PCORnet CDC COVID-19
Electronic Healthcare Data Initiative

Bi-Monthly Webinar

April 26, 2021
Welcome
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<tr>
<td>10:00 PM</td>
<td>Welcome and overview <em>(CDC)</em></td>
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<td>10:05 PM</td>
<td><strong>Operational updates</strong> <em>(Public Health Informatics Institute)</em></td>
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<td>a. Funding for upcoming grant year</td>
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<td>b. Communications reminders</td>
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<td>10:10 PM</td>
<td><strong>Data queries</strong> <em>(Harvard Pilgrim/Louisiana Public Health Institute)</em></td>
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<td>a. Overview of project timeline and accomplishments</td>
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<td>b. Year 2 of funding</td>
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<td>c. Specific queries</td>
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<td>d. Dissemination</td>
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<td>10:45 PM</td>
<td>Q&amp;A session</td>
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Operational updates
Operational updates

● Funding for upcoming grant year
  ○ Applied for funding continuation for August 2021 through July 2022 grant year.
  ○ Will find out funding level in late July 2021 (more detail in next section)

● Communications reminders
  ○ The recording and presentation materials for this webinar will be made available.
  ○ The next newsletter and webinar will take place in June.
Technical updates
Agenda

- Overview of project timeline and accomplishments
- Year 2 of funding
- Specific queries
  - Data curation
  - Chronic disease query
  - Updated PASC query
  - April cumulative query
- Dissemination
Key Query Updates

• 11th query released on Friday

• Upcoming queries
  • April: cumulative query with some new additions
  • May: advanced analytics on Long COVID & chronic disease
  • June: chronic disease outcomes descriptive & cumulative
  • July: readmissions & chronic disease outcome analytic
From Descriptive to Advanced Analytics

- Now planning for 2-3 advanced analytic queries that will examine factors associated with outcomes
  - Chronic disease control/severity and severe COVID
  - Predictors of post-acute sequelae of COVID
  - COVID and chronic disease outcomes
- Analytic queries will use distributed logistic regression & meta-analyses
Year 2 of Funding

- CDC interested in proceeding though not yet certain
- If funded, we expect a 10% reduction in direct costs
- Reduction in scope consistent with the modest reduction in funding
  - Fewer queries – maybe 1-2 per month rather than 2
  - Less frequent refreshes – 1 per month likely enough
  - Addition of funding for Working Group members
  - IRB exemptions at the site level to facilitate patient-level datasets
Patient-Level Dataset in Year 2? Pilot in Year 1?

- Currently planning for analytics through distributed regression
- Building reusable component to modular programs that will benefit PCORnet moving forward – should be ready in May
- Still, patient-level data sets would be much more efficient analytically
  - More flexible, reduced # of queries, could still incorporate sites with smaller N
  - Tradeoff of additional regulatory burden potentially
- Scope would be limited to analyses designated in metadata
Data curation

- Responses from all 43 sites by April 8
- 3 sites had some errors that all seemed reasonably small
  - A few hadn’t updated to CDM 6
- No apparent reasons to prevent sites from responding though will work with them to ensure no issues
- DCRI processing results and will review metadata soon to confirm no concerns
Chronic Disease Query

- Descriptive assessment of SARS-CoV-2 + adults and chronic disease control/severity
  - Obesity by stage
  - HTN and DM by level of control
  - Combination of HTN and DM

- A few sites with no or relatively small # patients that could be categorized based on BP or A1c – investigating

- Next step is distributed regression looking at predictors of severe COVID
DM Control and Race

- All: White (60%), Black (5%), Other (10%), Miss (5%), Asian (5%)
- DM: White (60%), Black (5%), Other (10%), Miss (5%), Asian (5%)
- A1c <7: White (60%), Black (5%), Other (10%), Miss (5%), Asian (5%)
- A1c 7-<9: White (60%), Black (5%), Other (10%), Miss (5%), Asian (5%)
- A1c 9+: White (60%), Black (5%), Other (10%), Miss (5%), Asian (5%)
DM and Mortality/Crit Care/Vent

- **DM and A1c Levels**
  - A1c <7: 4%
  - A1c 7-<9: 6%
  - A1c 9+: 8%

- **60 Day Death**
  - All: 2%
  - DM: 8%
  - A1c <7: 6%
  - A1c 7-<9: 8%
  - A1c 9+: 10%

- **Mech Vent**
  - All: 2%
  - DM: 6%
  - A1c <7: 6%
  - A1c 7-<9: 8%
  - A1c 9+: 10%

- **Crit Care**
  - All: 2%
  - DM: 8%
  - A1c <7: 6%
  - A1c 7-<9: 8%
  - A1c 9+: 10%

*pcornet*
HTN, Hospitalized or Not

- All
- HTN
- At Goal
- Stage 1
- Stage 2
- Poor

Inpt  Not Inpt
HTN and Underlying Conditions in 3 Years Prior

[Bar chart showing the prevalence of HTN and various underlying conditions in different categories: All, HTN, At Goal, HTN Stage 1, Stage 2, Poor Control. Categories include HTN, Obesity, DM2, Chron Pulm, CKD, Anemia, MH Dis, Arrhyt, CAD, BMI 40+. Each category is represented by a different color bar, indicating the percentage of each condition in each category.]
PASC Query

- Updated to include a cohort with baseline and follow-up data
- Changed time frame for
  - Baseline (18 mos to 7 days prior)
  - Acute (-7 to +30 days)
  - Long COVID (31 to 150)
- Compares COVID + by care setting with COVID –
- Provides important background data for NIH PASC applications
PASC in COVID neg vs. COVID positive, Children, Inpatient
PASC in COVID neg vs. COVID positive, Adults, Inpatient
Inpatient, Incident PASC

**Adults**

- SOB: 8%
- Fatigue: 6%
- Cognition: 4%
- Sleep: 2%
- HR Abnorm: 1%
- DM2: 2%
- Bowel: 2%
- Anx/Dep: 4%
- Wt Loss: 1%

**Children**

- Bowel: 4%
- Fatigue: 6%
- Anx/Dep: 2%
- HR Abnorm: 2%
- SOB: 4%
- Cognition: 2%
- Wt Loss: 1%

[PCORnet logo]
April 19th cumulative query

- New monoclonal antibody
  - bamlanivimab and etesevimab
- J&J vaccine
- Vaccine cohorts (can only use procedure codes for now – 90%; hope to expand scope of tools for Immunization table)
- Better define pts who are pregnant
- Cohort of patients with baseline and follow-up
Dissemination

- Expect 4-6 papers over next few months
- Where possible, we expect to include site authors as part of a collaborative authorship group
- Might have some papers that are brief reports that don’t allow for this
- First paper coming soon – adult descriptive trend paper
- Others include a pediatric trend paper and work on chronic disease and COVID + PASC
Summary

- Queries proceeding as planned
- Planning a series of analytic queries upcoming
- Year 2 looks very promising
- Will be in touch about papers soon; collaborative author groups will include one representative per site as designated by CRN leads
Questions?