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VALUE IN HEALTH CARE

Data Release Application

Limited and Identifiable Extracts

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Client Application Revision History

The following reflects the history of changes made to this document during the application process prior to project production. Once in production, any further changes to the application may result in additional cost and production delays.

To be completed by CIVHC staff			
Date	New Version Number	Description of Change(s)	CIVHC Change Author (full name, complete title)
2/21/2025	V.01	Initial version drafted with client.	Lucía Sanders, Key Account Manager
3/6/2025	V.02	Updates to project workforce.	Lucía Sanders, Key Account Manager
3/15/2025	V.03	Updated with additional details on the proposed quality measures in question 2.	Lucía Sanders, Key Account Manager
	V.04		
	V.05		
	V.06		
	V.07		
	V.08		
	V.09		
	V.10		

Data Release Application

Limited and Identifiable Extracts

Data Requestor Details

General Project Details

Project Title:	Investigating Freestanding Emergency Departments in Colorado
Application Start Date:	1/13/2025
Requested Project Delivery Date:	6/20/2025
Client Organization (legal name):	The Trustees of Princeton University
Client Organization Address:	Office of Research and Project Administration PO Box 0036- 619 Alexander Road, Suite 102 Princeton, NJ 08540-6000
CIVHC can publicly share the Client Organization's name in its Change Agent Index.	☒ Yes ☐ No
To be completed by CIVHC staff	
CIVHC Contact (full name, complete title):	Lucía Sanders, Key Account Manager
Project Number:	25.18
Condensed Project Title:	Freestanding Emergency Departments

Project Contacts

Project Contact Name:	**Gabriel Swagel**
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Analytic Contact Name:	**Gabriel Swagel**
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Data Use Agreement Signatory:	**Elizabeth Adams**
Title:	Executive Director– Office ofResearch & Project Administration
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Project Schedule and Purpose

Proposed Project Start Date[1]:	5/15/2025
Anticipated Project End Date:	6/15/2028
Proposed Publication or Release Date:	8/15/2028

1. Detail the specific research question(s) you are trying to answer or problem(s) you are trying to solve with this data request. Please list and number the individual questions.

[1] After all required documents have been signed, typical production time is 30-60 days for a Limited or Identifiable Extract. Anticipate a longer production period for projects including a Finder File or creation of a Member Match File.

Freestanding Emergency Departments (FREDs), which offer emergency medical ca standalone facility away from a traditional hospital, have proliferated across Colorado's Front Range in the past 15 years. As of December 2024, there were 31 FREDs operating in Colorado.

The role of FREDs in health care delivery is the subject of policy debates. Proponents of FREDs argue that they can expand access to emergency care and alleviate congestion in hospital-based emergency departments (EDs). However, FREDs may generate wasteful healthcare spending by drawing non-emergency care away from lower cost settings such as urgent care clinics (UCCs) and physicians' offices. Preliminary analyses conducted by CIVHC in 2014 showed that 7 of the top 10 reasons Coloradans sought care at FREDs were for non-life-threatening events. In contrast, only 3 of the top 10 reasons for visiting hospital-based EDs were for non-life-threatening events. Additionally, little is known about the quality of care provided at FREDs relative to other settings.

Evaluating the role of FREDs in emergency care in Colorado and the effect of potential regulations has important welfare and financial implications. FREDs charge nearly 10 times the amount as urgent care centers for similar non-emergency services. In Texas, UnitedHealthcare estimated that shifting such care to lower-cost settings would reduce annual health care spending by over $800 million. These savings would result in lower costs for payers, lower premiums for employers, and lower out-of-pocket expenses for patients. However, regulations targeted at FREDs may make patients worse off by limiting valuable access to nearby emergency care. Assessing these tradeoffs, particularly in the complex setting of emergency care where patients often have limited information about their final out-of-pocket costs when choosing a facility of care, requires rigorous modeling and statistical analyses using the high-quality and detailed information available in the CO APCD.

Individual research questions:

i. What is the role of Freestanding Emergency Departments (FREDs) in Colorado?
ii. What are the drivers of variation in care provided across FREDs and hospital emergency departments?
iii. How would potential regulatory interventions on FRED entry and competition im the welfare of, care provided to, and healthcare spending of Colorado residents?

2. Describe your methodology or how you will be using data from the Colorado All Payer Claims Database (CO APCD) to answer your research questions.

I will use the CO APCD data to perform statistical and econometric analyses that all me to obtain descriptive evidence, causal inference, and simulate policy counterfactuals on the specified research questions.

I will use the claims to document the quality of care and provider practice styles, case mix, payer composition, and costs of care at FREDs, urgent care centers, and hospital-based emergency departments in Colorado. These analyses will provide descriptive evidence on the role of FREDs, the drivers of variation in care, and inform the casual analyses and econometric model of demand for and supply of emergency care in Colorado.

I plan to study a variety of measures of quality to uncover a holistic picture of the care provided at FREDs, including patients' subsequent outcomes, provider characteristics, and adherence to medical guidelines. For patients' subsequent outcomes, I plan to measure the 30-day readmission rate, and the 30-day ER re-visit rate for all and related conditions, as well as follow-up utilization costs. In analyzing these outcomes, I will exploit causal inference methodologies such as multiple regression, event studies, and synthetic controls to account for the differences in baseline patient severity across facilities. For provider characteristics, I will use the claims and NPPES/IQVIA provider datasets to construct measures of provider staffing per patient, provider specialty mix, provider training, and provider experience. Finally, I will use the claims data to measure adherence to or deviations from medical guidelines, such as potentially inappropriate antibiotic prescribing or unnecessary imaging.

To obtain quasi-experimental evidence on the role of FREDs and the care provided, I will utilize event-study methodologies to study how care changed as certain FREDs closed during the data sample period. I plan to analyze how local utilization of overall healthcare services, emergency departments, and urgent care centers changed when a nearby FRED closed and use the financial details in the data to study the impacts on healthcare spending. Obtaining claims across all facilities – including non-emergency care settings – allows me to uncover the full scope of substitution across settings of care caused by access to FRED. The event-study methodology controls for baseline differences across local areas and common trends over time, isolating the causal effects of interest.

Finally, I will use the data to estimate models of demand for and supply of emergent care in Colorado. These models will allow me to quantify the welfare implications of increased access to emergency care provided by FREDs as well as potential substitution from lower-

cost settings. Additionally, the models allow me to quantify the welfare and spending consequences of potential regulatory or policy changes of interest. I will use frontier econometric methodologies to estimate the models, including using a moment inequality framework that relaxes informational assumptions to more realistically model how individuals decide where to seek care.

As part of this application, I am requesting claims from all providers and facilities from 2019 through 2025 and the charged amounts for these claims. As noted above, analyzing claims across all sites of care allows me to quantify the full impact of FREDs on health care utilization. Additionally, observing the full set of claims and the charged amounts are crucial for constructing the models of demand for emergency care across facilities. To estimate these models, I need to (a) build measures of the out-of-pocket costs that patients *would* have paid at facilities other than the facility they ultimately chose to vis and (b) construct variables that capture information patients use to form predictions these out-of-pocket costs as they choose where to receive care. To build measures o (unobserved) potential out-of-pocket costs for a given individual at a non-chosen facility, I will use machine learning methods to combine information on the charged and allow amounts for other patients covered by the same insurer who went to that facility, along with information on deductible and coinsurance payments for that individual across t full set of claims. Using the full set of claims further allows me to construct variables patients may use to forecast their out-of-pocket costs, such as their prior utilization in that plan year, their coinsurance rate, whether they have already met their deductibl that plan year, and a measure of their health status such as the Charlson Comorbidi Index.

3. Explain how this project will benefit Colorado and its residents.[2]

This project will benefit Colorado and its residents by providing novel evidence on the role of Freestanding Emergency Departments and the quality of emergency care provided in Colorado. Additionally, the project will evaluate the impacts on Colorado and its residents of potential policy and regulatory changes regarding FREDs.

4. Describe how your project will improve health care quality, increase health care value, or improve health outcomes for Colorado residents.[2]

This project will improve health care quality for Colorado residents by providing evid on the drivers of variation in quality of emergency care.The project will increase health care value by studying whether FREDs primarily increase access to emergency care or draw non-emergent care away from lower cost settings.The project will also evaluate how various potential policy interventions would affect health care value.

5. Health equity is defined as the state in which everyone has a fair and just opportunity to attain their highest level of health. Explain how your project addresses health equity.

Providing sufficient access to available and affordable emergency care is a crucial component of health equity. In this project, I will study the role of FREDs in improving access to emergency care and their impact on residents' out-of-pocket costs, and evaluate how potential policies will impact the accessibility and cost of emergency care.

6. Describe any publication you plan to develop based on your use of CO APCD data, its intended audience, and whether it will be made publicly available.

I plan to publish my results based on the CO APCD data in academic journals.The intended audience for these publications is researchers and policymakers.The publications will be made publicly available.

[2] It is a statutory requirement for all non-public releases of CO APCD data to benefit Colorado or its residents. Contributions to generalizable knowledge alone are not sufficient to satisfy this requirement.

Data Matching and Linkage

Finder File

A Finder File is a file you submit to CIVHC with information about a pre-selected cohort for matching to CO APCD data. Ask your CIVHC Contact for more information about this process and requirements for Finder File submission.

Will you provide CIVHC with a Finder File as part of this project?

- ☒ No
- ☐ Yes

Member Match File

A Member Match File is a file that CIVHC creates on your behalf to send to a registry or other outside entity to create a crosswalk connecting data from the CO APCD to the other entity's data.

Does this project require the creation of a Member Match File?

- ☒ No
- ☐ Yes. Consult with your CIVHC Contact about completing a separate Data Element Selection Form specifying the data elements that should be used to create the Member Match File.

  Answer the following:

Who will receive the Member Match File?

Control Group

A Control Group is a group of individuals who can be used to compare against the cohort identified in the Finder File.

Will you need CIVHC to create a Control Group as part of this project?

- ☒ No
- ☐ Yes. Consult with your CIVHC Contact about completing a separate Control Group Data Element Selection Form specifying the data elements that should be used to define the Control Group.

Linkage

Data Linkage is a method of joining data from different sources together to create a new data set.

Will the CO APCD data be linked to another data source?

☐ No
☒ Yes. Answer the following:

What is/are the other data source/s?
IQVIA Physician Education Data, American Community Survey
Who will perform the data linkage?
Gabriel Swagel
What identifying data elements will be used to perform the data linkage?
National Provider Identifier, Provider Name, ZIP Code
What non-CO APCD data elements will appear in the new linked file?
Provider Medical School, Provider Medical School Graduation Year, Median Household Income, Poverty Rate

Data Inclusion Criteria

Make selections in the following sections based on what data you want to have included in this extract. If you will be creating a Control Group, complete this section for your study population and not the Control Group.

Protected Health Information (PHI)

Indicate which Protected Health Information data elements you require for your project purpose:

Available for Limited and Identifiable extracts:		
☒ Member 5-Digit Zip Code	☐ Member County	☐ Member City
☒ Member Dates of Service	☒ Member Eligibility Dates	☐ Claim Paid Dates
☐ Employer Name	☐ Member Census Tract	☐ Member Census Block
☐ Member Census Block Group		
Available for Identifiable extracts only (see also Identifiable Data Use Approval):		
☐ Member Name	☐ Member Date of Birth (if requesting more than year only)	
☐ Member Street Address	☐ Member Latitude and Longitude	
Provide detailed justification for the inclusion of all PHI data selected above, and explain how its inclusion meets the Minimum Necessary Requirement.[3]		
• Member 5-Digit Zip Code: Travel distance is a crucial component of demand for emergency care. Member Zip Codes are the minimum necessary information for constructing treatment units for the event-studies and distance measures for model estimation. Additionally, Member ZIP codes are required for linking the APCD to members' neighborhood characteristics in the American Community Survey.		

[3] Limited and Identifiable extracts must adhere to the Minimum Necessary Requirement under the HIPAA Privacy Rule; only that data required to answer the project purpose can be included in the request.

- Member Dates of Service: Dates of service are the minimum necessary information for constructing a visit-level dataset from the facility and professional claims-level dataset.
- Member Eligibility Dates:This is important information for predicting individuals' out-of-pocket costs at a given facility (which is a crucial input to the discrete choice model of demand for care). If members were not eligible for coverage at the time of care, their out-of-pocket costs will be quite different than if they were covered, and these variables allow the model to capture this accurately.

Line(s) of Business

☒ Commercial Payers
☒ Health First Colorado (Colorado's Medicaid and CHP+ programs)[4]
☒ Medicare Advantage
☒ Medicare Fee for Service (FFS)[5]

Year(s) of Data

☐ 2012	☐ 2013	☐ 2014	☐ 2015	☐ 2016	☐ 2017
☐ 2018	☒ 2019	☒ 2020	☒ 2021	☒ 2022	☒ 2023
☒ 2024[6]					

Claim Type(s)

☒ Inpatient Facility	☒ Outpatient Facility	☒ Professional
☒ Pharmacy	☐ Dental	

Financial Detail by Line Item

☒ Charged Amount	☒ Allowed Amount	☒ Plan Paid Amount
☒ Plan Pre-Paid Amount	☒ Member Copay	☒ Member Deductible
☒ Member Coinsurance	☒ Total Member Liability	

[4] Medicaid-only data requests must be approved by the Colorado Department of Health Care Policy and Financing.
[5] Medicare FFS data are not available for all requests and must go through a separate approval process.
[6] This year's data is incomplete and not fully adjudicated. Consult with your CIVHC Contact to find out what data is available at the time of your request.

Filter Criteria – Services, Providers, Facilities

If you need data for specific services, providers and/or facilities, specify that filter criteria below (ask your CIVHC Contact about including an additional file with this application for large code lists):

ICD Diagnosis Code(s):
Procedure(s) (list CPT, HCPCS, DRG, ICD, and/or CDT codes):
Drug(s) (list pharmacy NDC and/or HCPCS codes):
Facility Type(s):
Facilities (list NPIs and/or Pharmacy IDs):
Facilities within these geographical areas (list county, zip code, Census Tract, etc.):
Provider Type(s):
Provider(s) (list NPIs):
Providers within these geographical areas (list county, zip code, Census Tract, etc.):
Specific payers (minimum of five):

Other claim specification:

Filter Criteria – Members/Patients

If you need data for specific member/patient groups, specify that filter criteria below (ask your CIVHC Contact about including an additional file with this application for large code lists):

Ages:		
☐ At the time of service	☐ At year end	☐ By another anchor date: *Specify here*
With these ICD Diagnosis Code(s):		
Who have had the following procedure(s) (list CPT, HCPCS, DRG, ICD, and/or CDT c		
Within these geographical areas (list county, zip codes, Census Tract, etc.):		

Value-Add Data Elements

- ☐ Medicare Severity Diagnosis Related Group Codes (MS-DRGs)
- ☒ 3M All Patient Refined Diagnosis Related Group Codes (3M APR DRGs)
- ☐ Medicare Repricer (available at the claim line level)
- ☐ Fields from the American Community Survey (available at the Census Tract level):

Specify here

Additional Documentation

Data Element Selection Form (DESF)

The Data Release Application must be accompanied by a completed Data Element Selection Form. Ask your CIVHC Contact for more information about completing this form.

☒ By checking this box, the Client Organization confirms that the Data Element Selection Form has been completed.

☐ If applicable, by checking this box the Client Organization confirms that a separate Member Match File Data Element Selection Form has been completed.

☐ If applicable, by checking this box the Client Organization confirms that a separate Control Group Data Element Selection Form has been completed.

Identifiable Data Use Approval

If you are requesting Identifiable information, approval from an Institutional Review Board (IRB) or a Privacy Board is required before such data can be released.

☒ Not applicable; the Client Organization is requesting a Limited Extract.

Approval Type

☐ IRB Approval

☐ Privacy Board Approval

Approval Type

☐ Approval request not yet submitted.
Anticipated submission date:

☐ Approval request submitted and under review.
Anticipated project approval date:

☐ Approval already received.

Approval Documentation

☐ By checking this box, the Client Organization confirms that the IRB or Privacy Board **application and approval documents** have been provided to CIVHC.

Data Management Plan

An organization requesting CO APCD data must submit an organizational Data Management Plan to CIVHC outlining the organization's data security and data management policies and procedures to safeguard the data. This Data Management Plan must be approved by CIVHC prior to any data release.

Date Submitted to CIVHC	3/6/2025
Date Approved by CIVHC:	3/18/2025

Client Acknowledgements and Signatures

Report or Product Distribution

If your project results in the production of a report for public distribution in any format (print, electronic, lecture, slides, etc.), including peer-reviewed publication, it must be submitted to CIVHC for review prior to public release. CIVHC will assess compliance with CMS Cell Size Suppression Policy, risk of inferential identification, CIVHC and CO APCD citations, and consistency with the purpose and methodology described in this Data Release Application. CIVHC will not assess the accuracy of the study results or attempt to recreate results.

This requirement is further defined in the Data Use Agreement. Failure to pursue and obtain CIVHC approval prior to publication will be a violation of the Data Use Agreement and may put the organization's future access to data from the CO APCD at risk.

☒ By checking this box, the Client Organization acknowledges this requirement.

Data Destruction Period

All data must be destroyed within 30 days of the project end date. If your project end date changes from this application, please reach out to your CIVHC Contact for a project extension request form.

☒ By checking this box, the Client Organization acknowledges that CIVHC's Data Destruction Certificate[7] must be completed and returned to DataCompliance@CIVHC.org by 7/15/2028 based on the Anticipated Project End Date.

[7] Available on the Data Release Application and Documents page of CIVHC's website under *Privacy, Security, and Regulatory Information*.

Data Users

List any individuals that will be working with the data. The Data Use Agreement must be updated through your CIVHC Contact every time individuals are granted access to the data during the course of the project.

Full Name	Title/Role	Organization
Gabriel Swagel	Graduate Student, Investigator	Princeton University
Gene Piccola	Technical Support Specialist IT system administrator	Princeton University
Lori Bougher	Director of Research and Strategy (Data Driven Social Sciences), Data Custodian	Princeton University

Data Release Application Version Approvals

The Client Organization has reviewed and confirms that the final version number of the Data Release Application reflected below correctly represents the project objectives.

Version	Checkpoint
V.01	Presented at CIVHC Application Review
V.03	Presented to the Data Release Review Committee (DRRC)
V.00	Final version approved for production

CIVHC Sign-Off		Receiving Organization Sign-Off	
Signature:		Signature:	
Name:	Lucía Sanders	Name:	Gabriel Swagel
Title:	Key Account Manager	Title:	Graduate Student
Date:		Date:	

Data Element Selection Form Version Approvals

The Client Organization has reviewed and confirms that the final version number of the Data Element Selection Form reflected below correctly represents the data specifications needed to meet the project objectives.

Version	Checkpoint
V.01	Presented at CIVHC Application Review
V.01	Presented to the Data Release Review Committee (DRRC)
V.00	Final version approved for production

CIVHC Sign-Off		Receiving Organization Sign-Off	
Signature:		Signature:	
Name:	Lucia Sanders	Name:	Gabriel Swagel
Title:	Key Account Manager	Title:	Graduate Student
Date:		Date:	