Introduction to Available Data Sources for the Green Mountain Care Board

VERMONT
GREEN MOUNTAIN CARE BOARD

Summary

What is a claim and how are claim types different? What is an episode of care? What are the limitations of using claims or hospital discharge data?

The GMCB produces public reports that provide statistics describing aspects of the Vermont health care system such as analysis of trends in health care costs, quality health care delivery, access to care, and health insurance coverage. This summary is provided as a reference tool to assist audiences reviewing GMCB analyses and reports with background terminology and explanation of common questions.

Background Information

The Green Mountain Care Board (GMCB) has statutory responsibilities to collect and manage health insurance claims and hospital discharge data to the extent allowed by the federal Health Insurance Portability and Accountability Act (HIPAA) to support the continuous review of health care utilization, expenditures, and performance in Vermont.

GMCB is the steward of several data sources.

- The Vermont Health Care Uniform Reporting and Evaluation System (VHCURES) is Vermont's All-Payer Claims Database (APCD).
- The Vermont Uniform Hospital Discharge Data System (VUHDDS), is Vermont's hospital discharge database.

Using these data, GMCB's analytical team strives to provide high quality and timely information to support the Board, its staff, and the public, balancing the wide variety of questions that these data could answer with a deep focus to support the Board's regulatory duties.

Green Mountain Care Board

The purpose of the Green Mountain Care Board is to promote the general good of the State by:

1. Improving the health of the population;
2. Reducing the per-capita rate of growth in expenditures for health services in Vermont across all payers while ensuring that access to care and quality of care are not compromised;
3. Enhancing the patient and health care professional experience of care;
4. Recruiting and retaining high-quality health care professionals; and
5. Achieving administrative simplification in health care financing and delivery.

18 V.S.A. § 9372

VHCURES, Vermont's All-Payer Claims Database

What is a claim?

Claims are receipts from health care interactions – including visits with providers, procedures, prescriptions - which are sent from provider practices, hospitals, pharmacies, or other billing organizations to a patient's insurer. Every insurance company has their own claims processing system. Every quarter, the Vermont Health Care Uniform Reporting & Evaluation System (VHCURES) collects a record of each claim made by a provider on behalf of a Vermont resident. VHCURES only includes claims for insurance companies that submit to VHCURES, either by law or voluntarily. Insurance groups that do not submit to VHCURES are: Federal Employee Health Benefit Plan (FEHBP), military (TRICARE), worker's compensation plans, and approximately half of the self-insured groups. Data is not available in VHCURES for most non-government

self-insured employers, uninsured and self-paying individuals, individuals covered under VA, TRICARE, and FEHBP (military/federal plans), and payers with Vermont resident enrollment less than 200.

If a patient has never had any insurance since 2007, they do not have a claims history and are not in VHCURES. Even patients who elect to self-pay may not be in the database if they do not also have some insurance coverage that would be captured. Because insurance coverage is associated with other socio-economic factors (e.g., income), and because the information from insurance companies could be inaccurate, we caution against using VHCURES to represent the entire Vermont population.

Who has a claim in VHCURES?

There are claims in VHCURES for all Vermont residents who have been insured by a VHCURES-submitting insurer and received health care services at any time since 2007. However, most analyses of VHCURES data include only "eligible" individuals.

What does it mean for patients to be "eligible"?

When discussing insurance claims, we start with who is eligible for services. To be eligible means, the individual is enrolled with some insurance entity for a period of time, typically measured by month.

Non-aged and non-disabled individuals either get their insurance through a private company or through state-run Medicaid programs. Medicaid eligibility is often, not always, based on household income. Household income is self-reported on an annual basis, but can fluctuate for many reasons (employment changes, marriage, birth, divorce, birth, etc.) Although coverage periods may end and may include gaps, Medicaid patients often receive retroactive coverage, which makes their coverage appear more continuous than their privately insured counterparts.

Most individuals with the option for insurance offered by their employers elect their employer-sponsored plan. When Employer-Sponsored Insurance (ESI) is not available, some individuals directly purchase Qualified Health Plans (QHPs). When individuals transition between different types of coverage and/or become uninsured due to shifting medical plan costs and individuals' changes in employment this can affect eligibility counts in the data.

Most publishable, reputed claims-based analyses require some continuity of insurance enrollment over the period of time in the analysis. Depending on the claims source, this can bias the population of continuously enrolled members to public programs such as Medicaid and Medicare.

If a person does not have insurance coverage, they are not reported to VHCURES as a "covered life" by the insurance company. Their claims, some of which may be paid in error but most of which would be denied, are considered "noise" in the data. The reason for this is because there is little insight into the type of care and acuity of care when an individual is uninsured, making it difficult to determine if the care pattern is typical or an outlier.

What types of claims are in VHCURES? How are claim types different?

Inpatient – A level of care requiring admission to stay within hospitals walls, typically for 1+ days of overnight monitoring. This claim is billed as a lump sum facility fee based on the duration of stay.

Outpatient – Procedures and care that can be given and allow the patient to go home on the same day. Services can still be delivered in a hospital or by hospital network of physicians as long as there is no overnight stay, or in other outpatient settings. This claim is billed as one claim per person as a facility claim (multiple can take place on the same day).

Facility Claim (Header Paid)
Inpatient
Outpatient (ED)
Skilled Nursing Facility
Home Health

Professional Claim (Detail Paid)
Physician
Dental
Retail Pharmacy
Hospice
Durable Medical Equipment
Laboratory

Note: Emergency Department claims are Outpatient claim type.

Home Health – Clinical services provided by licensed practitioners in the home setting. Often seen as the less expensive alternative to skilled nursing facilities (SNF).

Nursing Home (SNF) – Care that is not as acute or severe as inpatient but requires more monitoring than outpatient. A nurse or nurse aid is available 24 hours every day. This is typically for the aged and/or disabled population. Because of the daily care, this is billed as a lump sum facility charge.

Hospice – Similar to the level of care of SNF but is often offered in the home. However, this type of care is reserved for patients with incurable illness, typically if they are expected to live less than 6 months. Under the umbrella of hospice care, a variety of services can be offered. Billed as one claim per person per month as a facility claim.

Physician – For clinical services performed by a licensed practitioner. This claim type covers all types of clinicians & physicians, so is not limited to MD's. It may be billed at the same time as a facility claim. This claim is billed per service per person (often many can take place on the same day).

Dental (only those paid for by medical insurance) – VHCURES does not currently capture dentists' office visits, however, we anticipate that some dental claims will be captured in VHCURES in the near future. Oral surgeries are in VHCURES as they are billed as facility claims and sometimes have a physician component for the surgery.

Pharmacy (retail only) – Claims representing the retail purchases of medications by the patient from a retail location. The retail location can be in the hospital but could also be another store outside of the hospital. Any medications received during a hospital visit are not captured. These are billed per person per medication.

Durable Medical Equipment – The equipment and instructive care required for proper equipment use, cleaning, and storage. Examples of these claims are CPAP machines, wheelchairs, breast pumps, etc. These can be billed in increments if the patient is renting or can be billed per person per equipment if the patient pays in full at once.

Laboratory – The test processing and in some cases, test results from different diagnostic requirements submitted by a physician. These are billed along with physician claims and follow the same billing rules.

The claim type is different from the episode.
Many claim types can make up one episode of care.

Note: It's easy to confuse the claim type (listed above) with the total episode, such as an inpatient stay. However, multiple claim types can make up one episode. For example, one inpatient stay has, at a minimum, two claim types – the inpatient facility claim and the physician claim.

What time period do claims cover?

VHCURES collects data going back to 2007. The first full year of data from most insurers is 2008. We receive claims based on when they are paid for (whether the final decision is to pay the claim or deny the claim). Most claims (roughly 95%), are settled within six months of the date of service. Additionally, there is a lag for data processing (see section "*What is claims lag?*"). Typically, the complete calendar year of claims by date of service is available in September of the following year.

What is claims lag?

To use a non-medical example, consider the case of a car accident: the insurance company may send a check to the auto body shop a week after the accident occurred. Sometimes the car insurance policy may require the insured to front the money, reimbursing after the fact. This pushes the paid date further based on how fast someone submits for reimbursement!

Medical claims are no different. The date of service (visit, emergency, inpatient stay, etc.) is the calendar date that the patients sought care. The paid dates (also known as 'adjudication dates' because a claim can be paid or denied) are the date of financial record for the insurance company. Many claims are set to automatically process, so the difference between the date of service and an adjudication date could be as little as one week if all claim information is entered correctly. If claims require additional information or internal review, if providers bulk bill, or if processing is just behind, claims can take months to adjudicate. After they adjudicate once, they could be adjusted to pay a different dollar amount. There is no limit to the number of times a claim can be adjusted, until it is denied. Once a claim is denied, the claim record ends. The provider can resubmit for the service but the newly, correctly submitted claim is not attached to its denied counterpart.

VHCURES collects claims based on their paid dates. This means a medical claim with a date of service in January 2018 that is first adjudicated in April 2018 would be missing from an extract that is "paid through March 2018". To be safe, most analysts use a six-month claims lag for their research. Meaning, for example, if they want to capture 95% of the services rendered in January 2018, they will use data marked "paid through June 30, 2018."

Most analysts use a six-month claims lag for their research.

For example, to capture 95% of the services rendered in January 2018, an analyst would use data marked "paid through July 2018."

What are the limitations of using claims data?

- When reporting from VHCURES, analysts cannot report any information that explicitly shows or represents a cell size of less than 11 representing individuals. This means, even if a number smaller than 11 isn't shown but could ultimately be calculated, the data must be suppressed.
- VHCURES does not include patients' names nor other identifying information such as social security numbers or dates of birth. The information on patients' gender, age, any ethnicity information, and zip code are all tied to the insurance records. At times information from the separate insurance records is competing.
- VHCURES does not include information on where the visit took place, nor where individual providers work (though we can identify them by name and by specialty information). There is information linking individual providers to larger organizations, but it is not exact; it must be curated and reconciled, often using fuzzy matching.
- VHCURES does not include any clinical notes in the claims database.
- As mentioned above, the VHCURES database only contains data for patients enrolled with insurers that submit their data to VHCURES. Data is not available in VHCURES for most non-government self-insured employers, uninsured and self-paying individuals, individuals covered under VA, TRICARE, and FEHBP (military/federal plans), and payers with Vermont resident enrollment less than 200.

VUHDDS, Vermont's Hospital Discharge Data

What is an episode of care?

An episode of care is the summary of all hospital-based care that has taken place for an individual per diagnosis and by consecutive dates of service. These episodes include the inpatient and hospital-associated outpatient claim types.

What hospitals contribute data?

All 14 of Vermont's hospitals and the Brattleboro Retreat share data with VUHDDS for Vermont residents and non-residents. Bordering hospitals from New Hampshire, New York, and Massachusetts also submit data for Vermont residents only.

What time period does hospital discharge data cover?

Hospital discharge data has been collected since the 1980's in Vermont. Currently, the GMCB team has years 2011-20178 readily available.

What are the limitations of using hospital discharge data?

- When reporting from VUHDDS, analysts cannot report any information that explicitly shows or represents a cell size of less than six representing individuals. This means, even if a number smaller than six isn't shown but could ultimately be calculated, the data must be suppressed.
- VUHDDS does not include patient-level identifiers, so we cannot connect patients from VUHDDS to other data sources at the patient-level. We can instead make group-level associations such as comparing the patients who received care at the University of Vermont Medical Center (UVMMC).
- In VUHDDS, there are no individual provider identifiers, so analysts cannot summarize care at the provider level or connect data to other data sources based on the provider.
- Only claims for inpatient stays or outpatient visits are included in VUHDDS. Although extensive, this list is not comprehensive of the services the hospitals offer.
- No clinical history or physician notes are included with the episode of care.

Hospital Discharge Data

Hospital discharge data captures the episodes of care from Vermont's 14 hospitals and out-of-state hospitals (for Vermonters only), for all hospital patients regardless of insurance coverage, for years 2011 through 2017.

For claims data, we cannot publish any patient-level results that directly or indirectly represent a cell size of less than eleven.

For hospital discharge data, we cannot publish any record-level results that represent a cell size of less than six.

VUHDDS only includes the hospital entity, not the location of the visit. For example, if someone sees the hand specialist at UVM's Orthopedic Clinic in South Burlington, this will appear in hospital discharge data as an outpatient episode taking place at UVMMC.

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