Subject: Annotated Bibliography on Barriers to Tobacco Cessation Treatment in State Medicaid Programs

The 2020 Surgeon General's report on smoking cessation found that comprehensive insurance coverage without barriers to access increases the use of quit smoking treatments and improves the rate of quitting.[1] The Centers for Medicare and Medicaid Services' 2024 bulletin called "Strategies to Improve Delivery of Tobacco Cessation Services" says that removing barriers can help states improve tobacco cessation for Medicaid enrollees.[2] Still, barriers to access vary considerably across state Medicaid programs.[3]

In 2017, the American Lung Association asked George Washington University (GWU) to conduct a literature review on barriers that limit tobacco cessation benefits in state Medicaid programs. Lung Association staff updated this document in April 2024 to include literature published since the initial review. Specifically, the Lung Association identified the following as common barriers:

1. Inconsistencies in coverage across MCOs and States
2. Financial barriers (Co-Pays, Co-Insurance, Deductible)
3. Prior authorization
4. Required counseling
5. Stepped care therapies (or "first failed therapy")
6. Annual limits
7. Duration limits
8. Lifetime limits

The following annotated bibliography categorizes relevant literature published between January 2006 and November 2023. The information in this document will be used by Lung Association staff and other public health partners to advance tobacco cessation coverage within Medicaid.

Search Terms

- Tobacco cessation
- Tobacco cessation program(s)
- Tobacco cessation treatment
- Smoking cessation Cost share/sharing*
- Medicaid
- Cost barrier(s)
- Barrier(s)
- Access
- Copay(s)

* "Smoking cessation" and "Cost share/sharing" search terms were added for the 2024 update.

- Inconsistencies
- Managed care organization(s)
- Prior authorization
- Required counseling
- Stepped care therapy(s)
- First failed therapy(s)
- Annual limits(s)
- Duration limit(s)
- Lifetime limit(s)
- Tobacco
- Wellbutrin
- Substance use/substance abuse
- Chantix
- Varenicline
- Bupropion
- Opioid/opiate
- Coverage

Methodology. The eight barriers listed above served as a starting point for the literature review. GWU expanded the list of search terms to broaden the scope of the search. GWU searched in the following databases: PubMed, Scopus and Health Affairs. GWU limited the search to articles published in 2006-2017 and in addition, included nine articles sent and recommended by the American Lung Association. The Lung Association updated the review with articles published from 2017-2023 and available on PubMed as well as the 2020 Surgeon General's report. The original abstracts of the articles were adapted to incorporate the findings most relevant for the purpose of this review. In addition, we included a sentence at the beginning of each abstract that summarizes the article's key findings. The findings are below as an annotated bibliography of published studies.

Summary of Findings

The literature review is divided into three sections, including (1) barriers to tobacco cessation treatment in Medicaid programs and other similar coverage issues; (2) barriers to substance use treatment in Medicaid programs, and (3) barriers to other benefits in Medicaid and private insurance. A total of 54 peer-reviewed publications are included in the review.

It should be noted that specific sections on stepped care therapies, annual limits or duration limits are not included in this annotated bibliography. While we found studies that discussed the impact of these barriers, studies were not found that specifically focused solely on these issues for Medicaid tobacco cessation coverage (though one recent study on opioid treatment coverage did focus on duration limits).[4] The same is true for lifetime limits, which are not currently applied to Medicaid plans.[5]

American Lung Association.

I. Barriers to Tobacco Cessation Treatment in Medicaid Programs

Section I contains 27 articles that explore various barriers to tobacco cessation treatment in Medicaid. These articles are organized into five subsections on the following topics: general insurance coverage barriers to tobacco cessation treatment; inconsistencies in coverage across MCOs and states; financial barriers; required counseling; and other barriers to tobacco cessation treatment.

Medicaid patients face numerous barriers to tobacco cessation resources. Most prominent among these are prior authorization,[6] annual and duration limits. Additionally, a number of Medicaid plans impose copays, despite findings that these continue to pose a financial barrier to access.[7,8] Such barriers are broadly associated with worse health outcomes for the affected patients. Because Medicaid coverage gives limited attention to non-clinical determinants of tobacco dependency, including education and policy change, coverage alone may have limited sustained effect on tobacco cessation.[9] The most effective formula to reduce smoking prevalence combines coverage of tobacco cessation medication and behavioral counseling with broad promotion and minimized barriers to access.[10]

States with more generous Medicaid tobacco dependence treatment coverage[11] and those that expanded Medicaid show greater utilization of treatments and suffer a lower health burden than other states.[12,13,14] This success occurred despite the fact that although all Medicaid expansion states covered some treatments, only nine states covered all treatments, and all had barriers to access in 2016.[15,16] Recent data shows that Medicaid expansion alone is not enough for sustained reduction in smoking and that barriers to access should be addressed as well.[17]

The final three subsections discuss the effects of other non-coverage barriers to access on tobacco cessation. Financial barriers, required counseling,[18] culture and environment were identified barriers discussed in several articles.[19] In addition, providers' lack of awareness about mandated coverage [for pregnant women] and inadequate pharmacy filling were identified as hindering the effectiveness of smoking cessation benefits.[20, 21]

II. Barriers to Substance Use Treatment in Medicaid Programs

Section II includes 18 articles that examine various types of barriers to substance use disorder (SUD) treatment in Medicaid programs. Most state Medicaid programs cover a variety of SUD treatments. Most Medicaid programs use MCO arrangements to provide

at least one SUD treatment, with many providing an array of services.[22] In recent years, many state Medicaid programs have also adopted coverage of opioid agonist treatment.[23] However, in parallel with increased treatment, states have increased barriers to treatment. One study found that states have increased several types of restrictions on opioid agonist therapy, such as prior authorization and required counseling.[24] Another study found that in one state, prior authorization and duration limits were the most common barriers to access.[25] Prior authorization is associated with decreased treatment prescribing – removing this barrier could increase prescribing in some states.[26, 27] According to a survey of providers, prior authorization requirements were the highest rated barriers to providing care. Additional barriers reported by providers include lack of financial, infrastructure, and staffing resources.[28] *Wen, et al.* found that Medicaid expansion could reduce financial barriers and improve access to treatment for opioid use disorder.[29]

Several studies describe barriers to SUD treatment related to socioeconomic status. For example, among Black and Hispanic communities, housing instability and employment may serve as barriers to treatment outcomes.[30] Conversely, another study found increased adherence to treatment among those with a criminal history due to SUD treatment mandates through the criminal justice system.[31]

Evidence suggests that health insurance coverage, including Medicaid and private health insurance, may improve the likelihood of receiving SUD treatment, although the literature is inconclusive. One study found that individuals with both employer-based insurance and Medicaid were associated with greater odds of being offered at least one SUD medication.[32] *Bouchery, et al.* further describe that those with publicly provided treatment, such as Medicaid, had greater odds of receiving treatment compared to those with private insurance. Conversely, one study demonstrates a lack of congruence between increased coverage and access to SUD treatment among low-income individuals enrolled in Medicaid expansion. In this study, *Creedon and Lê Cook* found that despite increased coverage through Medicaid expansion, SUD treatment rates have not improved as a result.[33]

Disparities in access to SUD treatment were also found among those with intellectual disabilities or serious mental illness.[34, 35, 36] Among those with intellectual disabilities who have access to treatment, women may be less likely to utilize treatment, whereas other sociodemographic factors improved utilization. *Mechanic, et al* concluded that although rates of utilization are increasing, treatment is poorly allocated and falls short of evidence-based standards.[37]

III. Barriers to Other Benefits in Medicaid and Private Insurance

Section III contains nine articles and examines: (1) how barriers to insurance coverage generally, not just in Medicaid, affect tobacco cessation behaviors; and (2) how barriers to insurance coverage affect health outcomes in general, aside from tobacco-related outcomes. For example, one randomized household survey of six low-income neighborhoods in New Haven, CT revealed that financial costs, lack of social support and social norms formed significant barriers to tobacco cessation, and recommended that any policy going forth should take these limitations into account.[38] An example of such a connection is demonstrated through a study that analyzed the relationship between out-of-pocket (OOP) expenses and adherence to Varenicline, a tobacco cessation medication, amongst Medicare recipients and found that greater out of pocket expenses were significantly associated with suboptimal medication adherence.[39] One study found that Medicaid enrollees had more financial barriers to accessing Varenicline and combination nicotine replacement therapy than those with private insurance, but those with Medicare coverage had the most financial barriers to accessing these medications.[40]

Another study examined the relationship between formulary restrictions (e.g., cost-sharing, step therapy, prior authorization, preferred drug lists) and medication adherence outcomes and came to a similar conclusion. The study found strong evidence demonstrating lower levels of medication adherence in the face of higher formulary restrictions.[41] For example, when Maine instituted a prior authorization policy to promote the use of generics, a study was conducted to examine the effects of this policy on Medicaid recipients taking medications for bipolar disorder.[42] This study revealed that while the policy seems to have resulted in a reduction in the amount of money spent on bipolar medication, this reduction resulted in higher rates of medication discontinuation because of patients switching to generic drugs.[43] Further, a study examining ten state Medicaid programs was able to go beyond establishing the relationship between formulary restrictions and medication adherence outcomes by demonstrating that such restrictions correlated to an increased likelihood of adverse events.[44]

However, providing access to Medicaid reimbursement by removing financial barriers is not enough to ensure improved health outcomes. A higher percentage of Medicaid beneficiaries than those insured by private insurance face barriers to primary care utilization such as the inability to obtain an appointment in a timely manner, long wait times, limited clinical hours, and lack of transportation.[45] Such barriers contribute to Medicaid beneficiaries utilizing the emergency department at far higher levels than those with private insurance.[46]

The Surgeon General found that comprehensive insurance coverage without barriers to access increases the use of quit smoking treatments and improves the rate of quitting and that removing cost and other barriers (which impede smokers' access to proven cessation treatments) has been shown to increase the delivery and utilization of tobacco dependence treatment.[47]

Literature Review

I. BARRIERS TO TOBACCO CESSATION TREATMENT IN MEDICAID PROGRAMS

a. *General insurance coverage barriers to tobacco cessation treatment*

- ***Expanding Medicaid without removing barriers to access may limit use of cessation services, quit attempts and smoking prevalence.*** Hilts KE, Blackburn J, Gibson PJ, Yeager VA, Halverson PK, Menachemi N. Impact of Medicaid Expansion on Smoking Prevalence and Quit Attempts among Those Newly Eligible, 2011-2019. *Tob Prev Cessat.* 2021 Aug 5;7:16. doi: 10.18332/tpc/139812. PMID: 34414341; PMCID: PMC8336658.

  Introduction: Low-income populations have higher rates of smoking and are disproportionately affected by smoking-related illnesses. **This study assessed the long-term impact of increased coverage for tobacco cessation through Medicaid expansion on past-year quit attempts and prevalence of cigarette smoking.**

  Methods: Using data from CDC's annual Behavioral Risk Factor Surveillance System 2011-2019, we conducted difference-in-difference regression analyses to compare changes in smoking prevalence and past-year quit attempts in expansion states versus non-expansion states. Our sample included non-pregnant adults (18-64 years old) without dependent children with incomes at or below 100% of the Federal Poverty Level (FPL).

  Results: Regression analyses indicate that Medicaid expansion was associated with reduced smoking prevalence in the first two years post-expansion (β=-0.019, p=0.04), but that this effect was not maintained at longer follow-up periods (β=-0.006, p=0.49). Results of regression analyses also suggest that Medicaid expansion does not significantly impact quit attempts in the short-term (β=-0.013, p=0.52) or at longer term follow-up (β=-0.026, p=0.08).

Conclusions: Expanded coverage for tobacco cessation services through Medicaid alone may not be enough to increase quit-attempts or sustain a reduction in overall prevalence of smoking in newly eligible populations over time. Importantly, these findings may indicate that increased coverage alone may not be enough to increase quit attempts and decrease overall smoking prevalence. **In the context of Medicaid policies, even among states that expanded, many barriers remain that may limit full use of cessation services among expansion populations. Medicaid programs should consider additional strategies, such as public education campaigns and removal of barriers, to support cessation among enrollees.**

- ***States that expand Medicaid and remove barriers to access see higher rates of quit attempts compared to states with barriers (whether they expand Medicaid or not).*** Valvi N, Vin-Raviv N, Akinyemiju T. Current Smoking and Quit-Attempts among US Adults Following Medicaid Expansion. *Prev Med Rep.* 2019 Jun 18;15:100923. doi: 10.1016/j.pmedr.2019.100923. PMID: 31384525; PMCID: PMC6664091.

  The objective of this study was to estimate the influence of the Affordable Care Act (ACA) Medicaid Expansion on current smoking and quit attempts in expanded and non-expanded states. We analyzed data from the Behavioral Risk Factor Surveillance System (BRFSS) between 2003 through 2015 to evaluate changes in current smoking and quit attempts using multivariable logistic regression and generalized estimating equations (GEE), adjusting for socioeconomic factors. Time periods evaluated were: 2003-2009 (pre-expansion) and 2011-2015 (post-expansion), and in supplemental analysis, also 2011-2017. **To evaluate the impact of state-level barriers to utilization of smoking cessation services, data on two state-level barrier variables – prior authorization before smoking cessation treatment and copayments- were obtained from the American Lung Association for 2010, dichotomized as yes/no (Centers for Disease Control and Prevention, n.d).** Overall, smoking prevalence among adults in expanded and non-expanded states were 16% and 17% ($p < 0.001$), respectively, and quit attempt prevalence for expanded and non-expanded states were 56% and 57% ($p = 0.05$), respectively. In adjusted models comparing post- versus pre- expansion periods, current smoking declined by 6% in both expanded (RR: 0.94, 95% CI: 0.93-0.94) and non-expanded (RR: 0.94, 95% CI: 0.94-0.95) states. Quit attempts increased by 4% (RR: 1.04, 95% CI: 1.04-1.05) in expanded states, and by 3% (RR: 1.03, 95% CI: 1.02-1.03) in non-expanded states. **States that imposed barriers to utilization of smoking cessation services e.g. prior authorization, saw only a 3% increase in**

quit attempts regardless of expansion status, while expanded states that did not impose barriers experienced a 6% (RR: 1.06, 95% CI: 1.05-1.06) increase in quit attempts. Reducing administrative barriers to smoking cessation programs may enhance further declines in smoking rates among US adults.

- ***Utilization of tobacco cessation treatment remained limited in Kentucky despite Medicaid expansion, implicating barriers – particularly prior authorization – to access.***
  Goodin A, Talbert J, Freeman PR, Hahn EJ, Fallin-Bennett A. Appalachian Disparities in Tobacco Cessation Treatment Utilization in Medicaid. *Subst Abuse Treat Prev Policy*. 2020 Jan 20;15(1):5. doi: 10.1186/s13011-020-0251-0. PMID: 31959212; PMCID: PMC6971922.

  Background: Kentucky Medicaid enrollees, particularly those in the rural Appalachian region, face disproportionate smoking rates and tobacco-related disease burden relative to the rest of the United States (US). The Affordable Care Act (ACA) mandated tobacco cessation treatment coverage by the US public health insurance program Medicaid. **Medicaid coverage was also expanded in Kentucky, in 2013, with laxer income eligibility requirements. This short report describes tobacco use incidence and tobacco cessation treatment utilization, comparing by Appalachian status before and after ACA-mandated cessation treatment coverage.**

  Results: Overall, the proportion of tobacco users utilizing cessation treatment decreased (4.75% tobacco users in 2013; 3.15% in 2015). Tobacco users receiving counseling decreased from 2.06% pre-ACA (2013) to 1.06% post-ACA (2015, $p < 0.001$), as did the proportion receiving nicotine replacement products post-ACA (2.69% in 2013 to 1.55% by 2015; $p < 0.001$). More Appalachians received cessation treatment than non-Appalachians in 2013 (2.72% vs. 2.03%), but by 2015 non-Appalachians received more treatment overall (1.50% vs. 1.65%; $p < 0.001$). Appalachians received more counseling and NRT, but less varenicline, than non-Appalachians.

  Conclusions: Utilization of all forms of tobacco cessation treatment throughout Kentucky, and particularly in rural Appalachia, remained limited despite Medicaid enrollment as well as coverage expansions. These findings suggest that barriers persist in access to tobacco cessation treatment for individuals in Medicaid. This was likely due to implementation barriers such as lack of information

about covered services, inconsistent formularies across plans, and requirements for prior authorization. **Burdensome prior authorization requirements are particularly implicated in this state as previous reports have indicated that other common barriers to tobacco cessation treatment, such as lifetime limits on quit attempt coverage and sporadic implementation of cost-sharing removal, were not present in this state in 2014 and 2015 after the ACA change.** However, limited patient readiness to change and low demand for tobacco cessation treatment have also been implicated in prior studies, which could contribute to the low utilization after Medicaid expansion that was observed in these findings. Future studies are needed to assess and resolve barriers to the provision of tobacco cessation treatment, particularly for the Appalachian region that faces persistent health disparities and poorer access to care.

- ***Adults with low income who smoke are less likely to have cost barriers to care in Medicaid expansion states than non-Medicaid expansion states.*** Brown CC, Tilford JM, Bird TM. Improved Health and Insurance Status Among Cigarette Smokers After Medicaid Expansion. 2011-2016. *Public Health Rep.* 2018 May/Jun;133(3):294-302. doi: 10.1177/0033354918763169. Epub 2018 Apr 5. PMID: 29620480; PMCID: PMC5958387.

  Objectives: The high concentration of smokers among subgroups targeted by the Affordable Care Act and the historically worse health and lower access to health care among smokers warrants an evaluation of how Medicaid expansion affects smokers. **We evaluated the impact of Medicaid expansion on smoking behavior, access to health care, and health of low-income adults, and we compared outcomes of all low-income people with outcomes of low-income current smokers by states' Medicaid expansion status.**

  Methods: We obtained data from the Behavioral Risk Factor Surveillance System (2011-2016) for low-income adults aged 18-64. We estimated multivariable linear ordinary least squares probability models using a quasi-experimental difference-in-difference approach to compare smoking behavior, access to health care, and health between people in expansion states and nonexpansion states and, specifically, on low-income adults and the subgroup of low-income current smokers.

  Results: Compared with low-income smokers in nonexpansion states, low-income smokers in expansion states were 7.6 percentage points (95% confidence interval [CI], 5.7-9.6; P < .001) more likely to have health insurance, 3.2 percentage points (95% CI, 1.3-5.2; P = .001) more likely to report good or

better health, and 2.0 percentage points (95% CI, -3.9 to -0.1; P = .044) less likely to have cost-related barriers to care. Health and insurance gains among current smokers in expansion states were larger relative to health gains (1.6 percentage points; 95% CI, 0.5-2.7; P = .003) and insurance gains (4.6 percentage points; 95% CI, 3.5-5.8; P < .001) of all low-income adults in these states.

Conclusions: Greater improvements among low-income smokers in Medicaid expansion states compared with nonexpansion states could influence future smoking behaviors and warrant longer-term monitoring. Additionally, health and insurance gains among low-income smokers in expansion states suggest the potential for Medicaid expansion to improve health among smokers compared with nonsmokers.

- ***Tobacco Cessation Benefits that include Coverage of Medications and Behavioral Treatments with Few Barriers to Access can Reduce Smoking.*** Land T, Warner D, Paskowsky M, Cammaerts A, Wetherell L, et al. (2010) Medicaid Coverage for Tobacco Dependence Treatments in Massachusetts and Associated Decreases in Smoking Prevalence. PLOS ONE 5(3): e9770.

  Smoking prevalence was evaluated pre- to post-benefit using 1999 through 2008 data from the Massachusetts Behavioral Risk Factor Survey (BRFSS). **In an effort to reduce smoking prevalence in the Medicaid population, the law mandated coverage for two types of tobacco cessation treatment: behavioral counseling and all Food and Drug Administration (FDA)-approved medications.** Prior to 2006, MassHealth (the Massachusetts Medicaid program) did not provide tobacco cessation benefits. With the implementation of this benefit, MassHealth subscribers are allowed two 90-day courses per year of FDA-approved medications for smoking cessation, including OTC medications like nicotine replacement therapy, and up to 16 individual or group counseling sessions. **Medications require written prescriptions following an office visit. Prior authorization is not required to prescribe the nicotine patch, gum, lozenge, Chantix, or bupropion/ Wellbutrin. With prior authorization, the nicotine inhaler and nasal spray may also be covered. The co-payment is minimal at $1.00 or $3.00.**

  The crude smoking rate decreased from 38.3% (95% C.I. 33.6%–42.9%) in the pre-benefit period compared to 28.3% (95% C.I.: 24.0%–32.7%) in the post-benefit period, representing a decline of 26 percent. A demographically adjusted smoking rate showed a similar decrease in the post-benefit period. Trend analyses reflected prevalence decreases that accrued over time.

Specifically, a joinpoint analysis of smoking prevalence among Massachusetts Medicaid benefit-eligible members (age 18–64) from 1999 through 2008 found a decreasing trend that was coincident with the implementation of the benefit. Finally, a logistic regression that controlled for demographic factors also showed that the trend in smoking decreased significantly from July 1, 2006 to December 31, 2008. **These findings suggest that a tobacco cessation benefit that includes coverage for medications and behavioral treatments, has few barriers to access, and involves broad promotion can significantly reduce smoking prevalence.**

- ***Medicaid Coverage of Tobacco Cessation is Associated with Successful Quitting among Young Women but No Evidence for Men and Older Women.*** Liu, F. (2009). Effect of Medicaid coverage of tobacco-dependence treatments on smoking cessation. *International Journal of Environmental Research and Public Health*, *6*(12), 3143-3155.

  Smoking cessation aids (nicotine replacement products and anti-depressant medication) have been proven to double quitting rates compared to placebo in several randomized controlled trials. But **the high initial cost of cessation aids might create a financial barrier to cessation for low-income smokers.** In the U.S., Medicaid provides health insurance coverage to low-income people, and in some states covers smoking cessation products. This paper examines how the Medicaid coverage of cessation aids affect smoking behavior using nationally representative data of the U.S. subdivided into four groups based on age and gender. Pregnancy status at the time of care was inferred from the present age of a woman's children. Race, household size, family income, education, employment status, marital status and the duration of smoking habits were also considered by the econometric model to addresses potentially relevant individual characteristics.

  The results indicate the Medicaid coverage of cessation products is positively associated with successful quitting among women aged 18-44. There is no evidence that such effect exists for men or older women. There are several reasons to explain why tobacco dependence treatment (TDT) coverage may not lead to significant smoking cessation for men and older women. First, smokers interested in quitting may be not aware of that they can obtain financial assistance for tobacco-dependence treatments from Medicaid, as several studies find that a majority of Medicaid smokers are unaware of the program benefit providing coverage for TDT. Second, most quit attempts are made without pharmaceutical cessation aids. CPS-TUS 2003 suggests only 20% smokers ever used NRT in a quit attempt in the past year. Third, many smokers do not use medications because of safety concerns. **Finally, Medicaid may limit the number of courses of medication a person can obtain in a given time period, which may deter smokers from**

making multiple quit attempts. The central implication of this study is that, simply changing the insurance coverage alone is not sufficient to substantially reduce smoking among Medicaid recipients. More work is needed to improve successful quitting among Medicaid smokers besides providing coverage of pharmaceutical therapies and counseling.

- ***Varenicline Utilization Treatment Lower Among Those With Smoking Cessation Program, Prior Authorization Requirements.*** Galaznik, A., Cappell, K., Montejano, L., Makinson, G., Zou, K. H., & Lenhart, G. (2013). Impact of access restrictions on varenicline utilization. *Expert Review of Pharmacoeconomics & Outcomes Research*, *13*(5), 651-656.

  Aim: To assess the impact of access restrictions on varenicline utilization. *Methods*: Employer-sponsored health plans contributing to the MarketScan Commercial Claims and Encounters Database were categorized according to 2009 varenicline access restrictions: no coverage; prior authorization; smoking cessation program requirement; no restrictions. The cohort comprised all adults continuously enrolled in plans during 2009. Each restriction cohort was compared with the no restrictions cohort using descriptive analyses. Data were assessed using logistic regression; demographic and clinical characteristics were covariates. *Results*: In this study (no coverage, n = 454,419; prior authorization, n = 171,530; smoking cessation program, n = 108,181; no restrictions, n = 607,389), **compared with the no restrictions cohort, the odds of treatment were 71% lower (odds ratio: 0.29; 95% CI: 0.26, 0.31) in the smoking cessation program cohort (p < 0.001) and 80% lower (odds ratio: 0.20; 95% CI: 0.19, 0.22) in the prior authorization cohort** (p < 0.001). *Conclusions*: **Access restrictions were associated with significantly lower odds for varenicline utilization.**

- ***Cost Sharing with Private Insurers for State Sponsored Smoking Cessation Quitlines Must Engage Multiple Stakeholders, Convince Them The Services Is Not Free***. Lemaire, R. H., Bailey, L., & Leischow, S. J. (2015). Meeting the tobacco cessation coverage requirement of the Patient Protection and Affordable Care Act: state smoking cessation quitlines and cost sharing. *American Journal of Public Health*, *105*(S5), S699-S705.

  Objectives: We explored whether various key stakeholders considered cost sharing with state telephone-based tobacco cessation quitlines, because including tobacco cessation services as part of the required essential health benefits is a new requirement of the Patient Protection and Affordable Care Act (ACA). *Methods*: We analyzed qualitative data collected from interviews conducted in April and May of 2014 with representatives of state health departments, quitline service providers,

health plans, and insurance brokers in 4 US states. *Results*: **State health departments varied in the strategies they considered the role their state quitline would play in meeting USPSTF Guidelines. Health plans and insurance brokers referred to state quitlines because they were perceived as effective and free, but in 3 of the 4 states, the private stakeholder groups did not consider cost sharing.** *Conclusions*: If state health departments are going to initiate cost-sharing agreements with private insurance providers, then they will need to engage a broad array of stakeholders and will need to overcome the perception that state quitline services are free.

- ***Medicaid Coverage of Tobacco Cessation has Limited Effect on Increasing Utilization.*** Li, C., & Dresler, C. M. (2012). Medicaid coverage and utilization of covered tobacco cessation treatments: the Arkansas experience. *American Journal of Preventive Medicine*, *42*(6), 588-595.

  Background: Although most Medicaid programs have some coverage for tobacco-cessation treatments, little is known about how well the covered treatments are utilized among Medicaid enrollees. *Purpose*: To examine the impact of Arkansas Medicaid coverage of tobacco-cessation treatment on utilization of FDA-approved tobacco-cessation pharmacotherapies and counseling services by Medicaid enrollees. *Methods*: This study used Arkansas Medicaid administrative claims data from October 1, 2003, to June 30, 2008. Trend changes in the following monthly measures were examined: (1) total number of pharmacy claims for each covered pharmacotherapy; (2) total number of medical claims for counseling services; and (3) total number of unique enrollees who received each type of covered tobacco-cessation treatment. Average unit of defined daily dose and days with treatment stratified by tobacco-cessation products within 180 days after the first tobacco-cessation treatment were examined for intensity of treatment. Data collection was finished in 2009 and analysis was completed in 2011. *Results*: **By June 30, 2008, a total of 12,673 enrollees received some tobacco-cessation treatments, and 77% of them received pharmacotherapies only**. Implementation of the coverage expansion generated an initial increase in utilization of tobacco-cessation medications but quickly declined after 3 months. **Utilization increased again when varenicline was added, but also decreased sharply after 6 months**. Patterns of monthly claims for counseling services appeared to be inconsistent with the policy change. *Conclusion*: **Medicaid coverage alone may have limited sustained effect on increasing utilization of the covered tobacco-cessation treatments among Medicaid enrollees**.

- ***The ACA Has Increased The Number of Tobacco Cessation Programs for Pregnant Women.*** McMenamin, S. B., Halpin, H. A., & Ganiats, T. G. (2012). Medicaid coverage of tobacco-dependence treatment for pregnant women: impact of the Affordable Care Act. *American Journal of Preventive Medicine*, *43*(4), e27-e29.

  Background: Twenty percent of pregnant women enrolled in Medicaid use tobacco products. The Affordable Care Act (ACA) requires Medicaid to cover tobacco-dependence treatments for pregnant women beginning in 2010. *Purpose*: To summarize the impact of the ACA provisions on Medicaid coverage of tobacco-dependence treatments for pregnant women. *Methods*: Medicaid programs were surveyed regarding their coverage for tobacco-dependence treatments after the ACA provisions went into effect. *Results*: **From 2009 to 2010, coverage for tobacco-dependence treatments increased from 43 to 51 programs covering pharmacotherapy treatments and from 30 to 38 programs covering tobacco-cessation counseling**. States added additional coverage for counseling in 2011 and 2012. Conclusions: To maximize these benefits, Medicaid programs need to conduct outreach to inform Medicaid-enrolled pregnant smokers of this coverage.

b. <u>Inconsistencies in Coverage Across MCOs and States</u>

- ***After Oregon incorporated a smoking cessation quality metric into its Medicaid program for Coordinated Care Organizations, prior authorization requirements were reduced, no copayments were required and the smoking prevalence decreased.*** Livingston CJ, Bartelmann SE, Goff NM, Aird KG. Reducing Tobacco Use in Oregon Through Multisector Collaboration: Aligning Medicaid and Public Health Programs. *Prev Chronic Dis.* 2020 Dec 10;17:E155. doi: 10.5888/pcd17.200220. PMID: 33301393; PMCID: PMC7769073.

  Introduction: Tobacco use is the leading cause of preventable death and disease in the United States. Oregon's coordinated care model for Medicaid provides an opportunity to consider novel ways to reduce tobacco use.

  Purpose and objectives: We sought to evaluate the changes in tobacco cessation benefits, patient access to cessation interventions, and cigarette smoking prevalence before and after introduction of the statewide Coordinated Care Organization (CCO) cigarette smoking incentive metric for Medicaid members.

  Intervention approach: Medicaid and public health collaborated to develop a novel population-level opportunity to reduce tobacco use. In 2016, an incentive metric for

cigarette smoking was incorporated into Oregon's CCO Quality Incentive Program, which holds Oregon's CCOs accountable for providing comprehensive cessation benefits and for reducing tobacco use prevalence among members. Holding plans, rather than providers alone, accountable may increase the effectiveness of the metric on population health outcomes.

Evaluation methods: We evaluated the changes in tobacco cessation benefits, patient-provider discussions of smoking cessation, and cigarette smoking prevalence before and after the introduction of the statewide CCO cigarette smoking incentive metric.

Results: All 15 CCOs now cover cessation counseling (telephone, individual, and group) and pharmacotherapy (all 7 FDA-approved medications). **The number of CCOs requiring prior authorization for at least 1 FDA-approved pharmacotherapy decreased substantially. No CCOs had copays or lifetime dollar limits for smoking cessation benefits.** From 2016 through 2018, the percentage of Medicaid members who reported that their health care providers recommended cessation assistance increased above baseline. The incentive metric and aligned interventions were associated with a reduction in cigarette smoking prevalence among Medicaid members, as indicated by the electronic health record metric. **Thirteen of 15 CCOs demonstrated a reduction in smoking prevalence with the statewide prevalence rate decreased from 29.3% to 26.6%.**

Implications for public health: Since incentive metric implementation, progress has been made to reduce tobacco use among CCO members. Cross-agency partnerships between Medicaid and public health contributed to these successes.

- ***Medicaid Beneficiaries in States with Generous Tobacco Dependence Treatment Coverage Are More Likely To Quit Smoking Than Those in Less Generous States.*** Greene, J., Sacks, R. M., & McMenamin, S. B. (2014). The impact of tobacco dependence treatment coverage and copayments in Medicaid. *American Journal of Preventive Medicine*, *46*(4), 331-336.

  Background: The Affordable Care Act (ACA) expands Medicaid's tobacco dependence treatment (TDT) coverage; however, these expansions differ in comprehensiveness based on Medicaid eligibility category.

Purpose: To examine whether more generous Medicaid TDT coverage (in terms of cost-sharing requirements and treatments covered) is associated with greater likelihood of quit attempts and successful quit rates.

Methods: This study used repeated cross-sections from the Current Population Survey (2001– 2011), linked to state-level survey data on Medicaid TDT coverage. The sample included 3,071 adult Medicaid recipients who reported smoking 12 months prior to the survey and resided in 28 states with consistent TDT coverage across Medicaid fee-for-service and managed care. Logistic regression models, conducted in October 2013, examined the relationship between state TDT coverage and Medicaid recipients' successful quits and attempted quit rates, controlling for individual and state characteristics.

Results: **Forty-one percent of Medicaid recipients attempted to quit smoking in the prior year and 7% quit successfully. Medicaid recipients in states with the most generous coverage (counseling without copayment and pharmacotherapy with copayment) had the highest predicted successful quit rates (8.3%).** Those living in states with no TDT or pharmacotherapy-only coverage had lower predicted successful quit rates (range = 4.0% - 5.6%).

Conclusions: These findings suggest that the ACA will increase smoking quit rates among Medicaid recipients. Recipients who have more generous TDT coverage (such as the new Medicaid expansion population and pregnant women) will likely see greater increases in quit rates compared to existing adult Medicaid enrollees.

- ***Plans in New York Generally Offer Comparable Services for Tobacco Cessation to Model Plan from Minnesota But Significant Variation Based on Size of Plan.*** Kolade, V. O. (2014). Extending the 5Cs: the health plan tobacco cessation index. *The American Journal of Managed Care*, *20*(10), e453-60.

  Objectives: To describe the smoking cessation services covered by licensed health plans in New York, and to evaluate plan characteristics that could account for variation in services. *Study Design*: Prospective cross-sectional survey. Methods: All 44 unique plans in the 2005 Managed Care Plan Directory of the New York State Department of Health were invited to participate. **The Health Plan Tobacco Cessation Index was introduced to score each plan based on covered services, provision of counseling, capitalization of support for tobacco cessation, collaboration with the state quitline, and counting of tobacco users. Index scores ranged from 0 to 15, with higher scores indicating higher levels of cessation services**. Descriptive statistics, analysis of variance, c2, and Fisher exact tests were computed. *Results*: Twenty-eight of the 35 respondents offered a

Medicaid product. **Of 35 respondent plans, 21 (60%) scored 10-the same as the Minnesota plan that recommended 5Cs for all health plans**: Cover, Counsel, Capitalize, Collaborate and Count-or higher. Smaller plans had lower scores (P = .003). Seventeen plans promoted the state quitline. *Conclusions*: **New York plans compared favorably to a plan that features a model tobacco control program, but significant variation in practices existed among these plans**. There was room for improvement in collaboration with the local quitline.

- ***Tennessee Medicaid (TennCare) Found to be Inadequate and Only Covered Group and Individual Counseling for Pregnant Women.*** Kolade, F. M. (2014). Tennessee Health Plan Tobacco Cessation Coverage. *Public Health Nursing*, *31*(1), 28-35

  Objective: To evaluate the smoking cessation coverage available from public and private Tennessee health plans. *Design and Sample*: Cross-sectional study. The sampling frame for private plans was a register of licensed plans obtained from the Tennessee Commerce Department. Government websites and reports provided TennCare data. *Measures*: Data were abstracted from plan manuals and formularies for benefit year 2012. Classification of coverage included comprehensive-all seven recommended medications plus individual and group counseling; moderate-at least two forms of nicotine replacement therapy (NRT) plus bupropion and varenicline and one form of counseling; inadequate-at least one treatment, or none-no medications or counseling, or coverage only for pregnant women. *Results*: **Of nine private plans, one provided comprehensive coverage; two, moderate coverage; four, inadequate coverage, as did TennCare**; and two plans provided no coverage. Over 362,800 smokers had inadequate access to cessation treatments under TennCare, while 119,094 smokers had inadequate or no cessation coverage under private plans. *Conclusion*: In 2012, Tennessee fell short of Healthy People goals for total managed care and comprehensive TennCare coverage of smoking cessation. If Tennessee mandates that all health plans provide full coverage, 481,900 smokers may immediately be in a better position to quit.

- ***Variability Among States Exists for Tobacco Cessation Utilization With States That Have Accepted Medicaid Expansion Out Performing States That Did Not.*** Ku, L., Bruen, B. K., Steinmetz, E., & Bysshe, T. (2016). Medicaid tobacco cessation: big gaps remain in efforts to get smokers to quit. *Health Affairs*, *35*(1), 62-70.

  Medicaid enrollees are about twice as likely as the general US population to smoke tobacco: 32 percent of people in the program identify themselves as smokers. **This article provides the first data about the effectiveness of state Medicaid**

programs in promoting smoking cessation. Our analysis of Medicaid enrollees' use of cessation medications found that about 10 percent of current smokers received cessation medications in 2013. **Every state Medicaid program covers cessation benefits, but the use of these medications varies widely, with the rate in Minnesota being thirty times higher than that in Texas**. Most states could increase their efforts to help smokers quit, working with public health agencies, managed care plans, and others. In 2013, Medicaid spent $103 million on cessation medications—less than 0.25 percent of the estimated cost to Medicaid of smoking-related diseases. Additionally, **states that have not expanded Medicaid eligibility in the wake of the Affordable Care Act have higher smoking prevalence and lower utilization rates of cessation medication, compared to expansion states**. **Given these factors, nonexpansion states will have a greater public health burden related to smoking**. Medicaid and public health agencies should work together to make smoking cessation a priority for Medicaid beneficiaries.

c. ***Financial barriers***

- ***States that require copays from Medicaid enrollees have higher rates of smoking.*** Brantley EJ, Greene J, Bruen BK, Steinmetz EP, Ku LC. Policies Affecting Medicaid Beneficiaries' Smoking Cessation Behaviors. *Nicotine Tob Res.* 2019 Jan 4;21(2):197-204. doi: 10.1093/ntr/nty040. PMID: 29522120.

  Introduction: Smoking rates for Medicaid beneficiaries have remained flat in recent years. Medicaid may support smokers in quitting by covering a broad array of tobacco cessation services without barriers such as copays. **This study examines the impact of increasing generosity in Medicaid tobacco cessation coverage policies on smoking and cessation behaviors.**

  Methods: We used 2010 and 2015 National Health Interview Survey data merged with information on state tobacco, Medicaid cessation, and Medicaid eligibility policies to estimate state fixed effects models of cessation medication use, counseling use, quit attempts, and current smoking.

  Results: Smokers living in states that cover cessation medications but not counseling services were less likely to use counseling. Smokers were more likely to report having tried to quit in states with higher rates of use of cessation medications among Medicaid beneficiaries. We found no impact of Medicaid policies on use of cessation medications.

States that impose copays had higher rates of smoking, while those that require counseling as a condition of receiving medication had lower rates of smoking. Additionally, we found that expanding Medicaid eligibility under the Affordable Care Act is associated with decreased smoking prevalence among Medicaid beneficiaries.

Conclusion: Covering cessation counseling may encourage smokers that want to quit to use this service. Promoting the use of cessation medications may improve the likelihood that smokers try to quit. Medicaid coverage of cessation services is an important but incomplete strategy in addressing smoking among low-income populations.

- ***Copays and High Deductibles reported as Barrier to Care among Low-Income Families with Medicaid and Private Insurance.*** DeVoe, J. E., Baez, A., Angier, H., Krois, L., Edlund, C., & Carney, P. A. (2007). Insurance+ access≠ health care: typology of barriers to health care access for low-income families. *The Annals of Family Medicine*, *5*(6), 511-518.

  This study was designed to identify barriers faced by low-income parents when accessing health care for their children and how insurance status affects their reporting of these barriers. A mixed methods analysis was undertaken using 722 responses to an open-ended question on a health care access survey instrument that asked low-income Oregon families, "Is there anything else you would like to tell us?" Themes were identified using immersion/crystallization techniques. Pertinent demographic attributes were used to conduct matrix coded queries.

  Families reported 3 major barriers: lack of insurance coverage, poor access to services, and unaffordable costs. Disproportionate reporting of these themes was most notable based on insurance status. A higher percentage of uninsured parents (87%) reported experiencing difficulties obtaining insurance coverage compared with 40% of those with insurance. Few of the uninsured expressed concerns about access to services or health care costs (19%). **Access concerns were the most common among publicly insured families, and costs were more often mentioned by families with private insurance. These responses largely focused on unaffordable private insurance premiums and a hesitancy to seek care because of the high deductibles and co-payments.** Families made a clear distinction between insurance and access, and having one or both elements did not assure care. Our analyses uncovered a 3-part typology of barriers to health care for low-income families. Barriers to health care can be insurmountable for low-income families, even those with insurance coverage. Patients who do not seek care in a family medicine clinic are not necessarily getting their care elsewhere.

- ***Surcharges For Tobacco Users Had A Negative Impact On Coverage, But No Impact On Smoking Cessation.*** Friedman, A. S., Schpero, W. L., & Busch, S. H. (2016). Evidence Suggests That The ACA's Tobacco Surcharges Reduced Insurance Take-Up And Did Not Increase Smoking Cessation. *Health Affairs*, *35*(7), 1176-1183.

  To account for tobacco users' excess health care costs and encourage cessation, the **Affordable Care Act (ACA) allowed insurers to impose a surcharge on tobacco users' premiums for plans offered on the health insurance exchanges**, or Marketplaces. Low-income tax credits for Marketplace coverage were based on premiums for non–tobacco users, which means that these credits did not offset any surcharge costs. Thus, this policy greatly increased out-of-pocket premiums for many tobacco users. Using data for 2011–14 from the Behavioral Risk Factor Surveillance System, we examined the effect of tobacco surcharges on insurance status and smoking cessation in the first year of the exchanges' implementation, among adults most likely to purchase insurance from them. **Relative to smokers who faced no surcharges, smokers facing medium or high surcharges had significantly reduced coverage (reductions of 4.3 percentage points and 11.6 percentage points, respectively), but no significant differences in smoking cessation**. **In contrast, those facing low surcharges showed significantly less smoking cessation. Taken together, these findings suggest that tobacco surcharges conflicted with a major goal of the ACA—increased financial protection—without increasing smoking cessation**. States should consider these potential effects when deciding whether to limit surcharges to less than the federal maximum.

- ***High Copayments May Deter Patients from Smoking Cessation Pharmacotherapy.*** Zeng, F., Chen, C. I., Mastey, V., Zou, K. H., Harnett, J., & Patel, B. V. (2011). Effects of copayment on initiation of smoking cessation pharmacotherapy: an analysis of varenicline reversed claims. *Clinical Therapeutics*, *33*(2), 225-234.

  Background: Smoking cessation pharmacotherapy is a critical component of smoking cessation treatment, but most smokers use neither pharmacotherapy nor behavior counseling in attempts to quit smoking. The low rate of smoking cessation medication use is of great concern because it can negatively influence the odds of success in smoking cessation.

  Objective: This study was conducted to analyze how copayment may influence the likelihood of initiating smoking cessation pharmacotherapy following a reversed varenicline claim.

Methods: A retrospective cohort analysis was performed using pharmacy claims data from a large national pharmacy benefits management company. Reversed claims were claims first approved by the health plan and then reversed by the pharmacy. The study population included patients with over-the-counter nicotine replacement therapy coverage and a reversed varenicline claim between January 2007 and April 2008 and who were naive to varenicline before the reversed claim. A multivariate logistic regression analysis was conducted to evaluate the probability of initiating any smoking cessation pharmacotherapy (varenicline, bupropion, and prescribed or over-the-counter nicotine replacement therapy) within 183 days of the reversed claim.

Results: A total of 20,451 patients met the inclusion criteria. The mean (SD) age of patients was 47.8 (12.4) years, with 57.41% being female. The majority (87.72%) were covered in commercial managed care plans. A total of 17,028 patients (83.26%) had at least 1 smoking cessation medication filled 6 months after their reversed claim. The odds ratios for patients who had any smoking cessation medication filled and copayments of $31 to $40, $41 to $60, or $60 were 0.68, 0.48, and 0.35, respectively (all, P 0.001), compared with patients with copayments of $0 to $5.

Conclusions: **The findings suggest that some patients might have been deterred by a high copayment (≥$31) and, ultimately, did not fill any smoking cessation treatments within 183 days of reversed varenicline claims. This research found that of the 20,541 patients, 17,028 (83.26%) filled at least 1 smoking cessation medication within 183 days from the reversed claim, whereas 3513 (16.74%) did not fill any. These results suggest that there may be cost-related barriers to encourage patients to start smoking cessation therapy.** It is important to address this potential treatment gap to improve the effectiveness of smoking cessation therapy.

- ***Out-of-Pocket Expenses to Pharmacotherapy may be Barrier to Smoking Cessation among Underserved.*** Blumenthal, D. S. (2007). Barriers to the provision of smoking cessation services reported by clinicians in underserved communities. *The Journal of the American Board of Family Medicine*, *20*(3), 272-279.

  Purpose: This qualitative study describes barriers to the provision of smoking cessation services among primary care providers serving medically underserved populations in the state of Georgia. *Methods*: Eighty-two health care professionals, including clinicians, nurses, administrators, and support staff, participated in 10 focus groups. All sessions were audiotaped and transcribed. A line-by-line analysis of each transcript was conducted. *Results*: Barriers were grouped into 5 major

themes: lack of time, patient unreadiness to change, inadequate patient resources, inadequate provider resources, and inadequate cessation clinical skills. **Within this framework, a number of barriers were identified that are of special importance when caring for the underserved. Examples included the tendency of patients to present in "crisis" rather than on an appointment basis; patients' inability to pay out-of-pocket expenses for drug therapy;** patients' inability to take time from work for cessation services; limited prescribing authority for clinicians in certain settings; inadequate availability of patient education materials, especially non-English materials; and the need for additional training in smoking cessation for providers. **Out-of-pocket expenses associated with drug therapy adversely affected patient adherence.** *Conclusion*: "Safety net" providers encounter barriers to providing smoking cessation services that are similar to barriers faced by clinicians serving more affluent and nonminority populations, but also encounter additional barriers that apply most particularly to the underserved.

- ***Full Financial Benefits May Increase Smoking Cessation.*** Kaper, J., Wagena, E., Severens, J. L., & van Schayck, O. C. P. (2005). Healthcare financing systems for increasing the use of tobacco dependence treatment. *The Cochrane Library*.

  Background: Smoking cessation treatment increases the number of successful quitters compared with unaided attempts to quit. However, only a small proportion of people who smoke take up treatment. One way to increase the use of smoking cessation treatment might be to give financial support through healthcare systems.

  Objectives: The primary objective of this review was to assess the effect of using healthcare financing interventions to reduce the costs of providing or using smoking cessation treatment on abstinence from smoking. Search strategy: Eligible studies were identified by a search of the Cochrane Tobacco Addiction group specialized register, the Cochrane Central Register of Controlled Trials (CENTRAL) Issue 3, 2003, MEDLINE (from January 1966 to August 2003) and EMBASE (from January 1980 to October 2003), screening references of relevant reviews and studies, and contacting experts in the field. Selection criteria: We included randomized controlled trials (RCTs), controlled trials (CTs) and interrupted time series (ITS) in which the study population consisted of smokers or healthcare providers or both. Data collection and analysis: Two reviewers independently extracted data and assessed the quality of the included studies. We calculated odds ratios (ORs) and risk differences (RDs) for the individual studies and performed meta-analysis using a random-effects model. We included economic evaluations when a study presented the costs and effects of two or more alternatives.

Main results: Four RCTs and two CTs were directed at smokers. Five studies compared the effect of a full benefit with no benefit of which four reported the prolonged self-reported abstinence rate and showed an increase of 2% (95% confidence interval [CI] 0.00 to 0.05). The pooled OR for achieving abstinence for a period of six months was 1.48 (95% 1.17 to 1.88). **Two studies directed at smokers compared a full benefit with a partial benefit and showed that the odds of being abstinent were 2.49 times higher with a full benefit (95% CI 1.59 to 3.90).** The pooled RD showed a non-significant increase (RD 0.05; 95% CI -0.07 to 0.16). Only one study compared a partial benefit with no benefit and only one study was directed at healthcare providers. When a full benefit was compared with a partial or no benefit, the costs per quitter varied between $260 and $2330.

Authors' conclusions: **There is some evidence that healthcare financing systems directed at smokers which offer a full financial benefit can increase the self - reported prolonged abstinence rates at relatively low costs when compared with a partial or no benefit.** Since there were some limitations to the methodological quality of the studies the results should be interpreted with caution. More studies are needed on the effects of healthcare financing systems directed at healthcare providers.

- ***Physicians Serving Pregnant Women Largely Unaware of ACA Requirements Regarding Tobacco Cessation Services, But Willing Utilize This Services Because of Medicaid Coverage***. Tong, V. T., England, L. J., Malarcher, A., Mahoney, J., Anderson, B., & Schulkin, J. (2015). Clinicians' awareness of the Affordable Care Act requirement to provide comprehensive tobacco cessation treatment for pregnant women covered by Medicaid. *Preventive Medicine Reports*, *2*, 686-688.

  The Affordable Care Act (ACA) requires states to provide tobacco-cessation services without cost-sharing for pregnant traditional Medicaid-beneficiaries effective October 2010. It is unknown the extent to which obstetricians–gynecologists are aware of the Medicaid tobacco-cessation benefit. **We sought to examine the awareness of the Medicaid tobacco-cessation benefit in a national sample of obstetricians–gynecologists and assessed whether reimbursement would influence their tobacco cessation practice**. In 2012, a survey was administered to a national stratified-random sample of obstetricians–gynecologists (n = 252) regarding awareness of the Medicaid tobacco-cessation benefit. Results were stratified by the percentage of pregnant Medicaid patients. Chi-squared tests (p b 0.05) were used to assess significant associations. Analyses were conducted in 2014.

Eighty-three percent of respondents were unaware of the benefit. Lack of awareness increased as the percentage of pregnant Medicaid patients in their practices decreased (range= 71.9%–96.8%; P = 0.02). **One-third (36.1%) of respondents serving pregnant Medicaid patients reported that reimbursement would influence them to increase their cessation services**. Four out of five obstetricians–gynecologists surveyed in 2012 were unaware of the ACA provision that required states to provide tobacco cessation coverage for pregnant traditional Medicaid beneficiaries as of October 2010. **Broad promotion of the Medicaid tobacco-cessation benefit could reduce treatment barriers.**

- ***Cost of ACA Meeting Requirements for Smoking Cessation Treatment is Low for Medicaid, Medicare and Private Health Plans.*** Baker CL, Ferrufino CP, Bruno M, Kowal S. (2016). Estimated Budget Impact of Adopting the Affordable Care Act's Required Smoking Cessation Coverage on United States Healthcare Payers. *Advances in Therapy*. 1-15.

  Introduction: Despite abundant information on the negative impacts of smoking, more than 40 million adult Americans continue to smoke. The Affordable Care Act (ACA) requires tobacco cessation as a preventive service with no patient cost share for all FDA-approved cessation medications. Health plans have a vital role in supporting smoking cessation by managing medication access, but uncertainty remains on the gaps between smoking cessation requirements and what is actually occurring in practice. This study presents current cessation patterns, real-world drug costs and plan benefit design data, and estimates the 1- to 5-year pharmacy budget impact of providing ACA-required coverage for smoking cessation products to understand the fiscal impact to a US healthcare plan.

  Methods: A closed cohort budget impact model was developed in Microsoft Excel® to estimate current and projected costs for US payers (commercial, Medicare, Medicaid) covering smoking cessation medicines, with assumptions for coverage and smoking cessation product utilization based on current, real-world national and state-level trends for hypothetical commercial, Medicare, and Medicaid plans with 1 million covered lives. A Markov methodology with five health states captures quit attempt and relapse patterns.

  Results include the number of smokers attempting to quit, number of successful quitters, annual costs, and cost per-member per-month (PMPM). Results: **The projected PMPM cost of providing coverage for smoking cessation medications is $0.10 for commercial, $0.06 for Medicare, and $0.07 for Medicaid plans, reflecting a low incremental PMPM impact of covering two attempts ranging from $0.01 for Medicaid to $0.02 for commercial and Medicare payers.**

Conclusion: **The projected PMPM impact of covering two quit attempts with access to all seven cessation medications at no patient cost share remains low. Results of this study reinforce that the impact of adopting the ACA requirements for smoking cessation coverage will have a limited near-term impact on health plan's budgets.**

d. Required counseling

- ***States with More Comprehensive Cessation Treatment Coverage have Increased Usage of Treatment and States that Require Counseling to Obtain Medication have Decreased Usage.*** Ku L, Brantley E, Bysshe T, Steinmetz E, Bruen BK. (2016). How Medicaid and Other Public Policies Affect Use of Tobacco Cessation Therapy, United States, 2012-2014. *Preventing Chronic Disease.* E150.

  Introduction: State Medicaid programs can cover tobacco cessation therapies for millions of low-income smokers in the United States, but use of this benefit is low and varies widely by state. This article assesses the effects of changes in Medicaid benefit policies, general tobacco policies, smoking norms, and public health programs on the use of cessation therapy among Medicaid smokers. *Methods*: We used longitudinal panel analysis, using 2-way fixed effects models, to examine the effects of changes in state policies and characteristics on state-level use of Medicaid tobacco cessation medications from 2010 through 2014. *Results*: Medicaid policies that require patients to obtain counseling to get medications reduced the use of cessation medications by approximately one-quarter to one-third; states that cover all types of cessation medications increased usage by approximately one-quarter to one-third. Non-Medicaid policies did not have significant effects on use levels. *Conclusions*: States could increase efforts to quit by developing more comprehensive coverage and reducing barriers to coverage. **Reductions in barriers could bolster smoking cessation rates, and the costs would be small compared with the costs of treating smoking-related diseases.** Innovative initiatives to help smokers quit could improve health and reduce health care costs.

e. ***Other barriers to tobacco cessation treatment***

- ***Barriers to smoking cessation utilization among Kansas Medicaid enrollees include physicians not prescribing treatment to patients, patients not being aware of Medicaid coverage, and inadequate pharmacy filling.*** Knox B, Mitchell S, Hernly E, Rose A, Sheridan H, Ellerbeck EF. Barriers to Utilizing Medicaid Smoking Cessation Benefits. *Kans J Med.* 2017 Nov 30;10(4):1-11. PMID: 29472979; PMCID: PMC5733401.

  Introduction: Smoking is the number one preventable cause of death in the United States. Under the Affordable Care Act, Kansas Medicaid covers all seven FDA-approved smoking cessation therapies. However, it is estimated only 3% of Kansas Medicaid smokers use treatment compared to the national estimate of 10%. The objective is to determine systemic barriers in place that prevent optimal utilization of Medicaid smoking cessation benefits among KU Medical Center Internal Medicine patients.

  Methods: For this quality improvement project, a population of 169 Kansas Medicaid smokers was identified who had been seen at the KU Internal Medicine Clinic from January 1, 2015 - February 16, 2016. Phone surveys were completed with 62 individuals about smoking status, interest in using smoking cessation treatment options, and awareness of Medicaid coverage of treatment.

  Results: Of the 62 respondents, 24 (39%) were prescribed pharmacotherapy and 41 (66%) were interested in using smoking cessation treatment. There were eight who had quit smoking. Of the remaining 54 smokers, 31 (57%) were unaware that Medicaid would cover pharmacotherapy. **There was variation between pharmacies on whether prescriptions were filled at no out of pocket cost to patients.** Of 24 participants who received a prescription for pharmacotherapy, 13 (54%) were able to fill the prescription at no cost using the Medicaid benefit. A comprehensive assessment of pharmacy filling practices to identify to patients where they should have NRT filled would reduce patient costs and enable them to use the full benefit of Medicaid available to them.

  Conclusions: The majority of respondents were interested in using smoking cessation treatment yet three main barriers existed to using Medicaid smoking cessation benefits: physicians not prescribing treatment to patients, patients not aware of Medicaid coverage, and inadequate pharmacy filling. Improved

physician and patient awareness of Medicaid coverage will facilitate more patients receiving smoking cessation therapy and ultimately quitting smoking.

- ***Low-Income Patients with Substance Use Disorders Have Similar Access to Tobacco Cessation Pharmacotherapy as High-Income Patients, But Increased Access to Other Behavioral Health Services***. Muilenburg, J. L., Laschober, T. C., & Eby, L. T. (2015). Relationship Between Low-Income Patient Census and Substance Use Disorder Treatment Programs' Availability of Tobacco Cessation Services. *Journal of Drug Issues*, 45(1). 69-79.

  Low income adults with substance use disorders (SUDs) have a high prevalence of tobacco use and often limited access to tobacco cessation treatment. **This study examines the relationship between low-income SUD patient census (i.e., percentage of patients whose treatment costs are covered by Medicaid and Federal block grants) and SUD programs' availability of three evidence-based tobacco cessation services: behavioral treatments, system-level support, and pharmacotherapy**. Data were collected from a random sample of 1,006 program administrators in 2010.

  Mixed-effects models results show that the percentage of low-income patients is significantly positively associated with the availability of behavioral treatments and system-level support but not pharmacotherapy. Thus, low-income patients may have similar access to tobacco cessation pharmacotherapy but greater access to behavioral treatments and system-level support. However, the availability of tobacco cessation services is not widespread overall, which may hamper access to extensive services to address low-income SUD patients' high smoking rates.

- ***Barriers Exist for Tobacco Cessation Within Substance Use Treatment Programs Including Smoking Culture, Lack of Resources, Environment***. Pagano, A., Tajima, B., & Guydish, J. (2016). Barriers and facilitators to tobacco cessation in a nationwide sample of addiction treatment programs. *Journal of Substance Abuse Treatment*, *67*, 22-29.

  Introduction. Smoking rates among addiction treatment clients are 3–4 times higher than those of the general population. Recent studies indicate that ceasing tobacco use during treatment may improve recovery outcomes. Across the United States, publicly funded addiction treatment programs vary widely in terms of their tobacco policies and tobacco cessation services offered to clients. *Methods*. The study reported here is the qualitative component of a larger study. Twenty-four programs were recruited from a random sample of publicly funded programs participating in

the NIDA Clinical Trials Network. Semi-structured interviews were administered by phone to program directors. ATLAS.ti software was used to facilitate thematic analysis of interview transcripts. *Findings*. **While all directors expressed interest in helping clients to quit smoking, they cited numerous barriers to implementing tobacco policies and services. These included smoking culture, client resistance, lack of resources, staff smoking, and environmental barriers**. Directors also cited several factors that they believed would support tobacco cessation. These included financial support, enhanced leadership, and state mandates against smoking in addiction treatment programs. *Conclusion*. **Addiction treatment programs are beginning to place more emphasis on tobacco cessation during treatment. However, furthering this goal requires substantial infrastructural and cultural change**. These qualitative study findings may help to inform Single State Agencies (SSAs) to support publicly funded addiction treatment programs in their tobacco cessation efforts. In order to maximize effectiveness, state-level policies regarding tobacco cessation during treatment should be informed by ongoing dialogue between service providers and SSAs.

II. BARRIERS TO SUBSTANCE USE TREATMENT IN MEDICAID PROGRAMS

a. ***Inconsistencies in coverage across MCOs and States***

- ***Medicaid expansion could reduce financial barriers and improve access to treatment.*** Wen H, Hockenberry JM, Borders TF, Druss BG. Impact of Medicaid Expansion on Medicaid-covered Utilization of Buprenorphine for Opioid Use Disorder Treatment. *Med Care*. 2017 Apr;55(4):336-341. doi: 10.1097/MLR.0000000000000703. Erratum in: Med Care. 2019 Mar;57(3):243. PMID: 28296674.

  Background: Buprenorphine has been proven effective in treating opioid use disorder. However, the high cost of buprenorphine and the limited prescribing capacity may restrict access to this effective medication-assisted treatment for opioid use disorder.

  Objective: To examine whether Medicaid expansion and physician prescribing capacity may have impacted buprenorphine utilization covered by Medicaid.

  Subjects: All Medicaid enrollees in the expansion states and the nonexpansion and late-expansion states.

  Results: State implementation of Medicaid expansions in 2014 was associated with a 70% increase (P<0.05) in Medicaid-covered buprenorphine prescriptions

and a 50% increase (P<0.05) in buprenorphine spending. Physician prescribing capacity was also associated with increased buprenorphine utilization.

Conclusions: Medicaid expansion has the potential to reduce the financial barriers to buprenorphine utilization and improve access to medication-assisted treatment of opioid use disorder. Active physician participation in the provision of buprenorphine is needed for ensuring that Medicaid expansion achieves its full potential in improving treatment access.

- ***Medicaid Managed Care Organizations More Generous At Providing Substance Use Disorder Treatment Than Conventional Wisdom Suggests***. Maglione, M., & Ridgely, M. S. (2006). Is conventional wisdom wrong? Coverage for substance abuse treatment under Medicaid managed care. *Journal of Substance Abuse Treatment*, *30*(4), 285-290.

  Conventional wisdom suggests that coverage for substance abuse treatment under Medicaid is generally poor, and that access to care may be reduced when control over behavioral health services is given to private health plans, such as those under Medicaid managed care. To examine this premise, this study reports on a cross-sectional comparative survey of state Medicaid managed care programs conducted in the year 2000.

  Although not all states provided substance abuse benefits under their Medicaid programs, our findings suggest that a **majority of states used managed care arrangements to provide substance abuse treatment, with most providing an array of covered services**. Most Medicaid behavioral health plans were fully capitated. The number of comprehensive health plans providing substance abuse services was slightly higher than the number of behavioral health carveouts. About half of the waiver programs that covered substance abuse treatment covered methadone maintenance, but waiver programs employing comprehensive health plans were more likely to provide coverage for methadone maintenance.

b. Prior authorization

- ***Prior authorization requirements vary across states and could remain a barrier to accessing treatment.*** Abraham AJ, Andrews CM, Harris SJ, Westlake MM, Grogan CM. Coverage and Prior Authorization Policies for Medications for Opioid Use Disorder in Medicaid Managed Care. *JAMA Health Forum.* 2022 Nov 4;3(11):e224001. doi: 10.1001/jamahealthforum.2022.4001. Erratum in: JAMA Health Forum. 2022 Nov 4;3(11):e224653. PMID: 36331441; PMCID: PMC10157383.

Importance: Although approximately 70% of Medicaid beneficiaries are enrolled in comprehensive managed care organization (MCO) plans, little is known about coverage and prior authorization (PA) policies for medications for opioid use disorder (MOUD) in these plans.

Objective: To compare coverage and PA policies for buprenorphine, methadone, and injectable naltrexone across Medicaid MCO plans and fee-for-service (FFS) programs and across states.

Results: Coverage and PA policies were compared for MOUD in 266 MCO plans and 39 FFS programs, representing approximately 70 million Medicaid beneficiaries. Overall, FFS programs had more generous MOUD coverage than MCO plans. However, a higher percentage of FFS programs imposed PA for the 3 medications (47.0%) than did MCOs (35.9%). Furthermore, although most Medicaid beneficiaries were enrolled in a plan that covered MOUD, 53.2% of all MCO- and FFS-enrolled beneficiaries were subject to PA. **Results also showed wide state variation in MCO plan coverage and PA policies for MOUD and the percentage of Medicaid beneficiaries subject to PA.**

Conclusions and relevance: This cross-sectional study found variation in MOUD coverage and PA policies across Medicaid MCO plans and FFS programs and across states. Thus, Medicaid beneficiaries' access to MOUD may be heavily influenced by their state of residency and the Medicaid plan in which they are enrolled. **Left unaddressed, PA policies are likely to remain a barrier to MOUD access in the nation's Medicaid programs.**

- ***In states with low prescription rates of Buprenorphine for Medicaid enrollees, removing prior authorization requirements increased prescription rates.*** Christine PJ, Larochelle MR, Lin LA, McBride J, Tipirneni R. Removal of Medicaid Prior Authorization Requirements and Buprenorphine Treatment for Opioid Use Disorder. *JAMA Health Forum.* 2023 Oct 6;4(10):e233549. doi: 10.1001/jamahealthforum.2023.3549. PMID: 37862034; PMCID: PMC10589810.

  Importance: Buprenorphine treatment for opioid use disorder (OUD) is associated with decreased morbidity and mortality. Despite its effectiveness, buprenorphine uptake has been limited relative to the burden of OUD. Prior authorization (PA) policies may present a barrier to treatment, though research is limited, particularly in Medicaid populations.

Objective: To assess whether removal of Medicaid PAs for buprenorphine to treat OUD is associated with changes in buprenorphine prescriptions for Medicaid enrollees.

Results: Between 2015 and the first quarter of 2019, 6 states in the sample removed Medicaid PAs for at least 1 formulation of buprenorphine and had at least 2 quarters of pre- and postpolicy change data. Seventeen states maintained buprenorphine PAs throughout the study period. At baseline, relative to states that repealed PAs, states that maintained PAs had lower buprenorphine prescribing per 1000 Medicaid enrollees (median, 6.6 [IQR, 2.6-13.9] vs 24.1 [IQR, 8.7-27.5] prescriptions) and lower Medicaid managed care penetration (median, 38.5% [IQR, 0.0%-74.1%] vs 79.5% [IQR, 78.1%-83.5%] of enrollees) but similar opioid overdose rates and X-waivered buprenorphine clinicians per 100 000 population. In fully adjusted difference-in-differences models, removal of Medicaid PAs for buprenorphine was not associated with buprenorphine prescribing (1.4% decrease; 95% CI, -31.2% to 41.4%). **For states with below-median baseline buprenorphine prescribing, PA removal was associated with increased buprenorphine prescriptions per 1000 Medicaid enrollees (40.1%; 95% CI, 0.6% to 95.1%), while states with above-median prescribing showed no change (-20.7%; 95% CI, -41.0% to 6.6%).**

Conclusions and relevance: In this serial cross-sectional study of Medicaid PA policies for buprenorphine for OUD, removal of PAs was not associated with overall changes in buprenorphine prescribing among Medicaid enrollees. Given the ongoing burden of opioid overdoses, continued multipronged efforts are needed to remove barriers to buprenorphine care and increase availability of this lifesaving treatment.

- ***Buprenorphine prior authorization requirements are associated with decreased prescribing.*** Landis RK, Opper I, Saloner B, Gordon AJ, Leslie DL, Sorbero M, Stein BD. Buprenorphine treatment episode duration, dosage, and concurrent prescribing of benzodiazepines and opioid analgesics: The effects of Medicaid prior authorization policies. *Drug Alcohol Depend.* 2022 Dec 1;241:109669. doi: 10.1016/j.drugalcdep.2022.109669. Epub 2022 Oct 21. PMID: 36332589; PMCID: PMC10695272.

  Background: Buprenorphine is an effective medication for the treatment of opioid use disorder (OUD), but the association between prior authorization policies and quality of care for individuals receiving buprenorphine treatment is not well-understood.

Methods: Using 2006-2013 Medicaid Analytic eXtract (MAX) data from 34 states and the District of Columbia, we identified 294,031 episodes of buprenorphine treatment for OUD among individuals aged 14-64 years. We estimated generalized difference-in-differences models to examine the association between buprenorphine prior authorization policies and changes in buprenorphine treatment quality along four dimensions: (1) duration of at least 180 days, (2) dosage of at least 8 milligrams, and concurrent prescribing of (3) opioid analgesics and (4) benzodiazepines.

Results: Buprenorphine prior authorization policies were associated with an 11-percentage point reduction ($p < 0.01$) in the likelihood of episodes with a duration of at least 180 days in the first four years after policy implementation. The policy was not associated with changes in effective dosage or concurrent prescribing of opioid analgesics or benzodiazepines.

Conclusions: Buprenorphine prior authorization policies were associated with a sizeable and significant reduction in episodes of at least 180 days duration, underscoring the importance of identifying and removing barriers to effective and appropriate OUD care.

- ***States Increasing Medicaid Coverage of Substance Use Disorder Treatment While Placing Different Barriers to Receiving Treatment Like Prior Authorization***. Burns, R. M., Pacula, R. L., Bauhoff, S., Gordon, A. J., Hendrikson, H., Leslie, D. L., & Stein, B. D. (2016). Policies related to opioid agonist therapy for opioid use disorders: The evolution of state policies from 2004 to 2013. *Substance Abuse*, *37*(1), 63-69.

  Background. State Medicaid policies play an important role in Medicaid enrollees' access to and use of opioid agonists, such as methadone and buprenorphine, in the treatment of opioid use disorders. Little information is available, however, regarding the evolution of state policies facilitating or hindering access to opioid agonists among Medicaid enrollees.

  Methods. **During 2013–2014, we surveyed state Medicaid officials and other designated state substance abuse treatment specialists about their state's recent history of Medicaid coverage and policies pertaining to methadone and buprenorphine**. We describe the evolution of such coverage and policies and present an overview of the Medicaid policy environment with respect to opioid agonist therapy from 2004 to 2013.

Results. Among our sample of 45 states with information on buprenorphine and methadone coverage, **we found a gradual trend toward adoption of coverage for opioid agonist therapies in state Medicaid agencies**. In 2013, only 11% of states in our sample (n = 5) had Medicaid policies that excluded coverage for methadone and buprenorphine, whereas 71% (n = 32) had adopted or maintained policies to cover both buprenorphine and methadone among Medicaid enrollees. We also noted an increase in policies over the time period that may have hindered access to buprenorphine and/or methadone.

Conclusions. **There appears to be a trend for states to enact policies increasing Medicaid coverage of opioid agonist therapies, while in recent years also enacting policies, such as prior authorization requirements, that potentially serve as barriers to opioid agonist therapy utilization**. Greater empirical information about the potential benefits and potential unintended consequences of such policies can provide policymakers and others with a more informed understanding of their policy decisions.

- ***Physicians Report Major Barrier to Prescribing Medication Assisted Treatment for Substance Use Disorder is Prior Authorization Requirements***. Kermack, A., Flannery, M., Tofighi, B., McNeely, J., & Lee, J. D. (2017). Buprenorphine prescribing practice trends and attitudes among New York providers. *Journal of Substance Abuse Treatment*. 74, 1-6

  Buprenorphine office-based opioid maintenance is an increasingly common form of treatment for opioid use disorders. However, total prescribing has not kept pace with the current opioid and overdose epidemic and access remains scarce among the underserved. This study sought to assess current provider attitudes and clinical practices among a targeted sample of primarily New York City public sector buprenorphine prescribers. A cross-sectional online survey purposefully sampled buprenorphine prescribers in NYC with a focus on those serving Medicaid and uninsured patient populations. Expert review of local provider networks, snowball referrals, and in-person networking generated an email list, which received a survey link. A brief 25-question instrument queried provider and practice demographics, prescribing practices including induction approaches and attitudes regarding common hot topics (e.g., buprenorphine diversion, prescriber patient limits, insurance issues, ancillary treatments). Of 132 email invitations, N = 72 respondents completed (n = 64) or partially completed (n = 8) the survey between January and April 2016. Most (79%) were Medicaid providers in non-psychiatric specialties (72%), working in a hospital-based or community general practice (51%), and board-certified in addiction medicine or psychiatry (58%). Practice sizes were generally 100 patients or fewer (71%); many providers (64%) individually prescribed

buprenorphine <25% of total practice time to a median 23 patients (mean 31, range 0–102). Unobserved (home) induction for new patients was a common practice: 49% predominantly prescribed unobserved induction; 16% mixed unobserved and observed inductions. Adjunctive psychosocial counseling was routinely recommended (46%) or considered on a case-by-case basis (17%) versus mandated (37%).

Medication prior authorization requirements were the highest rated barriers to practice, followed by inadequate clinic space, limited clinic time and/or support staff, and inadequate psychiatric services for dual diagnoses. Buprenorphine diversion was not rated as an important practice barrier. In conclusion, this targeted survey of buprenorphine prescribers in NYC treating primarily underserved populations showed a consistent pattern of part-time prescribing to modest volumes of patients, routine use of unobserved buprenorphine induction, and primarily elective referrals to psychosocial counseling. **Barriers to prescribing included prior authorization requirements, lack of clinical resources (space, staff) and psychiatric services**. Federal and local efforts to reduce such barriers may improve buprenorphine access among the underserved.

c. ***Barriers related to socioeconomic status***

- ***Medicaid Expansion Has Increased Access to Substance Use and Mental Health Treatment but Has Not Decreased Racial/Ethnic Disparities In Treatment***. Creedon, T. B., & Lê Cook, B. (2016). Access To Mental Health Care Increased But Not For Substance Use, While Disparities Remain. *Health Affairs*, *35*(6), 1017-1021.

  We assessed whether early implementation of Affordable Care Act (ACA) Medicaid expansion and state health insurance exchanges increased access to mental health and substance use treatment among those in need and whether these changes differed by racial/ethnic group. **We found that mental health treatment rates increased significantly but found no evidence of a reduction in the wide racial/ethnic disparities in mental health treatment that preceded ACA expansion from 2005 to 2013**.

- ***Racial/Ethnic Minorities More Likely to Receive Substance Use Disorder Treatment Than Non-Latino Whites Due to Enrollment in Medicaid, Involvement in Criminal Justice System***. Lê Cook, B., & Alegría, M. (2011). Racial-ethnic disparities in substance abuse treatment: the role of criminal history and socioeconomic status. *Psychiatric Services*. 62(11). 1273-1281

Objective. Among persons with substance use disorders, those from racial-ethnic minority groups have been found to receive substance abuse treatment at rates equal to or higher than those of non-Latino whites. Little is known about factors underlying this apparent lack of disparities. **This study examines racial-ethnic disparities in treatment receipt and mechanisms that reduce or contribute to disparities**.

Methods. Black-white and Latino-white disparities in any and in specialty substance abuse treatment were measured among adult respondents with substance use disorders from the 2005–2009 National Survey on Drug Use and Health (N=25,159). Three staged models were used to measure disparities concordant with the Institute of Medicine definition, assess the extent to which criminal history and socioeconomic indicators contributed to disparities, and identify correlates of treatment receipt.

Results. Treatment was rare (about 10%) for all racial-ethnic groups. Odds ratios for black-white and Latino-white differences decreased and became significantly less than 1 after adjustment for criminal history and socioeconomic status factors. **Higher rates of criminal history and enrollment in Medicaid among blacks and Latinos and lower income were specific mechanisms that influenced changes in estimates of disparities across models**.

Conclusions. **The greater likelihood of treatment receipt among persons with a criminal history and lower socioeconomic status is a pattern unlike those seen in most other areas of medical treatment and important to the understanding of substance abuse treatment disparities. Treatment programs that are mandated by the criminal justice system may provide access to individuals resistant to care, which raises concerns about perceived coercion**.

- ***Racial/Ethnic Disparities In Completion of Substance Use Disorder Treatment Due, In Part, to Socioeconomic Status, Unemployment, Housing Instability***. Saloner, B., & Lê Cook, B. (2013). Blacks and Hispanics are less likely than whites to complete addiction treatment, largely due to socioeconomic factors. *Health Affairs*, *32*(1), 135-145.

  More than one-third of the approximately two million people entering publicly funded substance abuse treatment in the United States do not complete treatment. Additionally, **racial and ethnic minorities with addiction disorders, who constitute approximately 40 percent of the admissions in publicly funded substance abuse treatment programs, may be particularly at risk for poor outcomes**. Using national data, we found that **blacks and Hispanics were 3.5–8.1 percentage**

points less likely than whites to complete treatment for alcohol and drugs, and Native Americans were 4.7 percentage points less likely to complete alcohol treatment. Only Asian Americans fared better than whites for both types of treatment. **Completion disparities for blacks and Hispanics were largely explained by differences in socioeconomic status and, in particular, greater unemployment and housing instability**. However, the alcohol treatment disparity for Native Americans was not explained by socioeconomic or treatment variables, a finding that warrants further investigation. The Affordable Care Act could reduce financial barriers to treatment for minorities, but further steps, such as increased Medicaid funding for residential treatment and better cultural training for providers, would improve the likelihood of completing treatment and increase treatment providers' cultural competence.

d. Comorbidities

- ***Medicaid Beneficiaries With HIV, Bipolar Disease, Other Substance Use Disorders More Likely to Receive Buprenorphine Treatment Instead of Methadone for Opioid Use Disorder***. Baxter, J. D., Clark, R. E., Samnaliev, M., Leung, G. Y., & Hashemi, L. (2011). Factors associated with Medicaid patients' access to buprenorphine treatment. *Journal of Substance Abuse Treatment*, *41*(1), 88-96.

  Some studies have shown that patients entering buprenorphine treatment differ from those in other modalities**. This study compares Massachusetts Medicaid beneficiaries who received buprenorphine, methadone or other treatment for opioid addiction in 2007**. Patients' characteristics and comorbidities were identified through claims data, and associations between these factors and treatment type were investigated using multivariate analysis. **Among patients receiving opioid agonist treatments, patients with prior buprenorphine treatment, HIV, bipolar disease, and other substance use disorders were more likely to receive buprenorphine treatment compared with methadone, whereas patients with heart failure, diabetes, hepatitis C, major depression, and anxiety were less likely to receive buprenorphine treatment**. These differences may suggest variability in patient access, treatment preferences, and a need for different levels of services in different modalities. This information is important for understanding the impact of this new treatment in Medicaid populations and for developing treatment systems to best meet patients' needs.

- ***People with Intellectual Disabilities, Substance Abuse, Serious Mental Illness Less Likely Than Counterparts to Access Treatment.*** Slayter, E. M. (2010). Disparities in access to substance abuse treatment among people with intellectual disabilities and serious mental illness. *Health & Social Work*, *35*(1), 49-59.

  People with intellectual disabilities (ID) have experienced increasing levels of community participation since deinstitutionalization. This freedom has facilitated community inclusion, access to alcohol and drugs, and the potential for developing substance abuse (SA) disorders. People with ID, who are known to have high rates of co-occurring serious mental illness (SMI), may be especially vulnerable to the consequences of this disease and less likely to use SA treatment. **Using standardized performance measures for SA treatment access (initiation, engagement), rates were examined retrospectively for Medicaid beneficiaries with ID/SA/ SMI** ages 12 to 99 (N = 5,099) **and their counterparts with no ID/SA/SMI** (N = 221,875). Guided by the sociobehavioral model of health care utilization, age-adjusted odds ratios and logistic regression models were conducted.

  People with ID/SA/SMI were less likely than their counterparts to access treatment. **Factors associated with initiation included being nonwhite, living in a rural area, and not being dually eligible for Medicare;** factors associated with engagement included all of the same and having a fee-for-service plan, a chronic SA-related disorder, or both. Social work policy and practice implications for improving the health of people with ID/SA/SMI through policy change, cross-system collaboration, and the use of integrated treatment approaches are discussed.

- ***Women with Intellectual Disabilities More Less Likely Than Men With Intellectual Disabilities, Women Without Intellectual Disabilities to Access Substance Use Disorder Treatment***. Slayter, E. (2016). Disparities in Substance Abuse Treatment Utilization Among Women with Intellectual Disability. *Journal of Social Work in Disability & Rehabilitation*, *15*(2), 96-115.

  Despite concerns about health disparities among women with intellectual disabilities, little is known about substance abuse treatment access in this population. **Using standardized performance measures, treatment initiation and engagement were examined retrospectively for women aged 18 to 64 (N = 3,752), men with (N = 5,732) and women without intellectual disability (N = 493,446)**. Logistic regression models of utilization were conducted. **Women in the sample were less likely than men in the sample or women without intellectual disability to utilize treatment**, suggesting both gender-related and disability-

related barriers. Policy and practice implications for improving the health and welfare of women with intellectual disabilities are discussed.

- ***People With Intellectual Disabilities More Likely To Receive Substance Use Disorder Treatment if Non-White, Living in Nonurban Area, Have Serious Mental Illness, Live in State With Generous Medicaid Coverage for Treatment***. Slayter, E. (2010). Medicaid-covered alcohol and drug treatment use among people with intellectual disabilities: evidence of disparities. *Intellectual and Developmental Disabilities*, *48*(5), 361-374.

  For some, community inclusion facilitates access to alcohol and drugs and, therefore, the potential for developing substance abuse disorders. However, little is known about substance abuse treatment use among people with intellectual disabilities. Using standardized performance measures, **substance abuse treatment utilization was examined for Medicaid-covered people with intellectual disabilities and substance abuse (N = 9,484) versus people without intellectual disabilities (N = 915,070)**. The sociobehavioral model of healthcare use guides multivariate logistic regression analyses of substance abuse treatment utilization patterns, revealing disability-related disparities.

  Factors associated with utilization included being non-White, living in a nonurban area, having a serious mental illness, and living in a state with a generous Medicaid plan for substance abuse treatment. Implications relate to health policy, service delivery patterns, and the need for cross-system collaboration in the use of integrated treatment approaches.

e. Other barriers to treatment

- ***Duration limitations and prior authorization requirements were the most common restrictions to opioid prescribing in Michigan.*** Arfken CL, Tutag Lehr V. Commercial and public payer opioid analgesic prescribing policies: a case study. *Subst Abuse Treat Prev Policy*. 2021 Jan 6;16(1):4. doi: 10.1186/s13011-020-00340-z. PMID: 33407646; PMCID: PMC7789815.

  Background: One strategy to address the high number of U.S. opioid-related deaths is to restrict high-risk or inappropriate opioid analgesic prescribing and dispensing. Federal and state laws and regulations have implemented restrictions but less is known about commercial and public payers' policies aside from clinician anecdotal reports that these policies are increasing. To assess the number and types of policies with temporal trends, we examined commercial and public

(Medicaid) payer policies in one state, Michigan, that has high opioid-related deaths and implemented opioid analgesic prescribing laws.

Methods: Policies for seven large commercial payers and the public payer for 2012-2018 were reviewed and categorized by actions. Joinpoint regression was used to summarize temporal trends on number of policies for all payers and subgroups.

Results: Across the 7 years, there were 529 action policies (75.57 (95% confidence intervals (CI) 35.93, 115.22) actions per year) with a range of 36 to 103 actions by payer. **Limitations on number of days for initial prescriptions and prior authorizations were the most frequently implemented policy.** The temporal trend showed a decline in new policies from 2012 to 2013 but a steady increase from 2014 to 2018 (average annual percent change or AAPC=29.6% (95% confidence intervals 13.2, 48.5%)). The public payer (n=47 policies) showed no increase in number of policies over time (AAPC=2.9% (95% CI -41.6, 61.6%).

Conclusions: The eight commercial and public payers implemented many new policies to restrict opioid analgesic prescribing with a steady increase in the number of such policies implemented from 2014 to 2018. This case study documented that at least in one state with high opioid-related deaths and multiple commercial payers, new and different policies were increasingly implemented creating barriers to patient care. The impact of these policies is understudied, complicating recommendation of best practices.

- ***Receiving Medication Assisted Treatment for Substance Use Disorder Associated with Medicaid Enrollment***. Abraham, A. J., Rieckmann, T., Andrews, C. M., & Jayawardhana, J. (2016). Health insurance enrollment and availability of medications for substance use disorders. *Psychiatric Services*, *68*(1), 41-47.

  Objective. Medications for treatment of substance use disorders are underutilized in treatment programs in the United States. Little is known about how insurance enrollment within states affects treatment program decisions about whether to offer medications**. The primary objective of the study was to examine the impact of health insurance enrollment on availability of substance use disorder medications among treatment programs.**

  Methods. Data from the 2012 National Survey of Substance Abuse Treatment Services, National Survey on Drug Use and Health, American Community Survey, Area Health Resource File, and the Substance Abuse and Mental Health Services Administration were combined to examine the impact of state insurance enrollment on availability of substance use disorder medications in treatment programs

(N=9,888). A two-level, random-intercept logistic regression model was estimated to account for potential unobserved heterogeneity among treatment programs nested in states.

Results. The percentage of state residents with employer-based insurance and Medicaid was associated with greater odds of offering at least one medication among treatment programs. **A 5% increase in the rate of private insurance enrollment was associated with a 7.7% increase in the probability of offering at least one medication, and a 5% increase in the rate of state Medicaid enrollment was associated with a 9.3% increase in the probability of offering at least one medication.**

Conclusions. Results point to the potential significance of health insurance enrollment in shaping the availability of substance use disorder medications. Significant expansions in health insurance enrollment spurred by the Affordable Care Act have the potential to increase access to medications for many Americans.

- ***Medicaid Beneficiaries Significantly More Likely to Receive Substance Use Disorder Treatment Than Those with Private Insurance***. Bouchery, E. E., Harwood, H. J., Dilonardo, J., & Vandivort-Warren, R. (2012). Type of health insurance and the substance abuse treatment gap. *Journal of Substance Abuse Treatment*, *42*(3), 289-300.

  Objective. Most individuals reporting symptoms consistent with substance use disorders do not receive care. **This study examines the correlation between type of insurance coverage and receipt of substance abuse treatment, controlling for other observable factors that may influence treatment receipt**. *Method*. Descriptive and multivariate analyses are conducted using pooled observations from the 2002–2007 editions of the National Survey on Drug Use and Health. The likelihood of treatment entry is estimated by type of insurance coverage controlling for personal characteristics and characteristics of the individual's substance use disorder. *Results*. Multivariate analyses that control for type of substance and severity of disorder (dependence vs. abuse) find that **those with Civilian Health and Medical Program of the Uniformed Services/Veterans Affairs, Medicaid only, Medicare only, and Medicare and Medicaid (dual eligibles) have 50% to almost 90% greater odds of receiving treatment relative to those with private insurance**. *Conclusions*. **The privately insured population has substantially lower treatment entry rates than those with publicly provided insurance**. Additional research is warranted to understand the source of the differences across insurance types so that improvements can be achieved.

- ***Although More People Than Ever Before Receive Behavioral Health Services, Care is Poorly Allocated, Influenced More By Ideology, Finances, Pharmaceutical Marketing Than Evidence Based Practices***. Mechanic, D. (2014). More people than ever before are receiving behavioral health care in the United States, but gaps and challenges remain. *Health Affairs*, *33*(8), 1416-1424.

  The high prevalence of mental illness and substance abuse disorders and their significant impact on disability, mortality, and other chronic diseases have encouraged new initiatives in mental health policy including important provisions of the Affordable Care Act and changes in Medicaid. This article examines the development and status of the behavioral health services system, gaps in access to and quality of care, and the challenges to implementing aspirations for improved behavioral and related medical services.

  Although many more people than ever before are receiving behavioral health services in the United States—predominantly pharmaceutical treatments—care is poorly allocated and rarely meets evidence-based standards, particularly in the primary care sector. **Ideologies, finances, and pharmaceutical marketing have shaped the provision of services more than treatment advances or guidance from a growing evidence base**. Among the many challenges to overcome are organizational and financial realignments and improved training of primary care physicians and the behavioral health workforce.

III. BARRIERS TO OTHER BENEFITS IN MEDICAID AND PRIVATE INSURANCE

a. ***General access barriers to tobacco cessation treatments***

- ***The Surgeon General found that comprehensive insurance coverage without barriers to access increases the use of quit smoking treatments and improves the rate of quitting.*** U.S. Department of Health and Human Services. Smoking Cessation. A Report of the Surgeon General. Atlanta, GA: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Center for Chronic Disease Prevention and Health Promotion, Office on Smoking and Health, 2020.

  In addition to strategies that seek to make the delivery of smoking cessation interventions in health systems more routine, those that remove cost and other barriers (which impede smokers' access to proven cessation treatments) have

been shown to increase the delivery and utilization of tobacco dependence treatment, especially when the covered treatments are proactively promoted to health plan beneficiaries. For example, standardized comprehensive, barrier-free cessation coverage by private and public insurers expedites smokers' access to evidence-based cessation treatments and removes confusion about which treatments are covered and related barriers for both smokers and providers, thereby increasing the chances that smokers and providers will make use of these treatments.

Curry and colleagues (1998) showed that the highest rates of cessation were achieved for the group of smokers that had no barriers to benefits (i.e., no cost for behavioral counseling and NRT). The study concluded that full insurance coverage, compared with coverage with copays, was associated with a doubling of the overall quit rate in this population.

Uniform implementation of comprehensive, evidence-based cessation coverage across health insurance products with minimal barriers (e.g., no prior authorizations) may also increase clinicians' delivery of cessation interventions by making it easier for them to understand their patients' coverage and increasing their confidence that their patients will be able to access the treatments they recommend.

Almost all states impose coverage barriers which restrict access to covered cessation treatments, especially cessation medications; common barriers include prior authorization, limits on duration, annual limits on quit attempts, and copayments.

Insurance coverage and benefits can be designed in ways that encourage persons to seek out specific types of care or specific types of clinicians to provide such care. For example, removing barriers to access (e.g., copays, coverage limits, prior authorization) encourages individuals to use covered cessation treatments. The manner in which care is structured and reimbursed in clinical settings can also improve access to tobacco use and dependence treatment. Several incentive programs and quality measures have been put in place at the federal level to remove barriers and improve access to care. However, because many of these initiatives have been implemented in only the past 5–10 years, limited evidence exists on the effects they can have on cessation, particularly at a national level. **Furthermore, evidence is unclear on the extent to which recent policy changes**

have been successful at removing these barriers. Although specific studies on these recent policy initiatives have not been conducted, studies generally suggest that removing barriers to access increases the use of evidence-based cessation treatments and rates of quitting.

- ***Medicaid enrollees had more financial barriers to accessing Varenicline and combination nicotine replacement therapy than those with private insurance; those with Medicare coverage had the most financial barriers to accessing these medications.*** Masclans L, Davis JM. Access to Effective Smoking Cessation Medications in Patients with Medicare, Medicaid and Private Insurance. *Public Health Pract (Oxf)*. 2023 Sep 10;6:100427. doi: 10.1016/j.puhip.2023.100427. PMID: 37766740; PMCID: PMC10520500.

  Consensus in public health research is that reducing out-of-pocket costs for smoking cessation aids promotes more quit attempts and higher quit rates on a population level.

  Objectives: Compare financial barriers to the most effective smoking cessation medications - varenicline and combination nicotine replacement therapy (CNRT) across major insurance categories and determine whether these financial barriers impact smoking cessation outcomes.

  Methods: Patients seen at Duke Smoking Cessation Program 05/2016 through 07/2021 were studied. Those prescribed varenicline or CNRT were determined to have financial barriers to access if they could not purchase the medication using insurance or their own funds. Outcomes were compared between Medicare, Medicaid, and private insurers. Abstinence was defined as self-reported 7-day smoking abstinence.

  Results: Patients with Medicare were 5.08 times more likely to face a financial barrier to highly effective smoking cessation medications compared to patients with private insurance ($p<0.00001$) and 2.81 times more likely compared to Medicaid ($p<0.00001$). **Patients with private insurance experienced fewer financial barriers to CNRT (14.8%) compared to Medicaid (34.4%, $p = 0.008$, RR = 2.33, 95% CI 1.33-4.07) and Medicare-without-Medicaid patients (46.9%; $p<0.001$, RR = 3.12, 95% CI 1.99-5.07).** Patients able to access these highly effective medications achieved a smoking abstinence rate that was 1.58 times higher than those who could not ($p = 0.01$).

Conclusions: Findings suggest Medicare coverage of the most effective smoking cessation medications is considerably worse than Medicaid or private insurance; inability to access these medications may lead to lower rates of smoking abstinence.

- ***Financial Costs, as well as Social Factors, may act as Barriers or Motivation to Quitting.*** Rosenthal, L., Carroll-Scott, A., Earnshaw, V. A., Sackey, N., O'Malley, S. S., Santilli, A., & Ickovics, J. R. (2013). Targeting cessation: understanding barriers and motivations to quitting among urban adult daily tobacco smokers. *Addictive Behaviors*, *38*(3), 1639-1642.

  Introduction: Many people continue to smoke tobacco products despite known negative health consequences, including increased risk of chronic disease and death. Disparities exist in rates of smoking and chronic disease, underscoring the importance of understanding the barriers and motivations to smoking cessation among vulnerable populations, such as socioeconomically disadvantaged people of color.

  Methods: This study uses data from a cross-sectional randomized household survey conducted in six low-income neighborhoods in New Haven, Connecticut, USA (*N* = 1205). The objectives were to examine barriers and motivations to quitting smoking among daily tobacco smokers (31.6% of respondents) and sociodemographic differences in endorsement of barriers and motivations.

  Results: The two most common barriers to quitting were perceiving it to be too difficult and not wanting to quit**. Financial costs, social support, and social influence were themes endorsed highly across both barriers and motivations to quitting**. Sociodemographic differences were found, such as women and Black participants being more likely to be interested in a free quitline or quit website; women and Latinos being more likely to be afraid of gaining weight; and women, participants with less education, and older participants being more likely to be concerned about the cost of cessation products.

  Conclusions: Understanding barriers and motivations to quitting among disadvantaged populations is crucial. **Financial issues, social support, and social norms should be targeted in promoting cessation among disadvantaged, urban populations.** Programs, interventions, and policies can also use research about specific barriers and motivations for sociodemographic sub-groups to be tailored, targeted, and more effective.

- ***Greater Out-of-Pocket Cost of Varenicline associated with Lower Odds of Adherence and of Refilling.*** Suehs, B. T., Davis, C., Galaznik, A., Joshi, A. V., Zou, K. H., & Patel, N. C. (2014). Association of out-of-pocket pharmacy costs with adherence to varenicline. *Journal of Managed Care Pharmacy*, *20*(6), 592-600.

  Background: Varenicline, a nicotinic acetylcholine receptor partial agonist, is a pharmacotherapy indicated for smoking cessation treatment. To date, no research has examined the relationship between out-of-pocket (OOP) expense and varenicline adherence among Medicare beneficiaries.

  Objectives: To (a) characterize medication utilization patterns of varenicline among Medicare members newly initiated on varenicline and (b) examine the relationship between member OOP expense and varenicline medication adherence.

  Methods: In this retrospective cohort study, pharmacy claims data were used to identify **Medicare Advantage Prescription Drug Plan (MAPD)** members newly initiated on varenicline. Demographic and clinical characteristics, varenicline medication utilization patterns, and pharmacy costs (total and varenicline-specific) were determined for members included in the study. Varenicline adherence was measured by calculating the proportion of days covered (PDC) over a period of 84 days (12 weeks) after initiation. Multiple regression analysis was used to examine the relationship between varenicline OOP cost and varenicline medication utilization, while controlling for sociodemographic characteristics, clinical factors, and nonvarenicline pharmacy costs.

  Results: A total of 15,452 MAPD members were included in the analysis. Mean (SD) subject age was 62.6 (10.0) years; 21.1% (n = 3,256) were dual eligible; and 33.0% (n = 5,106) received a low-income subsidy. Mean (SD) initial varenicline treatment episode duration was 50.8 (37.8) days, with a mean (SD) varenicline days' supply of 47.8 (32.6) obtained by members during the initial treatment episode. Mean (SD) PDC was 0.51 (0.24), and 14.9% (n = 2,302) of members were classified as adherent to treatment (PDC da 0.80**). Greater varenicline OOP expense was significantly associated with lower PDC** (regression coefficient = -0.058, P less than 0.001) **and significantly associated with lower odds of receiving a refill for varenicline** (odds ratio 0.594, 95% CI: 0.540-0.655, P less than 0.001).

  Conclusions: Among Medicare beneficiaries newly initiated on varenicline, medication adherence was suboptimal, and greater OOP cost was associated with lower adherence and lower odds of refilling varenicline.

b. General access to coverage barriers in Medicaid

- ***Prior Authorization, Step Therapy and Dosing Limits Reported as Barriers to Prescription Drug Access in Medicaid Programs.*** West, J. C., Wilk, J. E., Rae, D. S., Muszynski, I. S., Stipec, M. R., Alter, C. L., ... & Regier, D. A. (2009). Medicaid prescription drug policies and medication access and continuity: findings from ten states. *Psychiatric Services*, *60*(5), 601-610.

  The aims of this study were to compare medication access problems among psychiatric patients in ten state Medicaid programs, assess adverse events associated with medication access problems, and determine whether prescription drug utilization management is associated with access problems and adverse events. Psychiatrists from the American Medical Association's Masterfile were randomly selected (N=4,866). Sixty-two percent responded; 32% treated Medicaid patients and were randomly assigned a start day and time to report on two Medicaid patients (N=1,625 patients).

  A medication access problem in the past year was reported for a mean±SE of 48.3%±2.0% of the patients, with a 37.6% absolute difference between states with the lowest and highest rates (p<.001). The most common access problems were not being able to access clinically indicated medication refills or new prescriptions because Medicaid would not cover or approve them (34.0%±1.9%), prescribing a medication not clinically preferred because clinically indicated or preferred medications were not covered or approved (29.4%±1.8%), and discontinuing medications as a result of prescription drug coverage or management issues (25.8%±1.6%). **Use of preferred drug or formulary lists was the most commonly reported prescription drug utilization management feature (70.0%; state range 35.0%–87.2%), followed by prior authorization (59.5%; state range 25.7%–80.7%), requirements to switch to generics (53.1%; state range 38.0%–76.0%), limits on the number or dosing of medications (49.2%; state range 20.9%–79.7%), and use of step therapy or fail-first protocols (38.9%; state range 14.8%–73.8%) (Table 4). State prescription drug policies also vary between managed and fee for- service plans within states; this variance was not assessed in this study. Pharmacies may also vary in implementation of prescription drug copayment or other policies. With a particular policy, such as prior authorization, utilization management practices may vary widely in application among patients. With patient case mix adjusted to control for sociodemographic and clinical confounders, patients** with medication access problems had 3.6 times greater likelihood of adverse events (p<.001). **These associations indicate that more effective Medicaid prescription drug**

management and financing practices are needed to promote medication continuity and improve treatment outcomes.

- ***Prior Authorization led to Increased Patient Risk without Appreciable Cost Savings.*** Zhang, Y., Adams, A. S., Ross-Degnan, D., Zhang, F., & Soumerai, S. B. (2009). Effects of prior authorization on medication discontinuation among Medicaid beneficiaries with bipolar disorder. *Psychiatric Services*, *60*(4), 520-527.

  Objective: Few data exist on the cost and quality effects of increased use of prior-authorization policies to control psychoactive drug spending among persons with serious mental illness. This study examined the impact of a prior-authorization policy in Maine on second-generation antipsychotic and anticonvulsant utilization, discontinuations in therapy, and pharmacy costs among Medicaid beneficiaries with bipolar disorder.

  Methods: Using Medicaid and Medicare utilization data for 2001–2004, the authors identified 5,336 patients with bipolar disorder in Maine (study state) and 1,376 in New Hampshire (comparison state). With an interrupted time-series and comparison group design, longitudinal changes were measured in second-generation antipsychotic and anticonvulsant use; survival analysis was used to examine treatment discontinuations and rates of switching medications.

  Results: **The prior-authorization policy resulted in an 8–percentage point reduction in the prevalence of use of nonpreferred second-generation antipsychotic and anticonvulsant medications (those requiring prior authorization) but did not increase use of preferred agents (no prior authorization) or rates of switching.** The prior-authorization policy reduced total pharmacy reimbursements for bipolar disorder by $27 per patient during the eight-month policy period. However, the hazard rate of treatment discontinuation (all bipolar drugs) while the policy was in effect was 2.28 (95% confidence interval=1.36–4.33) higher than during the prepolicy period, with adjustment for trends in the comparison state.

  Conclusions: **The small reduction in pharmacy spending for bipolar treatment after the policy was implemented may have resulted from higher rates of medication discontinuation rather than switching. The findings indicate that the prior-authorization policy in Maine may have increased patient risk without appreciable cost savings to the state.**

- ***Medicaid Beneficiaries Face More Burdens Accessing Primary Care Which is Associated With Higher Emergency Department Utilization.*** Cheung, P. T., Wiler, J. L., Lowe, R. A., & Ginde, A. A. (2012). National study of barriers to timely primary care and emergency department utilization among Medicaid beneficiaries. *Annals of Emergency Medicine*, *60*(1), 4-10.

  Study objective: We compare the association between barriers to timely primary care and emergency department (ED) utilization among adults with Medicaid versus private insurance.

  Methods: We analyzed 230,258 adult participants of the 1999 to 2009 National Health Interview Survey. We evaluated the association between 5 specific barriers to timely primary care (unable to get through on telephone, unable to obtain appointment soon enough, long wait in the physician's office, limited clinic hours, lack of transportation) and ED utilization (≥1 ED visit during the past year) for Medicaid and private insurance beneficiaries. Multivariable logistic regression models adjusted for demographics, socioeconomic status, health conditions, outpatient care utilization, and survey year.

  Results: **Overall, 16.3% of Medicaid and 8.9% of private insurance beneficiaries had greater than or equal to 1 barrier to timely primary care. Compared with individuals with private insurance, Medicaid beneficiaries had higher ED utilization overall (39.6% versus 17.7%), particularly among those with barriers** (51.3% versus 24.6% for 1 barrier and 61.2% versus 28.9% for ≥2 barriers). After adjusting for covariates, Medicaid beneficiaries were more likely to have barriers (adjusted odds ratio [OR] 1.41; 95% confidence interval [CI] 1.30 to 1.52) and higher ED utilization (adjusted OR 1.48; 95% CI 1.41 to 1.56). ED utilization was even higher among Medicaid beneficiaries with 1 barrier (adjusted OR 1.66; 95% CI 1.44 to 1.92) or greater than or equal to 2 barriers (adjusted OR 2.01; 95% CI 1.72 to 2.35) compared with that for individuals with private insurance and barriers.

[1] U.S. Department of Health and Human Services. Smoking Cessation. A Report of the Surgeon General. Atlanta, GA: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Center for Chronic Disease Prevention and Health Promotion, Office on Smoking and Health, 2020.
[2] Tsai, Daniel. "Strategies to Improve Delivery of Tobacco Cessation Services." *Department of Health and Human Services*, 7 Mar. 2024, https://www.medicaid.gov/media/173151. Accessed 9 Apr. 2024.
[3] DiGiulio A, Jump Z, Babb S, Schecter A, Williams KS, Yembra D, Armour BS. State Medicaid Coverage for Tobacco Cessation Treatments and Barriers to Accessing Treatments - United States, 2008-2018. MMWR Morb Mortal Wkly Rep. 2020 Feb 14;69(6):155-160. doi: 10.15585/mmwr.mm6906a2. PMID: 32053583; PMCID: PMC7017965.

[4] Arfken CL, Tutag Lehr V. *Commercial and public payer opioid analgesic prescribing policies: a case study.* Subst Abuse Treat Prev Policy. 2021 Jan 6;16(1):4. doi: 10.1186/s13011-020-00340-z. PMID: 33407646; PMCID: PMC7789815.

[5] "State Tobacco Cessation Coverage Database Search." *American Lung Association*, 11 Jan. 2024, https://www.lung.org/policy-advocacy/tobacco/cessation/state-tobacco-cessation-coverage-database/search. Accessed 26 Mar. 2024.

[6] Galaznik, A., Cappell, K., Montejano, L., Makinson, G., Zou, K. H., & Lenhart, G. (2013). Impact of access restrictions on varenicline utilization. *Expert review of Pharmacoeconomics & Outcomes Research*, *13*(5), 651-656.

[7] DiGiulio A, Tynan MA, Schecter A, Williams KS, VanFrank B. State Medicaid Coverage for Tobacco Cessation Treatments and Barriers to Accessing Treatments — United States, 2018–2022. MMWR Morb Mortal Wkly Rep 2024;73:301–306. DOI: http://dx.doi.org/10.15585/mmwr.mm7314a2.

[8] "State Tobacco Cessation Coverage Database Search." *American Lung Association*, 11 Jan. 2024, https://www.lung.org/policy-advocacy/tobacco/cessation/state-tobacco-cessation-coverage-database/search. Accessed 26 Mar. 2024.

[9] Li, C., & Dresler, C. M. (2012). Medicaid coverage and utilization of covered tobacco cessation treatments: the Arkansas experience. *American Journal of Preventive Medicine*, *42*(6), 588-595.

[10] Land T, Warner D, Paskowsky M, Cammaerts A, Wetherell L, et al. (2010) Medicaid Coverage for Tobacco Dependence Treatments in Massachusetts and Associated Decreases in Smoking Prevalence. PLOS ONE 5(3): e9770.

[11] Greene, J., Sacks, R. M., & McMenamin, S. B. (2014). The impact of tobacco dependence treatment coverage and copayments in Medicaid. *American Journal of Preventive Medicine*, *46*(4), 331-336.

[12] Ku, L., Bruen, B. K., Steinmetz, E., & Bysshe, T. (2016). Medicaid tobacco cessation: big gaps remain in efforts to get smokers to quit. *Health Affairs*, *35*(1), 62-70.

[13] Kolade Kolade, V. O. (2014). Extending the 5Cs: the health plan tobacco cessation index. *The American Journal of Managed Care*, *20*(10), e453-60.

[14] Kolade FM. Kolade, F. M. (2014). Tennessee Health Plan Tobacco Cessation Coverage. *Public Health Nursing*, *31*(1), 28-35

[15] DiGiulio A, Haddix M, Jump Z, Babb S, Schecter A, Williams KS, Asman K, Armour BS. (2016). State Medicaid Expansion Tobacco Cessation Coverage and Number of Adult Smokers Enrolled in Expansion Coverage—United States, 2016. *MMWR. Morbidity and Mortality Weekly Report*, *65*.

[16] Singleterry, J., Jump, Z., DiGiulio, A., Babb, S., Sneegas, K., MacNeil, A. & Williams, K. A. S. (2015). State Medicaid coverage for tobacco cessation treatments and barriers to coverage—United States, 2014–2015. *MMWR Morbidity and Mortality Weekly Report*, *64*(42), 1194-1199.

[17] Hilts KE, Blackburn J, Gibson PJ, Yeager VA, Halverson PK, Menachemi N. *Impact of Medicaid Expansion on Smoking Prevalence and Quit Attempts among Those Newly Eligible, 2011-2019.* Tob Prev Cessat. 2021 Aug 5;7:16. doi: 10.18332/tpc/139812. PMID: 34414341; PMCID: PMC8336658.

[18] Ku L, Brantley E, Bysshe T, Steinmetz E, Bruen BK. (2016). How Medicaid and Other Public Policies Affect Use of Tobacco Cessation Therapy, United States, 2012-2014. *Preventing Chronic Disease.* E150.

[19] Pagano, A., Tajima, B., & Guydish, J. (2016). Barriers and facilitators to tobacco cessation in a nationwide sample of addiction treatment programs. *Journal of Substance Abuse Treatment*, *67*, 22-29.

[20] Tong, V. T., England, L. J., Malarcher, A., Mahoney, J., Anderson, B., & Schulkin, J. (2015). Clinicians' awareness of the Affordable Care Act mandate to provide comprehensive tobacco cessation treatment for pregnant women covered by Medicaid. *Preventive Medicine Reports*, *2*, 686-688.

[21] Knox B, Mitchell S, Hernly E, Rose A, Sheridan H, Ellerbeck EF. *Barriers to Utilizing Medicaid Smoking Cessation Benefits.* Kans J Med. 2017 Nov 30;10(4):1-11. PMID: 29472979; PMCID: PMC5733401.

[22] Maglione, M., & Ridgely, M. S. (2006). Is conventional wisdom wrong? Coverage for substance abuse treatment under Medicaid managed care. *Journal of Substance Abuse Treatment*, *30*(4), 285-290.

[23] Burns, R. M., Pacula, R. L., Bauhoff, S., Gordon, A. J., Hendrikson, H., Leslie, D. L., & Stein, B. D. (2016). Policies related to opioid agonist therapy for opioid use disorders: The evolution of state policies from 2004 to 2013. *Substance Abuse*, *37*(1), 63-69.
[24] Burns, R. M., Pacula, R. L., Bauhoff, S., Gordon, A. J., Hendrikson, H., Leslie, D. L., & Stein, B. D. (2016). Policies related to opioid agonist therapy for opioid use disorders: The evolution of state policies from 2004 to 2013. *Substance Abuse*, *37*(1), 63-69.
[25] Arfken CL, Tutag Lehr V. *Commercial and public payer opioid analgesic prescribing policies: a case study.* Subst Abuse Treat Prev Policy. 2021 Jan 6;16(1):4. doi: 10.1186/s13011-020-00340-z. PMID: 33407646; PMCID: PMC7789815.
[26] Landis RK, Opper I, Saloner B, Gordon AJ, Leslie DL, Sorbero M, Stein BD. *Buprenorphine treatment episode duration, dosage, and concurrent prescribing of benzodiazepines and opioid analgesics: The effects of Medicaid prior authorization policies.* Drug Alcohol Depend. 2022 Dec 1;241:109669. doi: 10.1016/j.drugalcdep.2022.109669. Epub 2022 Oct 21. PMID: 36332589; PMCID: PMC10695272.
[27] Christine PJ, Larochelle MR, Lin LA, McBride J, Tipirneni R. *Removal of Medicaid Prior Authorization Requirements and Buprenorphine Treatment for Opioid Use Disorder.* JAMA Health Forum. 2023 Oct 6;4(10):e233549. doi: 10.1001/jamahealthforum.2023.3549. PMID: 37862034; PMCID: PMC10589810.
[28] Kermack, A., Flannery, M., Tofighi, B., McNeely, J., & Lee, J. D. (2017). Buprenorphine prescribing practice trends and attitudes among New York providers. *Journal of Substance Abuse Treatment*. 74, 1-6
[29] Wen H, Hockenberry JM, Borders TF, Druss BG. *Impact of Medicaid Expansion on Medicaid-covered Utilization of Buprenorphine for Opioid Use Disorder Treatment.* Med Care. 2017 Apr;55(4):336-341. doi: 10.1097/MLR.0000000000000703. Erratum in: Med Care. 2019 Mar;57(3):243. PMID: 28296674.
[30] Saloner, B., & Lê Cook, B. (2013). Blacks and Hispanics are less likely than whites to complete addiction treatment, largely due to socioeconomic factors. *Health Affairs*, *32*(1), 135-145.
[31] Lê Cook, B., & Alegría, M. (2011). Racial-ethnic disparities in substance abuse treatment: the role of criminal history and socioeconomic status. *Psychiatric Services*. 62(11). 1273-1281
[32] Abraham, A. J., Rieckmann, T., Andrews, C. M., & Jayawardhana, J. (2016). Health insurance enrollment and availability of medications for substance use disorders. *Psychiatric Services*, *68*(1), 41-47.
[33] Creedon, T. B., & Lê Cook, B. (2016). Access To Mental Health Care Increased But Not For Substance Use, While Disparities Remain. *Health Affairs*, *35*(6), 1017-1021.
[34] Slayter, E. M. (2010). Disparities in access to substance abuse treatment among people with intellectual disabilities and serious mental illness. *Health & Social Work*, *35*(1), 49-59.
[35] Slayter, E. (2016). Disparities in Substance Abuse Treatment Utilization Among Women with Intellectual Disability. *Journal of Social Work in Disability & Rehabilitation*, *15*(2), 96-115.
[36] Slayter, E. (2010). Medicaid-covered alcohol and drug treatment use among people with intellectual disabilities: evidence of disparities. *Intellectual and Developmental Disabilities*, *48*(5), 361-374.
[37] Mechanic, D. (2014). More people than ever before are receiving behavioral health care in the United States, but gaps and challenges remain. *Health Affairs*, *33*(8), 1416-1424.
[38] Rosenthal, L., Carroll-Scott, A., Earnshaw, V. A., Sackey, N., O'Malley, S. S., Santilli, A., & Ickovics, J. R. (2013). Targeting cessation: understanding barriers and motivations to quitting among urban adult daily tobacco smokers. *Addictive Behaviors*, *38*(3), 1639-1642.
[39] Suehs, B. T., Davis, C., Galaznik, A., Joshi, A. V., Zou, K. H., & Patel, N. C. (2014). Association of out-of-pocket pharmacy costs with adherence to varenicline. *Journal of Managed Care Pharmacy*, *20*(6), 592-600.
[40] Masclans L, Davis JM. *Access to Effective Smoking Cessation Medications in Patients with Medicare, Medicaid and Private Insurance.* Public Health Pract (Oxf). 2023 Sep 10;6:100427. doi: 10.1016/j.puhip.2023.100427. PMID: 37766740; PMCID: PMC10520500.
[41] Happe, L. E., Clark, D., Holliday, E., & Young, T. (2014). A systematic literature review assessing the directional impact of managed care formulary restrictions on medication adherence, clinical outcomes, economic outcomes, and health care resource utilization. *Journal of Managed Care Pharmacy*, *20*(7), 677-684.

[42] Zhang, Y., Adams, A. S., Ross-Degnan, D., Zhang, F., & Soumerai, S. B. (2009). Effects of prior authorization on medication discontinuation among Medicaid beneficiaries with bipolar disorder. *Psychiatric Services*, *60*(4), 520-527.
[43] Id.
[44] West, J. C., Wilk, J. E., Rae, D. S., Muszynski, I. S., Stipec, M. R., Alter, C. L., ... & Regier, D. A. (2009). Medicaid prescription drug policies and medication access and continuity: findings from ten states. *Psychiatric Services*, *60*(5), 601-610.
[45] Cheung, P. T., Wiler, J. L., Lowe, R. A., & Ginde, A. A. (2012). National study of barriers to timely primary care and emergency department utilization among Medicaid beneficiaries. *Annals of Emergency Medicine*, *60*(1), 4-10.
[46] Id.
[47] U.S. Department of Health and Human Services. Smoking Cessation. A Report of the Surgeon General. Atlanta, GA: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Center for Chronic Disease Prevention and Health Promotion, Office on Smoking and Health, 2020.