

Health Economics Spotlight



Updates on VA data, health economics research, and analytic methods

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Spotlight

Categorizing VA Care in Health Services Research

To understand health care cost and utilization data, researchers often group encounters into clinical categories of care, such as acute medicine, surgery, mental health, or rehabilitation. Creating categories of care is useful for comparing utilization or costs by cohorts or treatments, understanding trends over time, or comparing between VAs or across health systems (e.g., VA vs Medicare). The question of how to create these categories depends on the data included in the study. Fewer categories often make the data easier to present and understand, but risks grouping encounters that may only be marginally related. Here, we give some examples of how researchers have tackled this problem in the past.

HERC Categories of Care

For analyses of VA-provided care, HERC creates a category of care variable in both the inpatient and outpatient average cost datasets. For outpatient data, clinic stops are grouped into categories based on the location where the service was provided. There are 12 categories for VA-provided care, 2 for contract care, and 1 for unidentified clinic stops. Inpatient bedsections (treating specialties in MCA data) are grouped into 10 categories. The categories with corresponding codes are available on the HERC website for both [outpatient](#) and [inpatient](#) data.

A paper by [Dismuke-Greer et al \(2020\)](#) demonstrates how the HERC categories of care can be used to compare outcomes by cohort. The authors compared utilization and costs for each category of care by mild traumatic brain injury group.

Investigators may also want to use the HERC categories as a starting point, and modify them to fit their project's needs, as [Taylor et al. \(2015\)](#) did for their project evaluating VA utilization for Iraq and Afghanistan war Veterans diagnosed with TBI.

Telehealth

With the expansion of virtual care, investigations into telehealth may require categories beyond those HERC created. [Ferguson et al \(2020\)](#) used Stop Codes to group outpatient encounters into 6 types of care

as well as identify the care delivery method: in-person, video, phone, or supplementary remote. The list of codes are available as a supplementary table.

VA vs Non-VA Categories of Care

There are many reasons to [compare VA and non-VA costs](#) or utilization by categories of care. Researchers may want to evaluate how VA costs compare to another system, such as Medicare. With the growth of VA-purchased care under the Choice Act of 2014 and the MISSION Act of 2018, comparisons of VA-provided vs VA-purchased care become increasingly relevant. However, VA does not use claims, making direct comparisons all but impossible. Instead, researchers typically use a combination of codes to create similar categories of care between the two systems.

A [2022 paper by Vanneman et al](#) exemplifies how these codes can be used together to identify a specific

Although there is no standard set of codes, the following codes are commonly used:

- Diagnosis & treatment codes (ICD, CPT, HCPCS)
- [Provider taxonomy code](#): These codes define the provider type, classification, and specialty
- [Place of Service code](#): 2-digit code indicating where the service was performed
- [Bill type code](#): 4-digit code that classifies the type of facility and type of care
- [Revenue center code](#): Revenue code for each division or unit within a hospital

category of care across VA-provided care and community care. Vanneman and team identified inpatient behavioral health stays using *diagnosis codes*, *bill type codes*, and *revenue codes* for inpatient care. They identified outpatient behavioral health stays using *CPT/HCPCS* codes. They included behavioral health-specific codes as well as general codes that represent behavioral health care when provided by a behavioral health specialist, using the *provider taxonomy code* to limit to behavioral health providers. They used *place of service codes* to limit outpatient care to ambulatory settings, and they excluded VA stop codes that didn't have corresponding *place of service codes* in community care. The list of codes are available in the article and the online supplement.

A [2019 paper by Yoon et al](#) demonstrates how these codes can be used to compare across VA and Medicaid. Yoon and team use a combination of provider types (*provider taxonomy codes*), and procedure types (*CPT/HCPCS codes*) to create categories of outpatient care. They categorized inpatient stays using *diagnosis codes*.

Additional information about comparing VA and non-VA costs is available on the HERC website.

Resources for Creating Categories of Care

- HERC's [outpatient](#) and [inpatient](#) categories of care
- Identifying [outpatient](#) and [inpatient](#) claims in PIT (CREEK)
- [Comparing VA and non-VA costs](#) (HERC)
- [Data variables documentation](#) (ResDAC)

Seminars

Econometrics Seminar Series

The econometrics cyberseminar series continues through April. Seminars in the Econometrics cyber series focus on methods to analyze data in health services research. Each seminar covers a new topic, and you can enroll in the entire series or individual seminars.

Upcoming Seminars

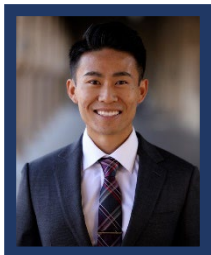
<p>March 29 at 2pm ET Limited Dependent Variables <i>Ciaran Phibbs, PhD</i> Register</p> <p>The ordinary least squares (OLS) model is based on a continuous dependent variable. This lecture will introduce some of the methods available to treat other forms of dependent variables. Topics will include dichotomous (yes/no) outcomes, count data models, and choice models.</p>	<p>April 19 at 2pm ET Empirical Bayes <i>David Chan, MD, PhD</i> Register</p> <p>This seminar will provide an introduction to empirical Bayes. When we have a finite sample of observations and increasingly rich covariates, empirical Bayes provides a useful tool to form better policy-relevant predictions than those from standard regression methods. We will discuss the rationale behind empirical Bayes, connections with the machine learning literature, and illustrative examples from the applied economics literature.</p>
<p>April 5 at 2pm ET Fixed Effects and Random Effects <i>Josephine Jacobs, PhD</i> Register</p> <p>This overview of fixed and random effects models from an econometric perspective will describe how panel data can be used to mitigate concerns about unobserved factors affecting a regression. We will describe the assumptions that need to be met for each model to be used and describe tests that can be used to choose between fixed and random effects models. Finally, we will address how statisticians think about fixed, random, and mixed effects models and how this can differ from an econometric perspective.</p>	<p>April 26 at 2pm ET Cost as the Dependent Variable <i>Mark Bounthavong, PharmD, PhD</i> Register</p> <p>Health care cost can be difficult to analyze. In addition to skewness and truncation, the variance in cost data may be correlated with one of the predictor variables, a problem call heteroscedasticity. As a result, Ordinary Least Squares regression models may generate biased regression parameters and inaccurate predictions. Other models such as generalized linear models are useful alternatives. Another alternative is a two-part model, which can be used to analyze data with many observations in which no cost was incurred. We'll review these approaches and identify good practices for analyzing cost data.</p>

Missed a seminar? Recordings of past seminars are available on the [HSR&D website](#).

Can Educational Outreach Improve Experts' Decision Making? Evidence from a National Opioid Academic Detailing Program

April 12, 2023 at 2pm ET

Register



In the April 12 monthly health economics seminar, Johnathan Zhang, PhD presents work evaluating the impact of academic detailing (“educational outreach”) to primary care providers on opioid-related outcomes.

Over 3,300 primary care teams were detailed between 2015-2019, and as a result almost 3 million VHA users had their PCP detailed. Using a generalized difference-in-differences method, Dr. Zhang found that detailed PCPs drastically improved opioid-related practice and their patients went on to experience fewer serious adverse events.

Jonathan Zhang is a health economist, evaluator at the VA, and assistant professor of economics at McMaster University. His work evaluates health policies, often in substance use and mental health topics.

Resources

New Webpage on State Claims Data

HERC has created a new webpage to help guide VA researchers looking to include State Claims Data in their project. State health care claims data may contain vital information, as many younger Veterans use private healthcare in addition to their VA-provided care. When combined with data from VA-provided care, VA-purchased care, and CMS care, researchers can have a nearly complete picture of Veteran health care use. However, there are many challenges to including State Claims Data in your project. Visit the [HERC webpage](#) (VA intranet only) for information about data availability by state, challenges to obtaining and using the data, and tips to improve efficiency.

Sample Code for Love Plots in Stata

After the January 25 cyberseminar on [Propensity Scores](#), Rebecca Raciborski, PhD, a health economist at the Center for Mental Healthcare & Outcomes Research, Central Arkansas Veterans Healthcare System, shared her code related to Love Plots, which can be run in Stata. Propensity score is a logistic model that can be used to adjust for observed confounders. Love Plots provide a way to see the pre and post effects of propensity scores. Dr. Raciborski’s code is available on the [HERC website](#).

Dr. Wagner’s archived presentation on propensity scores is available on the [HSR&D website](#).

Data

Identifying Costs in VA Data

Recently, the HERC consulting service received the following question: *How do I identify cost estimates of*

stop code 142 (Wound Treatment & Ostomy Care)? Is it different per location?

Researchers with access to VA data can use the [MCA OUT/OUT2 NDEs](#) to identify costs for specific stop codes. More granular costs are available in the OIPD files. All costs in MCA data are local to the VA station providing the service. Researchers without access to MCA data can find summarized reports on VSSC.

Looking for HERC resources on MCA data?

- [Research Guide to the Managerial Cost Accounting National Cost Extracts](#) (VA intranet only)
- [HERC's Managerial Cost Accounting \(MCA\) webpage](#) (VA intranet only)
- [VA Costs: HERC versus MCA cyberseminar](#)

Are you a VA researcher and have a question or need some help from HERC? HERC offers consultations on a variety of health economics and data topics. Visit the [HERC website](#) to learn more about our consulting service.



Health Economics Resource Center (HERC)

Assisting VA researchers in conducting high-quality health economics research

HERC is a national center located in Menlo Park, CA.

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