COMIRB Protocol

COLORADO MULTIPLE INSTITUTIONAL REVIEW BOARD

CAMPUS BOX F-490 TELEPHONE: 303-724-1055 Fax: 303-724-0990

Protocol #: 24-1984
Project Title: Evaluation of the Colorado Public Option Plan and its Impacts on Costs of Care and Provider Networks

Principal Investigator: Jason Brian Gibbons
Version Date: 9/19/2024

I. Hypotheses and Specific Aims: A brief statement of the purpose of the research project. This section should include the hypotheses and specific aims being tested in the research. *Note: If you are applying for QA/QI/PE determination, you should not use terms like "hypothesis" or "research;" Instead, use the terms "aims" or "goals" and "evaluation."(*Approx. 1 paragraph)

The primary aim of this research is to evaluate the effects of the Colorado Public Option on healthcare costs, provider networks, and reimbursement rates across the state. The research is guided by the following questions:

Have the Colorado Option provider/hospital negotiations had any impacts on the broader cost of care, such as lower reimbursement rates? We hypothesize that the introduction of the Colorado Public Option will lead to lower reimbursement rates for common procedures and ultimately reduce the overall cost of care for commercially insured individuals, even for those not enrolled in public option plans.

Have any changes in provider networks occurred due to the introduction of the Colorado Option? We will investigate whether there have been any shifts in the breadth of provider networks, such as the number of hospitals and providers included in networks, due to the negotiations around the public option. We hypothesize that changes in reimbursement rates could affect the network composition.

At what rate could the Division of Insurance (DOI) set a potential price cap? We aim to identify a feasible price cap for common procedures by comparing the Medicare allowed amounts with the public option plan allowed amounts. We will model potential savings assuming the adoption of price caps, providing an empirical basis for DOI's policy decisions.

To address these questions, we will conduct a longitudinal data analysis using the Colorado All Payer Claims Database (CO APCD) to perform event study or interrupted time series analyses.

These will allow us to estimate the effect of the public option on reimbursement levels and provider network changes over time. Additionally, we will compare Medicare allowed amounts against public option plan allowed amounts to assess potential price caps. The findings of this project are expected to inform future policy decisions aimed at improving market competitiveness and healthcare affordability in Colorado. This research is intended to support the Division of Insurance (DOI) in assessing the effectiveness of the Colorado Public Option, particularly in its ability to drive down costs, expand access to providers, and improve the quality of health insurance offerings on the state's health exchange.

II. **Background and Significance**: Explain the background of this project so that we will understand why it is important to perform this research project. (Approx. 1 page)

Include:

- Summary of previously published data and pilot studies. Be sure to include a discussion of any data that does not support the study hypothesis. If a study similar to the one being proposed has already been completed, explain why the proposed study is necessary.
- For studies designed to compare or evaluate therapies, there should be a statement of the relative advantages or disadvantages of alternative modes of therapy.
- If not obvious, explain why human subjects are necessary. *Include references for all published data cited.*

The Colorado Public Option, introduced as a state-driven reform to expand access to affordable healthcare, represents a significant intervention aimed at reducing healthcare costs while expanding provider networks. This initiative emerged in response to rising healthcare costs and uneven access to care across the state, particularly for residents relying on commercially available insurance plans. Although some studies have examined the potential impact of public options on healthcare costs at a national level, very few have evaluated state-specific interventions like Colorado's Public Option. This gap in the literature highlights the importance of conducting this study to provide Colorado-specific data on cost and access outcomes following the public option's implementation.

Several previous studies have specifically examined the impacts of public option programs on healthcare costs, access, and quality of care. National-level analyses of public health insurance options, such as those by Liu et al. (2020) and Fiedler (2021), have suggested that public options could reduce overall healthcare spending by promoting competition and lowering reimbursement rates for providers. These studies indicate that public options may increase market pressure on private insurers to offer more competitive prices and broader access. However, these findings are primarily based on theoretical models and projections, rather than real-world data from specific state-level implementations of public options. Moreover, these studies do not provide detailed, longitudinal insights into how public option programs

impact provider reimbursement rates or the composition of provider networks over time, leaving important questions about the practical effects of public options unanswered.

Pilot studies conducted on the impacts of public option programs in states such as Washington's Cascade Care have shown mixed results. For instance, Sen et al. (2021) found that while the public option was the lowest-premium silver plan in some counties, its overall impact on premium reductions was limited, particularly due to the voluntary nature of insurer and provider participation. Although Cascade Care did manage to lower premiums in less competitive counties, the program faced challenges in achieving significant premium reductions across the state, especially in more competitive markets. Furthermore, concerns about provider network adequacy emerged, particularly in rural areas where provider participation was not guaranteed. These findings suggest that while public options like Cascade Care can offer a more affordable insurance choice in certain regions, their ability to reduce costs broadly without limiting access remains inconclusive, reinforcing the need for further research and refinement in program design.

Study Rationale:
This study is necessary to address the current gap in evidence on how the Colorado Public Option has impacted healthcare costs and access in the state. This project will use real-world, longitudinal data from the Colorado All Payer Claims Database (CO APCD) to assist the Division of Insurance (DOI) with future decisions and planning around public option in the state. We will examine not only cost reductions but also any changes in provider networks and possible strategies for future rate setting.

Human Subjects and the Importance of This Study:
We will use data to analyze trends in reimbursement rates and network breadth, both of which directly affect the patient experience. Without this patient-level data, it would be impossible to accurately assess the impacts of the Colorado Public Option on healthcare outcomes and costs. Additionally, this study's findings will provide the DOI with critical evidence to guide future healthcare reforms, ensuring that any adjustments to the public option are data-driven and beneficial to Colorado's residents.

III. Preliminary Studies/Progress Report:

N/A

IV. Research Methods

A. Outcome Measure(s):
The primary outcomes we aim to measure include changes in healthcare costs, particularly in terms of reimbursement rates and overall care costs for commercially insured individuals. Secondary outcomes include changes in provider network

breadth, the availability of healthcare services in rural areas, and the adoption of price caps based on Medicare allowed amounts for common procedures. Additionally, we will assess the impact of the Colorado Public Option on health equity by examining whether the changes disproportionately affect certain socioeconomic or geographic groups.

B. Description of Population to be Enrolled:
The study will use data from the Colorado All Payer Claims Database (CO APCD), capturing the universe of commercially insured individuals in Colorado. This includes individuals enrolled in both public option plans and traditional commercial plans. The analysis will encompass data across diverse geographic regions, including urban, suburban, and rural areas, allowing for examination of any disparities in healthcare access and cost by location. There will be no direct recruitment of human subjects.

C. Study Design and Research Methods:
This is a longitudinal, observational study that will use a quasi-experimental design to evaluate the impacts of the Colorado Public Option. We will perform difference-in-differences (DiD) analyses to compare healthcare costs and provider network changes before and after the implementation of the public option. We will also employ event study models to capture trends over time, controlling for confounding factors.

D. Description, Risks, and Justification of Procedures and Data Collection Tools:
The study will rely on administrative claims data from the CO APCD, which minimizes risks to privacy and confidentiality. Limited PHI will be collected (geographic identifiers and dates), and the data will be stored and analyzed following state and federal guidelines for privacy protection. There is a minimal risk of re-identification, but safeguards such as encrypted data storage on a secure data enclave at Johns Hopkins University Bloomberg School of Public Health and limiting access to only researchers who will be conducting analysis will mitigate this risk. Given the public health significance of understanding the effects of the Colorado Public Option on healthcare costs and provider networks, the benefits of the research far outweigh the minimal risks.

E. Potential Scientific Problems:
One potential issue is the challenge of attributing changes in healthcare costs and provider networks solely to implementing the public option. Other contemporaneous factors, such as broader healthcare market changes or economic conditions, may confound the results. We will include appropriate control variables and comparison groups in our analyses to address this.

F. Data Analysis Plan:
We will employ difference-in-differences (DiD) models to assess changes in healthcare costs and provider network breadth pre- and post-implementation of the

Colorado Public Option, with commercial insurance plans in other states serving as a control group. Event study models will be used to analyze cost trends over time. Multivariable regression models will control for patient demographics, geographic factors, and plan characteristics. Additionally, propensity score matching (PSM) will be used to account for differences between individuals enrolled in public option plans and those in traditional plans.

G. Summarize Knowledge to be Gained:
This study will provide critical insights into the effectiveness of the Colorado Public Option in lowering healthcare costs and improving access to care. By analyzing real-world data, we will contribute to the evidence base on whether public options can drive down costs without negatively affecting provider networks or healthcare access. The findings will inform future healthcare policy decisions, both in Colorado and at the national level, as policymakers seek strategies to improve affordability and accessibility in healthcare markets.

B. References:

Liu J.L., Wilks A., Nowak S.A., Rao P., Eibner C. (2020). *Estimating the Impact of a Public Option on Health Insurance Premiums and Coverage*. RAND Corporation Research Brief. Available at: https://www.rand.org/pubs/research_briefs/RB10120.html

Fiedler M. (2021). Designing a Public Option that Would Reduce Health Care Provider Prices. Brookings Institution. Available at: https://www.brookings.edu/articles/designing-a-public-option-that-would-reduce-health-care-provider-prices/

Sen AP, Singh Y, Meiselbach MK, Eisenberg MD, Anderson GF. Participation, Pricing, and Enrollment in a Health Insurance "Public Option": Evidence From Washington State's Cascade Care Program. Milbank Q. 2022 Mar;100(1):190-217. doi: 10.1111/1468-0009.12546. Epub 2021 Nov 23. PMID: 34812540; PMCID: PMC8932631.