
Premier Healthcare Database (COVID-19): Data that Informs and Performs

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This white paper provides a detailed description of the attributes and capabilities of the Premier Healthcare Database (PHD) as it relates to COVID-19 data. Premier Applied Sciences® is the Research Division of Premier and is responsible for leveraging the HIPAA-compliant PHD through its highly professional and experienced research and analytics team.

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Introduction

As the number of infected patients and deaths continue to rise globally, clinicians, scientists and researchers worldwide are struggling to understand all facets of COVID-19. Having sufficient data is the first step to evaluating the impact of COVID-19 and designing adequate local and national public health responses for the management and containment of this pandemic. The PHD is equipped with HIPAA-compliant, de-identified patient data to support COVID-19-related research needs. The types of research that may be conducted from the PHD include but are not limited to market assessments, comparative effectiveness analyses, risk and policy assessments, and cost-effectiveness research.

Whether an organization is interested in evaluating novel testing and treatment options, supplying health systems with life-saving medications and equipment, or in ensuring patients are able to continue to manage their chronic conditions, the PHD offers a robust and comprehensive trove of data that will be vital in the COVID-19 era.

PHD COVID-19 Database

Uses of Data as it relates to COVID-19

This special release of the PHD will be a standalone version of the existing database, termed the PHD COVID-19 Database. The PHD COVID-19 Database will provide records starting Jan. 1, 2019 through the most current data available and will be refreshed and delivered on a bi-weekly basis. Every two weeks, a new version of the database will be available as a complete refresh from the previous version released two weeks prior. The PHD COVID-19 Database will contain data from approximately 800+ facilities, with 31 percent of those facilities submitting data to the PHD on a daily, weekly or bi-weekly basis and 66 percent submitting data on a monthly basis. These initial facilities represent the most frequent and current COVID-19 data submissions and that number is expected to grow as more facilities release their data on an expedited cadence. The time lag for COVID-19 data is approximately one to three weeks from date of discharge. In order to make the data available sooner, we are allowing the data to be sent out prior to passing all our internal validity checks.

Data Validation

The use of expedited data transfers for the PHD COVID-19 Database means that Premier's usual validation processes will be modified. The implications of this are as follows:

1. Not all elements of the charge master data will be mapped to standard product codes. These elements will still be available in the `hosp_chg_desc` but may not have additional mapping to other fields for data within the COVID-19 database. For example, a charge master description of a novel antiviral drug might not have been mapped as an antiviral drug in Premier standard description in this new database. When conducting a search, both hospital charge master descriptions and Premier standard descriptions shall be included.

2. Cost data may not be fully validated.
3. The PHD COVID-19 database cannot be integrated with the standard PHD extract/license because of the difference in validation methods and the frequent (biweekly) refreshes.

Laboratory Data

Approximately 30 percent of the COVID-PHD discharges will have additional electronic medical record data available that includes microbiology and general lab tests.

The PHD COVID-19 Database is built from the wider PHD, and a brief introduction of the PHD product's capabilities are included below.¹

Premier Healthcare Database

Overview

The PHD is a large, U.S. hospital-based, service-level, all-payer database that contains information on inpatient discharges, primarily from geographically diverse non-profit, non-governmental, community and teaching hospitals and health systems from rural and urban areas. Hospitals/health systems submit administrative healthcare utilization and financial data from patient encounters. Inpatient admission data include over 119 million* visits with more than 10 million* per year since 2012, representing approximately 25 percent of annual U.S. inpatient admissions (<https://www.aha.org/system/files/2018-05/2018-chartbook-table-3-1.pdf>). Outpatient encounters include over 875 million* outpatient visits, with more than 90 million* visits per year since 2012. Outpatient visits to emergency departments, ambulatory surgery centers and alternate sites of care are included. The PHD contains data from over 227 million* unique patients. Using a unique masked identifier, patients can be tracked in the same hospital across the inpatient and hospital-based outpatient settings, with the ability to assess hospital length of stay and readmissions to the same hospital. The PHD contains a subset of data from the Premier® Quality Advisor™ platform that offers de-identified, HIPAA-compliant data. Depending upon the nature of the research, PHD data use may be considered exempt from Institutional Review Board (IRB) oversight as dictated by [Title 45 Code of Federal Regulations, Part 46 of the United States, specifically 45 CFR 46.101\(b\)\(4\)](#). In addition, in accordance with the HIPAA Privacy Rule, disclosed data from the PHD are considered de-identified per [45 CFR 164.506\(d\)\(2\)\(ii\)\(B\) through the “Expert Determination” method](#).

Premier’s hospital [quality improvement technology solution](#), Quality Advisor, contains 45 percent of all U.S. discharges. Premier Quality Advisor measures and analyzes performance to improve patient outcomes and reduce costs by integration of quality, safety and financial data. This is accomplished through benchmarking clinical and financial outcomes against peer hospitals; comparing internal and external performances in shaping best decisions; identifying care practice variations; reducing mortality, complications, readmissions and hospital-associated conditions; monitoring ongoing efforts to improve quality, resource utilization and efficiency; and complying with regulatory reporting requirements.

The PHD is a dynamic database that is updated weekly, with data accruing since January 2000. The

number of participating hospitals has steadily grown since 2000 with more than 700 hospitals providing data yearly since 2012. To date, the PHD now maintains cumulative information from more than 1,030 hospitals.

The PHD contains information on hospital and visit characteristics, admitting and attending physician specialties, healthcare payers and patient data from standard hospital discharge billing files. This data includes demographics and disease states, admission and discharge diagnoses, information on billed services including costs at the departmental level such as medications and devices, laboratory tests performed, diagnostic and therapeutic services, microbiology test results (for a subset of hospitals), and patient disposition and discharge health status. For most data elements, less than 1 percent of patient records having missing information and for key elements, such as demographics and diagnostic information, less than 0.01 percent have missing data.²

Bibliography

1. Premier Healthcare Database white paper: Data that Informs and Performs, Mar. 2, 2020. Premier Applied Sciences[®], Premier. <https://learn.premierinc.com/white-papers/premier-healthcaredatabase-whitepaper>
2. Fisher BT, Lindenauer PK, Feudtner C. In-hospital databases. *Pharmacoepidemiology*. 2012 Mar 5;5:244- 58.

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