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How to Access Chesapeake Regional Information System for our Patients (CRISP) Data for COVID-19 Research

The Johns Hopkins Precision Medicine Analytics Platform (PMAP) will host a population-based registry of all SARS-CoV-2 tested persons in the state of Maryland and the District of Columbia. Data in the registry will include COVID-19 status, and electronic health record (EHR) data from in-patient and out-patient encounters over the past year. Data elements will include all medications, diagnoses, laboratory tests and results, demographics (including geocodes), and casemix data. This effort is conducted in partnership with the Chesapeake Regional Information System for our Patients (CRISP) health information exchange organization for the region, and the Division of Public Health Services in the Department of Health for the State of Maryland. Data sources include all hospital, payers, private laboratories, clinics, and long-term care facilities for the population. It is unique in that regardless of where services are provided in the region across a spectrum of providers, all the data for a single person is collected into a common record on the PMAP platform. Further, all these data are transformed into a comparable and consistent data format to support scalable analytics, despite variations in source data such as drug names or laboratory codes.

PMAP provides a secure and trusted framework for the analyses of this "limited data set" (data that contains geocodes and service dates which are considered among the HIPAA identifiers), enabling investigators to address crucial clinical and epidemiological questions that could not be done without these elements. Further, it is unique in compiling disparate data across an entire state into a common format that can support the demanding analytics of data scientists and machine learning experts. Crucial questions such as what drugs help and what drug hinder COVID patients recoveries; what co-morbidities put COVID patients at unusually high risk; what are the predictors of emergency visits, hospitalization, ICU transfer, ventilator support, or death can be explored with the goal of mitigation. The dataset should be very helpful in describing any health disparities and discerning what may be the cause of these health disparities. Consistent with the requirements of the State and CRISP policies, JHU will extend access for this urgent and valuable data resource to credentialed investigators from the region though a multi-institutional review committee. This unique population dataset may also become a national level data resource for data scientists and epidemiologists generally, through deliberative data governance to ensure the confidentiality and integrity of the data; the robust security of the PMAP platform can make this possible.

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