GMCB Analytic Plan

2020-2021 ALIGNMENT WITH PRIORITY HEALTH CARE DOMAINS

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Contents

Executive Summary

In 2019, The Green Mountain Care Board tasked staff on the Data and Analytical team to develop a plan for analyses aligned with the Board's priorities in three Domains:

- Expanding Utility, Quality, & Ease-of-Use of Data Resources,
- Patient Care, and
- Regulatory Integration.

Expanding Utility, Quality, & Ease-of-Use of Data Resources

This domain focuses on Improving data products available to users, improving data quality, and making data resources more accessible for general use. To support this domain we are developing specifications for a set of analysis-ready data sets and working with our VHCURES data aggregation vendor to develop, maintain and enhance Business Intelligence (BI) Tools and Data Marts that will make analyses easier and more accessible to authorized users. We are working to increase voluntary data submissions to VHCURES from self-funded employers and expanding hospital discharge (VUHDDS) data. We have established and put into practice a policy and associated procedures that support allowable data linkages that enrich research capabilities. We are conducting an enhanced validation of our data sources and providing data training for authorized data users and members of the Board.

Patient Care

This domain focuses on better understanding access to care and the cost of care. Specifically, analyses will address patient migration, price variation, a decomposition of Vermont resident total cost of care, and an aggregate total cost of care analysis.

Regulatory Integration

This domain focuses on articulating the integration of regulatory decision-making through an analysis of GMCB's primary regulatory duties on health care utilization and cost for Vermonters using a specific episode of care. This work will impact the Health Resource Allocation Plan, data collection and management, in-house data visualizations, and other research tools.

Introduction: Green Mountain Care Board's Analytical Team

The GMCB's Data and Analytical Team aims to provide timely, consistent, and actionable analyses to support the Board's regulatory duties and for the broader public through stewardship of its data resources and standard reporting. This team has six full-time staff dedicated to data stewardship and analytical support services. The positions and their respective responsibilities are listed below.

Health Services Researcher

- Director of Analytical Team.
- All Payer Model data lead.

Data Analytics Information Chief

- Supports GMCB research projects including:
    - Decomposition Analysis
    - ACO population outcomes analysis
- Maintains technical expertise of VUHDDS database to support GMCB and other teams.

Data and Reporting Project Manager

- Manages contract for Vermont Health Care Uniform Reporting and Evaluation System (VHCURES) data aggregation vendor.
    - Ensuring security, accessibility and validation of data integrity, as well as
    - Ensuring compliance with the terms of data management contract
- Conducts statistical analyses.
- Interactive Reports: Develops and provides technical support to other analysts using interactive data reporting software (Tableau, MS Power BI)
- Produces analytic datasets from VHCURES and VUHDDS for the GMCB and other Vermont state agencies

Healthcare Data and Statistical Analyst

- Supports GMCB research projects including:
    - Expenditure Analysis
    - Health Resource Allocation Plan
    - Board's analytic priorities
- Maintains technical expertise of VHCURES database to support GMCB and other teams.
- Designs and implements statistical measures in support of the GMCB's primary regulatory duties.

Director of Data Management Analysis and Data Integrity

- Chief Data Steward.
- Leads GMCB's data governance program including administration for GMCB's Data Governance Council.
- Oversees collaborations with other state and partner agencies, and national partnerships.
- Assists with strategic planning.

Director of Data Management Analysis and Data Integrity

- Data Project Director, overseeing planning and coordination for larger data projects.
- Manages development of Health Resource Allocation Plan.
- Oversees collaborations with other agencies and/or teams.
- Assists with strategic planning.

Definitions

ACO	Accountable Care Organization, a network of providers working together to help address the goals of the All-Payer ACO Model.
Analytic Enclave	the Analytic Enclave is where the claims data is housed and where most analytic programs and tools available for the staff are kept, including many reporting files and code.
APCD	all-payer claims database, referring to VHCURES or more generally to these types of databases.
APM	All-Payer ACO Model, a contract between Vermont and the Federal Government to limit health care cost growth while increasing access to high quality health care.
A-Team	Analytic Team within the Green Mountain Care Board.
CON	Certificate of Need, referring to the process of "approv[ing] major capital expenditures for certain health care facilities […] aim[s] to control health care costs by restricting duplicative services and determining whether new capital expenditures meet a community need." (CON reference).
GMCB	Green Mountain Care Board, referring to the entire department including staff and Board members, also referred to as "The Board".
HRAP	Health Resource Allocation Plan, enacted in 18 V.S.A § 9405.
HSA	Hospital Service Area version 4, maintained by Vermont Department of Health, which groups Vermont towns based on the hospital where the majority of residents go to seek care for emergent conditions, such as appendicitis.
Primary Regulatory Duties	The board's main four areas of regulation are hospital budget review, ACO budget review, CON, and QHP rate review.
QHP	qualified health plan, referring to health care insurance plans that provide essential health benefits and meets other requirements of the Affordable Care Act.
VAHHS-NSO	Vermont Association of Hospitals and Health Systems Network Services Organization, the vendor collecting hospital discharge data from Vermont's hospitals.
VUHDDS	Vermont Uniform Hospital Discharge Data System, referring to Vermont's hospital discharge data set.

Development of the 2020-2021 Analytic Plan, Domains, & Integration with Ongoing Priorities

New Deliverables & Developing Health Care Domains

The A-team, on behalf of the Board, is executing the analytic priorities as part of the duties outlined both in statute 18 V.S.A. § 9410 and in the Data Stewardship Principles and Policies, Policy 2.3, and to address the areas of research interest set forth in the 2012 Analytic Plan Recommendations (2012 Analytic Plan).

Developing Health Care Domains

The A-team engaged the Board members to better understand their individual and collective analytic priorities. Based on this input, the A-Team considered what questions could be answered with available data within a two-year timeframe, directly relate to the GMCB's primary regulatory duties, and are similar in scope and/or topic across Board members' interests. From this exercise, larger themes relating to health care delivery and measurement emerged. The A-team determined there were broad, inter-related areas of interest with similar considerations and similar outcome measures. We further developed these themes to identify what we called "health care domains," which allowed us to more clearly align the Board's analytic priorities with the on-going work the A-team manages.

New Deliverables & Integration with Health Care Domains

This document outlines each of the projects identified for priority engagement as well as other on-going work that the A-Team manages, organized under each of the domains.

The health care domains around which the A-team will organize its priorities are:

- Expanding Quality, Utility, & Ease-of-Use of Data Resources
    - Focus Area: Improving Data Products Available to Users
    - Focus Area: Improving Quality and Ease-of-Use of Data Resources
- Patient Care
    - Focus Area: Understanding Access to Care and Cost of Care
- Regulatory Integration
    - Focus Area: Integration of Regulatory Decision-Making Using Data
    - Focus Area: Health Resource Allocation Plan

With every two-year cycle, the A-team and the Board will reassess the priority health care domains and the analyses that support each domain. This process will ensure that the A-team provides the Board with useful, relevant, actionable, and timely analyses of Vermont health care data.

Domain 1: Expanding Utility, Quality, & Ease-of-Use of Data Resources

Focus Area: Improving Data Products Available to Users

Focus Area: Improving Data Products Available to Users Workstream 1: Specifications for Set of Analysis-Ready Data Sets
Project Summary: The GMCB aims to expand access to and usability of its health care data resources by producing a set of specifications for the development of data files tailored toward areas of analytic interest (e.g., clinical episodes of care, chronic disease, social determinants of health, fiscal analysis). Broadening access to the data contained in VUHDDS, VHCURES, and other Vermont-level health care data sources will promote the quality of the data, enhance its value, and increase opportunities for meaningful research.
Project Timeline and Key Facts: January 21, 2020 – February 15, 2021 The project is divided into phases, beginning with a review of work to date and culminating in a set of recommended files to develop to address major areas of analytic enquiry, such as fiscal analysis and chronic conditions.
Status Update: This contract with Vermont Program for Quality in Health Care (VPQHC) was awarded in March 2020 and is near complete.
Deliverables & Due Dates *(see contract and Task Orders for additional details)*: • Phase I- Reviewing and Evaluating Previous Work and Identifying Gaps. Report is complete. • Phase II- Filling of Informational Gaps. Stakeholder engagement was conducted through spring and summer 2020, and data products comparison is underway. Estimated date of completion is January 31, 2021. • Phase III – Recommendation of Principles and File Domains- February 15, 2021
Lead: Jessica Mendizabal **Support:** David Glavin
Vendor Support: Vermont Program for Quality in Health Care

Focus Area: Improving Data Products Available to Users

Workstream 2: Business Intelligence (BI) Tools and Data Marts

Project Summary:
The BI Reporting Solution consists of three core components: (1) Analysis ready data sets (data marts) that reside in the Analytic Enclave, (2) Pre-built reports that aggregate measures from the data marts in Tableau Server (3) updates to documentation in the VHCURES Collaboration Zone available to all authorized State VHCURES users.

Project Timeline and Key Facts:
The initial data marts will be delivered with 6 months of paid run out for calendar year 2019, estimated in the Fall of 2020 and updated quarterly.

- Implementation January – June 2020.
- GMCB testing period July 1-28, 2020.
- First BI delivery August 2020.
- Target BI delivery dates will be 15 days following delivery of quarterly extracts.

Status Update:
The most recent contract to consolidate claims data for VHCURES includes the addition of several standard reports, which will be delivered in "data marts." The data marts will be updated annually and may be used for building reports with Tableau.
As of Dec. 2020, the data marts include the flag for ACO-enrolled members and their claims.

Deliverables & Due Dates:

- Fall 2020
- Q1 2021
- Q2 2021
- Q3 2021
- Q4 2021

Lead: Sarah Lindberg
Support: David Glavin, Lindsay Kill

Vendor Support: Onpoint Health Data

Focus Area: Improving Data Products Available to Users

Workstream 3: Soliciting Voluntary Data Submissions to VHCURES from Self-Funded Employers

Project Summary:
Outreach to Vermont employers to re-establish health care data submissions from self-insured group health plans.

Project Timeline and Key Facts:
The Board sent a letter to self-funded employers who stopped submitting data after the *Liberty Mutual v. Gobeille* decision in 2016. Several employers responded by requesting the opportunity to discuss the request with Chair Mullin. The A-team served as technical support on the calls and is further supporting the logistics of adding the data back into VHCURES.

- Written outreach letter sent Feb-March 2020
- Follow-up phone meetings with interested employers during March 2020

Status Update:
The A-team is providing support in conversations with employers and facilitating the incorporation of data between Onpoint and third-party administrators.

Deliverables & Due Dates:

- This project is on hold due to COVID-19 pandemic.
- OneCare Vermont is working with self-funded employers and provides periodic progress updates to GMCB.

Lead: Board Members
Support: Kate O'Neill, Sarah Lindberg

Focus Area: Improving Data Products Available to Users

Workstream 4: Expanding VUHDDS Data

Project Summary:
Establishing interstate sharing agreements with New York, New Hampshire, and Massachusetts to improve the quality of the VUHDDS data set and adding additional submitters within Vermont (required and voluntary).

Project Timeline and Key Facts:
VUHDDS includes hospital discharge records from Vermont hospitals for both residents and non-residents. Records for Vermont residents using hospital services in New Hampshire, New York, and Massachusetts, the Veterans Administration Hospital in White River Junction, Vermont Psychiatric Care Hospital, and other Vermont health care facilities if and when records from these sources are available, will enhance the quality and availability of records for analyses.

Status Update:
This workstream has two prongs:

1) Adding additional submitters
   The GMCB is currently working with the Green Mountain Surgery Center to incorporate their discharge data into the data set.

2) Incorporating discharge data for Vermonters from neighboring states
   NH: In order to have a persistent exchange of data, the state's legal teams are working on a data sharing agreement.
   NY: The most recent data have been exchanged. The A-Team hopes to implement a similar data sharing agreement with NY once the NH agreement is executed.
   MA: An application is underway to restart the data exchange with MA and fill in several years of missing data.

Deliverables & Due Dates:

- This project depends highly on other states' capacity, interest and ability.

Lead: Sarah Lindberg
Support: Peggy Brocezivic, Jeffrey Ross (VDH)

Vendor Support: VAHHS-NSO

Focus Area: Improving Data Products Available to Users Workstream 5: Data Linkage
Project Summary: Authorized users of GMCB's data sets (VHCURES and VUHDDS) must obtain approval from GMCB prior to permitting any linkage of that data with other external data sources that could result in the indirect or direct identification of individuals including patients, members, enrollees, or beneficiaries. The Data Governance Council will contemplate a policy to provide guardrails for allowable linkage.
Project Timeline and Key Facts: Data Governance Council voted to approve a data linkage policy in August 2020 which guides implementation of proposed data linkages.
Status Update: This project is complete, however, application for data linkages may be filed for processing.
Deliverables & Due Dates: • August 2020 – DGC vote to approve data linkage policy
Lead: Kate O'Neill **Support:** Sarah Lindberg

Focus Area: Improving Quality and Ease-of-Use of Data Resources

Focus Area: Improving Quality and Ease-of-Use of Data Resources

Workstream 1: Enhanced Data Validation

Project Summary:
To quantify the difference between the all-payer claims database and other health care resources such as hospital discharge data or potentially clinical data (if it ever became available), so that the A-team can accurately describe the population evaluated in theirs and others' claims-based research.

Project Timeline and Key Facts:
We have identified the need for both (i) stakeholder engagement and (ii) analyses comparing all available datasets.

Status Update:
We would like to engage others who can help us better understand the differences between claims data and other available data, such as the variation in counts of hospital discharges between the two data systems: VHCURES (payers' claims for Vermonters) and VUHDDS (VT hospital discharge data), the magnitude of error in VHCURES financial information, and tracking of self-pay transactions. Stakeholders include:

- GMCB's analytic vendor, Onpoint
  - What data validation efforts does Onpoint make, pre and post claims consolidation?
  - How does this impact analyses built on VHCURES?
- VAHHS
  - What are the differences in episodes of care from the provider perspective vs. the insurance perspective?
  - What are the core elements of both?
- Payers
  - What does financial information and other administrative data look like in VHCURES, and in the payers' systems, and how does that compare to actual provider payments?
- Independent providers

Deliverables & Due Dates:

- Produce document outlining findings from initial data validation work - Q1 2021
- Finalize comparison of discharge counts between VUHDDS and VHCURES – Q2 2021
- Finalize comparison of financial data in VHCURES with payer and provider data – Q2 2021

Lead: Sarah Lindberg
Support: Lindsay Kill, Kate O'Neill

Vendor Support: Onpoint Health Data

Focus Area: Improving Quality and Ease-of-Use of Data Resources

Workstream 2: Analyzing Available Data Sets

Project Summary:
Other states are using their APCDs alone as the foundation for their analyses. Although this approach is common, the A-team is concerned that because of the missing data in VHCURES (e.g. the loss of self-funded populations, missing the Veterans Affairs claims, and missing the picture of uninsured persons, etc.) using VHCURES alone would not allow valid and reliable measures of 'average' or 'median' price per service. To quantify the missing data, the A-team aims to thoroughly compare the claims data to the hospital discharge data.

Project Timeline and Key Facts:
We have identified the need for both (i) stakeholder engagement and (ii) analyses comparing all available datasets.

The major elements we will need from each data source to compare are:

- Date of service (start and end)
- Length of stay *calculated
- Provider taxonomy
- Procedure code modifier
- Hospital name where the service was performed
- Charge Amount (what the hospital bills)
- Paid Amount (what the plan pays)
- Member share (copay, coinsurance, deductible)
- Procedure code
- DRG
- Revenue code
- Claim type (inpatient, outpatient, home health, etc.)

Using these data elements, we will summarize the volume and services captured in both data sets. Some of the questions we should be able to answer by the end of Work stream 2 include but are not limited to:

- What is the number of hospital discharges in VUHDDS compared to VHCURES for a certain date of service, month of service, and overall in the year?
- What demographics of individuals are missing from VHCURES?
- Is the proportion of missing data (dollars, discharges) relatively uniform over time?

Status Update: As of Dec. 2020, this work is integrated with the enhanced data validation process and is dependent on that work.

Deliverables & Due Dates:

- See Enhanced Data Validation workstream above.

Lead: Sarah Lindberg
Support: Lindsay Kill

Focus Area: Improving Quality and Ease-of-Use of Data Resources

Workstream 3: Data Course Series

Project Summary:
To enhance shared understanding of claims and hospital discharge data. To help Board members and other end-users understand what data are available, and the limitations and advantages to each data source. This will help support Board and other staff to learn how to ask data-driven questions and how to interpret results for their primary regulatory duties.

Project Timeline and Key Facts:
The presentation is in the form of an interactive class-like environment. Due to the amount of information and the complexity, the A-team expects the class will be hosted in several parts.
At a minimum, the data class(es) will cover the following topics:

- Claims data basics (terminology, claim types, paid vs. denied, fixed prospective payments)
- Hospital discharge data basics (terminology, episodes of care)
- What data elements are included and therefore easier to report
- What data elements are missing or incomplete, therefore must be inferred or omitted

Different ways of measuring health care - cost, utilization, workforce, insurance markets, change over time

Status Update:
We developed a slide deck in PowerPoint along with a companion summary brief titled, Introduction to Available Data Sources for the Green Mountain Care Board. 2-by-2 meetings with Board members were held in May 2020.

Deliverables & Due Dates:

- Next class offering Q2 2021

Lead: Lindsay Kill
Support: Sarah Lindberg, Kate O'Neill

Domain 2: Patient Care

Focus Area: Understanding Access to Care and Cost of Care

Focus Area: Understanding Access to Care and Cost of Care

Workstream 1: Patient Migration Analysis

Project Summary:
To describe where patients travel from (i.e. the patient HSA) and where they travel to (both hospital and HSA) to receive their care. This project will be used to inform the Board's review of Hospital Budgets, ACO Budgets, and the HRAP, as part of the requirement to evaluate utilization patterns.

Project Timeline and Key Facts:

- Phase 1 – Completed Q3 2020
- Phase 2 – due Q2 2021

We will connect patient location information (found in their eligibility details) to the location of their providers for each month and year (from the claim). Then, we can build an association of every patient to every provider for whom they have a claim. The total dollars and claims volume associated with every patient for both medical and retail pharmacy should be included.

We intend to answer the following questions:

1) What proportion of Vermonters travel out of state for their health care?
2) How many patients seek care in the HSA where they live? How many patients seek care outside of the HSA where they live?
3) What is the difference in patient volume across hospital service area?
4) Do any HSA's stand out as having a higher proportion of migrant patients (those who leave)?
5) Do any HSA's stand out as receiving a higher proportion of patients (those who come in)?

Status Update:

- Expenses and Utilization Tables by Hospital Service Area & Payer – submitted to the GMCB Finance Team in March 2020.
- Tableau interactive report completed in Q3 2020. Presented at GMCB meeting August 5, 2020.
- Phase 2 – in progress as of Dec. 2020

Deliverables & Due Dates:

In time for the hospital budget guidance, due March 25th, the A-team will provide a written summary and slide-deck summary that demonstrates expenditures across Vermont and neighboring hospitals based on patients traveling within and across different HSA's.

In time for the non-financial reporting for hospital budget review, the A-team will produce an interactive visualization of utilization and costs across HSA's, over time, and by insurance payer.

From VUHDDS analyst Sean Judge, we will receive a similar report based on hospital discharge data. This report will demonstrate the proportions of patients discharged from a hospital who come from each HSA and include a break-out by insurance payer. These data will not be limited to those who are insured.

Lead: Lindsay Kill
Support: David Glavin, Sarah Lindberg

Vendor Support: VAHHS-NSO

Focus Area: Understanding Access to Care and Cost of Care

Workstream 2: Price Variation Analysis

Project Summary:
To measure any difference in price per service across Vermont and neighboring state's hospitals. This project will be used to inform GMCB regulatory decision-making around Hospital Budgets, and Rate Review.

Project Timeline and Key Facts:
We are proposing this project be completed in two parallel parts:

(I) Comparing VHCURES to VUHDDS to validate what we have in claims, by measuring the total difference between VHCURES (some insured populations only) and VUHDDS (all people, only some services). This work stream is detailed in Domain 1 Workstream 1.

- Using VHCURES to identify price variation across services, hospitals, and insurance payers.

Status Update:

- As of April 2020 – we have drafted a data brief on primary factors impacting claims pricing. We have actively begun comparing VHCURES and VUHDDS discharge counts, with little success of fully understanding the differences.
- As of June 2020 – we have completed a preliminary report of smaller scope, focused only on cardiac related procedures. We were unable to compare by episodes of care due to low numbers, and we were unable to compare across claim types (facility versus non-facility outpatient or physician claims). We foresee these being issues that arise in the larger work.
- As of Dec. 2020 – we have a complete list of codes for comparison based on the workgroup from Workstream 1.

Deliverables & Due Dates:

For Price Variation with VHCURES:
We intend to answer the following questions:

- What claims-based factors most notably influence the price of a given medical service?
- Which insurances have historically paid for this service?
- Across hospitals, which one charges the most for a particular service? The least?

By the end of this work, we should be able to provide a report that compares costs across hospitals and payers for a single service. Ideally, we would like to present more than one type of hospital service. However, we acknowledge that it may take the year to develop an accurate and reproducible methodology for analyzing the cost of a service. Each service (defined by CPT/HCPCS code) will vary in price based on several billing factors including but not limited to: accompanying procedure modifiers, revenue code (can sometimes be a proxy for acuity), the provider type. Outside of just billing factors, the hospital or care setting where the service took place and the insurance provider who paid for the service are two additional factors that can cause price variation across procedures. We want to analyze these two levels of impact separately.

Lead: Lindsay Kill
Support: Sarah Lindberg, David Glavin

Focus Area: Understanding Access to Care and Cost of Care

Workstream 3: Patient Origin Analysis

Project Summary:
To measure changes to inpatient and outpatient facility utilization for all hospitals subject to GMCB Hospital Budget Review. The data include patients' hospital service area (HSA) of residence and the primary payer for their care**.**

Project Timeline and Key Facts:
Using the Vermont Hospital Discharge Dataset (VUHDDS):

- All cases were filtered to exclude newborns and those transferred from other hospitals (Table 1). The GMCB then tabulated the number of episodes for each combination of hospital, patient HSA of residence, primary payer, locale, and year. Combinations with fewer than 10 episodes were nulled per HIPPA restrictions. Inpatient numbers for Grace Cottage Hospital and Mt. Ascutney Medical Center were nulled, as the distribution of their small patient volumes could not be generalizably represented after HIPPA restrictions. Finally, combinations without an HSA of residence were also nulled (totaling less than 0.01% of all episodes in most combinations).

Status Update:

- Completed October 2020

Deliverables & Due Dates:
Completed October 2020

Lead: Geoffrey Battista
Support: Sarah Lindberg, David Glavin

Focus Area: Understanding Access to Care and Cost of Care

Workstream 4: Vermont Resident Total Cost of Care Decomposition Analyses

Project Summary:

The purpose of these studies is to ascertain factors (utilization, demographics, geography) that may drive increases in healthcare spending (paid amounts) associated with select health conditions and medical procedures. We start with focusing on a statistical analysis of the paid amounts for total knee and total hip replacement surgeries provided to Vermont Residents in Vermont Hospitals between Oct. 2017 and Sept. 2020. Results, methodologies and analytic methods developed from this initial analysis will be used to further understand the financial burden of other specified diseases or conditions on the health care system.

Project Timeline and Key Facts:

- Current focus is on costs associated with Total Knee Replacement and Total Hip Replacement Surgeries
- The proposed population for this study is all Vermont residents who received either total hip replacement or total knee replacement surgeries in Vermont hospitals between Oct 1, 2017 and Sept. 30, 2020. Any refinement to the population will be clearly defined in the final analytic report.
- The proposed methodology will employ decomposition of a time series using an additive model approach, and hierarchical-logistic regression to determine differences of spending between categories and the likelihood of increased/decreased spending based on population demographics.
- A literature review of similar or associated studies is being conducted to develop appropriate statistical models and methods, as well as for comparison of results
- Curated claims data obtained from VHCURES will be used for the purposes of this study.
- Development and production of final analytic report is targeted for completion in March, 2021.

Status Update:

Base population tables from the VHCURES database are currently being developed and initial descriptive analyses of this population is underway (Jan 2020)

Deliverables & Due Dates:

A report of the statistical analyses and any additional presentation of findings (interactive visualizations, data briefs, etc.)

Lead: David Glavin
Support: Sarah Lindberg

Focus Area: Understanding Access to Care and Cost of Care Workstream 5: Total Cost of Care
Project Summary: To measure the growth of per person expenditures for accountability under the APM.
Project Timeline and Key Facts: The TCOC specifications are released with every refresh of the data. The most recent specifications may be found on the shared drive.
Status Update: The A-Team with update its current TCOC report and work with the regulatory team to provide the necessary data points for expanding the report.
Deliverables & Due Dates: In addition to what is listed below, deliverables will be defined over time as the work moves forward. • Tableau interactive visualization which offers a look, by HSA and payer over time. The current interactive is available on Tableau Public and should be updated once annually.
Lead: Sarah Lindberg **Support:** Michele Degree, David Glavin, Alena Berube

Domain 3: Regulatory Integration

Focus Area: Integration of Regulatory Decision-Making Using Data

Focus Area: Integration of Regulatory Decision-Making Using Data Workstream 1: A claims-based analysis of GMCB's primary regulatory duties on health care utilization and cost for Vermonters
Project Summary: To supplement other regulatory integration work with a claims-based analysis of the GMCB's primary regulatory duties on the health care utilization and cost for Vermonters. For this analysis, we will focus on a specific episode of care and describe how one area of regulation can impact other areas of regulation.
Project Timeline and Key Facts: This work was requested by the Board to analyze the impact of the GMCB's three regulatory duties (hospital budget setting, rate review, and ACO budget approval) on the health care utilization and cost for Vermonters, using a specific episode of care example.
Status Update: As of early April, A-Team will compile a list of service line options to provide to Sarah Kinsler, Director of Strategy at the GMCB. This work is in progress and the detailed information below will be completed as the work moves forward.
Deliverables & Due Dates: Report to be developed by Q3 2021.
Lead: Sarah Lindberg, Sarah Kinsler **Support:** Lindsay Kill

Focus Area: Health Resource Allocation Plan

Focus Area: Health Resource Allocation Plan

Workstream 1: Overall Health Resource Allocation Plan Development

Project Summary:
Vermont statute requires the Green Mountain Care Board to identify "Vermont's critical health needs, goods, services and resources, which shall be used to inform the Board's regulatory processes, cost containment and statewide quality of care efforts, health care payment and delivery reform initiatives, and any allocation of health resources in the State. The Plan shall identify Vermont residents' needs for health care services, programs, and facilities; the resources available and the additional resources that would be required to realistically meet those needs and to make access to those services, programs, and facilities affordable for consumers; and the priorities for addressing those needs on a statewide basis." Resource planning helps support the Board's regulatory work in the areas of Certificate of Need, Hospital Budget review and Accountable Care Organization oversight.

Project Timeline and Key Facts:
The work required to produce the deliverables under HRAP has been broken down into work streams which are specified below.

- Phase I to be completed by December 31, 2020.
- Phase II estimated completion by December 31, 2021 *(subject to change)*

Status Update:
Completed work: Requirements gathering, interactive prototype, data collection for priority needs and resources. Ongoing work includes building beta visualizations with existing data for different health care categories or sectors.

Deliverables and Timelines *(subject to change)*:

Item	Components	Description
Profile of health needs by geographic unit *(Baseline and Primary Care "Needs", Fall 2020)*	Measures for health care access, chronic disease, mental health, substance use disorder, etc.	Identification and presentation of state health priorities using existing reports and data sources.
Inventory of health resources for priority sectors by geographic unit *(December 31, 2020)*	Health care workforce, services, and facilities.	Health resource inventory database or data library. Presentation of health care resources.
Gap analysis between needs and resources *(Spring 2021)*	Benchmark data related to needs and resources.	Understand gap between priorities and available resources, make recommendations.
Utilization trends *(December 2021)*	Qualitative interview findings from TDI fellows, Utilization trends for hospital services, Targeted hospital utilization study related to ED use (tentative).	Findings and recommendations on appropriate utilization.
Cost estimate of fulfilling gaps *(estimated December 2021)*	Recommendation-specific cost analysis.	Cost estimates for implementing strategies and priorities.

Lead: Jessica Mendizabal
Support: Sarah Lindberg, David Glavin, Lindsay Kill, Geoff Battista

Focus Area: Health Resource Allocation Plan

Workstream 2: Data Collection and Management

Project Summary:
Data collection to support demonstration of health care resources: services, workforce and facilities, across the state by hospital service area as well as sector. Priority sectors/health care areas are: hospital services, mental health, substance use, home health and long term care including nursing homes. Data collection from relevant facilities and departments providing services throughout the state.

Demonstration of underlying need can be more general (age, insurance, income), as well as sector specific. Data collection is mainly from the health department and DVHA.

Project Timeline and Key Facts:

- Initial completion December 31, 2020, but data must be updated annually or bi-annually, or as it is relevant to the sector.

Status Update: Initial data collection is nearing completion for priority health care sectors and will be published to GMCB website. "Needs" data collection is complete and will need to be updated with most recent years data available, as it relates to the Board's needs.

Deliverables & Due Dates:

1. Resources Inventory *(December 31, 2020)*
    i. Current state
        1. Manual outreach and management of inventory for health care sector resources.
        2. Excel versions of inventory to be posted to GMCB website, and then formatted for data visualization.
    ii. Future state
        1. Forms development to facilitate consistent reporting by all entities.
        2. Develop timeframes by sector for maintaining accurate data.

2. Needs Profile Data *(Completed for 2020, to be updated annually or bi-annually thereafter)*
    i. Most data sets received from Health Department and used to represent needs by community and health care sector or area of focus.

Lead: Jessica Mendizabal
Support: David Glavin, Lindsay Kill, Geoff Battista

Focus Area: Health Resource Allocation Plan

Workstream 3: Needs and Resource Profiles- Data Visualization

Project Summary: Interactive Visualizations and reports related reports to demonstrate health care needs and resources utilizing the data collected in Workstream 2.

Project Timeline and Key Facts:

- Base looks – December 2020
- Subsequent looks- as requested throughout 2021

Status Update: Visualizations 1 and 2 are complete. Additional looks can be prepared as needed at the Board or stakeholder's requests.

Deliverables & Due Dates (subject to change):

1. Basic Access (base look for Needs and Resources) *(Fall, 2020)*
    - Insurance coverage**,** Workforce data
2. Primary Care *(Fall, 2020)*
    - Facilities, Travel, Broadband, Socioeconomic Measures
3. Market Share Analysis (see report proposal for more details) *(Spring 2021)*
    - Sources of primary health insurance, Status of cost-sharing, number of Vermonters enrolled in health insurance (include breakdown), ACO counts, Impact of COVID-19
4. Hospital Resources
    - Services, Beds, Census, Equipment
5. Mental Health
    - Need, Services & Programs, Beds, Workforce
6. Alcohol and Drug Use
    - Need, Services, Workforce
7. Home Health and Hospice, LTC, Nursing Homes
    - Services, Facilities, Capacity
8. Oral Health
    - Need, Facilities, Workforce
9. Vision
    - Need**,** Workforce

Lead: Jessica Mendizabal
Support: David Glavin, Lindsay Kill, Geoff Battista

Focus Area: Health Resource Allocation Plan

Workstream 4: Capacity and Utilization Research

Project Summary:

1. End Stage Renal Disease (ESRD) Utilization Study completion:
    ii. Validate VHCURES ESRD prevalence data (provided but not incorporated into prototype data)
    iii. Understanding utilization patterns for dialysis and cost implications, rounding out the story in the HRAP prototype.

2. Health Systems Capacity and Quality Assessment: Evaluation of health systems capacity and hospital sustainability to identify areas of need and the ability to meet those needs by Hospital Service Area.

Project Timeline and Key Facts:

- ESRD Study- December 2021
- Health Systems Capacity and Quality Assessment- Winter 2021 with subsequent items TBD after initial findings and recommendations.

Status Update:

- ESRD Study- work is currently underway as described in the project summary.

- Health Systems Capacity and Quality Assessment- GMCB will contract with Berkeley Research Group to perform this work. Reference documents have been provided and we are working on identifying required data elements.

Deliverables & Due Dates:
Currently in development.

Lead: Jessica Mendizabal
Support: Sarah Lindberg, Geoff Battista

Vendor Support: Berkeley Research Group