White woman between the ages of 56-64 with a higher-level position at the university) revealed some misunderstanding surrounding the *pharmacy coverage*: "He mentioned the pharmacy was CVS, that's a pharmacy that I know. And I've had in the past, so I thought that was a good thing." While the pharmacy coverage is offered through CVS/Caremark, in actuality participants may have their prescriptions filled at a multitude of pharmacies and not just CVS pharmacy. This misunderstanding is not reflected in Participant 16's high cumulative HILM score of 3.67. None of the HILM questions specifically address this aspect of pharmacy coverage.

Participant 23 (a married, Asian-American man between the ages of 27-35 with a Master's degree) exhibited a misunderstanding surrounding *selecting a Primary Care Provider (PCP)*: "Well, I have an appointment because I had to take a PCP for this... So I had to make one appointment." Employees are asked to select a PCP as one of their wellness credits; however, it is not necessary to make an appointment with a provider to complete this wellness activity. Participant 23 scored the lowest HILM score of any participant, a 1.92.

4.12 Health Insurance Literacy Measurement Findings

The Health Insurance Literacy Measurement (HILM) is comprised of four scales, two of which were used in this study. The two selected scales measure confidence (Scale 1) and behavior (Scale 2) in selecting health insurance coverage (see Appendix 6). The average scores for the participants in this study are as follows: 2.85 on Scale 1 (confidence) with a standard deviation of 0.50, 3.14 on Scale 2 (behavior) with a standard deviation of 0.54, and 3.00 for the cumulative scores with a standard deviation of 0.49. Breaking the scores down by demographic measurements and other variables illuminate interesting trends among the participants.

The average cumulative HILM scores broken down by ethnicity/race are as follows (see Figure 28): Black or African-American 3.50 with a standard deviation of 0.35, Hispanic or Latino 2.75 with a standard deviation of 0.12, White or Caucasian 2.67 with a standard deviation of 0.41, and Asian/Asian-American 2.08 with a standard deviation of 0.45. The one American Indian participant had a score of 3.17.

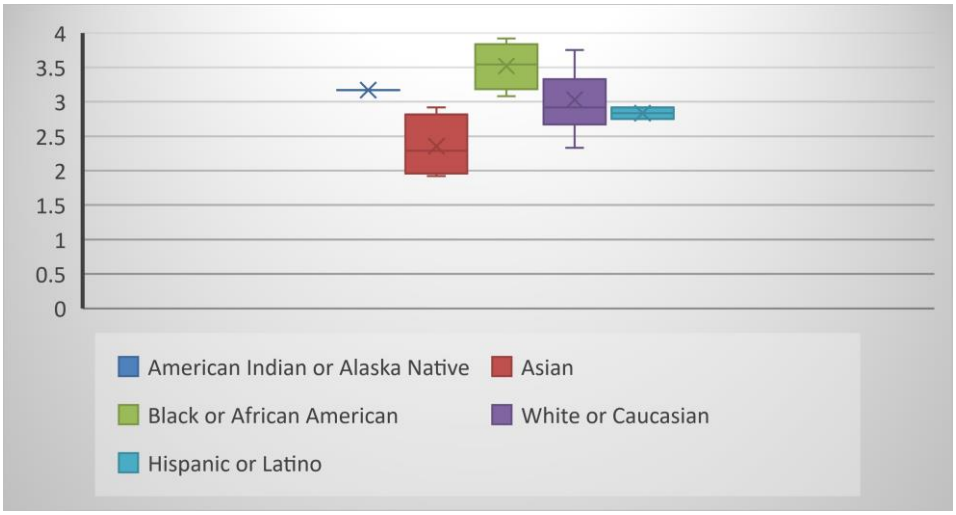


Figure 28: Cumulative HILM Score by Race/Ethnicity

HILM scores also varied depending on the coverage type that individuals selected. Those who selected the 80/20 coverage option scored highest using the HILM (average cumulative score of 3.16 with a standard deviation of 0.39). Those who selected the CDHP as well as those who selected the 70/30 plan scored an average of 2.67 (the standard deviation for those who selected the CDHP was 0.58 and both participants who selected the 70/30 plan had a score of 2.67). Because a CDHP often requires more health insurance literacy skills and active management of coverage, these findings are slightly surprising. As shown in the box-and-whisker plot in Figure 29, there is a wider range of scores for those who selected the CDHP, ranging from a cumulative HILM score of 1.92 to 3.75.

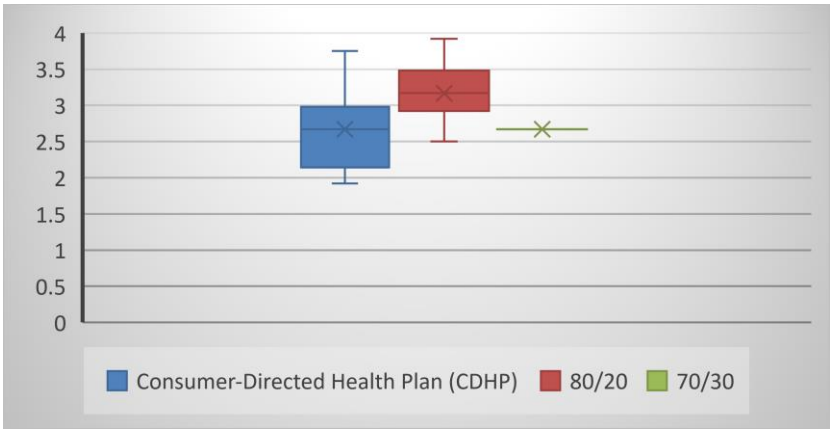


Figure 29: Cumulative HILM Score by Coverage Selection

The cumulative HILM scores for participants were inversely related to their amount of education (i.e., HILM scores decreased as education level increased). The average cumulative HILM score for those with some college was 3.75 (SD = 0.24), with a Bachelor's degree was 3.08 (SD = 0.38), with a Master's degree was 2.9 (SD = 0.46), and with a Doctoral degree was 2.71 (SD = 0.63). This difference was most pronounced for Scale 2 (the scale focused on behavior, see Figure 30), where those with some college scored a 3.92 (SD = 0.12), those with a Bachelor's scored a 3.28 (SD = 0.39), those with a Master's a 3.05 (SD = 0.55), and those with a Doctoral degree a 2.67 (SD = 0.53). As with all of the results collected from

this study, because of the smaller sample size (30 participants), no definitive trends can be claimed. However, these results present promising avenues for future research.

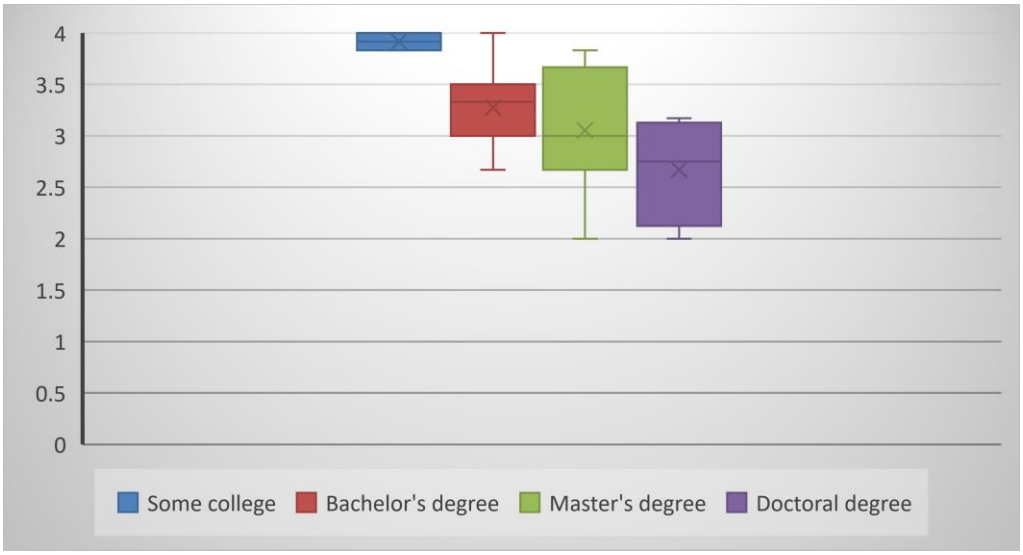


Figure 30: HILM Behavior Scale by Education Level

The average HILM score for the participants in this study (3.00) is slightly higher than that of other studies that employed the HILM. Participants in Bartholomae et al. (2016) and Brown et al. (2016) had a mean pre-test HILM score of 2.64 prior to a workshop designed to develop health insurance literacy skills (the mean post-test score was 3.24). One potential explanation for this difference is that 20.7% of participants in the Bartholomae and Brown studies had a high school diploma or less; however, further research is needed given that HILM scores decreased as participants' education levels increased in this study.

CHAPTER 5: DISCUSSION

In reviewing the Integrated Framework for Health Insurance Literacy (see Figure 15) with this study's findings, it is clear many of the variables identified in health insurance literacy literature were also present in participants' decision-making processes. Age and family size (i.e., coverage for dependents) were discussed as factors in individuals' choices. Education and race were shown to impact individuals' health insurance literacy skills in the HILM. Gender and income were the two variables not shown to have an impact, potentially because the participants were 80% female and the monthly premiums were low across the board (minimizing the role of income).

The plan characteristics and the plan information sources played a key role in individuals' health insurance decision-making processes, as demonstrated through the Micro-Moment Time-Line Interviews. Participants' health insurance literacy skills were explored through the HILM and through discussions focused on comparing the available plans.

The study's findings were used to develop a model of the health insurance decision-making process. In addition, this study identified information tactics used by individuals evaluating health insurance materials. The findings also shed light on the personal reflection individuals undertake when making their health insurance choices. The participants in this study characterized their health insurance choice as a shared decision, consulting others during their decision-making. The HILM, coupled with discussions during the semi-structured interviews, identified demographic implications of individuals' health insurance literacy skills.

5.1 Model of the Health Insurance Decision-Making Process

The Micro-Moment Time-Line Interviews were used to trace participants' decision-making processes. These findings were used to construct a model of the decision-making process (see Figure 31). Each of the steps was discussed in detail in the Results section and will be elaborated throughout the next paragraphs. The process is an iterative rather than a linear one and the steps can be repeated or conducted in a variety of sequences. The end result is that participants evaluate the choices available to them and select a preferred option. This model is closest to Klinkman's The Consumer's Choice of Health Care Plan Framework (see Figure 8), as they both include prior experience with health insurance, health status, expected utilization, and reviewing choices as variables.

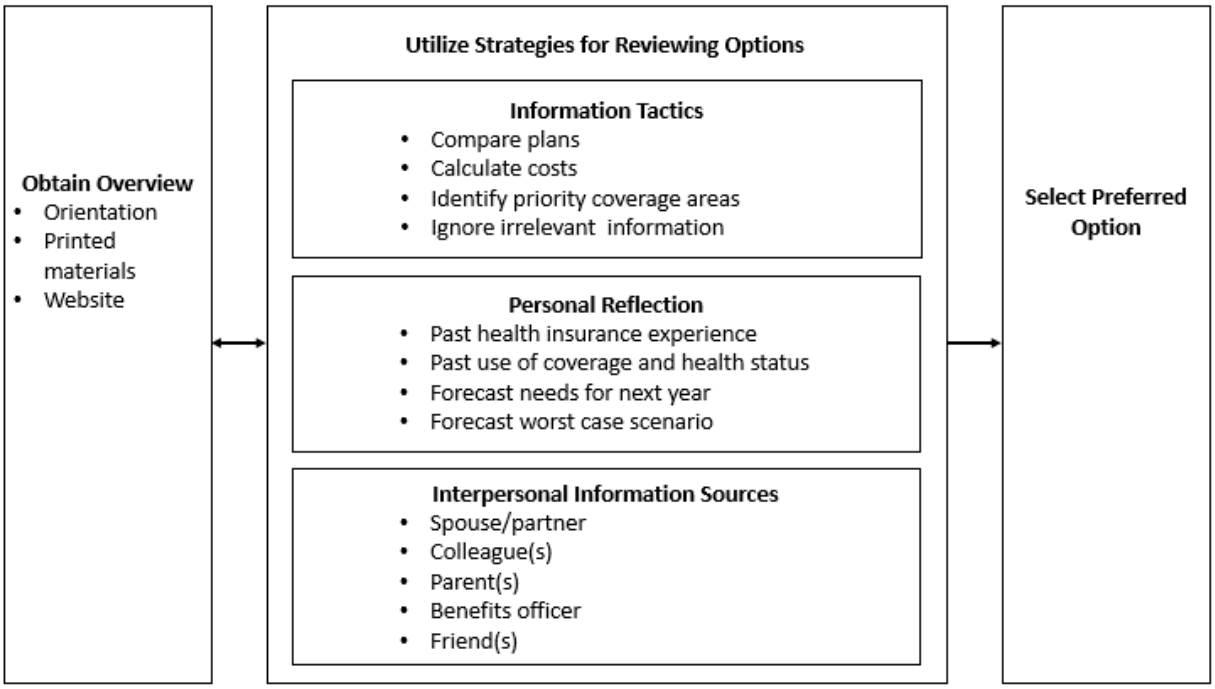


Figure 31: Model of the Health Insurance Decision-Making Process

As shown in the Model of the Health Insurance Decision-Making Process, participants' first steps were aimed at obtaining general, overview information of their choices. They reflected on the

orientation session and suggested addressing multiple learning styles, recognizing the bias that benefits officers may have when conveying information, acknowledging the personal reassurance they obtained from going through the orientation with others, and distributing the discussion time according to areas with the most questions. Participants also discussed reviewing the formal information materials, including the printed materials often used for overview information and the online materials often used for specific information.

The next steps outlined in the Model of the Health Insurance Decision-Making Process fall under the category of utilizing strategies for reviewing options. This includes using information tactics to focus on the most salient information, including selecting preferred information channels, performing cost comparisons, and ignoring irrelevant information. Participants also engaged in personal reflection about past and future use of health insurance; this included forecasting needs for the next year and in the event of a worst-case scenario. Participants also included consulting interpersonal information sources as a key step in their health insurance decision-making process. This is a novel contribution of both the Model of the Health Insurance Decision-Making Process, as well as this study in general, as health insurance has not traditionally been considered a shared decision-making process. All of these steps culminate in selecting the preferred option and will be discussed further throughout this Discussion section.

5.1.1 Obtain Overview: Orientation Session

The majority of participants (n = 21) pointed to the orientation session as a key step in their decision-making process, characterizing it both negatively and positively. Those who described it as unhelpful did so due to its general nature and the format style. While it may not be possible to customize the presentation beyond general information nor meet all participant information needs, it

could be possible to present the information in a variety of formats to accommodate multiple learning styles.

A few participants also shared the impression that the benefits officer was presenting the information in a leading way designed to sway new hires to enroll in some plans (e.g., 80/20 or CDHP) over others (i.e., 70/30). Benefits officers should be aware of the bias they may be imparting on enrollees who may be searching for advice on what to do.

The orientation sessions that participants attended were held face-to-face and in person. At least one participant described the session as psychologically reassuring given that the new hires were all going through the same process together. This may be a compelling reason to continue to hold in-person orientation sessions in large institutions where this is possible.

Participants reflected on the source(s) of the majority of their questions. Most participants either had the most number of questions about health insurance (n = 8), retirement (n = 8), or both health insurance and retirement (n = 6). This supports distributing the majority of orientation time discussing health insurance and retirement over other benefits information, including annual leave, tuition remission, and other resources.

5.1.2 Obtain Overview: Printed Materials and Website

Most participants (n = 24) used the printed insurance materials distributed at the orientation session towards the beginning of their health insurance decision-making process as they were surveying the information landscape and beginning to make comparisons between plans. Participants identified the printed materials as a helpful way to obtain a general overview of the choices, supporting the continued distribution of printed information rather than referring new hires to solely online materials.

Several participants (n = 16) used the state health plan website to continue this general overview and to research answers to specific questions. However, given that 88% of American adults use the Internet and "Internet usage is near ubiquitous" (Pew Internet, 2017), it may come as somewhat of a surprise that in this study only 16 participants (53.3%) reviewed the website as part of their decision-making process. The explanation from Participant 3 that the printed information was already overwhelming may help explain this phenomenon. The uses and gratification theory (Katz, Blumler, & Gurevitch, 1974) may also explain this by suggesting that individuals prefer particular types of media (in this case printed media) to satisfy their health insurance information needs.

Because all of the participants in this study had completed at least all of high school, the fact that the side-by-side comparison chart rated a 12.4 grade level with the FORCAST readability formula may not be a huge concern for the studied population. However, because institutions such as the study site employ individuals with a variety of educational backgrounds, institutions and insurance companies should consider reviewing their materials for comprehension by individuals of a variety of educational backgrounds. The open enrollment guide, which rated a 10.9 grade level, appears to be a step in the right direction, with more narrative explanations and scenarios designed to elucidate the options.

5.1.3 Utilize Strategies: Information Tactics

Comparing plans side-by-side was a common decision-making strategy among participants. Participants especially liked side-by-side comparison charts for obtaining summary information and comparing costs. The fact that users identify charts as an especially helpful way to compare plans supports the continued offering of online calculators that allow users to input their particular health coverage needs and determine how the plans compare.

When selecting between the available plans, all 30 participants mentioned cost as a significant factor. However, participants varied on which costs were the most meaningful to them. Some

considered the monthly premium costs to be most important while others focused on the coverage costs within the plans (e.g., deductibles, copays, etc.). Research has demonstrated that individuals often do not select the coverage plan most appropriate for their needs (see the Research in Health Insurance Choice section). However, it may be necessary to conduct research regarding individuals' preferred cost structures. Perhaps individuals have a personal preference for the costs they are more willing to take on, either the monthly premiums up front or the copays at the time of treatment. In other words, it is possible that individuals understand that they have lower health care needs and that the 70/30 plan could cover them sufficiently at lower monthly premium costs to them but that they are more comfortable paying more money up front to minimize the risk of having to pay more money for coverage when needed.

Interestingly, the 80/20 plan has the highest monthly premiums of all three plans and yet the low cost of the monthly premium was still cited as a reason for enrolling in the plan. This is most likely because, even though it requires the highest monthly premium, it is still fairly low (approximately $15 for individual coverage when participants complete all available wellness credits). Further exploration of this phenomenon in populations where the monthly premiums of their choices vary more would be of use.

Participants in this study demonstrated a strong preference for costs to be structured as fixed amounts (e.g., $20, $150) over percentages (e.g., 15% coinsurance). The fact that individuals did not know the specific costs of care and, therefore, could not calculate the percentages they would be responsible for was a deterrent. Insurance providers should consider how costs are structured when developing plans. It may be helpful to enrollees to provide sample costs to demonstrate what the percentages might equal when seeking care.

The trend for individuals to eliminate or ignore information lines up with the research on health insurance choice set size stating that the fewer options available to individuals, the better they are at making a decision (see the Research in Health Insurance Choice for further discussion). This desire to eliminate irrelevant information also presents a compelling argument for creating and providing access to interactive health insurance materials where users could hide irrelevant information (e.g., dependent coverage) or an entire coverage option (e.g., 70/30 insurance plan).

5.1.4 Utilize Strategies: Personal Reflection

Participants pointed to self-reflection as a key step in their decision-making process, including past and future use of health insurance and health care services. Participants identified experience with particular types of coverage, past use of coverage, and experience with the U.S. health care system as affecting their decision-making style. They also forecasted their anticipated and unanticipated (e.g., a major accident or unexpected medical diagnosis) health care needs. Forecasting regarding health is a recently developing research field and an area for further exploration.

5.1.5 Utilize Strategies: Interpersonal Information Sources

Participants consulted spouses, partners, colleagues, parents, benefits officers, and friends during their decision-making process. Participants selected individuals with which to confer due to their domain expertise, familiarity with the available plans, and awareness of health care needs. The discussions happened through a variety of media, including in person, by phone, through text, and via social media. This preference for interpersonal information channels echoes Johnson and Case's (2012) statement that "interpersonal communication is the preferred mode of communication for [health] information seeking" (p. 163).

Health insurance decision-making research has traditionally considered the process as an individual one, studying individuals' health insurance literacy levels and habits in isolation. This study

offers a significant contribution in acknowledging that health insurance decision-making is often a shared process where others are consulted and included in the decision.

5.1.6 Select Preferred Option

Building on the overview information they were given, participants used a combination of strategies to review their options, including information tactics, personal reflection, and consulting interpersonal information sources. After reviewing the options available to them, participants selected their preferred option. Participants talked about testing out different types of coverage and the comfort they found in the ability to switch plans, suggesting that individuals do not see health insurance selection as a one-time event, but rather a process that may evolve over time due to experience and changing health care needs.

As new hires, many of the participants in this study had recently moved to the area. Being in a new place presents an extra challenge to the health insurance decision-making process. Individuals are investing significant amounts of time settling into a new area, which may limit their energy for thoroughly evaluating their health care needs and their available coverage options. In addition, for individuals needing to transfer or fill prescriptions shortly after moving, there may be unanswered questions about where they can be filled and under which insurance plan.

5.2 Feelings about Risk

The health insurance decision-making process includes aspects outside the domain of information science. The fact that so many participants reflected on the psychological security they obtain when they have insurance coverage points to larger factors at work when individuals consider their health insurance choices. The risk-as-feelings hypothesis (Lowenstein, Weber, Hsee, & Welch, 2001) offers one potential way of exploring the role that emotions and affect play in health insurance

decision-making, given participants' reflections on psychological security and illogical choices during their decision-making processes.

5.3 Health Insurance Use

One thing that was clear from participants' reflections is that those who had no coverage or were underinsured were actually less likely to seek out health care, underscoring the relationship between insurance coverage and health disparities. A few participants talked about their relief in finally being able to be seen by a doctor and obtain guidance on health care concerns they had to ignore before obtaining health insurance coverage through their new employer.

Even those who had always had health insurance coverage noted that rising health costs were a factor in health care coverage. Participant 22 explained that the increase in costs might actually lead to avoiding seeking care: "There used to be a $100 emergency room visit and a $50 urgent care, and then it's now $250. It makes you think twice, of course, about going to the emergency room." Even if individuals have health insurance coverage, high costs may ultimately lead to negative health outcomes if individuals go untreated for significant health care needs.

5.4 Participants' Health Insurance Literacy

Through the course of the interviews, participants reflected on their own health insurance literacy, speaking about unfamiliarity with insurance-related terminology, lingering confusion about the process of enrolling, and experience working in the health care industry as a reason for increased health insurance confidence. Some of the health insurance literacy findings are related to individuals' demographic groups.

5.4.1 Demographic Implications

Perhaps surprisingly, the cumulative HILM scores for participants were inversely related to their amount of education (i.e., HILM scores decreased as education level increased). This may be counterintuitive and does not match the majority of health insurance literacy research that demonstrates education is a factor in individuals' health insurance literacy levels (see the Health Insurance Literacy section of the Literature Review for further discussion). As with all of the results collected from this study, because of the smaller sample size (30 participants), no definitive trends can be claimed. However, these results present promising avenues for future research. It is possible that those with higher levels of education are more aware of their limited understanding of health insurance and, therefore, self-reported lower confidence in the HILM, which measures self-efficacy rather than knowledge. It is also possible that other factors (e.g., experience working in the health care industry) led participants with lower education levels to feel more confident navigating health insurance. In addition, those who have lower levels of education may have more invested in the decision and potentially more experience choosing insurance, leading to higher confidence in navigating the health insurance system. This could be a limitation of the HILM, which appears to work differently than other measurements of health literacy.

Familiarity with the United States health care system culture played an important role in individuals' perceived health insurance literacy abilities. The two participants most familiar with non-U.S. health care systems had the lowest HILM scores of any of the participants. It can reasonably be concluded that a lack of familiarity with the health care and health insurance system in the United States leads to a lower HILM score. Individuals who are new to the United States will most likely require additional assistance navigating the U.S. health care system including insurance.

The average cumulative HILM score for those selecting health insurance for the first time was 2.82, also below the average HILM score for participants in this study (3.00). This data suggests that unfamiliarity with selecting health insurance may be reflected through lower health insurance decision-making self-efficacy, as demonstrated through HILM. There may be different types of information needs for those selecting health insurance for the first time or those more familiar with non-US health care systems.

5.5 Possible Solutions

Participants had creative ideas for resources that would support their health insurance choice. One of the popular suggestions was for a dictionary of insurance terminology, including definitions for coinsurance, health reimbursement account, CDHP, deductible, premium credit, preventive care, inpatient hospital stay, monthly premiums, out-of-pocket maximum, flexible spending account, and primary care physician. Information providers may consider linking to helpful dictionaries where the information is needed most, for example, within a health plan website and information materials.

Another suggestion made by a few participants was step-by-step enrollment instructions. Many participants reflected on the helpfulness of (and often desire for more) slides that specifically show the steps of how to enroll. In this case, participants would go back and review the printed PowerPoint slides from the orientation to see where to go to enroll in the online system. Figure 32 shows the notes that Participant 26 took to supplement the official, provided materials, which did not go into sufficient detail for her needs. Participants shared that more slides of specific steps and annotations denoting exactly where to click would be most helpful.

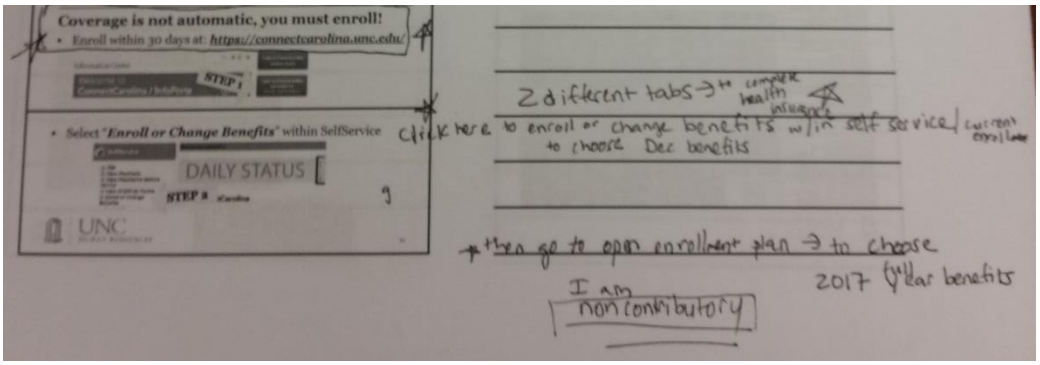


Figure 32: Participant 26's Annotations of the Enrollment Instructions

Participants also expressed the desire to customize the information displayed in a comparison chart. Participants talked about mentally eliminating options as a heuristic employed to help them simplify the information for their decision-making process. One potential design suggestion might be an interactive chart comparing available options which would allow participants to remove information from the chart that is not as relevant to them, for example a coverage option (e.g., 80/20, 70/30, CDHP) or coverage area (e.g., prescription information). This would help them only have to review the information most pertinent to their particular needs.

Participants spoke about a desire for flexibility and choice in their coverage. This may reflect a perceived lack of control over health insurance. Participants are given a limited number of fixed options and do not have an opportunity to customize coverage. This appeared to feel constraining for some participants (P9 and P18). One potential solution might be to have participants select one type of higher-cost coverage, such as either emergency or cancer coverage. Both might be expensive things to cover but participants could reflect on their likelihood to experience one or the other and select the coverage that best fits their need. Supplemental coverage seems designed to provide some tailoring, but it appears that a few participants wanted this kind of customization in the basic health insurance coverage as well.

Whereas it might be more convenient for people to choose which items they would want to cover, the health insurance system is structured so that individuals who are healthier subsidize the coverage of those who are less healthy. If individuals only select to cover a small number of things (and pay lower rates for this minimized coverage), this would remove individuals from the system who offset the costs of those who require additional coverage.

5.6 Limitations

This study only captured the decision-making process of individuals who elected to enroll in the university's health insurance plans. It did not capture those individuals who elect not to enroll and pursue health insurance through outside options (e.g., spouse's coverage, Health Insurance Marketplace, etc.) or who elect not to enroll in any health insurance. This study also focuses specifically on the health insurance plan decision-making process. This study does not capture the health insurance literacy aspects that govern the use of health insurance.

The researcher hypothesizes that the low monthly premiums across the board (i.e., $15 per month for the most expensive plan and $0 for the other two when all wellness credits are completed) may confound some of the results regarding cost comparisons. Further research should be conducted to determine the role that monthly premium costs play in individuals' decision-making process.

Because this study was conducted between August and October, it occurred at a time when participants had to consider their choices for the remainder of the year as well as their open enrollment selections for the next year. Several of the participants interviewed in August talked about how they would have to make the decision again in October for open enrollment and how that played a role in their decision-making process. It is possible that the participants interviewed early in the study were not investing as much in the decision-making process because they were going to be selecting again shortly.

Another potential limitation is the variance in the amount of time between when participants selected their health insurance plan and when the interview was conducted. It is possible, for example, that those who were interviewed immediately following the process may have had a richer and more accurate picture of their decision-making process than those who were asked to reflect back on the process seven days later.

Given that so many people make their health insurance choices in conjunction with other individuals, asking an individual to fill out the HILM may come with its limitations. Participant 13 shared this caveat for her Scale 1 answers: “It's hard to answer these questions, because if you were to isolate me alone to make these decisions, I would scale farther down. If I'm making these decisions with my husband, I feel much more confident, so I think I'm mixing up as I'm going down through this.” Researchers should acknowledge health insurance choice as a shared decision-making process when assessing individuals’ health insurance literacy levels.

The majority of participants in this study were female (80%), which may limit its applicability to strategies adopted by all genders. Participant 14 (a male) offered a potential explanation for why not as many men volunteered for the study: “I think probably ... I'm going to say theoretically, that guys probably don't want to say that they don't understand something. Health insurance and retirement, I mean, it's complicated.” For future studies of health insurance choice, it may be necessary to employ a screening questionnaire to obtain equal distribution of genders.

Participants were recruited at new hire sessions, and therefore, most of them were seeing the health insurance information for the first time. However, some people in attendance at the sessions were being rehired in the system or returning to the university system. So while the goal in recruiting new hires at the employee orientation was to recruit participants who were reviewing the specific health insurance choices for the first time, this was not the first time some of the participants were

encountering information about these specific plans. This may influence some of their decision-making behavior as this was not completely new information to them, and they may have had past experience with these specific plans. This may be a limitation of the study as not all participants were completely unfamiliar with the options available to them. For future studies of this nature, it would be recommended to add a screening question about whether or not the participants were completely new to the university system.

Additionally, not all of the codes identified during qualitative analysis are discussed in this dissertation, as they were outside of the scope of the study. Those codes include proof of coverage needed; supplemental insurance coverage (e.g., critical illness, cancer insurance, accidental death and dismemberment coverage, etc.); technical difficulties with the online system; and wellness credits. These may present areas for potential future research.

5.7 Future Research

As discussed in the Limitations section, because this study focuses on individuals enrolling in the university's health insurance plans, it will not capture those who decide not to enroll through their employer. A future study may pursue the decision-making process that leads to seeking coverage outside of an employer (e.g., those that procure coverage through a spouse or seek private health insurance through other available options). In addition, because this study is limited to a setting with three specific health insurance plan options, the results may not be as relevant in settings with different plan types and a different number of choices.

Many people spoke about using the time between when they enrolled in university coverage and annual open enrollment to test out their coverage and find out answers to their lingering questions. Because the researcher did not conduct follow up interviews with the participants, this study did not collect information about whether or not participants were fully able to test out their coverage or obtain

answers to their remaining questions. It might be interesting to conduct a follow up study with participants six months after their coverage begins to learn if it went the way they expected and to see if they did indeed look into changing coverage during open enrollment, and if they ended up searching for answers to those remaining questions.

During the course of discussing health insurance enrollment, several participants reflected on the challenges faced when selecting a new physician. New enrollees are asked to identify a primary care provider as a wellness activity during enrollment to save money on their monthly premium. In addition, many new hires have recently moved to the area and do not have a pre-established relationship with a health care provider in the area (i.e., an in-network provider). A future research study could consider the strategies that individuals use to select a physician when they are new to an area or need to select a provider for health insurance purposes. Obtaining physician recommendations came up several times during the interviews and is another area of potential exploration either in conjunction with health insurance enrollment or as a separate research question.

Participants were asked to reflect on their priorities at the beginning of the semi-structured interview and many began ranking their priorities without being asked. A follow-up study could look at ranking health insurance priorities as a part of the decision-making process. A researcher could use notecards to write down everything that goes into a person's decision-making for health insurance (e.g., cost, predicted use, health of children, copays, etc.). Then participants could be asked to sort the priorities in order of importance. This may shed some light on how individuals structure their priorities while making their decisions.

Additional research looking at the detailed knowledge needed to understand health insurance fully is warranted. For example, one participant incorrectly identified physicians as paying the remaining amount after coinsurance, when, in fact, the insurance company pays the remaining amount. Asking

specific questions designed to gauge deeper understanding would provide a more thorough picture of individuals' health insurance literacy skills.

A quote from Participant 18 inspired another potential research area: "Ten years ago, I was really young ... I was just like okay sign, sign, sign, sign, I didn't really think about it… It was kind of like development in a way, like a transition, then once I got [to] the age of thinking about having kids, it meant something different… The past couple years I went back down to the 70/30, like I'm not having kids anymore... Now I'm like okay, you got a new job… I make a little bit more money. Maybe I should start thinking about what could happen and preparing for those things." This longitudinal look at how insurance choice may develop over time presents promising areas for future research on how health insurance behaviors evolve, building on life trajectory and illness trajectory research.

Because intangible aspects came up during the interview (e.g., psychological security, risk), future research could be focused on the affective (rather than cognitive aspects) of the process, such as personality and health insurance choice. Research could look at how individual personalities might make some people more open to the unknown and trying new things or might make them more likely to cover themselves for unknown disasters.

Some of the participants in this study reflected on how they manage their health insurance information. A future study could use methods common in personal information management studies to observe how people manage their health insurance information. Critical incident interviews and participant observation are two research methods that may be appropriate for studying personal health insurance information management.

In addition, a future research avenue ripe for exploration is the area of use of health insurance. Many studies have focused on health insurance choice, fewer have focused on individuals' use of health insurance coverage. Future research could focus on the literacy issues individuals face when using their

health insurance coverage. Additional areas of potential research include educational campaigns that could assist with health insurance enrollment, the role of forecasting during health-related decision-making, and how the use of information tactics may vary based on HILM scores.

CHAPTER 6: CONCLUSION

The findings of this study offer several contributions to the field of health insurance literacy research, including the Model of the Health Insurance Decision-Making Process (see Figure 31) and the acknowledgement of health insurance decision-making as a shared decision-making process. This research study found that choosing health insurance often parallels the process individuals go through in making other purchasing decisions. A majority of participants (n = 23) estimated the process was similar to their usual purchase behavior, supporting the application of these findings to other choice scenarios, such as making a large purchase (e.g., a car, laptop, or home) or selecting a retirement plan.

Because people review insurance materials and make their decisions in tandem with other individuals, convenient ways to share the materials would be a helpful tool. Some participants talked about reading the printed materials side-by-side with another person while others talked about reading them aloud over the phone. Insurance companies and human resources departments should look for ways to facilitate sharing information about the health plans with others involved in the decision-making process (e.g., spouse or parent).

Participants also expressed a need for unbiased information resources they could use to obtain clarity on topics with which they are unfamiliar (e.g., CDHP). This sentiment offers a promising opportunity for librarians to provide information resources, as they may be best equipped to locate sources outside of those with a vested interest (i.e., insurance companies). Also, participants relished the opportunity to share advice when asked. There might be a good amount of interest in user-driven or crowdsourced websites where users could review insurance plans and share guidance on how to select a plan.

This study's results also offer several concrete examples for ways in which individuals can be better supported during the health insurance decision-making process, including improving health insurance informational materials and supporting one-one-one assistance from information professionals or Human Resources officers. This study's findings encourage improvement of health insurance materials and provide a guide for those seeking to create materials to support this decision-making process. For example, insurance companies and Human Resources officers should consider presenting information in a variety of formats to assist individuals with a variety of learning styles (e.g., auditory, visual, hands-on, etc.). One example to bridge the gap between the auditory orientation session and visual learners would be if a benefits officer could link the orally presented materials to the specific, relevant page numbers in the printed materials to help visual learners connect with the material.

Because participants identified printed materials as a preferred method for obtaining overview information about their choices, Human Resources departments should consider continuing to distribute printed information (rather than referring to online-only materials). However, participants in this study also had creative suggestions for ways in which the materials could be improved. For example, participants spoke about forecasting expected use of health insurance in the upcoming year; inviting enrollees to formalize these reflections through worksheets or other means may help support the decision-making process.

Several of the information design suggestions offered by participants work best in an online environment. Participants' desire to eliminate irrelevant information indicates that creating and providing access to interactive health insurance materials where users could hide irrelevant information (e.g., dependent coverage) or an entire coverage option (e.g., 70/30 insurance plan) would be helpful. Benefits officers could consider better promotion of already available online calculators since only three

participants in this study mentioned using the online benefits calculator as a part of their choice but many individuals reflected on the benefits of calculating expenses as part of the decision-making process.

The demonstrated difficulties with insurance terminology suggest that information providers should consider linking to helpful dictionaries or glossaries, particularly when most helpful, such as within a health plan website. One possibility might be the inclusion of a pop-up window so that a definition is provided when a user hovers over a word. Information providers should particularly consider what resources could be designed for populations who may be less familiar and have less experience with the U.S. health care system, such as first-time enrollees and those more familiar with non-U.S. health care systems.

To obtain information on their health care needs, participants used creative means to locate specific answers, such as using Ctrl+F within a PDF document. Insurance information providers should consider facilitating multiple methods for locating specific information within online content, as currently much of it is presented in PDF format. Developing finer grained searching capabilities would be appropriate to allow users to locate the most helpful information for their anticipated needs.

The findings presented in this study may be of particular use to librarians and other information professionals who seek to support this process and provide access to quality health insurance materials. In particular, the results of this study could be of assistance to health insurance information mediators such as ACA Navigators and Human Resources officers. The results of this study suggest that individuals would like more guided assistance with the health insurance decision-making process, indicating that the study has policy implications for greater focus on and funding of quality information assistance, as well as more concentrated attention on the readability of health insurance materials.

It is also important for information mediators providing health insurance enrollment assistance to be aware of the bias they may be conveying to those asking for guidance. Participants in this study spoke about benefits officers cautioning against particular plans. Information professionals should be cognizant of the strong role their advice might play for enrollees searching for answers on what to do.

Employers may also be interested in the results of this study. Large employers may currently be subsidizing insurance coverage which individuals are not getting the maximum value out of (e.g., individuals who select greater coverage than their health care utilization warrants) and, therefore, may be losing money on unnecessary health care coverage for employees. Larger employers, in particular, save large amounts of money when their employers are savvier insurance purchasers. Through better understanding of health insurance choices, employers may be able to provide more effective assistance and guidance with the health insurance decision-making process.

In summary, this qualitative study offers unique contributions to the field of health insurance literacy research by presenting an in-depth look at individuals' health insurance decision-making process, as presented in the Model of the Health Insurance Decision-Making Process. This study described the steps that go into an individuals' decision-making process, the health insurance literacy barriers they face, the information tactics they use to compare available plans, the personal reflection they undergo to forecast which plan will best suit their needs, the interpersonal information sources they consult for personalized advice, and their strategies for selecting their preferred choice. In a time when more people are enrolling in health insurance than ever before, understanding the literacy challenges presented during health insurance enrollment can help information professionals create more effective information materials and provide evidence-based one-on-one assistance.

APPENDIX 1: RECRUITMENT MATERIALS

Promotional Brochure Side 1:

RESEARCH CONTACT INFO

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UNC APPROVAL

This study will be submitted for approval by the University of North Carolina at Chapel Hill (UNC-CH) Institutional Review Board.

FUNDING SOURCE

This study is being conducted towards completion of a PhD in Information and Library Science.

This study is funded by the Medical Library Association (MLA) Thomson Reuters/MLA Doctoral Fellowship.

UNC SCHOOL OF INFORMATION AND LIBRARY SCIENCE

Principal Investigator: Emily Vardell

Version: February 28, 2016

Help Us Understand Health Insurance Choices

A research study about how people understand health insurance terms and make health insurance decisions.

Promotional Brochure Side 2:

WHAT I HOPE TO LEARN

This study will give us information about how people understand health insurance concepts and make health insurance decisions. I will be interviewing new employees to understand how they make their health insurance choices.

WHAT WILL I BE ASKED TO DO?

Research participants will be asked to complete two short questionnaires and an in-person interview.

When you are ready to make your health insurance selection, please contact me so that we can set up a time to talk about your health insurance choices (evardell@unc.edu).

The questionnaires and interview will take about 1 hour to finish.

TO PARTICPATE YOU MUST BE:

- A new employee selecting health Insurance
- English Speaking
- Ages 18-64

You must meet all criteria to participate in this research study. Your participation is optional.

STUDY LOCATION

I am ready to come to your office or wherever you plan to make your health insurance decision. I can also offer a quiet place for us to meet in on the campus , if that would be your preference.

PAYMENT

You will receive a $25 Target gift card for the time spent completing the two short questionnaires and the interview.

NEED MORE INFORMATION?

For additional information or to find out how you can join the study, please contact me using the contact information on the back of this brochure.

Subject: Research study on health insurance

Thank you for your interest in my study! As was mentioned during the orientation session, I am conducting a research study about how people understand health insurance terms and make health insurance decisions. I will be interviewing new [university] employees to understand how they make their health insurance choices.

Research participants will be asked to complete 2 short questionnaires and an in-person interview. The questionnaires and interview will take about 1 hour to finish.

When you are ready to make your health insurance selection, please email me so that we can set up a time to talk about your health insurance choices. I would like to talk with participants selecting their health insurance choice either while they are going through the process or no more than 7 days after they went through the process in [online system]. I am ready to come to your office or wherever you plan to make your health insurance decision. I can also offer a quiet place for us to meet in [building name] on the [university campus] campus or [library name], if that would be your preference.

If selected to participate, you will receive a $25 Target gift card for the time spent completing the 2 short questionnaires and the interview. All materials collected during the study will be kept confidential. Please email me if you are ready to set up a time for us to meet.

Thank you for your time,

Emily

Emily Vardell, MLS
PhD Student and Teaching Fellow
School of Information and Library Science
University of North Carolina at Chapel Hill

Subject: Setting at time for your participation in my study on health insurance

I am so glad to hear you are available and interested in participating in my study. Let's plan to meet at X am/pm in X Hall.

During our meeting time, I will ask you to complete 2 short questionnaires. Then we will spend most of the time focusing on your health insurance decision. I will sit with you as you make your health insurance choice in the [university online] system. I will then ask you questions about your experience. The questionnaires and interview will take about 1 hour to finish.

I am also very interested in seeing any notes that you took about your health insurance options. If you could please bring any of your [university] health insurance informational materials with you to our meeting, I would be grateful.

If you need to contact me between now and our meeting, please send me an email or contact me on my cell phone at XXX-XXX-XXXX.

Thank you for your time,

Emily

Emily Vardell, MLS
PhD Student and Teaching Fellow
School of Information and Library Science
University of North Carolina at Chapel Hill

APPENDIX 2: CONSENT FORM

University of North Carolina at Chapel Hill
Consent to Participate in a Research Study
Adult Participants

Consent Form Version Date: 6/8/2016
IRB Study # 16-1554
Title of Study: Health Insurance Literacy: How People Understand and Make Health Insurance Purchase Decisions
Principal Investigator: Emily Vardell
Principal Investigator Department: School of Information and Library Science
Principal Investigator Phone number: (919) 966-3589
Principal Investigator Email Address: evardell@email.unc.edu
Faculty Advisor: Claudia Gollop
Faculty Advisor Contact Information: (919) 962-8362

Funding Source and/or Sponsor: Medical Library Association (MLA)

What are some general things you should know about research studies?
You are being asked to take part in a research study. To join the study is voluntary.
You may refuse to join, or you may withdraw your consent to be in the study, for any reason, without penalty.

Research studies are designed to obtain new knowledge. This new information may help people in the future. You may not receive any direct benefit from being in the research study. There also may be risks to being in research studies.

Details about this study are discussed below. It is important that you understand this information so that you can make an informed choice about being in this research study.

You will be given a copy of this consent form. You should ask the researchers named above, or staff members who may assist them, any questions you have about this study at any time.

What is the purpose of this study?
Thank you for your interest in my study. I am conducting a research study about how people understand health insurance terms and make health insurance decisions. I will be interviewing new [university] employees to understand how they make their health insurance choices.

Are there any reasons you should not be in this study?
You should not be in this study if you are not a new [university] employee and/or if you are not between the ages of 18 and 64.

How many people will take part in this study?
There will be approximately 30 people in this research study.

How long will your part in this study last?

Your participation should last about one hour.

What will happen if you take part in the study?
You will be asked to complete 2 short questionnaires and an in-person interview. The questionnaires and interview will take about 1 hour to finish. The first questionnaire will ask you for demographic information and the second questionnaire will ask about your confidence making health insurance choices. The interview will be focused on how you make health insurance choices. I would like to talk you about selecting their health insurance choice no more than 7 days after you went through the process in [online system]. I will not be able to provide any advice or guidance on the health insurance selection process.

What are the possible benefits from being in this study?
Research is designed to benefit society by gaining new knowledge. You will not benefit personally from being in this research study.

What are the possible risks or discomforts involved from being in this study?
There are no known immediate or long-term physical, psychological, or social risks/discomforts from participating in this study. There may be uncommon or previously unknown risks. You should report any problems to the researcher.

What if we learn about new findings or information during the study?
You will be given any new information gained during the course of the study that might affect your willingness to continue your participation.

How will information about you be protected?
All materials collected during the study will be kept completely confidential. Your materials will be given a random code. The records will be kept in a secured laptop and only I will have access to them. If any report or paper is prepared, I will not include any information that would make it possible to identify you. Your responses may be stored indefinitely by me.

Participants will not be identified in any report or publication about this study. Although every effort will be made to keep research records private, there may be times when federal or state law requires the disclosure of such records, including personal information. This is very unlikely, but if disclosure is ever required, UNC-Chapel Hill will take steps allowable by law to protect the privacy of personal information. In some cases, your information in this research study could be reviewed by representatives of the University, research sponsors, or government agencies (for example, the FDA) for purposes such as quality control or safety.

With your permission I would like to audiorecord your interview. After your interview has been transcript, the audiorecording file will be permanently deleted.

Check the line that best matches your choice:

_____ OK to record me during the study

_____ Not OK to record me during the study

I would also like to photograph any insurance materials that you have brought with you to this interview. Any identifying information contained within the documents will be anonymized.

Check the line that best matches your choice:

_____ OK to photograph my insurance materials

_____ Not OK to photograph my insurance materials

What will happen if you are injured by this research?

All research involves a chance that something bad might happen to you. This may include the risk of personal injury. In spite of all safety measures, you might develop a reaction or injury from being in this study. If such problems occur, the researchers will help you get medical care, but any costs for the medical care will be billed to you and/or your insurance company. The University of North Carolina at Chapel Hill has not set aside funds to pay you for any such reactions or injuries, or for the related medical care. You do not give up any of your legal rights by signing this form.

What if you want to stop before your part in the study is complete?

You can withdraw from this study at any time, without penalty. The investigators also have the right to stop your participation at any time. This could be because you have had an unexpected reaction, or have failed to follow instructions, or because the entire study has been stopped.

Will you receive anything for being in this study?

You will receive a $25 Target gift card for the time spent completing the 2 short questionnaires and the interview.

Will it cost you anything to be in this study?

It will not cost you anything to be in this study.

What if you are a [university] employee?

Taking part in this research is not a part of your University duties, and refusing will not affect your job. You will not be offered or receive any special job-related consideration if you take part in this research.

Who is sponsoring this study?

This research is funded by the Medical Library Association. This means that the research team is being paid by the sponsor for doing the study. The researchers do not, however, have a direct financial interest with the sponsor or in the final results of the study.

What if you have questions about this study?

You have the right to ask, and have answered, any questions you may have about this research. If you

have questions about the study (including payments), complaints, concerns, or if a research-related injury occurs, you should contact the researchers listed on the first page of this form.

What if you have questions about your rights as a research participant?

All research on human volunteers is reviewed by a committee that works to protect your rights and welfare. If you have questions or concerns about your rights as a research subject, or if you would like to obtain information or offer input, you may contact the Institutional Review Board at 919-966-3113 or by email to IRB_subjects@unc.edu.

Participant's Agreement:

I have read the information provided above. I have asked all the questions I have at this time. I voluntarily agree to participate in this research study.

_____ _____

Signature of Research Participant Date

_____

Printed Name of Research Participant

_____ _____

Signature of Research Team Member Obtaining Consent Date

_____

Printed Name of Research Team Member Obtaining Consent

APPENDIX 3: DEMOGRAPHIC QUESTIONNAIRE

All of your responses will be kept confidential.

1. What is your gender?

   _____
2. What is your age?
   - 18-26 years old
   - 27-35 years old
   - 36-45 years old
   - 46-55 years old
   - 56-64 years old
   - 65 years old or more
3. Racial/ethnic identity (you may select more than one):
   - American Indian or Alaskan Native;
   - Asian
   - Black or African American
   - Native Hawaiian or Pacific Islander
   - White
   - Hispanic or Latino
   - Other_____
4. Which is the highest level of education you have attained?
   - Less than high school
   - High school/GED
   - Some college
   - Associate's degree
   - Bachelor's degree
   - Master's degree
   - Professional degree (MD, JD)
   - Doctoral degree
5. What is your marital status?
   - Single
   - Domestic partner
   - Married
   - Widowed
   - Other_____
6. What is your family status?
   - Dependent children
   - No dependent children
   - Other_____
7. What is your job title? _____

APPENDIX 4: SEMI-STRUCTURED INTERVIEW GUIDE

Introduction

Thank you for meeting with me today. As I mentioned in our previous discussions, I am conducting a study on how people understand health insurance information and how they make health insurance decisions. I also want to remind you that I am not affiliated with the Office of Human Resources or any insurance company. Everything you share today will be kept confidential. With your permission, I would like to record our conversation. Are you okay with me recording?

Broad, Opening Questions

- How do you make your health insurance choices?
- What goes through your mind as your think about the choices?

Micro-Moment Time-Line Interview

- Please share with me step-by-step what you did between the orientation session and online enrollment that related to your health insurance decision. I will write each of the steps down on a card.
- (*Repeat for each card*) For each of these steps, what questions did you have? What did you need to find out or learn? Where did you go to look for answers? Who did you talk to?

Potential Probes:

- Is there anyone that you talked to about this decision? (If only a spouse is mentioned, perhaps follow with "Anyone beyond your spouse?") Can you tell about that conversation?
- About how much time would you estimate you spent reviewing the information and making your decision? How was that time divided among the different activities?

Semi-Structured Interview Questions about the Decision-Making Process

- Please walk me through how you understand your health insurance options.
- Can you tell me more about why you are going to pick your preferred option?
- If you were giving someone advice about these options, what might you tell them?

Potential Probes:

- What do you think this will look like in practice when you start going to the doctor?
- What, if anything, are you most looking forward to with this insurance plan?
- What, if anything, are you not looking forward to with this insurance plan?
- What do you think you might do if it didn't go the way you expected?

Questions Design to Gauge Direct Change to Individual following the Affordable Care Act

- In what ways is this process different from the previous times you selected an insurance plan?
- Have you noticed any change in your insurance coverage over the past five years?

Health Insurance Materials

- What information from health insurance materials do you look for?
- Thank you for bringing in your health insurance materials. Could you tell me about the notes that you made in these materials? (Alternatively: Here is a paper copy of the health insurance materials that the university provides.)
- Could you point out which section is the most helpful? What makes this section helpful to you?
- Is there anything else you wish you had? More information? More help? More choices?
- How does the number of questions you have about health insurance compare with the questions you have about the other things covered in the orientation session?

Wrap-Up

- How does this process compare with the steps you take with other purchasing decisions?
- Did receiving health insurance from this job impact your decision to take the job?
- Is there something else you'd like to talk about that we didn't get to?

Potential Strategies

If the participant is focusing mostly on the online system or the political aspects of health insurance, the researcher might say: "Thank you. I am taking note of that. Now I would like to focus on your health insurance decision."

APPENDIX 5: READABILITY SCALE TO ASSESS HEALTH INSURANCE MATERIALS

The FORCAST Readability Formula (1973):

RGL = 20 - (Number of one-syllable words)/10

Broken down step-by-step:

Step 1: Select a sample text of 150 words.

Step 2: Count the number of one-syllable words in 150-word passage (N).

Step 3: Divide that number (N) by 10.

Step 4: Subtract the result obtained in Step 3 from 20.

Sticht, T. G. (1973). Research Toward the Design, Development and Evaluation of a Job-Functional Literacy Training Program for the United States Army. *Literacy Discussion, 4*(3), 339-69.

APPENDIX 6: HEALTH INSURANCE LITERACY MEASUREMENT

I. Choosing a Health Plan

Scale 1. Confidence

The next questions are about how confident you feel **choosing a health insurance plan**.

How confident are you that…	Not at all confident	Slightly confident	Moderately confident	Very confident
1. You understand health insurance terms?				
2. You know where to find the information you need to choose a health plan if you were not offered insurance through an employer?				
3. You know how to estimate what you have to pay for your health care needs in the next year, not including emergencies?				
4. You know where to go for help if you were having trouble affording health insurance outside an employer?				
5. You know what questions to ask so you can choose the best health plan for you?				
6. You would choose the health plan that is best for you?				

Scale 2. Behavior

The next set of questions are about **comparing health insurance plans**. When answering the questions, please imagine that you have a choice of health plans.

When comparing health insurance plans, how likely are you to…	**Not at all confident**	**Slightly confident**	**Moderately confident**	**Very confident**
1. Understand how the plans differ?				
2. Find out if you have to meet a deductible for health care services? *A deductible is the amount of money you have to pay before your health insurance will pay anything for your health care.*				
3. Look to see which doctors and hospitals are covered in each plan?				
4. Understand what you have to pay for prescription drugs?				
5. Understand what you would have to pay for emergency department visits?				
6. Understand what you would have to pay for specialist visits?				

Note from authors: The confidence scales (1 and 3) measure perceived ability and do not correlate as highly with actual ability compared to the behavior scales (2 and 4) (see Paez et al., 2014); however, confidence is still important for shaping behavior.

Note from dissertation researcher: For this study the researcher is only using scales 1 and 2.

Paez, K. A., Mallery, C. J., Noel, H., Pugliese, C., McSorely, V. E., Lucado, J. L., & Ganachari, D. (2014). Development of the Health Insurance Literacy Measure (HILM): Conceptualizing and Measuring Consumer Ability to Choose and Use Private Health Insurance. *Journal of Health Communication, 19*(Supplement 2), 225-239.

APPENDIX 7: RECEIPT FOR PARTICIPANT INCENTIVE

Receipt

Health Insurance Literacy: How People Understand and Make Health Insurance Purchase Decisions
IRB STUDY #

I acknowledge receipt of $25.00 of gift card to Target® for participating in this research study.

_____ _____
Signature of Research Participant Date

_____
Printed Name of Research Participant

_____ _____
Signature of Researcher Date

_____
Printed Name of Researcher

Principal Investigator

Emily Vardell, MLS
School of Information and Library Science
University of North Carolina-Chapel Hill
100 Manning Hall, CB#3360
Chapel Hill, NC 27599-3360
evardell@unc.edu

APPENDIX 8: CODEBOOK

Code	Definition	Number of part-icipants who spoke about this code	Participants who spoke about this code	Sample quote
Ability to switch plans is comforting	Participants found comfort in the ability to switch plans	n = 8 (26.7%)	P1, P3, P4, P8, P9, P18, P24, P29	"I felt like with the health insurance, it's like you're not locked into it, so if you don't like it one year, you can change it the next year." (P29)
Affordable Care Act	Participants discussed the Affordable Care Act and its impact on them and the health insurance system	n = 11 (36.7%)	P1, P2, P6, P12, P13, P15, P16, P18, P20, P22, P29	"My previous time I used the Marketplace, so there were a ton of options there, but now it's smaller, but then I was looking at different companies, so with this one, I was just given the three to look at." (P29)
Age as a factor	Participants cited their age as a factor in their decision-making process	n = 14 (46.7%)	P1, P2, P3, P5, P6, P11, P12, P13, P14, P17, P18, P22, P26, P30	"At this age I don't expect many things, any bad things, to occur in the next year." (P3)
Avoiding over-thinking	Participants talked about not deliberating the decision too much	n = 9 (30%)	P4, P5, P6, P9, P18, P19, P21, P23, P28	"I thought, 'Okay, I'm not going to stress over it and just pick the minimum and bare bones and then when October rolls around, I'll do more research then.'" (P4)
Calculate	Participants performed calculations in their effort to determine the most appropriate	n = 18 (60%)	P1, P6, P7, P11, P12, P13, P15, P16, P17, P19, P22,	"I read through the plans again and just tried to do an estimate of what I thought I would need health care-wise this year...I knew about what visits I'll do

	coverage type for their needs		P23, P24, P25, P27, P28, P29, P30	each year so I calculated the copays and prescriptions and then I balanced that against the monthly charge…" (P6)
Compare plans side-by-side	Participants used provided side-by-side comparison charts in their decision-making process, praising the format and noting that it allowed them to focus on the most relevant aspects to their needs	n = 30 (100%)	P1, P2, P3, P4, P5, P6, P7, P8, P9, P10, P11, P12, P13, P14, P15, P16, P17, P18, P19, P20, P21, P22, P23, P24, P25, P26, P27, P28, P29, P30	"It just seems easier to compare things. I think in general when numbers are involved, it's easier to see them in a chart instead of embedded in a paragraph of text. I guess I would say I look at the chart first, probably. Then I would read, possibly as well, to see if my understanding matches up with what it's saying." (P30)
Comp-licated information	Participants characterized health insurance information as complicated	n = 10 (33.3%)	P3, P9, P12, P14, P15, P20, P21, P22, P23, P24	"It's very complicated, a lot of overlapping concepts. Things aren't necessarily as clear as they could be for a first-time person selecting insurance. I guess there should just be more clarification on some things." (P21)
Confidence Navigating the Health Insurance System	Participants reflected on their confidence choosing and using health insurance	n = 12 (40%)	P3, P5, P6, P7, P9, P13, P15, P20, P22, P23, P25, P28	"I feel like I'm equipped to navigate that system…" (P5)
Cost	Participants cited cost as a significant factor in their decision-making process; participants varied in the most significant costs to them, including monthly premiums,	n = 30 (100%)	P1, P2, P3, P4, P5, P6, P7, P8, P9, P10, P11, P12, P13, P14, P15, P16, P17, P18, P19, P20, P21, P22, P23,	"In terms of what I would be paying each month for them, and then what they would be in terms of a co-pay, or a visit, or prescription coverage. What I would end up paying out for those." (P10)

	deductibles, copays, coinsurance, etc.		P24, P25, P26, P27, P28, P29, P30	
Coverage for dependents	Participants discussed coverage for dependents as a key factor in their health insurance decision-making	n = 12 (40%)	P2, P3, P7, P9, P12, P15, P16, P17, P18, P22, P23, P28	"Making sure my son is covered. Then myself, but thinking about him is the first thing." (P15)
Demonstrates clear understanding of coverage	Participants demonstrated sophisticated understanding of health insurance concepts	n = 14 (46.7%)	P3, P5, P7, P9, P10, P12, P17, P19, P20, P21, P22, P25, P28, P30	"Coinsurance then would be the percent of whatever comes after the deductible that I would have to pay, that I would be responsible for." (P10)
Demonstrates misunderstanding of coverage	Participants demonstrated some misunderstandings around specific coverage items	n = 4 (13.3%)	P4, P8, P16, P23	"...The employer pays 80 percent of it, and I pay 20 percent." (P8)
Desire to stay healthy	Participants spoke about their desire to stay healthy, often in relation to wanting to avoid not using their health insurance	n = 5 (16.7%)	P4, P7, P18, P22, P23	“I still feel very lucky and that's also part of the reason that I'm like, ‘Don't get sick. Don't overdo it.’ I don't want to take medications; I don't like popping the pills.” (P4)
Experience working in health care	Participants pointed to experience working in health care as a reason they are more confident navigating health insurance	n = 6 (20%)	P4, P5, P6, P7, P18, P21	“Working in the hospital, it's kind of good to see this happen any time and people are really glad to have insurance.” (P6)
First time selecting health insurance	Participants spoke about the challenges of selecting from employer-sponsored	n = 8 (26.7%)	P1, P5, P6, P11, P12, P21, P24, P26	“Things aren't necessarily as clear as they could be for a first-time person selecting insurance. I guess there should just be more

	insurance coverage options for the first time			clarification on some things." (P21)
Flexibility in coverage	Participants spoke about wanting flexibility in their coverage, often in support of selecting 80/20	n = 6 (20%)	P4, P9, P12, P14, P16, and P18	"There is more flexibility for me to get this one, because I can go any doctor [and] know that it's my 20%..." (P4)
Flexible Spending Account (FSA)	Participants shared their reasoning for either selecting or not selecting to participate in a flexible spending account	n = 10 (33.3%)	P2, P7, P12, P15, P20, P22, P24, P25, P27, P28	"I look at the cost first, also taking into consideration what I might need … for that particular year. When I signed up this time ... I used the flex spending, because I want to get a new pair of glasses." (P7)
Forecasting needs for the next year	When deciding which coverage option was best, participants forecasted what their health needs might be in the next year.	n = 26 (86.7%)	P1, P2, P3, P4, P6, P7, P8, P10, P11, P12, P13, P14, P15, P16, P17, P18, P19, P20, P21, P22, P24, P25, P26, P27, P28, P29	"Typically, I think of what I generally need, like in a year. Thinking about how many times I might go to the doctor, prescription drugs that I need to get and make sure that I have good coverage for that and then also maybe sort of general emergency." (P8)
Forecasting the Worst-Case Scenario/ Unknown	Participants forecasted their health care needs in the event of a worst-case scenario or the unknown during their decision-making process	n = 15 (50%)	P2, P3, P5, P6, P8, P9, P12, P13, P21, P22, P24, P25, P26, P28, P29	"I was just thinking about what I think my medical costs will be and ... being covered in case of emergencies, so I thought about which plan had a better emergency coverage." (P6)

Ignoring and/or Eliminating Information	Participants mentally ignored or eliminated information to help focus on the information most relevant to their decision-making process	n = 16 (53.3%)	P1, P3, P4, P8, P9, P10, P12, P16, P19, P23, P24, P26, P27, P28, P29, P30	"At that point I had pretty much eliminated one of the plans just based on the research I had done, so then it was comparing two of them." (P10)
Impact decision to take the job	Participants reflected on whether receiving insurance impacted their decision to take the job	Yes, n = 21 (70%) No, n = 9 (30%)	Yes = P1, P2, P4, P6, P7, P8, P9, P10, P11, P12, P13, P14, P15, P16, P17, P21, P23, P25, P26, P28, P29	"If it hadn't [come with insurance], I wouldn't have taken the job." (P26)
Increase in costs over past 5 years	Participants spoke about the rising costs of health care when asked to reflect on changes over the past five years	n = 10 (33.3%)	P2, P4, P9, P11, P14, P16, P22, P23, P25, P27	“I see that the cost is going up, and continues to go up. For a small family, that could be a big fortune.” (P4)
In-network vs. out-of-network coverage	Participants spoke about the significant role in-network versus out-of-network coverage played in their decision-making	n = 14 (46.7%)	P1, P2, P4, P6, P9, P15, P16, P18, P22, P23, P24, P25, P27, P28	"I was looking at what doctors were in-network compared to out-of-network. Could I find a doctor in-network that I wanted to use?" (P25)
New to the area	Participants were new to the area and reflected on the health insurance decision process as part of a bigger piece of getting settled into a new place	n = 6 (20%)	P4, P5, P16, P20, P22, P30	"It just seems right now, I just moved here, and it feels a little too chaotic to really put a lot of effort.” (P30)

Not a Logical Choice	Participants divulged that it was not a logical choice that they made	n = 4 (13.3%)	P3, P6, P14, P21	“I don't think it’s a logical choice based on everything.” (P3)
Open enrollment window as factor	Participants spoke about the open enrollment window as a factor in their decision	n = 9 (30%)	P2, P4, P6, P7, P9, P14, P15, P20, P22	"Part of [this] was that I know I'm only electing October through December right now, and in two weeks I get to go back in and make different changes for January.” (P9)
Orientation session	Participants discussed the role that the new hire orientation played in their decision-making process	n = 21 (70%)	P1, P3, P4, P5, P6, P9, P12, P13, P14, P15, P16, P19 P20, P21, P23, P24, P25, P26, P27, P28, P30	“I've never been in an orientation where they led you through your options step by step. I thought that was really helpful and set a nice foundation for my understanding of the plans side-by-side.” (P13)
Out-of-pocket maximums	Participants pointed to out-of-pocket costs as a significant piece of information during their decision-making process	n = 8 (26.7%)	P3, P7, P12, P13, P19, P20, P21, P24	"[I] also considered whether there is an out-of-pocket limit. Unexpected things happen at some point in your life. It's sort of given me a psychological security that it's not going to break my life." (P3)
Over-whelmed by multiple supple-mental insurances	Participants overwhelmed by multiple forms of supplemental insurance	n = 5 (16.7%)	P2, P13, P15, P17, P23	"This was different in that there were a lot more options. I don't think I've ever selected so many options in one sitting. There was vision and dental and lots of flex plans and accidental death and dismemberment, which is an absolutely terrifying name for a plan." (P13)

Participant printed out materials	Participants printed out insurance materials while making their decision and/or enrolling online	n = 8 (26.7%)	P1, P2, P10, P15, P16, P17, P28, P29	"Sometimes I do like printing out stuff to be able to really look over it." (P10)
Past experience with health insurance	Participants discussed the impact that their previous experience with health insurance had on their decision-making process	n = 27 (90%)	P2, P3, P4, P5, P6, P7, P8, P9, P10, P11, P12, P13, P14, P15, P16, P17, P18, P19, P20, P21, P22, P23, P24, P25, P26, P27, P28	"[The coverage] was very similar to what I had before, so it was easy to just understand that that's how it worked." (P23)
Peace of mind	Participants spoke about the peace of mind they procure through their health insurance coverage	n = 8 (26.7%)	P6, P7, P8, P9, P13, P15, P16, P29	"I don't really get sick very often or really have too many health issues, so just kind of peace of mind, full coverage, and not spending too much money on it." (P8)
Personal information manage-ment	Participants shared their personal information management habits for managing health insurance information	n = 8 (26.7%)	P3, P13, P17, P20, P21, P23, P25, P30	"I need to make sure I get all of the documents as far as billing and things like that. Just to follow up and make sure I'm actually getting what I'm supposed to get." (P21)
Plans designed for families	Participants characterized plans as being more relevant for dependent coverage	n = 9 (30%)	P5, P6, P7, P13, P15, P16, P19, P28, P29	"It seemed like the consumer-directed health plan was much more geared to families as opposed to individuals…" (P5)

Prescription drug coverage	Participants looked at the pharmaceutical coverage as a part of their decision-making process	n = 16 (53.3%)	P1, P2, P3, P4, P5, P6, P8, P10, P13, P16, P18, P19, P20, P23, P24, P28	“Prescription drugs that I need to get and make sure that I have good coverage.” (P8)
Preventive care	Participants looked at preventive care as a key factor in their decision-making process	n = 14 (46.7%)	P1, P3, P4, P5, P6, P9, P10, P13, P15 P16, P19, P21, P23, P29	“Preventative care, again, because I'm the kind of person that really does try to take care of herself so that for me was important.” (P4)
Psycho-logical security	Participants spoke about the psychological reassurance they associate with health insurance coverage	n = 6 (20%)	P3, P6, P8, P9, P13, P18	“It's sort of given me a psychological security that it's not going to break my life." (P3)
Questions about terminology	Participants spoke about their unfamiliarity with insurance-related terminology	n = 14 (46.7%)	P1, P2, P3, P5, P6, P8, P12, P13, P17, P19, P20, P21, P24, P28	“I remember looking at it in the session and being like I don't know what coinsurance means…” (P15)
Reasons for eliminating 70/30 as an option	Participants spoke about their reasoning behind deeming the 70/30 a poor choice	n = 14 (46.7%)	P1, P2, P4, P5, P6, P7, P9, P12, P14, P19, P21, P23, P24, P26	"It seems like there's hardly any scenarios except for the one lady who had crazy pharmacy costs where 70/30 was the best." (P19)
Reasons for selecting 70/30 coverage	Participants discussed their reasons for selecting the 70/30 plan	n = 2 (6.7%)	P17, P30	"The 70/30 one, there's no monthly fee if you do the tobacco attestation, which I did. The 80/20 one seems like it's probably, the coverage is maybe somewhat better but there is the monthly fee. I think I multiplied $15 dollars or whatever it is. I tried roughly to think if that's

				close to what I'd spent on copays in the last year." (P30)
Reasons for selecting 80/20 coverage	Participants outlined the reasoning behind their decisions for selecting the 80/20 plan (often in comparison with the other plans available)	n = 20 (6.66%)	P1, P2, P5, P6, P7, P8, P9, P10, P11, P14, P15, P16, P18, P20, P21, P25, P26, P27, P28, P29	"I thought the cost was really reasonable and … for the cost, it offered a level of benefits more than the 70/30, and it had a lower deductible than the consumer-directed." (P16)
Reasons for selecting the CDHP	Participants outlined the reasoning for selecting the CDHP	n = 8 (26.7%)	P3, P4, P12, P13, P19, P22, P23, P24	"Somehow this jumped out at me, consumer-directed health plan, because it seemed exactly like the higher deductible health plan I had before." (P23)
Reflecting on health status	Participants spoke about reflecting on their health status as a key step in determining the best coverage	n = 16 (53.3%)	P1, P2, P3, P4, P8, P11, P12, P13, P14, P15, P16, P19, P20, P21, P22, P23	"I'm taking into account my health condition the last year." (P3)
Reflecting on past year's use of coverage	Participants reflected on their use of health insurance coverage over the past year	n = 9 (30%)	P3, P17, P19, P20, P22, P23, P24, P25, P26	"So what happened last year? Has anything changed? Those things affect what I choose." (P25)
Review information on the state health plan website	Participants used the state health plan website to gather information and make their decision	n = 16 (53.3%)	P1, P2, P10, P11, P12, P13, P18, P19, P20, P22, P23, P24, P25, P26, P27, P29	"I went online to the ... HR website, where you could look at the state plan, all of the plans. I did a little bit of, again, just putting in the different scenarios." (P12)
Review printed materials	Participants reviewed printed insurance materials distributed at the orientation	n = 24 (80%)	P1, P2, P3, P4, P6, P7, P8, P10, P11, P12, P13,	"I think that from the presentation I had a pretty good understanding, but then just wanted to look over it one more

	session, often at the beginning as they were surveying the information landscape and beginning to make comparisons between plans		P14, P15, P16, P17, P18, P19, P20, P21, P22, P24, P25, P26, P27, P28, P29	time and look at my options." (P14)
Risk tolerance	Participants reflected on their tolerance for risk, particularly in association with their willingness to try out the CDHP	n = 9 (30%)	P9, P13, P18, P19, P20, P21, P22, P28, P30	"For us, it was an okay risk as two younger, healthier people, to take on more of that personal responsibility." (P13)
Scenarios are helpful	Participants spoke about the coverage scenarios as being particularly helpful for seeing what the plan looked like in action	n = 9 (30%)	P2, P12, P19, P20, P21, P22, P24, P25, P29	"I read through a couple of the scenarios that they put of people using this plan, … and it kind of helped me think about it in a more real world application instead of just looking at the chart." (P19)
Short-term decision	Participants spoke about health insurance enrollment as a short term decision	n = 5 (16.7%)	P1, P3, P4, P6, P14	"It's such a short term, you can test it out." (P4)
Should have done more	Participants admitted that they should have done more during their decision-making process	n = 4 (13.3%)	P3, P15, P19, P30	"Well I've never actually told someone what I'm doing right now which is really good exercise and shows me that maybe I should have done that." (P19)
Specific coverage need	Participants spoke of a specific coverage need that dictated their health insurance choice	n = 13 (43.3%)	P1, P2, P7, P19, P20, P21, P22, P23, P24, P25, P27, P28, P29	"I use a lot of physical therapy services so that was what I based my decision on..." (P19)

Spoke with a colleague	Participants gathered information/advice about insurance options by speaking with work colleagues who have experience with the coverage	n = 12 (40%)	P1, P7, P12, P14, P15, P16, P18, P25, P27, P28, P29, P30 (P3 and P4 considered speaking a colleague but elected not to)	"Oh, I did talk to one of my coworkers. I was just like, 'What health plan do you have?' She said she had the 80/20. Her reason was just that she liked having a copay and that's what she paid. She didn't get billed later on. And I know that she has some health issues, so I was like, 'Okay, so maybe that is the plan to go with.'" (P25)
Spoke with a friend	Participants spoke with friends during their health insurance decision-making process	n = 8 (26.7%)	P1, P5, P8, P10, P11, P20, P24, P27	"My friend, I asked her what insurance type that she has, because she has large expenditures." (P24)
Spoke with benefits officer	Participants contacted benefits officers during their health insurance decision-making process	n = 10 (33.3%)	P2, P4, P7, P10, P11, P16, P17, P20, P27, P28	"The first thing I'm probably going to do is I'm going to e-mail the ... benefits guy, and see if he can fill in anything. I think he's very knowledgeable." (P7)
Spoke with other source(s)	Participants spoke with a variety of other interpersonal information sources	n = 5 (16.7%)	P2, P4, P16, P19, and P27	"My sister is not a state employee but she has a high deductible health plan so I talked to her about some of the pros and cons of hers." (P19)
Spoke with parent(s)	Participants consulted their parents for advice and guidance during the decision-making process	n = 10 (33.3%)	P1, P5, P6, P7, P8, P11, P20, P21, P24, P29	"I asked my mother if she would help me decipher between the different plans and help me choose because she's done that before." (P21)
Spoke with spouse/ partner	Participants obtained advice and/or shared the decision-making	n = 13 (43.3%)	P1, P3, P8, P9, P12, P13, P16, P17,	"I talked to my husband about what his current plan was and how it was comparable to that.

	with their spouse/partner		P19, P22, P23, P25, P28	Trying to figure out which the best one was.” (P12)
Sufficient coverage	Participants wanted to make sure they had sufficient coverage	n = 10 (33.3%)	P2, P8, P11, P15, P17, P20, P21, P22, P23, P28	"I understand that I have more medical needs than your average person or that I would like to. I need to make sure I can get everything that I need, that my health is taken care of.” (P21)
Test out a type of coverage	Participants were looking forward to testing out a type of coverage that was new to them	n = 3 (10%)	P4, P12, P14	"I kind of want to test it out. I wanted to see if it was something I could do in the long run or if I had too many restrictions." (P4)
Too much paperwork	Participants lamented how much paperwork was involved in the choice and use of health insurance	n = 4 (13.3%)	P2, P10, P22, P29	"I suspected that it meant processing more paperwork, which I dreaded this flex spending account in previous years because of the amount of receipts, the paperwork you had to process." (P2)
Unfamiliar with how CDHPs work	Participants spoke about being unfamiliar with how a CDHP works, many to describe why they didn’t select it but some selected it despite unfamiliarity	n = 15 (50%)	P4, P7, P9, P12, P13, P15, P16, P18, P19, P20, P21, P24, P26, P29, P30	“I think because of changing to the high deductible, it made me kind of nervous because it also seems like a little bit less clear whereas with the 80/20 it's like, oh yeah this is how much you pay for this, this is how much you pay for that. Whereas with this one it's like you just pay for it and then after some magic number. I have clarification on all of this now but before it was like also the CDHP was a new plan last year and that made me really nervous too because I was like, what was this new thing?” (P19)

Wish I had this resource	Participants shared resources that they wish they had to support them in their decision-making process	n = 25 (83.3%)	P1, P3, P4, P5, P7, P8, P9, P10, P11, P12, P14, P15, P16, P17, P19, P20, P21, P22, P23, P24, P25, P26, P27, P29, P30	"It would have been nice to be able to then, once you at least eliminated a choice or if you had specific questions about something, being able to get more information in a more easily comparable way." (P12)

APPENDIX 9: SIDE-BY-SIDE COMPARISON CHART

2017 STATE HEALTH PLAN COMPARISON

Active and Non-Medicare Subscribers

PLAN DESIGN FEATURES	CONSUMER-DIRECTED HEALTH PLAN (CDHP) (85/15)		ENHANCED 80/20 PLAN		TRADITIONAL 70/30 PLAN	
	IN-NETWORK	OUT-OF-NETWORK	IN-NETWORK	OUT-OF-NETWORK	IN-NETWORK	OUT-OF-NETWORK
HRA Starting Balance*	$600 Employee $1,200 Employee +1 $1,800 Employee + 2 or more		N/A		N/A	
Annual Deductible	$1,500 Individual $4,500 Family	$3,000 Individual $9,000 Family	$1,250 Individual $3,750 Family	$2,500 Individual $7,500 Family	$1,080 Individual $3,240 Family	$2,160 Individual $6,480 Family
Coinsurance	15% of eligible expenses after deductible	35% of eligible expenses after deductible and the difference between the allowed amount and the charge	20% of eligible expenses after deductible	40% of eligible expenses after deductible and the difference between the allowed amount and the charge	30% of eligible expenses after deductible	50% of eligible expenses after deductible and the difference between the allowed amount and the charge
Medical Coinsurance Maximum	N/A	N/A	N/A	N/A	$4,388 Individual $13,164 Family	$8,776 Individual $26,328 Family
Medical Out-of-Pocket Maximum	See Out-of-Pocket Maximum		$4,350 Individual $10,300 Family	$8,700 Individual $26,100 Family	N/A	N/A
Pharmacy Out-of- Pocket Maximum	See Out-of-Pocket Maximum		$2,500 Individual $4,000 Family	$2,500 Individual $4,000 Family	$3,360	
Out-of-Pocket Maximum (Combined Medical and Pharmacy)	$3,500 Individual $10,500 Family	$7,000 Individual $21,000 Family	$6,850 Individual $14,300 Family	$11,200 Individual $30,100 Family	N/A	N/A
Affordable Care Act (ACA) Preventive Services	$0 (covered at 100%)	35% after deductible dependent on service	$0 (covered at 100%)	40% after deductible dependent on service	$40 for primary doctor; $94 for specialist	50% after deductible dependent on service
Office Visits	15% after deductible; $25 added to HRA if you use PCP on ID card; $20 added to HRA if you use Blue Options Designated specialist	35% after deductible	$25 for primary doctor; $10 if you use PCP on ID card; $85 for specialist; $45 if you use Blue Options Designated specialist	40% after deductible	$40 for primary doctor; $94 for specialist	50% after deductible
Urgent Care	15% after deductible	15% after deductible	$70	$70	$100	$100

PLAN DESIGN FEATURES	CONSUMER-DIRECTED HEALTH PLAN (CDHP) (85/15)		ENHANCED 80/20 PLAN		TRADITIONAL 70/30 PLAN	
	IN-NETWORK	OUT-OF-NETWORK	IN-NETWORK	OUT-OF-NETWORK	IN-NETWORK	OUT-OF-NETWORK
Emergency Room (Copay waived w/admission or observation stay)	15% after deductible	15% after deductible	$300 copay, then 20% after deductible	$300 copay, then 20% after deductible	$337 copay, then 30% after deductible	$337 copay, then 30% after deductible
Inpatient Hospital	15% after deductible; $200 added to HRA if you use Blue Options Designated Hospital	35% after deductible	$450 copay, then 20% after deductible; copay not applied if you use a Blue Options Designated Hospital	$450 copay, then 40% after deductible	$337 copay, then 30% after deductible	$337 copay, then 50% after deductible
PRESCRIPTION DRUGS						
Tier 1 (Generic)	15% after deductible	35% after deductible	$5 copay per 30-day supply		$16 copay per 30-day supply	
Tier 2 (Preferred Brand & High-Cost Generic)			$30 copay per 30-day supply		$47 copay per 30-day supply	
Tier 3 (Non-preferred Brand)			Deductible/ coinsurance		$74 copay per 30-day supply	
Tier 4 (Low-Cost Generic Specialty)			$100 copay per 30-day supply		10% up to $100 per 30-day supply	
Tier 5 (Preferred Specialty)			$250 copay per 30-day supply		25% up to $103 per 30-day supply	
Tier 6 (Non-preferred Specialty)			Deductible/ coinsurance		25% up to $133 per 30-day supply	
Preferred Diabetic Testing Supplies**			$5 copay per 30-day supply		$10 copay per 30-day supply	
ACA Preventive Medications	$0	$0	$0	$0	N/A	N/A
CDHP Preventive Medications	15%, no deductible	15%, no deductible	N/A	N/A	N/A	N/A

**HRA amounts at the begining of the year. Amount is pro-rated for new members.*

***Non-preferred diabetic testing supplies are paid as Tier 3.*

APPENDIX 10: MONTHLY PREMIUM RATES FOR INDIVIDUAL COVERAGE

Monthly Premium Rates
January 1, 2017 - December 31, 2017

Employee/Retiree Premiums

Active Employees and Non-Medicare Retirees

		Participation in Wellness Activities							
	Wellness Activities	All Three	Two Activities Completed			One Activity Completed			None
	Tobacco Attestation	☑	☑	☑		☑			
	PCP Selection	☑	☑		☑		☑		
	HA Completion	☑		☑	☑			☑	
Wellness Plans	Employer Share	Employee/Retiree Share							
Enhanced 80/20 Plan	$479.48	$15.04	$40.04	$40.04	$55.04	$65.04	$80.04	$80.04	$105.04
Consumer-Directed Health Plan	$479.48	$0.00	$20.00	$20.00	$40.00	$40.00	$60.00	$60.00	$80.00

	Completed Tobacco Attestation	
	Yes	No
Traditional 70/30 Plan	Employer Share	Employee/Retiree Share
Active Employees	$479.48	$0.00	$40.00

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