Colorado All Payer Claims Database
Data Release Application
Part 1

Part I of the Data Release Application should be used to submit background information related to your organization's request for data from the Colorado All Payer Claims Database (CO APCD). This information will help the Center for Improving Value in Health Care (CIVHC), the Administrator of the CO APCD, understand the questions you are trying to answer with your data request and assist us in helping you through the data request process. All CO APCD data requests go through a careful review and approval process and involve a licensing fee. CIVHC has a team of Health Data Solutions Consultant who will work closely with you throughout the data request process.

Prior to completing the questions below, please review the information on requesting data and reports located at https://www.civhc.org/get-data/non-public-data/.

Project Information	
Project Title:	23.106.75 OSPMHC Long COVID Surveillance
Date:	5/26/23
Organization Requesting Data:	Colorado Governor's Office Office of Saving People Money on Health Care
Contact Person:	Dr Mirwais Baheej
Title:	Senior Policy Advisor on Long COVID and Post Viral illnesses
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CIVHC Contact:	Amanda Kim

Project Purpose

1. Describe your project and project goals/objectives in detail.

This project aims to improve the health of Coloradans through developing a surveillance system to estimate the burden of long COVID in Colorado, allowing estimating of health care needs, health care expenditures, changes over time, and identifying populations that are disproportionately impacted.

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

1. Estimating the burden of Long-COVID in Colorado using Colorado's all-payer claims database (APCD)
2. Estimating changes in the incidence and prevalence of Long-COVID in Colorado over time and before and after COVID-19 (March 2020) as part of validation of the methodology.
3. Estimating healthcare spending associated with increases in Long-COVID (symptoms or related diagnoses)
4. Describing social vulnerability to Long COVID and identifying populations disproportionately impacted by payer, race, and socio-economic status. This aim involves ecological (e.g., neighborhood level) analysis due to limitations of available data.

Our methodology will adapt results from Pfaff et al. (2022). Our team includes CU School of Public Health investigators and collaborators from the National COVID Cohort Collaborative (N3C). Pfaff et al.

used a group of patients identified with long COVID in long COVID clinics to develop prediction models based symptoms after an initial COVID infection. The predictive models were then applied to a larger population using electronic health records. We plan to adapt and refine the models using Colorado's population-level data to identify people with suspected long COVID. Based on the cluster of symptoms, we will estimate changes in the incidence/prevalence of symptoms before and after the pandemic as a way to validate the method since long COVID resembles other suspected postviral conditions including fibromyalgia and Chronic Fatigue Syndrome. Data before March 2020 are also needed to code comorbid conditions based on a lookback period and to estimate changes in symptoms before and after the pandemic (validation). Once patients who have a cluster of long COVID symptoms have been identified, we can estimate medical costs (expenditures) for these patients (out-of-pocket) and by payer.

References

Pfaff, E. R., Girvin, A. T., Bennett, T. D., Bhatia, A., Brooks, I. M., Deer, R. R., ... & Niehaus, E. (2022). Identifying who has long COVID in the USA: a machine learning approach using N3C data. The Lancet Digital Health, 4(7), e532-e541.

3. How will this project benefit Colorado or Colorado residents? (This is a statutory requirement for all non-public releases of CO APCD data. Contributions to generalizable knowledge is not sufficient.)

   The Office of Saving People Money on Healthcare (OSPMHC) under the Office of the Governor is committed to working with different stakeholders and proposing policy solutions to save Coloradans money on healthcare. The OSPMHC is working to reduce patient costs for hospital stays and expenses, improve price transparency, lower the price of prescription drugs, and make health insurance more affordable. As part of this initiative, the OSPMHC aims to estimate the burden of long COVID in Colorado including health care needs to identify barriers to care, address them and enhance access to care for individuals suffering from Long COVID.

4. Describe how the project will meet one or more of the Triple Aim criteria below.
   a. Improve the patient experience of care (including quality and satisfaction)
   b. Improve the health of populations
   c. Reduce the per capita cost of health care

   By estimating the burden of Long COVID, we aim to identify barriers to accessing care including insurance-related barriers and work with different care providers to engage them in the treatment and management of Long COVID patients thereby improving access to quality care and make the services and care they need affordable to them contributing to improving the health of population. Obtaining a better estimate of the population affected by Long COVID is a key first step.

5. The State of Colorado and CIVHC are committed to ensuring everyone, regardless of demographics, has access to the care they need when they need it. How might your project contribute to that?

   We will use zip code data and payer (e.g., Medicaid, Medicare, commercial) to understand socioeconomic differences in the incidence of long COVID using area-level indicators and payer. This will help address the disparities in healthcare access and utilization by ensuring provision of equitable access to care, particularly for Long COVID patients' cohort.

6. Can CIVHC publicly share your organization's name in the work we do to promote our Change Agent clients in our Change Agent Index?　　☐ Yes　　　☒ No

Type of Output Requested: *Select the level of detail that you are requesting. If you are unsure, please contact us at* [*ColoradoAPCD@civhc.org*](mailto:ColoradoAPCD@civhc.org).

☐   Standard De-identified Data Set
☒   Limited Data Set
☐   Identified Data Set
☐   Standard Report
☐   Custom Report

Lines of Business: *Which payers do you need for your project purpose?*
☒   **Commercial Payers (Includes Medicare Advantage)**
☒   **Health First Colorado (Colorado's Medicaid Program)** – *Note: Medicaid only data requests must be reviewed by the Colorado Department of Health Care Policy and Financing (HCPF) to ensure alignment with administration of the Medicaid program as required by federal law.*
☒   **Medicare Fee For Service (FFS) –** *Note: Data requests for Medicare FFS are only available for authorized users for research purposes and must be approved by HCPF.*

Years Requested: *What years of claims do you need to meet your project purpose?*

☐ 2012		☒ 2018	
☐ 2013		☒ 2019	
☐ 2014		☒ 2020	
☐ 2015		☒ 2021	
☐ 2016		☒ 2022	
☐ 2017		☒ **2023**	

To accomplish the aims, we require APCD data from 2018-present for all people in Colorado 18 and older. The data would include claims for commercial insurance, Medicare (fee-for-service and Medicare Advantage), and Medicaid. We require medical and pharmacy claims, eligibility information, services, and billing provider information.

Data Needs
The following questions are related to Protected Health Information (PHI) to determine if you need a Limited Data Set or an Identifiable Data Set. The Data Elements Dictionary detailing the fields available for both types of data can be found at https://www.civhc.org/get-data/non-public-data/. **Note that any data request including PHI will need Part 2 of the Application and approval by the Data Release Review Committee.**

1. Do you need patient-specific dates (e.g., dates of service or DOB) or 5 digit zip code? If so, this is a request for a **Limited Data Set**.

   ☒ Yes   ☐ No

2. Do you need direct patient identifiers such as name, address, or city? If so, this is a request for an **Identifiable Data Set** (requires IRB approval).

☐   Yes   ☒   No

Project Information from Part 1 of Application	
Project Title:	23.106.75 OSPMHC Long COVID Surveillance
Date:	5/26/23
Organization Requesting Data:	Colorado Governor's Office Office of Saving People Money on Health Care

The CO APCD is committed to protecting the privacy and security of Colorado's claims data. The CO APCD will limit the use of the data to purposes permitted under applicable laws, including APCD Statute/Rule, HIPAA/HITECH, and Antitrust laws, to information reasonably necessary to accomplish the project purpose as described in this Application. Under HIPAA, PHI may only be released in limited circumstances for public health (public health agency), health care operations, and research purposes under the terms of a HIPAA compliant data use agreement (DUA).

Any requestor receiving a CO APCD data set, must submit to the APCD Administrator a Data Management Plan that outlines data security and data management policies and procedures to safeguard the data. This Data Management Plan must be approved by APCD Administrator prior to any data release.

1. **Data Element Selection Member-level Detail** – *Do you need member level PHI data for your project purpose? In keeping with the minimum necessary standard established under HIPAA, CO APCD policy is to release only those data elements that are required to complete your project.*

   ☐ No
   ☒ Yes (*Justification must be provided for each*)
       ☐   3-digit zip
       ☐   Name (first, last, middle)
       ☐   Street Address
       ☐   City
       ☒   Zip
       ☐   DOB
       ☐   Gender
       ☒   Date of Service (MM/DD/YYYY)
       ☒   Census Tract

5-Digit Zip Code: For some urban/rural measures we use ZIP code. In addition, Census tract is not available for a portion of individuals (for example, those with PO Boxes). If Census tract is not available, we can use ZIP-code level measures.

Date of Service: We need exact dates of services because the existing algorithms to predict who has Long COVID rely on diagnosis, procedures, medications, and utilization of services. These services need to occur after a suspected/confirmed COVID infection, so dates are needed to determine when different services occurred. This includes cohort selection since the algorithms also distinguish between COVID

cases requiring a hospitalization and COVID cases without a hospitalization. We need to determine if the hospitalization occurred closely after COVID diagnosis.

Census Tract: Our plan is to use other variables to define populations: 1) payer (e.g., Medicaid vs commercial), 2) age, and 3) geographic location. We can use geographic location to determine the incidence on Long COVID in areas with high proportion of Hispanics, Blacks, poverty, and rural populations. The state and CDPHE are interested in the most precise and disaggregated analysis, and that is at the Census tract level, followed by ZIP code, and then county. Since poverty and demographic variables are available at the Census tract, that would be the ideal geographic indicator.

2. **Claim-Level Detail** – *Include specific diagnosis codes, CPT4, CDT, ICD9 or 10, APR-DRG, or revenue codes in an attachment.*

   ☐ No
   ☒ Yes (*Justification must be provided for each*)
   　☒　Age at time of service
   　☐　Age at year end
   　☒　Diagnosis
   　☒　Procedure/Revenue Code

The algorithms to identify patients with Long COVID rely on 1) Inpatient and outpatient utilization of health care, 2) Diagnoses codes to ascertain related diagnoses, and 3) Procedures related to COVID sequelae. Therefore, details on diagnoses and procedures are key for the research.

3. **Claim Type** – *What types of claims do you need for your project purpose?*

   ☒ Inpatient **(IP)** – Related to individuals who receive care in hospital settings
   ☒ Outpatient **(OP)** – Related to an individual receiving medical treatment in any setting other than a hospital admission (i.e. ambulatory surgery center; doctor's office, imaging center, emergency room, home health, etc.)
   ☒ Professional **(PROF)** – Related to medical procedures within professional settings (e.g. physician office, imaging center, etc.) and clinics
   ☒ Pharmacy **(PC)** – Related to prescriptions with an 11-digit National Drug Code
   ☐ Dental **(D)** – Related to individuals receiving dental care in any dental setting

4. **Provider-Level Detail** – *Do you need claims limited to specific providers or provider type(s) for your project purpose? (Provider IDs, locations, hospitals, medical groups, etc.)*

   ☒ No
   ☐ Yes (check all that apply)
   　☐　Facilities (please specify) Click or tap here to enter text.
   　☐　Professionals
   　☐　Provider Taxonomy - Specialty Designations
   　☐　National Provider Identifier
   　☐　Other (please specify) Click or tap here to enter text.

5. **Provider Geography** – *Do you need provider geography or location data?*

    ☐ No
    ☒ Yes (check all that apply)
        ☐ Provider location address
        ☐ Provider Zip 3
        ☐ Provider Health Statistic Region http://www.cohid.dphe.state.co.us/brfssdata.html
        ☐ Provider County
        ☒ Provider Zip 5
        ☒ Other (please specify) Provider Census Tract

Provider type and location to identify how provider- level factors affect diagnosis of Long COVID in Colorado, including urban/rural disparities.

6. **Payer-Specific Details** – *Do you need specific named payer details? (only available for authorized requestors)*

    ☐ No
    ☒ Yes -Payer Alias

7. **Payment Type** – *Which elements of cost data do you need to support your project purpose?*

    ☒ Charged Amount
    ☒ Plan Paid Amount
    ☒ Member Liability, i.e., amount the member is responsible for
        ☒ Coinsurance
        ☒ Deductible
        ☒ Copay
    ☒ Total Allowed Amount – (summation of plan paid and member liability)
    ☒ Prepaid Amount – (to be considered for capitated payment plans only)

All the elements are needed to understand the health spending burden of Long COVID for 1) payers, 2) the state, and 3) patients

8. **Data Element Selection**
If you have not already done so, complete the Data Element Dictionary (DED) to identify the specific data elements that are required for this project.

9. **Data Source Linkage** – *Will you link the CO APCD data to another data source?*

    ☐ No
    ☒ Yes. If yes, please answer the following questions.
        a. What is the other data source or sources you plan to link CO APCD data with? Census data, American Community Survey, Area Health Resources Files
        b. Which CO APCD identifying data elements will be used to perform the linkage? Zip Code or Census Tract
        c. Once the linkage is made, what non-CO APCD data elements will appear in the new linked file? Zip Code level variables related to economic conditions from Census data,

American Community Survey, or County-level data from the Area Health Resources Files

10. **Institutional Review Board** – *Have all necessary approvals been obtained (e.g., IRB or Privacy Board approval)?*

☐ No or N/A, reason: Click or tap here to enter text.
☒ In progress. Anticipated approval date: July 2023 Click or tap here to enter text.
☐ Yes. If so please provide a copy.

11. **Distribution of the Report or Product** – *Requires review before publication*
If you are producing a report for publication in any medium (print, electronic, lecture, slides, etc.) the CO APCD Administrator must review the report prior to public release. This requirement is further spelled out in the Data Use Agreement. The CO APCD Administrator will review the report for compliance with CMS cell suppression rules, risk of inferential identification, and consistency with the purpose and methodology described in this Application. Do you acknowledge this requirement?

☐ No
☒ Yes

12. **Project Schedule:**

Proposed Project Start Date:	July 2023
Project End Date:	July 2025
Proposed Publication or Release Date:	Within a year of analysis completion
Data Destruction Period:	All data must be destroyed within 30 days of the project end date and data destruction certificate returned to CIVHC at datacompliance@civhc.org. The Data Destruction Certificate form can be found at https://www.civhc.org/get-data/non-public-data/.