POLICY BRIEF:

THE ROLE OF MEDICAL INNOVATION IN REDUCING HEALTH DISPARITIES AND THE IMPACT OF THE INFLATION REDUCTION ACT

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Executive Summary

The Biden administration has made reducing health disparities a major goal of its health care agenda. This paper provides analysis of whether and how biopharmaceutical innovation has historically reduced disparities in health outcomes and how reducing such innovation through proposed price controls impacts health disparities. Over time, there has been a convergence in Black and White American longevity in the United States. The difference in life-expectancies has decreased from 7.0 years to 3.6 years between 1980 and 2018, with a total convergence of 3.4 years in longevity. The existing evidence base suggests that between 35% and 73% of this convergence is attributable to biopharmaceutical innovation, with an average effect from the literature of 53%. More specifically, several remarkable innovations in recent decades have played a large role in reducing health disparities for disease classes that affect minority populations relatively more. For the groundbreaking new innovations affecting HIV, Hepatitis C, and COVID-19, we find that in 2021, the Medicaid share of the total volume of these innovations equaled 30.2%, 75.9%, and 31.3%, respectively. Because Medicaid covers 17.8% of the U.S. population, this data suggests a disproportionate impact on poorer populations from these breakthroughs. Given this beneficial impact of innovation on diminishing health disparities, we find that the reduction in innovation induced by the Inflation Reduction Act will counteract these beneficial trends. Specifically, we find that price controls will slow down the growth in overall life expectancy by 9.8% annually and lead to a reduction in longevity convergence between Blacks and Whites by 0.11 years through 2032, which accounts for 10.9% of the projected 0.99 years of convergence without the price controls. These gains are large, considering that overall U.S. longevity has increased by about 0.15 years from each consecutive birth cohort during the period 1960-2019.

Section 1: Introduction

The Biden Administration has signed Executive Order 13985 (White House, 2022a) to direct the federal government to advance an ambitious equity and racial justice agenda. As part of reducing health disparities between different ethnic groups, the Biden administration implemented policies to reduce unacceptably high maternal mortality rates among Black and Native Americans (White House, 2021). The Biden administration also launched a new national strategy for expanding access to mental health care which will address the disproportionate burden of mental illness in particular lower-income communities (White House, 2022b). In addition, nearly $90 million in the American Rescue Plan was awarded through Health Resources and Services Administration (HRSA) funding to support health centers to identify and reduce health disparities (HHS, 2022).

The purpose of this paper is to combine the existing evidence base to assess the degree to which medical innovation has reduced health disparities and how recent drug pricing regulations in the Inflation Reduction Act affect such disparities. Our major finding is that medical innovation has been a dominant driver in the reduction in health disparities over the last few decades. Additionally, the Medicaid population has gained relatively more than others from the groundbreaking innovations that we have seen, particularly those innovations that combat HIV, Hepatitis C, and COVID-19. Given that innovation has reduced disparities, we find that the Inflation Reduction Act will impede the process of achieving health equity through cutting medical innovation, which is contrary to other efforts of the Biden Administration.

The persistent gaps in life expectancy between Black and White Americans has narrowed by nearly 50% in three decades (PNAS, 2021). The evidence base studying the impact of medical innovation on life expectancy finds that medical innovation accounts for 35% to 73% of this convergence, with a mean of 52.8%. Besides medical innovation, differences in income and other socioeconomic factors could also contribute to the convergence in life expectancy over time. According to the National Center for Health Statistics and National Vital Statistics System (CDC/NCHS, 2021), the difference in life expectancy among Blacks and Whites has reduced from 7.0 years to 3.6 years between 1990 and 2018. This implies that for the 3.4-year convergence in life expectancy, a range of 1.2 to 2.5 years was due to medical innovation.

In addition, medical innovation has played a large role in reducing disparities in health outcomes for the diseases where we have seen remarkable breakthrough innovations in recent decades. We focus on three disease classes – HIV, Hepatitis C, and COVID-19 – where groundbreaking innovations occurred in the last 30 years. We assess to what degree these innovations have benefited the poorer population in Medicaid more than the rest of the population. We find that the share of prescriptions for the top selling drugs in these disease classes has gone disproportionally to Medicaid beneficiaries. In 2021, the share of prescriptions that were to Medicaid beneficiaries were 30.2% for HIV, 75.9% for Hepatitis C, and 31.3% for COVID-19, although Medicaid represents only 17.8 % of the U.S. population (U.S. Census Bureau, 2021). This suggests that the major path breaking innovations we have seen recently have disproportionately benefited lower socioeconomic groups.

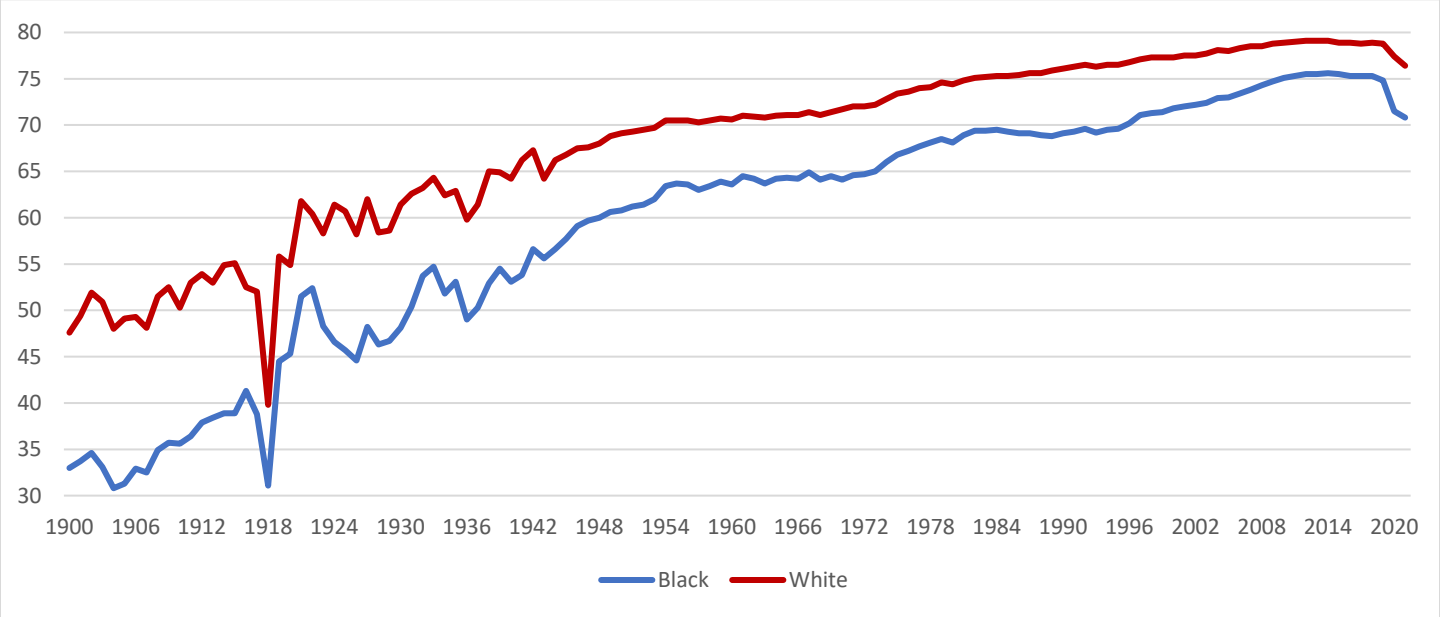
Given that innovation has reduced health disparities, policies that decrease innovation increase disparities. We consider the impact of the drug pricing regulations in the Inflation Reduction Act and find that their negative impact on innovation will slow down longevity convergence by 9.8% annually. We find that price controls will raise health disparities relative to the status quo of continued past longevity growth by 0.11 years through 2032, representing 10.9% of the total 0.99-year convergence in the absence of price controls. These gains are large considering that U.S. longevity has increased by about 0.15 years from each consecutive birth cohort during the period 1960-2019.

Section 2: Medical Innovation and the Convergence in Longevity

This section documents that medical innovation has reduced health disparities in terms of convergence in life expectancy between Black and White Americans in the U.S., where it has benefited minorities in longevity growth to a larger degree than Whites. We find a range of 35% to 73% of the gains in life expectancy, with an average estimate of 52.8%, can be attributed to medical innovation. Between 1990 and 2018, the life expectancy of Blacks and Whites has increased 6.2 years and 2.8 years, respectively (CDC/NCHS, 2021), where 2.2-4.5 years of growth for Blacks and 1.0-2.0 years of growth for Whites are due to medical innovation, leading to 1.2-2.5 years of convergence in longevity between Blacks and Whites. That is, among the 3.4 years of reduction in life expectancy between Blacks and Whites from 1990 to 2018, 1.2 to 2.5 years is due to medical innovation, with an average estimate of 1.8 years.

Jena, Philipson, and Sun (2010) study the convergence in longevity across U.S. ethnic groups from 1940 to 2004, where the Black-White American life expectancy gap fell 41.5%. Figure 1 shows the overall reduction in life expectancy disparities among ethnic groups from 1990 to 2018, as reported by the National Center for Health Statistics and National Vital Statistics System (CDC/NCHS, 2021). In 1990, Black Americans had a life expectancy of 69.1 years, while White Americans had a life expectancy of 76.1 years. In 2018, Black Americans had a life expectancy of 74.9 years, while White Americans had a life expectancy of 78.5 years. Over these years, the difference in life expectancy has decreased from 7.0 years to 3.6 years, leading to a 3.4-year reduction in the life expectancy gap between 1990 and 2018. There are various causes that contributed to the reduced life expectancy gap between Black and White Americans, but one significant reason is the role of medical innovation.

Figure 1: Life Expectancy among Different Ethnic Groups 1900 – 2021 (CDC/NCHS, 2021)



The overall role of medical innovation in increasing life expectancy is supported by various studies. Buxbaum et al. (2020) find that among the 3.3-year life expectancy increase in the U.S. between 1990 and 2015, 35% is attributable to pharmaceutical innovation. It has been estimated that 66% of the 2006-2018 increase in mean age at death of Americans was due to pharmaceutical innovation (Lichtenberg, 2022); new drugs accounted for 73% of the increased life expectancy at birth among 30 developing and high-income countries between 2000-2009 (Lichtenberg, 2014); and new pharmaceuticals were responsible for 40% of the increase of two years in life expectancy across 52 countries between 1986 and 2000 (Lichtenberg, 2005). Additionally, Cutler et al. (2006) assume in their base-case analysis that 50% of the gains in life expectancy are due to medical care. In conclusion, a range of 35% to 73% of the increase in life expectancy can be attributed to medical innovation based on the papers we identified, with an average estimate of 52.8%, as shown in Table 1.

Table 1: Impact of Medical Innovation on Life Expectancy from the Papers Identified

Paper	Percentage
Lichtenberg (2022)	66%
Buxbaum, Chernew, Fendrick, and Cutler (2020)	35%
Lichtenberg (2014)	73%
Cutler, Rosen, and Vijan (2006)	50%
Lichtenberg (2005)	40%
Mean	52.8%

In addition, medical innovation has played a large role in increasing life expectancy for particular diseases and disproportionately affects the well-being related to leading causes of death in different ethnic groups. Buxbaum et al (2020) studies how the 3.3-year life expectancy increase in the U.S. between 1990 and 2015 was attributable to pharmaceuticals regarding different types of diseases, as shown in Table 2. According to Kochanek et al. (2015), the decreased life expectancy gap from 1999 to 2013 is due to a larger decrease in death rates among Blacks for heart disease, HIV, and cancer, which together accounts for 47.6% of the 2.3-year decrease. Firebaugh et al. (2014) find that the main source of narrowing the racial gap in life expectancy from 2000 to 2010 is attributable to the declining differences in the age at death among Blacks and Whites who die from leading chronic diseases, where 42.5% accounts for heart disease, HIV, and cancer. Hence, medical innovation benefits minorities to a larger degree among leading causes of death (heart disease, HIV, and cancer), and thus closes the life expectancy gap between minorities and Whites.

Table 2: Decrease in Mortality for Diseases Attributed to Pharmaceutical Innovation

Disease	% Decrease in Mortality Attributed to Pharmaceuticals
HIV/AIDS	76%
Breast Cancer	60%
Cerebrovascular Disease	60%
Heart Disease	52%

Source: Buxbaum et al. (2020), data covers 1990 - 2015

Other studies show that not just pharmaceuticals increase life expectancy. According to AdvaMed (2017), advancements in medical technology have contributed 5 more years to the U.S. life expectancy from 1980 to 2017. Income is also an alternative explanation for the differences in longevity over time. Murphy and Topel (2005) report that differences in income explain 1/3 to 1/2 of the gap in longevity between White and Black people. Moreover, Harper et al. (2007) show that the Black-White life expectancy declined from 1983 to 2003 because of mortality improvements in homicide, HIV, unintentional injuries, and heart disease (among females), indicating that other socioeconomic factors such as public security, the incarceration rate, and the suicide rate also contribute to the convergence of longevity over time.

Section 3: The Impact of Medical Innovation on the Medicaid Population

This section conducts three case studies of breakthroughs in medical innovation that have reduced health disparities by contributing to the improved health of the lower socioeconomic status populations over the last decades, focusing on Medicaid beneficiaries. We investigate the disease classes of HIV, Hepatitis C, and COVID-19, where groundbreaking innovations occurred in the last 30 years. HIV was the number one cause of death among Americans aged 25 to 44 by the early 1990s, but with the breakthrough of antiretroviral (ARV) therapy, today most people can get AIDS under control within six months and the lifespan of people with the virus has greatly lengthened (CDC, 2021c). Similarly, Hepatitis C only had a cure rate of around 6% when the first HCV treatment was approved in 1991, while direct-acting antiviral (DAA) therapy now has more than a 95% success rate over short treatment courses, making HCV the only chronic viral illness that can be completely cured (IFPMA, 2018). Lastly, COVID-19 has put vulnerable low-income populations at greater risk since March 2020, but with

the fast response and continuous coverage of vaccines and treatments including antivirals and monoclonal antibodies, health equity and patient access have greatly improved during the public health emergency (CMS, 2021).

To estimate the health outcomes of medical innovation for Medicaid beneficiaries, we first get the total U.S. volume for these drug treatments from financial reports of pharmaceutical companies. Second, through the Medicaid Spending by Drug dataset (CMS, 2022a), we obtain information on the spending for covered outpatient drugs prescribed to Medicaid enrollees and calculate the share of volume for Medicaid to estimate the distribution to specific low-income populations. Since the latest data we could retrieve is in 2020, we conservatively assume units covered in 2021 are consistent with the level of 2020. This should be a lower bound because Medicaid spending growth is expected to have accelerated by 10.4% in 2021 and an average annual growth of 5.6% is projected for 2021-2030 (CMS, 2022b). Finally, we multiply the estimates by treatment effects to get the total health outcome of drug innovation in reducing health disparities.

3.1 Case Studies on HIV

Human Immunodeficiency virus (HIV) is a virus that attacks the body's immune system, leading to AIDS, a chronic disease that currently has no effective cure. According to the CDC (2022b), an estimated 1.2 million people in the U.S. had HIV at the end of 2019, and Medicaid is a major source of health coverage for those who were eligible. Previously, to qualify for Medicaid, an enrollee had to be both low-income and categorically eligible, such as disabled or pregnant. Starting in 2014, under the Affordable Care Act, Medicaid can provide coverage for the lowest income adults without regard to disability, parental status, or other limitations.

With medical innovation, HIV can now be controlled using antiretroviral therapy (ART), which helps people with AIDS live longer and reduces the risk of HIV transmission (CDC, 2021b). Under an ART regimen, medicines are grouped into seven drug classes based on their efficacy against HIV, namely NNRTIs, NRTIs, INSTIs, PIs, Fusion Inhibitors, CCR5 Antagonists, and Post-Attachment Inhibitors (NIH HIVinfo, 2021). We focus on the top sellers of FDA-approved HIV drugs in these categories, including Genvoya, Biktarvy, Triumeq, Prezista, Prezcobix, Tivicay, Descovy, Odefsey, Atripla, and Isentress/Isentress HD (FDA, 2020). As reported by Gilead Sciences (2021) and the U.S. drug price guide (Drugs.com, 2021), the sales revenue of Biktarvy in the U.S. was $7,094 million ($126 per unit) in 2021, with 56,252,478 units sold. Among these, the volume for Medicaid beneficiaries are 16,598,026 units (CMS, 2022a). Hence, the share of Biktarvy's volume for Medicaid is 29.5%. Similarly, the quantity proportions for other HIV treatments for Medicaid are reported in Table 4. In total, for common HIV regimens, the total U.S. volume in 2021 are 173,993,131 units, in which 52,479,696 are prescribed to Medicaid beneficiaries, implying that 30.2% of HIV treatments are distributed to low-income populations.

Table 3: Share of Volume of HIV Treatments for Medicaid in 2021

Treatments	Biktarvy	Genvoya	Triumeq	Odefsey	Atripla
Type	INSTI/NRTI	INSTI/NRTI	INSTI/NRTI	NNRTI/NRTI	NNRTI/NRTI
Total U.S. Volume	56,252,478	17,976,370	12,353,642	9,372,822	1,054,007
Medicaid Volume	16,598,026	6,642,595	4,945,073	2,992,414	486,777
Share of Volume for Medicaid	29.5%	37.0%	40.0%	31.9%	46.2%
Treatments	Descovy	Tivicay	Isentress (HD)	Prezista/Prezcobix	Total
Type	NRTI	INSTI	INSTI	PI	/
Total U.S. Volume	19,435,170	13,125,494	23,934,018	20,489,130	173,993,131
Medicaid Volume	6,873,472	6,424,767	3,150,432	4,366,140	52,479,696
Share of Volume for Medicaid	35.4%	48.9%	13.2%	21.3%	30.2%

Source: Gilead; Merck; AbbVie; GSK; Centers for Medicare & Medicaid Services

In the HIV Surveillance Report (CDC, 2022c), an average of 36,838 HIV cases among people aged 13 and older were diagnosed annually in the last five years. Assuming the proportion of HIV drugs distributed to Medicaid beneficiaries equals the percentage of HIV patients of low-income populations among all populations, we estimate that there were 11,125 new HIV cases among low-income populations in 2021. According to Walensky et al. (2006), ART treatment improves AIDS-associated survival greatly, resulting in a median projected per-person survival gain of 14.1 years. In total, 156,863 life years of survival benefits could be achieved among newly HIV-infected low-income populations in 2021.

3.2 Case Studies on Hepatitis C

Hepatitis C is a liver infection caused by the hepatitis C virus (HCV). According to CDC (2021a), approximately 2.4 million Americans are infected with HCV. Importantly, the prevalence is disproportionally higher among Medicaid beneficiaries, where the overall HCV prevalence rate is 7.5 times higher than the commercially insured population (Ferro and Johnson, 2015). Although states that cover HCV treatments under Medicaid typically imposed reimbursement restrictions, including fibrotic stage, sobriety, and prescriber type, Medicaid access for Hepatitis C has been greatly improved. In light of the National Viral Hepatitis Roundtable (2020), as of January 2022, 50 states except South Dakota (minimum F2[1]) and Arkansas (minimum F3) have removed prior fibrosis authorization for most beneficiaries entirely, meaning that a "Treat All" strategy - unrestricted access to hepatitis C treatment for all type patients – is principally achieved.

Several highly effective and well-tolerated targeted treatments for HCV using direct-acting antiviral (DAA) therapy have been developed in recent years, mainly including Harvoni, Epclusa, Vosevi, Sovaldi, Mayyret, and Zepatier. Gilead Sciences (2022), the producer of Harvoni, reported a total of $84 million in sales, with an average wholesale cost of $1,185 per pill (Drugs.com, 2021), indicating that 74,666 drug units were sold in 2021. As reported by the Medicaid Spending by Drug dataset (CMS, 2022a), 37,524 units of Harvoni were covered for Medicaid beneficiaries according to the latest data, accounting for 50.3% of the total U.S. volume. Similarly, we can get the quantity distribution for other treatments, as shown in Table 4. In summary, the total U.S. volume was 6,079,944 units in 2021, among which 4,612,121 were prescribed to Medicaid beneficiaries, indicating that a proportion of 75.9% HCV treatments were distributed to low-income populations (CMS, 2022a). Moreover, Moreno et al. (2016) finds that expanding the coverage of HCV treatments is predicted to generate savings for private payers of $10 billion to $14 billion after treatment costs over 20 years. In addition, they find that this expansion of coverage by private payers is predicted to have large positive spillover effects to Medicare of $4 billion to $11 billion over 20 years.

Table 4: Share of Volume of Hepatitis C Treatments for Medicaid in 2021

Treatments	Harvoni	Epclusa	Vosevi	Sovaldi/Mavyret	Zepatier	Total
Total U.S. Volume	70,888	868,870	119,546	4,553,690	466,949	6,079,944
Medicaid Volume	37,524	459,351	61,364	4,027,240	26,642	4,612,121
Share of Volume for Medicaid	52.9%	52.9%	51.3%	88.4%	5.7%	75.9%

Source: Gilead; Merck; AbbVie; Centers for Medicare & Medicaid Services

In the National Viral Hepatitis Progress Report (CDC, 2022a), the estimate for new hepatitis C virus infections in 2021 is 41,467 cases. Assuming the proportion of HCV drugs distributed to Medicaid beneficiaries is the actual percentage of HCV patients of low-income populations among all populations, we estimate 31,473 new cases among low-income populations each year. This number is conservative since not all targeted populations are enrolled in the program and not all relative medical expenses could be covered by Medicaid. According to Leidner et al. (2015), the average quality-adjusted life-years (QALYs) that a 55-year-old patient gains following HCV treatment starting at the early stages of liver disease (F0) is 16.15 years. Assuming the mean age of a low-income person among Medicaid beneficiaries is 55 years old, approximately 508,289 quality-

[1] Chronic hepatitis C virus (HCV) infection is typically characterized by slowly progressive hepatic fibrosis, with progression from F0 (no fibrosis) to F4 (cirrhosis) taking place at approximately 0.10–0.15 fibrosis units (median) per decade.

adjusted life years of the total could be saved among newly HCV-infected low-income populations in 2021. Cloninger et al. (2023) finds that current HCV testing and treatment rates will create $28 billion in net medical savings in 10 years and $238 billion in net medical savings in 30 years. In addition, they find that a 15% increase in testing and a 25% increase in treatment from current rates could allow the U.S. to eliminate HCV as soon as 2035, which would thus drastically reduce costs from the disease.

3.3 Case Studies on COVID-19

Since the first outbreak of COVID-19 in early January 2020, there are cumulatively over 85.9 million cases in the U.S. as of June 16, 2022. Low-income communities – especially non-elderly adults with yearly household incomes below $15,000 – are at a 19% higher risk of serious illness (Kaiser Family Foundation, 2021). This is because their workplace may make them more likely to contract COVID-19 than others who are able to shelter in place and follow guidelines for social distancing. To ensure better health for vulnerable populations, under the Public Health Emergency (PHE) and American Rescue Plan (ARP), states were required to cover COVID-19 treatments without cost sharing, including preventive therapies and specialized equipment, beginning March 11, 2021 (CBPP, 2022; CMS, 2021).

There are two authorized treatments for COVID-19 by the U.S. Food and Drug Administration (FDA), which are antiviral treatment and monoclonal treatment (CDC, 2022d). The National Institutes of Health (NIH) provides COVID-19 Treatment Guidelines (2022) to help patients get the best treatment options, including Paxlovid, Veklury (remdesivir), and Lagevrio (molnupiravir) for antiviral treatment; and Bamlanivimab (etesevimab administered together) and Regen-Cov for monoclonal treatment. To be consistent with other case studies, here we only consider treatments approved before 2021 (for example, we do not count Bebtelovimab – another popular monoclonal treatment – in our analysis, as it was issued in February 2022). As reported by Pfizer (2021) and the U.S. Drug Price Guide (2022), Paxlovid had $76 million in U.S. sales revenue ($0.48 per unit) in 2021 since it was issued in late December 2021, with 158,333,333 total units sold. Similarly, we obtained sales revenue and units sold for other treatments, as shown in Table 5.

Since the Medicaid Spending by Drug dataset (CMS, 2022a) only provides drug information with FDA approval dates before 2020, the quantities used for these COVID-19 treatments are not available, requiring another method to estimate the distribution. According to the Poor People's Pandemic Report (Poor People's Campaign, 2022), the fatality rate of COVID-19 for low median income people is 2.1 times greater than those with a high median income. Therefore, we estimate a 2.1 times higher possibility for low-income people to have serious illness of COVID-19, and thereby the quantities used for COVID-19 treatments would be at least 2.1 times higher based on an even distribution. Given that Medicaid covers 17.8% of the US population (U.S. Census Bureau, 2021), approximately 31.3% of COVID-19 treatments are distributed to low-income populations, as shown in Table 5. This could be a conservative estimate because people with more serious coronavirus symptoms would require longer treatment courses and would consume more drugs than those with lighter symptoms.

Table 5: Share of Volume of COVID-19 Treatments for Medicaid in 2021

Treatments	Paxlovid	Veklury	Lagevrio	Bamlanivimab	Regen-Cov	Total
Type	Antiviral	Antiviral	Antiviral	Monoclonal	Monoclonal	/
Total U.S. Volume (thousand)	158,333	6,534	3,966,667	4,665,000	12,951,111	21,747,645
Est. Medicaid Volume (thousand)	49,558	2,045	1,241,567	1,460,145	4,053,698	6,807,013
Share of Volume for Medicaid	31.3%					

Source: Pfizer; Gilead; Merck; Lilly; Regeneron

As reported by the Covid Data Tracker (CDC, 2022e), there were 34,847,987 new COVID-19 cases and 461,471 deaths in 2021. It is reported that the reduction in hospitalization and deaths exerted by one treatment unit is 87% for Bamlanivimab/Etesevimab (Lilly, 2021), 87% for Veklury (Gilead, 2021), 89% for Paxlovid (Pfizer, 2021), 36% for Regen-Cov (Regeneron, 2021), and 50% for Lagevrio (Merck). On average, we assume COVID-19 treatments would lead to a 70% reduction in hospitalization and deaths. Multiplying the number of deaths by the quantity percentage for Medicaid beneficiaries and average treatment effect, a lower bound of

101,108 deaths could be averted among low-income populations in 2021 if they could receive appropriate COVID-19 treatments. In addition, according to Dijk et al. (2022) and Sheinson (2021), the average incremental quality-adjusted life-years (QALY) of COVID-19 therapies is 0.539 years. Thus, 18,783,065 life years in total could be saved among newly coronavirus-infected low-income populations in 2021.

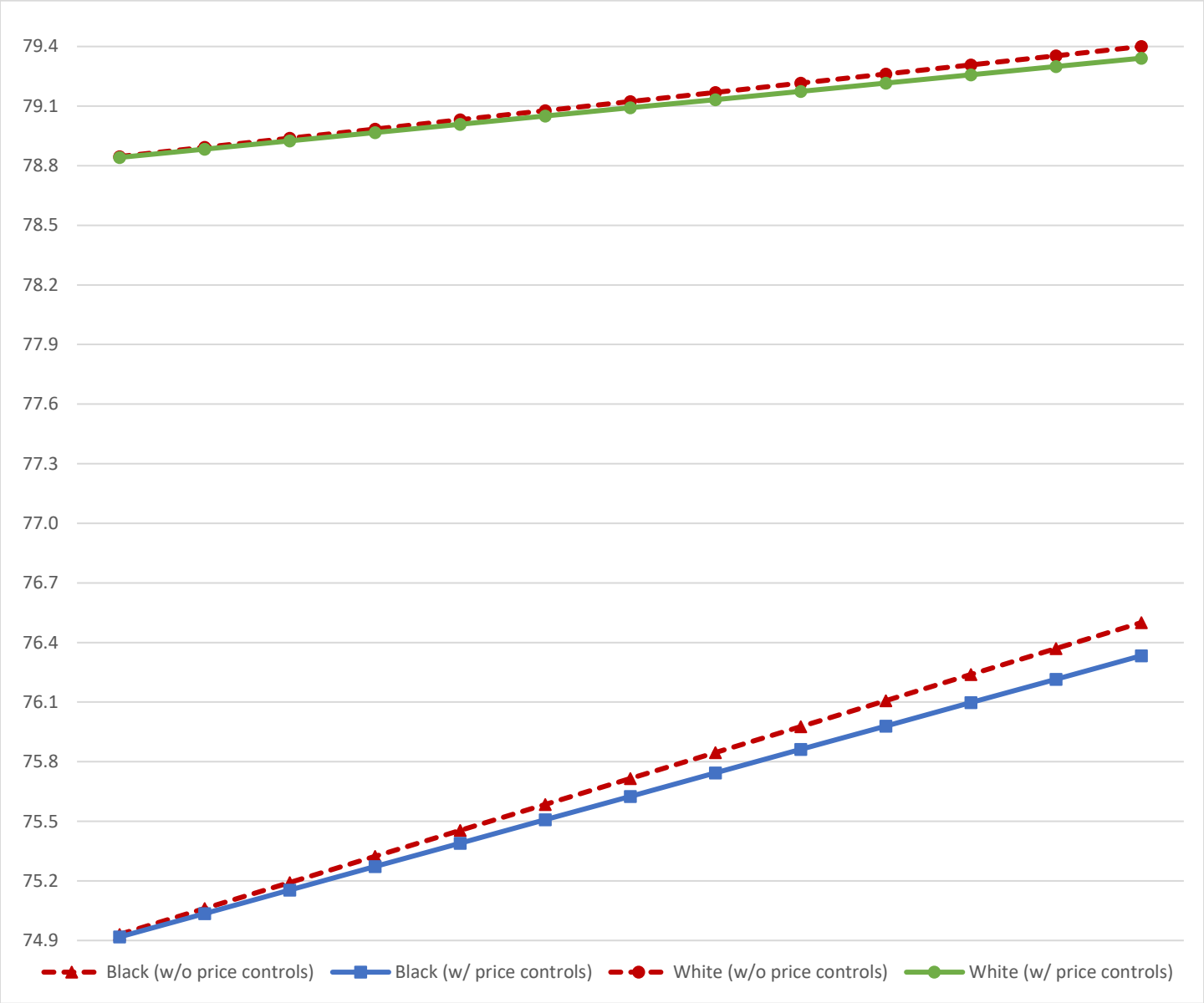
Section 4: The Impact of Price Controls on Health Disparities

This section discusses how the enacted price controls in the Inflation Reduction Act reduce health disparities by cutting medical innovation. These price controls prevent medical innovation from slowing down the gains in life expectancy and narrowing its convergence between different ethnic groups. First, we find the gains in life expectancy of different ethnic groups from 2006 to 2019 and get the average growth of longevity per year. Second, assuming the trend in life expectancy will continue at the same rate as the previous decade, we project the gains in life expectancy without price controls through 2032. Third, according to papers identified in Section 2, 52.8% of overall longevity growth is attributable to medical innovation. In addition, medical innovation would reduce by 18.5% due to the proposals in a similar previous bill called HR 5376 (Philipson and Durie, 2021). Multiplying these two shares, we can calculate that 9.8% of the gains in life expectancy cannot be achieved due to enacted price controls, where the actual increase in life expectancy for different ethnic groups through 2032 would be flatter than the status quo without price controls.

Using this methodology, we project the trend of gains in longevity with and without price controls and get its health impact among non-Hispanic Blacks and non-Hispanic Whites. As reported by the National Vital Statistics Report (CDC/NCHS, 2022), between 2006 and 2019 the longevity growth for Blacks and Whites was 1.7 years and 0.6 years, respectively, with an annual average growth of 0.13-year and 0.05-year. Assuming the trend will continue without price controls, life expectancy will increase by 1.7 years for Blacks and by 0.6 years for Whites through 2032. However, with price controls, the gain in longevity will decrease by 9.8% due to the reduction in medical innovation through decreasing revenue and R&D spending, indicating that only 90.2% of the gains in longevity could be achieved compared to the status quo. As a result, life expectancy will instead increase by 1.53 years for Blacks, and 0.54 years for Whites through 2032, with a respective 0.17-year and 0.06-year reduction in total gains relative to the status quo. In other words, there is an additional 0.11 years of loss for Blacks in longevity growth relative to Whites through 2032. The projection results are shown in Figure 2.

In conclusion, price controls will slow down the growth in life expectancy by 9.8% annually. They will increase health disparities compared to the status quo by yielding varying degrees of impact on different ethnic groups, among which minorities are more affected. The projected longevity gap without price controls between Blacks and Whites through 2032 is 1.10 years, while the gap with price controls is only 0.99 years. Therefore, the convergence in life expectancy between Blacks and Whites is reduced by 0.11 years through 2032, which is responsible for 10.9% of the total 0.99-year convergence based on our projections. As a result, the enacted price controls in the Inflation Reduction Act have a detrimental effect on reducing health disparities, which conflicts with the promise of the Biden Administration.

Figure 2: Projection of Convergence in Life Expectancy between Blacks and Whites through 2032



Source: CDC/NCHS, National Vital Statistics Report (2021)

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