Wyoming's
Children's Health Insurance Program

A PRIMER ON

TRENDS

AND RECENT

COST SAVINGS

Wyoming Department of Health

January 10th, 2025

Wyoming Department of Health
401 Hathaway Building
Cheyenne, WY 82002
health.wyo.gov

Contents

Executive Summary

The Children's Health Insurance Program (CHIP) pays for the medical care of low-income children who do not meet Medicaid eligibility criteria.

CHIP was established in 1997 and Wyoming began participating in 1999.

From 2003 to 2020, the Wyoming Department of Health (WDH) operated CHIP by issuing a Request For Proposals (RFP) every three years for a full-risk health insurance product —that is, the State paid a premium to a private insurer to cover each CHIP member.

In 2020, due to increasing federal regulatory requirements and pressure from budget cuts, the Department recommended to the Legislature that the program be operated as a "self-insured" plan using existing Medicaid infrastructure to pay providers directly for medical services.

This was effected in legislation during the 2020 Budget Session, and the Department began administering CHIP in-house on October 1st, 2020. At the time, the Department estimated this would save the State of Wyoming General Fund between $500,000 to $2,000,000 per year.

Actual State General Fund savings realized since 2020 have averaged out to $1,540,000 per year —on the high end of the original estimates. Between October 2020 and July 2024, cumulative State and federal savings have totaled ~ $18.1 million.

Other benefits from transitioning to a self-insured program include:

- Reduced administrative burden on the State, on providers, and on members;
- Increased access to Medicaid services like Psychiatric Residential Treatment Facilities (PRTFs) for CHIP children with high behavioral health needs;[1] and,
- Additional federal matching funds for both CHIP infrastructure and providers participating in Medicaid supplemental payment (also known as Upper Payment Limit, or UPL) programs.

The primary drawback from this transition has been an effective rate cut to many providers due to the harmonization with Medicaid payment policy within our current authorized budget. Any rate increases at this point would require additional appropriations from the Legislature.

[1] Previously, parents of children in these unfortunate situations would often give up custody to the Department of Family Services (DFS) through a Child In Need of Supervision (CHINS) petition, so that they might qualify for Medicaid.

1 CHIP BACKGROUND

1.1 Purpose

The purpose of the Children's Health Insurance Program (CHIP) is to pay for medical services provided to low-income children who do not otherwise qualify for Medicaid.[2]

1.2 CHIP on the national level

1.2.1 Establishment

CHIP was created by the Balanced Budget Act of 1997 with the intent of providing health insurance for the ~ 10 million uninsured children who fell just above the Medicaid income eligibility threshold.

While optional for States to implement, CHIP offered the incentives of a higher federal match and more flexibility in program design than Medicaid. By 2000, all states had set up a CHIP program, and by 2016, the number of uninsured children nationally had dropped to 3.8 million. Today, approximately 8.3 million children are covered by CHIP.[3]

1.2.2 Federal match rates

Like Medicaid, CHIP is a federal-state partnership with a federal match rate that is set for each state based on a formula that compares state per-capita income against the national average.

Medicaid match is established in §1905(b) of the Social Security Act as the maximum of either 50% or the result of this formula:

$$1 - 0.45 \left(\frac{\text{State per-capita income}^2}{\text{National per-capita income}^2} \right)$$

Generally speaking, poorer states get a higher match. The match has also fluctuated over time based on federal law.

Wyoming's current Medicaid match is 50%, and its CHIP match is 65%. This is a decrease from the heady 88% enhanced match we received between FY2016 and FY2019,[4] and the enhanced 69.3% match during the pandemic.[5]

Our current match is also one of the lowest in the nation, since Wyoming's per-capita income is also among the nation's highest. Figure 1 shows how Wyoming's match (red, along with nine other states) for both Medicaid and CHIP has trended over the past few years, and in comparison to all other states and territories (gray).

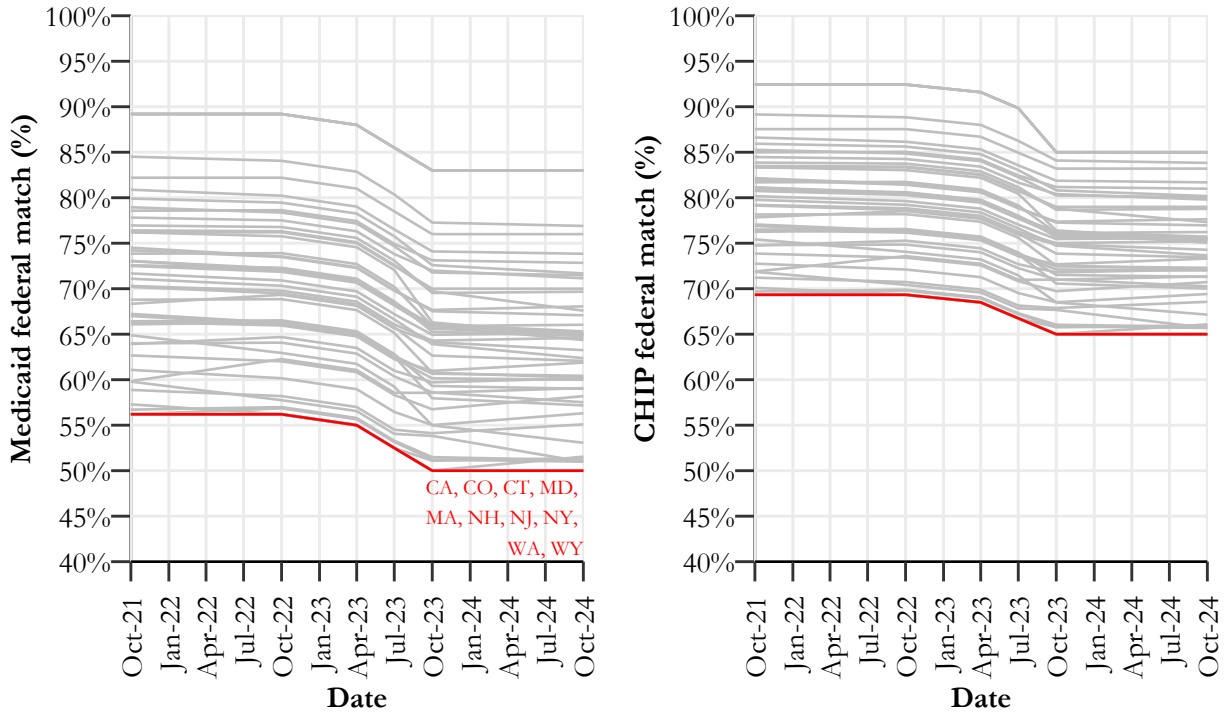
[2] Children ages 0-5 qualify for Medicaid if their household income is at or below 156% of the Federal Poverty Level (FPL). For a single mother and her child in 2024, that annual income would be $31,886. Children between 6 and 18 years old qualify with household incomes below 138% FPL. CHIP covers children with household income above each of these thresholds, but at or below 200% of the Federal Poverty Level (FPL). For the same single mother and child, 200% FPL would be $40,880.

[3] MACPAC, https://www.macpac.gov/subtopic/history-and-impact-of-chip/

[4] Patient Protection and Affordable Care Act (PPACA) §2101(a)

[5] Coronavirus Aid, Relief, and Economic Security (CARES) Act

Figure 1: Federal match for Medicaid and CHIP



1.2.3 Authorizations

Unlike Medicaid, CHIP is not an entitlement program. Its spending is discretionary and must be periodically reauthorized by Congress. The original legislation enacted a ten year program; re-authorizations since have tweaked the program into its current form. Landmark pieces of legislation include:

- The Medicare, Medicaid and CHIP Extension Act of 2007 reauthorized CHIP until March 31, 2009.
- The Children's Health Insurance Program Reauthorization Act (CHIPRA) of 2009 extended the program until the end of FFY 2012 and increased federal funding through a new allotment formula based on historical expenditures.
- The Patient Protection and Affordable Care Act (PPACA) extended CHIP funding until the end of FFY 2015, expanded Medicaid income eligibility for children, and increased federal match rates by 23% through FFY 2018.
- The Medicare Access and CHIP Reauthorization Act (MACRA) extended CHIP funding until the end of FFY 2017.
- The Federal Register Printing Savings Act of 2017, and the Bipartisan Budget Act of 2018 will fund CHIP through FFY 2027.

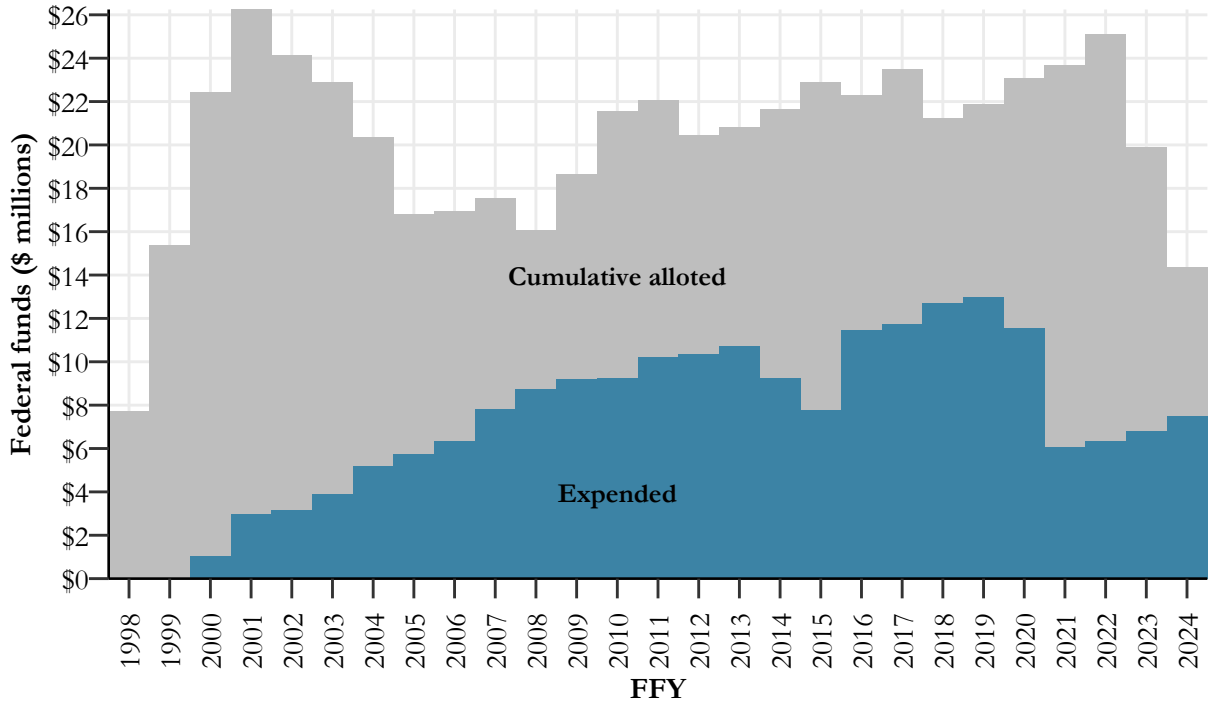
1.2.4 Allotments

Because spending is specifically appropriated, CHIP federal funds for each state are capped by a specific allotment for each federal fiscal year.[6] Under current federal policy:

- Allotments are based on actual State spending, and inflated by a growth factor;
- States have two years to spend each allotment before unused funds are swept and reallocated to other states; and,
- If states exhaust their allotments, there are contingency funds available.

Figure 2 shows the historical allotment Wyoming has been authorized (gray), as well as the federal funds that were actually drawn down (blue) since the beginning of the program.

Figure 2: Wyoming Medicaid federal allotments and expenditures



Note that Wyoming has never come close to exhausting its allotment. However, because the formula has been changed in the past few years to reflect actual expenditures, Wyoming's allotment is shrinking.

1.2.5 State flexibility

The last main difference from Medicaid is the degree of flexibility that states have in program design. These include:

1. **Eligibility income criteria**, based on thresholds tied to Federal Poverty Level (FPL). Wyoming's CHIP limit is 200% FPL. States have elected limits ranging from 190% FPL in Idaho to 400% FPL

[6] MACPAC, CHIP financing. https://www.macpac.gov/subtopic/financing/

in New York.

2. **Administration**. States can operate CHIP as a Medicaid expansion ("M-CHIP"), a separate program ("S-CHIP"), or a combination of the two approaches. As we detail in the next section, Wyoming transitioned from a separate program to a Medicaid-operated program in October 2020.
3. **Cost sharing**. States can impose some level of cost sharing for certain services, not to exceed 5 percent of annual gross family income. American Indian members are exempt from cost sharing entirely.

1.3 History of CHIP in Wyoming

1.3.1 1998 - 2015: Origins as fee-for-service private insurance program

The creation of W.S. 35-25-101 through 110 in 1999 laid the foundation for Wyoming's participation in the CHIP program.[7] Initial income eligibility was capped at 150% FPL, and the program was to be administered as a "voucher" provided to parents and guardians to purchase insurance from both private insurers and ERISA-exempt employer plans.

In 2003, CHIP was significantly modified. The eligibility income limit was raised to 185% FPL, and then again to 200% (effective in 2005), and the "voucher" component was changed into a single private insurance contract driven by a competitive Request For Proposals (RFP).[8]

From 2003 to 2020, the Department administered its CHIP program through this process. This meant that, while the State managed enrollment and outreach, it contracted for private insurance coverage for CHIP members —i.e., by paying a full-risk premium to an insurance company instead of paying medical claims directly.

Every three years over this period, the State issued a Request for Proposals (RFP). In response to each RFP, the State received one bid. The State's contract with the insurer provided three plans to the CHIP population, with varying degrees of cost-sharing, depending on income and Tribal membership.

In 2006, provisions were added (W.S. 35-25-111) to allow the Department to seek a federal waiver to allow parents to be covered by CHIP, subject to a work requirement and contributions to the premium from employers.[9] This waiver was never implemented, however, and matching dollars at the federal level were eliminated.[10]

1.3.2 2016 - 2020: Increasingly complex managed care requirements

Shortly after the passage of the Affordable Care Act, the Centers for Medicare and Medicaid Services (CMS) began issuing increasingly stringent regulations regarding privately insured CHIP plans.

[7] Ch. 137 of the 1999 General Session Laws.

[8] Ch. 99 of the 2003 General Session Laws.

[9] Ch. 66 of the 2006 Budget Session Laws.

[10] This section of statute was repealed in 2016 as part of a broader cleanup bill, Ch. 20, 2016 Budget Session Laws. The same law also modified the statute to ensure Wyoming was in compliance with federal law, to include: (1) eligibility being handled by the Department of Health and (2) adding dental benefits as a required service. Additionally, the next year, Ch. 60, 2017 General Session Laws clarified that, if CHIP was to be provided through private insurance coverage, the Department and its contractor had to comply with federal managed care regulations under 42 USC 1397cc(f)(3).

In the 2016 Medicaid and CHIP Managed Care Final Rule, for example, CMS required that these programs:

- Calculate and report Medical Loss Ratio (MLR) for each contract year.[11] As part of MLR reporting, CMS set a target of 85%. This meant that no more than 15% of premium dollars could be spent on insurer-specific administration and profit.
- Collect and submit encounter data to the State sufficient to (1) meet CMS reporting requirements and (2) identify which providers rendered which services.
- Add transparency to their premium rate development and approval process.

In the 2020 Medicaid and CHIP Managed Care Final Rule, CMS applied additional Medicaid managed care regulations to CHIP, specifically regarding:

- Network adequacy, i.e., how many providers are in-network with the insurer;
- Quality standards and clinical benchmarks;
- Required member appeals and grievance process; and,
- New beneficiary information requirements.

By 2017, it was evident that the CHIP contractor would not be able to meet some of these federal requirements, and the Department's RFP review committee deemed its submission technically insufficient. For the next three years, the Department therefore sole-sourced CHIP to the contractor while all parties worked together to negotiate compliance with federal requirements.

Federal pressure to comply with new regulations only continued to increase, however. CMS was not amenable to waiving any of the managed care requirements, and began indicating that Wyoming's CHIP program would no longer qualify for federal match if it remained non-compliant.

1.3.3 2020 - today: Fee-for-service CHIP operated by Medicaid

At the same time, the Department was also facing the prospect of budget cuts due to State revenue shortfalls.

Because of these difficulties, we recommended to the Legislature that the CHIP program be transitioned from a fully-insured product procured via RFP to a self-insured program administered by the same Medicaid infrastructure that covered tens of thousands of other low-income children.

In the 2020 Budget Session, House Enrolled Act 11 laid the statutory groundwork for the Department to take this responsibility.[12] In its fiscal note to the bill, the Department estimated annual SGF savings from moving CHIP in-house at between $500,000 and $2,000,000, and FF savings between $900,000 and $3,800,000.[13]

[11] As will be described in this report, the MLR is roughly a measure of what percent of the premium dollars go to medical claims; the remainder covers insurer-specific administrative costs, taxes and regulatory fees, plan marketing, and profit.

[12] Ch. 10, 2020 Budget Session Laws.

[13] https://wyoleg.gov/Legislation/2020/HB0120, see Fiscal Note tab.

As we note in the Savings section of this report, actual SGF savings since October 2020 have come in at $1,540,000 per year, and corresponding annual FF savings at $3,280,000 million.[14] Considering both numbers are inclusive of the unanticipated higher federal match rate we received during the COVID-19 pandemic, these actual savings are on the high end of the initially-predicted estimates.

After the passage of HEA 11, the Department completed the CHIP transition by October 1, 2020, and it has operated the program using Medicaid claims, health management, prior authorization and data warehouse infrastructure since.

[14] We estimated total savings over a 3.75 year period at $18.1 million, with an average federal match rate of 67.9%.

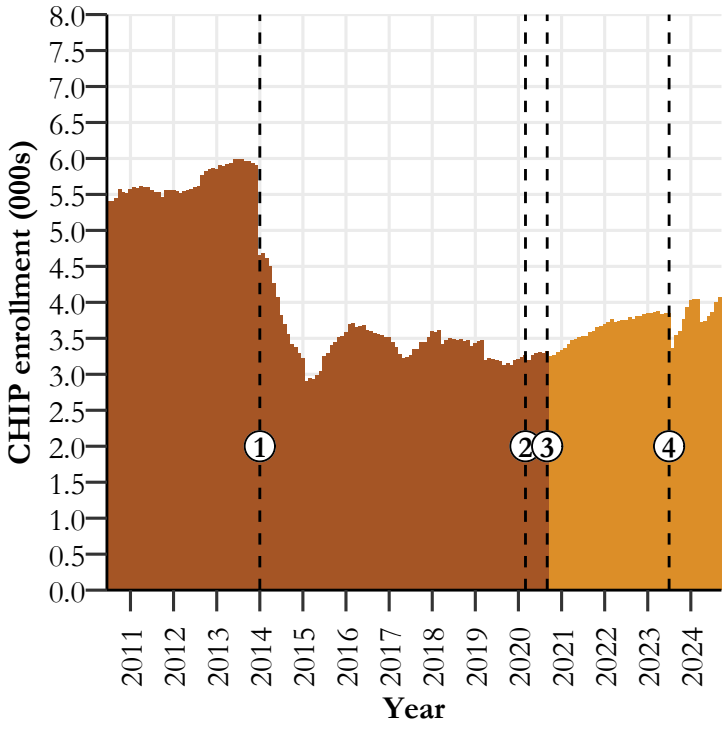
2 Facts and figures

This section provides a quantitative overview of how CHIP enrollment, expenditures, per-member per-month (PMPM) costs, and member satisfaction have changed since 2010.

2.1 Enrollment

When CHIP enrollment is looked at by itself (Figure 3), we see significant fluctuations, from a high of ~6,000 in 2014 to a low of ~2,700 in 2015. Some of these shifts were caused by policy, others by unforeseen events (e.g., COVID-19), and others by Wyoming's boom-bust economy.

Figure 3: CHIP enrollment, 2010 -



But it's best to view CHIP enrollment in the context of overall low-income child health coverage, per Figure 4. We have annotated both figures with some of the more significant events that affected CHIP enrollment over time:

1. Higher Medicaid income standards for children were mandated by the Affordable Care Act,[15] absorbing significant CHIP enrollment.

   At the same time, the Department implemented its centralized and rules-based Medicaid eligibility system, which generally replaced determinations made in local field offices. This resulted in a steady

[15] The expansion of Medicaid to childless adults under 138% FPL was deemed unconstitutionally coercive by the Supreme Court in *National Federation of Independent Business (NFIB) v. Sebelius* and thus made optional for States. Wyoming has not elected to pursue this expansion.

decrease of both Medicaid and CHIP enrollment over the next few years.

2. The COVID-19 pandemic began in early 2020. In response, the federal government declared a Public Health Emergency (PHE). As part of the PHE, Wyoming Medicaid was prohibited by the federal government from disenrolling members, which led to enrollment growth in both programs.

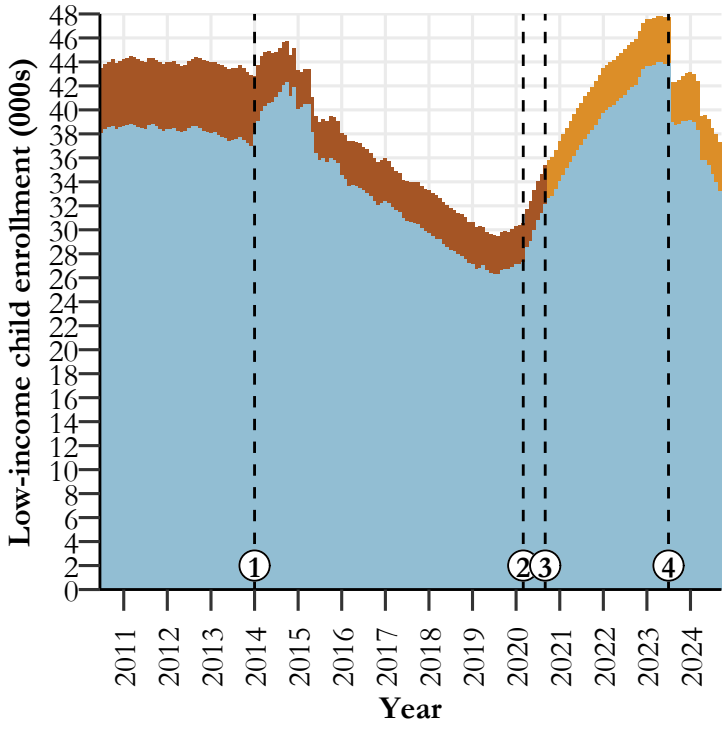
3. CHIP transitioned from a fully-insured product to being self-insured by Wyoming Medicaid in October 2020. This did not affect enrollment, but is noted here for context.

4. In March of 2023, the PHE came to an end. In June of 2023, Wyoming Medicaid began disenrolling members who no longer met eligibility criteria. This is known as "the Unwinding."

   At the same time, however, new federal rules require Medicaid and CHIP eligibility renewals take place on an *ex parte* basis if possible. This means that, if the Department of Health has definitive information on income (e.g., from an automated data feed on wages from Department of Workforce Services) or other eligibility criteria, Wyoming Medicaid must renew members without waiting for an application.

   The net effect of this policy is that low-income child enrollment will likely stabilize at higher levels than the pre-pandemic low of 30,000.

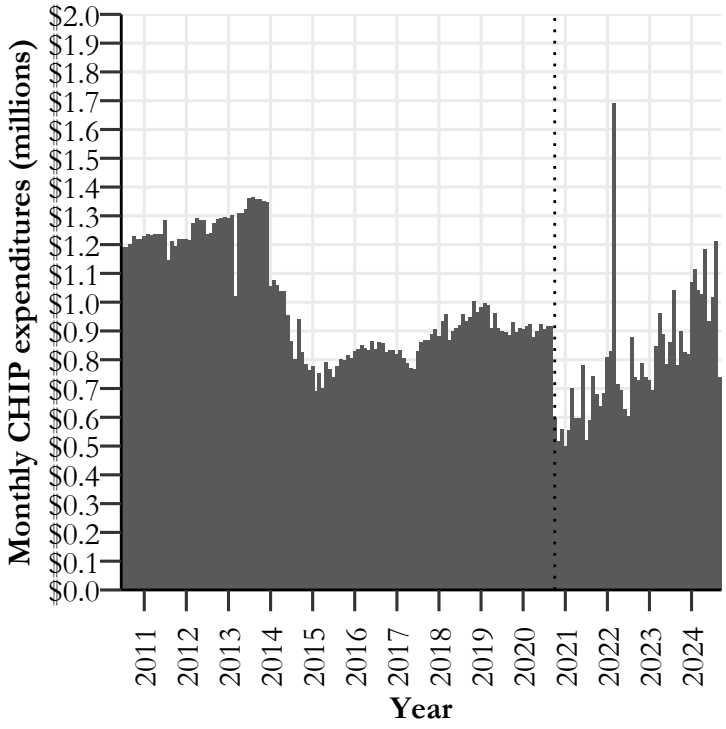
Figure 4: CHIP and low-income child Medicaid enrollment, 2010 -



2.2 Expenditures

Figure 5 shows how monthly expenditures have generally tracked enrollment, while also rising with health care inflation.

Figure 5: CHIP expenditures



Note on the figure that, with the transition in-house (denoted by the dotted black line), monthly expenditures:

- Dropped by ~$400,000; and,
- Became somewhat more volatile, since the State assumed risks for claims directly instead of paying more stable premiums. One extreme example of this volatility is the ~$1.7M outlier in March of 2022, $800,000 of which resulted from a single hospitalization.

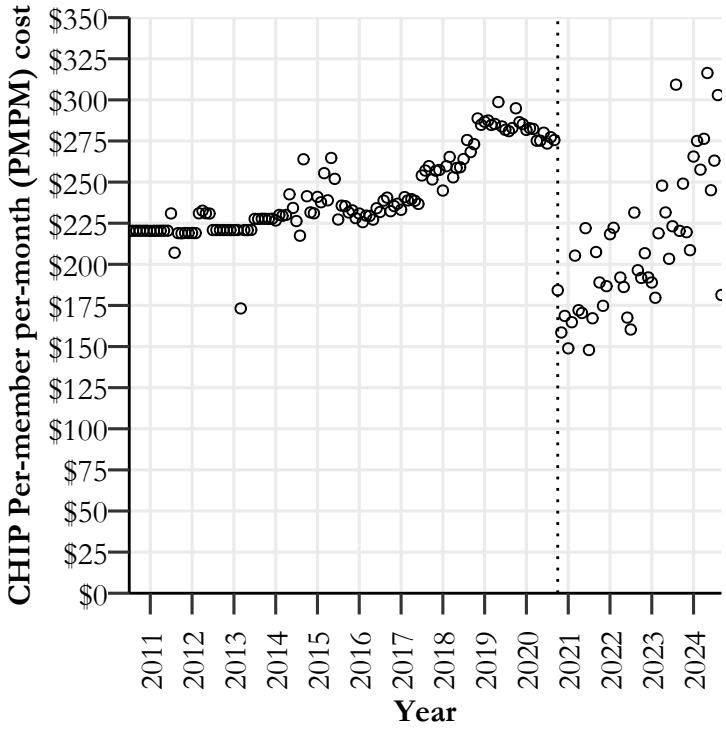
2.3 Per-member per-month costs

When monthly expenditures are divided by enrollment, we get the per-member per-month (PMPM) costs of the program. Figure 6 clearly shows the transition from a premium-based insurance product (with tightly-grouped monthly expenditures) to the self-insured system.

Note on the figure that, despite the increase in month-to-month volatility, average PMPMs paid dropped from ~ $275 to ~ $175. As this report later details, this was due to three primary factors:

- The State was now only paying for medical and dental claims, not a full-risk premium that included ~ 10-15% administrative load;

Figure 6: CHIP per-member per-month (PMPM) costs



- Wyoming Medicaid can claim significant (~$1 to $2 million per year) amounts of rebate on its pharmacy spending, which was not possible before; and,
- Wyoming Medicaid provider rates are lower than those paid by private insurance.[16]

There is also a trend in PMPM costs decreasing and then increasing over the pandemic. There are a few reasons for this:

- The Department implemented budget cuts in the 2019-20 biennium. Some of these cuts were ultimately rejected or later restored by the Legislature, but most of these changes involved broad-based Medicaid provider rates. In the most recent Session, the Legislature also appropriated funds for rate increases for dental services, which are heavily used by children.
- Because Medicaid was prohibited from disenrolling individuals during the Public Health Emergency (March 2020 - June 2023), enrollment grew. Since the kids who would otherwise have been disenrolled during this period were either been higher-income or less in-need of health care, the overall per-member per-month cost of the pool decreased.

  Similarly, when Medicaid began to disenroll these enrollees ("the Unwinding"), the health utilization of the Medicaid pool generally became more concentrated, and PMPMs increased.

[16] Exceptions include Indian Health Services, Federally-Qualified Health Centers, Rural Health Clinics, behavioral health providers, and dispensing fees to pharmacies. Note as well that for hospitals and some hospital-affiliated physicians, Upper Payment Limit (UPL) programs make up about half of the difference between Medicaid and Medicare rates.

As "the Unwinding" wraps up and enrollment stabilizes at new status quo levels, we anticipate that monthly PMPM costs will plateau as well.

- CHIP kids are now using new (to them) Medicaid services (e.g., Psychiatric Residential Treatment Facility, which will be discussed later) since they have been made available.

2.4 Service utilization

On that last point, it's clear that since the move in-house, utilization patterns between Medicaid and CHIP children have equalized.

Table 1 shows the most recent (SFY 2024) per-member per-month costs of Medicaid and M-CHIP children broken out by service.

Table 1: Service utilization (PMPM, SFY 2024)

	Population	
Service	**M-CHIP**	**Medicaid**
Ambulance	$2.58	$2.30
BH	$15.51	$17.09
CME	$0.03	$4.21
DME	$3.01	$2.80
Dental	$25.91	$25.45
EIEP	$0.87	$1.53
FQHC	$7.14	$8.66
Home Health	$0.03	$0.04
Hospice	$0.20	$0.03
Hospital (IP)	$28.38	$24.98
Hospital (OP)	$20.97	$19.41
IHS	$20.65	$30.29
Laboratory	$0.61	$0.68
Other	$0.56	$0.47
PRTF	$11.27	$11.66
Pharmacy	$63.60	$56.03
Physicians/providers	$38.97	$35.10
Public Health	$0.12	$0.15
RHC	$3.63	$3.80
Vision	$5.84	$5.46
Waiver	$0.02	$0.05
Total	**$255.72**	**$259.38**

First, we spell out some acronyms and explain some service definitions:

- **BH** is outpatient behavioral health;

- **CME** is the Care Management Entity, which provides wrap-around family case management services to children with high behavioral health issues;
- **DME** stands for Durable Medical Equipment; e.g., wheelchairs, prosthetics, etc.;
- **EIEP** stands for the Early Intervention and Education Program, also known as the network of developmental preschools;
- **FQHC** are Federally-Qualified Health Centers, which provide outpatient care;
- **Hospital (IP)** are inpatient hospital services, and **Hospital (OP)** are outpatient;
- **IHS** stands for Indian Health Services, and includes providers owned by the two Tribes;[17]
- **PRTF** stands for Psychiatric Residential Treatment Facilities, which are high-intensity residential settings for children with extraordinary behavioral health conditions; and,
- **RHC** stands for Rural Health Clinics, which are similar to FQHCs.

Second, note some general trends on the table:

- PMPMs have equalized across both low-income child populations ($256 vs $259 in the last SFY). This makes sense, since ~ 50% FPL in household income is the only difference between the two populations in terms of overall health, and rates paid to providers are now the same.
- At $26, dental benefits make up ~ 10% of utilization, almost equivalent to inpatient hospital. Dental rates were increased by the Legislature in 2023.
- Psychiatric Residential Treatment Facility (PRTF) utilization is similar ($11) between CHIP and Medicaid. While limited to a handful[18] of high-needs children each year, PRTFs —particularly those out of State —are costly.

  This was not a benefit previously offered to CHIP children prior to 2020. In fact, parents of CHIP kids that required this service often had to relinquish custody through a Children In Need of Supervision (CHINS) petition to the Department of Family Services (DFS) so they could qualify for Medicaid.

2.5 Member experience

In addition to enrollment and costs, the Department tracks member satisfaction. Since 1997, the Consumer Assessment of Healthcare Providers and Systems (CAHPS) health plan survey has been the standard way to do this.

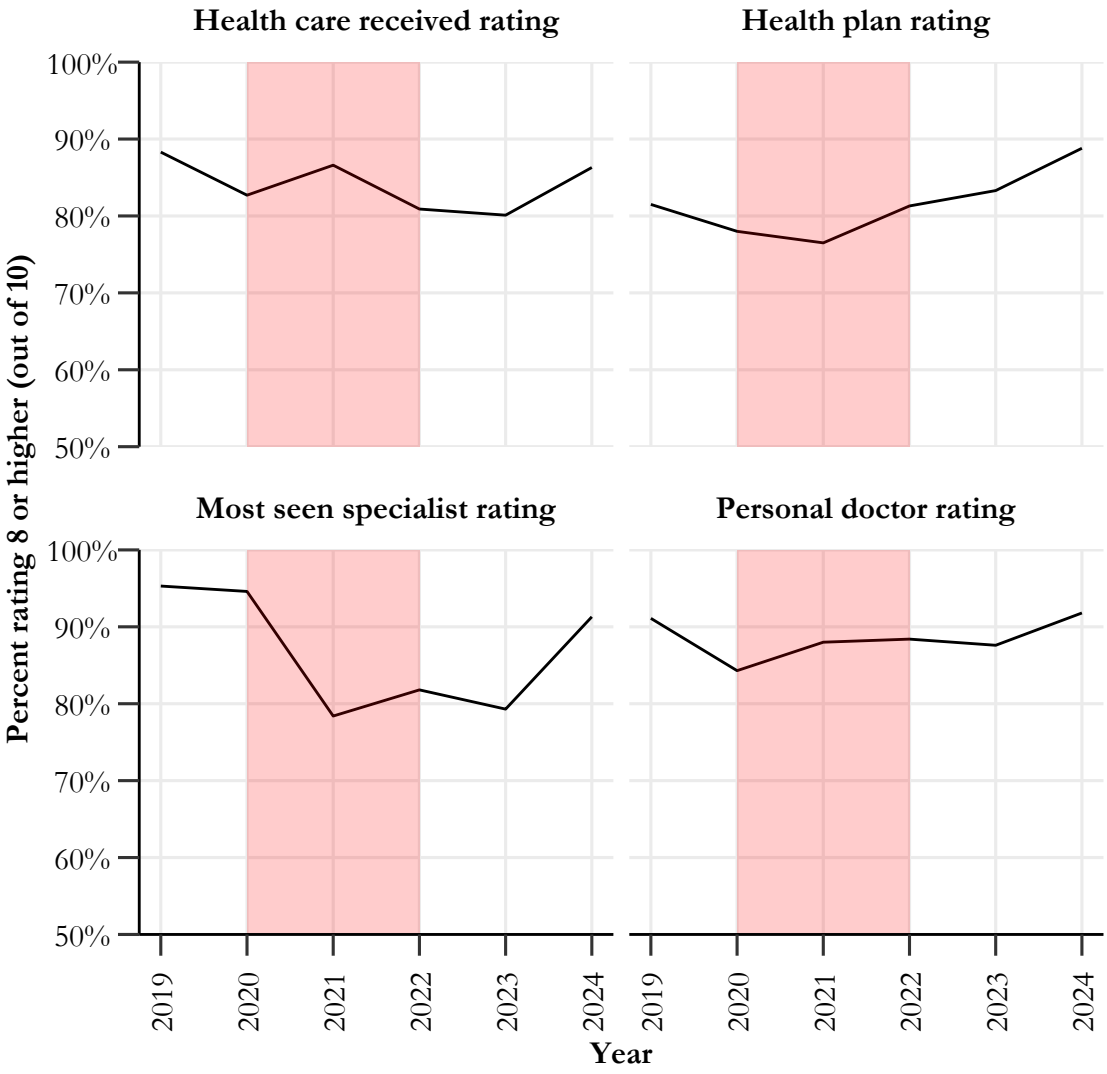
While we were only able to access CAHPS survey data back to 2019, the results show that the parents of CHIP kids are satisfied with their coverage, and that satisfaction has generally improved since the program was moved in-house.

[17] Services rendered by Tribally-owned providers to American Indian Medicaid members are paid for with 100% federal funds.

[18] In SFY24, 12 CHIP children and 101 Medicaid children had a PRTF stay, for 1,168 and 10,741 total days, respectively.

Figure 7, for example, shows the results of people rating their children's health care, health plan, most-seen specialist, and personal doctor on a scale of 1 to 10. The percent of responses scoring an 8 or higher is shown on the vertical axis, and the year of the survey is on the x-axis.

Figure 7: Member quality ratings trends



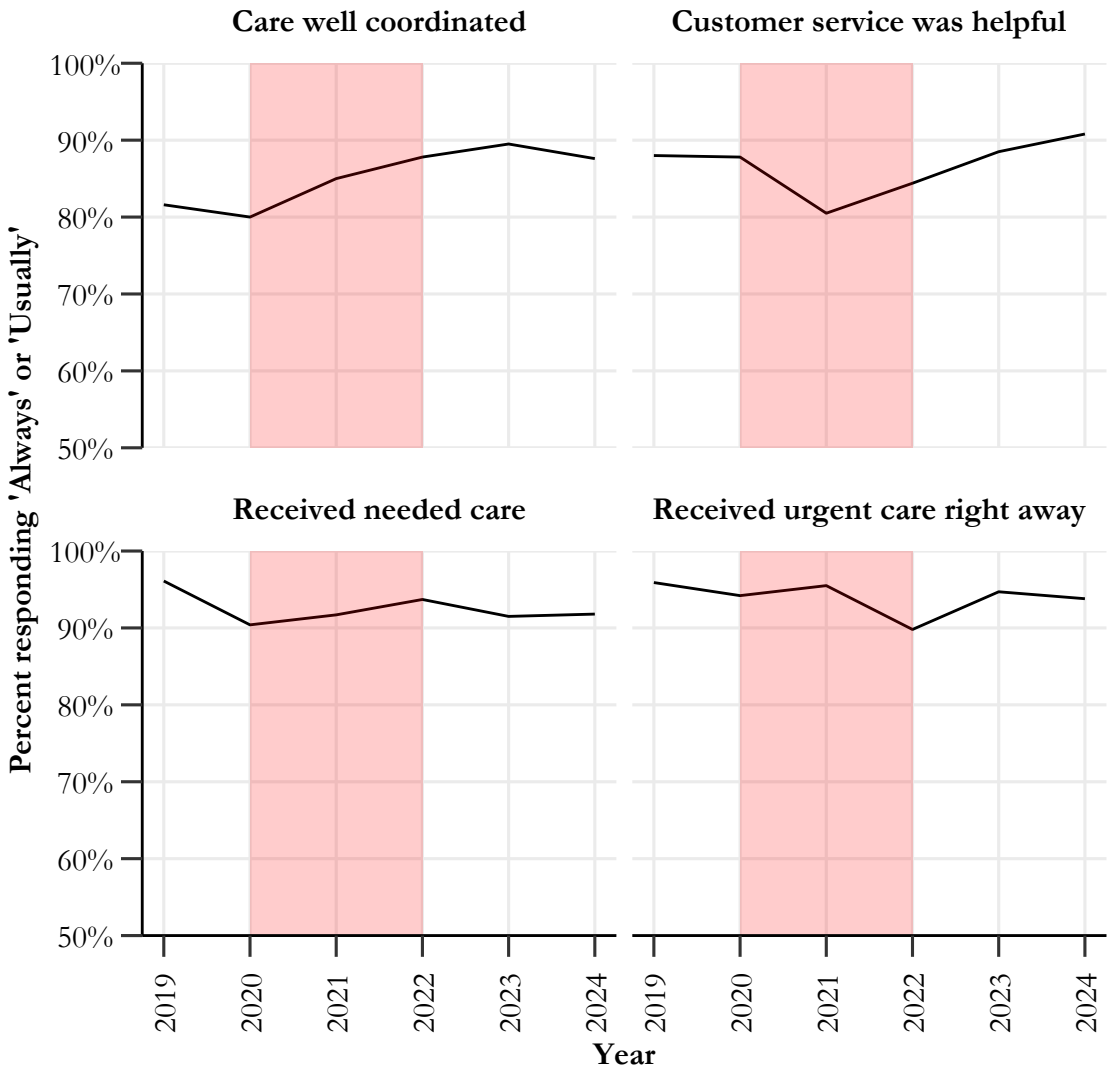
We highlight 2020 through 2022 in red, since these survey years included both the effects of the COVID pandemic and the transition from the CHIP contractor to in-house.

Figure 8 shows similar metrics, but the vertical axis is now the percent of responses that were rated "always" or "usually." The areas rated here were:

- How well care was coordinated;
- How often customer service was helpful;
- How often children received needed care; and,

- How often children received urgent care straightaway.

Figure 8: Member quality ratings trends, cont'd.



Note on both figures that, while there were decreases during COVID and the transition, satisfaction has either rebounded (e.g., on the "health care received" panel) or improved ("health plan rating") since 2019.

3 Effects of moving CHIP in-house

This section describes the changes for for the State, for members, and for providers caused by the transition from a fully-insured to a self-insured plan. To summarize:

- The State and federal governments have saved ~ $18.1 million between October 2020 and July 2024;
- The State has seen additional quantifiable and non-quantifiable administrative savings;
- Some providers have seen cuts to rates, but also administrative streamlining;
- Members have seen an increased array of services, and satisfaction has generally increased.

3.1 State and federal savings from moving to a self-insured program

We estimate that, by taking CHIP in-house, the State of Wyoming and the federal government saved $18.1 million[19] between October 2020 and July 2024. At an average federal match rate of 67.9% over this time period, this total translates into $12.3M in Federal Funds and $5.8M in State General Funds. And spread over the past 3.75 years, these savings average out at $1.54M State General Funds and $3.28M Federal Funds per year, respectively.

This estimate is based the difference of what the State has actually paid for CHIP since 2020 and what we believe the State *would have paid* in CHIP premiums, had we continued with the CHIP contractor.

We use statistical models to estimate what the State *would have paid* (i.e., "counterfactual" costs). These models rely on assumptions and proxy measurements, which have strengths and weaknesses. We combine the results of two different models together to capture the range of possibilities. The details of this process are in the last section of this report. For now, we just show the results, in Figure 9 and in Figure 10.

3.1.1 Estimated monthly cost trends

Figure 9 summarizes the monthly cost differential between actual and counterfactual costs.

On the figure, the actual amounts the State paid in premiums are shown by the black line; these stop when the State took the program in-house in October of 2020. The model estimates of both the actual and the counterfactual costs through 2024 are the dotted black lines and shaded 90% uncertainty region.

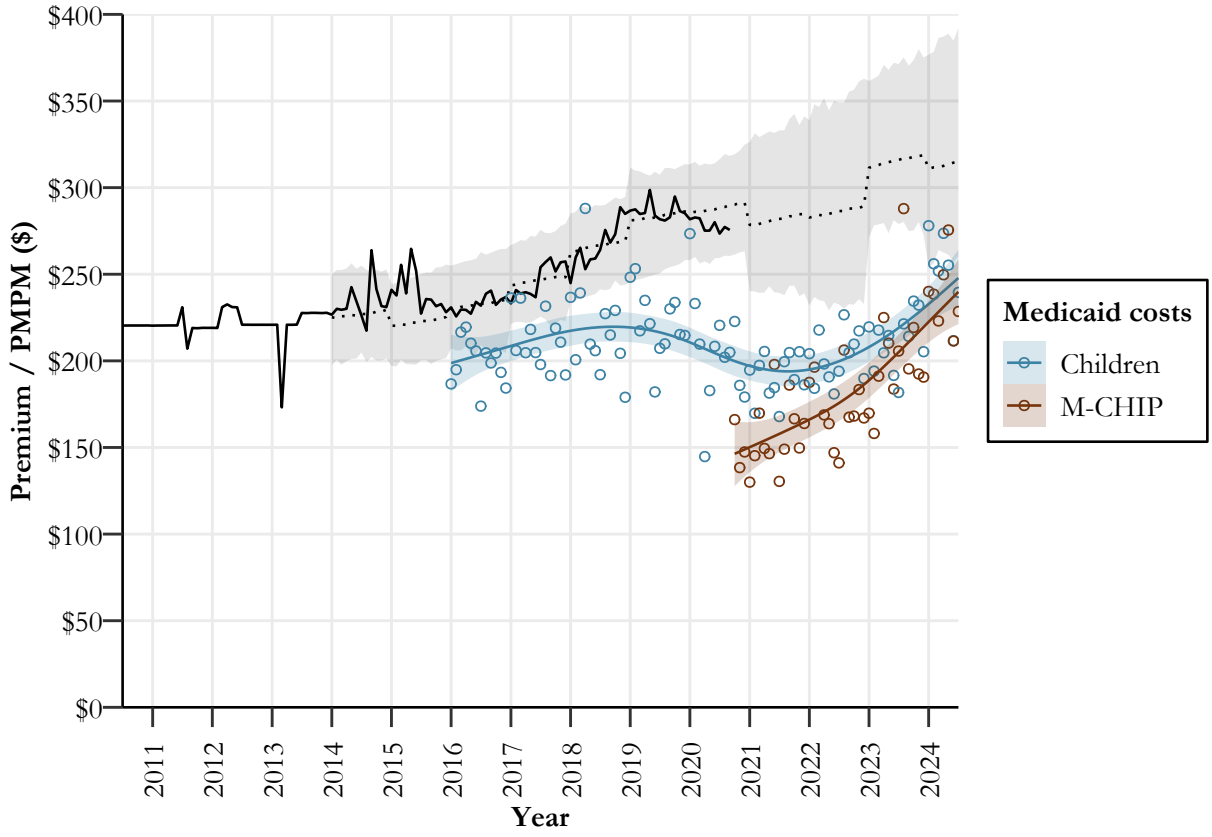
Below the black lines, we have two sets of other actual costs:

- The **blue dots** and smoothed curve show actual and average monthly costs, respectively, for the low-income Medicaid children who are most similar to the CHIP population. We used this data to estimate potential cost savings in our initial fiscal note.
- The **brown dots** and smoothed curve show the actual and average monthly costs actually incurred by the State for CHIP since it took over management of the program.

When the statistical estimates of what the State *would have paid* are subtracted from what we actually paid, we get a monthly savings estimate.

[19] We are 90% sure that total savings are between $12.6M and $27.1M.

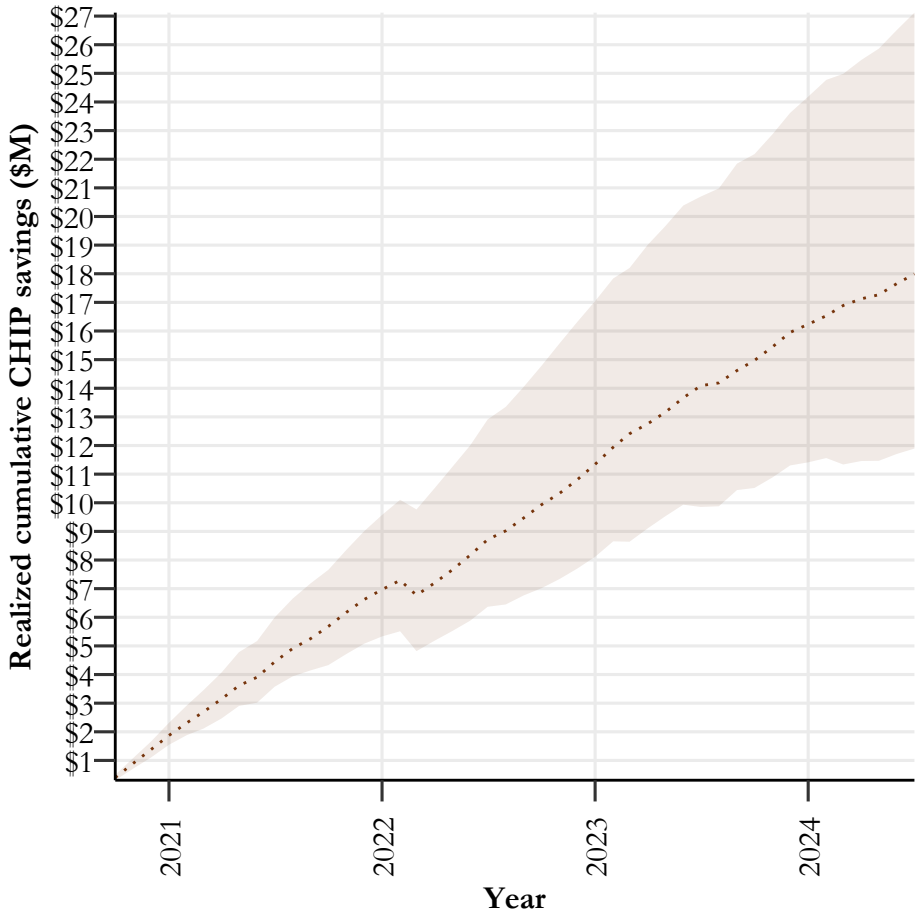
Figure 9: Actual vs. predicted counterfactual costs



3.1.2 Cumulative savings since 2020

Summing up these monthly savings over time leads us to Figure 10, which shows the cumulative savings since 2020. The midpoint and range of the ribbon in July 2024 gives us our topline estimate of total cumulative savings of $18.1M (90% credible interval of $12.6M to $27.1M).

Figure 10: Cumulative savings



3.1.3 Where did these savings come from?

As we pointed out in the PMPM cost section, there were three primary sources of these savings:

- The State was now only paying for medical and dental claims, not a full-risk premium that included 10-15% in additional insurer administrative load.
- Additional drug rebate. The State can now include all CHIP pharmacy spending in its mandatory and optional discounts from drug manufacturers. Rebate has increased from $994,996 in FFY21 to $1,966,262 in FFY24.[20]

[20] It's likely that the CHIP contractor received some negotiated rebate from pharmaceutical manufacturers before the transition, and some of those savings might have been passed on to the State, but (1) it's unclear how much this happened and (2) Medicaid is, by federal law, entitled to the highest possible rebate from manufacturers.

- Some provider rates were cut by an estimated 10-15%, since Wyoming Medicaid rates are often lower than those previously paid by the private insurer.[21]

3.2 Other effects

3.2.1 State administrative savings

In addition to (i.e., not included in) the savings estimated in the previous section, the State realized other quantifiable and non-quantifiable savings. These include:

- **Reduced managed care compliance administration**. We estimate these cost the State approximately $350,000 per year in consulting and actuarial services for managed care rate setting and CMS compliance, and an additional $250,000 to $500,000 every five years for consulting services on waiver renewals.
- **Consolidated overhead**. The previous CHIP program required three (3) State staff to administer; we now administer CHIP-specific requirements with one

(1) person. Eligibility, claims processes, and contract management activities are now subsumed under larger Medicaid systems.

- **Reduced federal reporting**. The State is no longer required to maintain separate State Plans for CHIP and Medicaid, or submit separate claims and eligibility reporting files.
- **Additional administrative matching federal funds**. Now that CHIP is in-house, its technology costs can be matched with 90% federal funds, staff salaries can be matched at 75%, and call center, eligibility and technology operations and maintenance can also be matched at 75%.

3.2.2 Costs and benefits to providers

From the provider perspective, the primary cost to bringing CHIP in-house was lower reimbursement rates (e.g., equalized with Medicaid). Exceptions to this rule include behavioral health, Indian Health Services, and Federally-Qualified Health Center providers, and supplemental payment programs have reduced the impact to hospitals and hospital-affiliated physicians.

However, with this revenue decrease came some marginal benefits:

- **Simplified provider enrollment**. Previously, medical providers wishing to treat low-income children had to agree to two separate agreements. There is now one single provider enrollment process. Medicaid's provider enrollment process is also significantly easier than those with private insurance.
- **Simplified provider policies**. Similarly, where providers previously had to reference two separate program manuals, there is now a single manual for both programs.
- **Faster and simpler claims payment**. Medicaid pays claims within an average of 7 days, and prior authorization hassles are limited.

[21] This is an estimate, since these rates were proprietary and negotiated with individual providers.

- **Supplemental payment programs**. CHIP costs can now be included in hospital Upper Payment Limit (UPL) programs to draw down additional federal matching dollars using provider matching funds. We estimate that hospitals will see an increase of ~$500,000 in federal funds annually.

3.2.3 Benefits to members

Generally speaking, the member experience did not change dramatically. However, as the increase in the CAHPS health plan score likely reflects, there are three significant improvements:

- **Additional benefits**, the most significant of which is the coverage of Psychiatric Residential Treatment Facility (PRTF) stays.
- **Simplified client handbooks and member coverage cards**. CHIP and Medicaid documents are combined for families, some of whom may have had both types of children in the same household.
- **Lower cost-sharing**. While some CHIP families still pay copays, these are generally lower than what was owed under the previous program. Additionally, dental and pharmacy copays are now zero, in order to align with Medicaid policy.

4 Conclusion

The transition of Wyoming's CHIP program from a fully-insured managed care product to a self-insured plan administered through Wyoming Medicaid's infrastructure has provided important benefits:

- Approximately $4.8 million in annual savings to the State and federal governments;
- Additional behavioral health services provided to high-needs children; and,
- Reduced administrative activities for the State, for providers, and for members.

At the same time, member satisfaction with their coverage has increased.

The primary drawback from this transition has been the effective cut to many providers' rates. This, however, has been someone offset by a significant cut to the red tape involved in provider enrollment and claims payment.

5 Technical appendix

This section describes the approach we used to model the potential CHIP premiums that the State *would have* paid, had the program continued as a private managed care contract past 2020. We'll refer to these as "counterfactual" costs since they didn't actually occur.

The difference between these counterfactual costs and what the State actually paid since 2020 is the basis for the cost savings presented in this report. So, while this section is tedious —and certainly not required for the reader —it is intended to provide sufficient detail to substantiate our claims.

We estimated the counterfactual costs by combining the results of two models, each with its own strengths and weaknesses:

- The first model forecasts CHIP premiums using observed individual market health insurance premiums on the Federally-facilitated marketplace ("Obamacare").

  The advantage of this approach is that these premiums are actually observed, and thus capture actual trends in underlying health care costs faced by the CHIP vendor. The downside of using this data is that the individual market may be different from the CHIP book of business —particularly regarding the potential for competition.

- The second model forecasts premiums by extrapolating the time trend in incurred claims.

  The advantage of this approach is that it uses actual CHIP claims experience and Medical Loss Ratio (MLR, or the rough proportion of premium dollars paid by the State that went to those medical claims). The weakness of this approach is in the assumption that the observed linear trend in those claims can be extrapolated from 2020 out to 2024.

5.1 Modeling framework

Figure 11 illustrates the workflow for building each model and combining the final results. Each block on the diagram is labeled with the relevant subsection of this technical appendix.

5.2 Exchange premium model

The purpose of the first model is to estimate the trend over time of an 'average' Obamacare Gold metal premium offered by the CHIP contractor, after adjusting for dental benefits and the variety of plan offerings.

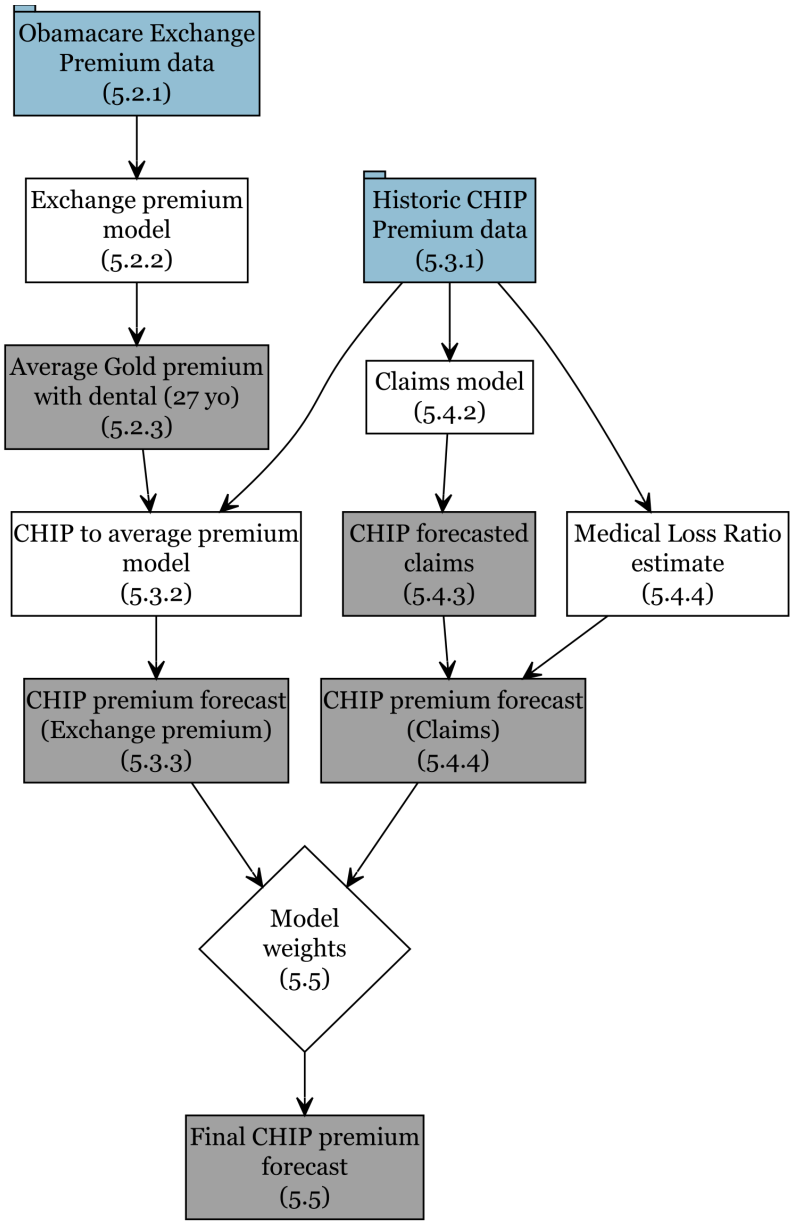
We then use the *output* from this model (i.e., the price of an "average" premium from 2014-24) as an *input* in the next model to estimate how CHIP premiums paid by the State each month may have followed this trend.

5.2.1 Data sources and processing

We began by downloading Obamacare plan data from the Robert Wood Johnson HIX Compare site.[22] The advantage of using HIX, as compared to publicly-available files from the Centers for Medicare and

[22] https://hix-compare.org/

Figure 11: Modeling framework



Medicaid Services, is that it contains information gathered from State-operated exchanges as well as the federally-facilitated Marketplace, though this is less important for this project's purpose.

Once we combined individual year files into a single dataset spanning 2014-2023, we trimmed the data down to just those plans offered by the CHIP contractor. And to keep the benefit design as similar to CHIP as possible, we further subset plans to those offered on the Exchange that met Gold-level (~ 80% actuarial value) metal specifications.[23]

We chose Gold plans because:

- Their actuarial value is the closest to the CHIP plan AV (90%+); and,
- Gold premiums were not affected by the Trump administration decision to eliminate Cost-Sharing Reduction (CSR) subsidies in 2016, as this insurer chose to load the required cost of those subsidies into their Silver level plan premiums.[24]

From the plan data, we retained the following variables for analysis:

- Plan name;
- Plan ID;
- Year offered;
- Whether the plan offered dental services or not; and,
- The quoted premium for an individual 27 year-old nonsmoker.

5.2.2 Model specification

We then model the premium price quoted for an individual 27-year old in year i selecting a Gold-level plan j as being drawn from a normal distribution with the mean (μ) estimated as a function of (1) a base intercept (α_1), (2) an individual plan-level varying intercept ($\alpha_{[j]}$), (3) a smooth[25] function of time (year i), and (4) an indicator (β_1) of whether or not the plan includes dental benefits.

More formally:

$$\begin{aligned} \text{27-year old Gold premium}_{ij} &\sim \mathcal{N}\left(\mu_{ij}, \sigma\right) \\ \mu_{ij} &= \alpha_1 + \alpha_{[j]} + s^{cs}(\text{Year}_i, \tau) + \beta_1 \times \text{Dental}_j \end{aligned}$$

We used regularizing priors based on the scale of the data (health insurance premium prices usually being around $500).

[23] "Actuarial value" refers to the average percent of health care costs that are paid for by the plan, as opposed to the policyholder, assuming a standardized pool of insureds. A Bronze plan with 60% AV, for example, would require about 40% of the costs to be borne by the member in the form of deductibles, co-pays and coinsurance.

[24] This strategy was known as "silver loading", and it helped keep Bronze and Gold plans affordable while pricing the Silver plans more appropriately at a "Platinum" or higher.

[25] Specifically, a cubic regression spline with shrinkage on the penalty matrix.

$$
\begin{aligned}
\alpha &\sim \mathcal{N}(500, 300) \\
\alpha_{[j]} &\sim \text{Student}(3, 0, 75.2) \\
\beta_1 &\sim \mathcal{N}(0, 10) \\
\tau &\sim \text{Student}(3, 0, 1) \\
\sigma &\sim \text{Student}(3, 0, 75.2)
\end{aligned}
$$

5.2.3 Model results

We fit this model on the data using Hamiltonion Monte Carlo (HMC) sampler as implemented by Stan,[26] the cmdstanr[27] interface and the brms[28] wrapper.

The model output follows.

```
 Family: gaussian
  Links: mu = identity; sigma = identity
Formula: PREMI27 ~ 1 + s(YEAR, bs = "cs") + DENTAL + (1 | PLANID)
   Data: bcbs (Number of observations: 150)
  Draws: 4 chains, each with iter = 4000; warmup = 1000; thin = 1;
         total post-warmup draws = 12000

Smoothing Spline Hyperparameters:
             Estimate Est.Error l-95% CI u-95% CI Rhat Bulk_ESS Tail_ESS
sds(sYEAR_1)    22.58      5.54    14.37    35.63 1.00     2150     4436

Multilevel Hyperparameters:
~PLANID (Number of levels: 11)
              Estimate Est.Error l-95% CI u-95% CI Rhat Bulk_ESS Tail_ESS
sd(Intercept)     6.78      3.61     0.88    15.19 1.00     3068     3855

Regression Coefficients:
               Estimate Est.Error l-95% CI u-95% CI Rhat Bulk_ESS Tail_ESS
Intercept        523.74      5.25   512.67   533.29 1.00     5755     5771
DENTALNODENTAL    -1.93      5.54   -12.31     9.57 1.00     6131     6404

Further Distributional Parameters:
      Estimate Est.Error l-95% CI u-95% CI Rhat Bulk_ESS Tail_ESS
sigma    22.83      1.45    20.18    25.82 1.00     9644     8315

Draws were sampled using sample(hmc). For each parameter, Bulk_ESS
```

[26] Stan Development Team. 2023. Stan Modeling Language Users Guide and Reference Manual, 2.32. https://mc-stan.org

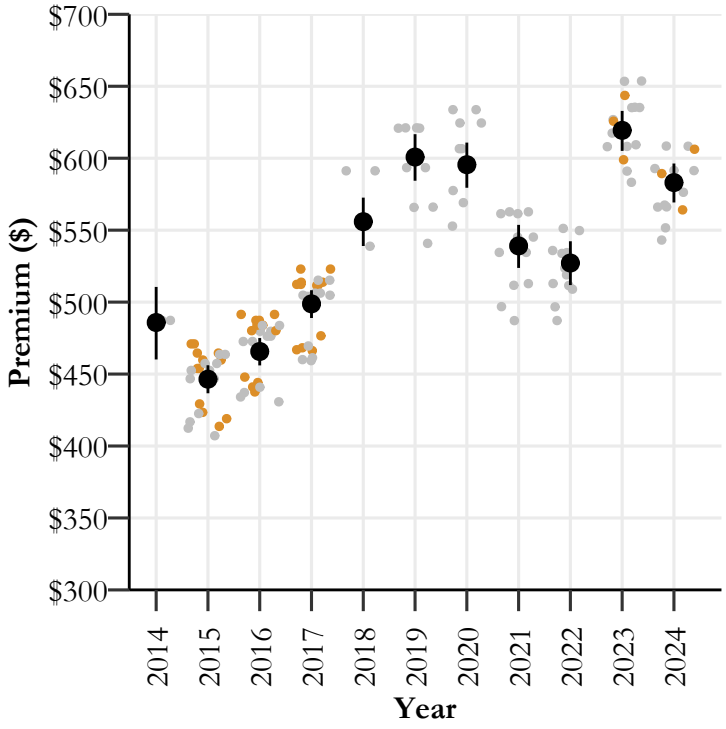
[27] Gabry J, Češnovar R, Johnson A (2023). cmdstanr: R Interface to 'CmdStan'. https://mc-stan.org/cmdstanr/, https://discourse.mc-stan.org.

[28] Bürkner P (2017). "brms: An R Package for Bayesian Multilevel Models Using Stan." Journal of Statistical Software, 80(1), 1–28. doi:10.18637/jss.v080.i01.

and Tail_ESS are effective sample size measures, and Rhat is the potential scale reduction factor on split chains (at convergence, Rhat = 1).

Likely more useful than this farrago of statistical coefficients is Figure 12, which shows how the resulting "average Gold plan with dental" estimate (black dots with uncertainty ranges) tracks the observed plan premiums. Orange dots on the figure indicate plans with dental coverage; gray dots are those without.

Figure 12: CHIP contractor Gold plan Obamacare premium trends



Note that average premiums dropped in 2021 and 2022, likely due to the entrance of a competitor on the Exchange, but potentially also due to a probable decrease in health care utilization immediately after the COVID pandemic, before rebounding in 2023/24.

This drop in particular highlights a significant drawback of this modeling approach: since the State never saw any competitive bidding on its CHIP business, it's unlikely that we would have seen a similar effect on our premiums.

5.3 Relationship between CHIP premiums and estimated Exchange premiums

Now that we have the "average Gold plan with dental" estimate, we build a model to correlate changes in this average with the CHIP premiums actually paid by the State.

5.3.1 Data sources and processing

Between 2010 and 2020, the Department collected monthly CHIP premium expenditures, enrollment, and the actual medical claims paid out by the CHIP contractor.

CHIP premiums were set according to multiple tiers of cost-sharing based on household income. Because this enrollment mix varied over time, we calculate the blended average CHIP premium as simply the total monthly premium expenditures divided by the total monthly enrollment.

5.3.2 Model specification

This model assumes that the CHIP premium paid by the State in month i can be modeled using a normal distribution, with the mean (μ_i) set as a multiple (β_1) of the "average Gold plan with dental" estimate for the same year, but also including the autoregressive influence (β_2) of the premium paid in the previous month ($i-1$).

$$\text{CHIP premium}_i \sim \mathcal{N}(\mu_i, \sigma)$$
$$\mu_i = \beta_1 \times \text{Est. Gold plan with dental premium}_i + \beta_2 \times \text{CHIP premium}_{i-1}$$

We used a combination of informative priors (e.g., CHIP premiums for children should be less expensive than those for adults, so β_1 should be between 0 and 1) and flat priors (for the autoregressive parameter), as shown below:

$$\begin{aligned}\beta_1 &\sim \mathcal{N}(0.5, 0.1)\\ \beta_2 &\sim \text{U}(-\infty, \infty)\\ \sigma &\sim \mathcal{N}(3, 1)\end{aligned}$$

5.3.3 Model results

We then used the same HMC techniques and software to fit the model. Output is reproduced below. Note that CHIP premiums paid by the State were about half (the coefficient is 0.48) the cost of individual 27-year old Gold (with dental) premiums. This makes sense, since kids have lower health care costs than young adults.[29]

```
 Family: gaussian
  Links: mu = identity; sigma = identity
Formula: MonthlyPrem ~ 0 + Estimate + ar(time = MonthNo)
   Data: chip_bcbs (Number of observations: 81)
  Draws: 4 chains, each with iter = 1000; warmup = 500; thin = 1;
         total post-warmup draws = 2000

Correlation Structures:
      Estimate Est.Error l-95% CI u-95% CI Rhat Bulk_ESS Tail_ESS
ar[1]     0.66      0.08     0.51     0.81 1.00      980     1126
```

[29] Obamacare premiums are required to be priced by standard age-rating curves. The default premium ratio for a 27-year old is 1.048 and for 0-14 year olds it is 0.765, so we would have expected a coefficient of 0.73 if CMS age-rating rules applied to CHIP premiums (they don't).

```
Regression Coefficients:
         Estimate Est.Error l-95% CI u-95% CI Rhat Bulk_ESS Tail_ESS
Estimate     0.48      0.01     0.47     0.50 1.00     1432     1039

Further Distributional Parameters:
      Estimate Est.Error l-95% CI u-95% CI Rhat Bulk_ESS Tail_ESS
sigma     8.56      0.45     7.74     9.51 1.00     1296     1170

Draws were sampled using sample(hmc). For each parameter, Bulk_ESS
and Tail_ESS are effective sample size measures, and Rhat is the potential
scale reduction factor on split chains (at convergence, Rhat = 1).
```

By combining these models, we are able to forecast out what the State's CHIP premiums would have been, under the assumption that they would have trended similarly to the Obamacare premiums.

5.4 Incurred claims model

As noted at the beginning of this section, this model takes a different tack. Instead of looking at individual market premiums, we take CHIP claims expenditures from the program itself and trend them out using a linear model.

While this doesn't rely on the assumption linking CHIP to the individual marketplace, it does have the weakness of assuming that the linear trend in previous health care costs would continue out four years.

5.4.1 Data sources and processing

We use the same historical CHIP data as the previous model, looking at monthly medical and dental claims incurred by the contractor divided by enrollment to arrive at an overall per-member per-month (PMPM) cost.

It's important to note that the risk in the volatility of these monthly costs was borne by the contractor; the State was paying stable monthly premiums that averaged over those costs and were further loaded by contractor administrative expenses.

5.4.2 Model specification

We model the per-member per-month costs incurred by the contractor in month i as lognormally-distributed with an average μ_i and variance σ, where the average is a function of an intercept α and a slope β over time (number of months since the beginning of the dataset):

$$\begin{aligned} \text{PMPM}_i &\sim \text{Lognormal}\left(\mu_i, \sigma\right) \\ \mu_i &= \alpha + \beta \times \text{Month Number}_i \end{aligned}$$

This is one of the simplest possible models to fit on this data; we did explore more complex options, but none had measurably better predicted out-of-sample performance.

We used the following priors:

$$\alpha \sim \text{Student}(3, 5.3, 2.5)$$
$$\beta \sim \text{Student}(3, 0.5, 1)$$
$$\sigma \sim \text{Student}(3, 0, 2.5)$$

5.4.3 Model results

After fitting using the same MCMC sampling methods described previously, the results are as shown below. Note that, due to the lognormal link function and rounding in the summary below, the coefficient on β is smaller than 2 decimal places —but it isn't zero.

```
 Family: lognormal
  Links: mu = identity; sigma = identity
Formula: ExpPMPM ~ 1 + MonthNo
   Data: chip_bcbs (Number of observations: 123)
  Draws: 4 chains, each with iter = 1000; warmup = 500; thin = 1;
         total post-warmup draws = 2000

Regression Coefficients:
          Estimate Est.Error l-95% CI u-95% CI Rhat Bulk_ESS Tail_ESS
Intercept     5.05      0.04     4.98     5.12 1.00     1624     1415
MonthNo       0.00      0.00     0.00     0.00 1.00     2420     1360

Further Distributional Parameters:
      Estimate Est.Error l-95% CI u-95% CI Rhat Bulk_ESS Tail_ESS
sigma     0.20      0.01     0.18     0.23 1.00      777      609

Draws were sampled using sample(hmc). For each parameter, Bulk_ESS
and Tail_ESS are effective sample size measures, and Rhat is the potential
scale reduction factor on split chains (at convergence, Rhat = 1).
```

As with the first model, the results here are better visualized graphically. Figure 13 shows how the linear model (gray line and shaded region) shows the expected PMPM compared with what was actually observed (hollow dots).

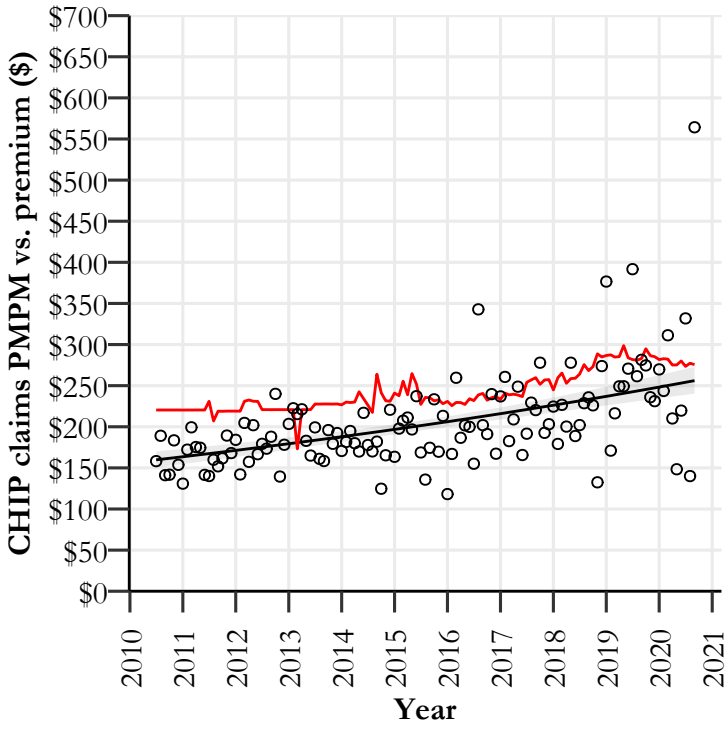
The red line superimposed over the PMPM shows the premiums actually paid by the State.

5.4.4 Translating projected claims into projected premiums

You'll note on the figure that while, in some instances, monthly PMPM claims exceeded premium paid, the CHIP contractor bid its premium overall so that they would always exceed the *average* PMPM (black line).

The difference between aggregate claims incurred and total premium paid is a crude measure of the Medical Loss Ratio (MLR). As described previously, what isn't paid out in claims by the insurer pays for administration, taxes and regulatory fees, and profit.

Figure 13: Claims trend model and premium paid



Generally speaking, MLR typically ranges between 80-85% for individual market and 90-95% for large employer group plans. MLR can be higher for large groups because insurers don't have to market to individual customers, and employer pooling reduces claims variability.

Looking at the historic MLR for the CHIP program in Figure 14, you can see a rough normal distribution centered around 87%, though sometimes going as low as 76% and as high as 94%.

Assuming historic MLR patterns would continue, we use this to estimate projected premium by dividing projected claims by random draws from this distribution.

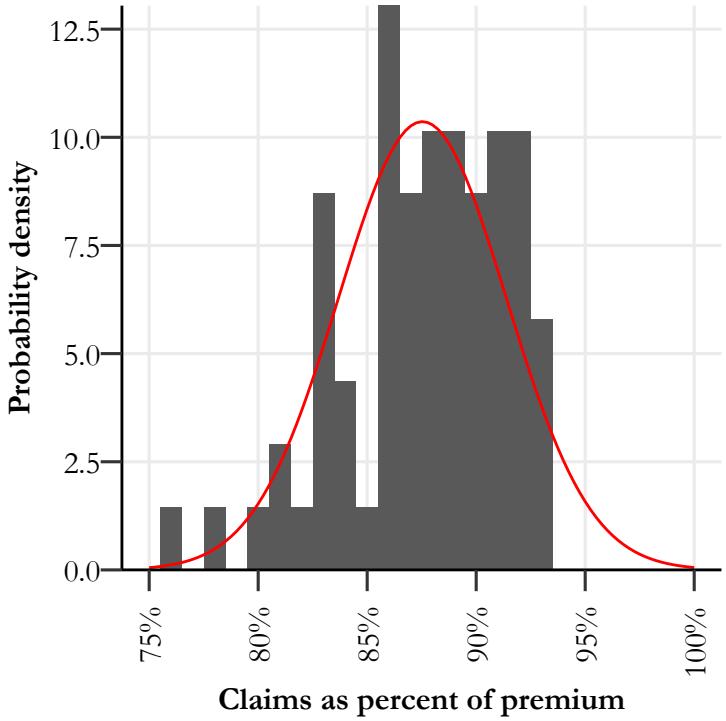
5.5 Putting it all together

Now we have two sets of projections for counterfactual CHIP premium payments: (1) projections from the model assuming premiums would track with individual market premiums, and (2) projections from the model based on actual CHIP claims costs, divided by previous observed MLR.

As both models have strengths and weaknesses, mixing the projections together helps to hedge the potential uncertainty. We settled on a mixing weight of 2/5ths premium model and 3/5ths claim model, giving an edge to the historic claims trend over what was observed in a separate market.

Figure 15 shows the final results, overlaying the model projections in gray with the actual per-member per-month costs experienced by Wyoming Medicaid for both Medicaid-eligible kids and the CHIP kids, when taken in-house.

Figure 14: Ratio of average claims to premium



5.6 Estimating cumulative savings

From this figure, we calculated savings by subtracting actual costs incurred by Medicaid from 10/2020 to 7/2024 from each realization from the blended posterior predicted forecast. Then we summed up those monthly savings (or additional costs) to get the cumulative savings over time.

As noted in Figure 10, the best estimate of savings over this time period is $18.1 million, with 90% of our estimates coming between $12.6 million and $27.1 million.

Figure 15: Actual vs. predicted costs