Introduction

- **CTSI-CN v2.0 Recruitment and Retention Initiatives**
  - Leverage current informatics systems – *Cerner PowerChart (EHR)*
  - Collaborate with external partners via data sharing – *CTSAs, AMC, Multi-site trials, etc.*
  - Adopt and develop community engagement applications

- **Point-of-care Recruitment Tools**
  - Cerner PowerTrials

- **Cohort Discovery/Feasibility Tools**
  - i2b2/SHRINE*
  - TriNetX*
  - Endeca Data Discovery (in development)

- **Community Engagement Tools**
  - ResearchMatch
  - Clinical Trial Study Finder Website

*Honest Broker (Pending)
PowerTrials

A Cerner application consisting of three primary functions:

1) Revenue Cycle Management
   - Track and manage research patient billing/reimbursement

2) Participant Enrollment Function
   - EMR-based entry/tracking of patient enrollment data & study information

3) Prescreening Function
   - EMR-based prescreening of potential study patients

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PowerTrials - Process Overview

*The above may occur concurrently*
PowerTrials - Current Status

Prescreening Function

**Status:** Active

**Function Metrics:**
- # of staff introduced to PT: <150
- Total in-person consultations: 38
- # of Rules in Production (activated): 16
- # of Rules pending (in development): 1
- # of Rules in Pipeline: 1
- Total # of users: 42

**Stakeholders:**
Bear Institute; CTSI-CN; CRI; RB; Medical Records, Legal/Compliance

Participant Enrollment Function

**Status:** Not Active
Project suspended due to pending decision on opt-in vs. opt-out consent

**Function Metrics:**
- Total Studies Entered: 71*
*Study entry ceased when function suspended; Studies are entered as needed for PT Prescreening only

**Stakeholders:**
Bear Institute; CTSI-CN; CRI; IRB; Medical Records, Legal/Compliance; All clinical and research personnel
i2b2/SHRINE (Informatics for Integrating Biology and the Bedside/Shared Health Research Information Network)

- An scalable informatics framework that links data warehouses across partner institutions:
  - Allows exploration and query of clinical data that has been de-identified and aggregated
  - Facilitates study feasibility by allowing the testing of various inclusion/exclusion criteria
  - Supports multi-site research by enabling cohort searches at other institutions
TriNetX

- A dynamic, data-driven platform that accelerates research by:
  - Facilitating clinical trial design and bolstering recruitment – Query Builder
  - Providing a new research funding stream – Partnership Model
  - Leverages the i2b2 data warehouse – secure, local infrastructure

- Query Builder
  - Allows Investigators to independently perform feasibility searches of the EHR system for specific enrollment criteria (e.g. diagnosis, procedures, medications, labs, etc.)
  - Provides immediate de-identified, aggregate data
  - Can request de-identified patient list via an IRB-approved Honest Broker process

- Partnership Model
  - Allows federated Pharma/CROs to view institutional aggregate, de-identified data for study site selection
  - Supports collaborative networking with other federated Institutions (including 18+ CTSAs)
TriNetX - Overview

**Provider Network**
- 35+ Hospitals (including 4 pediatric)
- 41M combined patients
- 15M patients on Network

**Pharma/CRO**
- Novartis, Sanofi, Celgene, ICON, MEDpace, etc.
- 2018: Expanding USA, Europe, Asia
- >$100B combined revenue, >$17B R&D

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A. Principal Investigator
The PI queries their own i2b2 via the TriNetX rich web user interface

B. Multi-Site Collaboration
Create collaborative networks with other TriNetX Network Members

C. Pharma Research
The pharma researcher queries aggregate results across the TriNetX Network
TriNetX – User Interface

Pediatric Crohn’s Disease or Ulcerative Colitis Trial Connect Request

1,145,608
PATIENTS
Mar 11, 2018 11:40 AM
Juran Wilson.
Research.

8
HCOs

Count Patients

unnamed

You now have access to a new network. Research. You can run queries on that network by choosing it from the Network selection below.

Research

Research

8 of 8 HCOs online

Population

Any age / Any sex
1,145,608 patients on network

MUST Have

Search Term...

CANNOT Have

Search Term...

000 D49 Neoplasms

1,145,608

Create an event
Endeca Data Discovery (in development)

- A self-service data visualization platform for querying EHR
  - Supports free-text search of all Cerner PowerChart patient demographics, diagnoses, and clinical document records from January 2011 to present
  - Fully searchable and infinitely refinable, allowing the user to easily explore structured (discrete) and unstructured (narrative) data
ResearchMatch

• A national registry that brings together researchers and potential volunteers who are interested in research studies
  • NIH (NCATS) funded; Vanderbilt University-developed
  • A secure registry with volunteer-controlled communication mechanism
  • Emergent pediatric volunteer sub-category
Clinical Trials Study Finder Website

- **Children’s National Clinical Trials Study Finder**
  - Focus on helping potential volunteers/families find studies easily
  - Will include a full list of active clinical research studies
    - API from www.clinicaltrials.gov
  - Also includes research education materials to mitigate apprehension

![Clinical Trials Search](Image)
All questions regarding Cohort Discovery and Recruitment tools Prescreening may be directed to
Jurran Wilson (juwilson@childrensnational.org; 202.476.2196)

Wishing you great success with your research and recruitment efforts,
The Children’s National LRIC and Informatics Team

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