Do Insurers Respond to Active Purchasing? Evidence from the Massachusetts Health Insurance Exchange*

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Abstract

As the ACA Marketplaces face challenges with high premiums and limited insurer competition, there is significant interest in how policymakers can stabilize markets and control costs. We describe a unique set of active purchasing policies used by Massachusetts' health insurance exchange to shape the rules of competition and reward lower-price insurers with additional customers. In contrast to the typical focus on recruiting new insurers to an exchange, Massachusetts focused on shaping insurer incentives through carrots and sticks for setting prices below certain thresholds or below other insurers' prices. We provide evidence that insurer pricing was significantly influenced by active purchasing policies. Between 2010 and 2013, over 80% of insurer prices were set exactly at or within 1% of pricing thresholds created by active purchasing policies. One key "limited choice" policy—which restricted the choice set of fully-subsidized consumers to the two cheapest plans—was associated with a 16-20% reduction in average insurance prices relative to comparative insurance markets in 2012-2014. The state's slower price growth continued during the ACA's first years, with the Connector having among the lowest benchmark premiums of any state starting in 2017.

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1. INTRODUCTION

One of the most influential ideas in modern health policy is "managed competition" (Enthoven, 1993)—the idea that proper functioning of health insurance markets requires that competition be "managed" through certain forms of government intervention. The most recent application of managed competition in the United States is in the Affordable Care Act (ACA), which has insured more than 10 million people through its subsidized insurance exchanges (officially called "Marketplaces"). The underlying goal of these exchanges is to use the market to deliver the benefits of choice and competition, while using public subsidies to broaden affordability and government regulation to ameliorate market failures such as adverse selection.

There remains significant uncertainty, however, about how to design managed competition policies in practice. The actual constellation of policies varies widely across managed competition programs and the lack of randomized implementations or good counterfactuals makes it hard to isolate natural experiments (McGuire & Van Kleef, 2018). Moreover, the tumultuous experience of the ACA Marketplaces has raised questions about the strategy's efficacy. Starting in 2017, the Marketplaces saw sharply higher premiums (Semanskee, Claxton, & Levitt, 2017), exits by several prominent insurers (Semanskee et al., 2017), and substantially reduced competition (Griffith, Jones, & Sommers, 2018). In 2018, more than half of the country lived in areas where the Marketplace had just one or two competing insurers (Kamal et al., 2017). While this share had declined to 22% of enrollees (and 54% of counties) by 2021, limited competition and high premiums remain important concerns.

In this strained environment, it is increasingly important to identify models for managed competition policies that can control costs and maintain coverage. In this paper, we describe a

unique set of policies used in the nation's pioneer exchange, the Massachusetts Connector, and present descriptive evidence on the implications of those policies.

Operating since 2006, the Connector predates the ACA exchanges that it inspired (McDonough et al., 2006). Previous studies have described the early impact of the Connector (and the state's "Romneycare" reform more broadly) on coverage, costs, and quality of care (Gruber, 2011; Holtz-Eakin, 2011; Mechanic, Altman, & McDonough, 2012; Weissman & Bigby, 2009). However, these studies focus largely on the history of the Connector up to about 2010, and do not capture the trajectory nor the policies enacted thereafter. This key part of the Connector's story remains untold.

Our paper makes two main contributions to the literature on these issues. First (in Section 2), we describe a unique set of competitive policies that the Connector enacted in its low-income subsidized segment – a program called Commonwealth Care (CommCare) prior to 2014 and ConnectorCare under the ACA. While most ACA Marketplaces act as a passive price-taker – or *clearinghouse* – for plans and consumers, the Connector used its regulatory and purchasing power (through subsidies) to become an *active purchaser* in the market. Active purchasing involves the government using its purchasing power to shape the rules of competition as opposed to the more passive clearinghouse approach that seeks to "let the market work."[2]

When the ACA was implemented, a handful of other states (most famously California) also took an active purchasing approach to their exchanges.[3] However, Massachusetts' approach in the

[2] In the context of Enthoven's managed competition strategy, an active purchaser is attempting to fulfill the role of a government "sponsor", which "structures and adjusts the market to overcome attempts by insurers to avoid price competition" (Enthoven, 1993).

[3] Krinn and colleagues label 10 states (including Massachusetts) as active purchasers, though the degree of activity varies widely (Krinn, Karaca-Mandic, & Blewett, 2015). They find that active purchasing states had higher premiums in 2014, but the evidence is entirely cross-sectional. Robinson and colleagues describe the policies used by California (which they call "the nation's most active purchaser"), including selective contracting, negotiating premiums, and standardizing benefits (Robinson, Lee, & Goldman, 2015). They argue these policies have been effective at keeping premiums low and delivering better quality plans.

Connector went further than the others. California, for example, employed two main policies: standardized plan benefits and selective contracting—the latter of which involves excluding (or threatening to exclude) plans with high prices or insufficient provider networks. While Massachusetts similarly standardizes benefits and retains the power to selectively contract, we identified at least four additional types of policies used at various points during its history. The first, which we call *steering through default choices*, rewards lower-price plans with members by making them the default choice for certain passive enrollees. The second approach involves *limiting choice for new enrollees*—requiring them to choose from a subset of lower-price plans. Limiting new enrollees' choices is a stronger version of steering than setting enrollees' default choices, but it is less aggressive than selective contracting because it allows higher-price plans to remain in the market. Third, the Connector has *differentially subsidized low-price plans*, a technique made possible by its use of additional state subsidies after 2014. Fourth, the Connector has engaged in *direct price regulation,* requiring plans to price within a specified range (often with aggressive price caps).

Taken together, these policies provide carrots and sticks that make insurers' demand curves more price elastic, thus augmenting the incentive to compete on prices. This approach differs from the standard thinking that increasing competition requires simply recruiting new insurers to the Marketplace. Rather than boosting the number of competitors, Massachusetts' approach involved shaping the *rules of competition* in ways that encouraged more aggressive price competition among the insurers in the market.

The second contribution of the paper (in Sections 3-4) is to present evidence on the effects of these policies on insurance prices. While this evidence is fundamentally descriptive, it supports our hypothesis that active purchasing policies played an important role in shaping insurer

competition. We present three pieces of evidence. First, exploiting the fact that several competitive policies were associated with explicit price targets, we find that a large share of insurer prices (84 percent over the 2010-2013 period) were set exactly at or within 1 percent below the relevant target levels. This "price bunching" suggests that the targets were effective at influencing prices, although it is difficult to quantify the magnitude of the effects.

Second, we study the introduction of the limited choice policy in 2012 which required a subset of new enrollees to choose one of the two cheapest plans in the market. We find that the policy was associated with a sharp fall in insurance prices by about 14 percent over two years. This was a substantial price reduction for insurance markets – where prices typically only rise over time. The reduction did not occur in other markets (including the state's Medicaid and commercial insurance) and is statistically significant in difference-in-difference regressions. A closer look at insurer bids provides evidence consistent with a causal interpretation. After the policy's introduction, insurer bids newly segmented into two groups. Two to three insurers (depending the year) cut prices dramatically, competing to be among the lowest two bidders who would win the limited choice enrollees. The remaining insurers kept prices relatively high. This bimodal pattern is consistent with what one would expect from the incentives created by the limited choice policy.

Third, we show evidence that the Connector's relatively slow Marketplace premium growth has been sustained into the first years of the ACA under the ConnectorCare program. Over the 2014-2018 period, the Connector's benchmark second cheapest silver plan premium grew by an average of 4 percent per year, versus premium growth of 16 percent in the median state. As a result of this slower growth, Massachusetts' shifted to having some of the lowest premiums in the nation, falling from the twenty-fifth to the second-lowest benchmark premiums across all states. It

maintained its status as the second- or third-lowest premium state from 2017-2020, although it rose to the 8th-lowest price in 2021.

Overall, this body of evidence suggests that active purchasing policies and managed competition can play a substantial role in reducing price growth in health insurance markets. However, it is important to note the limitations of our analysis. Fundamentally, our study reports on the outcomes of policy experimentation in a single state Marketplace, making it difficult to draw strong causal conclusions. Moreover, the simultaneous implementation of policies over time makes it difficult to quantify exact magnitudes of effects. We view our study as making a more modest descriptive contribution – highlighting a unique set of competitive policies in the Massachusetts Connector and showing that they have been associated with relative success at controlling insurance costs.

Our paper proceeds as follows. Section 2 describes the active purchasing policies used by the Connector, both prior to and after the ACA. Section 3 lays out the data and methods. Section 4 presents our empirical results, and Section 5 discusses them and concludes.

2. ACTIVE PURCHASING IN THE MASSACHUSETTS EXCHANGE

Background and Policy Overview

Like the ACA for which it was a model, Massachusetts' 2006 health reform law ("RomneyCare") sought to expand coverage by issuing an individual mandate and providing subsidies for individuals to purchase private health insurance (McDonough et al., 2006). Subsidies were available for individuals up to 300 percent of the federal poverty level to purchase insurance through the Commonwealth Care ("CommCare") exchange. A separate market called CommChoice was available for individuals above 300 percent of poverty without subsidies (see Ericson and Starc, 2015).

In this paper, we focus on the policies the Connector used in regulating CommCare as a market-based insurance program. These differed from the way most ACA Marketplaces work today. Most ACA Marketplaces operate as a *clearinghouse*, with the regulator working as a passive market facilitator. Except for regulating benefits and distributing subsidies, regulators in this model seek to minimize interventions in the market. The guiding principle of this clearinghouse model is to "let the market work."

In contrast, the Connector operated CommCare as an *active purchaser*. Active purchasing draws on strategies of competitive procurement used by employers and state Medicaid programs to contract with private health insurers.[4] The guiding principle is to use the government's regulatory and purchasing power to shape the competitive incentives and encourage desired outcomes like cost control or quality improvement.

Previous authors have defined certain tools used in active purchasing (Bingham, Cohen, & Bertko, 2018; Corlette & Volk, 2011). They have also observed how these tools have been employed in exchanges such as California and Massachusetts (Bingham et al., 2018; Corlette, Alker, Touschner, & Volk, 2011). To date, these descriptions have focused on policies like "standardization of benefits" and "selective contracting". In the case of CommCare, for example, the Connector required that subsidized plans cover a standard set of benefits with an actuarial value of approximately 95-99 percent, depending on the enrollee's income. It also reserved the right to have final say over which plans were eligible for subsidies, and actively recruited insurers to join the market.

[4] This strategy grew out of CommCare's genesis as a hybrid between a traditional individual insurance market and a Medicaid program. Consistent with this viewpoint, the Connector called the annual process of soliciting insurer price bids as a "procurement" process.

The Connector differed in important ways, however, from other active purchasers. In addition to selective contracting and standardization of benefits, the Connector significantly broadened its active purchasing toolkit. Additional active purchasing strategies used in CommCare included:

1) **Steering to low-price plans through default options:** Many subsidized insurance enrollees are passive and fail to actively select a plan once they qualify for a subsidy. The Connector leveraged this reality to reward low-price insurers in two ways. First, it used *preferential auto-assignment* to enroll passive new enrollees into low-price plans. Second, it threatened to invoke *"active open enrollment"* if plans failed to price below certain targets. If invoked, active open enrollment would have eliminated auto-renewal during the yearly open enrollment window and required all enrollees to actively select a plan or else be defaulted into a low-price plan.[5]

2) **Limiting choice to low-price plans:** An even stronger way of rewarding competition on price involves *requiring* enrollees to choose low-price plans. In an extreme version, this could mean that only low-price plans (e.g., pricing below a threshold) can operate in the market – a policy analogous to selective contracting. However, as we describe below, the Connector applied limited choice only for new enrollees and only for the lowest-income segment of the market (below 100 percent of poverty) who were fully subsidized. This setup lessened disruption by allowing higher-price plans to continue operating in the

[5] Auto-assignment continued through 2010, after which it was ended for budgetary reasons. (After this, passive new enrollees did not receive coverage.) The Connector used a threat of active open enrollment in 2010 and 2012, and as we show, the threat proved so effective that nearly all plans complied by pricing below the target.

market (and avoid forcing their enrollees to switch plans), giving them the opportunity to bid low in future years.

3) **Pricing regulation:** The simplest way to lower prices is to directly impose price caps on participating insurers. The Connector started using price caps in 2010, and these were binding on at least one plan in every year from 2010-2014. Interestingly, the Connector also imposed price floors (which were binding in several years) to satisfy federal rules requiring that prices fall within an actuarially sound rate range.

4) **Differential subsidies for low-price plans:** In the post-ACA Connector, Massachusetts rewarded low-price insurers by offering differentially large subsidies for these plans. The state offered add-on subsidies (on top of federal tax credits) to lower premiums for silver plans for a subset of enrollees (with incomes below 300% of poverty), but it limited these subsidies to the lowest-cost silver plans in each region. We discuss this "ConnectorCare" program further below.

Timeline of Active Purchasing in CommCare

Table 1 summarizes the timeline of active purchasing policies used in CommCare. In the exchange's early years (fiscal 2007 to 2009),[6] the Connector took a relatively passive approach: it required standardized benefits and reserved the right to selectively contract with plans, but the main competitive policy was auto-assignment of passive new enrollees into low-price plans.

[6] References to years in this discussion are to Massachusetts fiscal years, which run from July-June. For instance, state fiscal year 2009 ran from July 2008 to June 2009.

Two main shifts in active purchasing policy occurred in 2010 and 2012. In 2010, the exchange instituted an aggressive premium ceiling—below what was required by the actuarially sound range and below several insurers' 2009 premiums. In addition, the Connector set several target thresholds below which insurers had to price or else risk losing enrollees through active open enrollment and auto-assignment. Insurers had to set prices at least 1 percent below a target capitation rate or enrollees would be actively enrolled in other plans; insurers also had to price at a discount of at least 2 percent or they would lose auto-assignment of passive enrollees.

This active approach to premium regulation continued in 2011, though a relatively high actuarially sound range set by a consultant prevented the exchange from using some of the policies from 2010.[7]

In 2012, in response to state budget pressures, the Connector again boosted its active purchasing role. It implemented a new policy, called limited choice, whereby new enrollees in the lowest-income, fully-subsidized group (below 100 percent of poverty) were restricted to choosing the cheapest plan based on pre-subsidy price.[8] The limited choice policy effectively took a large group (about half of all enrollees) that was previously insensitive to prices (since all plans were fully-subsidized) and steered them to the lowest-price plans. This policy strengthened insurer incentives to lower prices and appears to have had a major impact on competitive behavior. In competing to access this newly stratified population, two insurers tied in bidding at the bottom of the actuarially-sound range, meaning enrollees were able to choose between two options.

[7] Because of the relatively high ASRR, the Connector set insurer premiums for medical care (the "medical bid") equal to the bottom of the ASRR for all plans. Insurers could not reduce this medical bid but could offer discounts on an administrative fee (set by default at $32 per member-month) intended to cover non-medical costs.

[8] The policy exempted new enrollees with recent enrollment experience in another plan that was not low-price. The policy did not apply to enrollees above 100% of poverty, who were not fully subsidized so could choose to pay more for a higher-price plan.

Following dramatic premium reductions in 2012, CommCare continued the limited choice policy into 2013 and the shortened fiscal 2014 (July through December 2013, up to the start of the ACA).

Policies after the Start of the ACA

With the implementation of the ACA Marketplaces in 2014, several of CommCare's active purchasing policies were continued through a successor program called ConnectorCare. ConnectorCare used state subsidies over-and-above federal ACA subsidies in order to maintain CommCare's generous subsidies and actuarial values for enrollees below 300 percent of poverty. The state reserved these extra state subsidies, however, for only the five lowest-cost silver plans in each region. This form of linking subsidies to low premiums gave the state continued leverage in the marketplace and gave plans a continued incentive to keep premiums low.

3. STUDY DATA AND METHODS

Conceptual Approach and Statistical Analyses

To test the role of the Connector's active purchasing policies in affecting market prices, we take several approaches. First, we examine the distribution of insurer prices relative to price thresholds set by active purchasing policies. We report the share of prices in each year that are exactly at, or within 1 percent below, these thresholds. Intuitively, when insurers price just at or below a threshold, it suggests that the policy influenced their pricing decision.

Second, we use the policy timeline described above to study the association of policy shifts with insurer prices. We focused our analysis on the most aggressive policy, the 2012 limited choice policy, which required fully-subsidized enrollees to choose one of the two cheapest plans.

We do two analyses of this 2012 change. First, we study the path of average prices in the CommCare market relative to average prices in three comparison markets: commercial insurance

in Massachusetts, Massachusetts Medicaid managed care organization prices, and national employer-sponsored insurance. We plot the path of prices in these market from 2007 to 2014 to examine this trend visually. We also implement a difference-in-differences model. Letting m = market and t = year, we regress prices (Y_{mt}) on market fixed effects (α_m), year fixed effects (β_t), and an interaction of CommCare with a dummy for post-2012 (δ), as shown in equation (1):

$$Y_{mt} = \alpha_m + \beta_t + \delta \cdot (CommCare_m \times t \geq 2012) + \epsilon_{mt} \quad \textbf{(1)}$$

In addition, we examine the distribution of prices within CommCare around the 2012 change. Conceptually, this policy creates an auction-like incentive to be one of the two cheapest plans to "win" access to the limited choice enrollees. We therefore expect this policy to lower prices and particularly to strengthen price competition at the "low end" – i.e., among insurers competing win the limited choice auction. Higher-cost insurers with little chance of being one of the two cheapest plans will have little incentive to cut prices. It is reasonable to expect a "fanning out" or increasingly bimodal distribution of prices to emerge after the 2012 policy change.

Finally, we study trends in premiums in Massachusetts' post-ACA Marketplace relative to other states. As described above, the Connector has taken a more active approach through its ConnectorCare program than most Marketplaces, which act as clearinghouses. If this active purchasing has been successful, one would expect this to translate into lower premiums and/or lower growth over time. To analyze this statistically, we draw on data on benchmark (second-cheapest) silver premiums in each state for 2014 to 2021. We plot premiums in Massachusetts relative to the median state and to 10th-lowest and 10th-highest price states in nation.

Data Sources

We use historical information on premiums and policies in the Massachusetts exchange (both CommCare and the post-ACA state Marketplace) and other comparison settings. Information on policies was gleaned from public documents published by the Connector (including its annual report and board meeting materials) and from conversations with Connector staff.[9]

Data on CommCare insurer premiums was gathered from publicly available reports and state contracts with insurers. To calculate enrollment-weighted average premiums (across plans, regions, and income groups), we use de-identified administrative enrollment data made available via a data use agreement with the Connector. Our research protocol was approved by the IRBs of Harvard University and the National Bureau of Economic Research.

To measure premiums in comparison settings, we draw on publicly available data sources. Specifically, the Kaiser Employer Health Benefits Survey for national employer-sponsored insurance premiums (Kaiser Family Foundation, 2017a), Massachusetts' Center for Health Information and Analysis (CHIA) for state-specific commercial insurance premiums,[10] and public capitation reports for Massachusetts Medicaid managed care organizations.[11] For benchmark silver premiums in the ACA Marketplaces, we use data compiled by the Kaiser Family Foundation (Kaiser Family Foundation, 2021).

[9] We particularly thank Michael Norton, the Connector's Senior Advisor on Market Reforms, for his assistance in answering questions and clarifying ambiguities about CommCare's policies.

[10] Commercial premiums data comes from the Massachusetts Center for Health Information and Analysis (CHIA). Data for 2009-14 are average pmpm premiums (net of MLR rebates) for all fully insured contracts, which come from the "Annual Report on the Performance of the Massachusetts Health Care System" for 2013, 2015 and 2016, available online at http://www.chiamass.gov/premiums/. Data for 2007 and 2008 are from two reports from the Division of Health Care Finance and Policy: "Massachusetts Health Care Cost Trends: Premiums and Expenditures" (May 2012) and "Massachusetts Health Care Cost Trends: Premium Levels and Trends in Private Health Plans: 2007-2009" (May 2011).

[11] Authors calculations using the MassHealth 4B Reports ("MCO Experience Review – Revenue/Expense Reports") for 2007-2014, obtained via a public records request.

Limitations

Our study is subject to several limitations. Most fundamentally, our analysis involves studying the association of policies and pricing outcomes enacted in a single state exchange. Absent an experiment that randomizes policies across markets, it is challenging to infer the exact counterfactual path that insurer prices would have followed absent the policies we study. Our analysis of prices in comparison settings provides a natural benchmark, but these settings should not be viewed as ideal control groups.

We view our results as providing suggestive evidence of the effects of active purchasing policies, rather than giving precise causal estimates. Similarly, the analysis of bunching of insurer prices just below policy targets provides evidence that these targets affected insurer pricing, but we cannot infer the magnitude of the effect. Insurers may have dropped their prices by variable amounts depending on what they would have priced their plans without the policies in effect.

Our results suggest an effect of the suite of active purchasing policies enacted by the Connector. The analysis of any one policy may not generalize to insurance markets that take a more limited approach or where the market structure is different.

Finally, our results are focused on insurance prices, but prices are just one outcome in an insurance market and plan quality also matters. Our results, therefore, not sufficient to make strong statements about enrollee or social welfare. There is likely to be a tradeoff between price and quality, and states will need to assess this tradeoff based on their individual needs and circumstances.

4. RESULTS

Prices and Competitive Policy Thresholds

Table 2 shows the influence of active purchasing policies with target thresholds on insurer premiums. Three policies involved setting thresholds: price floors and ceilings, active open enrollment, and auto-assignment. The table shows the number of premium bids that were exactly at or within 1 percent below these thresholds.

Active purchasing thresholds appear to have influenced a large share of bids. In 2010 when insurers priced at a regional level (resulting in 23 total bids among the five insurers), 21 of these were at a policy threshold. From 2011 on, when each insurer set a single state-wide price (or five total bids per year), 3-4 of these were at a threshold. In total across all four years, 84 percent of all premium bids (32 of 38 bids) were within 1 percent of a policy threshold.[12] In almost every year that a threshold existed, at least one plan bid within 1 percent of that threshold.

Most of these binding thresholds were premium ceilings and floors. But active open enrollment and auto-assignment thresholds were also binding in every year they were used. If we exclude the 18 prices set at price floors/ceilings and focus on the remaining 20 price bids, 14 of these (or 70%) were set at an active purchasing threshold for auto-assignment or the threat of active open enrollment.

A prime example is the active purchasing policy in 2012. In this year, CommCare threatened to impose active open enrollment on all insurers if three of the five insurers did not price below $414.98 (or $55 above the min allowed bid). While CeltiCare and Network Health cut prices aggressively to compete for the limited choice enrollees, it was unclear whether a third insurer

[12] Most prices are set almost exactly at a threshold, so the results are not very sensitive to the 1 percent tolerance. If we lower this leeway to 0.5%, 30 of 38 bids (or 79%) are within 0.5% of a policy threshold. See Figure 1 for additional visual evidence.

would meet this target. In the end, Neighborhood Health Plan (NHP) set a premium of $414.95, preventing active open enrollment from being invoked.

Figure 1 shows additional visual evidence on the relationship between insurer prices and policy thresholds, showing the specifics of the statistics summarized in Table 2. The graph shows that most prices were set exactly at a competitive policy threshold (indicated with vertical lines), especially in 2010 when all four active purchasing policies were in place.

CommCare Prices after 2012 Introduction of Limited Choice Policy

Figure 2 plots average insurer prices in CommCare (black lines) versus comparison markets from 2007 to 2014. The trends in CommCare divide into two periods: before and after 2012, when the limited choice policy was instituted. From 2007 to 2011, prices were growing steadily in both CommCare and other markets. On an annualized basis, nominal premium growth from 2007 to 2011 was 5.2 percent per year in CommCare versus 4.3 to 5.5 percent in the three comparison settings. These growth rates were high but typical for health insurance. There was a slight dip in CommCare's prices in 2010—possibly related to the introduction of new active purchasing policies—but prices rebounded in 2011.

Starting in 2012, CommCare prices experienced a major trend break. Average prices *fell* 6.6 percent in 2012 and another 7.7 percent in 2013—almost 14 percent over two years.[13] This represented a clear divergence from the other markets where prices continued to rise, albeit at a slower rate (1.1 to 3.5 percent growth per year).

Table 3 shows the results from the difference-in-differences (DD) regression that corresponds to Figure 2. Consistent with the visual evidence, the key coefficients on the interaction between

[13] These premium reductions occured without significant changes in plan benefits or actuarial value.

CommCare and post-2012 indicator(s) are negative and statistically significant. The pooled DD estimate in column (1) indicates that CommCare prices were $68.49 per month lower in the post-2012 period than comparison markets (statistically significant at the 1 percent level). This is a 16 percent reduction relative to CommCare's premium in 2011. Column (2) shows results from a richer model that interacts CommCare with individual year dummies for 2012 to 2014. These estimates suggest reductions that rise from $37.52 per month (or 9 percent) in 2012 to $82 to $86 (or 20 percent) in 2013 to14.

This sharp decline is remarkable for health insurance markets in which premiums nearly always rise. The 20 percent premium reduction in 2013 translates to major savings for the state of Massachusetts—about $1,000 per member-year or about $200 million in total.

Distribution of CommCare Insurer Prices

Figure 3 shows the premiums for each of the five insurers underlying the overall trends. In the years up to 2010 when insurers set multiple premiums (by region and demographics), the graph shows enrollment-weighted averages; for 2011 and following, the single premium set by each insurer is shown. The graph also shows price ceilings and floors in applicable years.

From 2007 to 2009, premiums varied substantially across insurers and rose across the board. With the start of more aggressive active purchasing in 2010, this variation narrowed, and several insurers cut premiums from 2009. In addition, a new insurer (CeltiCare, owned by the national company Centene) entered the market with a low-price strategy. These forces led to an overall average premium decline of 2 percent. The graph suggests that the new premium ceiling likely played a role, though other thresholds may also have been important.

After premium increases in 2011, there were major shifts in 2012 and 2013. In 2012, Network Health and CeltiCare competed aggressively to be the lowest price and "win" access to the population facing limited choice. Both cut premiums by more than 10 percent and priced at the minimum allowed level. Meanwhile, the other insurers maintained relatively high premiums, particularly BMC HealthNet which priced at the ceiling.

Because of their much lower prices and access to limited choice enrollees, Network Health and CeltiCare grew sharply, with their combined market share rising from 38 percent at the end of 2011 to 62 percent at the end of 2012. Other insurers lost market share, particularly BMC whose share fell by almost half (from 34 to 18 percent). Thus, the market-level premium decline of 6.6 percent was driven by both the large premium cuts by Network Health and CeltiCare and the shift in market share towards these low-price plans. A simple decomposition suggests that about 60 percent of the overall premium decrease came from plan-level changes (holding fixed 2011 shares), while the remaining 40 percent came from the shift in market shares.

Facing such a large loss of membership, BMC in 2013 reversed course and cut its monthly premium by over $100 (or 22 percent) down to the lowest level among all plans. As a result, its market share rebounded back to 42 percent at the end of 2013, restoring its status as the largest plan. Figure 3 shows that this premium cut by BMC (and the resulting shift in market shares) was the main driver of the overall average premium decrease in 2013.

Analysis of ACA Marketplace Premiums

Figure 4 shows the path of benchmark (second-lowest) silver premiums from 2014 to 2021 for Massachusetts and for the national average (with bars shown for the range from the 10th highest

and to 10th lowest state in each year).[14] The graph shows the divergence path of premiums in Massachusetts versus the rest of the nation. Benchmark premiums in Massachusetts declined slightly (by 1 to 3 percent per year) from 2014 to 2017, with the growth rate in each year statistically different from the average other state.

Although premiums spiked in 2018 (largely due to the termination of cost-sharing reduction subsidies and silver-loading adopted by the Massachusetts exchange (Levitt, Cox, & Claxton, 2017)), Massachusetts' 26 percent growth was less than the 34 percent growth in the national average. From 2017-2020, Massachusetts maintained the second or third lowest benchmark silver premiums of any state in the country. It fell to the eighth-lowest price state in 2021, as Massachusetts experienced premium growth while other state exchanges continued a process of stabilizing after the turmoil of 2017-18.

Furthermore, unlike many ACA Marketplaces, the Connector, on net, has not lost insurers. The ConnectorCare program currently has five participating insurers, the same number that participated in CommCare.

5. DISCUSSION

ACA Marketplaces face continued premium increases and new political instability that forces policymakers to confront tradeoffs in price, coverage, and quality. In this paper, we identify policies that use government's regulatory and purchasing power to shape incentives and increase competition—expanding the toolkit in a strategy known as "active purchasing." We proceed to describe active purchasing policies employed by Massachusetts both before and after the ACA and

[14] Post-ACA premiums are not directly comparable to pre-ACA CommCare premiums because the actuarial values are different. ACA premiums are for a 70% AV plan, while we estimate that CommCare plans had an average AV of 97%.

show evidence that these policies contributed to remarkable and durable premium reductions over time.

Our observational evidence suggests that Massachusetts' 2012 limited choice policy played a large role in stoking competition and lowering prices. The other active purchasing policies likely exerted an additional effect, as evidenced by plans' tendency to "bunch" prices at policy thresholds. By sustaining its own state subsidies, Massachusetts was able to continue to exert competitive pressure and preserve the gains made from 2010 to 2014 through the early years of the ACA. The Connector's premium growth since 2015 has been much slower than for the typical state exchange, and it now has some of the lowest benchmark premiums in the nation.

Active purchasing policies may affect premiums through multiple channels. Consider, for instance, the additional state subsidies for lower-income enrollees used since 2015 in the Massachusetts ConnectorCare program. These may lead to lower market average premiums in several ways. First, they encourage insurers to set lower premiums, since the add-on subsidies are targeted to the cheapest plans in each market. Second, they encourage consumers to select these lower-premium plans, which are differentially subsidized. Finally, by making insurance cheaper, they encourage more low-income enrollees to participate in the market. Past evidence from Massachusetts suggests that additional enrollees are likely to be younger, healthier, and lower-cost, resulting in a healthier risk pool and lower average costs (Finkelstein, Hendren, & Shepard, 2018).

Together, our results suggest the potential role of active purchasing policies for ACA exchanges to boost competition and lower premiums. Underlying active purchasing is the idea that "letting the market work" may not always be the best policy for health insurance. Health insurance is subject to market failures. The best-known market failure is adverse selection—which is why

even clearinghouse ACA exchanges use policies such as benefit regulation, subsidies, and risk adjustment. But another market failure is lack of competition, an issue that has become increasingly relevant for the ACA marketplaces. Previous research has confirmed that insurance markets with fewer insurers and less competition lead to higher prices over time (Gaynor, Ho, & Town, 2015). While many states try simply to recruit new insurers to their marketplace, our research supports the hypothesis that active purchasing can strengthen competitive incentives, even without expanding the number of insurance competitors (Frank & McGuire, 2017). Moreover, the experience of the Massachusetts Connector—with its changing but stable number of competitors—shows that regulators may wish to think beyond just how to *recruit* insurers and consider how to shape the market's incentives to deliberately *attract* competitive entrants.

Policymakers should be aware that stoking such competition may have tradeoffs. By standardizing many dimensions of the insurance product, such as its benefits and cost sharing, the Connector and other ACA marketplaces encouraged firms to compete on price. Another dimension firms can compete on, however, is their provider network. Massachusetts, like many states, exhibits large variation in provider's prices for healthcare services (Office of the Attorney General Martha Coakley, 2010; Seltz, Auerbach, Wrobel, & Pervin, 2016). As Massachusetts introduced new active purchasing policies, increased competition may have increased the incentive for plans to narrow and differentiate their hospital networks. Previous research indicates expensive "star" hospitals, such as Massachusetts General Hospital and Brigham & Women's Hospital, were especially likely to be excluded (Shepard, 2021). Today, only one ConnectorCare plan covers these hospitals, and that plan is owned by the hospitals' parent company. Ultimately, excluding expensive star providers was a key part of how insurers cut costs.

The Massachusetts Connector demonstrates the potential of active purchasing to spur competition in subsidized insurance markets. As exchanges around the country confront the same budgetary pressures that the Connector has faced, policymakers could employ similar policies to create competition, control costs, and maintain coverage. Moreover, the lessons from the Connector apply similarly to Medicare Advantage markets and state Medicaid programs, which essentially subsidize insurance coverage through commercial insurers and Managed Care Organizations. Additional research is needed to delineate the effects of individual active purchasing policies. Further research should also investigate what market characteristics might be unique to Massachusetts, and how policies might be adapted to other states.

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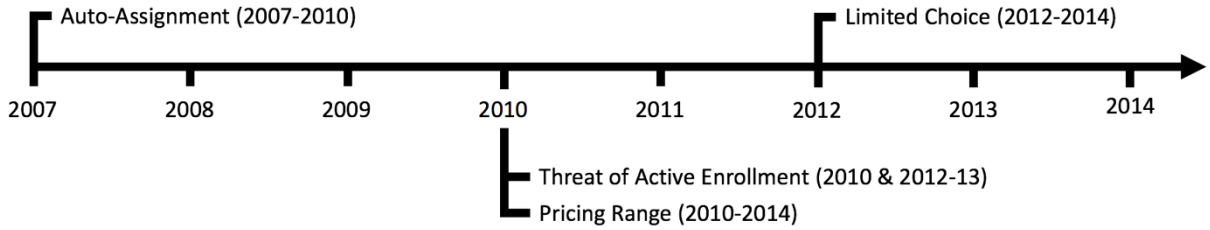
Tables and Figures

Table 1. CommCare Active Purchasing Timeline.



Auto-Assignment	New members in the fully subsidized group (below 100% of poverty) who did not actively select a plan were auto-assigned, with larger shares going to the lowest-price plans.
Threat of Active Enrollment	If invoked, current members who failed to make an active plan selection during open enrollment would be auto-assigned to the cheapest plan. Plans could prevent this from taking effect by setting prices below target levels.
Pricing Range	From FY2010 to FY2014, the Connector implemented fixed maximum and minimum bounds on the bidding range.
Limited Choice	New members in the fully subsidized group (below 100% of poverty) could only choose the cheapest two plans in their region.

Table 2. Conformity of prices and active purchasing policy thresholds

	Fiscal Year			
	2010	**2011**	**2012**	**2013**
Total number of prices set	23	5	5	5
Number of prices at a policy threshold (share)	**21 (91%)**	**4 (80%)**	**4 (80%)**	**3 (60%)**
Breakdown, by policy:				
Price ceiling	1	4	1	2
Price floor	8	0	2	*n/a*
Active open enroll. threshold	4	*n/a*	1	1
Auto-assignment threshold	8	*n/a*	*n/a*	*n/a*

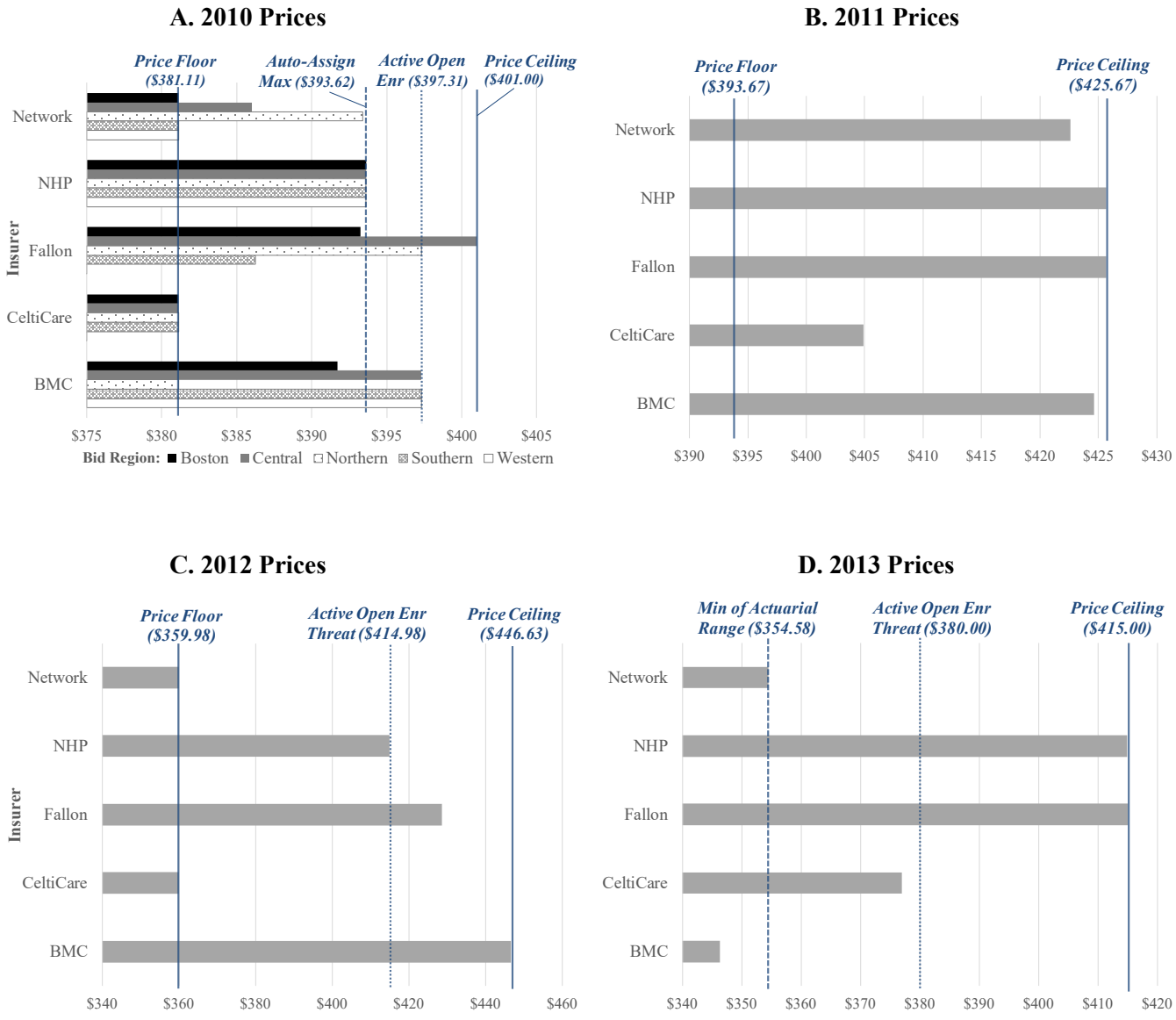
Notes: Share of total number of bids in parentheses. The Connector required that bids be within predefined thresholds in order for plans to qualify for various policies. We determined bids to be at the threshold if it was exactly at the threshold or within 1 percent below it. In 2010, insurers set one price per region, resulting in 23 total prices (five insurers x five regions, with one insurer not participating in two regions). In 2011, the Connector simplified its bidding structure so that each insurer submitted one price for the entire state. Across 2010-2013, 84 percent of bids were within 1 percent of an active purchasing policy threshold. N/A (not applicable) signifies years when a policy was not in effect. *Source:* Connector procurement reports, fiscal years 2010-2013.

Table 3. Difference in difference analysis of CommCare prices after 2012 Limited Choice policy, 2007-2014.

TABLE 3	***Outcome Variable: Price ($ per month)***	
	(1)	**(2)**
Variables	Coeff. (std. error)	Coeff. (std. error)
CommCare x Post_2012	**-68.49 (14.11) ****	
CommCare x 2012		**-37.52 (6.58) ****
CommCare x 2013		**-82.00 (10.04) ****
CommCare x 2014		**-85.96 (11.98) ****
Year Dummies	X	X
Market Dummies	X	X
Constant	350.1 (5.335) **	350.1 (5.641) **
Observations	31	31
R-squared	0.934	0.958

Notes: This figure shows regression analysis of the data presented in Figure 1. CommCare premiums are for the relevant state fiscal year (July-June). Robust standard errors in parentheses. ** p<0.01, * p<0.05. Prices in dollars per month. *Source:* Same as Figure 1.

Figure 1. Insurer Prices and Active Purchasing Policy Thresholds



Note: The figure shows insurer prices and active purchasing policy thresholds over the 2010-2013 period for CommCare. In 2010, insurer prices were set at a regional level, resulting in 23 price bids across the five insurers. From 2011-13, each insurer set a single statewide price. Active purchasing policy thresholds are indicated with vertical lines, and the relevant policy and value is labeled.

Figure 2. Average Monthly Prices of Insurance: CommCare and Other Insurance Markets

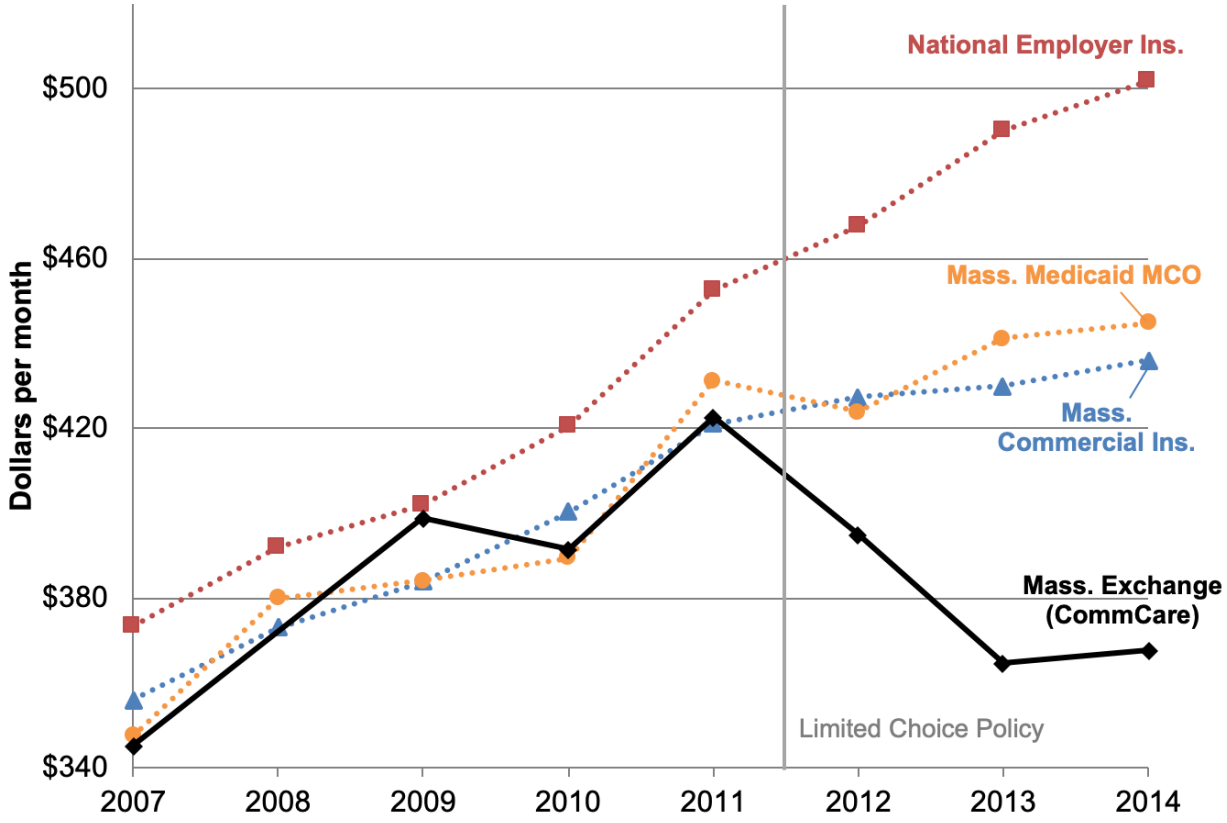
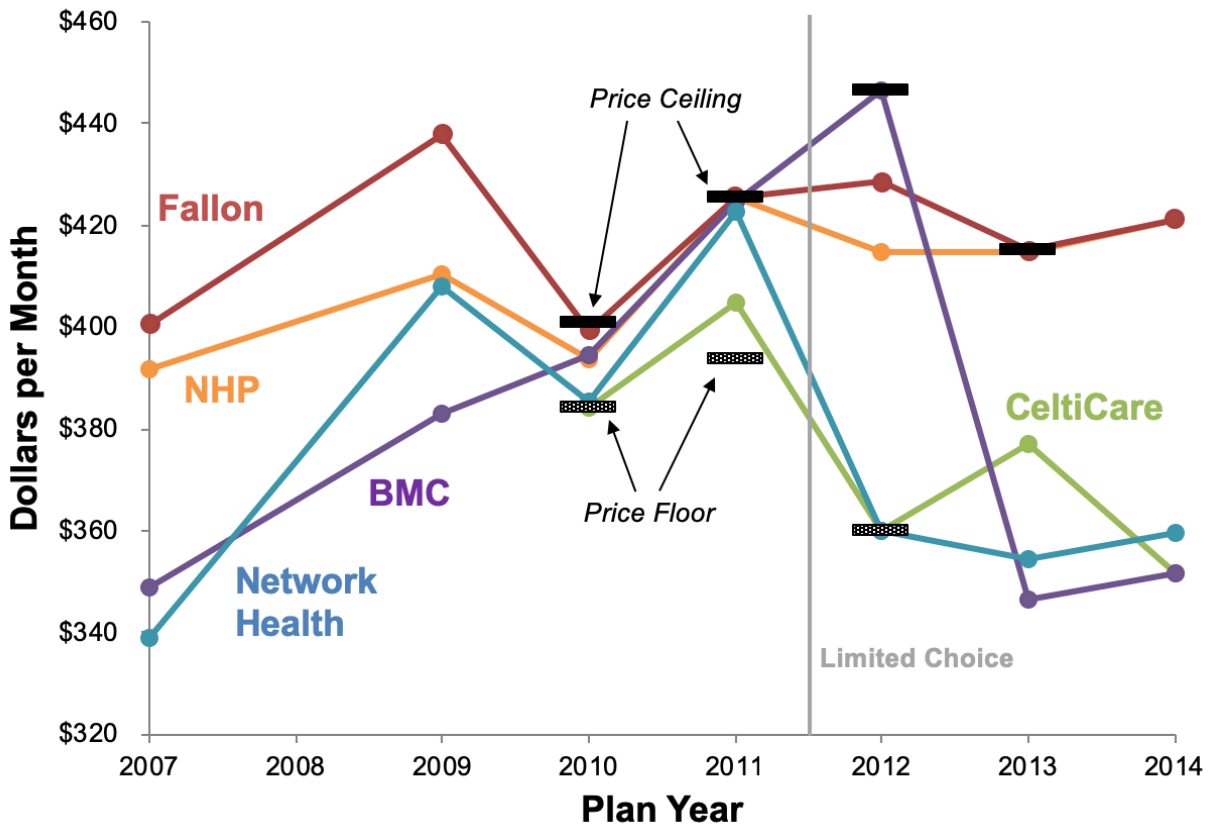
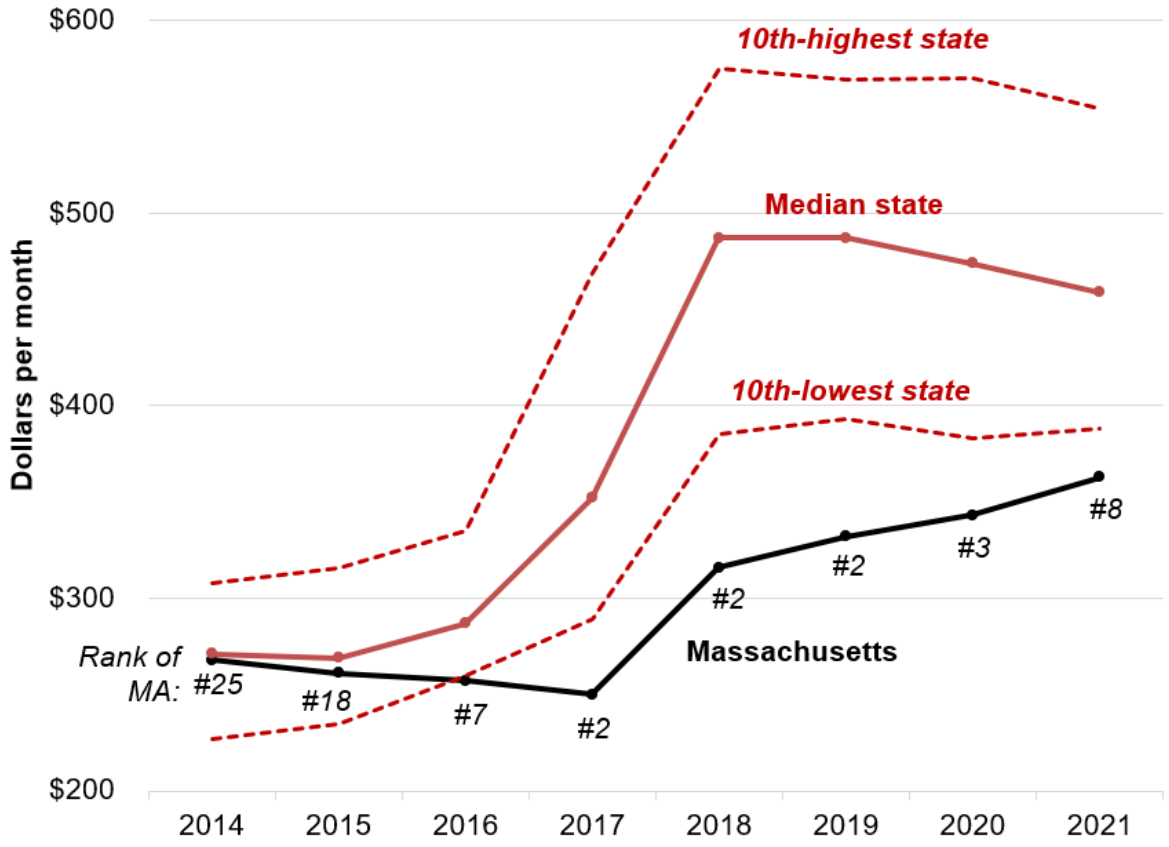


Figure 3. CommCare Insurer Premiums, Fiscal Years 2007 - 2014.



Notes: Prices reflect state-wide average (enrollment weighted) premiums. Black bars represent price ceilings and floors during years when price regulations were in effect. *Source:* Connector procurement reports, fiscal years 2007 – 2014.

Figure 4. Average Benchmark Premiums in ACA Marketplaces, 2014-2021.



Notes: National median premium is displayed with dashed lines representing the 10th highest and 10th lowest state in order to illustrate Massachusetts' position relative to its peers. Massachusetts' rank among the other 51 states (including the District of Columbia) is written beneath Massachusetts' data point in every year. Average benchmark premiums were produced by Kaiser Family Foundation and are calculated based on the price of the second-lowest cost silver premium for a 40-year-old non-smoker in each county of the state. Benchmark premiums are then averaged across counties, weighting for the number of consumers in each county. *Source:* Secondary data abstracted from Kaiser Family Foundation. Original data from HealthCare.gov.