Introduction

The Vermont Hospital Monograph Series provides information about patient health issues and hospital services provided across three hospital settings: inpatient, outpatient (procedures in a specified range, formerly called ambulatory surgery) and emergency department.

Under the provisions of Act 53 addressing hospital and health system accountability and spending, these data provide key information about population-based utilization of inpatient services for the hospital community needs assessments (CNA) and the four-year health resource allocation plan (HRAP). The HRAP identifies and prioritizes statewide and sub-state need for health services and resources and informs the certificate of need (CON) process.

Data are presented in two basic ways:

- Hospital-based analyses compare data by hospital and include all patients who received services from that hospital, regardless of their residency. Hospital-based analyses have applications for health system planning, cost containment, and resource development.

- For inpatient data only, hospital service area (HSA) analyses are used to compare data for residents of 13 geographic regions of Vermont who were provided services in any Vermont, New Hampshire, New York, or Massachusetts hospital. HSA analyses are limited to inpatient data because New York and Massachusetts data for outpatient procedures and emergency department visits are not available. With some caveats, HSA analyses can help compare morbidity and practice variations across different regions of Vermont. See page 6 for maps of Vermont towns and HSAs.

This volume includes data across the three hospital settings for all patients, regardless of residency, at Vermont's acute care hospitals. It also includes data from those three hospital settings for Vermont residents using New Hampshire acute care hospitals and for Vermont residents with inpatient stays in New York and Massachusetts acute care hospitals. The first three sections of this Monograph document provide data specific to inpatient stays, outpatient procedures, and emergency department visits. Comparisons across these three hospital settings are included in a fourth data section.

History of the Monographs

The eight "monographs" that comprise the inpatient portion of this volume are a continuation of a series of hospital utilization publications that have been issued annually since 1975. Although publication of *The Vermont Hospital Monograph Series* has been continuous, different organizations have been involved in its production over the years. The Cooperative Health Information Center of Vermont, Inc. (CHICV) published the Monographs from 1975 to 1982. In 1983, the CHICV corporation was dissolved and statutory authority to collect, process, store and analyze hospital utilization information was given to the Vermont Hospital Data Council. The Council designated the Vermont Department of Health (VDH) as manager of the hospital utilization data. In 1992, the Data Council's statutory authority was transferred to the Vermont Health Care Authority. In 1996, the Authority was merged with the Department of Banking, Insurance and Securities and became the Division of Health Care Administration. The Vermont Department of Banking, Insurance, Securities and Division of Health Care Administration (BISHCA) has an agreement with VDH to manage the hospital discharge database and produce the Monographs. The Monographs have been published by VDH since 1983.

Beginning in 1998, a section on outpatient procedures (ambulatory surgeries) was included. Emergency Department (ED) and Hospital Setting Comparison sections were added in 2001. Prior to 1998, outpatient procedures were reported in a separate publication.

Sources of Data

All fourteen of Vermont's civilian acute care hospitals and the Veterans Administration hospital in White River Junction have contributed data to the Vermont Uniform Hospital Discharge Data Set. The Brattleboro Retreat in Brattleboro and the Vermont State Hospital in Waterbury are strictly psychiatric hospitals and have not participated in this data collection effort. The acute care hospitals, under an agreement with the Vermont Association of Hospitals and Health Systems - Network Services Organization (VAHHS-NSO), supply discharge abstracts to the Missouri Hospital Association's Hospital Industry Data Institute, the VAHHS-NSO contractor. Under a contract with BISHCA, VAHHS-NSO provides data to VDH. Under agreements administered by BISHCA, VDH obtains records of Vermont resident discharges from hospitals in neighboring states from the Massachusetts Division of Health Care Finance and Policy, the New Hampshire Department of Health and Human Services and the New York Department of Health.

Upon receipt of Vermont hospital discharge data from VAHHS-NSO, VDH edits the data and checks for completeness and internal consistency. Results of these analyses are shared with VAHHS and participating Vermont hospitals as part of an ongoing quality improvement process.

Diagnosis and Procedure Grouping Systems

This report uses several different systems for categorizing diagnoses and procedures. Each system is appropriate to one or more of the hospital settings reported on here.

DRGs and MDCs

For inpatient discharges, Diagnosis Related Groups (DRGs) and Major Diagnostic Catgeories (MDCs) are used for grouping diagnoses. DRGs and MDCs were developed for use with inpatient records and are not appropriate for other hospital settings.

In October 1983, the U.S. Centers for Medicare and Medicaid (CMS) adopted a prospective system for reimbursing hospitals for hospitalizations of Medicare beneficiaries. This system established a payment schedule for groups of similar conditions that were expected to consume similar resources. Since 1983, the DRGs have been refined and added to a number of times, and are currently revised annually on October 1. The DRG assigned to an individual hospitalization is the definition in effect on the date of discharge.

DRGs, which describe conditions and procedures related to similar body systems or etiologies, are grouped into 25 MDCs. MDCs are the basic tabulation units used in the inpatient Monographs. MDCs are listed in Appendix B. Appendix C lists DRGs within each MDC.

Outpatient Procedure Groupings

In the outpatient procedure section of this report, procedures have been grouped into categories based on the first two digits of their four-digit ICD-9-CM codes. Each ICD-9-CM procedure code is composed of two digits, followed by a decimal and two additional digits. The first two digits describe broad categories. For example, 13 is the category "Operations on Lens of Eye." The second set of digits provides greater specificity. For example, 13.41 is "Phacoemulsion and aspiration of cataract."

CCS Categories

The Clinical Classifications Software (CCS) system groups primary ICD-9-CM diagnosis and procedure codes and is used for analyses of emergency department visits and for comparison of discharges across hospital settings.

Clinical Classifications Software (CCS) is a tool developed at the Agency for Healthcare Research and Quality (AHRQ) that collapses principal diagnosis (over 12,000) and procedure (over 3,500) codes into meaningful categories. The single-level diagnosis CCS aggregates illnesses and conditions into more than 260 mutually exclusive categories. Similarly, the single-level procedure CCS aggregates procedures into 231 mutually exclusive categories, most representing single types of procedures. High level CCS groups further collapse the single-level CCS categories into 18 diagnosis groups or 16 procedure groups based on body system or condition categories. CCS is available to the public at the website:
http://www.hcup-us.ahrq.gov/toolssoftware/ccs/ccs.jsp

Appendix D lists single-level and high level CCS diagnosis categories. Appendix E lists single-level and high level CCS procedure categories.

Exclusions

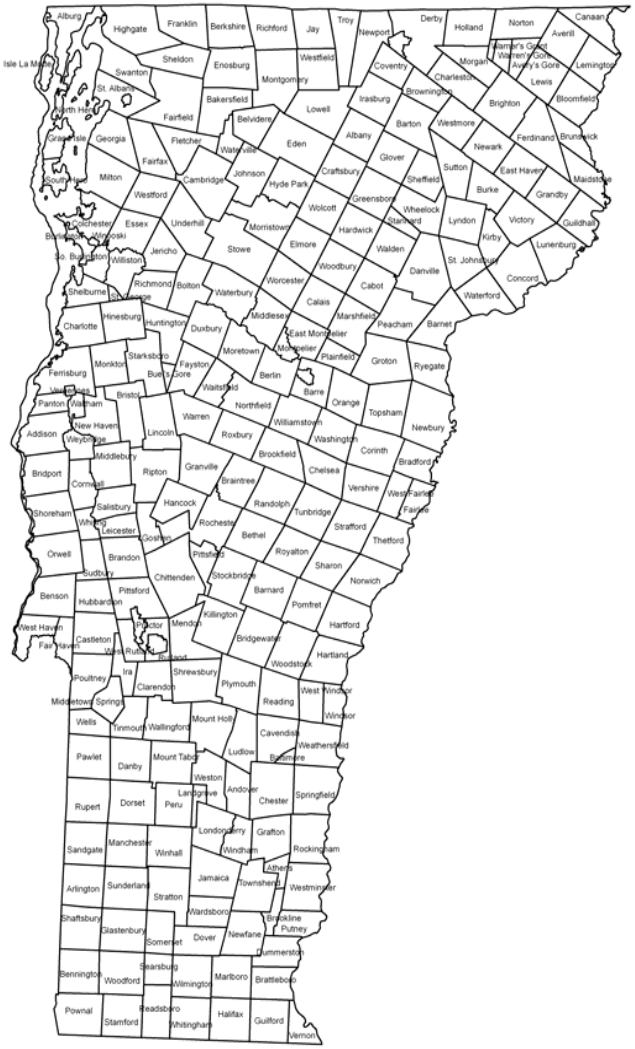
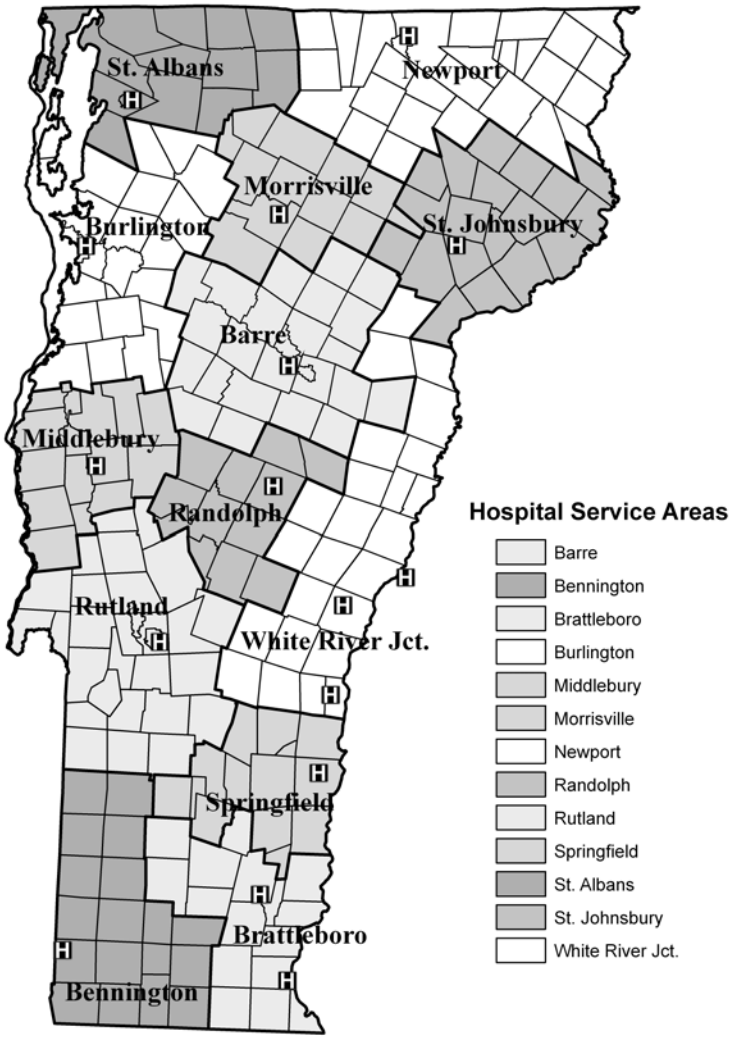
As in any dataset of this size, there are a small number of records with incomplete or missing elements. These records must be excluded from particular analyses. We have indicated the number of missing records in each Monograph so that all totals can be reconciled.

Throughout the Monograph, to avoid counting hospitalizations for delivery twice, the maternal record is included, but the infant record is not. This is a standard practice in hospital utilization analysis. However, discharge records for infants are retained in the Vermont Uniform Hospital Discharge Data Set to support research and analyses that include this population.

Additional Analyses

BISHCA and VDH collaborate to publish the Monograph Companion series to explore technical issues and pursue more detailed analyses of Vermont hospital data. To obtain copies, contact the Vermont Division of Health Care Administration at (802) 828-2900 or (800) 631-7788, or check the division's website (www.bishca.state.vt.us, then select "Health Care Administration”).

Vermont Towns



Vermont Hospital Service Areas and Hospitals