Millions more people.
Stronger collaborations:
The new and improved NIH Collaboratory Distributed Research Network

Richard Platt, Denise Boudreau, Kevin Haynes, Jerry Gurwitz, Christopher Granger
December 6, 2019
Re-introducing the NIH Collaboratory Distributed Research Network

• FDA Sentinel System, designed to assess medical product safety and effectiveness, has ability to support research topics
• Created to allow investigators supported by NIH and other not-for-profit sponsors to collaborate with Sentinel investigators
• Focus is on multi-center research, especially requiring:
  • Access to full text records
  • Linkage to external sources
  • Contact with clinicians and/or patients
  • Collection of patient generated data
• New research partners wanted!
NIH Collaboratory Distributed Research Network (DRN)

Millions of people. Strong collaborations. Privacy first.

Leadership: Richard Platt and Lesley Curtis
Project Manager: Sarah Malek

Publications and Supplementary Material | Presentations
DRN Collaborating Organizations

Coordinating Center:

14 Data & Scientific Partners

HealthCare
Anthem

Healthagen
Aetna

OPTUM
Kaiser Permanente

Hawaii
Mid-Atlantic
Northern California
Northwest
Washington

Vanderbilt University Medical Center

TennCare

Humana
HealthPartners

Massachusetts

Harvard Pilgrim Healthcare

Research Institute
**NIH Collaboratory DRN’s Distributed Database**

<table>
<thead>
<tr>
<th>Database Statistic</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Members Currently Accruing New Data</td>
<td>~45 million</td>
</tr>
<tr>
<td>Person-years of Data</td>
<td>~450 million</td>
</tr>
<tr>
<td>Pharmacy Dispensings</td>
<td>~7 billion</td>
</tr>
<tr>
<td>Unique Medical Encounters</td>
<td>~10 billion</td>
</tr>
</tbody>
</table>
# Sentinel Common Data Model

## Administrative Data

<table>
<thead>
<tr>
<th>Enrollment</th>
<th>Demographic</th>
<th>Dispensing</th>
<th>Encounter</th>
<th>Diagnosis</th>
<th>Procedure</th>
</tr>
</thead>
<tbody>
<tr>
<td>Patient ID</td>
<td>Patient ID</td>
<td>Patient ID</td>
<td>Patient ID</td>
<td>Patient ID</td>
<td>Patient ID</td>
</tr>
<tr>
<td>Birth date</td>
<td>Sex</td>
<td>Service Date(s)</td>
<td>Service Date(s)</td>
<td>Service Date(s)</td>
<td>Service Date(s)</td>
</tr>
<tr>
<td>Drug Coverage</td>
<td>Zip code</td>
<td>National Drug Code (NDC)</td>
<td>Encounter ID</td>
<td>Encounter ID</td>
<td>Encounter ID</td>
</tr>
<tr>
<td>Medical Coverage</td>
<td>Days Supply</td>
<td>Dispensing Date</td>
<td>Encounter Type and Provider</td>
<td>Encounter Type and Provider</td>
<td>Encounter Type and Provider</td>
</tr>
<tr>
<td>Medical Record Availability</td>
<td>Amount Dispensed</td>
<td>National Drug Code (NDC)</td>
<td>Facility</td>
<td>Diagnosis Code &amp; Type</td>
<td>Procedure Code &amp; Type</td>
</tr>
</tbody>
</table>

## Registry Data

<table>
<thead>
<tr>
<th>Death</th>
<th>Cause of Death</th>
<th>State Vaccine</th>
</tr>
</thead>
<tbody>
<tr>
<td>Patient ID</td>
<td>Cause of Death</td>
<td>Patient ID</td>
</tr>
<tr>
<td>Death Date</td>
<td>Source</td>
<td>Vaccination Date</td>
</tr>
<tr>
<td>Source</td>
<td>Confidence</td>
<td>Administration Date</td>
</tr>
<tr>
<td>Confidence</td>
<td>Etc.</td>
<td>Admission Date</td>
</tr>
<tr>
<td>Etc.</td>
<td>Etc.</td>
<td>Vaccine Code &amp; Type</td>
</tr>
<tr>
<td>Etc.</td>
<td>Etc.</td>
<td>Provider</td>
</tr>
</tbody>
</table>

## Inpatient Data

<table>
<thead>
<tr>
<th>Inpatient Pharmacy</th>
<th>Inpatient Transfusion</th>
</tr>
</thead>
<tbody>
<tr>
<td>Patient ID</td>
<td>Patient ID</td>
</tr>
<tr>
<td>Administration Date &amp; Time</td>
<td>Administration Start &amp; End Date &amp; Time</td>
</tr>
<tr>
<td>Encounter ID</td>
<td>Encounter ID</td>
</tr>
<tr>
<td>National Drug Code (NDC)</td>
<td>Transfusion Administration ID</td>
</tr>
<tr>
<td>Route</td>
<td>Transfusion Product Code</td>
</tr>
<tr>
<td>Dose</td>
<td>Blood Type</td>
</tr>
<tr>
<td>Etc.</td>
<td>Etc.</td>
</tr>
</tbody>
</table>

## Clinical Data

<table>
<thead>
<tr>
<th>Lab Result</th>
<th>Vital Signs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Patient ID</td>
<td>Patient ID</td>
</tr>
<tr>
<td>Result &amp; Specimen Collection Dates</td>
<td>Measurement Date &amp; Time</td>
</tr>
<tr>
<td>Test Type, Immediacy &amp; Location</td>
<td>Height &amp; Weight</td>
</tr>
<tr>
<td>Logical Observation Identifiers Names and Codes (LOINC®)</td>
<td>Diastolic &amp; Systolic BP</td>
</tr>
<tr>
<td>Tobacco Use &amp; Type</td>
<td>Etc.</td>
</tr>
</tbody>
</table>

## Mother-Infant Linkage Data

<table>
<thead>
<tr>
<th>Mother-Infant Linkage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mother ID</td>
</tr>
<tr>
<td>Mother Birth Date</td>
</tr>
<tr>
<td>Encounter ID &amp; Type</td>
</tr>
<tr>
<td>Admission &amp; Discharge Date</td>
</tr>
<tr>
<td>Child ID</td>
</tr>
<tr>
<td>Child Birth Date</td>
</tr>
<tr>
<td>Mother-Infant Match Method</td>
</tr>
<tr>
<td>Etc.</td>
</tr>
</tbody>
</table>
Capabilities

• Work with Sentinel’s highly curated distributed dataset
Antibiotic use in pediatrics

Antibiotic dispensing following pediatric visits in the US emergency departments and outpatient settings from 2006 to 2016

Abiy Agiro¹ | Gayathri Sridhar¹ | Aliza Gordon¹ | Jeffrey Brown² | Kevin Haynes¹

¹Translational Research for Affordability and Quality, HealthCore, Wilmington, DE
²Harvard Medical School, Boston, MA

Correspondence
Abiy Agiro, 123 Justison Street, Suite 200, Wilmington, DE 19901.
Email: aagiro@healthcore.com

Funding Information
National Center for Complementary & Integrative Health of the National Institutes of Health, Grant/Award Number: US4AT007748

74 million ambulatory and ED visits

Pharmacol Res Perspect. 2019;00:e00512. | doi.org/10.1002/prp2.512
Chemo-induced neuropathy

- 187,000 exposed to neurotoxic chemo
- 284,000 exposed to non-neurotoxic chemo
Cancer screening and follow up

Patients with new abnormal screening results:
- Colorectal: 70K
- Breast: 1.1M
- Cervical: 781K
- Also addressed % with follow-up and time lag
Statin use in the elderly

Incidence of statin use in older adults with and without cardiovascular disease and diabetes mellitus, January 2008- March 2018


- 758K people ≥75 years old
- 109K initiated statins
- 55K became long term users

PLOS One. In press
Propensity score matched new user comparisons

JAMA Internal Medicine | Original Investigation

Association of Risk for Venous Thromboembolism With Use of Low-Dose Extended- and Continuous-Cycle Combined Oral Contraceptives A Safety Study Using the Sentinel Distributed Database

Jie Li, PhD; Genna Panucci, SM; David Moeny, RPh; Wei Liu, PhD; Judith C. Maro, PhD; Sengwee Toh, ScD; Ting-Ying Huang, PhD

Li JAMA Int Med 2018;178:1482
Continuous vs Cyclic Oral Contraceptives and Venous Thromboembolism

- Question: Is risk of venous thromboembolism (VTE) higher with use of extended/continuous combined oral contraceptives (COCs) than cyclic COCs?
- Population: 210,691 continuous initiators and 522,316 cyclic initiators
- VTE events: 228 among continuous users and 297 in cyclic users
- Selected characteristics: Continuous users more likely to have
  - Age >35 years: 31% vs 23%
  - CV/metabolic conditions: 7% vs 5%
  - Gynecologic conditions: 40% vs 32%
- Propensity score matched Hazard Ratio: 1.32 (1.07-1.64)
- Adjusted absolute risk difference 0.27/1,000 persons (0.35/1,000 p-yrs)

Li JAMA Int Med 2018;178:1482
DRN organizations and investigators are part of delivery systems

- Subject to approval of system leadership, and IRBs when appropriate, it is possible to:
  - Identify individuals, providers, sites of care
  - Directly contact individuals and providers
Capabilities

- Work with Sentinel’s highly curated distributed dataset
- Obtain full text records
Kawasaki disease and 13-valent pneumococcal conjugate vaccination among young children: A self-controlled risk interval and cohort study with null results

Meghan A. Baker, Bethany Baer, Martin Kulldorff, Lauren Zichittella, Rebecca Reindel, Sandra DeLuccia, Hana Lipowicz, Katherine Freitas, Robert Jin, W. Katherine Yih

Published: July 2, 2019 • https://doi.org/10.1371/journal.pmed.1002844
Kawasaki and Pneumococcal Conjugate Vaccine (PCV-13)

- 6,177,795 doses of PCV13 vaccine were identified
- 206 potential cases of Kawasaki disease, ascertained by the presence of ICD-9 code 446.1, identified within 70 days of immunization
- 184 (89%) charts were obtained for expert adjudication
- 125 (68%) confirmed as Kawasaki level 1
- Self-controlled risk interval logistic regression, age adjusted risk ratio was **1.07** (95% CI 0.70–1.63; \( p = 0.76 \))
Capabilities

• Work with Sentinel’s highly curated distributed dataset
• Obtain full text records
• Link to external registries
Linking Claims to Birth Registries

Claims Data in Sentinel Distributed Database*

Maternal data

Infant data

Linked mom-infant pairs

Unlinked mothers

Unlinked infants

State Departments of Health

Birth certificate data**

* 4 Data Partners
** Birth certificates available for 9 states
Percent deliveries linked to infants (N=651,607)

- Not linked: 84%, 80%, 83%, 66%
- Linked using birth certificates: 15%
- Linked using last names and addresses: 0%
- Linked using subscriber ID: 0%

Capabilities

• Work with Sentinel’s highly curated distributed dataset
• Obtain full text records
• Link to external registries
• Collect patient reported data
The MyStudies Smartphone App

- Public domain customizable smartphone app
- Supports secure linkage to individuals’ own data in the distributed dataset
- Compliant with 21 CFR part 11, FISMA, and HIPAA

www.fda.gov/drugs/science-and-research-drugs/fdas-mystudies-application-app
Capabilities

• Work with Sentinel’s highly curated distributed dataset
• Obtain full text records
• Link to external registries
• Collect patient reported data
• Contact providers
• Conduct randomized trials
IMPACT-AFib: An 80,000 Person Randomized Trial Using the FDA Sentinel System Platform
IMPACT-AFib randomized trial

IMplementation of a randomized controlled trial to imProve treatment with oral AntiCoagulanTs in patients with Atrial Fibrillation

• Direct mailer to health plan members with AFib, high risk for stroke and no oral anticoagulant treatment, and to their providers, to encourage consideration of treatment

• Use claims data and pharmacy dispensing information to:
  • Identify eligible patients
  • Assess new oral anticoagulant dispensings and refills
  • Identify stroke, transient ischemic attacks, and bleeds
Capabilities

- Work with Sentinel’s highly curated distributed dataset
- Obtain full text records
- Link to external registries
- Collect patient reported data
- Contact providers
- Conduct randomized trials
Mortality after discontinuation of buprenorphine: Example of linking to an external registry

Denise Boudreau, PhD
Senior Scientific Investigator
Kaiser Permanente Washington Health Research Institute
Duration of medications to treat opioid use disorder and mortality

**Background**

- Methadone improves survival of opioid use disorder, but mortality increases after treatment ends
- Buprenorphine is increasingly used
- Patients, clinicians, and policymakers need to know if there is some “safe” duration of buprenorphine and other drugs
- Specific questions include:
  - Optimal duration of treatment
  - Whether to taper or discontinue treatment abruptly

Submitted to NIDA CTN concept proposals May 2019 and not funded
Submitting as NIDA R01 TBD
Specific aims

• Aim 1: What is the 1-year overall mortality rate and fatal overdose rate among patients who discontinue buprenorphine, naltrexone, and methadone compared to those who continue, adjusted for differences in demographic, clinical, and system factors?
  • H1: Mortality rates are higher off versus on treatment.

• Aim 2: Estimate the 1-year overall mortality rate and fatal overdose rate and test how mortality rates differ by duration of treatment prior to discontinuation.
  • H2: There is an inverse dose-response association between duration of treatment and post-discontinuation mortality.
Secondary aims

- Replicate Specific Aims for individual treatments (buprenorphine alone, buprenorphine w/ naloxone, injectable naltrexone, methadone) and for other outcomes (suicide attempt and non-fatal OD– separately and as a composite endpoint with mortality)

- Estimate changes in mortality rates during the first year off treatment, e.g., first 4 weeks vs remainder of the year

- Estimate mortality rates and test for differences by:
  - Switched to naltrexone vs switched to methadone vs maintained on buprenorphine;
  - Taper buprenorphine vs stop abruptly
  - Demographic and clinical risk factors, e.g. mental health and other substance use disorders, benzodiazepine use, co-prescribing of naloxone

- Describe patient characteristics associated with post-discontinuation mortality
Study design

• **Design and sample:**
  Retrospective new user cohort of users 16+ years of age in 2008-2018

• **Participating organizations:**
  HealthCore, Aetna, Kaiser Washington, Kaiser Northern California, Health Partners, and Harvard Pilgrim Health Care

• **Data:** 1-year before treatment until death, 12/31/2019, or disenrollment (survivors)

• **Main exposures:**
  1) Exposure to drugs of interest; 2) duration of treatment.
  Manually review charts sample who discontinue

• **Main outcomes:**
  Fatal overdose and all deaths determined by linking to the National Death Index

• **Secondary outcomes:** Attempted suicides, and non-fatal overdose from diagnosis codes

• **Analytic plan:** Modified Poisson regression to estimate incidence rate ratios, adjusting for duration of treatment along with a parsimonious list of potential confounders
Prep to research data

- Sites provided preliminary data for the submission on a very tight timeline via distributed data model

- ~159,000 buprenorphine users and ~12,000 naltrexone users among ~52 million unique patients during 2008-2017

- 80% power to detect ~45% excess risk following discontinuation
Strengths of the Collaboratory DRN for this study

• Leverage Sentinel’s highly curated distributed common data model to build a large cohort with rich data for addiction medicine research
• Build on prior collaborations with data partners and data coordination center
• Link to National Death Index
• Conduct chart review
Comparative effectiveness of oral hypoglycemics:
Example of obtaining patient reported data

Kevin Haynes, PharmD, MSCE
Principal Scientist
HealthCore
Comparative effectiveness of 2\textsuperscript{nd} line oral diabetes drugs

- PCORI requested information regarding an ability to emulate a clinical trial of 2\textsuperscript{nd} line oral diabetes drugs
- Respondents were required to address study design issues explicated in this white paper:

Hernán MA, Robins JM. Using big data to emulate a target trial when a randomized trial is not available. American Journal of Epidemiology 2016;183:758-64.
Eligibility Criteria:
- Type 2 Diabetes
- Age >= 45
- Antihyperglycemic monotherapy with metformin
- Not currently pregnant
- No history of specific conditions in the year before beginning second-line therapy
- Suboptimal glycemic control

Treatment Strategies:
- Assigned to one of the following treatments within 12 months of suboptimal control:
  - GLP-1 receptor agonist
  - SGLT2 inhibitor
  - DPP-4 inhibitor
  - Sulfonylurea

Outcomes: MACE
- Myocardial infarction
- Stroke
- Hospitalization due to heart failure
- Cardiovascular death
- Severe hypoglycemia
  - Microvascular disease
- Renal impairment
- All-cause mortality

Key Covariates:
- Labs: Hba1c, eGFR
- Clinical: BP, Ht/Wt, Smoking
### White Paper: Recommended data elements

#### Eligibility Criteria:
- Type 2 Diabetes
- Age >= 45
- Antihyperglycemic monotherapy with metformin
- Not currently pregnant
- No history of specific conditions in the year before beginning second-line therapy
- Suboptimal glycemic control

#### Treatment Strategies:
- Initiated one of the following as 2nd line treatment:
  - GLP-1 receptor agonist
  - SGLT2 inhibitor
  - DPP-4 inhibitor
  - Sulfonylurea

#### Outcomes: MACE
- Myocardial infarction
- Stroke
- Hospitalization due to heart failure
- Cardiovascular death
- Severe hypoglycemia
- Microvascular disease
- Renal impairment
- All-cause mortality

#### Key Covariates:
- Labs: Hba1c, eGFR
- Clinical: BP, Ht/Wt, Smoking

<table>
<thead>
<tr>
<th>Data Source</th>
<th>Availability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Available now for everyone</td>
<td>Labs: Hba1c, eGFR</td>
</tr>
<tr>
<td>Available now for some; Add’l Ht/Wt, smoking from pts</td>
<td>Clinical: BP, Ht/Wt, Smoking</td>
</tr>
<tr>
<td>Available from Nat’l Death Index</td>
<td></td>
</tr>
</tbody>
</table>
# Prep to Research Data Part 1: Cohort Size, Data Completeness, and Longitudinality

<table>
<thead>
<tr>
<th>Number</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Total population in 2018</strong></td>
<td>14,228,136 All had medical and pharmacy benefits</td>
</tr>
<tr>
<td><strong>Persons with Type 2 diabetes, 18 - 90 yrs</strong></td>
<td>1,972,275 All have one year of medical and pharmacy benefits prior to first diagnosis of DM in 2018</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Length of continuous retrospective observation</th>
<th>Number</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>At least 1 year</td>
<td>1,972,275</td>
<td>Follow-up time based on look back from first diabetes diagnosis in 2018.</td>
</tr>
<tr>
<td>At least 2 years</td>
<td>1,608,936</td>
<td></td>
</tr>
<tr>
<td>At least 5 years</td>
<td>851,847</td>
<td></td>
</tr>
<tr>
<td>At least 10 years</td>
<td>335,261</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>For a population with T2DM diagnosed in 2013 with a one year baseline (1,540,948), the length of continuous prospective observation</th>
<th>Number</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt;1 year</td>
<td>305,173</td>
<td>Based on patients with a diabetes diagnosis in 2013 followed forward</td>
</tr>
<tr>
<td>1-2 yrs</td>
<td>220,085</td>
<td></td>
</tr>
<tr>
<td>2-5 yrs</td>
<td>450,282</td>
<td></td>
</tr>
<tr>
<td>&gt; 5 yrs</td>
<td>565,408</td>
<td></td>
</tr>
</tbody>
</table>
Prep to Research Data Part 2: Follow up time After First Dispensings of Antidiabetic Drugs

<table>
<thead>
<tr>
<th></th>
<th>Total</th>
<th>0-1 years</th>
<th>1-2 years</th>
<th>2-5 years</th>
<th>5-10 years</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Second Generation Sulfonylureas</strong></td>
<td>1,948,113</td>
<td>613,978</td>
<td>383,221</td>
<td>585,776</td>
<td>365,138</td>
</tr>
<tr>
<td><strong>Dipeptidyl Peptidase 4 Inhibitors</strong></td>
<td>910,348</td>
<td>299,837</td>
<td>190,205</td>
<td>290,824</td>
<td>129,482</td>
</tr>
<tr>
<td><strong>Glucagon-Like Peptide1 Receptor Agonists</strong></td>
<td>424,697</td>
<td>169,430</td>
<td>96,541</td>
<td>118,217</td>
<td>40,509</td>
</tr>
<tr>
<td><strong>Sodium Glucose Cotransporter-2 Inhibitors</strong></td>
<td>318,545</td>
<td>132,139</td>
<td>81,905</td>
<td>101,677</td>
<td>2,824</td>
</tr>
</tbody>
</table>
Strengths of the Collaboratory DRN for this study

• Large population with defined person time during which rigorously curated, complete drug exposure and outcomes are available
• Laboratory test results, vital signs, height, weight, smoking available for a substantial fraction
• Patient-engagement through the FDA MyStudies App allows collection of:
  • Date of diabetes onset, race/ethnicity, height/weight, and smoking status
  • Seek authorizations to conduct member-level linkages to other data sources for richer clinical detail
• Subject matter experts with a deep understanding of the source data
Outreach providers and patients/families to reduce prescribing cascades: Example of an embedded pragmatic trial

Jerry H. Gurwitz, MD
Professor of Medicine, Family Medicine and Community Health, and Population & Quantitative Health Sciences
University of Massachusetts Medical School
Executive Director, Meyers Primary Care Institute
CASCADeS-AD

• Controlling And Stopping Cascades leading to Adverse Drug Effects Study in Alzheimer’s Disease (CASCADeS-AD)

• A collaborative endeavor of the Meyers Primary Care Institute, Harvard Pilgrim Health Care Institute, Women's College Research Institute, Anthem, and Humana

Funder: National Institute on Aging: R56 AG061813
Exemplar Cascades

1. High Blood Pressure
   - Calcium Channel Blockers
   - Edema (Swelling)
   - Diuretics

2. Alzheimer’s Disease and Related Dementia
   - Cholinesterase Inhibitor
   - Urinary Incontinence
   - Urinary Anticholinergic

3. Behavior Disturbance
   - Antipsychotics
   - Drug-induced Parkinsonism
   - Antiparkinsonian Agents
CASCADeS-AD Trial Study Design

All Eligible Patients
- Age ≥50
- Prescription of AD treatment within prior 12 months
- Polypharmacy (>5 active prescriptions for different agents)

Assess Prescription Records for Polypharmacy and Prescribing Cascades in Prior 12 Months
- Eligible patients will be stratified based upon whether they have an existing prescribing cascade

Usual Care

Provider Only

Patient/Caregiver + Provider

Primary Comparison: Occurrence of a prescribing cascade

Secondary Comparison: polypharmacy; rates of emergency room visits; rates of hospitalizations; rates of skilled nursing facility admissions; overall health care utilization (outpatient visits, days hospitalized, number of emergency department visits, skilled nursing facility days, etc.); and mortality

* Observation Period Begins 3 Months After Mailing
Prep to Research Data 1: Prevalence of CCB-Diuretic Prescribing Cascade

- AD identified using NDC codes for a medication specific to AD
- Subjects ≥ 50 years of age and have received an AD drug within year prior to index date 1/1/2017
- With medical and pharmacy coverage for 1 year through cohort entry
- We excluded individuals with an institutional stay encounter 45-days prior to index date
Prep to Research Data 2:
Prevalence of CCB-Diuretic Prescribing Cascade

• **CCB-Diuretic Prescribing Cascade is not common**
  • Among 121,538 participants with Alzheimer’s disease or related dementias, only 0.1% of eligible patients had incident CCB use followed by incident diuretic use
  • Another 1.3% had prevalent CCB use, followed by incident diuretic use
  • These constitute only 1.4% - which is not enough to provide adequate power for CASCADES-AD
Strengths of the Collaboratory DRN for this study

- Ability to embed a randomized clinical trial in real world clinical settings
  - Direct outreach to providers AND to patients/families
- Ability to determine feasibility with high accuracy allows confidence in planning of ambitious clinical trials
Working with the Distributed Research Network

Christopher Granger, MD
Professor of Medicine
Duke University
Summary

• The NIH Collaboratory Distributed Research Network is a valuable resource for a wide array of studies

• Specific attributes include:
  • Health plan based scientists with deep expertise in the data and operations of their organizations, as well as subject matter and methodologic expertise
  • Extensively curated longitudinal data with complete capture of all medically attended events during known period of time
  • Ability to supplement these data by linking to external registries or by directly contacting providers and members or their families
  • Ability to embed pragmatic clinical trials in practice settings
  • Ability to develop preliminary data as part of prep-to-research activities
To work with the DRN

- DRN investigators seek partners on a wide range of topics
- Learn more – https://rethinkingclinicaltrials.org/nih-collaboratory-drn
- Contact us – nih-collaboratory@dm.duke.edu