Telehealth Equity Analysis: Methodological Notes

December 2023

Overview:

Historically, attempts to improve U.S. health care have focused on the health care system as a critical driver of health and health outcomes. In recent years, there has been a heightened awareness and recognition that improving health and decreasing health inequity depend on addressing other social, racial, economic, and environmental needs that influence health and access to health care.

With the onset of COVID-19 in 2020, use of telehealth services in Colorado rose 2,000%. To track progress on utilization and the impact of these services on communities in the state, Center for Improving Value in Health Care (CIVHC) worked with the Colorado Office of e-Health Innovation (OeHI) to develop the first interactive Telehealth Services Analysis publicly available at civhc.org.

In 2023, CIVHC began working with OeHI to expand upon the work to identify ways to measure and understand how social determinants of health (SDoH) are related to utilization of telehealth services and in-person visits. The result is a census-level analysis using claims data from the Colorado All Payer Claims Database (CO APCD) in conjunction with social factors such as income, race/ethnicity, broadband access and other important factors in the American Community Survey (ACS).

The Telehealth Equity Analysis is an interactive report that aims to help OeHI and other Change Agents understand where to focus telehealth expansion and support, with a specific goal of improving health equity and access to critical services for marginalized populations across the state.

Key Considerations

- The claims data in this analysis includes all public and private health insurance payers submitting data to the CO APCD, which represents the majority of covered lives (70% of medically insured) in the state. The CO APCD does not include roughly half of the self-insured employer covered lives and does not include federal programs such as Tricare, Indian Health Services and the VA.
- Maps displayed in the report use the 2020 Census tract definitions. See below for more information.

Key Definitions

- **Social Determinants of Health (SDOH)**: As defined by the Centers for Disease Control and Prevention, are the "nonmedical factors that influence health outcomes. They are the conditions in which people are born, grow, work, live, and age, and the wider set of forces and systems shaping the conditions of daily life. These forces and systems include economic policies

and systems, development agendas, social norms, social policies, racism, climate change, and political systems."

- **Census Tract:** This report displays data by census tracts, also referred to as neighborhoods. The census tract is a geographic division constructed by the Census Bureau to conduct population surveys. Census tracts are small, relatively permanent statistical subdivisions of a county. They average about 4,000 inhabitants, 1,200 (minimum population) to 8,000 (maximum population), and usually cover a contiguous area.

Measurements

Social Determinants of Health Measures
The following section provides definitions for each of the SDoH measures in the report, the time frame for the measure calculations, and their data sources. These ten measures were derived from the U.S. Census Bureau's American Community Survey (ACS).

American Community Survey (ACS)
The American Community Survey (ACS) is an ongoing survey that provides vital information on a yearly basis about people living in the United States. Information from the survey generates data that help inform how trillions of dollars in federal funds are distributed each year, and public officials, planners, and entrepreneurs use this information to assess the past and plan the future. Through the ACS, there is data about jobs and occupations, educational attainment, veterans, whether people own or rent their homes, and other topics.

Percent People of Color
Definition: Percentage of individuals of all ages who are non-white out of the total number of individuals of all ages. This measure is calculated as 1 - (total individuals who are white/total population).
- **Source:** U.S. Census Bureau, American Community Survey, five-year estimates, 2017-2021 (derived from Table B02001)

Percent Speaking English Less than Very Well
Definition: Percentage of individuals ages five years and over who speak English less than very well out of the total number of individuals ages five years and over.
- **Source:** U.S. Census Bureau, American Community Survey, five-year estimates, 2017-2021 (derived from Table DP02)

Percent Without High School Diploma
Definition: Percentage of adults ages 25 years and older who have less than a high school diploma out of the total number of adults ages 25 years and older.
- **Source:** U.S. Census Bureau, American Community Survey, five-year estimates, 2017-2021 (derived from Table DP02

Percent Unemployed

Definition: Percentage of individuals ages 16 years and over who are in the civilian labor force and unemployed out of the total number of individuals ages 16 years and over who are in the civilian labor force.

- **Source**: U.S. Census Bureau, American Community Survey, five-year estimates, 2017-2021 (derived from Table DP03)

Percent with Disability

Definition: Percentage of noninstitutionalized civilians with a disability out of the total number of noninstitutionalized civilians.

- **Source:** U.S. Census Bureau, American Community Survey, five-year estimates, 2017-2021 (derived from Table DP02)

Percent with No Vehicle

Definition: Percentage of households with no vehicle available out of the total number of households.

- **Source:** U.S. Census Bureau, American Community Survey, five-year estimates, 2017-2021 (derived from Table B08201).

Percent Veterans

Definition: Percentage of civilians ages 18 years and over who are veterans out of the total number of civilians ages 18 years and over.

- **Source:** U.S. Census Bureau, American Community Survey, five-year estimates, 2017-2021 (derived from Table DP02)

Percent Without Internet

Definition: Percentage of households without an Internet subscription out of the total number of households.

- **Source:** U.S. Census Bureau, American Community Survey, five-year estimates, 2017-2021 (derived from Table B08201).

Percent Without Computer

Definition: Percentage of households with no computer out of the total number of households.

- **Source:** U.S. Census Bureau, American Community Survey, five-year estimates, 2017-2021 (derived from Table S28001).

Percent Without Smartphone

Definition: Percentage of households with no smartphone out of the total number of households. This is calculated as 1 - (number of households with smartphone/total number of households).

- **Source:** U.S. Census Bureau, American Community Survey, five-year estimates, 2017-2021 (derived from Table S28001).

Race and Ethnicity Population Statistics

The Census Bureau defines race as a person's self-identification with one or more racial groups. Population statistics are available for the following categories: White, Black or African American, Asian, American Indian and Alaska Native, Native Hawaiian and Other Pacific Islander, or some other race.

Survey respondents may report multiple races. The dashboard groups the race and ethnicity categories into the following: Black, Hispanic, White and Other. There is an additional table that presents the breakdown of the Other category by the following: Asian, American Indian, Non-Hispanic Other, Hawaiian and 2 or more Races.

- **Source:** U.S. Census Bureau, American Community Survey, five-year estimates, 2017-2021 (derived from Table B03002).

Telehealth Measures

Telehealth and Telemedicine In general, telemedicine refers specifically to remote clinical services, while telehealth refers to remote clinical services and also includes non-clinical services, such as provider training, administrative meetings, and continuing medical education, in addition to clinical services.

Telehealth: Telehealth is a way to provide health care service through telecommunications systems to facilitate assessment, diagnosis, consultation, treatment, education, care management, or self-management while the patient is located remotely from their provider.

Telehealth Includes:
- Synchronous interactions (both parties are present and interacting at the same time),
- Asynchronous interactions, or those not occurring at the same time (messages, images, or data communicated at one point in time and interpreted or responded to later, i.e. results of lab tests are shared and discussed between the patient and provider through a patient portal),
- Services provided through HIPAA-compliant interactive audio-visual communication or the use of a HIPAA compliant application via a cellular telephone, and
- Voice-only telephone communication (recently added with expansion of definition due to the COVID-19 pandemic).

This analysis expands the traditional definition of telehealth to also include:
- Remote monitoring – electronic transmission of patient physiologic parameters (e.g., weight, blood pressure, pulse oximetry, respiratory flow rate) from a distance to a health care provider, and
- Transitional care management provided through telehealth (per Centers for Medicare & Medicaid Services (CMS) inclusion).

Telehealth services in this analysis do NOT include services delivered by:
- Facsimile machine,
- Email, or
- Text messages.

Methods

Method used to Identify Telehealth and In-Person Claims

Telehealth-eligible services were identified in the CO APCD by locating CPT-4 and HCPCS procedure codes for services that can be provided either in-person or via telehealth. It is important to note that in-person visit rates do not include all types of health care visits and only reflect visits types of visits that *could* have been provided through telehealth. For example, a surgical procedure visit or imaging procedure visit that requires a person to be physically present is not included.

Services were classified as telehealth if the place of service or a modifier 95 (synchronous telemedicine via real-time interactive audio and video telecommunication systems) or GT (interactive audio and video telecommunication systems) or FQ (telehealth service furnished using audio-only communication technology) was used to indicate is was provided via telehealth.

This report is **limited to services that can be provided via telehealth and have significant claim volume, and therefore does not include all telehealth-eligible services**. The following is a list of the CPT-4 and HCPCS procedure codes included in the report.

Procedure/Service Categories	
Telemedicine (Synchronous Communication) Subcategories:	**CPT-4 Procedure Codes**
Office or Other Outpatient E&M Visits – New Patient	99201 - 99205
Office or Other Outpatient E&M Visits – Established Patient	99211 - 99215
Psychiatry Services and Procedures	90785 - 90899, G0177, G0410, G0444, G8510
Education and Training for Patient Self-Management	98960 - 98962
Health and Behavior Assessment/Intervention Procedures	96150 - 96171, 96127, G0445, H0032, H0004
Consultation Services	99241 - 99255, T1017
Preventive Medicine Services	99381 - 99429, G0439, G0513-4
Prolonged Services	99354 - 99360
Medical Nutrition Therapy Procedures	97802 - 97804
Physical Medicine and Rehabilitation	97100 - 97799, G8978-80

Service Years

The service year is defined by the service start date on each claim. This report uses claims with a service start date between Jan 1, 2021, to Dec 31, 2022.

Method Used to Define Telehealth and In-Person Utilization

Once telehealth-eligible and in-person claims were identified, utilization associated with those claims were defined as follows:

- **Telehealth Utilization** is defined as the number of visits (synchronous) for any reason (any diagnosis), recorded in claims as telehealth, based on the set of specific procedure codes and the use of modifiers as defined above. Telehealth visit rates are displayed as the number of telehealth visits per 1,000 people in the CO APCD.
- **In-person Utilization** is defined as the number of in-person visits (identified using the same set of CPT codes used above without modifiers or place of service to determine a telehealth visit). In-person visit rates are displayed as the number of in-person visits per 1,000 people in the CO APCD.

Member Selection Criteria

Includes Colorado residents with Commercial, Medicaid, Medicare Advantage, or Medicare FFS medical coverage for at least 11 months in a given year. **Note:** At the time of development, Medicare FFS claims data were only available through September of 2022.

Limitations

Data points presented on the interactive dashboard are less accurate for areas with small populations and should be interpreted with caution. This is more prominent for survey-based data points used for the social determinants of health than for claims data from the CO APCD.

According to the U.S. Census Bureau, "missing [American Community Survey] estimates can be caused by data suppression. Data suppression refers to the various methods or restrictions that are applied to ACS estimates to limit the disclosure of information about individual respondents and to reduce the number of estimates with unacceptable levels of statistical reliability." Data suppression happens more often for smaller geographic regions, such as census tracts. County and state-level data is less likely to include missing values due to larger populations. To help counteract this, 5-year (instead of 1-year) estimates are used at each geographic level to help reduce data suppression. For more information, visit https://www.census.gov/programs-surveys/acs/technical-documentation/data-suppression.html.

Data Vintage

This report is based on claims data in the CO APCD data warehouse as of the September 2023 release. For more information about number of claims in the CO APCD during a particular reporting year and data discovery information regarding payer submissions, please visit our website at civhc.org.

For more information or additional questions, contact us at info@civhc.org.