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To: Kate O'Neill, Green Mountain Care Board
From: Áron Boros, Bailit Health
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VHCURES Strategic Plan

Opportunities and Recommendations

Overview

This strategic plan recommends approaches to further integrate VHCURES into GMCB regulatory activities. This work is part of a project funded by a CMS Cycle 4 Grant to improve the value of VHCURES to a variety of users.

In developing these recommendations, Bailit Health considered opportunities related to insurance rate review, hospital budget reviews, certificate of need, and ACO certification and budget review. As part of the project, Bailit Health developed a list of potential opportunities for GMCB to leverage VHCURES for its regulatory activities based on discussion with GMCB staff, and research on APCD regulatory activities in other states. A summary of that work is included as Appendix 1.

After evaluating the feasibility and value of the identified options, we are making the following recommendations:

1) Continue to align VHCURES reporting with the All-payer ACO Model Agreement reporting, document differences, and take advantage of opportunities to validate VHCURES information with payers and providers.

2) Invest in the utility of VHCURES hospital data by establishing a common cross-payer identification scheme and validating VHCURES inpatient data to the Department of Health's Hospital Discharge Database.

3) Explore an initial price transparency project with a fairly narrow scope of inquiry, to serve as a 'proof-of-concept' for future work in this area.

4) Consider future projects with respect to ACO and payer network adequacy and updating health service area definitions.

The next section describes some VHCURES background and limitations. The following section discusses the recommendations above in additional detail.

VHCURES Background Limitations

Evaluating the options available to GMCB requires considering the limitations of VHCURES as a data source. Regulatory activities often require a complete picture of the regulated

activity, which is why GMCB relies on filings from payers, hospitals, and ACOs when they consider the regulated activities of those entities. In contrast, VHCURES does not contain complete data on the Vermont health care market because of its specific scope and the exclusion of certain payers, as described in the table below.

Types of data included in VHCURES	**Types of data not included in VHCURES**
Paid claims, enrollment and eligibility data from medical and pharmacy payers.	Health plan data that is not related to claims or enrollment. For instance, there is no information about non-claims topics like benefit design (e.g. premium, cost sharing rules), Medical Loss Ratio, and actuarial value. Information about capitation payments or other non-claims payments. (Some capitated *services* are reported on claims, but the *payments* for these services are not reported.) Clinical information necessary for calculating certain quality measures (e.g., lab values). Financial performance information (e.g., profit and loss, assets including risk-based capital). Services not covered by insurance (including denied claims).
Payers submitting data to VHCURES	**Payer types not collected by VHCURES**
Fully-insured health plans with average Vermont enrollment of 200 or more Certain self-insured groups: • State of Vermont health plan, • VEHI, • UVM, and • opt-in employers Medicare and Medicare Advantage Medicaid	Most ERISA self-insured payers (a few may opt-in) Federal employee plans, Veterans' Affairs and TRICARE Self-pay (uninsured) Payers with average Vermont resident enrollment less than 200

These exclusions illustrate that VHCURES provides a *sample* of the Vermont health care market, not a comprehensive *census* of the market. Moreover, because the sample is based on specific inclusion and exclusion rules it is biased in a statistical sense. Accordingly, VHCURES cannot be used to fully characterize the entire market.

In addition, any given provider will provide at least some services that are not covered by VHCURES, so VHCURES data cannot be used to fully profile a provider. For instance, Vermont hospitals commonly see patients covered by some or all of the payer types that are not collected by VHCURES. More complete provider data may be available elsewhere. For example, the Hospital Discharge Data set provides a comprehensive look at hospital inpatient services for participating hospitals, and GMCB has access to other hospital and ACO administrative and financial data in other filings.

Provider data available in VHCURES	**Provider data not available in VHCURES**
Claims for services paid for by submitting payers for Vermont residents	Services paid for by non-submitting payers Services paid for residents of other states Self-paid services Complete clinical information Provider financial information

Claims data also has inherent limitations because it is primarily associated with the payment processes of payers and providers, and is not designed to fully characterize patient experience. For instance, providers may not indicate services that are provided during a visit if those services are not paid by the insurer.

Finally, the claims data in VHCURES has not been risk adjusted. This limitation frustrates the ability to make meaningful cross-payer and cross-provider cost and quality comparisons.

Recommendations

Bailit Health evaluated the options available to the GMCB (see Appendix 1 for a full catalog of these options) based on their value to the GMCB and their feasibility. We recommend the following five areas for further VHCURES investment and development: ACO monitoring, hospital analytics, price variation, health service area (HSA) characterization, and network adequacy. Each of these areas is described in the following sections, with the last two (HSA characterization and network adequacy) categorized as potential future project areas. The final section describes some areas that were considered but are not recommended for further development at this time.

ACO monitoring

Under its All-Payer ACO Model Agreement with CMS, the GMCB is required to monitor and report a variety of metrics. The GMCB is already taking steps to use VHCURES to calculate the claims portion of "Total Cost of Care per Beneficiary" for the commercial and Medicaid markets. VHCURES may also be used to supply or supplement enrollment metrics ("Scale Target") or Medicare statistics. Because these efforts are required by agreement with the federal government, the GMCB should ensure that such reporting complements other VHCURES products.

Specifically, Total Cost of Care reporting under the Agreement should be explicitly reconciled with the planned VHCURES PMPM reporting. To begin with, GMCB should attempt to align the definitions of the two metrics. If this is not possible (as is likely, due to the different purposes), the GMCB should document the differences, and, ideally, quantify the difference as well. This approach will (1) serve as a validity check on both metrics, (2) ensure that improvements to VHCURES data will accrue to both metrics, (3) provide a framework for understanding how any changes to underlying VHCURES data (e.g. payer submission errors) will affect the two metrics, and (4) prepare the staff for inevitable questions about the differences between the two figures. When the GMCB publishes VHCURES PMPM statistics, it should explicitly note the comparison to the Agreement Total Cost of Care claims component.

The GMCB should also plan to use the reporting under the Agreement to validate the new ACO-related fields. For instance, the staff should compare member and claim counts related to the new ACO flags in VHCURES to independent sources of ACO data, and investigate any differences. This will ensure that the VHCURES ACO flags are reliable for future analysis (e.g., comparing primary care spend between ACO and non-ACO populations).

Finally, there may also be an opportunity to use the non-VHCURES components of the Total Cost of Care Reporting to better characterize the 'missing' data in VHCURES. For instance, information about non-VHCURES populations used to calculate Scale Target denominators could provide context for VHCURES enrollment reports, by offering an estimate of Vermont residents who are covered by insurance sources outside VHCURES.

Hospital Analytics

The GMCB staff reported a sustained interest in using VHCURES to inform hospital oversight, due to the large impact of hospital services on total health care spending, and the GMCB's significant role in hospital regulation. There are a few specific areas of interest that lend themselves to claims analysis:

- Geographic analysis of patient use patterns, including 'leakage' of Vermont residents to out-of-state hospitals and patterns of outpatient care;

- Unit cost or price variation between hospitals and payers (including out-of-pocket cost);

- Outpatient service volume and mix; and

- Evaluating policy changes such as recent mandates to change primary care payment rates.

This list excludes other potential uses for claims data that are better suited for the Department of Health's Hospital Discharge Database (HDD). The HDD is useful for analyzing inpatient service volume and mix, hospital inpatient service area (including quantifying patient in-migration from other states), and inpatient casemix.

In order to pursue any of these hospital-specific VHCURES analyses, the GMCB should first invest in some basic standardization and validation of the source data.

First, VHCURES should work with the database vendor, the payers, and the hospitals to standardize identification of the Vermont hospitals and out-of-state hospitals with high Vermont resident utilization. The goal of this effort will be to align the identification of hospitals between payers so that (1) inpatient stays are aligned with the hospitals that report to the HDD, and (2) hospital outpatient departments are consistently identified and associated with the appropriate inpatient facility. This outcome can be accomplished in the source data (i.e., payers implement GMCB-sanctioned identifiers for these sites of care), or by the VHCURES vendor (i.e., the vendor uses a crosswalk to convert payer-specific identifiers into standardized identifiers).

Once the hospital inpatient sites of service are consistently identified, the GMCB can begin validating the associated service data in VHCURES. By first validating inpatient stays against HDD data, this project would simultaneously confirm the quality of the VHCURES data and the identification as well as create a valuable enhancement to the HDD by attaching actual payment amounts and payer information to the HDD records.

Once the inpatient records are validated, VHCURES data can be used to address the specific use cases described above. Validation of outpatient records will be more complex, and should be evaluated only after the inpatient records are validated.

This effort to standardize and validate the hospital data in VHCURES will require significant time and effort, but we believe the resulting value is significant enough to justify prioritizing the investment. An HDD-VHCURES validation could yield the following benefits:

- VHCURES can provide context for an inpatient stay: e.g., what kinds of hospital and non-hospital outpatient services are associated with an inpatient stay.

- HDD data can be used to provide casemix adjustment of payment data, allowing for better comparisons between hospitals and between payers. HDD data also typically contains better socioeconomic and race/ethnicity data than claims data.

- VHCURES can improve HDD data on payer type.

- VHCURES can provide information about patterns of similar patients traveling to out-of-state hospitals for similar care.

- HDD data can provide estimates of how many members are not reported to VHCURES (e.g. self-insured members).

- Inpatient validation will jump-start outpatient validation.

The individual hospital-related projects described above would rely on this validation, and should be pursued based on the priorities of the agency and a feasibility analysis.

Price Variation

Many states have used their all-payer claims databases to pursue a variety of price variation projects. In New England, New Hampshire was an early leader on price variation, while Massachusetts has recently released a consumer price variation website and accompanying data sets. A price transparency project would benefit greatly from discussions with these states about how to efficiently generate meaningful price variation data.

Both New Hampshire and Massachusetts provide price variation data on a CPT-code basis as the best way to isolate comparable payment for services. New Hampshire currently provides payer-specific prices in their online tool, while Massachusetts only offers all-payer medians (although they have indicated they will be adding payer-specific information in the future).

Ideally, Vermont should specify a particular price transparency project in the context of a specific policy need. By narrowing the scope of the inquiry, an initial price transparency project could serve as a 'proof-of-concept' that could lead to broader future work. For example, Massachusetts' first price transparency report was a 2014 inquiry into variation in mammography rates between acute hospitals, imaging centers, and physician offices. In Vermont, the GMCB CON staff noted their interest in monitoring the expansion of Ambulatory Surgical Centers and Urgent Care facilities. The GMCB could specify a narrow-scope price transparency project designed to look at prices of services provided in these settings as compared to other settings (e.g. hospital outpatient or physician office). The GMCB staff or a vendor could identify appropriate codes by looking at code incidence and cost in claims data or through discussion with the providers themselves.

Future Projects

In addition to the three areas detailed above, we also recommend two additional future projects.

First, we recommend that the GMCB staff monitor a new project in New Hampshire to use claims data to monitor network adequacy. Adopting the New Hampshire methodology may offer an efficient way to use VHCURES to characterize network adequacy for both ACOs and health plans. Tyler Brannen, the Director of Health Economics for the New Hampshire

Insurance Department is the primary point of contact for this project. He can be reached at Tyler.Brannen@ins.nh.gov or 603-271-2396.

Second, in conversation with Steve Kappel, he noted that existing HSA definitions are not particularly useful for characterizing patient geography for tertiary services. VHCURES could be used to develop updated HSA definitions based on patient location and service location.

Non-recommended projects

As detailed in Appendix 1, we considered a variety of potential opportunities for VHCURES that we do not recommend. While many of these have value, we did not judge them to be as worthwhile as those recommended above. While a full consideration of all options is outside the scope of this report, a few observations are included below.

Rate Review. The GMCB rate review staff and actuarial vendor already have access to high quality data submitted by the regulated health plans. It is not clear that VHCURES data would provide sufficient additional value to justify the resources required to use it accurately and effectively. However, if the hospital enhancements described above are completed, the GMCB could consider developing an average hospital unit cost analysis for carriers other than BCBSVT.

Health Resource Access Plan. In general, VHCURES data is not ideal for evaluating the capacity of the health care system in the context of a health resource plan. First, the incompleteness of the data (as discussed above) limits the ability to establish a census of health resources, and also undermines the ability to generate confident rates of service access due to uncertainty about whether the VHCURES population is representative of the total population. Moreover, the site-of-care information may not be accurate or granular enough to inform planning decisions. For instance, a health care organization may consolidate billing in such a way that their claims are associated with addresses unrelated to the physical location where care is provided.

Conclusion

After reviewing the opportunities available to the GMCB in the context of VHCURES strengths and limitations and the GMCB's priorities, we recommend an emphasis on investments to improve the capacity of VHCURES to analyze ACO and hospital data, as described above. These investments have the highest likelihood of increasing the long-term capacity of VHCURES to support the GMCB's regulatory activities.

That said, any future opportunities should ultimately be evaluated using a similar process to what we used for this report: evaluating the appropriateness of VHCURES data to a particular task, estimating the resources required to achieve the goals, and evaluating the long-term value of the effort. This approach, along with a consideration of the staff leadership behind any particular effort, should yield an effective strategic decision-making approach.

Appendix 1. List of opportunities to further leverage VHCURES for regulatory activities and examples from other states

This list was developed by reviewing publicly available materials about GMCB's current activities and past uses of VHCURES, interviewing GMCB staff about potential opportunities to use VHCURES data in their regulatory activities, researching other states' use of APCD data to support health care market regulatory activities, and interviewing APCD staff at two states (Oregon and New Hampshire).

Our research identified a small number of areas where VHCURES could be used to directly supplement existing GMCB regulatory activities. These are described in the first section below.

The second section details a variety of other ad hoc analyses proposed by GMCB staff or implemented in other states. Many of these analyses relate to insurance market or hospital oversight, while others inform other areas of health policy.

1. Using VHCURES to directly support GMCB regulatory activities

Rate Review

The GMCB staff suggested a few ways that VHCURES data could directly complement current rate review activities.

- The rate review actuarial vendor currently relies on payer-filed data without any external validation. VHCURES data could be used as a data quality check for the filed reports. While both VHCURES and the rate review filings come from the same source (the payers), validation from the VHCURES claims data will provide a means of evaluating payer definitions and assumptions like those regarding product types, enrollment patterns, and spending. This analysis could be done retrospectively as a quality check after the rate review process is complete, which would minimize the impact of the lag in VHCURES data availability. Some variance between VHCURES and the payer-supplied reports is inevitable because there are methodological differences in how claims are reported to VHCURES and how the insurers internally report claims. Investigating these differences would help clarify definitional inconsistencies and reporting assumptions or practices. Issues identified in a retrospective look-back could be addressed in future filings.

- BCBSVT provides a confidential analysis as part of the rate review process that details its average unit costs for 14 Vermont hospitals and Dartmouth-Hitchcock, as well as relative utilization between Vermont and out-of-state facilities. Other carriers do not provide this analysis. VHCURES could potentially provide a retrospective analysis across the smaller payers (although it would not provide any projections). This would require understanding BCBSVT's methodology to evaluate feasibility.

Massachusetts is the only state we identified that uses an APCD as part of their rate review process. Massachusetts is now using APCD data as the primary source for some of their rate review filings; the Division of Insurance relies on CHIA reports to evaluate insurer rate submissions (the insurers also continue to directly supply reports not addressed by the APCD data). This project required investments to increase the speed of APCD data turn-around to meet the timeliness requirements of the Division of Insurance (DOI), as well as a multi-year validation effort with submitting payers. Massachusetts is now able to source some enrollment and expenditure data directly from the APCD, allowing payers to cease their separate submissions, but was not able to successfully validate or transition utilization reporting, and payers still submit those data directly to the DOI. This project was primarily an 'administrative simplification' effort to benefit the submitting payers, although using APCD data also allows the Division of Insurance to pursue additional analyses from the APCD.

For the rate review process, GMCB requires plans to submit enrollment, spending, and utilization data directly to its actuarial vendor. Any efforts to integrate VHCURES data or analysis would need to be coordinated with the actuarial vendor.

Several other states have taken steps to use APCD data to support insurance market regulatory activities on a more ad hoc basis (i.e., not part of the rate review operations). These examples are described in section 2 below.

Hospital Budget Review

Today, information for the hospital budget review comes exclusively from the hospitals themselves. In addition, GMCB is beginning to use hospital discharge data to corroborate the hospital narratives. Notably, VHCURES has only a partial overlap with hospital data: hospitals do not have access to some VHCURES information (e.g., services that Vermont residents seek out-of-state), while VHCURES lacks some information that hospital reports contain (e.g., services delivered to individuals who are not included in VHCURES; see main text for further discussion of this issue).

GMCB could use VHCURES data to describe "leakage" of hospital services to other states. This analysis would describe the kinds and amounts of hospital services Vermont residents are seeking at non-Vermont hospitals. However, this analysis would be incomplete because VHCURES lacks information about many Vermont residents (e.g. those covered by self-insured employers).

GMCB staff also said they would appreciate more information on price variation. In the past, GMCB used Blueprint information to look at payment differentials for services by provider type (e.g., by ownership, by type of facility, by location); these analyses could be updated with VHCURES data. VHCURES could also be used as a source for other payment variation studies. Over the last decade, NH has produced APCD-based reports comparing relative hospital costs (prices), and looking at the negotiated discounts (difference between charges and payments). They have also produced reports intended for provider/plan audiences that identify the range of provider charges and insurer prices for the most common procedures in

New Hampshire. Insurers have asserted that price variation information is confidential, although it is not generally protected by federal law, and other states have published price variation information.

The GMCB staff also suggested some projects that would be difficult or impossible to pursue using APCD data (e.g., looking at changes in deductible amounts or other benefit design issues).

ACO Oversight

VHCURES is already being leveraged to do ACO-related reporting for the All-Payer Model Agreement with CMS. Additional areas of interest related to ACO oversight included:

- Monitoring provider network adequacy. New Hampshire is developing a new methodology for using their APCD to evaluate network adequacy based on the actual services delivered (as opposed to the provider types ostensibly available in a region). This work has not yet been published.

- Analyzing leakage and patterns of care between network providers and other providers. (This idea has overlap with some of the hospital-related opportunities described above.)

- Measuring changes in inpatient and outpatient utilization and costs.

- Comparing primary care spending between ACO and non-ACO populations. Oregon developed an APCD-based custom primary care spend report in 2015 in response to a legislative requirement, and GMCB has been working to implement a primary care definition in VHCURES as part of current development of the analytic file.

Certificate of Need

GMCB staff noted that although recent CON projects (i.e. nursing home transfers, construction of medical office buildings, boiler and kitchen replacement projects) have not lent themselves to the use of VHCURES data, such data will be very valuable in evaluating future CON projects that propose new or expanded services, especially in areas of imaging and surgical services. In particular, there is an ongoing interest in understanding the roles of standalone services in the Vermont health care market, such as Ambulatory Surgical Centers, urgent care clinics, and birthing centers. VHCURES could be used to look at the kinds of services provided in these settings, and the rate differentials between these settings and other sites of care (e.g. hospital or physician office). However, this analysis could only be prospective (i.e., setting a baseline description of the market) or retrospective. Due to timing issues, it would not directly support CON review of any particular project.

In addition to looking at types of services and rates in various settings, in principle VHCURES data could also be used to evaluate capacity and utilization, but because of the large (and unknown) number of individuals covered by plans that are excluded from

VHCURES it is difficult to calculate meaningful utilization rates on a provider- or region-specific basis.

2. Other policy-related analyses
In addition to VHCURES products that would directly support regulatory operations, GMCB staff and other states offered other examples of using APCDs to influence health policy generally.

- GMCB staff suggested VHCURES could quantify patterns of patient movement across HSAs. Notably, the existing HSA definitions don't work well for tertiary services; it may make sense to look at alternative geographic groupings for understanding patterns of care-seeking for these kinds of services. Looking at patterns of patient movement may inform shortage analyses.

- GMCB staff noted that the Board recently required UVMMC to change their primary care rates, and suggested VHCURES could be used to validate that the impact of that change was as expected / reported.

- The staff noted that the Health Resource Allocation Plan (HRAP) update might leverage VHCURES. This has some overlap with the care pattern and network adequacy analyses described above. For instance, VHCURES could be used to evaluate the geographic distribution of various services across the state by volume and rate (per member). The utility of this kind of analysis will depend in large part on the quality of the site of care data in VHCURES, which is currently unknown.

- The rate review staff noted that looking at variability in trends and subpopulations within carrier data might be helpful to understand longer-term changes in the health care market.

- Oregon has begun developing a relationship between its APCD and its insurance regulation agency (DCBS). In 2015, DCBS used a custom view of the APCD data to supplement their analysis of enrollment and medical and pharmacy expense data. In 2016 APCD data was used to help model the financial impact of a Basic Health Program under the Affordable Care Act. DCBS is currently evaluating the use of the Oregon APCD to develop payment rates for new out-of-network billing rules based on a legislative mandate.

- New Hampshire's APCD is managed by their insurance department, so most of the APCD-based reporting is published under the department. While they have not integrated the APCD into rate review, they have produced a variety of ad hoc reports over the last few years that are relevant to areas of insurance regulation and policy (the price transparency efforts are briefly described above). More extensive use of the data set has been limited by the lack of in-house resources to execute potential projects. Currently, New Hampshire is using APCD data to develop (1) an approach

for evaluating network adequacy (as noted above), and (2) techniques for identifying potential health care billing fraud.