

Welcome to the
**IHPI COVID-19
Data Town Hall**



INSTITUTE FOR
HEALTHCARE POLICY & INNOVATION
UNIVERSITY OF MICHIGAN

To submit a question

Please open the “**Chat**” function

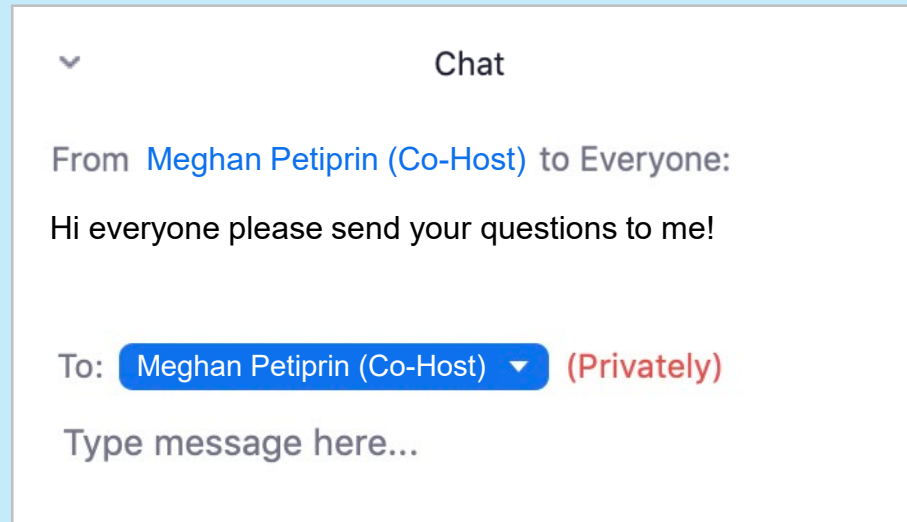
(hover to the bottom of your screen to pull up the navigation bar)



Questions?

Send a chat message to
co-host **Meghan Petiprin**

*Feedback welcome after town
hall at ihpifedback@umich.edu*





Featured Presenters



David Hanauer
MD, MS
Pediatrics



David Hutton
PhD, MS
Public Health



Erin Kaleba
Data Office for
Clinical &
Translation
Research



Hallie Prescott
MD, MSc
Internal
Medicine



Emily Somers
PhD, ScM
Internal
Medicine

IHPI Data & Methods Hub

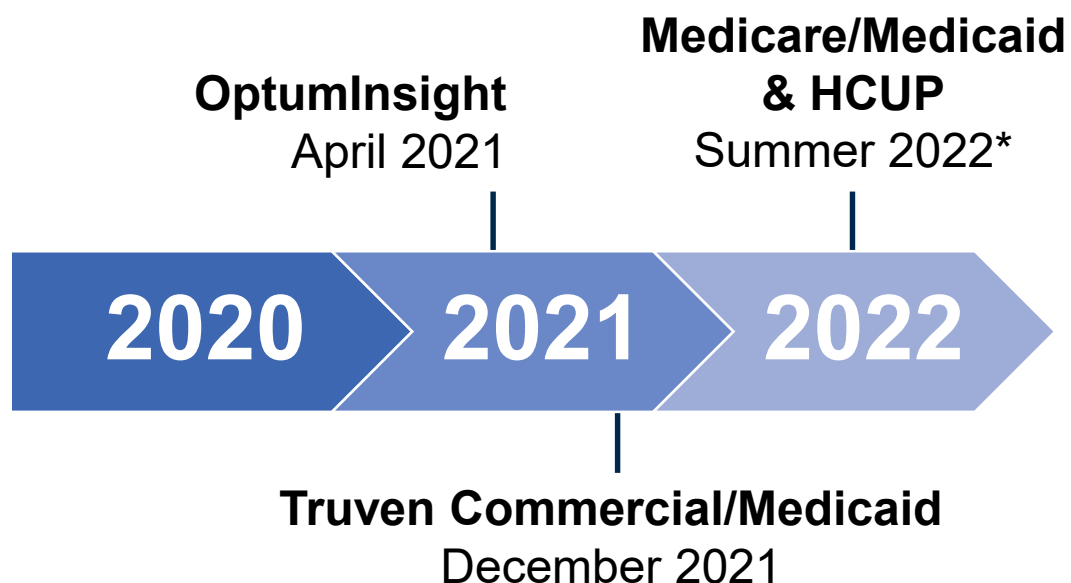


Patrick Brady

Manager,
Data & Methods Hub



IHPI 2020 Claims Release Schedule



Additional Databases

(not managed by IHPI)

FAIR Health

150 million individuals, ~75 large health plans

Health Care Cost Institute

50 million individuals, actual reimbursement amounts, 4 large payers

Population Association of America

Webcast on HRS, NHATS, PSID, etc.

<https://www.youtube.com/watch?v=NuFfxbHLqcY>

For more information & access requests,
visit ihpi.umich.edu/data or email ihpi-data@umich.edu

EMERSE: Electronic Medical Record Search Engine



David Hanauer

MD, MS

Clinical Associate Professor,
Department of Pediatrics,
Medical School



EMERSE: Electronic Medical Record Search Engine



- About me: David Hanauer
 - Dept of Learning Health Sciences, Faculty Lead of MICHR Informatics
- About EMERSE: Search tool for the free text/unstructured notes
 - Information retrieval system. Not officially a natural language processing (NLP) system
 - Self-service tool. Once you have an account you/your team uses it on your own time
 - No cost for use
- Estimated that 80% of data are in unstructured notes
- Data from multiple sources: MiChart/Epic, Careweb, radiology reports, pathology reports, OB Tracevue
 - Data from around 1995 – present
- Structured data can have errors/be misleading. Chart review is “gold standard”
- Two primary EMERSE functions
 - Find cohort base on mention in free text. Ideal for rare diseases without a specific ICD code.
 - Highlight all terms among a set of patients, to aid in chart review
- Integrated with MiChart, DataDirect

EMERSE: Electronic Medical Record Search Engine



- Used at Michigan, UNC, Cincinnati. Implementing at CWRU, UCSF, Kentucky, Columbia
- COVID research
 - Has been used for multiple COVID projects, no different from any other research project
 - Good for details that aren't going to be coded, such as presenting symptoms
- IRB approval required for research
- Research approval by the Data Office:
 - Follow link to Self-Service Data Tools: <https://research.medicine.umich.edu/our-units/data-office-clinical-translational-research/data-access/self-serve-data-tools>
- Many EMERSE details can be found at <http://project-emerse.org>
 - Training videos, online guides, list of publications (350+), etc.
- EMERSE itself is at: <https://emerse.med.umich.edu>
 - Need to be on the Michigan Medicine Network/connect via the MM VPN
- For questions, 1:1 training, or training for your group, contact David Hanauer: hanauer@umich.edu

State and National Data Resources



David Hutton

PhD, MS

Associate Professor,
Department of Health Management
& Policy, School of Public Health



National and International

- Johns Hopkins
 - Daily confirmed cases, deaths by country/state/province/county
 - <https://github.com/CSSEGISandData/COVID-19>
- NY Times
 - Daily cases (confirmed, probable), deaths by states and counties
 - <https://github.com/nytimes/covid-19-data>
 - State policies:
 - <https://www.nytimes.com/interactive/2020/us/states-reopen-map-coronavirus.html>
- The Atlantic COVID tracking Project
 - Daily tests, positive, hospitalized, ICU, ventilator, deaths by state.
 - <https://covidtracking.com/data>
- CDC
 - COVID-19 Planning Scenarios:
 - <https://www.cdc.gov/coronavirus/2019-ncov/hcp/planning-scenarios.html>

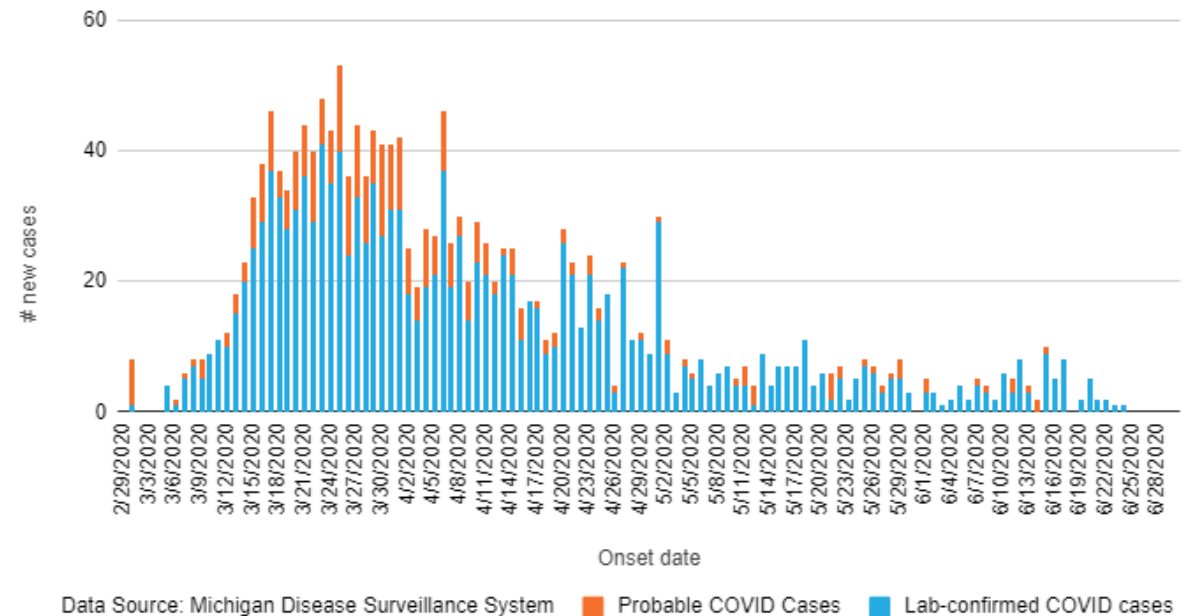
Other Sources

- State and Local: each state and most counties publish daily (or weekday) case counts and deaths.
- “Published Literature”:
 - Hit or Miss
 - Grey literature
 - Most data has small “n’s”
 - Most studies observational



Confirmed and Probable COVID-19 cases in Washtenaw County Residents (by symptom onset date*) (updated 6/25)

Washtenaw County 2020 (N confirmed = 1431; N probable = 316)



Data Resources



Erin Kaleba

Director, Data Office for Clinical
& Translation Research

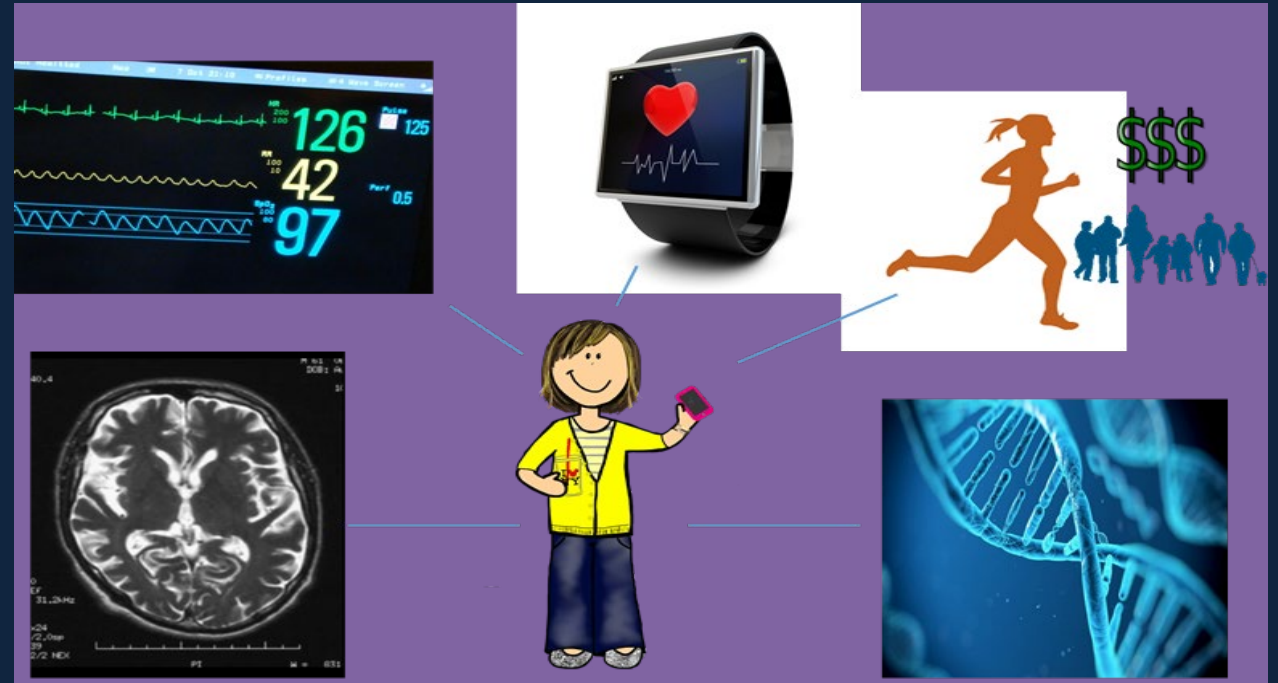
Pathetic Homeschool Teacher,
Quarantine

DataOffice@umich.edu



Data Resources for Your Research

- **BACKGROUND:** 17yrs trying to use data collected for one purpose for another purpose
- **KEEPING HUMBLE:** “Is this what you wanted to be when you grew up?” *at family holidays...*
- **VISION:** Enable access to data about all contributors of a patient’s wellness and illness
AND do so in the most secure, innovative manner



Options for Researchers

Self-Serve



Biospecimens



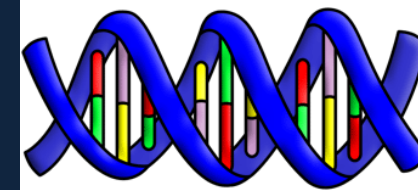
Researcher



Custom Extract



Genetic Data

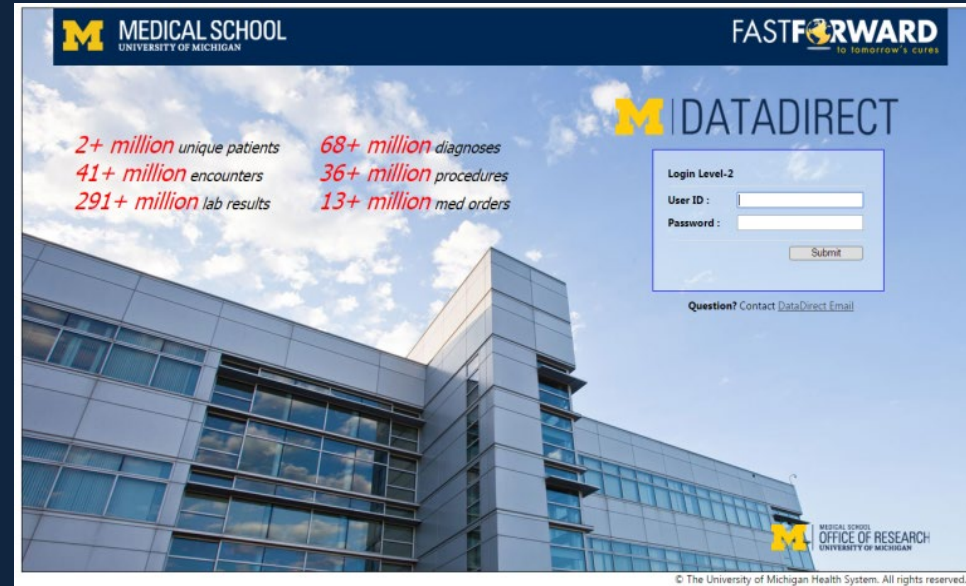


DataDirect

Self-serve access to structured data for research

Discover the following:

1. Cohorts – COVID-19 “starting population”
2. Row-level Data for COVID-19 patients
3. Biospecimens – serum, plasma, nasal swabs
4. Genetic Data – GWAS, viral RNA



Mi-COVID 19 INITIATIVE



A JOINT CQI VENTURE



Hallie Prescott
MD, MSc

Assistant Professor,
Department of
Internal Medicine,
Medical School

<https://mi-hms.org/quality-initiatives/mi-covid19-initiative>

What is MI-COVID-19?

A registry of patients COVID19 in 40 Michigan hospitals.

A multi-CQI venture, supported by BCBSM.

Goal is to improve care of patients with COVID.

Demographic Abstractions (Full Sample)

Demographics; Outcomes

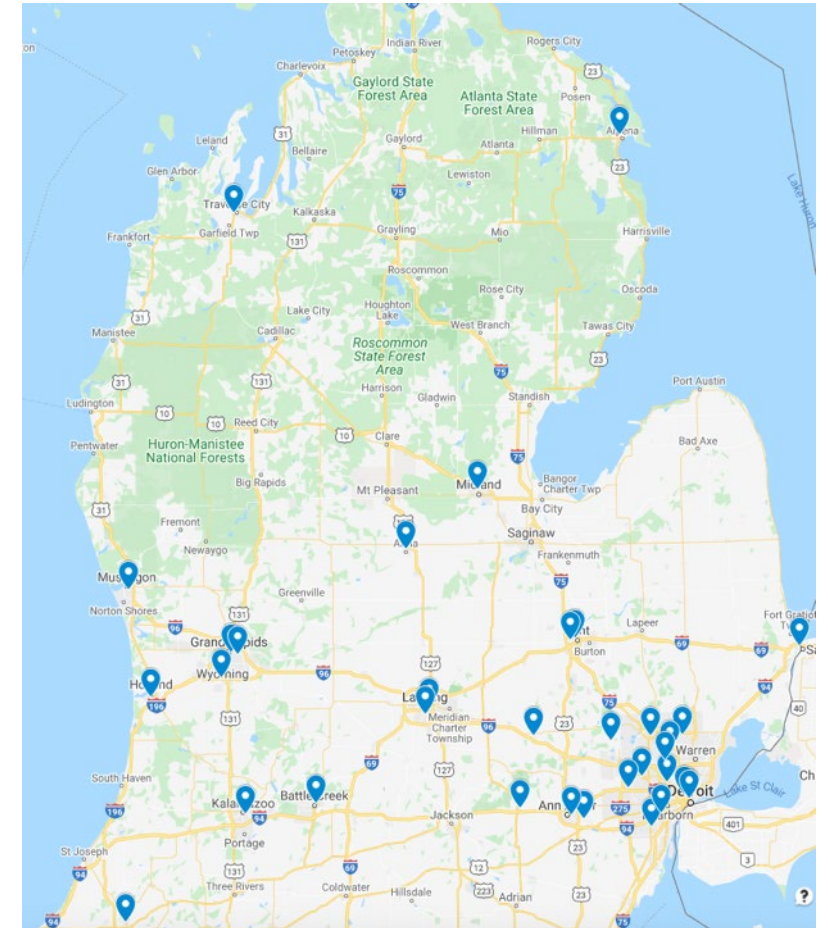
~2000 COVID; 1300 PUI to date

Full Abstractions (A random sample)

Detailed clinical data (2-4 hrs / case)

60-day telephone follow-up

~1300 COVID; 150 PUI to date



The Data

Strengths:

Diverse set of hospitals, variation in treatment/ outcomes across hospitals, human-abstracted, detailed clinical info before/during/after hospitalization.

Weaknesses:

Not a huge dataset (can't look at COVID outcomes among patients with rare diseases), human-abstracted (not a full EHR extract).

Data Access

Michigan Medicine Data

- available to anyone with appropriate IRB

Full Registry Data:

- data request / prioritization process
 - consistent with our QI mission
 - available bandwidth
 - not duplicative
- done in partnership with CQI statistician & steering committee member

MICHR COVID-19 Rapid Response Registry



Emily Somers

PhD, ScM

Associate Professor & Epidemiologist
Department of Internal Medicine,
Medical School
Interdisciplinary Research Initiatives
Faculty Lead, MICHR



MICHR COVID-19 RRR → harmonization with ISARIC

ISARIC – International Severe Acute Respiratory & Emerging Infection Consortium



- Global federation of clinical research networks, providing a proficient, coordinated, and agile research response to outbreak-prone infectious diseases (**inception 2011**)
- Collaborative platform through which global, patient-oriented clinical studies can be developed, executed & shared
 - Protocols & data tools developed in consultation with WHO colleagues

MICHR COVID-19 RRR






- UM one of 1st US sites to partner w/ISARIC for COVID-19
- Registry utilized ISARIC protocols/tools as starting point
- Supplemented data collection with additional details & modules; input from various investigators*
- Through MICHR Research Development Core (RDC)/Interdisciplinary Research Initiatives, we developed a COVID-19 consultation process (>45 consultations)
 - RRR intended as resource for UM scientific community to both access and contribute to
 - streamline/standardize data collection and identify synergies between groups

Clinical characterization protocol (CCP)

COVID-19 hospitalizations

CRF excerpt

 World Health Organization  		KEY Black: items from ISARIC CORE CRF Blue: UM supplemental items	
CORE CRF – comorbidities			
CO-MORBIDITIES			
Co-morbidities and risk factors – Charlson Index will be calculated for each patient at analysis.			
Chronic cardiac disease, including congenital heart disease (not hypertension)	<input type="checkbox"/> YES* <input type="checkbox"/> NO <input type="checkbox"/> N/A	Obesity (as defined by clinical staff)	<input type="checkbox"/> YES <input type="checkbox"/> NO <input type="checkbox"/> N/A
Hypertension	<input type="checkbox"/> YES <input type="checkbox"/> NO <input type="checkbox"/> N/A	Diabetes with complications	<input type="checkbox"/> YES <input type="checkbox"/> NO <input type="checkbox"/> N/A
Chronic pulmonary disease (not asthma)	<input type="checkbox"/> YES* <input type="checkbox"/> NO <input type="checkbox"/> N/A	Diabetes without complications	<input type="checkbox"/> YES <input type="checkbox"/> NO <input type="checkbox"/> N/A
Asthma (physician diagnosed)	<input type="checkbox"/> YES <input type="checkbox"/> NO <input type="checkbox"/> N/A	Rheumatologic disorder* If yes, specify:	<input type="checkbox"/> YES <input type="checkbox"/> NO <input type="checkbox"/> N/A
Chronic kidney disease	<input type="checkbox"/> YES* <input type="checkbox"/> NO <input type="checkbox"/> N/A	Autoimmune disease (non-rheum) If yes, specify:	<input type="checkbox"/> YES <input type="checkbox"/> NO <input type="checkbox"/> N/A
Moderate or severe liver disease	<input type="checkbox"/> YES* <input type="checkbox"/> NO <input type="checkbox"/> N/A	Dementia	<input type="checkbox"/> YES <input type="checkbox"/> NO <input type="checkbox"/> N/A
Mild liver disease	<input type="checkbox"/> YES* <input type="checkbox"/> NO <input type="checkbox"/> N/A	Malnutrition	<input type="checkbox"/> YES <input type="checkbox"/> NO <input type="checkbox"/> N/A
Chronic neurological disorder	<input type="checkbox"/> YES <input type="checkbox"/> NO <input type="checkbox"/> N/A	Smoking	<input type="checkbox"/> YES <input type="checkbox"/> Never smoked <input type="checkbox"/> Former smoker
Stroke	<input type="checkbox"/> YES <input type="checkbox"/> NO <input type="checkbox"/> N/A	Current e-cigarettes or vaping • If Y: cannabinoids via e-cig/vaping	<input type="checkbox"/> YES <input type="checkbox"/> NO <input type="checkbox"/> N/A <input type="checkbox"/> YES <input type="checkbox"/> NO <input type="checkbox"/> N/A

manual abstraction of data

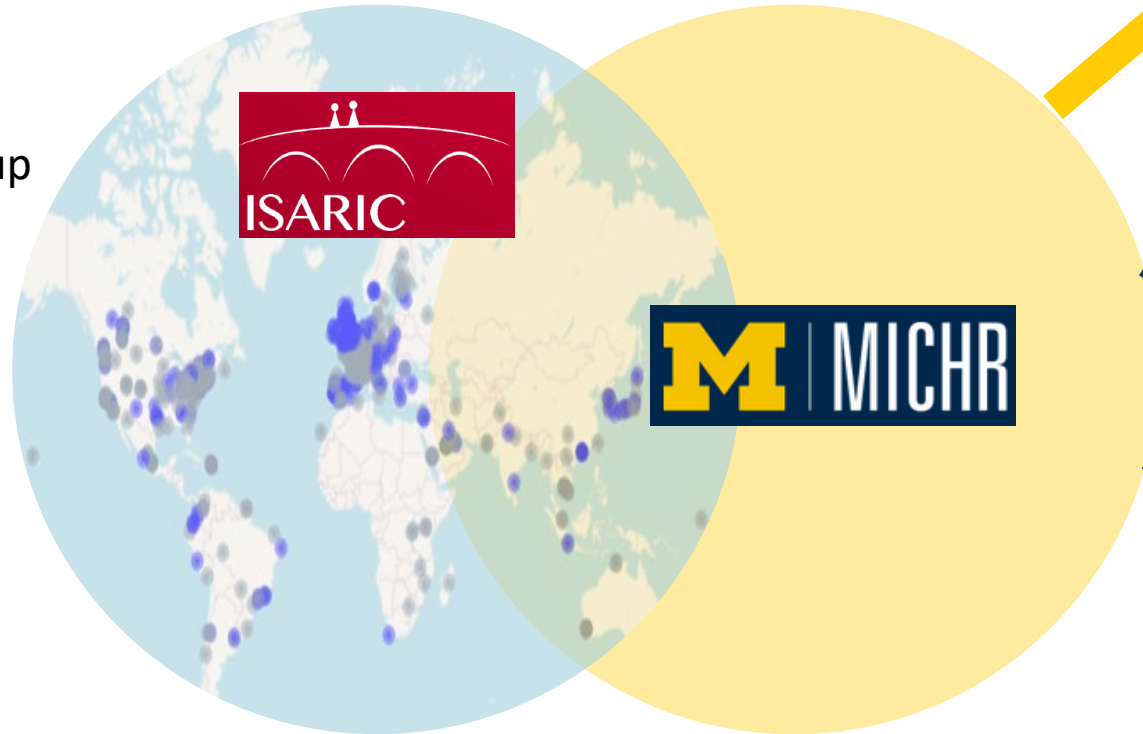
Major categories of data elements/CRFs

- Epidemiological factors
- Demographics
- Comorbidities
 - “Special populations” (eg, pregnancy, SOT, rheumatic disease, etc)
- Onset & admission (diagnosis, signs, symptoms, meds at onset)
- Pathogen testing
- DAILY assessment (during hospitalization)
 - Labs, imaging, medications/interventions, process of care, etc.
- Complications
- Outcomes (long-term outcomes also planned)

Registry structure overview

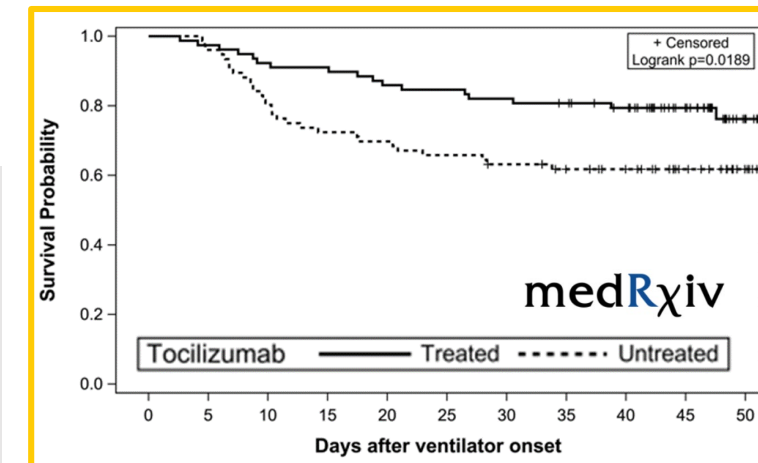
ISARIC Global Database

- 67,130+ patients
 - 42,656 w/≥14 days f/up
- 488 sites
- 37 countries



Data access

- Schedule RDC/Registry consult to review options: michr-covid@umich.edu
- ISARIC/pooled data: Data Access Committee based @WHO will review applications



Questions?



Andy Ryan

PhD, MA

Director,
Data & Methods Hub



Akbar Waljee

MD, MSc

Associate Director,
Data & Methods Hub

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