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The Shortfalls of Health Care Crowdfunding in Addressing the Needs of the Underserved

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Abstract

Because the cost of health care is increasing, more Americans are relying on crowdfunding to finance their health care expenses. Health care crowdfunding occurs when people seek donations through online crowdfunding platforms to pay for their health care costs. This thesis seeks to use theories in charitable giving and health care crowdfunding to understand if crowdfunding dollars are going to the people who need them most. Low-income individuals in non-Medicaid expansion states and patients with chronic diseases are not adequately covered by the private insurance market, thus they require the most need. However, donors evaluate need subjectively and are more likely to donate to those who are like them. As such, statistically analyzing GoFundMe campaigns reveals that crowdfunding campaigns for low-income individuals and chronically ill patients are less successful. These findings contribute to charitable giving literature in contextualizing a modern phenomenon within a rich body of private provision for basic goods theories. Moreover, they contribute to the health care crowdfunding literature by being the first study to test whether health care crowdfunding is addressing people with the greatest need for it. The implications for these findings are that health care crowdfunding falls short of addressing the market frictions of private insurance markets. Thus, crowdfunding is not a sustainable solution.

Keywords

healthcare, crowdfunding, charitable giving, Social Sciences, Political Science, Marc Meredith, Meredith, Marc

**The Shortfalls of Health Care Crowdfunding in
Addressing the Needs of the Underserved**

By

Kevin Yang

Advisor: Marc Meredith

This thesis is submitted in fulfillment of

**Bachelor of Arts Degree
Department of Political Science with Distinction
College of Arts and Sciences
University of Pennsylvania**

2020

Abstract

Because the cost of health care is increasing, more Americans are relying on crowdfunding to finance their health care expenses. Health care crowdfunding occurs when people seek donations through online crowdfunding platforms to pay for their health care costs. This thesis seeks to use theories in charitable giving and health care crowdfunding to understand if crowdfunding dollars are going to the people who need them most. Low-income individuals in non-Medicaid expansion states and patients with chronic diseases are not adequately covered by the private insurance market, thus they require the most need. However, donors evaluate need subjectively and are more likely to donate to those who are like them. As such, statistically analyzing GoFundMe campaigns reveals that crowdfunding campaigns for low-income individuals and chronically ill patients are less successful. These findings contribute to charitable giving literature in contextualizing a modern phenomenon within a rich body of private provision for basic goods theories. Moreover, they contribute to the health care crowdfunding literature by being the first study to test whether health care crowdfunding is addressing people with the greatest need for it. The implications for these findings are that health care crowdfunding falls short of addressing the market frictions of private insurance markets. Thus, crowdfunding is not a sustainable solution.

Acknowledgements

To premise, please excuse me as this is the only page in this thesis where I break from the double-spacing format to express my thanks for everyone who has been a part of this journey. There were many times throughout this thesis process when I felt stuck or didn't want to write it anymore. Without these people, I would not have come close to completing this thesis. Thus, I would like to thank the following people for their guidance and support throughout this process.

Thank you, Professor Meredith, for being willing to Skype call me the last week before the thesis application deadline to talk about my thesis idea and agree to be my thesis advisor. Thank you for giving me the space to dive deeper into a topic I am passionate about. Thank you for providing me with actionable advice and guidance me throughout this process. I started my academic as a Political Science major at the University of Pennsylvania in Fall of my Sophomore year by taking your Introduction to American Politics. I am thankful that I was able to go full circle and end my undergraduate journey by working on this thesis with your guidance.

Thank you, Dr. D, for always providing encouraging feedback and creating a special community for us to meet other thesis writers. Even when I felt like I was going no where or running in too many directions, I really appreciate our weekly class meetings in the Fall semester. They were grounding and reassuring. In my worst times, I was always happy to read your check-in emails to assure us that it will all work out.

Thank you, Dr. Yue Hou, for pushing me to write a thesis senior year. This project would not have happened without your constant encouragement. I entered college hoping to write a thesis, but I was hesitant to actually write one when the opportunity presented itself. I remember opening and closing the thesis application multiple times at midnights as I mindlessly scrolled through my email. Thank you for talking me through the process, reassuring me that it will be a valuable experience, and encouraging me to apply for the Political Science thesis.

Thank you to my friends from all the different parts of my undergraduate journey, especially David, Maggie, Chris, Carmen, Jesse, and Chelsea. You all listened to me complain and stress over this thesis, regret the decision of writing it, then nerd out about how cool this topic and process is. Thanks for tolerating the default answers I gave in response to your text messages as a result of this thesis – “Thesis.” “Can't hang out. Thesis.” “Writing thesis!” ...

Thank you to the Professors and TAs I have had over the last four years in allowing me to pursue a liberal arts and business education. I applied to college hoping to take classes in which I felt intellectually challenged and stimulated. I am privileged to have such a unique experience.

And finally, thank you to everyone who due to limitations in space and brain power, I cannot name out anymore. For example, thank you ParseHub customer service representative who walked me through building the right parsing setup at 9 a.m. on Friday after I had failed for the 100th time. Thank you Bibliography.com product manager who answered my customer support request when the bibliography I spent hours creating suddenly disappeared after an accidental refresh.

It's a cheesy end, but I think these two words concisely say it all: Thank you.

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I. Introduction

Recently the use of health care crowdfunding to finance individual health care expenses has increased. The fact that people are willing to resort to this mode of alternative financing is intriguing, because health care is a basic right, yet not everyone can access it. Thus, this thesis tries to understand whether this phenomenon is a response to addressing the market failures in the American health care market. Using GoFundMe data, I find that the data does not support the hypothesis that health care crowdfunding addresses market failure. Rather, the data suggest that health care crowdfunding perpetuates the failures.

In doing so, this thesis contributes to the extensive charitable giving literature and the limited health care crowdfunding literature. To the charitable giving literature, this theory contributes to how online crowdfunding platforms interact with basic needs differently than that of traditional charitable giving mechanisms. To the limited health care crowdfunding literature, this is the first theory to assess whether crowdfunding is helping those with the greatest need in the United States. The findings are consistent with the existing literature in both fields.

This thesis proceeds as follows. I begin with a background section on crowdfunding as a growing alternative in financing personal health care. I then provide an explanation of the historical events that led American's health care system to rely heavily on the private market financing. I proceed to identify the three market frictions that prevent the private health insurance market from covering the health needs of all Americans. Next, I identify the two segments that are in the greatest need for alternative financing for health care: low-income individuals in non-Medicaid expansion states and individuals with chronic diseases. These two groups make up the demand-side of the health care crowdfunding market. Then, I outline the empirical literature on charitable giving and what it says about why people give to these causes.

Aggregating the findings on both demand- and supply-sides of the market, I arrive at two hypotheses. First, non-Medicaid expansion states will raise less money than Medicaid-expansion states. Second, chronic diseases will raise more money than acute diseases. Afterwards, I discuss my research methodology, which is based on an original dataset that I collected from GoFundMe. I collect a representative dataset by pooling campaigns from the curated page and keyword searches. I gather data on each campaign's location, amount raised, target amount, and number of donors, shares, followers, and donations. Using statistical analysis, I show that there is supporting data for my first hypothesis. There is no supporting data for my second hypothesis. These empirical findings prompt me to conclude with a discussion of the results, their implications for the existing literature, and offer an alternative explanation. My results suggest that health care crowdfunding does not help those with the greatest health care needs. Thus, I conclude by encouraging policymakers to intervene and repair the frictions of the health market.

II. Crowdfunding is a growing alternative in financing personal health care.

In this section, I define health care crowdfunding, outline its relevant stakeholders, and conduct a market analysis highlighting the rapid growth of this activity. I proceed to highlight two overarching themes that are fundamental to the health care crowdfunding narrative. First, health care is a basic right. I explain this through the citation of the United Nations' treaties and domestic public polls that find majority agreement that the government is responsible for ensuring access to health care coverage. Second, health care is unaffordable, because health care costs are rising, and left to their own devices, people are underinsured by the insurance plans they are subscribed to.

Health care crowdfunding occurs when people seek donations through online crowdfunding platforms to pay for their health care costs. Beneficiaries and donors make up the people participating in this crowdfunding transaction.

Beneficiaries are people seeking donations, and they can be categorized as direct and indirect beneficiaries. Direct beneficiaries are the underinsured sick patient in need of financial aid to afford their health care. Indirect beneficiaries are the friends, relatives, and organizations that make the financial request and seek donations on behalf of the direct beneficiary. The expectation is they use the crowdfunded money to pay for the direct beneficiary's treatment.

Donors are people who donate money to fund the cause, and they can be divided into two groups. First, donors can be people who know the direct beneficiary, and as a result, donate to help. Examples include family members, friends, and colleagues. Second, donors can be strangers who are asked to donate or looking for causes to donate to.

Campaigns are what get crowdfunded. Beneficiaries create campaigns to explain what happened to the person requesting the support, specify the amount the person needs for recovery. Campaigns can include pictures, videos, and status updates to engage potential donors. Donors donate to campaigns to help cover any portion of the beneficiary's requested health care cost.

For-profit platforms are where the crowdfunding – whether for health care or for other causes – happens. Online crowdfunding platforms leverage the reach of the Internet and connectivity of social media networks of its beneficiaries and donors to curate campaigns to a global audience. These platforms are managed by for-profit businesses, such as GoFundMe, Bonfire, and Indiegogo. Profit is the difference between revenue and costs. The revenues for these businesses come from platform fees, charged to the beneficiary as a fixed percentage of the

total amount raised. However, for personal campaigns, like those that fund individual health care costs, GoFundMe has dropped the platform fee and now just asks for voluntary tips. Using the same or slight deviations to this business model, 191 crowdfunding platforms have been started in the United States, followed by 44 in the United Kingdom. The proliferation of American businesses can be explained, in part, by growing American demand for crowdfunding for a variety of causes, from covering health care and education expenditure to funding a start-up and passion project. Management scholar Nir Kshetri finds that the US accounts for 72% of the 2013 global crowdfunding market.¹ And this demand is growing globally as Statista values the 2018 crowdfunding market at \$10.2 billion and forecasts a 2025 valuation of \$28.8 billion.²

Within crowdfunding, health care crowdfunding is growing rapidly. The evolving business of GoFundMe, the crowdfunding market leader, illustrates this trend. In 2010, GoFundMe launches as a crowdfunding platform for project ideas and wedding gifts – not health care. However, the company soon observes that the most funded campaigns on its platform are those covering personal health care expenses. More specifically, between 2010 and 2018, about one-third of all funded campaigns on its platform are health care campaigns. Annually, GoFundMe raises over \$650 million for health care campaigns.³ I also find that \$115,536,240 is raised across 5,596 GoFundMe health care campaigns in my original dataset. Thus, health care crowdfunding has grown rapidly to become a major part of the market leader’s crowdfunding activity. This demand is further illustrated in how GoFundMe has redesigned its platform and identified its acquisition targets. The business now has a prominent “Medical” category that curates its health care campaigns and claims to be the default platform for health care

¹ Kshetri 2015

² Szmigiera, 2019

³ Bluth, 2019

crowdfunding needs. Moreover, GoFundMe has acquired YouCaring, a major competitor in health care crowdfunding, to consolidate its dominance in the health care crowdfunding space.⁴

The core concept that underlies the value in online crowdfunding is that these platforms connect a large group of donors – of friends and strangers – with campaigns that can financially support its beneficiary. Because of the global reach of online networks, strangers from different socioeconomic classes can be connected to support someone in desperate need for help. I see this occur in the media. In November of 2018, 60-year old Missourian Hedda Martin is not qualified for a necessary heart transplant. The medical committee that rejected her transplant application, because she was underinsured and thus lacked a secure financial plan to pay for her post-transplant recovery needs. The committee urges her to launch a fundraising effort to raise \$10,000. So, Martin’s son creates a campaign on GoFundMe on her behalf. The campaign catches media attention. Moreover, it catches the attention of Representative Alexandria Ocasio-Cortez (AOC) in New York. AOC shares the information on her Twitter page to her 6.7 million followers. Over forty-four thousand dollars are crowdfunded, and Martin gets her transplant.⁵

What is important to note in Martin’s story, which is representative of many others, are the two prevailing themes in the staple health care crowdfunding narrative: (1) people have a right to health care, and (2) health care is unaffordable. First, the right to health care is explained through both international community standards and domestic public opinion. Next, health care is unaffordable, because costs are increasing and people, left to their own devices, are underinsured.

⁴ Lunden, 2018

⁵ Keshner, 2018

While health care is a basic human right that has been recognized by most countries in the United Nations, this is not the case in United States. All industrialized countries have ratified the United Nation's Universal Declaration of Human Rights (UDHR). Article 25 of the UDHR codifies the universal right to health. Subsequently, every industrialized nation except for the United States shifted to implementing universal health systems. While the treaty did not formally mandate the need for universal health systems, most of the international community recognize that to have health as a basic right meant also having access to a universal health system. An explicit effort is then made to codify the universal right to health care in Article 12 of UN's Covenant on Economic, Social and Cultural and Rights (CESCR). Specifically, the Article formally recognizes that "states must protect this right...through a comprehensive system of health care, which is available to everyone without discrimination, and economically accessible to all."⁶ The treaty holds member states accountable for providing a health system that does not discriminate against people on the basis of cost. All member states signed the CESCR, but the United States was one of three countries that did not ratify it. But while health care is not a basic right in the United States, health is a universal basic right. Universal basic rights are fundamental rights that every human should have and codified by the international community. Since most of the international community recognizes the basic human right to health care, health care is a basic right for humans residing in the United States.

There is strong bipartisan support in the mass public that access to health care coverage is a government responsibility. Pew Research Center finds that six-in-ten Americans continue to believe that ensuring health care coverage is a government responsibility. Even among the 37% who express disagreement, they still overwhelming support the continuance of government-run

⁶ Gerisch, 2018

health care programs like Medicare and Medicaid.⁷ Thus, across partisan lines, there is an explicit and implied public consensus that people are entitled to health care coverage. And these opinions are operationalized in elections. According to the Gallup's October 2018 Midterm Election Benchmark poll, 80% of polled registered voters name health care as a very important policy topic they will consider in choosing who to vote for – placing health care above the policy domains of economy and immigration.⁸ Thus, voters care about health care as a policy area that deserves attention. Unsurprisingly, the Kaiser Family Foundations find that most Americans are concerned about access to health care due to costs.⁹ To quantify this concern, the Pew Research Center reveals that approximately 83% of Americans feel that health care costs are problematic.¹⁰

One reason the public think health care costs are problematic is that the costs are expensive. The 2018 Centers for Medicare & Medicaid Services report shows that the national health expenditure – how much the country spends on health care – grew by 4.6% from 2017, thereby amounting to approximately \$3.6 trillion or 17.7% of gross domestic product (GDP). Out of pocket expenditure – how much people pay for health care using their own disposable incomes, because the insurance doesn't cover it – grew by 2.8% to \$375.6 billion. That is, out of pocket expenditures make up 10% of 2018's national health expenditure.¹¹

People when left to their own devices are likely to be underinsured, and thus not have access to their ideal health coverage plans. In 2018, 91.5% of the population is insured.¹²

⁷ Kiley, 2018

⁸ Newport, 2018

⁹ Kirzinger et al., 2019

¹⁰ "Most Americans Say the High Costs of Medical Treatments Are a Big Problem," 2018

¹¹ "NHE Fact Sheet," 2020

¹² Berchick, 2019, p. 1

However, a survey on economic wellbeing by the Federal Reserve finds that 20% of adults had major, unexpected medical bills to pay in 2018. So, while most of the population is insured, one-fifth of Americans are still facing unexpected medical expenses that were not covered by their insurance. Among this group, 40% had unpaid debt from those bills. The median range for these bills is between \$1,000 and \$4,999.¹³ Thus, the data suggest that Americans are underinsured, meaning that they purchased health insurance plans that fall short of meeting their actual health care needs.

III. Historical events have led the United States to rely more on private health insurance.

In this section, I explain the historical events that led the United States to rely more on private health insurance rather than government-provided insurance. While many winning presidential campaigns on expanding health care, their efforts – aside from that of Presidents Johnson and Obama – ultimately were not enacted due to shifting political priorities and interest group opposition. Over time, various legislations caused for-profit insurance firms to replace non-profits as the primary provider of insurance. The culmination of these events led up to the modern American reliance on private health insurance markets.

Early twentieth-century advances in medicine increased demand for health care services. In his observations of the hospital setting, Dr. Benjamin Rush wrote: “Hospitals are the sinks of human life.”¹⁴ This description characterized what hospitals, as institutions of advanced medicine, were like before the early 20th century. Hospitals were funded by charity and provided health care to the poor. Hospitals were unsanitary and unsafe. The medical technology was rudimentary. Rather than working at hospitals to profit and practice advanced medicine,

¹³ “Report on the Economic Well-Being of U.S Households in 2018 – May 2019,” 2019

¹⁴ “THE RESULT OF OBSERVATIONS MADE UPON THE DISEASES WHICH OCCURRED IN THE Military Hospitals of the United States, DURING THE LATE WAR,” 1793, p. 184

physicians often volunteered at hospitals to train and gain clinical experience. They then leveraged their clinical experience to offer for-profit services to middle- and upper-socioeconomic class patients. But even then, the value of medical treatments was limited. This changed following a series of inventions from anesthesia and X-rays to cleanliness practices. As a result, medicine in hospitals became more effective and safer. Doctors were able to use anesthesia to reduce pain during surgeries. X-rays improved the accuracy of diagnosis. Cleanliness practices reduced the spread of infectious diseases, thereby improving the overall quality of hospital care. These improvements generated greater and broader demand.

Increased demand brought health care into the political spotlight, where candidates and organizations called for its provision through some degree of government involvement. Then-presidential candidate Theodore Roosevelt, running on a progressive platform, campaigned for universal health coverage in 1914. This was the first time a major presidential candidate put healthcare as a campaign issue on a national platform. Other non-governmental organizations (NGOs) also tried to provide their members with health care access by working with government. For example, the American Association for Labor tried to develop health insurance programs with the help of state governments and labor unions.¹⁵ Thus, in the early stages of modern American health care, the public interest in having the government operationally involved with health care provision existed.

However, World War I shifted the nation's priorities away from health care reform, thus leaving opportunities for NGOs to satisfy unmet demand without government involvement. The government started to focus on preparing for war. Labor unions took this opportunity to

¹⁵ Manchikanti et al., 2017, p. 108

prioritize recruitment and expansion. Health care was relegated to the sidelines, and existing efforts were halted. As a result, both Roosevelt and American Association for Labor's healthcare efforts with federal and state governments, respectively, fell short.¹⁶ Nonetheless, the demand remained unfulfilled. Government was preoccupied with other priorities. Thus, NGOs had the opportunity to meet an existing demand without government involvement.

Nonprofit hospitals became the best candidates to fulfill the unmet public demand, and they began the early development of the American health insurance market. Because nonprofit hospitals already had the medical infrastructure, they were best positioned to use their existing resources to meet the public demand. In 1929, while trying to make health care more accessible to his local community, Baylor University's executive vice-president Justin Ford Kimball proposed a plan: Ask Dallas schoolteachers to pay six dollars a year to Baylor's nonprofit university teaching hospital for 21 days of hospitalization coverage per year. The proposal effectively attracted local teachers, and the successful execution of this flat-rate prepaid model at Baylor prompted other nonprofit hospitals to learn and adopt.¹⁷ These payment plans were the early versions of health insurance plans. And while the proliferated adoption of these prepaid plans was rapid, the market was still in its early stages. Thus, the government could still have intervened.

While the New Deal ushered in a mass expansion of the welfare state, health care was largely left out because of opposition by the American Medical Association (AMA). Demand for government provision of health care still existed. During the drafting of the Social Security Act, groups like the Committee on the Costs of Medical Care advocated to include health insurance as

¹⁶ "The Role of the Federal Government in Health and Earlier Healthcare Efforts", 2004, p. 30

¹⁷ Weisbrod and Feiser, 1961

part of the bill. However, Democrat President Franklin D. Roosevelt ultimately removed health insurance from the Social Security Act primarily due to opposition from the AMA. The AMA opposed any type of health insurance, because it wanted to protect the power physicians had to independently charge for their services. Pricing power was important, because many physicians owned their practices. Each practice faced different cost structures due to different supplier relationships and business conditions. Thus, a key power they had was the ability to set their own prices for the value of their service. Health insurance would have removed this pricing power from physicians and given it to an external stakeholder, such as the government or hospitals. Thus, the AMA threatened to stop the passage of Roosevelt's Social Security Act should the bill include one. And because of the size and effective organization of the AMA, its threat was credible.¹⁸ Thus, Roosevelt removed health care from the Social Security Act to ensure that the rest of the bill passed. This political power play in the health care policy field inhibited the expansion of government's welfare role into health care, spurring the growth of nonprofit hospital health insurance plans.

As nonprofit health insurance plans proliferated, the Blue Cross and Blue Shield Associations pioneered the American health insurance marketplace. Two nonprofit associations, offering similar payment plans to the public, were founded around 1939: The Blue Cross Association and the Blue Shield Association. The Blue Cross Association was an association of nonprofit hospitals that were adopting payment plans like that of Baylor University's. The Blue Cross plans were offered by hospitals to their community members who paid an annual fee – or premium – to access hospital care throughout the year. The plans increased demand for hospital services. This increase was concerning to physicians who feared competition from hospitals.

¹⁸ “The Role of the Federal Government in Health and Earlier Healthcare Efforts,” 2004, p. 31

Thus, physicians established the Blue Shield Association to adopt similar prepayment insurance plans that covered home and office visits. The customers that subscribed to these plans also paid a premium in exchange for physician services. Thus, the early stages of the American health insurance market were defined by a duopoly between hospitals and physicians. These two market leaders both adopted community ratings that aimed to maximize the number of people who could access health care.

Community ratings ensured that these nonprofit health insurers improved the accessibility of health care to the public's growing demand for it. Community rating meant that premiums charged for the same level of coverage did not vary across individual circumstances. Everyone who paid the premium had access to the same level of coverage. Doing so, these organizations improved the accessibility of health care, so that hospitals and physicians could meet the growing demand for health care. Community rating improved accessibility, because it enabled cross-subsidization of healthcare costs between the sick and healthy, the poor and rich, and the elderly and youth. Consider the dynamics between the elderly and the youth. Assume that the elderly is more likely to get sick, thus the elderly would be costlier to the insurer. As a result, from a financial standpoint, the elderly should be charged more for the health insurance relative to the youth, because the elderly is more likely to use the insurance and are thus costlier. However, community ratings don't consider individual health circumstances. They charged everyone the same premium for the same amount of services covered. This helped lower health care costs for the elderly by subsidizing the expenses of the elderly with the payments made by the youth. This cross-subsidization made health care more accessible to the elderly and the sick. However, to sustain this model, insurers must have a continuous inflow of the young and healthy, and the proportion of young and healthy must exceed the elderly and sick. But the

problem was that young and healthy people may not necessarily value insurance at the price charged. Thus, the community rating model was vulnerable to any competition that could offer similar insurance products at lower prices.

The community rating models failed to compete against more competitively priced plans charged by for-profit insurers who used experience rating pricing models. The proof-of-concept provided by nonprofit Blue Cross and Blue Shield plans prompted large industrial employers and once hesitant for-profit commercial insurance companies to enter the health insurance marketplace around 1941. Some large employers provided integrated healthcare systems. These systems employed a network of health care providers and offered health insurance to members within the company's employee community. Kaiser Permanente, founded in 1942, was one of them. Meanwhile, commercial insurance companies also entered the health insurance market as for-profit businesses. They entered with existing insurance businesses that spanned both the scope of coverage, so covering life insurance and other domains of insurance, and geography, so providing nationwide coverage. Because of their profit maximization objectives, they wanted to reduce costs and maximize revenues. Thus, they were incentivized to abandon community rating used by prevailing nonprofit health insurance for experience rating. Experience rating charged customers based on their individual risk of becoming sick. Effectively, this model enabled insurance companies to discriminate health care access based on a customer's riskiness and relatedly, their ability to pay. As such, the sick and elderly would either be charged at a higher price than the healthy young or be not eligible for insurance coverage. And the high price might not be affordable if the sick and elderly were also poor. Thus, each customer was priced differently for the same set of covered services in the health insurance plan they subscribed to. This allowed companies to offer a variety of health insurance plans across a range of prices to

target different customer segments with different levels of risk. Specifically, for the young and healthy, for-profit insurers offered lower-cost plans with less services covered. This cheaper option effectively deterred young and healthy customers away from Blue Cross and Blue Shield's community rated plans. The loss of young and healthy inflows of people into community rated plans forced the nonprofit model that focused on maximizing health care access to become obsolete.¹⁹

Around the same time, in 1942, the Stabilization Act increased demand for employer-sponsored health insurance by leaving employers to compete for workers with fringe benefits. To stabilize inflation, Congress passed the Stabilization Act to prevent employers from competing for employees based on wages as there was a scarcity of available workers. Employers could however compete for employees by offering more competitive fringe benefit packages that did not exceed 5% of wages. Meanwhile, health care demand was growing, and for-profit insurers were beginning to offer low-cost insurance plans for the healthy. Thus, employers knew that people wanted health care, and that the cost of healthcare plans would probably be cheap, as people who work are generally healthy. So, employers who did not want to create integrated health systems decided to work with private insurance companies to offer employer-sponsored health insurance plans as fringe benefits. Employees responded positively to the offering, and this resulted in employer-sponsored health insurance becoming a critical means of how many Americans received their health insurance. In 2018, the United States Census Bureau calculated that approximately 55.1% of the population had employer-sponsored health insurance.²⁰

¹⁹ Manchikanti et al., 2017

²⁰ Berchick, 2019, p. 2

Then, the McCarran-Ferguson Act in 1945 ceded federal regulatory power over insurance markets to states, thereby decentralizing any significant federal regulatory power over health insurance markets. This federal law exempted private insurers from federal regulation.²¹ It prevented the federal government from regulating pricing, coverage, and other features of health insurance. As a result of the bill, each state was given authority to regulate the health insurance market within their borders. This decentralization generated a variety of outcomes for health insurers as states varied in their approach to regulation. Some states take advantage of their power to force insurance companies to only operate within their borders and encouraged the development of regional monopolies. Meanwhile other states removed all regulations on competition and made companies compete in the free market. As a result, the private health insurance marketplace became extremely fragmented.

Next, in 1954, the government began to indirectly subsidize the private insurance market through tax breaks, which increased public reliance on private health insurance. In 1954, the IRS issued tax breaks on employer contributions, which included the contributions made to employer-sponsored healthcare plans.²² This altered incentives on wages. For every dollar an employee earned, there was an economic incentive to invest that dollar into the employer-sponsored health insurance plan rather than to withdraw it as money. Thus, assuming that people were indifferent to the benefit derived from either option, the withdrawal would be taxed while the investment would not. As a result, employer contributions into sponsored-health insurance plans were financially valued more in the short-term. Employees recognized this incentive and demanded more employer-contributions into their health insurance plans. Employers spent more

²¹ “McCarran-Ferguson Act of (1945)”

²² United States, Congress, Cong. House, Committee of Conference, 1954

on employer-sponsored health insurance. American workers then became even more reliant on private insurance. And this reliance is in part encouraged by the government's indirect subsidization of private health insurance markets. Economist Jonathan Gruber projected that this tax break was worth approximately \$260 billion.²³

Then in 1974, the Employee Retirement Security Act (ERISA) exempted self-insured, multi-state employers from state regulations on health insurance, thus prompting cost-cutting actions and underinsurance effects. ERISA was not passed with the intention to impact the healthcare market. However, the act in practice pre-empted state regulation of self-insured, multi-state employers. As a result, multi-state employers did not have to abide by state laws in choosing which health insurance packages they offered their employees. This change led to the undermining of a centralized government oversight over the health insurance market to regulate key insurance elements such as pricing and coverage. This was even more problematic when considering the large inconsistencies in health insurance plans left behind by the McCarran-Ferguson Act.²⁴ Left to their own devices, for-profit employers, seeking to lower health care costs, worked with for-profit insurers to commercialize health care. This unregulated cost-cutting effort created ample opportunities to underinsure the American working class who relied on health insurance through their employers. Effectively, employers and their insurers took this opportunity to cover less services and a smaller proportion of health care costs. The consequential impact on the American working class was that more people became underinsured, and thus their out-of-pocket health care expenses increased.

²³ Gruber, 2011

²⁴ Manchikanti et al., 2017, p. 108

As these policies passed and the private market matured, many winning presidents campaigned on the issue of health care, but their platforms were ultimately not enacted. President Harry S. Truman called for a compulsory national health insurance program that would be funded by a 1.5% payroll tax. While Truman won the election, he was not able to leverage his public support to pass his healthcare proposal, because of active opposition from the AMA.²⁵ Then in 1960, Democrat Senator John F. Kennedy campaigned on adding a health care amendment to the Social Security Act. While victorious in his presidential election, President Kennedy lacked support from Congress to pursue a major comprehensive health care reform bill.

The federal government finally made headway when President Johnson passed Medicare and Medicaid in 1965 through a bipartisan compromise. Following President Kennedy's assassination, President Lyndon B. Johnson passed the Medicare and Medicaid bills to create a government-provided healthcare system for the general American public. Medicare was a two-part bill passed based on a bipartisan compromise and drew upon the legacies of the Blue Cross and Blue Shield plans. Drawing upon past Democratic proposals, Medicare Part A covered hospital services and was financed through a payroll tax. Based on past Republican proposals, Medicare Part B covered physician services and was financed by two revenue streams: enrollee premiums and general government revenue. These programs significantly expanded public access to health care. Medicaid, on the other hand, capitalized on this momentum to insure the qualified low-income and vulnerable populations that otherwise would have been uninsured. Medicaid was financed through public dollars and required state-buy, which it did not always have.²⁶

²⁵ "President Truman's Fight for National Health Insurance, 1949-1953"

²⁶ "The Role of the Federal Government in Health and Earlier Healthcare Efforts", 2004, p. 35-40

Rather than pursue more reforms of health care and despite bipartisan interest on the issue, subsequent administrations relegated health care to a secondary issue. Legislators from both Republican and Democrat parties introduced several proposals between the 1970s and into the early 1990s, proposing different versions of national health insurance programs financed by payroll taxes, general federal revenues, and instituting individual mandates. None succeeded, because health care was no longer viewed as a primary policy concern.²⁷

President Clinton succeeded in reviving health care as a primary issue for the modern century. In 1992, Bill J. Clinton campaigned on health care as a priority for his administration. Like many of his predecessors, he failed to deliver a comprehensive healthcare reform. Despite this policy failure, the Clinton administration's focus on health care revived health care as a primary policy issue for subsequent administrations to focus on.²⁸

President Obama managed to make major headway in reforming an increasingly costly health insurance market with the passage of the Patient Protection and Affordable Care Act (ACA). President Barack Obama campaigned on and then passed the ACA in 2010, advancing a major marketplace reform on the American health insurance market. The ACA reinstated community ratings, banned market discrimination against enrollees with pre-existing conditions, expanded Medicaid upon state buy-in, and closed gaps in what services were not being sufficiently covered by Medicare. Moreover, the government mandated ten essential health benefits that the plans on the ACA marketplace must cover, thus regaining some centralized

²⁷ Manchikanti et al., 2017

²⁸ Igel, 2008

regulatory authority. This new regulatory power was awarded to federal and state agencies to ensure progress in advancing health care's quality, access, and coverage.²⁹

The subsequent challenges to the ACA showed the controversies surrounding health care reform that delay significant changes to the health care market. In 2012, the ACA was challenged in the Supreme Court over two of its features: the individual mandate and its promise to withhold existing federal financial support to states that don't expand Medicaid. The individual mandate taxed uninsured individuals to coerce people into buying health insurance. The latter feature was designed to coerce states into expanding Medicaid using federal dollars. The former was ruled as constitutional on the grounds that the financial penalty was fundamentally a tax, and Congress had taxation power. The latter failed to hold up in court, because Congress was not authorized to force states to accept Medicaid expansion.³⁰ The ACA was challenged again in the courts in 2015 and 2019.³¹ Even in the legislative branch, in 2017, a Republican Congress attempted but failed to pass an ACA repeal bill and an ACA-replacement bill. The replacement bill was intended to better align with Republican values for health care reform.³² Thus, health care reform was not only difficult to pass, but it was also difficult to keep. The ACA was still challenged on Constitutional and ideological grounds years after its passage in 2010. And thus, health care remained a controversial topic and efforts to reform it at the government-level remain difficult if not unfruitful.

²⁹ United States, Congress, 2010

³⁰ Liptak, 2012

³¹ Liptak and Goodnough, 2020

³² Rubein, 2017

IV. There are three market frictions that prevent the private health insurance market from covering the health needs of all Americans.

In this section, I explore the three market frictions that prevent the private health insurance market from covering the health needs of all Americans. First, existing contingent contract markets discourage the provision of coverage for individuals, especially those who are low-income. Second, adverse selection deters insurers from covering high-risk customers. Third, moral hazard effects increase the aggregate cost of health care, which exacerbates the affordability problems that then may deter even more Americans from getting insurance through the private market.

i. Existing contingent contracts are limited and biased against individuals.

The nature of health care requires that it be insured through a market of contingent contracts. However, large groups are necessary to reduce high administrative costs faced by insurers. Thus, individuals that lack access to these groups tend to be excluded by the market.

The technical and uncertain nature of health care requires its insurance to be provided for through a market of contingent contracts. When economist Kenneth J. Arrow in 1963 discusses contingent contracts, he argues that an optimal market for contingent contracts must exist, because health care requires complex technical knowledge to understand. And even with mastery of the technical knowledge, health care is characterized by a high level of uncertainty. Thus, Arrow says that contingent contracts are necessary to meet customer demand for health care. These contracts take effect when certain conditions specified in the contract are met. The contingent contract market should ideally allow customers to choose from any combination of prespecified services, prices, and providers.³³

³³ Arrow, 1963, p. 962

However, insurers are incentivized to capitalize on economies of scale to reduce significant administrative costs associated with health insurance provision. The ideal market effectively requires an individualized approach, which is administratively difficult and costly to operate on. Health economist Michael Chernew notes that writing, coordinating, verifying and operating individualized contingent contracts would require an abundance of work and incur high administrative costs.³⁴ As such, Arrow emphasizes that insurers are incentivized to exploit administrative costs by spreading the costs across large groups.³⁵ Hence, insurers were incentivized to meet demand for employer-sponsored insurance plans in the 1940s when employers began offering healthcare benefits to their employees. With the employer's input, prespecified health insurance plans were offered to a large group of employees. These insured employees are generally homogenous. Since they are working, they are most likely healthy. As a result, insurers can generally expect these people to be less costly. Consequently, these cost-savings are passed on to employers who pass it down to their employees. This process generates a general alignment of interests that incentivize insurers to cover groups.

Thus, individuals tend to be left out of the health insurance market. Health economist Sherry Glied notes that Arrow's research implies that people who do not have direct access to employer-sponsored health insurance also lack individual coverage.³⁶ The United States Census Bureau finds supporting evidence for this implication; the average uninsured American is expected to be a low-income, working male without a high school diploma and between the ages of 19-64.³⁷ Underlying both the theory and uninsured profile is an acknowledgement that not all employers provide health insurance to their employees. Thus, for those employees, they are left

³⁴ Chernew, 2001, p. 889

³⁵ Arrow 1963, p. 963

³⁶ Glied, 2001, p. 958

³⁷ Berchick, 2018

to their own devices. If limited to the private market, then these individuals are likely to lack individual coverage. Leveraging the profile of the average uninsured American worker, these individuals tend to be low-income. While insurers do offer health insurance plans for individuals on the marketplace, the cost of individual plans may be prohibitively unaffordable. Thus, the health needs of individuals – especially low-income individuals – who cannot pay for the plans on the marketplace tend not to be met by the private health insurance market. However, even with the available contingent contracts offered by the private market, adverse selection adds another friction in limiting who gets served by the private market.

ii. Adverse selection deters high-risk individuals from getting private health insurance.

High-risk customers often rely more on higher-priced, but more generous health insurance plans. Thus, they are more likely to opt-in to and adversely select costlier health insurance plans. However, because they are costly to insurers, insurers are incentivized to uninsured or not insure them at all.

Choice in private health insurance markets allow for adverse selection. Adverse selection occurs when sick people choose generous insurance plans. In private health insurance markets, customers can choose which plans they purchase based on their health needs and willingness to pay. The coverage provided by different plans differ in what services are covered and how much these services are covered by. For example, a low-cost plan may cover dental and vision services but only cover those services up to 10% of their retail price. Alternatively, a generous, more-expensive plan may cover a breadth of services and 100% of the cost for those service. As such, people who are either sick or at a high-risk of becoming sick are more likely to need more health services. So relative to healthy people, they are more likely to buy a more generous health

insurance plan.³⁸ This adverse selection results in the separation of sick or high-risk customers from healthy or low-risk customers. The overconcentration of high-risk customers in already costly plans leads insurers to charge disproportionately higher prices for the plans.

Insurers are also incentivized to reduce the cost of high-risk customers and thus deter them from enrolling into these generous plans. To control the quality of customers within their plans, insurers engage in the process called risk selection. Within employer-sponsored health insurance, insurers could institute onerous processes for referrals to specialty services or require users to make a large portion of their health care costs out-of-pocket. These mechanisms effectively discourage high-risk customers from purchasing generous insurance packages.³⁹

As such, the deterrence measures instituted by private insurers constrain the extent to which the private health insurance market can meet the needs for high-risk customers. Those who do purchase a plan may end up underinsured, because the coverage is inadequate. Other high-risk people may be discouraged to purchase and become uninsured.⁴⁰ Either way, the outcomes are suboptimal, such that the private health insurance markets fall short in meeting the health needs of high-risk people.

iii. Moral hazard increases the cost burden for all Americans, thus limiting the reach of private markets to serving only those who can afford it.

Even for those who purchase private market health insurance plans, the friction of moral hazard leads to an aggregate increase in prices for health care. Much of the literature on insurance markets is devoted to moral hazard. In health insurance, moral hazard occurs when the insured begin engaging in risky health behaviors, after they purchase health insurance. This increased usage increases aggregate health care costs. Arrow observes that widespread health

³⁸ Chernew, 2001, p. 889

³⁹ Cutlet and Zeckhauser, 1997, p. 10

⁴⁰ Chernew, 2001 p. 889

insurance increases demand for health care.⁴¹ Glied further expands that the expanded scope of services covered by health insurance has increased health expenditure, because of moral hazard effects.⁴² The people buying insurance are using more health care services, which are covered by their insurance. Increased demand prompts doctors and hospitals to charge higher prices since the supply of health care is not growing as quickly. As medical technologies improve, the health care quality increases, which further contribute to price increases.⁴³ These increases are paid for by insurers. To avoid bankruptcy, insurers then increase their prices to offset growing health care expenses. In aggregate, health expenditure increases.

Insurers have implemented mechanisms to reduce the moral hazard effects, but average consumers are not aware of those mechanisms at the time of purchase. Insurers are increasing the amount customers pay before the insurance takes effect. However, average Americans may not be aware of these features at the time of purchase. A group of health economists find that only 14% of a nationally representative sample could correctly answer four multiple choice questions that tested the basic features of health insurance plans.⁴⁴ Moreover, insurers have also added supply-side cost-sharing measures that limit the excessive use of health care by providers. The measures include utilization monitoring to deter physicians from oversupplying health services.⁴⁵

However, moral hazard effects persist in the private market, increasing health expenditure and thereby risk leaving behind people overwhelmed by its costs. Glied concludes that issues of moral hazard persist in the health insurance market today. Furthermore, the advances in medical technology have increased both the quality and cost of health care. Faced

⁴¹ Arrow, 1963, p. 871

⁴² Glied, 2001, p. 960

⁴³ Glied, 2001, p. 961

⁴⁴ Loewenstein et al., 2013

⁴⁵ Glied, 2001, p 963

with prohibitively expensive costs, more Americans are either opting into cheaper plans that leave them underinsured or out of the private market. Thus, the heightened cost of health care exacerbates the market's failure in extending health coverage to more Americans.⁴⁶

V. Low-income and high-risk Americans will have the greatest need for additional support for health care expenses outside of the private insurance market.

In this section, I explain that low-income and high-risk Americans will have the greatest need for alternative financing mechanisms like crowdfunding. Namely, I first explain how existing contingent contract effects and the incomplete expansion of Medicaid under the ACA leave a significant portion of low-income individuals uninsured. Without support from the private insurance market and being ineligible for public coverage, these individuals have a great need for an alternative means to affording health care. Second, I explain how the costliness of high-risk, primarily chronically ill individuals, leave many of these individuals sick and uninsured or underinsured. As a result, they will also be in great need for additional support.

i. Among those impaired by income, low-income Americans in non-ACA Medicaid expansion states are in greatest need for additional support.

Income remains a barrier in access to the private health insurance market, because of existing contingent contracts and moral hazard effects. Existing contingent contracts often create significant price disparities between employer-sponsored health insurance plans and individual plans. Namely, because individual plans cannot capitalize on the economies of scale that employer-sponsored plans can, individual plans on the private markets are expensive. Their costs are further exacerbated as a result of the cost increases through moral hazard effects. Moral hazard incentivizes the insured to overutilize the health care system, thereby increasing health expenditure.

⁴⁶ Glied, 2001, p. 965

Confronting high health care costs, low-income workers are most vulnerable to being uninsured by the private market. Low-income workers often either lack access to job-based coverage or the disposable income needed to pay for employer-sponsored insurance plans. Thus, within the private market, they are left to individual insurance plans, of which the majority often cannot afford. In 2018, the United States Census Bureau estimates that only 24.7% of low-income people, categorized by those who make below 138% of the federal poverty line, had private insurance. This percent is almost triple that of the national average of 67.3%.⁴⁷ Thus, low-income individuals have difficulty seeking coverage through the private insurance market.⁴⁸ As a result, low income workers can either attempt to get health insurance through the public market or be uninsured.

However, the public market is limited in its coverage for low-income workers, because of means-tested features associated with traditional Medicaid and lack of state opt-in to ACA Medicaid expansion. Traditional Medicaid, passed by President Johnson's administration in 1965, has stringent eligibility requirements for adults. In most states, regardless of income, adults without dependent children are not eligible for Medicaid, unless they were disabled or pregnant.⁴⁹ Thus, up until the passage of the ACA, most low-income, working class Americans – especially males – did not have access to Medicaid. The ACA allows states to opt-in to an expanded Medicaid program that makes all adults who make below 138% of the federal poverty line eligible for Medicaid. Such an expansion significantly expands the public market coverage for low-income individuals. However, states must opt-in to this expansion, and not all states have. In 2020, 15 states have not implemented Medicaid expansion.⁵⁰ Thus, while the remaining

⁴⁷ Berchick et al., 2018, p. 12

⁴⁸ “The Uninsured And The Difference Health Insurance Makes”, 2012

⁴⁹ “The Uninsured And The Difference Health Insurance Makes”, 2012

⁵⁰ “Status of State Medicaid Expansion Decisions: Interactive Map,” 2020

states have now expanded Medicaid to cover low-income adults, 15 states are still withholding public market coverage from them. Consequently, this lack of Medicaid-expansion leaves low-income workers in those states uninsured.

As a result, low-income workers in non-Medicaid expansion states have one of the greatest needs for additional health financing mechanisms. In 2018, the uninsured rate for adults who make below 100% of the federal poverty line in non-expansion states is 35.6%. This rate for Medicaid expansion states is 16.9%, which is merits to almost a 50% reduction.⁵¹ Meanwhile, the lack of insurance has adverse impacts on the uninsured population. The Kaiser Family Foundation finds that the uninsured are less likely to receive preventative care, and services for major health problems and chronic care.⁵² As a result of neglecting care, they end up suffering from major health consequences, that are even more costly to treat. Thus, low-income workers in non-expansion states demonstrate great need for alternative healthcare financing.

ii. Among those impaired by the cost burden of their health needs, high-risk chronically ill Americans are in the greatest need for additional support.

Additionally, high-risk Americans also have a greater demand for alternative financing because of adverse selection effects. Adverse selection can result in the segregation of customers by their likelihood of getting sick. Thus, customers who are more likely to get sick will be more likely to opt into more generous health insurance plans. However, the coverage of these plans cost more, and because sick people are more likely to use the services, these plans are also costlier to manage. Moreover, insurers are incentivized to reduce costs and thus add insurance features that deter high-risk individuals from the private insurance market.

⁵¹ Berchick et al., 2018, p. 13

⁵² “The Uninsured And The Difference Health Insurance Makes,” 2012

A prominent group of high-risk Americans are those with chronic diseases, because they are highly prevalent, deadly, and expensive. The Centers for Disease Control and Prevention (CDC) defines chronic diseases as health conditions that last over a year. These patients may also require ongoing medical attention or be functionally impaired from day-to-day activities. Sixty percent of American adults have a chronic disease and 40% have two or more. Thus, chronic diseases are highly prevalent within the American population. Moreover, these diseases are deadly. Chronic diseases such as heart disease, cancer, and diabetes are the leading causes of death in the United States. And given the diseases' prevalence and severity, measures to contain them also contribute heavily to the nation's growing annual health expenditure.⁵³

Because chronic diseases are costly, the private insurance market is incentivized to reduce costs by deterring customers with chronic diseases from buying insurance. Some deterrence mechanisms are increasing premiums, deductibles, or copayments. Premiums are the monthly or annual rates customers pay upfront to purchase health insurance. Deductibles define a minimum cost of care that individuals need to exceed before they can access their insurance benefits. Copayments are fixed amounts individuals pay to the medical service provider before accessing health care. These mechanisms effectively increase the cost of health care upfront for the individual. Thereby, they discourage patients with chronic diseases from engaging in the private insurance market.⁵⁴ Patients either exit and become uninsured by the private market or opt-in to a suboptimal insurance plan.

Chronic diseases adversely impact a significant portion of the uninsured. Analyzing longitudinal data from the National Health and Nutritional Examination Survey, Dr. Andrew P.

⁵³ "About Chronic Diseases," 2019

⁵⁴ Cutlet and Zeckhauser, 1997, p. 10

Wilper estimates that approximately one-third of the uninsured population have chronic diseases.⁵⁵ In other words, a significant portion of the uninsured are at a high-risk of becoming fatally sick. Thus, the demand for health care services to manage or prevent the onset of their chronic diseases exists. However, because these patients are uninsured, they are less likely to access the recommended care necessary to manage the disease.

Even for insured individuals with chronic diseases, they are likely to defer from seeking necessary health care because of underinsurance. This issue is particularly relevant among insured cancer patients. Over one-third of insured cancer treatments face higher than expected out-of-pocket costs for their anticancer therapy. Among this group, the underinsured are most impacted, because they are charged almost one-third of their income.⁵⁶ Thus, underinsurance leads to higher than expected health care costs for insured patients who need health care. As a result of underinsurance, and its subsequent costs, uninsured people are also less likely to get the care necessary to manage their disease. A large body of underinsurance literature concludes that the underinsured are less likely to get the care they need. For example, a Centers for Disease Control and Prevention (CDC) study on underinsurance among adults with hypertension, a major risk factor for heart disease, finds that 26% of adults with hypertension are underinsured. Compared to their adequately insured counterparts, underinsured adults fail to receive the recommended health care needed.⁵⁷ As a result, their conditions progress unmanaged.

However, the unmanaged progression of the chronic disease inevitably leaves these individuals with prohibitive health expenditures that require alternative financing channels to pay off. Because uninsured and underinsured individuals are deterred from accessing the necessary

⁵⁵ Wilper et al., 2008, p. 173

⁵⁶ Chino et al., 2017, p. 1584

⁵⁷ Fang et al., 2017, p. 5

health care to treat their disease, the disease naturally progresses. The unmanaged progression of the disease ultimately impairs these individuals to seek emergency health care. As a result, these individuals are most likely to consider the emergency department as their primary care site – as a last resort. However, emergency health care is expensive. Because the patient is inadequately covered by insurance, the charges that result from emergency health care are often unaffordable.⁵⁸ Thus, these individuals will be in great need for alternative outlets – like crowdfunding – to raise money to pay off their medical expenses.

VI. Charitable giving literature explains the supply of crowdfunds.

In this section, I explore the literature on charitable giving and health care crowdfunding to identify why people give to health care crowdfunding campaigns, which make up the supply for crowd-sourced funding. Americans, relative to their OECD neighbors, rely heavily on charitable giving to provide for basic goods, like health care. This phenomenon can be in part explained by the prevailing view of encouraging private provision through charity. More precisely, this phenomenon can be explained at the individual level through eight reasons that motivate giving to health care crowdfunding campaigns.

Charitable giving plays a larger role in meeting social needs in the United States than in other OECD countries. Public policy economist Charles T. Clotfelter observes that Americans have consistently given approximately 2% of their income to nonprofit organizations. And this private provision, or charity, has been primarily responsible for the country's provision for social needs. American charitable giving is significantly higher than that of its OECD neighbors. Private provision of social needs in the United States makes up 10.5% of its GDP, while private provision of social needs averaged across all OECD countries makes up 2.5% of their GDP. The

⁵⁸ Wilper et al., 2008, p. 174

role of charity is so significant that despite comparatively low government social expenditure, the United States ranks second in aggregate social expenditure. Individual charitable giving overwhelmingly makes up for what the government does not spend. Clotfelter concludes that this trend is persistent. Furthermore, the persistence of this trend makes Americans, relative to their OECD neighbors, rely more on private provision to address unmet social needs rather than government.⁵⁹

Given the significant role charity plays in the social landscape, the topic of how the government should manage charity has been deeply debated among policymakers and political philosophers. They organize their views into three schools of thought.

One school argues that the government should constrain charity but recognizes that charity's role in society cannot be reduced. This school is built on the theories by philosophers Jean-Jacques Rousseau and Immanuel Kant. They fundamentally argue that government has been entrusted with the authority to represent the interests of the common people. Charity, provided by individuals to advance their own interests, can undermine the interests of the common people. Thus, government has the authority to constrain charity. However, this school also acknowledges that charity plays a significant role in American society that charity cannot be removed. And thus, they acknowledge that they cannot prevent charity and are limited in how much they can constrain charity.⁶⁰ As such, the subsequent two schools are more prevalent in shaping America's charity landscape.

Another school argues that the government should protect charity, acknowledging people's interest in providing for the general welfare. This school is built on the theories of philosopher John Locke, who argues that charity is a property right that citizens are legally

⁵⁹ Clotfelter, 2016, p. 37-38

⁶⁰ Merrill, 2019, p. 491-494

entitled to. Assuming that people are social beings, Locke believes that people are interested in and have the rights to protect their individual interests and mankind's interests. Mankind's interests are those that help sustain and improve society.⁶¹ As such, these interests include providing for basic needs and access to basic rights. Thus, people have the right to provide, through charity, for the basic needs of society to whatever extent possible without infringing upon the rights of others.

The third and prevailing school argues that the government should encourage charity, because it allows the United States to be a successful pluralist democracy. This school is built on the theories of philosophers Edmund Burke and Alexis de Tocqueville. Burke observes that within civil society, small communities form, because of shared interests. These interests can include charitable giving and private provision for basic needs. These small communities strengthen their members' ties to the larger civil society. Tocqueville extends this argument by attributing the success of the American polity to the formation of charity-supported associations. More specifically, charity helps sustain minority communities and opinions. Their existence enables a robust pluralist American democracy.⁶² Thus, members in this school acknowledge that charity helps advance individual or small-group interests that deviate from the interests of the general public. However, Tocqueville credits this plurality of interests as key to the success of American democracy. And Tocqueville's view is the most referenced in charitable giving literature.

Charitable giving literature studies motivations for why people give to charity and its subsequent implications. Sociologists René Bekkers and Pamala Wiepking analyze the recent literature to summarize eight factors that motivate charitable giving: awareness of need;

⁶¹ Merrill, 2019, p. 494-495

⁶² Merrill, 2019, p. 496-498

solicitation; costs; reputation; value-alignment, efficacy; altruism; and warm-glow effects.⁶³ The first four will explain why people donate to a variety of causes on crowdfunding platforms.

Then, the next four will explain why people donate to health care campaigns.

i. People donate on crowdfunding platforms, because these platforms raise awareness of need, solicit donors to donate, lower donation costs, and generate reputation boosts.

First, people donate, because they subjectively perceive and understand what is needed. This need can be material, psychological, or social. Awareness can be raised through media exposure. Communications scholar Adam F. Simon finds that media coverage on the need directly correlates with how many donations the need gets.⁶⁴ But while what the need is and how it raises awareness is important, the donor's subjective perception of the need is most important. Social psychologists Carl Wagner and Ladd Wheeler find that subjective perceptions of need are directly correlated to if they donate and the amount they donate.⁶⁵

Subjective perceptions of need can be influenced by the similar-to-me bias, which then motivate donors to give to people who are like them. The similar-to-me bias occurs when people favor others who are similar to them. Psychologists Deborah Small and Uri Simonsohn find that donors are more likely to donate if the person asking for the donation is similar to the donor – even if the donor has not been directly exposed to the person asking.⁶⁶ Sociologist René Bekkers observes a similar effect in which donors who have relatives dealing with similar illnesses are more likely to donate to others who are also fighting those illnesses.⁶⁷ By finding similarities with the beneficiary, donors are then more likely to perceive the beneficiary's need as a

⁶³ Bekkers and Wiepking, 2011

⁶⁴ Simon, 1997

⁶⁵ Wagner and Wheeler, 1969

⁶⁶ Small and Simonsohn, 2006

⁶⁷ Bekkers, 2008

significant need. As such, this line of findings suggests that donors are likely to donate to those who the donor can relate with.

Thus, the first reason people donate to crowdfunding platforms is that the platform raises awareness on people's needs and allows for donors to find needs they can relate to. Crowdfunding platforms curate a wide variety potential needs from education and health care to passion projects and movie equipment. Communications scholar Elizabeth Crisp Crawford echoes this need among donors to find a more localized, comprehensively engaging, and personalized approach to charity.⁶⁸ Moreover, all campaigns can be searched for through keywords and evaluated based on their content. The keyword searches allow donors to find campaigns for causes donors care about. The content on campaigns allows donors to find similarities with the beneficiary that then motivate the act of donating. Stories enable this opportunity for donors to become more aware and help people like themselves. Thus, storytelling becomes key in motivating donors to donate. Communications scholar, Amy Gonzales, observes that donors are more likely to donate to campaigns that told more personal stories that better connected with donors.⁶⁹ As such, because of these design features, crowdfunding helps donors become more aware of needs and find needs that they can relate to.

Second, people donate if solicited to donate. According to the 2001 Independent Sector survey on Giving and Volunteering, about 57.7% of donors donated after being asked to.⁷⁰ Social psychologist Sverre Lindskold observes that reaching out and asking potential donors to donate increases the likelihood that people donate.⁷¹ This effect remains meaningful in social media.

⁶⁸ Crawford and Jackson, 2018

⁶⁹ Gonzales et al., 2016

⁷⁰ Independent Sector, 2016

⁷¹ Lindskold et al., 1977

Solicitations on social media networks are also effective in increasing donation behavior. Communication scholars Jingyuan Shi and Charles T. Salmon observe that local opinion leaders can significantly influence their followers and members within their social networks to donate by retweeting.⁷² Thus, retweeting and other methods sharing people's solicitations on social media networks can also impact donation behavior.

As such, the second reason people donate to crowdfunding platforms is that people can be solicited through social media to donate. Every crowdfunding campaign page gives viewers the option to share the campaigns onto their social media channels. Thereby, the beneficiary and those supporting the beneficiary can solicit their social media networks to donate.

Communications scholar Elizabeth Crisp Crawford highlights that crowdfunding platforms have gained popular adoption by enabling peer-to-peer advocacy.⁷³ The shareability of campaigns on crowdfunding platforms to online social networks help scale and ease the solicitation process, which then drives donations.

Third, people donate if costs are low. Costs of donating can range from the donation amount asked for to the platform fees of processing the donation. If the requested donation amount is high, then the amount becomes costly to the donor. As a result, the donor will be discouraged people from donating. Thus, lowering donation costs can increase the likelihood of donations. In their field experiment, economists Catherine C. Eckel and Philip J. Grossman find that lowering costs of making donations increases the likelihood people donate.⁷⁴

By lowering donation costs, crowdfunding encourages donation behavior. Crowdfunding varies from traditional donation channels in that people have a lot of flexibility in deciding how

⁷² Shi and Salmon, 2018

⁷³ Crawford and Jackson, 2018

⁷⁴ Eckel and Grossman, 2003

much they will donate. Moreover, platform fees are either accounted for in the aggregate amount the beneficiary requests or not charged for personal crowdfunding campaigns. As a result, by extending the logic that donors donate if costs are low, and crowdfunding lowers costs, then donors are encouraged to donate through crowdfunding.

Fourth, people donate if donating improves their reputation. Researchers René Bekkers and Theo Schuyt observe that donations are strongly associated with measures of social pressure.⁷⁵ A measure of social pressure is reputation among peers. Psychologist J. T. Muehleman finds that people donate to causes that are perceived to be good by their peers. Doing so helps their peers see the donor in a positive light, which then helps improve the donor's reputation among their peers.⁷⁶ Thus, people donate to improve their reputation. Furthering the research, psychologists Phillip Brickman and James Bryan observe that people are more likely to donate if they perceive the donation as a means of reducing inequality. Donating to an inequality-reducing is perceived as a positive activity.⁷⁷

To reap the reputation rewards, donors prefer to make their donations public, which can be easily done through crowdfunding platforms. Charitable giving economists James Andreoni and Ragan Petrie observe that people prefer to publicize their donations, so that their peers are aware of their donation.⁷⁸ Only when their peers become aware of their donation can they enjoy the reputation boosting rewards that result from making the donation. As such, donors are attracted to charitable giving channels that allow them to publicize their donation. Crowdfunding platforms fill this need for donors by allowing donors to not only publicize their donation, but also share with their social networks the campaigns they donated to.

⁷⁵ Bekkers and Schuyt, 2008

⁷⁶ Muehleman et al., 1976

⁷⁷ Brickman and Bryan, 1975

⁷⁸ Andreoni and Petrie, 2004

Moreover, by publicizing their claim to their donation, crowdfunding platforms also encourage higher donation amounts. Economist Sarah Smith organizes online crowdfunding donations into three categories: shining knights, widows' mites, and the herd. Shining knights are large donations that signal wealth, generosity, or the intimacy of the relationship between the donor and beneficiary. Widows' mites are small donations made primarily to avoid social stigma for not participating. The herd are the modal donations who give what others give. What is observed for the average donor is that they donate based on what they think they are expected to give. That subjective evaluation considers what their peers have publicly donated. The publicly available data of past donations thus anchors how the average herd donor evaluates how much they should donate.

Thus, crowdfunding platforms attract donors because they raise awareness, facilitate solicitations on social media channels, lower donation costs, and publicize donations to enhance donor reputations. From the variety of causes captured donors can donate to, people donate to healthcare, because of these four intrinsic factors: value-alignment, efficacy; altruism; and warm-glow effects.

ii. People donate to health care campaigns, because of value-alignment, efficacy, altruism, and warm-glow effects.

First, people donate because of value alignment. People who value the common good, social justice, and the health of the overall society are more likely to donate to causes that lead to their better world. Bekkers and Wiepking find that donors' value systems inform donors of what their ideal world looks like. Motivated to make the world better, donors then donate to causes that bring them closer to their ideal world.⁷⁹ Therefore, people who want a world where there is

⁷⁹ Bekkers and Wiepking, 2011

universal access to health care are more likely to donate to individuals asking for donations to fund their health care needs.

In healthcare, this value alignment happens quite frequently, because humans are psychologically predisposed to value health care. Despite the politics on how to reform health care, health care is a valence issue that cuts across partisan lines. Human evolution historians Carsten Jensen and Michael Bang Petersen attribute its valence to people's instinct to care about health care. Humans are naturally been predisposed to concerning themselves with the random nature of sickness and the need for help when they are sick. These two factors are essential to survival but are often out of human control. As a result, these two factors have evolved into deep-seated psychological constraints that naturally bias people to perceive the sick as deserving of support.⁸⁰ Thus, people will be motivated to give because of this psychologically ingrained valuation for people's health.

Second, people give for efficacy. These donors want their donation to maximize its impact. Bekkers and Wiepking observe that donations and perceived efficacy of that donation are directly related.⁸¹ Extending similar findings, economist Brian Duncan proposes a theory for charitable giving to capture this desire to donate to make a perceived difference: impact philanthropy. Impact philanthropy suggests that people donate to causes in which they can personally make a difference.⁸²

Thus, donors donate to health care crowdfunding, because providing for one's health care comes with other benefits. Aside from the positive media stories of individuals securing health

⁸⁰ Jensen and Petersen, 2016

⁸¹ Bekkers and Wiepking, 2011

⁸² Duncan, 2003

care through crowdfunding, donors can also reference the positive externalities that they help generate by crowdfunding an individual's health care. Between 2006 and 2011, crowdfunding scholars Gordon Burtch and Jason Chan find that health care campaigns reduced about 3.9 percent of all medical related bankruptcies in the United States.⁸³ Thus, donors who donate to health care crowdfunding can help reduce the individual's bankruptcy risk, which can allow the patient to not have to sell their house to pay off their health care expenses. If the patient recovers, then the donation will help extend the patient's lifetime with the patient's friends and family.

Third, on a similar vein, people donate because of altruism. The difference among value-aligned, efficacy, and altruistic donors is their goals. Value-aligned donors care about advancing their greater society. Efficacy-motivated donors care about maximizing their individual impact. Meanwhile, altruistic donors care about just helping the beneficiary to whatever capacity the donor can. The donor's welfare is therefore a function of how much of the basic good is provided rather than by how it is funded. A large body of literature captures this motivation through the public goods theory of philanthropy. A key premise to this theory is that the cause that people crowdfund is considered a public good, because this cause is a factor in most of the public's individual utility functions. If it wasn't, then people wouldn't donate. Often, this utility comes from the cause's altruistic externalities, of which better health care has many of.⁸⁴ For example, a donor donating to another person's health care treatment derives utility from knowing that they have helped improve that person's welfare. Thus, altruism can motivate giving behavior to health care campaigns.

⁸³ Burtch and Chan, 2018

⁸⁴ Warr, 1982

However, altruistic giving to health care can lead to crowding out of public provision for health care. A major concern within the altruistic giving literature is that there is a dollar-for-dollar indirect relationship between private and public provision for basic goods. The increase in one will crowd out funds provided by the other. Economist Robert Sugden observes that this crowding out effect exists but does not persist.⁸⁵ Health care crowdfunding literature also observes the crowding out effect but is inconclusive on its persistence. Political sociologist Martin Lukk finds that Canadian health care crowdfunding is growing as government health expenditure is decreasing.⁸⁶ Across countries, Dr. Gaia Bassani finds data suggesting a substitution effect between health care crowdfunding and public health insurance.⁸⁷ While these early studies suggest a potential crowding out effect, the research is limited and inconclusive on how persistent this effect is.

As an alternative explanation for the lack of a persistent crowding out effect from pure altruism, the fourth reason people donate is to enjoy the warm glow effect. Thus, people give not necessarily because of the altruistic interests in helping others but rather because of the warm glow the donor feels by doing good. This warm glow is captured by the impure altruism theory. The theory provides an alternative explanation to the crowding out concern by pure altruist scholars. Andreoni builds the impure altruism theory to predict that in a world where there are only two payers for basic needs – government and private individual donors – government funds will incompletely crowd out private donations. Because individual donors feel a warm glow from donating, they do not see their donations as perfect substitutes for government contributions.⁸⁸ As such, they will still donate regardless of the extent of public provision, because the donation

⁸⁵ Sugden, 1982

⁸⁶ Lukk et al., 2018

⁸⁷ Bassani et al., 2019

⁸⁸ Andreoni, 1989

makes them feel good. Economists Heidi Crumpler and Philip J. Grossman find that this warm glow exists and plays a significant role in explaining giving behavior.⁸⁹ Economist William Harbaugh supports their findings with his neuropsychological analysis, which shows that donating elicits neural activity in areas associated with reward processing.⁹⁰

However, because people donate for the warm glow effect, they may be less likely to optimize the welfare impact of their donations. Global Health researcher Clair Null observes that most donors exhibit socially inefficient giving behavior. That is, they continue to give to campaigns they like, even when those campaigns have exceeded their goals and other comparable campaigns are underfunded. She explains part of this inefficient behavior by finding that few donors care about information gathering, which would have allowed them to evaluate and maximize the welfare impact of their donations.⁹¹ Thus, these findings are consistent with the charitable giving literature that suggests that warm-glow givers are less likely to care about the welfare implications of their donations. As a result, some campaigns may be overfunded, and others may be underfunded.

Thus, people donate to health care crowdfunding campaigns. People donate to health care campaigns because of values-alignment, efficacy in maximizing individual impact, altruism, and warm-glow effects. Donors give through crowdfunding platforms, because the platforms raise awareness, facilitate solicitations on social media channels, lower donation costs, and publicize donations to enhance donor reputations. These findings provide insight on what types of campaigns are likely to get funded.

⁸⁹ Crumpler and Grossman, 2008

⁹⁰ Harbaugh et al., 2007

⁹¹ Null, 2011

The four intrinsic factors motivate giving to the underserved segments of the health insurance market. These segments have the greatest demand and are prevalent in society. There are two segments: the uninsured for being low-income in non-Medicaid expansion states and those without adequate insurance for having chronic conditions. Value-aligned donors will donate to correct a society inadequacy. Efficacy-donors will donate, because donating to causes with the greatest demands can maximize the donor's impact. Altruists will donate to these segments, because they need help. Impure altruists will donate to get warm glow from doing good. Thus, these two segments appropriately fit the four intrinsic factors.

However, income changes the dynamic of where crowdfunding dollars are likely to go. People donate on crowdfunding platforms, because of awareness, solicitation, cost, and reputation. A caveat to this literature though is that not everyone has the resources to donate, even if the desire to exists. Generally, those who donate have disposable income, and are typically not low-income. Moreover, donors are subjective rather than objective in evaluating need. Consequently, they will likely fall victim to similar-to-me bias, thereby concentrating crowdfunding dollars on middle- to high-income beneficiaries. Early health care crowdfunding literature highlights how donors gravitated toward high-income, homeowners, and highly educated urban residents.⁹² Thus, while chronic disease campaigns, which are less discriminatory based on income, should still see more crowdfunded dollars, campaigns to cover health needs for low-income people should see less crowdfunded dollars.

⁹² Duynhoven et. al., 2019

VII. Two hypotheses seek to match crowdfunding supply with demand.

In this section, I will synthesize the two hypotheses ultimately argue that healthcare crowdfunding will help provide for only one of the two groups I identified as being most likely to demand need. The limiting factor on the welfare-enhancing impacts of health care crowdfunding is that donors make subjective assessments of need, and thus are likely to donate to people who are like them.

The greatest demand for health care crowdfunding is concentrated among two segments left inadequately insured by the private health insurance market. Because of market frictions in contingent contracts, adverse selection, and moral hazard, the greatest demand for health care crowdfunding belongs to low-income individuals in non-Medicaid expansion states and chronic care patients.

Because individuals in non-Medicaid expansion states lack other alternatives for health coverage, I assume that individuals who crowdfund for health care needs in non-Medicaid expansion states are low-income. While this may be a broad generalization, this assumption is reasonable, because non-Medicaid expansion states have higher uninsured rates and generally have smaller state budgets.⁹³ Moreover, many of the campaigns in non-Medicaid expansion states in my dataset attribute the lack of insurance and income to explain why they need funding. I will proceed then by equating campaigns in non-Medicaid expansion states as campaigns that demand the most need among the low-income.

The supply for health care crowdfunding is subjective and biased by income differences. Donors are motivated to give to either group's demands based on value-alignment, efficacy,

⁹³ "Status of State Medicaid Expansion Decisions: Interactive Map," 2020

altruism, or warm glow effect. However, donors generally are not low-income. They generally have disposable income. Moreover, donations are made based on subjective evaluations of need, which are vulnerable to similar-to-me biases.

This creates two implications for the supply and demand dynamics for this market. Because of the prevalence of chronic diseases, donors should still be more likely to give to chronic diseases relative to their medical alternative – acute diseases, or short-term diseases – regardless of income. However, because donors are less likely to be low-income, donors are less likely to donate to low-income beneficiaries, denoted by their residency in non-Medicaid expansion states, than those in Medicaid-expansion states.

Thus, I present two hypotheses:

1. Non-Medicaid expansion state health care crowdfunding campaigns will receive less crowdfunding than Medicaid-expansion state campaigns.
2. Campaigns crowdfunding for chronic diseases will receive more crowdfunding than campaigns crowdfunding for acute diseases.

VIII. Methodology

I use GoFundMe to build my health care crowdfunding dataset. Recent literature on health care crowdfunding has a list of 42 donation-based health care crowdfunding platforms.⁹⁴ I narrow that list to platforms that are American-based companies, which result in 18 platforms. Among them, I find only three platforms that focus primarily on individual health care crowdfunding platforms: GoFundMe, GiveForward, and YouCaring. The other 15 platforms are niche players that crowdfund for specific diseases or medical research. I choose GoFundMe as

⁹⁴ Bassani et al., 2019, p. 1308-1309

my source, because it is the largest and only remaining active platform. GoFundMe owns YouCaring, which acquired GiveForward. As a result, YouCaring and GiveForward are both deactivated.

On GoFundMe, I collect campaigns through the curated “Discover Medical Fundraisers” (referenced as “Discover” moving forward) page and through keyword search results. The results in “Discover” are ordered by their amount raised, limited in selection, and are thus not representative of the population. The minimum amount raised among these campaigns is \$27,325. Given that all empirical studies in health care crowdfunding literature have campaigns that raised nothing, this minimum indicates that the data is positively skewed. A concern from this ordering process is that it could potentially perpetuate a momentum effect: Trending campaigns continue to raise more money, while campaigns that lack traction continue to underperform. Given the limited representativeness of “Discover,” I expand my data collection through keyword searches on: Medical, Healthcare, Chronic, and Acute. “Chronic” and “Acute” refer to chronic and acute diseases. These terms are chosen, because they are most relevant to the scope of this research.

I collect 5,596 eligible campaigns after filtering for eligibility and duplicates. For comparison, a previous study found 2,204 health care campaigns.⁹⁵ I filter campaigns for eligibility by checking that the parsed campaigns are crowdfunding for individual health care needs of US-based residents. For example, some parsed campaigns were fundraising in euros, with beneficiaries located in Australia, or crowdfunding for money to publish a book with “Acute” in its title. These campaigns would be omitted from the dataset. Then, because some campaigns appear in multiple search results, I omit the duplicate campaign. I leave the campaign

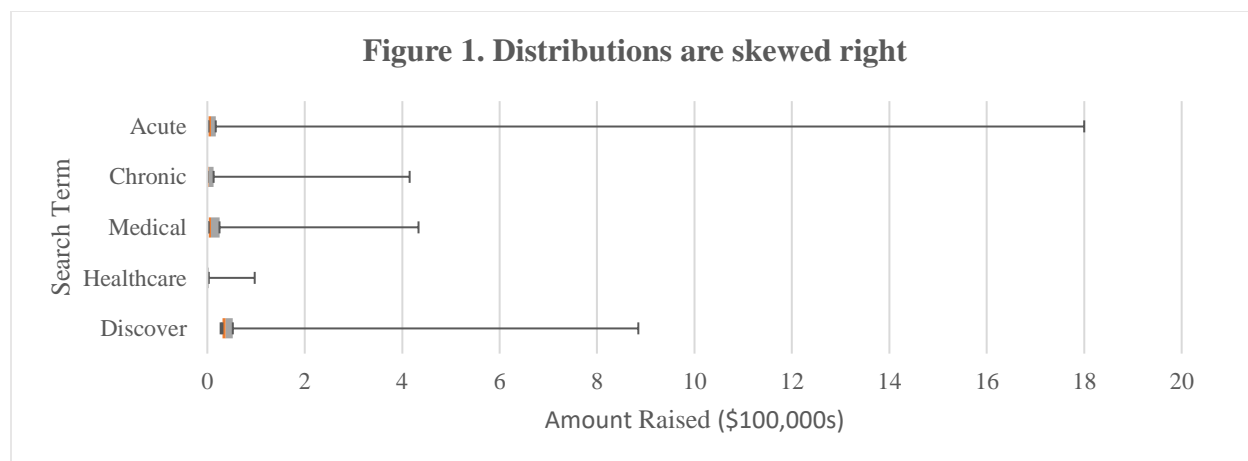
⁹⁵ Bassani et al., 2019, p. 1296

that uses a more specific search term, such as “Chronic” or “Acute.” If the duplicates are found within generic searches like “Healthcare,” “Medical,” or “Discover,” then I leave the first campaign that shows up in the data organization process.

To evaluate the representativeness of the campaigns collected, I run a statistical analysis in **Table 1** to evaluate the spread of campaigns. I use Microsoft Excel to analyze the data. Three of the four keyword searches have a at least one campaign that has a minimum amount raised of \$0. “Medical” has a minimum of \$354. These numbers are lower than the minimum for “Discover.” Additionally, the average raised for “Discover” is \$50,485.19, which is more than double its next highest average at \$23,582.81 by “Medical.”

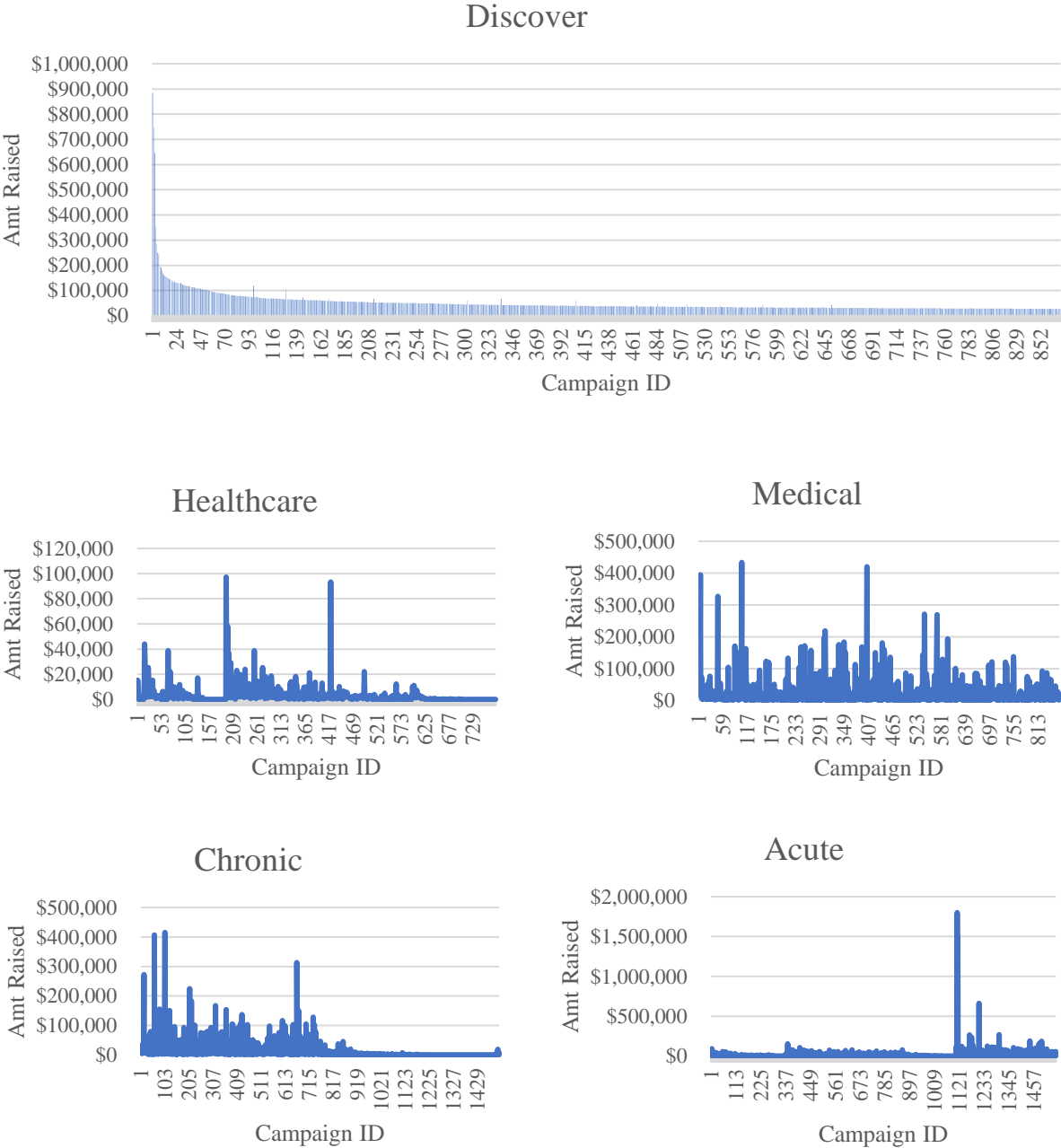
Search:	Discover	Healthcare	Medical	Chronic	Acute
N	871	779	865	1523	1558
MIN	\$ 27,325.00	\$ 0.00	\$ 354.00	\$ 0.00	\$ 0.00
Q1	\$ 31,032.00	\$ 140.00	\$ 2,800.00	\$ 110.00	\$ 2,456.25
Q2	\$ 37,840.00	\$ 1,250.00	\$ 7,750.00	\$ 2,865.00	\$ 7,245.00
Q3	\$ 52,284.00	\$ 2,990.00	\$ 24,980.00	\$ 12,890.00	\$ 17,258.25
MAX	\$ 884,686.00	\$ 97,235.00	\$ 433,512.00	\$ 415,274.00	\$ 1,800,000.00
AVG	\$ 50,485.19	\$ 3,113.07	\$ 23,582.81	\$ 12,372.71	\$ 17,273.79
STDEV	\$ 51,589.72	\$ 7,184.20	\$ 43,266.39	\$ 27,852.94	\$ 65,280.37

I proceed to map the quartile-metrics onto a box-and-whiskers plot in **Figure 1** to show that the performance of the campaigns is heavily right-skewed across all five groups. There is a long right tail with a highly concentrated portion of the campaigns falling around \$100,000 across all search terms. Thus, most campaigns raise very little, and outliers plague each group. This observation is consistent with existing healthcare crowdfunding studies that conclude that only some campaigns outperform, while most raise very little.



Looking individually at the distribution of each campaign's performance within their search term categories in **Figure 2**, I see that the distributions are random across different search terms. Campaign ID has no relevance to the analysis at hand but rather refers to each campaign's row number in their respective Microsoft Excel tabs. My dependent variable is the amount raised in dollars. For "Discover," I observe a long right-hand tail to the data, which reinforces the limitations to the "Discover" sample. For "Healthcare," I observe a random distribution that has two peaks that each raise about \$100,000. I expect the distribution of "Medical" to be similar to that of "Healthcare," because of the similarities in their definitions. Instead, I observe much more variation among the amounts raised for "Medical." Thus, while the campaigns collected are all health care crowdfunding campaigns, the two keywords produce very different distributions. "Chronic" and "Acute" also have different distributions. "Chronic" ends with a long right-hand tail, while "Acute" begins with a long left-hand tail in the distribution. Nonetheless, the varying row heights that suggest different amounts raised do seem to show a randomness to the collection of this subset.

Figure 2. Campaign amount raised are randomly distributed across keywords



Since the data is user self-reported, I assume that the data is accurate and representative of the individual’s actual state. Campaigns are accurately marking the beneficiary’s health condition as either “Acute” or “Chronic.” The campaigns reflect the location of where the beneficiary is at. For example, a campaign identified to be in Pennsylvania will benefit a

Pennsylvanian beneficiary. Thus, I assume that all the campaigns are making legitimate requests that are reflective of what the beneficiary needs. While there are media stories covering fraudulent healthcare crowdfunding campaigns, this is difficult to verify without the back-end data from GoFundMe. Thus, I rely on GoFundMe's enforcement of policies that punish fraudulent activity on its platform to assume that the campaigns I get are accurate and legitimate.

Then, I use ParseHub, a web-based data scraping tool, to gather data on each campaign's location, amount raised, target amount, and number of donors, shares, followers, and donations. I refer to the 2020 Kaiser Family Foundation data to identify non-Medicaid expansion states from Medicaid expansion states.⁹⁶ Consistent with most healthcare crowdfunding literature, I use the amount raised as my primary dependent variable to track financial performance. I use the target amount as a reference point for demand. Then, I use the number of donors, shares, followers, and donations as dependent variables that can help suggest explanations for discrepancies in performance.

I test for hypothesis 1 by acknowledging an implicit assumption and adding a new dependent variable. I assume that people in non-Medicaid expansion states who are crowdfunding for health care needs are low-income. Because state populations vary, I also introduce a dollar per capita measurement to account for population differences.

I test for hypothesis 2 by sorting the campaigns by their respective keyword search results. Thus, results found in the keyword search "Acute" are considered campaigns crowdfunding for acute diseases.

⁹⁶ "Status of State Medicaid Expansion Decisions: Interactive Map," 2020

IX: Results

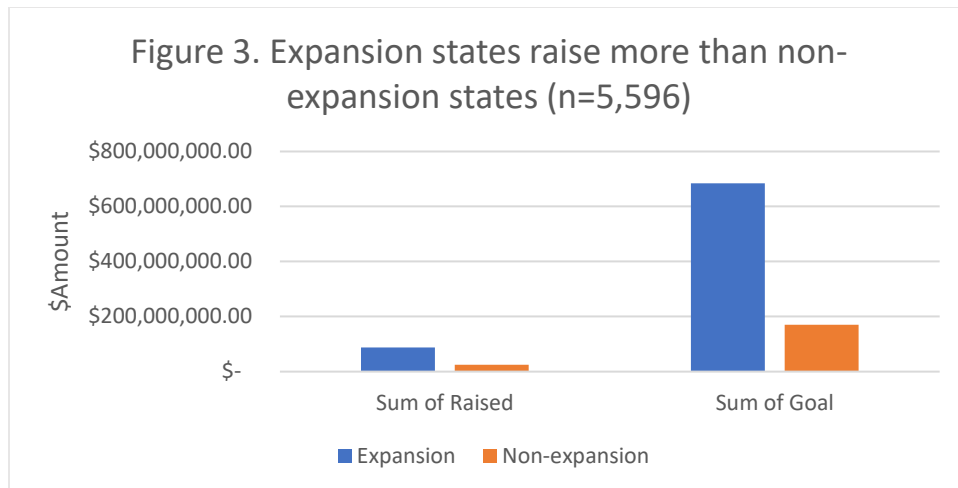
In this section, I analyze the results of the data. I find supporting evidence that campaigns in non-Medicaid expansion states raise less money than Medicaid-expansion states, because people donate in higher amounts in expansion-states. Meanwhile, I find no supporting evidence that campaigns crowdfunding for chronic diseases will raise more money. Instead, I find that donors are more likely to donate to campaigns treating for acute diseases.

i. Hypothesis 1: Non-Medicaid expansion state health care crowdfunding campaigns will receive less crowdfunding than Medicaid-expansion state campaigns.

I segment 5,596 campaigns using location as a dummy variable to determine whether the campaign is in a Medicaid-expansion state or a non-expansion state. Including Washington DC, the data represents 35 expansion-states out of 36 in total. All 15 non-expansion states are represented in this data.

On an aggregate absolute basis, the data in **Figure 3** show that expansion-states raise more than non-expansion states. The total raised by expansion states is \$87,223,723. The total raised by non-expansion states is \$24,924,775. Thus, campaigns in expansion states are getting more in aggregate.

Even when accounting for completion rates within groups relative to the aggregate amount they demand, expansion-states demand and get more crowdfunding dollars. To account for the differences in demand across groups, I divide the sum of raised by the sum of goal. Expansion-states demanded \$683,828,430 and had an average completion rate of 64.67%. Non-expansion states demanded \$170,315,314 and had an average completion rate of 0.06%.



Despite showing differences in financial performance and number of campaigns, both groups are relatively similar when considering the data in **Table 2**. The sample size difference amounts to 2,106. Thus, the dataset may exhibit a skewness resulting from the unequal proportion of campaigns. However, even with such a volume difference in campaigns and the amount raised, the difference between the number of donors, followers, and donations are all relatively small. The biggest discrepancy is in the aggregate number of shares within each group. The difference amounts to 6,317,197. This is significant, as shares help beneficiaries raise awareness and solicit for donations, which are important to driving donor behavior. However, the impact of this difference is unclear, because the number of donors and donations made is relatively similar with only a difference of 1,381.

The small difference in donor count and donations made suggests that people in non-expansion states are likely donating less dollars per donation than people in expansion-states. Theoretically, if people donate the same amount per donation, then the differences in the number of donors and donations between expansion and non-expansion states should reflect differences in amount raised. However, the data shows small differences in the numbers of donors and donations. Moreover, the differences in social media performance seem relatively small. Even

with the difference in shares, the number of shares seems to have a small effect on attracting donors and donations. Meanwhile, the financial discrepancies are significant. Hence, this finding suggests that the people in non-expansion states are just donating more money than those in expansion-states.

Medicaid Expansion?	Expansion	Non-expansion	Δ Exp-Non-exp
N	3,851	1,745	2,106
#donors	1254155	1252774	1,381
#shares	6318297	1100	6,317,197
#followers	1303490	1302062	1,428
#donations	1439052	1437493	1,559

However, states vary in population and thus, population differences may impact performance. That is, small states hypothetically could have less people to donate to on an absolute basis. And thus, there is less competition and spreading of limited financial resources. Consequently, the small state may be donating more on a per capita basis.

I control for state population differences on campaign financial performance by creating per capita metrics. I begin by aggregating how much is raised and demanded on a state-by-state basis. I also use 2019 projections on state populations from the Census Bureau.⁹⁷ I then divide each respective financial sum with its corresponding state population to get a dollar amount per capita metric. Finally, I use the “SUMPRODUCT” function in Microsoft Excel to calculate average per capita metrics within each grouping by multiplying each state’s per capita metric with the state population as a percentage of total group population.

Within Medicaid-expansion states, there is variability in performance as shown in **Table 3.1**. The average amount raised per capita is \$0.40 while the average amount demanded per

⁹⁷ The United States Census Bureau, 2019

capita is \$3.21. Massachusetts and New York have the most dollars raised per capita, at \$0.79 and \$0.74 respectively. Arkansas raise the least per capita at \$0.06 and demand relatively little at \$0.34. This suggests that crowdfunding is not as prevalent in Arkansas as it is in other states. New Mexico has the greatest discrepancy between amount raised and demanded. New Mexico campaigns demand \$238.79 per capita but only raise \$0.11 per capita. Thus, while New Mexico seems to have the greatest need, this need is not adequately met.

Within non-expansion states, **Table 3.2** shows less inconsistencies in performance across states. The dollar amount raised per capita is \$0.21, while the dollar amount demanded per capita is \$1.50. Wyoming and Florida raise the most per capita, with \$0.44 and \$0.36 respectively. South Carolina and Alabama raise the least per capita at \$0.11 and \$0.12 respectively; they also demand the least. Thus, this suggests that crowdfunding for health care may not be as prevalent within these two states. Wisconsin has the greatest difference between how much they need and how much they get. Wisconsin demand \$17.47 per capita but receive \$0.16 per capita.

Thus on a per capita basis, expansion-states still raise more money than non-expansion states. **Figure 4** shows that the amount raised per capita for expansion and non-expansion states is \$0.40 and \$0.21, respectively. This difference suggests that expansion states are spending almost double of what non-expansion states spend per capita on crowdfunding to health care.

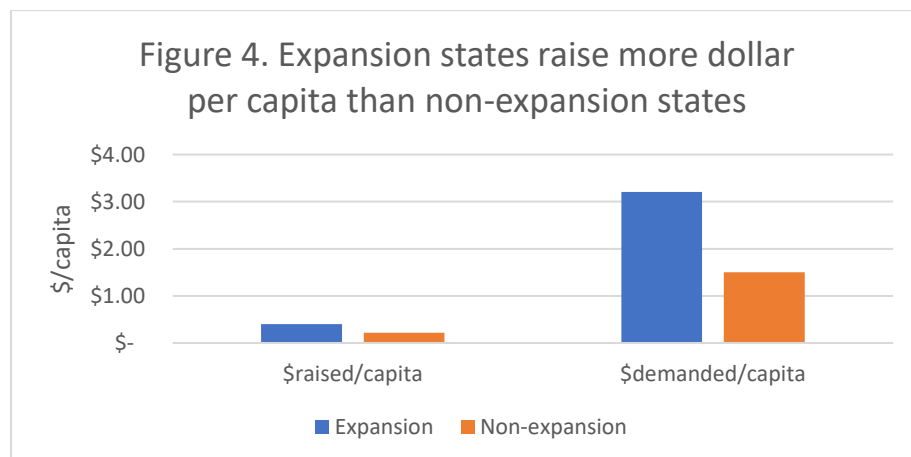


Table 3.1. Financial performance per capita for Medicaid-expansion states						
Medicaid Expansion?	Population (2019)	Sum of raised	\$raised per capita*	Sum of goal	\$demanded per capita*	
Expansion	213,230,991	\$ 84,841,431	\$ 0.40	\$ 683,642,549	\$ 3.21	
AK	731,545	\$ 317,371	\$ 0.43	\$ 803,000	\$ 1.10	
AR	3,017,804	\$ 183,644	\$ 0.06	\$ 1,030,195	\$ 0.34	
AZ	7,278,717	\$ 1,993,756	\$ 0.27	\$ 4,550,747	\$ 0.63	
CA	39,512,223	\$ 18,878,893	\$ 0.48	\$ 36,623,750	\$ 0.93	
CO	5,758,736	\$ 3,059,774	\$ 0.53	\$ 6,144,992	\$ 1.07	
CT	3,565,287	\$ 1,808,564	\$ 0.51	\$ 3,411,232	\$ 0.96	
DC	705,749	\$ 295,240	\$ 0.42	\$ 1,575,500	\$ 2.23	
DE	973,764	\$ 408,424	\$ 0.42	\$ 1,408,300	\$ 1.45	
HI	1,415,872	\$ 924,222	\$ 0.65	\$ 2,742,000	\$ 1.94	
IA	3,155,070	\$ 508,850	\$ 0.16	\$ 804,700	\$ 0.26	
ID	1,787,065	\$ 512,029	\$ 0.29	\$ 912,100	\$ 0.51	
IL	12,671,821	\$ 3,969,808	\$ 0.31	\$ 7,424,716	\$ 0.59	
IN	6,732,219	\$ 997,375	\$ 0.15	\$ 2,192,018	\$ 0.33	
KY	4,467,673	\$ 582,432	\$ 0.13	\$ 1,905,900	\$ 0.43	
LA	4,648,794	\$ 477,870	\$ 0.10	\$ 1,039,700	\$ 0.22	
MA	6,892,503	\$ 5,410,736	\$ 0.79	\$ 6,857,160	\$ 0.99	
MD	6,045,680	\$ 1,449,815	\$ 0.24	\$ 3,987,800	\$ 0.66	
MI	9,986,857	\$ 2,519,601	\$ 0.25	\$ 5,649,027	\$ 0.57	
MN	5,639,632	\$ 1,744,357	\$ 0.31	\$ 2,787,601	\$ 0.49	
MT	1,068,778	\$ 312,613	\$ 0.29	\$ 539,500	\$ 0.50	
ND	762,062	\$ 346,377	\$ 0.45	\$ 435,364	\$ 0.57	
NH	1,359,711	\$ 469,258	\$ 0.35	\$ 935,900	\$ 0.69	
NJ	8,882,190	\$ 4,887,278	\$ 0.55	\$ 10,151,147	\$ 1.14	
NM	2,096,829	\$ 223,043	\$ 0.11	\$ 500,704,000	\$ 238.79	
NV	3,080,156	\$ 910,540	\$ 0.30	\$ 2,369,620	\$ 0.77	
NY	19,453,561	\$ 14,409,341	\$ 0.74	\$ 38,919,216	\$ 2.00	
OH	11,689,100	\$ 2,132,938	\$ 0.18	\$ 4,194,910	\$ 0.36	
OR	4,217,737	\$ 1,562,112	\$ 0.37	\$ 3,223,990	\$ 0.76	
PA	12,801,989	\$ 4,374,655	\$ 0.34	\$ 6,517,447	\$ 0.51	
RI	1,059,361	\$ 446,121	\$ 0.42	\$ 590,948	\$ 0.56	
UT	3,205,958	\$ 1,774,457	\$ 0.55	\$ 3,802,550	\$ 1.19	
VA	8,535,519	\$ 3,009,156	\$ 0.35	\$ 9,920,569	\$ 1.16	
VT	623,989	\$ 407,630	\$ 0.65	\$ 461,200	\$ 0.74	
WA	7,614,893	\$ 3,332,777	\$ 0.44	\$ 6,610,398	\$ 0.87	
WV	1,792,147	\$ 200,374	\$ 0.11	\$ 2,415,352	\$ 1.35	

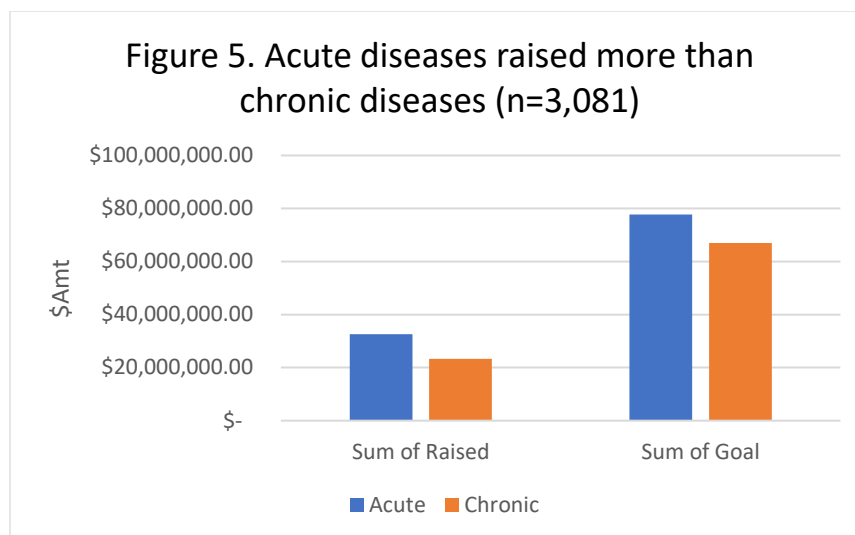
*The greener the cell, the higher the dollar per capita amount. The redder the cell, the lower the dollar per capita amount.

Table 3.2. Financial performance per capita for non-expansion states						
Medicaid Expansion?	Population (2019)	Sum of raised	\$raised per capita*	Sum of goal	\$demanded per capita	
Non-expansion	113,664,320	\$ 24,364,689	\$ 0.21	\$ 170,833,285	\$ 1.50	
AL	4,903,185	\$ 605,775	\$ 0.12	\$ 1,179,690	\$ 0.24	
FL	21,477,737	\$ 7,642,798	\$ 0.36	\$ 22,806,075	\$ 1.06	
GA	10,617,423	\$ 1,531,852	\$ 0.14	\$ 13,341,410	\$ 1.26	
KS	2,913,314	\$ 549,692	\$ 0.19	\$ 1,415,500	\$ 0.49	
MO	6,137,428	\$ 835,777	\$ 0.14	\$ 1,643,244	\$ 0.27	
MS	2,976,149	\$ 452,497	\$ 0.15	\$ 1,143,370	\$ 0.38	
NC	10,488,084	\$ 1,842,530	\$ 0.18	\$ 4,857,960	\$ 0.46	
NE	1,934,408	\$ 404,557	\$ 0.21	\$ 610,400	\$ 0.32	
OK	3,956,971	\$ 842,771	\$ 0.21	\$ 2,126,250	\$ 0.54	
SC	5,148,714	\$ 573,872	\$ 0.11	\$ 1,135,321	\$ 0.22	
SD	884,659	\$ 127,595	\$ 0.14	\$ 313,700	\$ 0.35	
TN	6,829,174	\$ 1,487,543	\$ 0.22	\$ 2,763,700	\$ 0.40	
TX	28,995,881	\$ 6,296,510	\$ 0.22	\$ 15,243,198	\$ 0.53	
WI	5,822,434	\$ 916,109	\$ 0.16	\$ 101,721,467	\$ 17.47	
WY	578,759	\$ 254,811	\$ 0.44	\$ 532,000	\$ 0.92	

ii. Hypothesis 2: Campaigns crowdfunding for chronic diseases will receive more crowdfunding than campaigns crowdfunding for acute diseases.

I segment 3,081 campaigns using “Acute” and “Chronic” as the explanatory variables. Then, I evaluate for the aggregate amounts the two groups raise on an absolute basis. If the hypothesis finds supporting data, then campaigns on chronic diseases should be raising more money than those on acute diseases.

On an aggregate absolute basis, the data in **Figure 5** show that campaigns for acute diseases raise more than those for chronic diseases. The total raised by acute diseases campaigns is \$31,616,031. The total raised by chronic disease campaigns is \$23,314,407. Thus, on an absolute aggregate basis, campaigns on acute diseases are raising more money.



Accounting for factors such as number of campaigns, shares, followers, and donations, the data in **Table 4** suggests that supply of donors is the greatest differentiator in performance. I observe that the number of campaigns is roughly equal. The deltas across shares and followers are relatively small. Acute gets 46,720 more donations, but that can be explained primarily due to the stark advantage it has in attracting donors. The delta in donor count is 302,253; acute campaigns are attracting almost double the number of donors that chronic campaigns are attracting. Thus, there leads me to believe that crowdfunding performance for chronic and acute conditions are less reliant on marketing effort or the condition itself, but rather on the availability of donors in your network.

Category	Acute	Chronic	Δ Acute-Chronic
n	1,523	1,558	-35
#donors	653,161	350,908	302,253
#shares	1,827,892	1,802,004	25,888
#followers	313,556	366,949	-53,393
#donations	350,444	397,164	-46,720

X: Discussion

In this section, I will synthesize my empirical findings, then propose an alternative explanation that explains the results I gathered. I proceed to discussing the three key limitations to the research and propose what an ideal research would look like. I end with a reflection on personal takeaways from this research.

To synthesize, the data supports the first hypothesis and rejects the second hypothesis. As a result, both indicate that health care crowdfunding is not necessarily serving groups with the greatest need for alternative health care financing.

The first hypothesis is supported by the data. The first hypothesis predicts that campaigns in non-expansion states will raise less money than that expansion states. The data show that on a per capita basis, Medicaid-expansion states raise \$0.40, and non-expansion states raise \$0.21. Thus, this hypothesis does find supporting evidence within the data.

This finding is consistent with existing health care crowdfunding research that suggests that health care crowdfunding perpetuates socioeconomic divisions, because of their reliance on social media networks. Crowdfunding relies on social media networks. This reliance on social networks perpetuates the socioeconomic divides already existent in social networks. The socioeconomic divisions pervade online health care crowdfunding, because low-income people will likely have networks that are also low-income.⁹⁸ The opposite is also true. Studies have found that health care crowdfunding usage is positively correlated with high income, home ownership, and high educational attainment.⁹⁹ As a result, it seems like the rich will continue to give to the rich, while the poor will again be left out by this market. The socioeconomically

⁹⁸ Snyder, 2016

⁹⁹ Duynhoven, et al., 2019

disadvantaged are more likely to be excluded from reaping the benefits of the growing health care crowdfunding market.¹⁰⁰ Thus, rather than increasing access to health care, health care crowdfunding seems to perpetuate existing socioeconomic divisions.

The second hypothesis is not supported by the data. The second hypothesis predicts that campaigns covering chronic diseases will raise more money than that of acute diseases. The data do not support this hypothesis. Despite no significant differences in social media performance and in the volume of campaigns, acute conditions are significantly more successful than chronic campaigns. The finding is explained by the difference in the number of donors, with 653,151 donors going to acute campaigns, and 350,908 donors going to acute campaigns. The difference equals 302,253, thus showing that acute campaigns are attracting almost double the number of donors that chronic campaigns are attracting.

An implication for this finding is that based on the data, people are not necessarily crowdfunding health care expenses for significant long-term health conditions. Instead, health care crowdfunding is reserved for more acute, one-off, unexpected health conditions. This suggests that health care crowdfunding is not primarily used as a long-term solution.

A potential theory to explain the findings for the second hypothesis could be the role of efficacy-driven donors. Donors are subjective, and thus determine their own standards for efficacy. If the standards are likelihood of success in treatment, then chronic conditions are less attractive. Chronic conditions take a long time to treat. Diseases like diabetes are manageable but inevitably untreatable. Thus, efficacy-driven donors that care about maximizing the impact of

¹⁰⁰ Lukk et al., 2018

their donation will likely donate to acute campaigns. The findings would then suggest that efficacy plays a significant role in health care crowdfunding.

This alternative theory does not violate the first hypothesis. An impact-maximizing efficacy-driven donor may donate to campaigns by higher income beneficiaries, because donating to them may have a greater impact. At the very least, their campaigns are more likely to succeed. Health care crowdfunding literature suggests that higher income people run more successful campaigns. Thus, efficacy-driven donors may feel like their contribution will be better served giving a small amount to a campaign that is likely to succeed as opposed to giving a large amount but still falling short.

However, the implications for this explanation have serious welfare concerns about the inefficient allocation of private donations. Charitable giving literature talks about how donations are made subjectively and based on perception. Thus, the impact-maximization utility function that efficacy-driven donors, who are likely not low-income, are likely to be colored by their socioeconomic background. And because these donations are subjective, there studies in charitable giving literature show that people donate inefficiently.¹⁰¹ Health care crowdfunding market studies echo a similar concern. Donors left to their own devices act as a negative externality in potentially inhibiting broader public health goals.¹⁰² Thus, at face value, a lot of money is going into health care crowdfunding. However, these efforts are just letting those with better resources to donate to people in similar socioeconomic classes. And they keep donating to those people, because they are not necessarily interested in broader public health goals. But, because of this absolute inflow of capital into health care crowdfunding, health care

¹⁰¹ Null, 2011

¹⁰² Renwick and Mossialos, 2017

crowdfunding may ostensibly be the prevailing solution to get funding for health care expenses. In turn, this perception may adversely impact efforts to achieve broader public health goals that aim to offer a long-term and structural solution.

Aside from these implications, I acknowledge that there are three key limitations to this thesis: sample representativeness, confounding variables, and lack of qualitative analysis.

First, despite creating a relatively large and randomly distributed sample, I am limited in the representativeness of the sample. I was limited in the amount of campaigns I could scrape from each GoFundMe search, because of GoFundMe's algorithms. Moreover, I was not able to capture how timing impacts campaign performance. Aside from the campaigns constantly updating in near real-time when a donation is made, timing can impact the context and subjective priorities that people are likely to donate to. I tried to minimize time differences by conducting the searches concurrently in one sitting, but I was not able to find campaigns created in 2010, before the ACA passed. Perhaps those campaigns could show how the supply and demand changed over time. Thus, the campaigns I did collect represents the state of searchable campaigns in January 28, 2020.

Second, because I lack backend user data from GoFundMe, I cannot control for some confounding variables. For example, while I use location to segment expansion and non-expansion states, then use that as a proxy for income of the beneficiaries, I acknowledge that there are limitations to this assumption. Moreover, while I was not able to control for income in a similar manner as in hypothesis 1 with hypothesis 2, where income may play a role in accessing treatment for chronically ill patients. I was unable to account for income in evaluating the second hypothesis, because I did not account for location data when I conducted my initial analysis for hypothesis 2. If I had more time, I would have conducted this analysis to see how the state of

Medicaid-expansion impacts chronic and acute campaign performance through a PivotTable.

Moreover, if I had user data from GoFundMe, then perhaps I could have controlled for zip code, gender, race, and other potentially confounding variables to increase my control on these variables' impact on socioeconomic status and campaign performance.

Third, due to feasibility constraints, I was not able to conduct a qualitative analysis on the narratives. In future studies, I would do a qualitative analysis on a sample of the campaigns to understand the difference in quality of the campaigns. My research currently assumes that the quality of all the campaigns are the same, on average, within their groupings. However, it is likely that higher-income people are better at marketing their cause, and thus more successful in crowdfunding. This would be an interesting hypothesis to test with a qualitative analysis for future studies.

Acknowledging these limitations, an ideal research design for this thesis would have included the following parts. First, using back-end user meta-data, I would have been able to use a PivotTable on Microsoft Excel to identify donors and beneficiary's based on zip code and other indicators that suggest their income level. Then, I would scrape all possible health care crowdfunding campaigns on GoFundMe from 2009 to 2019. I want to consider the impact of the ACA on chronic conditions and low-income individuals. Moreover, I want to see how the health care crowdfunding market evolved across time, because support for my two hypotheses could have varied depending on context. Perhaps, before the ACA was implemented, chronic conditions were more likely to get crowdfunding. Next, I would conduct a similar quantitative analysis evaluating the two hypotheses. However, I would also add in a qualitative component, by running a small experiment in which donors are asked to evaluate their desirability to donate to a variety of health care crowdfunding campaigns. An interview would follow the experiment

to gather behavioral insights on subjective perception of need. I will combine the findings from the qualitative with that of the quantitative to draw conclusions on this research. Such an ideal experimental would require extensive time, coordination with GoFundMe to potentially violate user privacy laws, and funding. Thus, this would have been infeasible given my current circumstances.

Nonetheless, these findings have made me question my belief in the private provision for basic goods. As someone entering the private sector, I believe in the impact individuals can make by giving to help others left behind by the broken healthcare system. I am attracted to the operational efficiency of the private sector and believe that private sector innovation can be used to do good. Thus, I started this research thinking that crowdfunding platforms could more allow individuals who want to do good to provide for basic structural health care gaps in our society. I thought that health care crowdfunding could help those most underserved by the private and public markets. While I do find that some people are contributing to help those in great need, my empirical analysis also suggests that these donors make up the minority. Thus, I think my understanding of how individuals can make impact through the private sector has become more nuanced. While the platforms and products themselves have the potential to do good, coordination is still required to bring that potential to fruition.

XI: Conclusion

As more Americans turn to health care crowdfunding as a means of financing their burdensome health care costs, this thesis finds that crowdfunding is not a sustainable solution. Crowdfunding dollars are less likely to go to low-income individuals in non-Medicaid expansion states, because socioeconomic divisions in real-life and ingrained into online social networks, which crowdfunding platforms rely on. Moreover, crowdfunding dollars are less likely to go to

chronic disease campaigns, thus suggesting that health care crowdfunding is more functional in raising money for short-term medical conditions.

This thesis provides one main contribution to the charitable giving literatures. This thesis contributes to charitable giving literature, by being the first paper to draw upon the theoretical foundation of charitable giving to explain the health care crowdfunding phenomenon. This thesis contextualizes a modern and novel medium of charitable giving within a more extensive and historical body of literature that studies American charity.

Moreover, this thesis contributes to the health care crowdfunding literature, by being the first study to identify and test whether the growing health care crowdfunding market is correcting for the market failures of the modern private health insurance market. Previous studies have focused on performance within specific medical needs like cancer treatments or transgender surgeries. However, this study takes a step back to broadly evaluate whether chronic diseases like cancer are getting more crowdfunding dollars in the first place. I find that chronic diseases, given the limitations of my research, are raising more funds than acute diseases.

This research can be extended in three ways. First, I would be interested in seeing if a qualitative analysis or a controlled lab experiment would render different results in hypotheses testing the same hypotheses. Next, I would be interested in evaluating the role of perceived efficacy in motivating donation behavior to health care. What motivates people to decide that their donation to a certain cause will maximize the efficacy of their donation? Third, I would be interested in seeing whether income or the nature of the medical condition itself drives giving activity. That is, between the two groups that most need crowdfunding, which get more crowdfunding and why?

I conclude this thesis by joining the early health care crowdfunding researchers in calling for policy makers to not rely on health care crowdfunding as a means of solving the American health care problem. Crowdfunding markets are uncoordinated and perpetuate socioeconomic divisions that already limit care in the current private insurance market. Structural health care reform, coordinated by the government, is still necessary, because health care crowdfunding is not a sustainable nor equitable solution.

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