Cost Shift Report Consultant Review

September 12, 2019

COLORADO
Department of Health Care Policy & Financing

Contents

I. Overview

On February 26, 2019, the Department presented a draft version of a report on cost shifting in Colorado to the Colorado Healthcare Affordability and Sustainability Enterprise (CHASE) Board, titled the Cost Shift Analysis Report Draft.[1]

Because of the response of board members to the draft version of the report, the Department sought out independent consultant feedback. The Department reached out to seven independent consultants. Six of the consultants delivered written feedback on the draft version of the report. This document includes these six written responses from the following consultants:

- Thomas J. Nash, LLC
- Five Vine Consulting, LLC
- Segue Consulting
- Drs. Ge Bai, Matthew Eisenberg, and Gerard Anderson
  - ✓ Professors at Johns Hopkins University, but not representing the Johns Hopkins University
- Chapin White
  - ✓ Adjunct senior policy researcher at the RAND Corporation, but not representing RAND Corporation
- Health Management Associates

[1] See the February 26, 2019 meeting on the CHASE board's website: https://www.colorado.gov/pacific/hcpf/colorado-healthcare-affordability-and-sustainability-enterprise-chase-board.

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April 15, 2019

Kim Bimestefer
Department of Health Care Policy and Financing
1570 Grant Street
Denver, CO 80203

Dear Kim,

This letter is in response to your request for feedback on the draft Cost Shift Analysis Report dated January 2019. The data limitations described in the report are considerable, but I believe the report made the most of what was available. It is helpful that, where possible, findings were corroborated by reference to other studies and available data sources. Following is more specific feedback. In short, I believe the methodology was sound and the conclusions were factual. While one could argue the assumptions used in the report to quantify the extent of the cost shift, it is clear the amount is significant.

I've read the report in detail and I listened to the Department's presentation and resulting discussion at the February 26, 2019 meeting of the Colorado Healthcare Affordability and Sustainability Enterprise (CHASE) board meeting. Not surprisingly the hospital community was generally critical of the report. The chief complaints appeared to be that the report was biased, and that the Department sought data to support a pre-conceived conclusion. However, the hospitals did not appear dispute in any meaningful way the historical data presented. This leads me to believe the hospitals' primary criticism is with the tone of the report and, as Mr. Tholen stated, how the issue is described. I can understand this position as the data does not put the hospitals in a good light. Perhaps giving the hospitals an opportunity to soften language they believe is too harsh would be a solution. Regardless, I don't believe this would alter the report's conclusions.

The Colorado Hospital Association (CHA) stated the report lacked key data points in comparing Colorado hospitals to national benchmarks such as inflation and cost-of-living factors. They further stated the inclusion of these data points would completely alter the conclusion. I agree that these are important factors to consider. I don't have a feeling off-hand how factoring in inflation would impact the rate of increase in hospital costs. There is no doubt Colorado has experienced higher inflation than the national average. But my own analysis of 2017 Medicare cost report data factoring in a cost-of-living adjustment revealed that Colorado hospitals would actually rank higher in terms of total cost per adjusted discharge than if no cost-of-living factor is applied. I should be clear that there is no 'official' cost-of-living index – I used data from C2ER – and other methods and cost-of-living indices might reveal other results. CHA has considerable analytic capabilities and I would encourage them to factor in the missing data points to determine the extent to which the comparison to national benchmarks would be impacted.

Another concern raised at the February 26th CHASE board meeting was the fact that less than one half of the rural hospitals were included in the data used in the report. I echo that concern. Not because I believe it would significantly alter the state-wide results but because rural hospitals are so much different from their large urban counterparts, and from one another for that matter. I believe

it is important to develop a better method of benchmarking and analyzing rural hospitals. The additional data that will be forthcoming as a result of House Bill 19-1001 will be very beneficial in this regard.

The report attempts to model various scenarios to quantify the extent of the cost shift. Aggregated data can lure one into viewing the state's hospital industry as one entity with shared resources and under common control when in fact, the industry is comprised of multiple hospitals and systems operating in a variety of different business environments. As with any hypothetical modelling the assumptions used are key to the results obtained. These assumptions can and should be subjected to scrutiny. However, none of this should not dissuade attempts to perform what-if modelling as it provides at least a high-level sense of the scale of potential savings.

A recurring theme in the report is the need for transparency. I don't think this point can be over-emphasized. I believe the interpretation of the available data was sound. While I don't imagine additional data would change the state-wide and regional conclusions in the report, it would be very beneficial in identifying hot spots and furthering the understanding of, and providing context for, hospitals' and systems' operations and strategic decisions in relation to the environments within which they operate. It would allow stakeholders to better engage with the hospitals in their communities to focus on areas of best practices and where change could bring about the most benefit. Transparency is an essential element in effective, collaborative efforts to reduce the cost of hospital care and the recent passage of hospital transparency legislation is a big step forward.

I applaud the cost control efforts outlined in the report which appear to have broad-based support. As a purchaser of un-subsidized individual health insurance, I have experienced enormous increases in my premiums over the last several years. For that reason, I am particularly interested in the cost control roadmap. Focus on hospital efficiency is a big part of the solution. While I believe it to be outside the scope of the Cost Shift Report, I agree that bringing healthcare costs down will require focus and constant pressure on all healthcare cost drivers, not just hospitals.

I have provided the Department with several recommended changes to the draft report which I will not repeat in this letter. They are primarily clarifying in nature and do not impact the substance of the report or its conclusions.

For your reference, I hold a master's degree in accounting and have over thirty years of experience including 23 years in hospital accounting and finance. I was the Assistant Vice President of Finance for Centura Health (twelve years) after which I served as the Vice President of Financial Policy for the Colorado Hospital Association from March 2008 through January 2013. In that capacity I was heavily involved in the drafting and passage of the Colorado Health Care Affordability Act (HB 09-1293).

Thank you for the opportunity to provide feedback on the Cost Shift Report. Please don't hesitate to contact me if you have any questions.

Thank you,

Tom Nash

State of Colorado
Five Vine Consulting, LLC
Health Care Policy and Financing
Cost Shift Report: Review and Comments

Purchase Order Date: 3/27/19 PO,UHAA,201900010558

Version	Notes	Accepted By	Signature	Date
1.0		Kim Bimestefer		

Report Scope

The contractor was asked to review the cost shift report presented to the CHASE board on February 26, 2019, and to provide comments that the Department Health Care Policy and Financing (the Department or HCPF) may consider for either editing this edition of the cost shift report or use in preparation of the next edition of the cost shift report.

To conduct this review the contractor used: the public records available for the February 126, 2019 meeting on the CHASE board website, https://www.colorado.gov/pacific/hcpf/colorado-healthcare-affordability-and-sustainability-enterprise-chase-board; the recording of the CHASE board proceedings of February 26, 2019; HB 09-1923, the 2009 Colorado Health Care Affordability Act; SB 17-267, Concerning the Sustainability of Rural Colorado and otherwise known as the CHASE Act; HB 19-1001, Concerning Hospital Transparency Measures Required to Analyze the Efficacy of Hospital Delivery System Reform Incentive Payments; correspondence from HCPF to the Colorado Hospital Associated dated January 23, 2019; and personal knowledge of the Affordable Care Act and health care reform in Colorado, informed by work in Colorado as a Consulting Health Transformation Senior Advisor for various elements of the Colorado executive branch since May of 2017. The consultant did not review any rules adopted by the CHASE board or the Department.

This work falls within the general scope of PO,UHAA,201900010558 which was issued pursuant to the Department's Price Agreement List, created in response to Solicitation #IFB UHAA 2018000208.

The contractor provided the Department the opportunity to review the report for factual errors and language that may have been unclear, but the opinions and conclusions are the consultants own and not subject to editing by the Department.

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Context

Definition of "Cost Shift"

For purposes of this report I define the cost shift as that underpayment by some payers, usually public payers, which must be made up by providers increasing prices to other payers, usually commercial insurers, in order to break-even on the underpaid business and remain solvent.

It is important to distinguish between cost shifting and total price differentials. Public payers operate in a rate-setting model while private payers set prices through negotiation with varying degrees of price-setting or price-taking power. Hospitals may charge certain private payers more simply because they can and want to, not necessarily because they need to make up for underpayment by other payers. Therefore, the entire price differential is not synonymous with the cost shift. It is also important to recognize that hospital financials evolve over time and the balance sheet, historical performance, strategic objectives, and demographic changes in the hospital service area can affect what a prudent person would consider reasonable margin targets in a given period.

Among health care economists there is a robust discussion about whether or not the cost shift as a concept actually exists in the real world. In my opinion, in a market with regulated hospital budgets the cost shift is easily defined: regulators set allowable hospital budgets (costs plus margin), anticipated public payments are calculated by actuaries, and the hospital is allowed to negotiate up to the maximum budget with private payers. Some portion of that negotiated payment with commercial payers goes to what can be calculated as underpayment and the rest to allowable background growth and regulated margin. In an unregulated market it is unclear what can be defined as "reasonable cost" against which to measure underpayment and clearly define those private payments attributable to cost shift and those payments that are simply market driven or opportunistic.

There is also some evidence to indicate that hospitals with high Medicaid and Medicare service populations learn to operate more efficiently, and further evidence that very well-run hospitals can run a slight positive net margin (~1%) on Medicare rates. In this scenario we would see no cost shift. To the extent that on an aggregated basis Colorado Medicaid pays rates and supplemental payments equal to Medicare there may be an argument that the cost shift is minimal following implementation of the provider fee, when measured against what might be characterized as "reasonable and prudent costs."

There are multiple factors making the health care market somewhat opaque compared to regular consumer markets. Insurance companies play a role that can obscure underlying cost drivers, and well-intentioned policies can have confounding impact. For example, the Medical Loss Ratio intends to drive efficiency by forcing insurers to focus their expenditures on medical spend and reduce advertising, overhead, and profit. It creates a moral hazard, though, because the only way to accommodate increased overhead and profit on a pure dollar basis for those plans under this regulation is to allow medical prices to climb, thus keeping the ratio intact. Since insurers

typically negotiate prices across their full book of business, not by policy type, this constraint has the potential to inhibit negotiating vigor to the detriment of all policy-holders, not just those with plans subject to the MLR.

The Health Care Affordability Act of 2009

HB 09-1293 includes findings that clearly demonstrate legislative intent to address the cost shift. Specifically, 2(C)ii calls for "reducing the underpayment to Colorado hospitals participating in publicly funded health insurance programs;" and 2(C)iv calls for "reducing the need of health care providers to shift the cost of providing uncompensated care to other payers…" There are no findings regarding overall costs for other payers beyond Medicaid underpayment. Notably, findings and legislative intent do not carry statutory authority, one must rely on the words that are carried into law. Additionally, representations by a trade association do not confer a legal obligation on their members whose management and board are obligated to work towards the best interests of their organizations. This applies whether they are responsible to shareholders in a for-profit company or the charter in a not-for-profit company.

I found no mechanisms in the bill that would inhibit normal economic rent-seeking behaviors related to the changes in Medicaid reimbursement from establishment of the provider fee. In my opinion the index function of Section 5 of the Act clearly linked hospital Medicaid price growth to general health inflation and limited the ability of the Department to suppress hospital price growth below other providers, even if warranted. The bill further requires the Department to pay up to 100% of "hospital costs" without defining any standards for reasonableness of cost. There is also no mechanism for inhibiting price increases to other payers outside of the "cost shift," that is, the underpayment by public payers that must be made up by charges to other payers to break-even. I see no evidence that commercial payers (used to health care inflation of that time) considered changes in Medicaid payments in their side of the negotiation.

In my opinion the Act was very successful in realizing the primary goal of significantly increasing hospital payments by Medicaid with substantial federal participation, limiting exposure to the general fund. This by definition fulfills the legislative intent of reducing Medicaid underpayment and the ***need*** of health care providers to cost shift. Limiting price growth beyond the cost shift does not appear to have been an intended or effective function of the Act. The existence of a persistent price differential does not necessarily indicate a failure to contain the cost shift component of that differential.

An Act Concerning the Sustainability of Rural Colorado of 2017 (or, for relevant sections: The CHASE ACT)

SB17-267 included updates and replacements to HB 09-1293, and established the Colorado Healthcare Affordability and Sustainability Enterprise (CHASE) board, upon whose authority the Department drafted the cost shift report.

Section 13 requires the CHASE board, subject to legislative appropriation, to increase Medicaid payments to hospitals up to 100% of cost without defining cost or bounding cost with any tests, consistent with HB 09-1293. In section 17 it repeats the key findings and recitals identified above. Section 17 also enumerates the CHASE board's duties and powers. Notably, this section allows the board to reduce the fee for hospitals that have a higher percentage of public payers than average but continues to require the level of effort indicated under the index parameters of HB 09-1293. No new duties are assigned relative to the cost shift, but the requirement is established that the CHASE board annually provide "estimates of the differences between cost of care provided and the payment received by hospitals on a per-patient basis, aggregated for all hospitals, for patients covered by each of the following: (A) Medicaid; (B) Medicare; AND (C) All Other Payers; AND…{continues in other respects}. The Cost shift Report is intended to fulfill this function but may, as drafted, fail to distinguish between the cost shift, as I understand it, and the broader price differential. I suggest that the Cost shift Report focus on the former and defer consideration of the latter to the Hospital Expenditure Report created by NB 19-1001.

An Act Concerning Hospital Transparency Measures Required to Analyze the Efficacy of Hospital Delivery System Reform Incentive Payments of 2019

HB 19-1001 greatly expands the information available to the Department to prepare a Hospital Expenditure Report that may substantially improve upon and supplant the Cost shift Report. It does not appear to provide an opportunity for the CHASE board to review certain capital expenditures under section (2)(b)(iii)(n) in Executive Session, which would provide useful context to the CHASE board in understanding the difference between balance sheet and market values of hospital components, and that exclusion does appear to be definite and not within rule-making authority. General Counsel should be consulted to confirm or refute that interpretation.

Section (2)(C)(iii) provides the basis to expand the analysis associated with the Cost shift Report to reach beyond the limitations inherent in prior legislation and explore cost pressures beyond underpayment by public payers. I recommend that the Department take this opportunity to redefine terms and establish a new baseline for the general assembly's understanding of these complex interactions; differentiating between what is definably cost shift, as I understand it, and what is attributable to other economic pressures.

General Observations

I identified no fundamental errors in the data in the Cost Shift Report. I do think that in places conclusions went beyond the data and certain language choices were clearly received as more combative than provocative by some readers. My main criticism is that the report blends the concept of the cost shift, representing underpayment by some payers, with the total price differential. The core data is powerful on its own, clearly demonstrating that commercial rate payers did not get the full benefit expected in 2009, but not clearly demonstrating why.

Specific Comments

Cost Shift Analysis Report - Executive Summary

Page 1, Paragraph 1 offers a definition of the cost shift that closely aligns with my own. The conclusion in paragraph 3 that "these positive outcomes did not reduce hospital cost shift" is inaccurate in my opinion. The cost shift was reduced by more than $400 million according to the report. Other factors likely have contributed to increased prices to other payers, and in fact prices, not costs, appear to be the dominant factor. Clearly distinguishing between cost and price would be useful in future reports. It may be accurate to say that decreasing the cost shift by over $400 million was not represented in a corresponding decrease in commercial rates, but even that may be unknowable from the aggregated data.

Page 2, relative to construction projects: in my opinion the data available for bed occupancy is not adequate to make a definitive determination that new construction is not needed. Licensing and accreditation requirements are not represented in the data. Ceiling heights of older facilities are not adequate to accommodate current utility needs and treatment and operating rooms that were adequate for last generation teams are not adequate for current standards of care. In my opinion the indication is that a deeper dive is needed on an individual hospital basis, but the conclusion may be an overreach unless the contributing author has specific knowledge beyond the data.

Page 3, first bullet: "there is no evidence that economies of scale savings are being passed along to commercial consumers, carriers, or self-funded employers." This is true, this is also beyond the scope of the cost shift report as defined but in-scope for the hospital expenditure study. I will also observe that there is no evidence that there are economies of scale to realize, though this seems like a reasonable conclusion. There is some evidence that any economies of scale are absorbed by higher wages, capital expenditures, and profit-seeking that have no defined constraints under the relevant legislation.

Cost Shift Analysis Report – Body

Page 3, Bullet 3: "Actual hospital cost growth trends and actual hospital margins contribute to commercial cost shift and hospital overcompensation, more so than Medicaid or Medicare under-compensation." This is an excellent example of the difference between the cost shift and differential pricing and the need to treat them separately. There is nothing in Colorado law to define appropriate return on capital employed, margin, or anything else related to hospital compensation, so there is can be no clear definition of over-compensation which makes this conclusion something of an overreach, in my opinion. Hospitals may lawfully charge commercial payers what they can, and that price difference is not all cost shift. Much can be said about what hospitals could have done since 2009, but I don't see any evidence in this data that they did anything differently than would have been reasonably expected and allowed under law.

Page 4, Paragraph 3 of Introduction: "…but the overcompensation for care (increased charges to commercially covered patients was unchanged…" This mixes over-compensation, to make up for under-compensation, with total price differential. As discussed in "Context" above, there does not appear to have a mechanism in the legislation to realize direct reduction in commercial charges as a result of increased Medicaid compensation.

Page 8, Limitations: I have a generalized concern that the limitations identified are significant and that some of the conclusions in the report do not fully identify the relevant limitations for each individual conclusion. HB 19-1001 will greatly reduce the limitations on future reporting. I suggest that those reports be subject to a higher level of skeptical review ahead of publication to better anticipate criticism and more fully footnote limitations and alternate hypotheses. I believe this would strengthen the credibility of the core findings.

Page 9, Paragraph 1: I recommend that the Department include: at least a sampling of individual hospitals and their boards (not just the association); the Department of Insurance; the Department of Public Health and the Environment; and public advocates in future efforts to understand these issues. This scope clearly goes beyond Medicaid under HB 19-1001 and an expanded stakeholder group is appropriate.

Page 11: The discussion of the ACA enrollment expansion is particularly interesting, but the limitations of the data are also clear. A complete analysis would need to get at underlying contribution margin by payer net of the changes. The cost ratio alone is not adequate to establish whether or not the expansion of Medicaid and commercially insured through the ACA was a net positive or net negative to hospitals. On the face of it, it seems unlikely that such a large increase in paying customers actually led to deterioration of gross margin, but I acknowledge that I am thinking in manufacturing-type cost-accounting terms which is not the same as "cost" in hospital accounting.

Page 12, Table 5: The CICP/Self Pay/Other column carries an interesting artifact, with the ratio going above 1. Presumably the concentration of cash customers who pay chargemaster rates overcame low payers. Footnote 9 is a good callout of the limitations.

Pages 12 and 13, all Tables: I would find all of these more useful if they accounted for service volume. Colorado experience significant demographic and population changes over the period that may be complicating the analysis. Further, aggregated data makes it impossible to determine variance within the industry and to understand the full nature of the issue. Future reports will benefit from the expanded data resulting from HB 19-1001.

Page 17, Final Paragraph: "This section reveals financial evidence of cost shifting." I would argue that this section more accurately reveals that increases to commercial payers have exceeded the cost shift over the period. This is a good example of the need for a distinction between the cost shift component of the pricing differential and that which may be attributed to other causes.

Page 18, Paragraph 2: “One conclusion could be that the benefits of Medicaid expansions and the ACA has not been passed onto commercial insurance…” Consider whether or not this rhetorical flourish is necessary to make the point that more complete reporting is necessary to form a better understanding of root cause. It is potentially distracting by opening up debate over other possible conclusions without the data available to resolve. For example, another conclusion could be that hospitals needed enhanced margin to repair fragile balance sheets; invest in emerging technology and upgraded facilities to meet modern service standards and regulatory requirements; and expand capacity to respond to changing demographics. The point is, from this data we don’t know. The sentence would be slightly better if “conclusion” were replaced with “hypothesis” better framing the conjectural nature of the comment, but I am not convinced inclusion really enhances the section.

Page 19, Table 14 and Paragraph 2: “To assess cost shifting practices…”. In my opinion this data does not actually support assessment of cost shifting practices. It does very accurately demonstrate variance by region. I recommend deleting the lead in clause and letting the data speak to the overall issue without narrowing it to the cost shift component.

Page 20, Paragraph 1: “With the currently limited and aggregated financial data, analysis about these hospital strategic business decisions and their impact is difficult.” I would argue that it is not just difficult, it is impossible, and more granular data alone will only improve the situation to extremely difficult. Non-financial information will also be necessary to achieve a reasonable understanding of the strategic decisions involved and significant analytical capacity will be required to do this work.

Page 25, Figure 7 and 8: It would be helpful if these were on the same scale for a better visual comparison.

Page 32, External Uncertainties: These are significant and merit a reference in the executive summary to give the reader a more complete picture.

Page 34, Section Conclusion: Except for the reference to cost shift this is a powerful conclusion and is a highlight of the report. I recommend changing “cost shift” to “charges.” In the last sentence.

Page 37, Paragraph 2: “…enabling hospitals to capture commercial carrier reimbursement rate increases in excess of need.” “Need” is an awfully abstract and somewhat judgmental term. The overall point is correct, some hospitals have gained price-setting power, but I question the use of “need” and suggest substituting “inflation” or “background inflation.”

Page 38, Paragraph 2: The observation that lack of a CON process contributes to capital expansion may be correct, but there is no data in the report comparing CON states with non-CON states so this comment would more appropriately be a footnote calling for further evaluation.

Page 40, Paragraph 1: There is nothing in this data to demonstrate that executive compensation is a materially significant component of the cost shift. While there is a significant national discussion about executive compensation at both for-profit and not-for-profit businesses it is not clear to me that this is in-scope for the cost shift report on a simplified basis like this. Again, carrying it as a footnote for further exploration may be more appropriate. I recommend including a full labor section in the first hospital expenditure report to try and understand the impact of wage growth across all hospital staff levels. Data analysts at the Colorado Department of Labor Division of Labor Standards and Statistics would be a key resource for this exploration.

Page 40, Paragraph 2: I believe that the assumption that there are economies of scale from these mergers may be flawed. We see substantial complexity impairing operational efficiency and slow integration delaying any realized benefits. I concur with the section conclusion that more analysis is required to understand what is going on as a result of these mergers, but it raises the question what if anything, would Colorado do differently? Adding a substantial regulatory footprint seems unlikely. I will observe that the closer systems get to monopoly power and competition is diminished the more need there is for regulatory oversight to constrain exploitation, the classic example being utilities. Concepts like "appropriate return on capital employed" and "reasonable and prudent margin" come into play.

Page 45, Paragraph 2: The need for a historic look-back when the new data expected from HB 19-1001 is incredibly important and a major finding of the report. The period from 2009 to 2018 saw incredibly significant changes in the health care landscape. It is not unreasonable to expect that hospitals baked in a significant risk premium wherever they could through that period of evolution. Longer term look-back on balance sheet ratios would be particularly helpful. The operating statements less so, given the substantial changes.

Page 46, Modeling Scenarios: I am not convinced that the data is adequate to justify the assumptions in the scenarios to the level of precision represented (cents on a monthly premium). When the Department has individual hospital data it will be able to demonstrate the variance among Colorado hospitals and thus demonstrate the full range of decision making available. Until then, I recommend withdrawing the section. I would retain the Tables on Page 49 comparing actual hospital cost growth per adjusted discharge to other inflation measures but not include the scenario column.

Conclusion

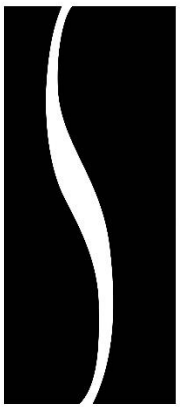
In my opinion the cost shift report is a useful tool and, if I were in your position, I would edit the report to fit conclusions more closely within the data, withdraw speculative comments, and add a section defining the objectives and methodology of the future Hospital Expenditure Report to gain the concurrence of the CHASE board. I would also work with them to define a process that will include them in development of future reports so they are not presented with an all-or-nothing vote. This draft will remain in the public domain representing the Department's broader concerns, but you would make progress towards a more robust result in the future.

Third Party Review of the

Colorado Department of Health Care Policy and Finance

Draft Cost Shift Report

May 31, 2019



SEGUE CONSULTING

Executive Summary

Background and Context

As part of its mission, the Colorado Healthcare Affordability and Sustainability Enterprise (CHASE) Board,[1] along with the Colorado Department of Health Care Policy and Finance ("Department"), seeks to understand major drivers of the costs of healthcare and how those costs are allocated among different payors -- whether government, commercial insurers, providers themselves (in the form of charity care or bad debt), or individual patients or consumers. It is universally acknowledged that public insurance programs such as Medicare and Medicaid, which cover most Coloradans, pay almost all providers less than the costs of care for the beneficiaries of those public programs. A long-standing interest of states and the federal government, and of the CHASE Board, is the degree to which such shortfalls are recouped by providers through elevated charges to patients and consumers covered by commercial insurance, so-called "cost shift."

Following months of research and analysis, the Department issued in January 2019 a Draft Report ("Report") on Colorado hospital cost shifting. The Report and its presentation by Department officials to the CHASE Board received harsh criticism from representatives of some hospitals and the Colorado Hospital Association ("CHA") at the subsequent CHASE Board meeting, including accusations of bias and deliberate manipulation or selection of data and methodologies to reach predetermined conclusions.[2]

In early May, the Department executed a purchase order contract with Segue Consulting, Inc. requesting an independent, third-party review ("Review") of the Report, the presentation materials used by the Department at the February CHASE Board meeting, and the minutes and recording of the meeting proceedings. The Department charged Segue with evaluating the tone and language of the Report for evidence of bias, providing an independent assessment of whether the Report's conclusions "fit the story of the data" as presented in the report, and offering any recommendations for improving the Draft Report or future such reports.[3] The Department explicitly requested that Segue limit the scope and depth of its Review in several important respects. Specifically. the Department asked that the Review:

- Not be an in-depth analysis of the comprehensiveness or validity of the underlying data or methodology used by the Department in arriving at its conclusions;
- Not attempt to reproduce any aspects of the methodology to validate accuracy of the Report's findings; and
- Not seek elaboration from critics of the Report's findings or independently assess alternative hypotheses or explanations they might provide.[4]

[1] The Board was created by the CHASE Act of 2017 ("Act"), Section 25.5-4-402.4, Colorado Revised Statutes. The Board's primary responsibility is to make recommendations to the Medical Services Board regarding implementation of the health care affordability and sustainability fee. https://www.colorado.gov/pacific/hcpf/colorado-healthcare-affordability-and-sustainability-enterprise-chase-board

[2] Recorded proceedings of the February 23, 2019 meeting of the CHASE Board.

[3] Jamie Perkins, personal communications

[4] *ibid.*

Considering these limitations, this review cannot fully exonerate, or sanction the agenda of, any party. It should be regarded as advisory, or as a tool for mediation of current and future disputes – not as definitive arbitration.

Major Conclusions of this Review

- The Report in its entirety compellingly documents the basis for legitimate questions about cost shifting by hospitals in Colorado using the aggregated data provided to the Department by CHA from DATABANK.

- The majority of the "major findings" highlighted in the Executive Summary of the Report are robust in characterizing the basis for asking those legitimate questions and identifying suggestive correlations between the growth in aggregate hospital spending and margins and the seemingly anomalous growth in commercial insurance payments to hospitals.

- In some major findings, however, the language and emphasis on potentially specious correlations may foster or encourage allegations of bias from parties that have divergent interests. These shortcomings in selection and articulation of the Report's "major findings" may result in part from what Segue defines in this Review as "experiential" or "inherent" bias, but limitations on the scope of this Review prohibit definitive conclusions.

- There is no *prima facie* evidence of what we define as "conscious" or "intentional bias" in the Report's major findings. In the context of (a) the sometimes-contentious relationship between the Department and hospital representatives arising from their distinct roles and missions, and (b) the asymmetrical access to data between these entities, we believe it is reasonable to interpret the tone and content of the Report as consistent with the Department's legitimate agenda without impugning the analytical integrity of the analysis or the authors.

- The language of the Report places considerable weight on earnest and compelling, but unvalidated, models and limited third-party sources of data to propose explanations for patterns in the data on cost shifting, its potential causes, and its consequences. The narratives supporting these explanations are less analytically robust than the narratives documenting the more measurable changes or trends in hospital finance over the past decade. The "story of the data" does not strongly support the characterization of causal forces or consequences as definitive or exclusive (or unequivocally primary), but rather as legitimate hypotheses or rebuttable presumptions. The Report appropriately recognizes these potential causal factors and consequences as "an opportunity for future analysis and reporting." But the Report disproportionately focuses its analysis on these factors and gives them emphasis in the Report over other plausible factors -- despite acknowledging significant limitations on the ability to quantify relative contributions or impacts.

Recommendations

If the Department intends to revise the Report, and for future such reports, Segue offers the following recommendations based on this Review:

- Explicitly articulate the purpose and goals of the Report in the context of the Department's mission. Acknowledge the potential sources of experiential or inherent bias that may be perceived as a result.

- Provide drafts to key stakeholders and partners before the draft is publicly available, to identify, acknowledge, and differentiate in later, publicly released drafts any unresolved differences over matters of fact, data sources and limitations, methodological approaches, and interpretations or opinions.

- Be more deliberate in distinguishing analytical findings from implications of findings, particularly policy implications, and structure the organization of the narrative accordingly.

- Acknowledge distinctions between correlations and statistically more robust causative relationships. Ensure that "major" or otherwise highlighted findings reflect those distinctions. Avoid overemphasizing unquantified, or unqualified in relative terms, contributions of causative factors to observed outcomes.

- Consistently acknowledge and articulate sources of uncertainty and provide ranges – and/or, when possible and appropriate, statistical confidence intervals – of data. Avoid overemphasis on point estimates – especially maximum point estimates – when the perception of quantitative precision created (e.g., from unvalidated models) is not reflective of the precision of the underlying data or analysis.

1. Background

The Colorado Healthcare Affordability and Sustainability Enterprise (CHASE) Board was created by the CHASE Act of 2017 ("Act").[5] The CHASE Board's primary responsibility is to make recommendations to the Medical Services Board regarding implementation of the health care affordability and sustainability fee,[6] created by the Act to leverage fees from some of Colorado's hospitals to match, and therefore access, much larger sums of federal Medicaid funds -- most of which find their way back to Colorado providers, including those subject to the fees.

As part of its mission, the CHASE Board,[7] along with the Colorado Department of Health Care Policy and Finance ("Department"), seeks to understand major drivers of the costs of healthcare and how those costs are allocated among different payors -- whether government, commercial insurers, providers themselves (in the form of charity care or bad debt), or individual patients or consumers. It is universally acknowledged that public insurance programs such as Medicare and Medicaid, which cover most Coloradans, pay almost all providers less than the costs of care for the beneficiaries of those public programs. A long-standing interest of states and the federal government, and of the CHASE Board, is the degree to which such shortfalls are recouped by providers through elevated charges to patients and consumers covered by commercial insurance, so-called "cost shift."

Following months of research and analysis, the Department issued in January 2019 a Draft Report ("Report") on Colorado hospital cost shifting. The Report and its presentation by Department officials to the CHASE Board received harsh criticism from representatives of some hospitals and the Colorado Hospital Association ("CHA") at the subsequent CHASE Board meeting, including accusations of bias and deliberate manipulation or selection of data and methodologies to reach predetermined conclusions.[8]

In early May, the Department executed a purchase order contract with Segue Consulting, Inc. requesting an independent, third-party review ("Review") of the Report, the presentation materials used by the Department at the February CHASE Board meeting, and the minutes and recording of the meeting proceedings. The Department charged Segue with evaluating the tone and language of the Report for evidence of bias, providing an independent assessment of whether the Report's conclusions "fit the story of the data" as presented in the report, and offering any recommendations for improving the Draft Report or future such reports.[9] The Department explicitly requested that Segue limit the scope and depth of its Review in several important respects. Specifically. the Department asked that the Review:

- Not be a comprehensive analysis of the comprehensiveness or validity of the underlying data used by the Department in arriving at its conclusions;

[5] Section 25.5-4-402.4, Colorado Revised Statutes

[6] https://www.colorado.gov/pacific/hcpf/colorado-healthcare-affordability-and-sustainability-enterprise-chase-board

[7] The Board was created by the CHASE Act of 2017 ("Act"), Section 25.5-4-402.4, Colorado Revised Statutes. The Board's primary responsibility is to make recommendations to the Medical Services Board regarding implementation of the health care affordability and sustainability fee. https://www.colorado.gov/pacific/hcpf/colorado-healthcare-affordability-and-sustainability-enterprise-chase-board

[8] Recorded proceedings and minutes of the February 23, 2019 meeting of the CHASE Board.

[9] Jamie Perkins, personal communications

- Not attempt to reproduce any aspects of the methodology to validate accuracy of the Report's findings; and
- Not seek elaboration from critics of the Report's findings or independently assess alternative hypotheses or explanations they might provide.[10]

Considering these limitations, this review cannot fully exonerate, or sanction the agenda of, any party; it should be seen as advisory, or as a tool for mediation of disputes – not as definitive arbitration.

While the focus of Segue's review is on the Report's language and the logic and inherent credibility of the Report narrative, it does not occur in a vacuum. We recognize that the partnership between the Department and the Colorado's hospitals (and CHA) is sometimes an uneasy one, vulnerable to all the tensions and finger-pointing so common between providers and payers that *Modern Healthcare* devoted a cover story to it recently.[11] Those tensions have risen as news stories and studies across the US report continued increases in health care costs and the stakes surrounding potentially significant new health care reform proposals continue to command the spotlight on the political stage here in Colorado and in Washington, D.C. Despite, or perhaps because of, those tensions, Segue believes it is critical that this partnership – no matter how uneasy -- endures and strives for solutions that serve the Triple Aim.

[10] *ibid.*

[11] Bannow, T., "Industry leaders share ideas, point fingers on limiting hospital prices" *Modern Healthcare*, April 13, 2019.

2. Is There Evidence of Bias Inherent in the Draft Report?

2.1 Context for Our Analysis

We propose that there are two types of bias.

"Intentional" or "conscious" bias, what some hospital industry representatives on the CHASE Board explicitly or implicitly alleged, can be characterized by:

- Deliberate exclusion or insufficiently justified dismissal of available, relevant data;
- Deliberate exclusion or failure to fairly consider or present reasonable alternative interpretations of available data, especially if those interpretations have been clearly articulated by other parties prior to the completion or release of the analysis; or
- Obvious or egregious logical flaws in reasoning or methodology based on available, relevant data.

In its most egregious manifestation, intentional bias comprises distorted research and analysis deliberately conducted, shaped, or presented to support predetermined conclusions.

"Experiential" or "Inherent" bias, by contrast:

- Is relatively common[12] and typically not deliberate or ill-intentioned;
- Often arises from acceptance of dominant narratives – societal, academic, organizational, or personal;
- May originate from "moral foundations,"[13] core values, or foundational social or economic interests; and/or
- Is often reinforced by personal experience that may or may not be influenced by confirmation bias, cognitive dissonance.

Assessing bias – especially intentional bias -- is something akin to psychoanalysis; conclusive evidence requires an understanding of state of mind, not just analysis of sins and omissions applied to words or numbers on a page. As previously emphasized, the Department's instructions to Segue constrains our knowledge and evaluation of the data available to the Department in preparing the Report, and therefore limits – if not completely prevents --our ability to infer or reach a finding of intentional bias (or lack thereof) based on deliberate exclusion or insufficiently justified dismissal of available, relevant data.

[12] Although a detailed comparison is not within the scope of this study, Segue has separately reviewed CHA's hospital finance study produced contemporaneously with the Cost Shift Report ("Health Care Costs and Hospitals: Drivers and Opportunities" February 12, 2019). Some of the questions addressed by the two reports, as well as the data and analytical methods, differ in certain ways -- some significant and some less so. In our view, however, the language, tone, and analysis in the CHA report raises similar questions about potential experiential or inherent bias. The CHA report's findings and conclusions – like those of the Cost Shift Report – are relatively narrowly focused, reflect the organization's agenda and priorities, and deserve thorough consideration in ongoing policy discussions. See also footnote 15.

[13] For detailed discussion of moral foundations, see, e.g., Haidt, J., *The Righteous Mind: Why Good People Are Divided by Politics and Religion* (2012),

A *prima facie* evaluation of the content and the strengths and weaknesses of the Report offers some insights into whether other sources of intentional bias may exist, but conclusive findings of intentional bias would be difficult even without the Department's limitations on the scope of this Review listed in Section 1.0.

Moreover, Segue's experience with health policy and business strategy provides a foundation for undertaking this Review, but also represents a source of potential bias. We disclaim any intentional or conscious bias in preparation of this Review. And just as psychoanalysts are trained to be aware of their own psychic makeup to manage their evaluation of and recommendations to their patients as objectively as possible, we also make every effort to prevent, or at least minimize, the potential for inappropriate inherent or experiential bias to infect our evaluation. To that end, we strive to explicitly acknowledge our perceptions, values, and beliefs in our analysis when appropriate (as with the concluding paragraph of Section 1, for example) to provide context to specific findings and recommendations. Readers are free to make their own assessments of whether, and to what degree, our findings and recommendations may be influenced by these perceptions, values, and beliefs.

Segue's analysis begins with an examination of the Report's major findings, as articulated in the Executive Summary of the Report. From the standpoint of potential biases due to language, the findings selected for emphasis in the Executive Summary can reveal the most intentional choices – as well as any inherent biases -- of the Report's authors. The consequences of content and wording in the Executive Summary are most significant because critical stakeholders – including, in our opinion, the majority of legislators, the media, lobbyists and other advocates, and many consumers – are less inclined to wade through the dense financial analysis and industry jargon of the full Report to draw conclusions.

After evaluating the findings in the Executive Summary, our analysis highlights selected portions of the full Report for examination of language, methodologies, data sources, or content. Special emphasis is placed on section conclusions, tables, charts, and other graphics. Like the Executive Summary, these elements of the Report can be disproportionately significant in conveying what information the Report's authors chose to emphasize (or to exclude) and are often extracted without any qualification by important stakeholders and the media.

2.2 Evaluation of the Executive Summary

The first paragraph of the Executive Summary emphasizes in bold type the Report's two-part, overarching conclusion:

1. *The CHCAA, CHASE, and ACA increased Medicaid payments to hospitals, reduced the number of Colorado's uninsured, and reduced hospitals' bad debt and charity care write-offs.*
2. *These revenue-positive outcomes for hospitals did not result in reductions in hospital cost shift to other payers.*

After reviewing the full report and the supporting CHASE Board meeting materials provided by the Department, we conclude that:

- The first statement, above, is consistent with an objective, unbiased analysis of aggregate hospital data and is, or should be, relatively uncontroversial. The Report's authors could have

emphasized more prominently that the limitations of the aggregated data made available to the Department prevent an unequivocal conclusion that all Colorado's hospitals saw these revenue gains. However, attributing this phenomenon to all hospitals in Colorado is a reasonable generalization and provides little evidence of bias, deliberate exclusion of relevant and available data, or flawed methodologies.

- The second part of the Report's conclusion, in isolation, is also consistent with an unbiased analysis of the data used by the authors. But it reflects an underlying assumption – arguably, a bias -- inherent in the Report and accepted by both the Report's authors and representatives of the hospital industry alike: that cost-shifting explains the objectively documented gap between prices paid by private payers and the prices paid by public insurance (i.e., Medicaid and Medicare).

  The beginning of the Report's Introduction invokes the legislative declaration of the CHASE Act, noting that the General Assembly intended for the Act:

  > "…to reduce the need for hospitals to shift uncompensated care costs to commercial payers by increasing reimbursement to hospitals for inpatient and outpatient care provided to Health First Colorado and Colorado Indigent Care Program members and reducing the number of uninsured Coloradans."[14]

  The Report ultimately questions this assumption in offering the possible conclusion that hospitals raise prices to cover their costs, not public insurance underpayments. But tacit acceptance of this cost shifting as a foundational assumption of the analysis complicates assessment of objectivity, bias, or methodological flaws in the Report.

- From a language perspective, joining the second part of the Report's overarching conclusion to the first part, without qualifications, while objectively accurate, unnecessarily exacerbates the perception of bias. It also clouds the issue of the degrees to which cost shifting is a deliberate financial strategy intended exclusively or primarily to compensate for public insurance underpayments versus an after-the-fact rationalization for profit (or net revenue) maximization or – as some Department officials and third-party critics of hospital pricing have frequently emphasized publicly – questionable attempts to expand market share.

We conclude that these perceived biases, to the extent they reflect real biases, appear largely experiential, not clearly intentional, and may arise from the Report's sometimes questionable attributions of robust empirical financial data to less robust conclusions about causal forces and hospital spending.

[14] *Cost Shift Analysis Report*, p. 4. In addition, the Report further notes (p. 53) that the General Assembly's Joint Budget Committee specifically changed the Department's 2018-19 budget allocation for CHASE to require "additional analysis on cost and cost shift."

As to the most serious allegations of some hospital representatives, Segue finds no *prima facie* evidence in the Executive Summary of the Report proving state of mind or intent relative to distortions of research or analysis to fit prejudged conclusions.[15]

Evaluation of the other major findings highlighted in the Report's Executive Summary reveals both objective, verifiable conclusions as well as some evidence of potential bias due to overly generalized and insufficiently -- or weakly -- supported analyses. Specifically:

- The impacts of the CHCAA and the ACA on the number of insured Coloradans and, by extension, the reduction in losses to hospitals – in aggregate -- due to bad debt and charity care write-offs is supported by robust empirical data.

- Based on the available data and sound methodology, the Report reasonably concludes that "rising hospital costs and margins have contributed to rising insurance premiums." This choice of language, presented in isolation and without qualification as a "major finding," however, invites criticism. The phrase "contributed to" provides readers with no sense of the absolute or relative magnitude of the contribution.

- In aggregate, the finding that hospital growth trends and actual hospital margins contribute more than Medicaid and Medicare under-compensation to commercial cost shift is well supported by the data and the analysis used in the Report.

- The absolute disparity between hospital cost growth and adjusted discharges in Colorado between 2009 and 2017 reflects empirical data and sound analysis consistent with other reputable studies that conclude that health care cost increases nationally and in other states are primarily functions of prices, not increased utilization. However, juxtaposing only these two metrics reduces complex issues of hospital finance and debate over the utility of adjusted discharges as a robust indicator of utilization to an overly simple relationship. The scale of the disparity properly demands further analysis, but the comparison by itself does not, in our view, rise to the level of a "major finding."

[15] Commenters at the February 2019 CHASE meeting leveling such allegations may be understood for believing such an egregious form of bias exists, in light of what Segue perceives as a heightened level of criticism coming from both governmental and private sector sources about hospital prices and the increases in surplus revenues and profit margins of hospitals both nationally and in Colorado. But in the absence of evidence, we interpret the industry representatives' allegations of disingenuous analysis as an overreaction to the findings and conclusions in the Report, at best -- or, at worst, political posturing. Our interpretation arises from the following beliefs: It is axiomatic that neither the Department, nor the Colorado hospital industry representatives in their responses, approach the available data divorced from the context of their sometimes-divergent missions. It is a fact and a duty that the Department, as the insurer of a significant percentage of Coloradans and the source of the greatest demand on state general funds, appropriately seeks to control hospital costs, which all agree constitute the largest share of health care expenditures in Colorado and across the United States. Representatives of the hospital industry, for their part, reflect different imperatives across a diverse set of institutions and socio-economic settings. Their objectives encompass their mission to provide accessible, quality care to patients in the communities that depend upon them (and in rural regions, for more than just health care), while ensuring stable cash flows and net revenues, compliance with governmental and payer requirements, and proactive response to perceived future needs and uncertainties.

- The Executive Summary lists as a major finding that "Colorado hospital operating expenses" in 2009 were 3.2 percent higher than the national average, juxtaposing this finding with 2017 data revealing that "Colorado hospitals operating expenses *per adjusted discharge*" (emphasis added) were 14 percent higher than the national average. Note that a correction is required: it should reflect the data shown in Table 20 of the Report (p. 37) that *both* the 2009 and 2017 data refer to expenses on a *per adjusted discharge* basis. But setting aside the potential confusion that may arise from this editing error, the underlying data are empirically derived, and such comparisons with national averages are commonplace methodologies in such analyses.

- Identifying "rapid cost growth" as a "major contributing factor" to the cost shift follows objectively from the analysis. From a tone and language perspective, emphasizing 8.3 percent or $7.9 billion in potential savings to commercial customers if hospitals had matched national cost benchmarks is more problematic. In general, we believe people tend to ascribe greater precision to, or confidence in, single point estimates -- especially when highlighted in a major finding -- than is generally warranted. In our opinion, point estimates (even when qualified by "as much as") fail to educate readers about legitimate uncertainties that are almost always inherent in such estimates, and which may be significant.

  More nuanced language would include the lower end of the range of savings, acknowledging at least the following potential sources of uncertainty:
  - Hospital objections to the use of Medicare Cost Reports as benchmarks;
  - Potential challenges or tradeoffs associated with controlling costs to those levels; and
  - The likelihood that commercial insurers would pass through 100% of the hospital savings to their customers -- which, in our experience, is far from guaranteed. To suggest that hospitals "could have passed on" significant savings to customers, as if that is a direct process rather than one intermediated by (most typically) profit-maximizing insurance companies, is potentially misleading.

  By way of contrast, the last major finding listed in the Executive Summary articulates similar conclusions in language that is more measured, yet still reflective of the data: Hospitals "could have reduced their cost shift or fee increases to commercial carriers and their employer and consumer clients." This could have been achieved by: "managing costs at or close to the national average" and "maximizing the benefits of CHCAA, CHASE, and the ACA."

- The increase in overall payment-to-cost ratios across all payers from 1.05 to 1.08 between 2009 and 2017 appears to be a robust calculation from the (aggregated) data, as does the 250 percent increase in (aggregate) hospital margins per adjusted discharge during that period. Again, to the extent that the choice to use adjusted discharges as an indicator of utilization introduces significant uncertainties into estimates relative to other possible measures, reporting a range of ratios and margins rather than single point estimates (if possible) should be preferred.

- The Executive Summary includes a major finding that acknowledges correctly that data aggregation is performed by CHA and limits the ability of the Department to identify business decisions and trends at a hospital-by-hospital level that underlie the increases in hospital costs

and prices. We believe this limitation transcends the other major findings and could have been more appropriately emphasized if separately presented as a "meta-qualifier" to those findings.

- Finally, the Report finds that, in addition to "more transparency into hospital financial data," Colorado would also "benefit from clarification of and accountability for not-for-profit hospital obligations to communities. There is further opportunity for each community to have more influence on hospital business decisions such as new construction or physician/hospital acquisition, which impact health care costs in their community." Highlighting these statements as major findings in the Report is problematic because, unlike the other findings in the Executive Summary, they implicitly advocate specific policy remedies beyond the findings of the study:

    - The limited transparency of hospital financial data and its impacts on the analysis is a finding well-supported by the analysis in the Report. Many – but not all – stakeholders may agree that, as a matter of policy, Colorado would benefit from more transparency, but that conclusion does not arise from the same level of analysis as other "major findings."
    - Similarly, the Report makes a compelling case that hospital business decisions such as construction and M&A activity impact heath care costs. That there is an opportunity for communities to have more influence is perhaps, on one level, axiomatic. But the Report does not analyze the degree to which not-for-profit hospitals are or are not accountable to their obligations to communities, the extent to which communities currently have influence on hospital business decisions, or whether Colorado would be better off if they did.

2.3 Evaluation of the Body of the Report

The Introduction to the Report effectively emphasizes the history and impacts of relevant state and federal health care legislation on hospital finance and the Colorado General Assembly's concern for cost shifting in adopting the Colorado Health Care Affordability Act and the CHASE Act. In providing this context, however, it does not acknowledge and describe competing theories and evidence related to whether cost shifting is a deliberate strategy of hospitals to address public insurance under-compensation or whether hospitals approach negotiations with commercial payers motivated principally by maximization of profits (or, technically, for non-profit hospitals, maximization of net revenues).

The Report includes only a cursory summary of the methodology and its limitations and sets an uninspiring tone for the Report. The limitations imposed by data aggregation and voluntary submission are an important, but minimal, concession to a complex analysis, and are used primarily in the service of advocacy for more transparent reporting. The narrative provides little discussion of the possible impacts of these limitations on the analysis, citing only the inability of the Department to ensure "accuracy or year-over-year consistency," the potential for "reporting bias," and that overall cost-to-charge ratios are compared to global cost-to-charge ratios."

The lack of a more thorough description of these and other possible limitations of the data and the analysis provides little inherent basis for confidence in the subsequent assertion that "the analytical

findings are directionally adequate and credible as a whole." Similarly, the assertion that the analysis follows (undescribed) "best practices" and relies "heavily" on (unidentified) external resources further highlights the missed opportunity to proactively demonstrate the objectivity and analytical integrity of the Report. The scope and charge of this Review limits our ability to assess or comment on the extent to which other limitations in the data or methodology may affect the analysis, and how. Given the literature on this topic and general caliber of analysis demonstrated in the Report, a more robust explanation of best practices could address this issue and effectively remove one basis for critics to allege bias.

The core analysis in the Report comprises sections on:

- Cost Shifting in Colorado, including regional differences;
- External factors influencing cost shifting, including Medicaid expansions and payer volume, Colorado's health conscious market, and external uncertainties;
- Hospital actions influencing cost shifting, including choices that increase hospital costs such as capital investments and administrative expenditures; and business decisions such as mergers and acquisitions and reimbursement negotiations with commercial insurance companies; and
- Modeling scenarios, including modeling to evaluate margins and cost shifting choices, the effect of costs, and the effect on insurance premiums or coverage expense to self-funded employers and union trusts.

Segue reviewed these sections of the report carefully to draw broader inferences and formulate conclusions about the tone of the report overall. Section 2.2 of this Review evaluated how the Report's analysis was manifested in the "major findings" included in the Executive Summary (and at the conclusion of the Report). In our analysis below, we offer our observations and findings related to prominent features of the core analysis of the Report. These observations are based on our premise that the language, emphasis, and content of section conclusions and other highlighted findings, as well as graphics selection and presentation, are relevant and important indicators of the "story" that the Report's authors believe emerge from the data and their analysis.

- The Report aptly frames and emphasizes key questions that arise from analysis of DATABANK data on hospital payment-to-cost ratios over the past decade, particularly with respect to increases in commercial payment-to-cost ratios during a period of increasing government payments. Consistent with the Report's assertion that its methodologies follow "best practices," it would be helpful – especially for stakeholders that are not versed in the details of hospital finance – to include language explaining the calculations of "costs," "payments," "payment to cost ratios" and "margin" – including any assumptions inherent in, or controversies related to, those calculations that might introduce significant uncertainties into the analysis.

- With respect to those calculations, and generally for the Report as a whole, the tone throughout the Report would be improved by using ranges or intervals, rather than point estimates, when the existence and meaning of any significant uncertainties raise potentially important questions about the analysis or its conclusions.

- The Report tells a compelling story based on the data about the impacts of Medicaid expansion on uncompensated care costs for Colorado hospitals. Buttressing this argument with national

data only from the Center on Budget and Policy Priorities could contribute to unnecessary suspicion of bias relative to the overall Report, as some stakeholders may perceive CBPP as having a liberal bias. Citing multiple studies of Medicaid expansion's impacts may require presenting the magnitude of those impacts as a range, rather than a single point estimate, but we believe the fundamental conclusion is sound.

- The Report's analysis of external factors on hospital costs tells a compelling story about margins and volumes, but Colorado's aggregate health consciousness and measures of expenditures and utilized services per capita tell a less compelling story about how the nature and trajectory of inpatient and outpatient health care demand and utilization may affect hospital cost growth. This issue is important to the tone and credibility of the overall narrative. Especially for stakeholders deficient in detailed understanding of concepts of adjusted discharges, utilization, case mix, and intensity, this subsection would benefit from a more comprehensive discussion of indicators, the uncertainties relative to causal factors, and the magnitude of their potential impacts on attributing cost increases to non-medical factors.

- Similarly, the Report's subsection on external uncertainties describes five possible sources of potentially significant factors driving the nature of, and justifications for, hospital business decisions. It also acknowledges the intentions of the Department and the CHASE Board to continue to improve its analytical capabilities to understand such factors. The tone and overall narrative of the Report would be improved by additional explanation on the relative magnitudes of these factors and their impacts on uncertainties related to estimated hospital cost increases.

- It seems misleading, therefore, that the overall subsection concludes in bold face that neither "external factors…nor the available aggregated data explain why the cost shift to commercial payers has increased." The subsection contains more description of these external factors and uncertainties than robust analysis of their relative impacts. The analysis appears insufficient to ascribe the shift to these external sources, it is true, but those same limitations makes language ruling out those causes as significant contributors to the shift problematic. The tone of the conclusion suggests that those factors can and should be ruled out and true causes sought elsewhere – i.e., hospital actions.

- Table 19 of the report (p.35) starkly frames a major question: what factors best explain the dramatic aggregate increases in overall hospital costs in Colorado, especially in the most recent two years of data? The narrative emphasizes that service volume (adjusted discharges) grew more slowly than overall hospital costs, but there is insufficient explanation of whether or how such a correlation-based analysis adequately accounts for case mix, severity, or other factors that might increase cost per adjusted discharge. The analysis also cites construction costs, mergers, and acquisitions as potentially important sources of hospital cost growth that may explain increases in commercial payer costs. Ideally, statistical and econometric techniques (e.g., regression analysis) would be used to attempt to sort out the relative contributions of all these variables. Such analysis was either not possible with the available data -- perhaps due to its aggregation across all hospitals -- or was not attempted. The Report properly notes that this is "an opportunity for further analysis and reporting" but cites only those two potential causal

factors in its major findings as justification for greater transparency. The focus on these two factors is even more pronounced in the slides used by the Department to summarize the Report's findings at the February 2019 CHASE Board meeting, which may have contributed to the critical reception from some hospital representatives.

The final subsection of the analytical core of the Report presents two earnest and compelling modeling scenarios to estimate how insurance costs might have been impacted if Colorado hospitals have made decisions that controlled costs more in line with other benchmarks of intrinsic cost increases. Comment on the specifics of the models is beyond the scope and charge of this Review. In general, however, our conclusion is that the models:

- Seek to answer the right questions and can serve as a starting point for additional analysis and engagement with hospitals and CHA;
- Abet a misleading assumption in the degree to which reductions in hospital costs are assumed to translate directly, on a dollar-for-dollar basis, to savings in insurance costs; and
- Are unvalidated, and thereby imply in the tone and language of the subsection a degree of quantitative precision that is not consistent with the caveats on the data and analytical methods acknowledged elsewhere in the Report. The Report appropriately does not cite the point estimates in this subsection as major findings, but –as noted previously in this Review -- the tone of the Report and the story of the data would be better served by a more judicious use of estimated ranges that account for the numerous uncertainties in the analysis.

Overall, the core analysis presents a plausible narrative based on the data and analytical methodology that documents the scope and scale of the gap between aggregate commercial payments to hospitals at a time of growth in Medicaid and other revenues and declines in losses from uncompensated care. The language of the report overall is occasionally problematic or misleading in ascribing causation where the analysis relies on plausible but limited correlations and implied quantitative precision where (often acknowledged) uncertainties suggest a more nuanced tone. In Segue's opinion, these shortcomings fall short of providing *prima facie* evidence of bias, especially intentional or conscious bias. Definitive conclusions about the presence of experiential or inherent bias are beyond the scope of this Review, but shortcomings in the narrative tone and emphasis highlighted in this Review make such allegations by other, self-interested parties more understandable (albeit not necessarily valid).

3. Concluding Observations and Recommendations

As expressed in the Background section of this Review, Segue's evaluation of the Report does not take place in a vacuum. We are optimistic that our observations and recommendations in this document will not be viewed as definitive judgments on allegations of bias.

Segue did not find *prima facie* evidence of intentional or conscious bias in the Report, although we identified many instances where shortcomings of language, tone, causative association, or emphasis in the narrative might be construed – validly or not – as experiential or inherent bias by others – especially those with different experiential or normative orientations.

Two messages at the Prime Health Innovation Summit in Glendale on May 7, 2019 resonated strongly with the context of this Review. The first was Department Executive Director Kim Bimestefer's metaphor of moving from floodlights to spotlights to flashlights to lasers in using data to identify opportunities to achieve better healthcare at lower costs. After her formal remarks on the stage, she cited the Report as an important step in that process. We hope this Review will add further value to that process.

The second message was delivered by Ruth Benton, CEO of New West Physicians, who said: "Through controversy -- or argument – you find truth."

At Segue, we admit to a frequent (though not unqualified) bias for Ruth's wisdom. To the extent the Report, seen through the lens of this Review, focuses light in the right places and helps the Department, its critics, and other key stakeholders engage in constructive controversy -- or argument -- to find the truth, the citizens and healthcare consumers of Colorado will be the ultimate and appropriate beneficiaries.

To that end, we offer the following recommendations for this, or future, Reports:

- Explicitly articulate the purpose and goals of the Report in the context of the Department's mission. Acknowledge the potential sources of experiential or inherent bias that may be perceived as a result.
- Provide drafts to key stakeholders and partners before the draft is publicly available, to identify, acknowledge, and differentiate in later, publicly released drafts any unresolved differences over matters of fact, data sources and limitations, methodological approaches, and interpretations or opinions.
- Be more deliberate in distinguishing analytical findings from implications of findings, particularly policy implications, and structure the organization of the narrative accordingly.
- Acknowledge distinctions between correlations and statistically more robust causative relationships. Ensure that "major" or otherwise highlighted findings reflect those distinctions. Avoid overemphasizing unquantified, or unqualified in relative terms, contributions of causative factors to observed outcomes.
- Consistently acknowledge and articulate sources of uncertainty and provide ranges – and/or, when possible and appropriate, statistical confidence intervals – of data. Avoid overemphasis on point estimates – especially maximum point estimates – when the perception of quantitative precision created (e.g., from unvalidated models) is not reflective of the precision of the underlying data or analysis.

Review Report of Colorado's Cost Shift Analysis Draft Report

Ge Bai, PhD, CPA, Matthew D. Eisenberg, PhD, and Gerard F. Anderson, PhD

Drs. Ge Bai, Matthew Eisenberg, and Gerard Anderson have reviewed the Cost Shift Analysis Report, released in draft form in January 2019 by Colorado Healthcare Affordability & Sustainability Enterprise, at the request of Colorado Department of Health Care Policy and Financing. Ge Bai, PhD, CPA, is an associate professor of Accounting at the Johns Hopkins Carey Business School and associate professor of Health Policy and Management at the Johns Hopkins Bloomberg School of Public Health. Matthew Eisenberg, PhD, is an assistant professor of Health Policy and Management at the Johns Hopkins Bloomberg School of Public Health. Gerard Anderson, PhD, is a professor of Health Policy and Management and Professor of International Health at the Johns Hopkins Bloomberg School of Public Health, professor of Medicine at the Johns Hopkins School of Medicine, and Director of the Johns Hopkins Center for Hospital Finance and Management. All three scholars have extensive research experience in analyzing U.S. hospitals' economic behaviors. The conclusions in this report reflect the professional opinions of the researchers, not Johns Hopkins University. None of the researchers has received or expects to receive any form of compensation by the State of Colorado.

In our opinion, the Cost Shift Analysis, in all material aspects, used appropriate methodology for their analyses and drew reasonable conclusions. The findings about hospital behavior, specifically that hospitals generally do not lower their private costs in response to increased public reimbursement, are in line with the existing empirical evidence documented in the academic literature.[1-4]

Our review assessed the overall appropriateness of the report's empirical methodology and the reasonableness of its main conclusions. In what follows, we discussed several specific concerns raised by the hospital industry regarding the report's methodology and conclusions. These concerns involved 1) the inflation adjustments; 2) the cost of living adjustments; 3) Colorado population's relative health and education status; 4) the study period; and 5) the positive impact of hospitals on the state.

First, while inflation in Colorado differs from the national average, these differences are likely not large enough to explain the increase in Colorado hospitals costs for the privately insured. Data from the U.S. Bureau of Labor Statistics[5-6] report an average non-seasonally adjusted inflation rate for urban consumers in Denver-Aurora-Lakewood area of 2.6% and an average rate

[1] Frakt, A. B. (2014), The End of Hospital Cost Shifting and the Quest for Hospital Productivity. Health Serv Res, 49: 1-10. doi:10.1111/1475-6773.12105

[2] Dranove, D., C. Garthwaite, and C. Ody. 2013. "How Do Hospitals Respond to Negative Financial Shocks? The Impact of the 2008 Stock Market Crash." National Bureau of Economic Research Working Paper No. 18853. Cambridge, MA[accessed on July 10, 2013]. Available at http://www.nber.org/papers/w18853

[3] White, C. 2013. "Contrary to Cost-Shift Theory, Lower Medicare Hospital Payment Rates for Inpatient Care Lead to Lower Private Payment Rates." *Health Affairs* **32** (5): 935–43.

[4] He, D., and J. M. Mellor. 2012. "Hospital Volume Responses to Medicare's Outpatient Prospective Payment System: Evidence fromFlorida." *Journal of Health Economics* **31** (5): 730–43

[5] https://data.bls.gov/PDQWeb/cu

[6] https://data.bls.gov/pdq/SurveyOutputServlet?data_tool=dropmap&series_id=CUURS48BSA0,CUUSS48BSA0

of 1.7% for the nation from 2010-2018.[7] This 0.9 percentage point difference in inflation would likely not materially affect the comparison of the trend of operating expense per adjusted discharge in 2009-2017 between Colorado and the national average as presented in Figure 14. However, since we cannot be sure what the figure would look like with these adjustments, a revision of Figure 14 is recommended that adjusts for these small inflation differences. We did not observe any other longitudinal results in this report that might be prone to inflation adjustment.

Second, the cost of living in Colorado differs from the national average. The report states In Figure 16 that Colorado ranked second among all states. When examining the Consumer Price Index for Colorado,[8] we find that urban consumers in the Denver-Aurora-Lakewood area have a CPI of 248.10, which is slightly higher than the CPI for the nation (246.16). We expect the ranking in Figure 16 might change after an adjustment and thus suggest that the report be revised accordingly. We did not notice any other state-level comparison results in this report that might be prone to cost-of-living adjustment.

Third, the report notes that Colorado is a healthier and better educated on average than the national average, and that this likely contributed to Colorado's relatively low health care expenditure per capita. This assessment is appropriate, considering Colorado's relatively low utilization rate of hospital services, as presented in Tables 17 and 18. It is possible that current and future hospital efforts to contain the cost of care may have also have an effect on average expenditures per capita. However, since the population in Colorado is relatively healthy and thus less likely to visit the hospital at all, we do not believe cost containment efforts would explain low expenditures per capita. Rather, an examination of hospitals' own cost per adjusted discharge would better get at the effect of any cost containment efforts given the health of the population.

Fourth, this report does not include data prior to 2009. All empirical studies are limited by data availability and must carefully balance this with the appropriateness of their conclusions. Using 2009-2017 as the study period in the report is appropriate, which includes the impacts of major policy changes both in the state (the 2009 Colorado Health Care Affordability Act) and the nation as a whole (the 2010 Affordable Care Act). We do not have reasons to expect that the conclusions would qualitatively change if the study period were to be expanded to an earlier period.

Fifth, the conclusions of the report did not recognize the positive impacts of Colorado hospitals on the state and the population. The purpose of the report is to understand the hospital cost landscape in Colorado, especially the hospital cost's implications for commercial payers. Considering this narrow focus, we do not believe that the scope of conclusions, as listed in the Executive Summary, lacks objectivity.

[7] Urban data was used because no state information is publicly available.
[8] https://www.bls.gov/cpi/tables/supplemental-files/historical-cpi-u-201904.pdf

In this report, we express no opinion on (1) the reliability of source data, (2) the appropriateness of opinions or projections not derived from empirical analyses, (3) the accuracy of individual numeric values and forecasting models.

In conclusion, we believe that certain specific values cited in the conclusions, particularly those with regards to longitudinal analyses, might change should our suggested adjustments be made. However, based on our read of the authors' analysis, the overall conclusions of the report are unlikely to differ qualitatively as a result.

Memorandum

To: John Bartholomew, Finance Office Director of the Department of Health Care Policy and Financing
Jamie Perkins, Executive Assistant to the Chief Financial Officer
From: Chapin White
Date: June 20, 2019

I have reviewed the "Cost Shift Analysis Report—Draft, January 2019" ("report") in order to evaluate the report's accuracy, objectivity, and methodological soundness. This Memorandum describes my overarching observations regarding the report, and I have also inserted a number of inline comments to the attached Word document ("HCPF Cost Shift Analysis Report - DRAFT--CWhite--2019_05_13.docx").

The core assertions of the report are: 1) since 2009, the federal government and the Colorado state government have implemented policies that substantially improved the financial wellbeing of Colorado hospitals, 2) despite those policies, commercial health plans have not experienced a commensurate reduction in their payments to hospitals, and 3) hospitals' costs and profitability have both increased over time in Colorado relative to benchmarks.

In general, the core assertions in the report are sound. The report's overarching conclusion is that hospitals in Colorado have exerted market leverage to achieve higher-than-necessary growth in prices paid by commercial health plans, and those price and revenue increases have allowed hospitals' costs and profits to increase. That conclusion is justified, based on the evidence presented in the report, as well as corroborating evidence presented in this Memorandum and other recent research findings (e.g. https://www.rand.org/pubs/research_reports/RR3033.html).

The remainder of this Memorandum describes suggested improvements to the report's methodology and framing. These suggestions, if adopted, would, I believe, further strengthen the report, but would not alter the overarching conclusion.

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I. Methodology

A. Analysis of Coverage Expansions and the Provider Fee

Two elements of the analysis could be improved:

1. The costs of the provider fee should be reflected as a cost to treating Medicaid patients. The current analysis includes increased hospital revenues from increased Medicaid payment rates as Medicaid revenue, but by using an aggregate cost-to-charge ratio, the costs of the provider fee are spread over all payers. The report should also clarify how Medicaid DSH payments are categorized for purposes of calculating PCRs.

2. Expansions of enrollment in Medicaid shift some individuals from being uninsured to being insured by Medicaid, and shift other individuals from being privately insured to being insured by Medicaid. A Medicaid expansion may increase a hospital's Medicaid revenues and reduce losses on uncompensated care, but its overall impact on hospital revenues may still be ambiguous. The estimate of overall impact should reflect lost revenues from individuals who shift from commercial insurance to Medicaid, and lost revenues from uninsured patients who shift to Medicaid and who, if they were uninsured, would pay hospitals out-of-pocket.

The report would benefit from an overarching analytic framework, which could be something like the following:

$$PCR_t = \frac{\sum_{i,t} N_{i,t} C_{i,t} PCR_{i,t}}{\sum_{i,t} N_{i,t} C_{i,t}}$$

where

i indexes sources of insurance coverage (commercial, Medicare, Medicaid, CICP, self-pay)

t indexes year

$N_{i,t}$ is the number of individuals with coverage *i* in year *t*

$C_{i,t}$ is the hospital costs per person per year among individuals with coverage *i* in year *t*,

$PCR_{i,t}$ is the payment-to-cost ratio for individuals with coverage *i* in year *t*, and

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PCR_t is the overall payment-to-cost ratio for hospitals in Colorado in year *t*.

This type of analytic framework sets up the analyst to estimate the impact on hospitals' PCRs from two types of policies: 1) policies that shift insurance coverage (i.e. change the number of individuals in each category *i*) and 2) policies that change payments within a coverage category (i.e. change $PCR_{i,t}$). A Medicaid expansion would increase the number of individuals with Medicaid, reduce the number of uninsured individuals, and reduce the number of privately insured—this framework allows estimation of that coverage shift on hospitals' PCRs.

This framework could be expanded so that individuals could be assigned to combinations of source of insurance coverage, *i*, and a sociodemographic group such as child, disabled, parent, low-income, high-income, and so on. The payment-to-charge ratio for uninsured individuals below 138 percent of poverty is likely lower than the payment-to-charge ratio for uninsured individuals above 400 percent of poverty.

B. Benchmarks

The analysis includes two sets of hypotheticals:

1. What if Colorado hospitals' overall PCRs had remained at the 2009 level?

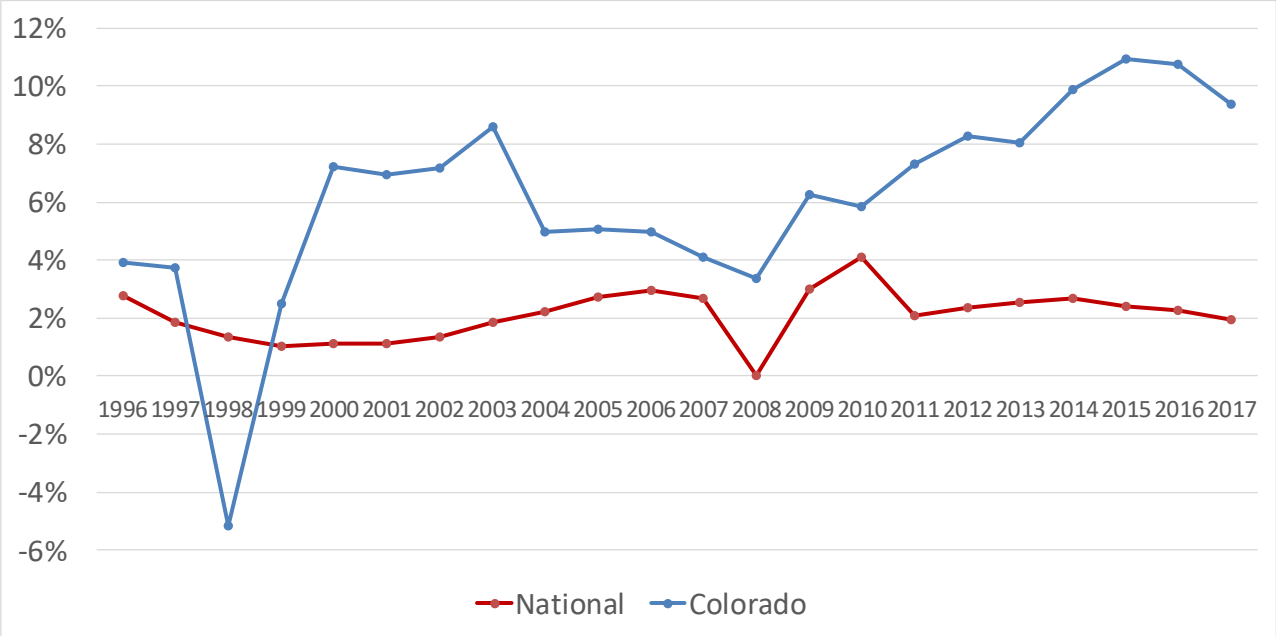
2. What if Colorado hospital costs per adjusted discharge had grown in line with other measures of inflation including the Medicare market basket for inpatient hospital care?

The comparisons of actuals versus hypotheticals is useful, but both of those benchmarks could be refined.

Besides the 2009 Colorado hospital PCR, other reasonable benchmarks include the national hospital payment-to-cost ratio in 2009, or an average national hospital payment-to-cost ratio from 1996-2017, or an estimate of a PCR corresponding to a reasonable margin (say, 2%). The national PCR can be estimated based on AHA data,[1] or based on Medicare hospital cost reports.

3

Based on Medicare hospital cost report data, Colorado hospitals' operating margins (and, hence, PCRs) have been above the national average for many, many years, and so the Colorado 2009 PCR may be too high of a benchmark.



Source: Source: Chapin White's analysis of RAND Hospital Data (using "rand_hcris_cy_natl_a_2019_05_01.csv" and "rand_hcris_cy_st_a_2019_05_01.csv" downloaded from www.hospitaldatasets.org)

On a reasonable benchmark for growth in costs per unit of service, I think that the authors need to put three elements on the table: input prices (what do hospitals pay for labor, equipment, etc.), casemix (how complicated is each unit of service), and productivity. To me, a reasonable benchmark for growth in hospital costs per unit of output is growth in input costs plus true casemix growth (not upcoding) minus productivity growth. The report tosses out several cost growth benchmarks without really pinning down which one is appropriate and why.

With regard to the benchmarks, here are a few suggestions and observations:

1) Based on this CMS actual regulation market basket data,[2] I think the annual growth in the IPPS market basket over the 2009-2017 period was around 2.6%, I'm not sure where the 4.4% is coming from. Is the 4.4% baking in growth in casemix?

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2) If CHCF asserts that the market basket is a reasonable benchmark for hospital costs per adjusted discharge, that assumes that hospitals' productivity growth offsets any growth in casemix. It's better to break out those assumptions, and clarify what role casemix is playing and what CHCF thinks is a reasonable trend in productivity. CMS has done work in this area, here: https://www.cms.gov/Research-Statistics-Data-and-Systems/Research/HealthCareFinancingReview/downloads/07-08Winterpg49.pdf and here: https://www.cms.gov/Research-Statistics-Data-and-Systems/Statistics-Trends-and-Reports/ReportsTrustFunds/Downloads/ProductivityMemo2016.pdf. CBO also has a very nice working paper on hospital margins and productivity growth, I'd strongly recommend reading.[3]

3) Reported Medicare DRG casemix nationwide has been growing around 1% a year, it's not clear how much of that is real and how much is upcoding, maybe half to three quarters is real. The authors could use HCUPNET to look at trends in casemix among all payers in Colorado and nationally.

4) The CPI for hospital services is definitely not an appropriate benchmark, it excludes payments by Medicaid and Medicare Part A, and its components are weighted based on out-of-pocket spending.

5) The PPI for hospital services is a better benchmark than the CPI, although it's picking up trends in payments to hospitals per casemix-adjusted unit of output rather than trends in hospitals' costs. If hospitals' margins are flat then trends in costs and trends in payments to hospitals should be more or less equal, but that's not a given.

C. Adjusted Discharges

The authors use adjusted discharges as their metric of hospital output including inpatient and outpatient services, which is consistent with the American Hospital Association's methodology. This measure of output is flawed in that it is vulnerable to hospitals' setting charges (or, "gross revenues") differently for inpatient and outpatient services. If they haven't already, I strongly recommend that the authors consider alternative measures of output.

In general, cost-to-charge ratios are lower for outpatient services. If volume is measured based on charges, and charges are differentially higher and grow faster for outpatient services, then growth

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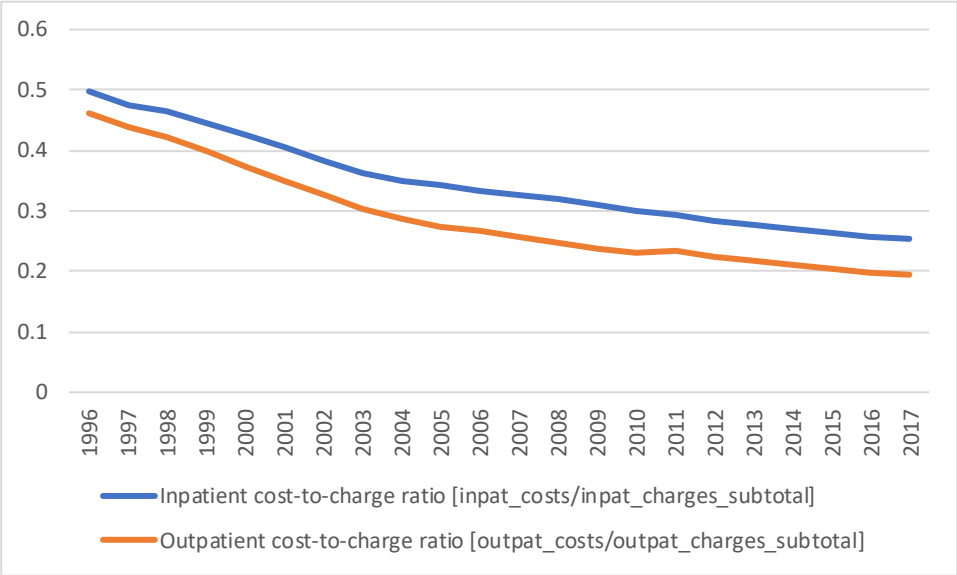
in hospital output will be overstated. If growth in hospital output is overstated, then growth in payment per unit of output is understated.

Here is a time trend in cost-to-charge ratios for inpatient and outpatient services based on the Medicare hospital cost reports:



Source: Chapin White's analysis of RAND Hospital Data (using "rand_hcris_cy_natl_a_2019_05_01.csv" downloaded from www.hospitaldatasets.org)

Cary and Stefos (1992) measured levels and trends in inpatient and outpatient costs using different methodologies, and they found that the adjusted discharge methodology tends to significantly overstate outpatient costs per visit.[4] Vivian Wu and I have used a measure of hospital output that we call "discharge equivalents," which is equal to the number of inpatient discharges multiplied by the ratio of total costs (inpatient plus outpatient) divided by inpatient costs.[5] The calculation of discharge equivalents from Medicare hospital cost reports is documented in the RAND Hospital Data documentation (https://www.hospitaldatasets.org/data/dictionary/2019_05_01). The discharge equivalents approach is still vulnerable to hospitals' shifting costs to outpatient cost centers, but my sense is that it is less biased than the adjusted discharge methodology.

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II. Framing

In several cases, CHCF's framing of an issue could be improved.

A. State versus federal sources of funds

The report conveys the sense that the State of Colorado has been generous to hospitals over the last decade, through the provider fee and coverage expansions. It is important for the report to acknowledge that the provider fee was designed to draw down additional federal funding while holding hospitals harmless, and that the ACA provided Colorado with a very high federal match. My sense is that it is not the case that taxpayers in Colorado footed a new, large bill to fund hospital care for low-income residents, but rather that Colorado implemented a plan to draw down federal funds for that purpose with big help from the ACA. I suspect that the main sources of financing are taxpayers outside Colorado, and that the main beneficiaries are low-income residents of Colorado who either gained coverage or shifted to more-affordable coverage.

B. Sources of data on hospital finances

The report repeatedly laments the level of aggregation in the DATABANK resource, and the limited fields available. My understanding is that HCPF will be accessing hospital-level DATABANK data in the future, and so this may be a moot point. But it would be more productive in this report just to list the data sources available for this analysis (DATABANK, Medicare hospital cost reports, Medicaid cost reports are mentioned but I'm not clear on whether that's a typo or another data source) and describe the pros and cons of each. Then, in a text box or separate section, the report could describe how the DATABANK resource could be made more useful for this kind of analysis, including concrete examples from other states (e.g. California's OSHPD financial reports) and suggestions for additional fields or breakouts and a description of how that additional detail would help the analysis.

[1] https://www.aha.org/guidesreports/2018-05-23-trendwatch-chartbook-2018-chapter-4-trends-hospital-financing.
[2] https://www.cms.gov/Research-Statistics-Data-and-Systems/Statistics-Trends-and-Reports/MedicareProgramRatesStats/Downloads/mktbskt-actual-new.zip.

[3] Hayford, Tamara, Lyle Nelson, and Alexia Diorio, *Projecting Hospitals' Profit Margins Under Several Illustrative Scenarios: Working Paper 2016-04*, Working Paper 2016-04, September, 2016. https://www.cbo.gov/sites/default/files/114th-congress-2015-2016/workingpaper/51919-Hospital-Margins_WP.pdf.

[4] Carey, Kathleen, and Theodore Stefos, "Measuring inpatient and outpatient costs: A cost-function approach," *Health Care Financing Review,* Vol. 14, No. 2, 1992, pp. 115–124. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4193307/.

[5] White, Chapin, and Vivian Yaling Wu, "How Do Hospitals Cope with Sustained Slow Growth in Medicare Prices?," *Health Services Research,* Vol. 49, No. 1, February, 2014, pp. 11-31. http://onlinelibrary.wiley.com/doi/10.1111/1475-6773.12101/abstract.

Review of Cost Shift Analysis Report

Key Points

In January 2019, the Colorado Department of Health Care Policy and Financing (HCPF) published a draft report, "Cost Shift Analysis Report" and presented the Report at the CHASE Board's February 2019 meeting. At the meeting, the Board voted against accepting the Report, raising concerns about bias in the Report. Based on this feedback, HCPF asked Health Management Associates (HMA) and several other outside experts and organizations to review the Cost Shift Report and present an assessment of findings.

HMA's review is presented on the following pages. Overall, we note that much of the Report content is useful information that is presented in a clear, objective way and there are several analyses and conclusions that warrant the attention of the various stakeholders. For example:

- The increase in commercial insurance ratio of payment to cost (PTC) during a nine-year period when Medicaid shortfall and uncompensated care decreased is significant. The Report fairly presents the available data on the trends in revenue and PTC by major payer source in several tables.
- Likewise, the expense growth in excess of national averages and the increase in all-payer PTC (margins) raise important questions about hospital performance.
- HMA did not review the source data or the calculations underlying the tables but is not aware of any objections or concerns about whether the results are accurately calculated.
- The "what-if" modeling of different scenarios provides helpful context; by expressing recent cost growth and margin increases in terms of the impact on commercial insurance payments (and therefore, the impact on employer/consumer cost), the Report appropriately establishes the importance of these issues.

We provide a thorough and detailed assessment of the Report on the following pages, which drive to our recommendations for opportunities for improvement (note that important and additional detail regarding these recommendations is provided on pages 12 and 13):

Determine whether the Report is a technical research report, a call to action with specific policy recommendations, or a combination of both. HMA believes that the primary purpose of the Report is research – analysis of recent hospital financial performance and investigating the reasons for the results. A statement at the outset of the Report that clearly communicates the purpose will orient the reader and will help with editing and revising.

The Report should present the data, the calculations and the results in a factual objective way using consistent terminology. Include a table of definitions so that readers know what "cost shift", "cost", "margins", etc. mean as used in the Report to minimize misunderstandings about these terms.

A careful review should be performed of all statements, cites and examples that portray hospitals in a negative light to ensure that the negative comments are adequately supported with data, and prejudicial or provocative terms are avoided where possible.

Acknowledge the shortcomings in the calculations. Discuss drivers and factors in a balanced way.

***Address utilization*:** perform a comparison of adjusted discharge growth and adjusted discharges per capita using cost report data and consider whether Colorado is above, at, or below national averages.

The discussions of nonprofit hospital obligations and executive compensation should be removed.

Ensure all assertions and conclusions, throughout the body of the Report in addition to the "conclusions" section, are adequately supported. Also, present conclusions in a balanced way.

In a separate section, summarize the data limitations noted through the Report and the need for additional data. Specify the additional data needed where possible, or at a minimum, the type of information that would be useful.

Consider reorganizing and streamlining the content to enhance readability and understanding.

Background

In Colorado, as in most states, hospitals generally receive less payment from Medicare and Medicaid than the cost of delivering care and incur uncompensated care costs treating uninsured and underinsured patients. To offset the public program shortfall and uncompensated care, hospitals must receive higher rates from commercial insurers than the rates paid by public programs. The payment rate differential can be thought of as a ***cost shift*** from the public programs to commercial payers.

The Colorado hospital provider fee program was established in 2009 to increase payments to hospitals using a hospital provider fee to finance the state share of the additional payments. The legislation creating the provider fee program, referred to as the Colorado Health Care Affordability Act (CHCAA) of 2009, established an advisory board to make recommendations about the fee and report to the legislature on whether the objectives of CHCAA were being met. In 2017, CHCAA was repealed and replaced with new legislation establishing the Colorado Healthcare Affordability and Sustainability Enterprise (CHASE). A CHASE Board was created under the 2017 Act to make recommendations regarding the implementation of the hospital provider fee program. These recommendations include the amount of the fee, reforms to hospital reimbursement and quality incentive payments, and the approach to expanding coverage under Colorado's Medicaid Program.

One of the objectives of CHCAA/CHASE is to reduce the need for the cost shift. The hospital provider fee program increases Medicaid payments. In addition, coverage expansion under CHCAA and the Affordable Care Act (ACA) was expected to reduce uncompensated care. The expectation was the benefits from CHCAA and ACA would result in lower commercial insurance rates. The CHASE Board and its predecessor have reported on the Colorado cost shift each year, publishing information on payments, costs and the ratio of payment to cost (PTC) for Medicare, Medicaid and commercial insurance. These reports show a significant increase in the Medicaid PTC and a large decrease in uncompensated care, but no decrease in commercial insurance PTC. In fact, from 2009 to 2017 the commercial PTC grew.

To better understand these data, the Colorado Department of Health Care Policy and Financing (HCPF) conducted a study of available data and published a draft report in January 2019, "Cost Shift Analysis Report" (hereinafter referred to as "the Report"). The Report:

- Displays revenue, expense, margin (revenue less expense) and PTC ratio for each year in the nine-year period 2009-2017, in total and by major payer source (Medicare, Medicaid, commercial, other). The information was obtained from or calculated by HCPF using data

supplied by the hospital association. This data shows that one of the key objectives of recent reforms has not been met – making private insurance more affordable by increasing Medicaid payments and decreasing uncompensated care.

- Calculates revenue and expense per adjusted discharge and compares the results and the cumulative trends to national averages, using publicly available hospital cost report information. Average annual growth in expenses has exceeded national averages and national inflation rates.
- Attempts to explain Colorado hospital trends based on external factors and hospital decisions. Various external studies and articles were drawn on for this assessment.
- Quantifies the effect on commercial insurance payments to hospitals under two scenarios – if Colorado hospital expenses grew at same rate as the national average; if the all-payer PTC (margins) remained at 2009 levels.
- Argues for additional data from hospitals to improve the analysis of hospital financial performance (referred to as greater transparency).

The Report was presented during the CHASE Board's February 2019 meeting. After a presentation by a representative of CHA, and several minutes of member discussion, the Board voted against accepting the Report. The main objections to the Report voiced at the meeting were concerns about bias: lack of objectivity, focusing only on information casting hospitals in a negative light and ignoring other information that may run counter to the Report's conclusions. There was also concern about not seeking Board input prior to completing the draft.

In response to the CHASE Board decision, HCPF asked Health Management Associates (HMA) and several other outside experts and organizations to review the Cost Shift Report and prepare an assessment of whether bias appears to be evident or if there are other factors that negatively impact the Report's objectivity, accuracy or methodological soundness[1].

Observations in General

The Report totals 57 pages (excluding appendices) and includes a great deal of information. While HCPF specifically asked HMA to review for areas of bias and other concerns, HMA notes that much of the Report content is useful information that is presented in a clear, objective way and there are several analyses and conclusions that warrant the attention of the various stakeholders. For example:

> The increase in commercial insurance PTC during a nine-year period when Medicaid shortfall and uncompensated care decreased is significant. The Report fairly presents the available data on the trends in revenue and PTC by major payer source in several tables.
>
> Likewise, the expense growth in excess of national averages and the increase in all-payer PTC (margins) raise important questions about hospital performance.
>
> HMA did not review the source data or the calculations underlying the tables but is not aware of any objections or concerns about whether the results are accurately calculated.

[1] HMA has been working with HCPF since September 2017 on analyses of hospital financial information including advising HCPF on measures of financial performance, some of which is used in the Cost Shift Report and presented an overview of related hospital financial information to the CHASE Board in 2017. This work has informed HMA's understanding of many of the issues discussed in the Report.

The "what-if" modeling of different scenarios provides helpful context; by expressing recent cost growth and margin increases in terms of the impact on commercial insurance payments (and therefore, the impact on employer/consumer cost), the Report appropriately establishes the importance of these issues.

Concerning the question of whether there is bias in the Report or other concerns, HMA identified several issues:

- There are places in the Report where the language or tone could infer bias.
- The Report includes many statements and examples that negatively portray hospitals and there are very few positive statements and references.
- There are instances where the Report did not account for all of the relevant information available, potentially skewing the conclusion.
- In some instances, the Report introduces conclusions but does not provide enough information to effectively support the conclusions.
- Some of the findings may be explained by several reasons; the Report identifies one explanation for the finding but does not mention alternative explanations.
- Two of the topics addressed in the Report, nonprofit hospital obligations to the community and executive salaries, are highly controversial industry issues. At best, these topics are tangentially relevant to the cost shift review and they are likely to invoke strong anti-hospital sentiment in the media and public and detract from the purpose of the Report.
- There are opportunities to improve the readability and flow of the Report to help the reader understand these complex topics and avoid coming to incorrect conclusions from the information.

Specific comments and concerns are addressed in the next three sections of this assessment.

Bias in Language and Tone

In a technical research report it is important to use accurate, consistent and objective terminology. Certain words and terms may have negative connotations, depending on how they are used. In an opinion piece, language is an effective tool that can help persuade the reader to agree with a point of view, but in a research paper such language is generally not appropriate. Examples:

The terms "cost shift" and "cost shifting" are used extensively throughout the Report including the title. The term is appropriate when used to describe the fact that hospitals must receive more from private payers to offset below-cost reimbursement from public payers[2] and uncompensated care. However, there are instances where the term is not used appropriately. For example, in Table 12 (page 16) the entire all-payer margin is labeled "cost shift". The connotation is especially negative when the term "cost shifting" is used. "Cost shift" is a result whereas "cost shifting" is an action that the Report seems to portray as a unilateral decision by hospitals to shift their cost increases onto commercial insurers. While many hospitals have a strong market position, the insurer has to agree to pay higher rates (it is a negotiation, not a dictate).

[2] Most hospitals receive below-cost reimbursement from Medicare and Medicaid. The Medicare Payment Advisory Commission (MedPAC) historically has concluded that relatively efficient hospitals are paid enough from Medicare to cover their costs, although relatively efficient hospitals are only 14% of all hospitals. In its March 2019 report, MedPAC found that even relatively efficient hospitals receive less than cost from Medicare. It is generally accepted that Medicaid plans reimburse less than cost, especially after netting provider fees against payment.

The term “overcompensation” is frequently used in the Report. The word means “too much”. The Report does not define how much of cost shift is too much. It is not reasonable to eliminate the cost shift without eliminating government payer shortfalls and uncompensated care, because hospitals could not continue to operate with sustained negative margins. By using the term overcompensation, the Report infers that the entire cost shift is unwarranted.

Other specific examples of perceived bias:

- On page 11, related to one of the nine years (2016) the final sentence says, “With hospitals receiving more Medicare and Medicaid reimbursements and a substantial decrease to the uninsured, the aggregated data does not explain why commercial insurance is being overcompensated for rising hospital costs and margins.” This comment is misleading because the PTC for all public payers decreased that year.

- On page 13, there is an excerpt from an article published in Politico (the article is very critical of nonprofit hospital behavior). The excerpt says, “National trends have shown the increased resources have not always translated into benefits for the communities which hospitals serve. Rather, many hospitals have used those increased revenues and resources to fund multimillion-dollar renovations, to enable market share growth through vertical and horizontal expansion, or to increase executive compensation.” This is a prejudicial comment in an otherwise objective section and may contribute to the perception of bias. Eliminating this example may be the best way to address the concern, as the points about use of resources are made later in the Report.

- On page 20, the preface to the sections on external factors says, “Hospitals continue to overcompensate commercial reimbursements by about $1 billion. This analysis seeks to answer: (1) why overcompensation on hospitals’ commercial revenue streams continues when Medicaid expansions and programmatic efficiencies have been implemented and designed to reduce the cost shift, and (2) where hospitals allocate the additional revenue.” The use of the term “overcompensation” is inappropriate in both places and (2) infers that hospitals are using additional revenue inappropriately, a prejudicial comment.

- There is a statement on page 34 that says “most decisions a hospital makes that impact their costs are within their control. One possible conclusion from the aggregated data could be that hospitals have raised their prices to cover their rising costs rather than limiting costs”. The first sentence is unclear, but it would be inappropriate to assert that most expenses are optional and that hospitals could spend less simply by choosing to spend less.

- On page 39, the preface to a table on beds by region says, “New construction seems to correspond to the regions that do not need new facilities nor new hospitals, with new hospital construction concentrated largely in the higher income areas of Colorado, such as Longmont/Boulder.” The first part of the statement is inflammatory and not supported with any evidence. The second part of the statement is contradicted by the data in the table (see the 3rd bullet under the capital spending section below).

- On page 44, there is a statement that vertical integration adversely affects quality: "The vertical integration of physician groups increases hospital costs and pressures physicians to admit patients to their parent hospital system versus admitting to the most cost effective, high quality alternative". This seems to be based on an article from a website called healthcaredive.com, and in reviewing the article it seems this information is anecdotal. A provocative conclusion on a topic not related to cost shift and without adequate support may not belong in this Report.

Observations about Key Sections and Themes

Payment to Cost Analysis

Table 8 displays the difference between payment and cost (margin) by major payer group for each year. From 2009-2017, the Medicare margin worsened by $870 million, the Medicaid margin worsened by $499 million, the all-other margin improved by $785 million and the insurance margin improved by $1,370 million. The net margin across all payers increased by $786 million. These margin results are not always presented objectively in the Report.

- Costs by payer are established by multiplying payer charges by an overall ratio of cost to charges. The calculation of payer cost assumes that all payers have the same ratio of cost to charges. The calculation is the best available given the data limitations, but in a technical research report such as this it would be appropriate to acknowledge the potential for inaccuracy.

- The $786 million increase in margin across all payers is described accurately in most cases but there is an inference that margins should not have increased and instead, the all-payer margin should have remained at 2009 levels. Hospital margins typically increase and decrease over time, and it may not be appropriate to make judgments about this eight-year period, given that the period began at the peak of the Great Recession and ended with a very strong US economy. The Report does not attempt to determine a sufficient margin for hospitals (nor should it), but for the sake of objectivity the Report should acknowledge that this is an unanswered question.

- The $785 million increase in "all-other" is not explainable from the available DATABANK information. The Report estimates that over half of this increase is attributable to charity care and bad debt reductions; in footnote 9 the Report appropriately acknowledges that this increase is misunderstood. However, in subsequent sections of the Report the all-other results are combined with Medicaid and portrayed as a $296 million benefit of CHCAA and ACA legislation. By doing so, the Report effectively masks the growth in Medicaid shortfall and the fact that nearly $400 million of margin gain is not explainable.

- While the benefits of CHCAA and ACA are highlighted in the Report, the $870 million increase in the Medicare shortfall is not highlighted sufficiently. On page 11, there is a reference to "the downward, then flattening trend in Medicare". On page 17, the text indicates that Medicare under-compensation has nearly tripled since 2009. Neither of these references are highlighted, while there are many bolded passages discussing hospital benefits in the Medicaid/other categories. There is no discussion of the Medicare payment reductions included in the ACA[3].

[3] The Congressional Budget Office estimated that the in the ten years following ACA passage, Medicare payments would be reduced by $390 billion. Most of the reductions were anticipated to come from hospitals.

- The Report demonstrates the significant changes in payer mix from 2009-2017, with large increases in Medicare and Medicaid percentages and offsetting decreases in commercial and self-pay/other percentages. The Report describes the positive effect of the drop in self-pay/other but fails to describe the significance of the changes in source of coverage: as the commercial percentage has decreased and Medicare/Medicaid increased, a significant portion of reimbursement shifted to lower-payment payers. The Report does not calculate whether the net effects of the payer mix shift are positive or negative, but the Report calls out only the positive impact of the decrease in self-pay/other.

- The Report highlights the fact that adjusted discharges for commercial have been flat while uninsured decreased significantly. There is no mention of the large increase in Medicare and Medicaid adjusted discharges or the negative financial effects of growing part of the business that pays well below cost.

Cost Growth

The expense growth over the eight-year period is one of the key topics in the Report. The Report effectively describes the cumulative change in expenses and the effect of changes in patient volume and inflation. The comparison of Colorado's growth in cost per adjusted discharge to the national average (Figure 14) makes the case for potential opportunity in a convincing way. However, there are concerns with the assessment of drivers – the growth in cost beyond that which can be explained by the volume and inflation measures used in the Report.

- The introduction to the cost growth section on page 35 promises an assessment of drivers of hospital cost growth, but only capital costs, executive compensation and market consolidation are discussed. It could be inferred from the Report that the primary drivers of hospital cost growth, beyond volume and inflation, are capital spending, executive compensation and market consolidation. As noted below, the increase in capital costs accounts for about 25% of the overall cost growth, while executive compensation and market consolidation are likely to be immaterial factors. Other cost drivers (pharmaceutical expense, medical/surgical devices, regulatory burden) and the factors noted in the next four bullets may explain more of the cost growth.

- Volume changes are measured using adjusted discharges, a standard measure of hospital volume but one with flaws. The calculation of adjusted discharges assumes that all charges have a similar mark-up over cost and that the relationship of charges does not change over time. The metric is the best available but in a technical research report such as this it would be appropriate to acknowledge the potential for inaccuracy.

- The Report does not account for changes in casemix. Often, adjusted discharges are casemix-adjusted to reflect the impact of variation in patient acuity. Generally, hospital patient acuity increases over time as the population ages and medical science evolves. If there is interest in addressing casemix, Colorado does not have access to reliable all-payer casemix data for the eight-year period, but the information should be available for Medicare and Medicaid. If the casemix change is not estimated, the Report should acknowledge that it is an unknown factor that may explain part of the cost growth.

- The Report uses national inflation factors to recognize the portion of cost growth attributable to inflation. In its comments at the February CHASE Board meeting, the CHA representative stated that Denver's inflation rate has exceeded the national average. If true, this could explain an additional part of the cost growth. The US Department of Labor measures and publishes inflation rates for various metropolitan areas. Another possible measure of Colorado-specific inflation is the wage index information derived by CMS from Medicare cost reports. Each year, CMS publishes average hourly compensation (wages plus benefits) for each metropolitan area and for the US in total. Because compensation is 60% to 70% of hospital expenses, a comparison of Colorado's wage increases since 2009 to the US average would provide insight into the applicability of the national inflation rate.

- The effect of the provider fee on cost is not addressed. If hospitals include the provider fee in expenses, a significant portion of the cost growth may be attributable to an expense that did not exist in 2009.

Utilization

The Report focuses on cost increases and does not address whether volume increases are favorable or unfavorable. Hospital revenue (purchaser/consumer cost) is a function of price and volume. The Report shows that adjusted discharges have increased 14.2% in eight years. The picture might be more complete by comparing the growth in Colorado hospital adjusted discharges to national averages, similar to the comparison of cost per adjusted discharge to the national average by year. If price increases are higher but volume increases are lower, a different conclusion may be reached about the cost-effectiveness of Colorado hospitals. Alternatively, if Colorado's volume has grown at a faster pace than the rest of the country, the interest in exploring cost-effectiveness improvements may increase.

The section called Colorado's Health-conscious Market (pages 26-32) shows contradictory data about per capita expenditures and utilization. Hospital spending per capita, hospital inpatient admissions per 1000 and outpatient visits per 1000 are significantly less in Colorado than national averages (23% to 30% lower). However, a study by NRHI/CIVHC shows that hospital spending and outpatient utilization for commercial insurance is much higher than a multi-state average.

The Report attempts to explain that the favorable per capita comparisons are due to the relative health status of the population (Coloradoans are on average healthier according to the Report). This may be a significant factor, but there is no evidence that it accounts for the difference. Rather than dismiss these comparisons to national averages (the Report says they are misleading), the Report should acknowledge that there is data suggesting that hospital care in the state is cost-effective compared to the rest of the country.

Capital Spending and Market Consolidation

Figure 16 shows that Colorado hospitals' capital cost per adjusted discharge is significantly higher than the national average. This is an important finding that should be explored. However, there are concerns with the way in which these data are used.

- The gap between Colorado's capital cost per adjusted discharge and the national average is approximately $400 whereas the gap in total cost per adjusted discharge is over $1,600.

Accordingly, capital costs account for roughly 25% of the total cost difference leaving 75% to be explained.

- Capital cost is equated with new construction. Capital cost is comprised of depreciation, lease expense, interest expense and certain smaller costs such as property insurance. Depreciation includes new construction placed in service, but also includes existing facilities, medical equipment, and information technology assets. New construction is only one component of capital cost and it could be a relatively small component.

- The only evidential information to support the effect of new construction on hospital cost growth is on pages 39 and 40, a table showing beds per 1000 persons in various Colorado regions. Of note, the two areas with highest number of beds per 1000 persons are Pueblo and Grand Junction, which have median incomes well below the other metropolitan areas in the table. Also, it should be noted that Colorado's statewide statistic (beds per 1000 persons) is 28% below the national average. These data seem to contradict the points made narratively in the Report about the effects of new construction.

Pages 40-44 discuss market consolidation in Colorado including hospital-to-hospital mergers and acquisitions and hospital acquisitions of physician practices. Much of this information is relevant to the cost shift topic and presented in a reasonably objective way.

Market consolidation may increase payment for all payers (not only commercial) and does not result in higher expenses. There is potential for price increases from consolidating market share and from leveraging the negotiating position from larger systems. There is also a large pricing increase when services move from physician-directed sites to hospital outpatient departments. The extent of these impacts on hospital payment and margin is not known, however, and these factors do not contribute to the cost shift or the increase in hospital expenses.

The other concern with this section is the emphasis on quality. While there may be negative effects on some quality measures, there may be positive effects on quality too (extending best practices, helping smaller facilities access technology, etc.). More importantly, this study is not about the quality of care in Colorado hospitals and introducing a few negative anecdotes is prejudicial.

Nonprofit Obligations and Executive Salaries

The Report calls into question whether hospital business decisions (merger/acquisition) and capital spending are appropriate uses of revenue given the nonprofit status of most hospitals. The Report further suggests that hospitals may not be meeting their nonprofit community benefit obligations, given the decrease in uncompensated care post-ACA.

Hospitals' charitable organization status has been a controversial and interesting topic for decades, and a considerable amount of community benefit and charitable policy information is required to be reported by every nonprofit hospital in their annual 990 return. The Report does not use this information; rather, the Report infers (with no data) that the decrease in charity care could have been used to reduce the cost shift but instead was used to fund expansion and executive salaries. The issues surrounding nonprofit charity and community benefit obligations and appropriate use of revenues are,

at best, tangentially related to the cost shift topic. However, comments made about this topic are prejudicial and add to the perception of bias.

The Report cites increases in executive salaries as one of the drivers of hospital cost increases. Three sources were noted in the Report:

1. A study from the National Center for Biotechnology Information, which tracked the CEO compensation increases from 2005-2015 for the 22 hospitals in the US News and World Report Honor Roll and four notable orthopedic hospitals. The average CEO compensation increased 93% over 11 years to $3.1 million. HMA does not know the average revenue of all 26 organizations, but the CEO compensation may represent as little as 0.1% of these organizations' expenses. While 93% is high for a 10-year period, it is not dramatically higher per year than the 59% increase in Colorado hospital expenses for the eight years in question.
2. An article from the New York Times indicating a $386,000 average hospital CEO salary in 2014. The same article notes that the average health insurance CEO received $584,000 that year. If the 67 hospitals included in the DATBANK survey had an average salary of $386,000, the total would be nearly $26 million. While this is a large figure, it represents only 0.2% of total 2014 expenses.
3. An article from the Colorado Springs Gazette noted that the 10 highest paid nonprofit CEOs in the region averaged $747,000 in 2016. However, most of the CEOs in the top 10 were non-healthcare organizations. The article also noted that the 10 highest paid nonprofit CEOs made only 40% of the average compensation of the seven public company CEOs based in the region.

Based on HMA's review of the underlying references, there is no basis for concluding that executive salaries contribute more than a small fraction of the Colorado multi-year cost increase. On the other hand, the topic of CEO pay is very inflammatory, and including these references in the cost shift Report adds to the perception of bias.

Transparency

One key theme of the Report is an argument for increased transparency. There are two concerns with the way in which the transparency topic is addressed:

First, the term is not well-defined. Stating that there is a need to improve transparency infers that there is currently a lack of transparency. This could be interpreted to mean that hospitals hide or withhold information that it is reasonably expected by consumers and other stakeholders. Often transparency is used in healthcare to describe the expectation for providing pricing information to consumers, or information about nonprofit hospital community benefits, or information about patient care quality measures. There is a great deal of this type of information already available from Colorado hospitals.

For purposes of this Report, the lack of detailed financial information at the hospital level is the main deficiency. However, the information needed is not articulated. The Report notes that several states have enacted legislation to require hospitals to provide financial data, but most states do not have these laws and must work with what is already provided publicly (such as the Medicare cost report). For the states that do have legislative mandates, it is not clear that the information they collect would answer the questions the Department is raising about business decisions and cost changes.

Second, the case for greater transparency is made in eleven different sections of the Report (including the Executive Summary and Conclusion sections). Readability and flow of the Report could be improved

with less repetition. Also, arguably the topic is over-emphasized and may overshadow other important findings in the Report.

Other Observations

Purpose Section

The top portion of the Purpose section identifies eight topics examined in the Report, but only six are actually discussed and the topics listed here are not the most important features of the Report. The paragraph below the list of bullets is a more accurate description of the purpose, and the bullets are not necessary.

Medicaid Disproportionate Share Hospital Payment Reductions under the ACA

The discussion of the Medicaid Disproportionate Share Hospital payment reductions required by the ACA and the several delays enacted by Congress may not be necessary. This is a reimbursement change that did not happen and therefore has no effect on the nine-year trend of revenue, expense, margins or cost shift. If the cuts did occur as initially scheduled hospitals would have received less Medicaid reimbursement, driving down the PTC for that payer. Whether the reduction would have decreased margins or prompted hospitals to attempt to negotiate higher rates from commercial insurers is not something that can be ascertained. Also, it should be noted that the delay in the cuts has been accompanied by a significant increase in the cuts: the initial multi-year total in the ACA was $18.1 billion in federal funds; under current law the total is $44 billion in federal funds. Consequently, hospitals still face the prospect of very large Medicaid payment reductions, much larger than initially anticipated.

External Uncertainties

The purpose of this section is not clear to HMA, but it may be to explore whether there are financial uncertainties that cause hospitals to seek higher rates from commercial insurance in order to offset the effects of potential negative outcomes. There is some validity to this concern. Each year the federal government considers cuts to Medicare and Medicaid budgets and as the largest component of these programs' cost, hospitals are frequently targeted for significant payment reductions. Efforts to repeal parts of the ACA and reduce funding for Medicaid expansion were very real threats two years ago and are likely to resurface. One way that hospitals plan for these uncertainties is to target higher margins in order to grow cash reserves, especially in periods when the economy is strong.

The Report identifies five Medicaid-related uncertainties, and then concludes that there is no evidence that uncertainties affected the cost shift. However, as with many factors discussed in this analysis, the lack of evidence in the information available does not mean the issue does not exist.

Corrections and Edits

Some inaccuracies were noted in descriptions and terms, and sometimes in the presentation of data. Presumably these would be identified prior to finalizing the Report. As a result, a detailed listing of corrections and edits is not provided.

Opportunities for Improvement

Determine whether the Report is a technical research report, a call to action with specific policy recommendations, or a combination of both. HMA believes that the primary purpose of the Report is research – analysis of recent hospital financial performance and investigating the reasons for the results. There are policy actions that may be taken based on the conclusions in the Report, but with one

exception (the call for greater disclosure of financial data) the Report does not include recommendations or a set of policy options to consider. A statement at the outset of the Report that clearly communicates the purpose will orient the reader and will help with editing and revising. The following opportunities for improvement are provided with the assumption that the Report is meant to provide objective research on Colorado hospital financial results.

The Report should present the data, the calculations and the results in a factual objective way using consistent terminology. Include a table of definitions so that readers know what "cost shift", "cost", "margins", etc. mean as used in the Report to minimize misunderstandings about these terms.

A careful review should be performed of all statements, cites and examples that portray hospitals in a negative light to ensure that the negative comments are adequately supported with data, and prejudicial or provocative terms are avoided where possible. Also, the use of bolded typeface to highlight key points should be used judiciously.

Acknowledge the shortcomings in the calculations. For example, we do not know if allocating costs across payers using the same statewide aggregate CCR is accurate, we do not know if volume is affected by casemix changes, and we do not know if the discharge adjustment factor is accurate because charge variation can affect results.

Discuss drivers and factors in a balanced way. In the section on revenue, there is little attention paid to the large decrease in Medicare PTC nor any mention in the Report to the substantial Medicare payment reductions in the ACA. In the section on cost growth, there is a comparison to national inflation but how does this compare to changes in cost of living in Colorado? In the section on cost drivers, the variance in capital cost per case could be due to factors other than new construction, and industry consolidation is presented as a negative influence but there is no evidence presented that it has had a negative impact on costs. There is information about the effects of consolidation on revenue but no evidence whether it is affecting comparability with US averages.

Address utilization: perform a comparison of adjusted discharge growth and adjusted discharges per capita using cost report data and consider whether Colorado is above, at, or below national averages.

The discussions of nonprofit hospital obligations and executive compensation should be removed.

Ensure all assertions and conclusions, throughout the body of the Report in addition to the "conclusions" section, are adequately supported. Also, present conclusions in a balanced way. Indeed, hospitals may be able to reduce costs and may be able to sustain their missions with smaller margins but acknowledge that we do not know the answers with existing data and we certainly do not know the extent to which these outcomes are possible without adversely affecting quality and access.

In a separate section, summarize the data limitations noted through the Report and the need for additional data. Specify the additional data needed where possible, or at a minimum, the type of information that would be useful. Do not repeat the "plea for transparency" in each section where data limitations are noted.

Consider reorganizing and streamlining the content to enhance readability and understanding.