PCORnet CDC COVID-19
Electronic Healthcare Data Initiative

Introductory Webinar

December 14, 2020
<table>
<thead>
<tr>
<th>Time</th>
<th>Agenda Item</th>
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<tbody>
<tr>
<td>12:00 PM</td>
<td><strong>Project introduction</strong> <em>(Nedra Garrett)</em></td>
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<tr>
<td></td>
<td>a. Objectives</td>
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<tr>
<td></td>
<td>b. Timeline</td>
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<tr>
<td>12:10 PM</td>
<td><strong>Key partners and roles</strong></td>
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<tr>
<td></td>
<td>a. Public Health Informatics Institute <em>(Vivian Singletary)</em></td>
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<td></td>
<td>b. Harvard Pilgrim Health Care <em>(Jason Block, Tara Kelly)</em> and Louisiana Public Health Institute <em>(Thomas Carton)</em></td>
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<tr>
<td>12:30 PM</td>
<td><strong>Data queries</strong></td>
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<tr>
<td></td>
<td>a. Queries to date</td>
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<td>b. What we’ve learned</td>
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<td>c. Plans for future queries</td>
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<tr>
<td>12:45 PM</td>
<td><strong>Q&amp;A session</strong></td>
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Project introduction
Objectives

- Develop partnership between CDC, PCORnet and PHII for COVID-19 surveillance using data from electronic health records
- Maintain and update a filtered common data model of patients with respiratory illnesses and SARS-CoV-2 testing every two weeks
- Respond to queries every two weeks to assess patients with COVID-19 diagnoses, influenza diagnoses and SARS-CoV-2 testing
- Respond to advanced analytic queries focused on predictors of admission/readmission, disease severity and COVID-19 sequelae
## Project timeline

<table>
<thead>
<tr>
<th>Activity</th>
<th>Deadline</th>
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<tbody>
<tr>
<td>Contract initiation and execution</td>
<td>End of January</td>
</tr>
<tr>
<td>Query executions (already started)</td>
<td>End of July</td>
</tr>
<tr>
<td>Data aggregation and analysis</td>
<td>End of July</td>
</tr>
<tr>
<td>Communications newsletters and webinars</td>
<td>• February 2021</td>
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<tr>
<td></td>
<td>• April 2021</td>
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<td>• June 2021</td>
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Key partners and roles | PHII
Public Health Informatics Institute (PHII) role

- A program of the Task Force for Global Health
- Serves as the program management office for the COVID-19 Electronic Healthcare Data Initiative
- Provides project management, contract management and communications support
- Will not receive any data
Contracting process

● The Task Force for Global Health (TFGH) is a 501(c)(3) organization

● All contracts are between PCORnet sites and TFGH

● As a program of TFGH, PHII will be coordinating the contracting process

● PHII will not receive any data from PCORnet sites
  ○ Data use agreements are signed between Harvard Pilgrim and PCORnet sites
  ○ The transfer of data is governed by the PCORnet data security agreement

● Tonya Duhart is leading and coordinating the contracting process
# Site Contract Status Update

<table>
<thead>
<tr>
<th>Fully Executed/Amended</th>
<th>Partially Executed</th>
<th>TFGH Review</th>
<th>Contractor Review</th>
<th>Pending Response</th>
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<tbody>
<tr>
<td>Harvard Pilgrim</td>
<td>Children's Hospital Medical Center (Cincinnati)</td>
<td>MOM/Humana</td>
<td>Duke</td>
<td>Columbia University/Irving Medical Center</td>
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<td>OCHIN</td>
<td>Intermountain Healthcare</td>
<td>University of Iowa</td>
<td>Wisconsin</td>
<td>John Hopkins Medicine/ Johns Hopkins University</td>
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<td>Nemours Foundation</td>
<td></td>
<td>Allina</td>
<td>Penn State College of Medicine and Penn State Health Milton S. Hershey Medical Center</td>
<td>AdventHealth Orlando</td>
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<td>University of Utah</td>
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<td>Cook County Health</td>
<td>Medical University of SC</td>
<td>Orlando Health</td>
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<td>Temple University</td>
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<td>University of Michigan</td>
<td>University of Pittsburgh</td>
<td>University of Miami</td>
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<tr>
<td>Weill Cornell</td>
<td></td>
<td>NYU</td>
<td>Icahn School of Medicine at Mount Sinai</td>
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<tr>
<td>Washington University (St. Louis Children's Hospital)</td>
<td></td>
<td>Wake Forest University Health Sciences</td>
<td>University of North Carolina at Chapel Hill</td>
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<tr>
<td>Ohio State University</td>
<td></td>
<td>University of Texas Southwestern Medical Center</td>
<td>Seattle Children's Hospital</td>
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<td>Lurie Children's Hospital of Chicago</td>
<td>Northwestern University</td>
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<td></td>
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<td>University of Nebraska Medical Center</td>
<td>University of Kansas Medical Center</td>
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<td></td>
<td></td>
<td>Children's Hospital of Philadelphia</td>
<td>University of Florida Board of Trustees</td>
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<td>Montefiore</td>
<td>LPHI</td>
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<td>Univ. Colorado- Denver (Children's Hospital of Colorado)</td>
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<td>Nationwide Children's Hospital</td>
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<td>Vanderbilt UMC</td>
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Total contracts fully or partially executed: 11  
Total contracts in process: 27
Communications: what to expect

- Bi-monthly newsletters with project updates
  - Next one will be sent in February 2021
- Bi-monthly webinars with data updates: February, April and June
- Ad-hoc communications about future publications
Key partners and roles | Harvard Pilgrim Health Care
Harvard Pilgrim’s role

- Coordinate activities operations and PCORnet COVID working groups’ activities
- Liaise with CDC and PHII, along with members of the operations group
- Develop queries, distribute them to sites, troubleshoot data issues, and generate reports for PCORnet and CDC
- Revise existing query tools to accommodate needs for this project
- Work with CDC on plan for publications, including involvement of PCORnet investigators and site representation as collaborative authors
PCORnet COVID operations group

- Co-chairs: Clinical Research Network (CRN) PI (Tom Carton) and clinical lead (Jason Block)

- Operations Team includes co-chairs plus:
  - Coordinating Center Lead - Keith Marsolo
  - CRN PI, Data Committee liaison - Jon Puro
  - CRN Data Science Lead - Charlie Bailey
  - Query Fulfillment Lead - Kshema Nagavedu
  - Query Fulfillment Analyst - Julia Fearrington
  - Coordinating Center PM - Juliane Reynolds and Tara Kelly
PCORnet COVID scientific advisory group

- One representative per clinical research network and health plan research network
- Will meet monthly to provide overall strategic direction to the project, including input on data quality, query development and future publications.

Members include:
- ADVANCE - Ken Mayer, Fenway Health
- CAPriCORN - William Trick, Cook County Health
- GPC - Lindsay Cowell, University of Texas Southwestern
- INSIGHT: TBD
- PRACnet – Vinit Nair, Humana
- OneFlorida - Sonja Rasmussen, University of Florida College of Medicine and College of Public Health
- PaTH - TBD
- PEDSnet - TBD
- STAR - Michael Kappelman, University of North Carolina at Chapel Hill
- REACHnet - Joshua Denson, Tulane University
Data queries
Query schedule

- Typically, will send 2 queries per month
- Usually shorter turnaround than other queries – 5 business days
- Next queries, according to week of release, are the following:
  - **December 14**th – cumulative query, adding monoclonal abs
  - **Jan 4**th – 2-month lookback vs. target query
  - **Jan 18**th – cumulative query, adding vaccines, baricitinib
  - **Feb 1**st – targeted query, perhaps on post-COVID sequelae
  - **Feb 8**th – data curation query
IRB recommendations

- Funded under a public health surveillance cooperative agreement from CDC; research explicitly not included

- Transfer of data governed by PCORnet data security agreement

- Data use agreement signed between Harvard Pilgrim as the PCORnet Coordinating Center

- Harvard Pilgrim has obtained an IRB exemption under the public health surveillance provision
Update on data through Nov 9th

<table>
<thead>
<tr>
<th></th>
<th>COVID Lab +</th>
<th>COVID Dx</th>
<th>COVID Lab -</th>
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<tbody>
<tr>
<td>Children</td>
<td>75,499</td>
<td>34,373</td>
<td>573,882</td>
</tr>
<tr>
<td>Adults</td>
<td>295,317</td>
<td>240,943</td>
<td>2,551,298</td>
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Adults, race distribution over time, ambulatory

N=4136  N=10895  N=10467  N=16403  N=26159
N=18391  N=19345  N=27150  N=9885

March  April  May  June  July  Aug  Sept  Oct  Nov

White  Black  Missing  Other  Asian

PHII.org
Adults, race distribution over time, inpatient

March: White 20%, Black 15%, Other 10%, Missing 5%, Asian 5%
April: White 25%, Black 20%, Other 15%, Missing 10%, Asian 5%
May: White 30%, Black 35%, Other 15%, Missing 5%, Asian 5%
June: White 25%, Black 30%, Other 15%, Missing 10%, Asian 5%
July: White 30%, Black 25%, Other 20%, Missing 5%, Asian 5%
August: White 35%, Black 30%, Other 10%, Missing 5%, Asian 5%
September: White 40%, Black 35%, Other 10%, Missing 5%, Asian 5%
October: White 35%, Black 25%, Other 10%, Missing 5%, Asian 5%
November: White 45%, Black 20%, Other 10%, Missing 5%, Asian 5%
Adults, age distribution over time, inpatient
Adults, treatment over time, inpatient

March April May June July Aug Sept Oct Nov

HCQ Rem Dex
Child, race distribution over time, inpatient

- White
- Black
- Other
- Miss
- Asian

- March: N=362
- April: N=567
- May: N=643
- June: N=587
- July: N=635
- August: N=596
- September: N=537
- October: N=211
- November: N=62
Where are we going from here?

- Targeted queries such as on index admissions and readmissions
- Advanced analytics that will examine three main areas:
  - Index admission/readmissions
  - Sequelae from COVID (e.g., cardiovascular, chronic fatigue)
  - Disease severity, based on care setting, in-hospital mortality
- Very early in work on advanced analytics, such as how to query (distributed vs. individual data), control populations
Questions?