COMMON SENSE INSTITUTE

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UP IN SMOKE

THE PUBLIC COSTS OF CIGARETTE SMOKING BY MEDICAID BENEFICIARIES IN ARIZONA

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ABOUT THE AUTHORS

Glenn Farley is CSI Arizona's Director of Policy & Research, where he leads its research efforts. Glenn has helped CSI provide accurate, timely, and insightful public information on issues ranging from tax and regulatory policy, to Arizona's changing K-12 landscape since the pandemic.

Prior to joining CSI in 2022, Glenn ended his 8 years in the Office of the Arizona Governor as Gov. Doug Ducey's Chief Economist and a policy advisor. In that role he advised on issues of tax, fiscal, and regulatory policy, and was one of the Governor's lead architects of his two major tax reforms – the 2018 tax overhaul that established the State's first remote sellers sales tax and dedicated the proceeds to a major simplification and overhaul of the individual income tax, followed by the 2021 income tax omnibus which phased in a 2.50% flat tax (the lowest in the country). Mr. Farley has also led the budget team that produced the Executive revenue forecasts and caseload spending numbers that have helped ensure the longest run of conservative, structurally balanced budgets in State history.

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ABOUT COMMON SENSE INSTITUTE

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CSI is committed to independent, in-depth research that examines the impacts of policies, initiatives, and proposed laws so that Arizonans are educated and informed on issues impacting their lives. CSI's commitment to institutional independence is rooted in the individual independence of our researchers, economists, and fellows. At the core of CSI's mission is a belief in the power of the free enterprise system. Our work explores ideas that protect and promote jobs and the economy, and the CSI team and fellows take part in this pursuit with academic freedom. Our team's work is informed by data-driven research and evidence. The views and opinions of fellows do not reflect the institutional views of CSI. CSI operates independently of any political party and does not take positions.

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INTRODUCTION

Since the pandemic, federal and state expenditures have risen at unsustainable rates. The State of Arizona spends over $46 billion every year[i]; the federal government hasn't run an annual deficit less than $1 trillion since 2019. Rising health care – and in particular Medicaid - expenditures have been central to this fiscal challenge for both states and their federal partners, reflecting long-term growth in health care costs and an enrollment base that has increasingly shifted toward a larger share of American adults. In Arizona alone per-capita Medicaid enrollment increased nearly 50% in the last two decades, and the program today insures around quarter of the state's resident population. As a result, Arizona's Medicaid program now represents a large and growing share of total state spending, increasing from around 22% of the budget in 2005 to over 32% today. In response, federal policymakers have sought to bend Medicaid's cost curve – most recently with H.R. 1, also known as the One Big Beautiful Bill Act (OBBBA), which shifts greater responsibility for managing enrollment and expenditures onto states through tighter eligibility rules, financing constraints, and administrative requirements. These changes heighten the importance of identifying cost drivers that states can influence directly.

One such driver is cigarette smoking. Despite decades of progress in reducing cigarette use, smoking continues to impose substantial and persistent costs on health care systems. While smoking prevalence has declined markedly in Arizona and nationwide, it still contributes significantly to both public and private health care expenditures every year. These costs are not evenly distributed across the population. Smoking remains far more prevalent among low-income adults than among those with private insurance, concentrating smoking-related disease and its associated medical spending within Medicaid. As Medicaid enrollment has shifted increasingly toward adult populations over the past two decades, smoking has become a particularly salient cost driver within publicly financed health care. Even as Arizona's overall smoking rate has fallen to near the national average, smoking prevalence among Medicaid enrollees has declined more slowly, sustaining elevated per-enrollee health care costs and creating meaningful budgetary implications for the state.

KEY FINDINGS

- National Medicaid expenditures grew from roughly 1% of federal outlays at inception in 1965 to about 13% by FY 2024, reflecting expanded eligibility and rising health care costs; in Arizona, **Medicaid enrollment increased six-fold from about 45 per 1,000 residents in 1985 to roughly 260 per 1,000 today (about a quarter of the resident population).** Between 2005 and 2025 the AHCCCS budget nearly quintupled.
- **Medicaid now represents about one-third of all state spending.** While a majority of the program is federally-funded, Medicaid accounts for nearly 12% ($2.0 billion) of Arizona's general expenditures.
- Smoking among Arizona adults has declined from around 19.3% in 2011 to about 10.2% currently, but the decline has been slower among Medicaid enrollees, whose smoking rate fell by only 7.5 percentage points between 2004 and 2021 (compared with a 9.4 percentage point decline in the general population). **Today, an estimated 18.9% of Arizona's Medicaid enrollees smoke.**
- Healthcare costs are significantly higher for smokers than for non-smokers. According to estimates from the CDC, more than $240 billion in national annual health care expenditures are attributable to cigarette smoking.[ii]
- CSI estimates that a 1 percentage point reduction in Arizona's smoking rate (from 10.2% to 9.2%) could yield between $257.1 million and $1.1 billion in total personal health care expenditure savings, plus $150.9 million in reduced productivity losses. Overall, CSI Arizona estimates that smoking imposes upwards of $12.5 billion in combined excess medical costs and productivity losses annually.
- **Making Arizona "smoke-free" (reducing the smoking rate to less than 5% of our adult population) would save $$1.2 billion annually in public healthcare costs.** Smoking contributes an estimated $182.0 million annually in excess Medicaid expenditures just from Arizona's General Fund – enough to fund nearly 7% of the total AHCCCS General Fund budget or the entire General Fund budgets of one or more of 52 State agencies.

RISING MEDICAID COSTS THROUGH TIME

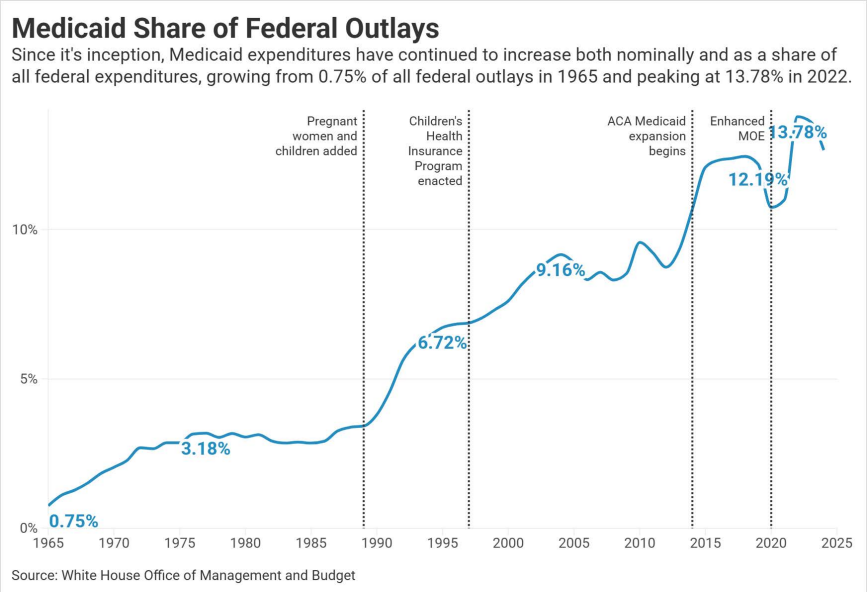
Medicaid is a federally funded, state-administered health insurance program that provides medical coverage to low-income individuals, families, seniors, and people with disabilities. In Arizona, Medicaid services are delivered through the Arizona Health Care Cost Containment System (AHCCCS).

Historically, Medicaid functioned primarily as a supplement to cash-based welfare programs, offering health coverage to low-income families with children alongside coverage for the elderly and disabled. While families with children constituted the largest share of enrollees for much of the program's early history, eligibility gradually broadened over time. In 2001, Arizona became one of the first states to extend Medicaid eligibility to childless adults with incomes up to 100 percent of the federal poverty level through the voter-approved Healthy Arizona Initiative (Proposition 204). A similar expansion occurred nationally in 2014 with the implementation of the Affordable Care Act (ACA), which further extended Medicaid eligibility to low-income childless adults.

Since its creation, Medicaid spending has increased substantially at both the federal and state levels. Nationally, Medicaid accounted for roughly 1 percent of federal outlays at inception, rising to nearly 3 percent by 1985. By fiscal year 2024, Medicaid expenditures represented approximately 13 percent of all federal spending, reflecting sustained growth in healthcare costs, expanded eligibility, and increased utilization of medical services.[iii]

Arizona has followed a similar trajectory. In 1985, Medicaid enrollment stood at roughly 45 enrollees per 1,000 residents. By 2005, enrollment had grown to nearly 180 enrollees per 1,000 residents and Medicaid accounted for approximately 22 percent of total state expenditures.[iv v] Over the next twenty years – and especially during the 2020 pandemic - growth only accelerated, and per-capita enrollment reached

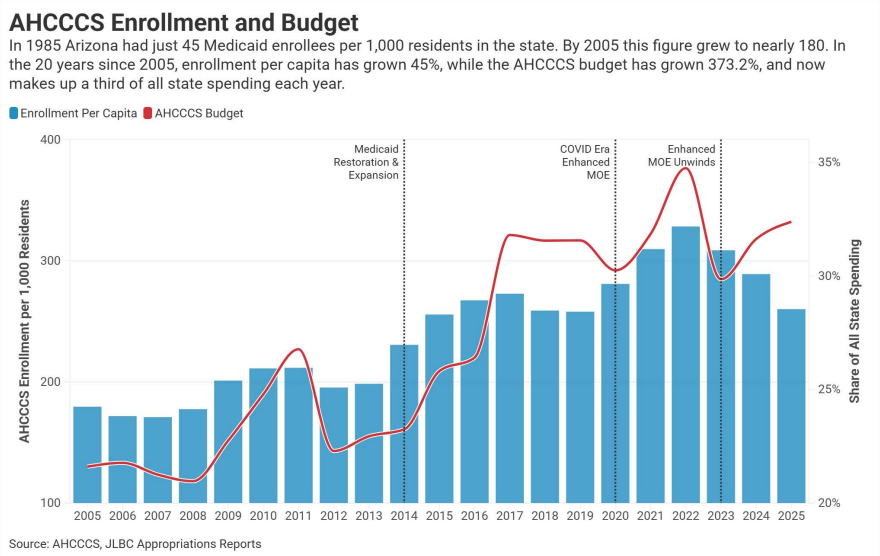
FIGURE 1.



roughly 260 enrollees per 1,000 residents, while the AHCCCS budget nearly quintupled. **Today, Medicaid represents about one-third of all state spending (or nearly 12 percent of General Fund expenditures) and insures roughly a quarter of the state's resident population.**

Against this backdrop of rapid spending growth, federal policymakers have renewed efforts to constrain Medicaid enrollment and expenditures. Recent policy and legislation, including the One Big Beautiful Bill Act (OBBBA) passed in 2025, introduced new work requirements for certain childless adults, tightened eligibility verification and redetermination timelines, and reduced allowable provider assessment rates – a financing mechanism states have historically used to leverage federal matching funds to shift the state's share of Medicaid expenditures on to the federal budget.[vi] These policy shifts place increased pressure on states to manage Medicaid costs more directly, heightening the importance of understanding the specific drivers of program spending.

FIGURE 2.



SMOKING'S IMPACT ON MEDICAID EXPENDITURES

Since the landmark 1964 U.S. Surgeon General's Report, smoking has been recognized as a major cause of lung cancer and other serious diseases that substantially increase healthcare expenditures. In 1987, the Centers for Disease Control and Prevention (CDC) formally identified smoking as the leading cause of preventable death in the United States. Although smoking prevalence has declined over time, it remains the nation's leading preventable cause of death. The CDC estimates that more than 480,000 Americans die each year from smoking-related diseases, while an additional 16 million individuals live with a disease caused by smoking.[vii] [viii]

The higher mortality rates and greater disease prevalence associated with smoking impose a substantial burden on health care expenditures. Numerous studies have examined this relationship and consistently find that smokers incur higher health care costs than non-smokers. Estimates of this excess spending vary, with one study reporting annual differences ranging from approximately $580 to $1,900 per smoker.[ix] Elevated costs persist even among individuals with serious illnesses. For example, among patients with a cancer diagnosis, smokers are more likely to present with advanced-stage disease, have a higher likelihood of death within one year of diagnosis, and incur significantly higher average monthly health care costs than non-smokers ($5,091 versus $4,847).[x]

Moreover, the health and fiscal consequences of smoking are disproportionately concentrated within the Medicaid population. Historically, smoking rates among Medicaid enrollees have been more than twice those of adults with private health insurance.[xi] As of 2022, 11.6 percent of the U.S. adult population smoked cigarettes, compared with an estimated 21.5 percent of adults enrolled in Medicaid.[xii] [xiii] This elevated prevalence translates into a disproportionate share of smoking-related healthcare costs being borne by public health programs. A national study published in 2009 estimated that smoking accounted for 11 percent of total state Medicaid expenditures, with Arizona's share estimated at 18 percent, or approximately $377 million annually.[xiv]

Given the expansion of Medicaid coverage toward predominantly adult populations over the past several decades, smoking likely continues to represent a substantial share of Medicaid expenditures even as overall smoking prevalence continues to decline. Applying the 18% estimate from the 2009 research to the FY 2026 budgeted expenditures for the state's seven Medicaid line items would yield $3.8 billion in Medicaid expenditures tied to smoking related health care costs.[xv]

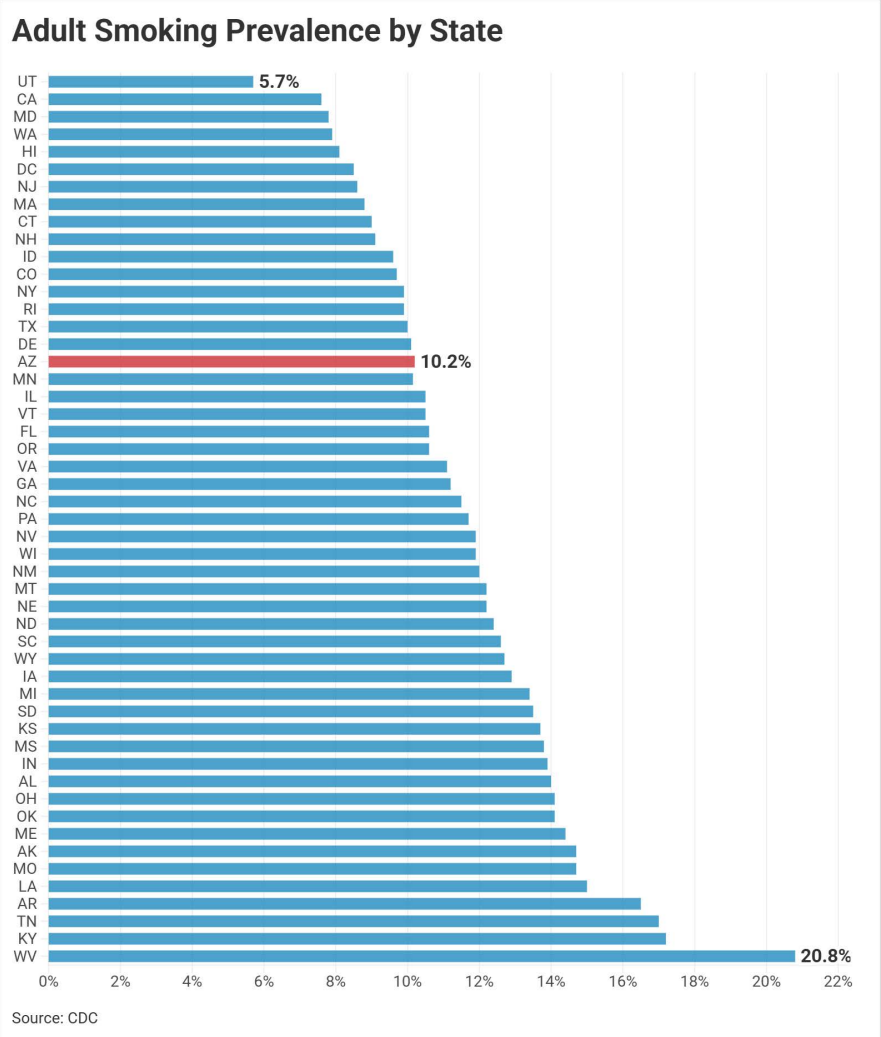
THE TOTAL COST OF SMOKING

These national patterns have direct relevance for Arizona, where Medicaid plays a central role in financing health care for low-income adults and families through AHCCCS. According to data from the CDC's Behavioral Risk Factor Surveillance System (BRFSS), approximately 10.2 percent of adults in Arizona currently smoke cigarettes, giving the state the 17th lowest adult smoking prevalence in the nation.[xvi] This represents a substantial decline from previous years: in 2011, nearly one-fifth of Arizona's adult population smoked (19.3 percent).

However, despite the decline in the prevalence of smoking among the general population, the prevalence of smoking among Medicaid populations – and thus the costs associated it – failed to decline at a similar rate as the population overall. This is because the growth in Medicaid – particularly since the passage of the ACA – has been dominated by newly eligible adults.[xvii] According to CDC data, the population segment most likely to smoke is adults aged 45-64; the next-highest segment is adults aged 25-44.[xviii]

In other words, although the rate of smoking has been declining more broadly, the decline among the Medicaid population has been slower due in part to the changes in the composition of the

FIGURE 3.



Medicaid population by the inclusion of more adults who smoke at higher rates. Between 2005 and 2021 the rate of smoking among the general population declined 9.4 percentage points from 20.9% to 11.5% - a 45% relative decline. However, smoking among Medicaid enrollees declined by only 7.5 percentage points between 2004 and 2021 for a relative decline of 25.9% - a little over half the rate for the general population.[xix xx xxi]

FIGURE 4.

Smoking Prevalence Among General and Medicaid Population

Over the last two decades the smoking rate among the Medicaid population has declined slower than that of the general population, likely due to the expansion of adult eligibility.

Year	Total Population	Medicaid
2004-2005	20.9%	29.0%
2021-2022	11.5%	21..5%
Absolute Decline	**-9.4%**	**-7.5%**
Relative Decline	**-45.0%**	**-25.9%**

Source: CDC, Ahmed et. al., 2016, Cornelius et. al., 2023

Taken together, smoking remains a meaningful and potentially addressable driver of healthcare spending in Arizona, even as overall smoking prevalence has declined. Additionally, the concentration of smoking among adult Medicaid enrollees (estimated at 18.9% in Arizona), combined with the program's growing share of state expenditures and heightened fiscal pressure from recent federal policy changes, underscores the importance of quantifying smoking's contribution to current Medicaid costs.

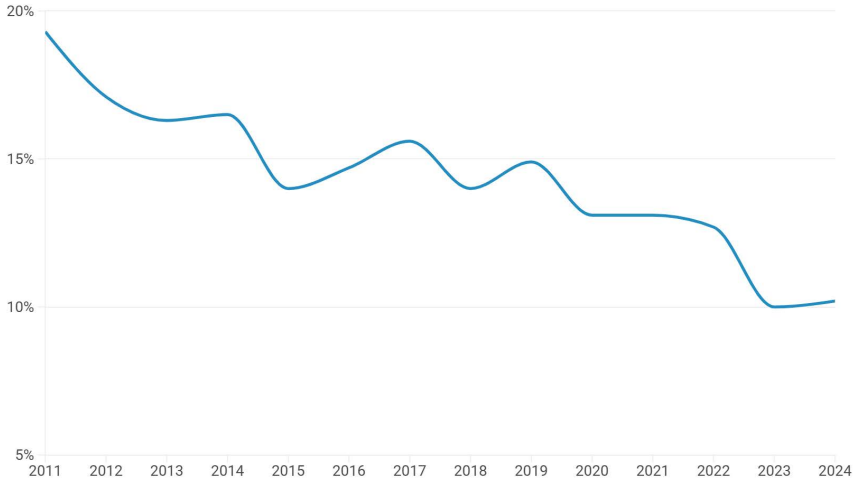
Research published in 2016 by James Lightwood and Stanton Glantz, using panel data from Arizona and California, estimated that a 1% reduction in the state's prevalence of smoking was associated with a 0.118% reduction in Medicaid expenditures.[xxii] This elasticity estimate along with data on personal healthcare expenditures provides us with one way to evaluate the impacts of a reduction in smoking in the state of Arizona.

It's noteworthy that elasticity estimates like this represent the percentage change in expenditures given a percentage change in smoking at *current* spending and smoking rates. More technically, elasticities represent the change in one variable given a very small change in another and are often not applicable to large changes one way or another.

FIGURE 5.

Adult Smoking Prevalence in Arizona

In the 13 years between 2011 and 2024, the rate of smoking among Arizona's adult population fell by nearly half at a rate of 0.7 percentage points per year.



Source: CDC

It is worth noting though that using this elasticity to estimate a full 100% reduction in smoking – or in other words, the current total medical cost of smoking – would yield total smoking costs of 11.8% of healthcare expenditures. As we discussed earlier, prior research has suggested smoking accounts for 11% of Medicaid costs nationwide, and upwards of 18% for Arizona.[xxiii]

However, given these technical issues, CSI also considered other research that quantifies the cost of smoking. One such study from 2013 by Hockenberry et. al. demonstrated that by the sixth quarter following the cessation of smoking, subjects in the study had healthcare costs that were $541 less than subjects who remained smoking.[xxiv] This equates to an annual savings of $2,164 per individual. Adjusting for inflation in the medical care sector between 2009 (the year of the data used in the study) and 2025, this estimate grows to $3,338 in annual health care savings per individual.

Finally, smoking not only leads to elevated healthcare expenditures, but can impose substantial productivity costs. Using a human-capital approach, Shrestha et. al. estimate that morbidity-related productivity losses attributable to cigarette smoking in the United States totaled $184.9 billion in 2018, encompassing not only absenteeism (missed workdays) and presenteeism (reduced productivity while at work) but also lost household productivity and the inability to work due to disability. Quantifying these indirect costs allows for a more holistic picture regarding the economic costs of smoking.

Leveraging the research discussed thus far, CSI analyzed four smoking reduction scenarios for the state of Arizona, evaluating both the impact on healthcare expenditures and reduced productivity losses using two methods. Method 1 utilizes the elasticity estimate from Lightwood & Glantz (2016) for healthcare expenditures while Method 2 relies on the dollar estimates from Hockenberry et. al. (2013) grown by inflation. Both methods incorporate the same non-healthcare inflation-adjusted productivity losses from Shrestha et. al. as well.

FIGURE 6.

Estimated Cost Savings From Smoking Reductions

CSI estimates that reducing the states smoking prevalence by 1 percentage point from roughly 10.2% to 9.2% would lead to between $257M and over $1B in health care savings, and another $151M in productivity gains.

Scenario	Method 1 - Medicaid	Method 1 - All Other	Method 2 - Medicaid	Method 2 - All Other
1 Percentage Point Reduction				
Number of Quitters	17,395	59,615	17,395	59,615
Healthcare Costs	$232M	$846M	$58M	$199M
Productivity Losses	$34M	$117M	$34M	$117M
4.6 Percentage Point Reduction (Lowest Smoking Rate State)				
Number of Quitters	80,017	274,227	80,017	274,227
Healthcare Costs	$1,065M	$3,890M	$267M	$915M
Productivity Losses	$157M	$537M	$157M	$537M
5.3 Percentage Point Reduction ("Smoke-Free" State)				
Number of Quitters	92,194	315,957	92,194	315,957
Healthcare Costs	$1,227M	$4,482M	$308M	$1,055M
Productivity Losses	$181M	$619M	$181M	$619M
100% Reduction				
Number of Quitters	177,430	608,069	177,430	608,069
Healthcare Costs	$2,362M	$8,626M	$592M	$2,030M
Productivity Losses	$348M	$1,192M	$348M	$1,192M

Source: CMS, FY 2025 Appropriations Report • Savings estimates for 2025. Number of Quitters based on CSI analysis of AHCCCS populations and smoking rates at both the state and national level.

This analysis shows that a 1 percentage point reduction in Arizona's smoking rate – from approximately 10.2% to 9.2% - yields a total savings on personal health care expenditures of between $257.1 million and $1.1 billion, coupled with an additional savings of $150.9 million from reduced productivity losses. Reducing Arizona's smoking prevalence by 4.6 percentage points and bringing the state to the lowest smoking rate in the nation could reduce personal health care expenditures by upwards of $5.0 billion in total, with approximately $1.1 billion of those savings accruing to the state's Medicaid system. **In total, smoking in Arizona contributes up to $11.0 billion to total personal health expenditures in the state, and costs taxpayers $2.4 billion annually through the state's Medicaid program (AHCCCS) alone.**

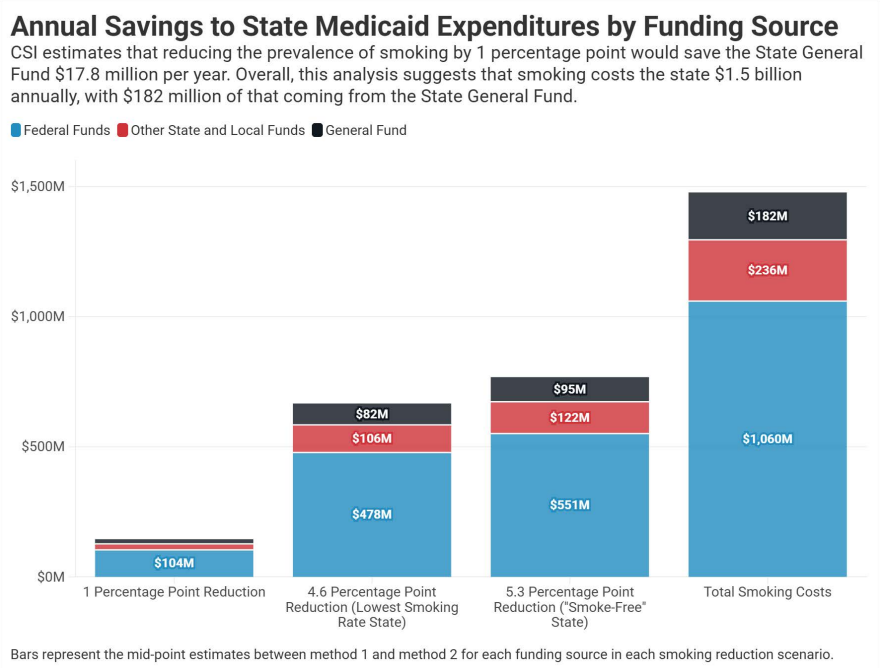
Budgetary Implications

Overall, 12.3% of Arizona's Medicaid expenditures come from the State General Fund, with the remaining being shared by a combination of other State and local funds and federal funds. In total, federal funding pays for 71.7% of the state's Medicaid bill.

Assuming an identical distribution for the savings as a result of our smoking reduction scenarios, **we find that smoking in Arizona contributes $182.0 million annually in "excess" Medicaid expenditures from the State's General Fund,** with this point estimate reflecting the mid-point of our two estimation methods. Additionally, we estimate that a 1 percentage point reduction in smoking in Arizona would save the General Fund $17.8 million annually.

For context, the General Fund budget grew by an average of $814.2 million per year between fiscal years 2016 and 2026, which means that the magnitude of costs that smoking imposes on the state's Medicaid system borne by the State General Fund is on par with about 22% of the average annual increase in General Fund spending over the last decade. Alternatively, were Arizona able to eliminate smoking, the General Fund savings alone would be sufficient to fund nearly 7% of the total AHCCCS General Fund Budget, or the budgets of one or more of 52 State agencies.[xxv]

FIGURE 7.



THE BOTTOM LINE

Taken together, the evidence shows that smoking remains a significant and persistent driver of Medicaid spending in Arizona, even as overall smoking rates have declined. Because smoking is disproportionately concentrated among adult Medicaid enrollees, modest and achievable reductions in smoking prevalence translate into meaningful savings for both the health care system and taxpayers. In an environment of rising Medicaid costs and increasing fiscal pressure, reducing cigarette smoking represents a policy opportunity: it can improve public health, deliver ongoing budget savings, and reduce demand for one of our largest public welfare programs.

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