

The Value of Data Sharing: Lessons learned through the YODA Project

PHUSE Data Transparency
Summer 2020 Meeting
June 5, 2020

Yale



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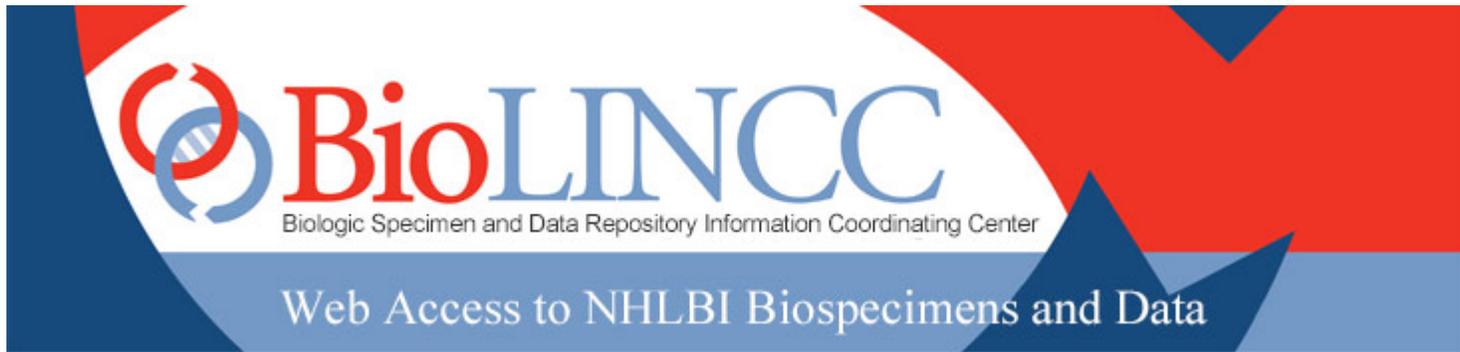
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Center for Outcomes Research and Evaluation, Yale-New Haven Hospital

 @jsross119



Potential Conflicts of Interest

- **YODA Project funded by research grant through Yale from Johnson & Johnson, formerly funded by Medtronic, Inc.**
- **Research grant funding through Yale from:**
 - **Food and Drug Administration (FDA)**
 - **Centers for Medicare and Medicaid Services (CMS)**
 - **Blue Cross Blue Shield Association**
 - **NIH/NHLBI, AHRQ**
 - **Laura and John Arnold Foundation**



ClinicalStudy
DataRequest.com

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Discovery consists of looking at the same thing as everyone else and thinking something different.

Albert Szent-Györgyi



OUR MISSION

The Yale University Open Data Access (YODA) Project's mission is to advocate for the responsible sharing of clinical research data, open science, and research transparency. The Project is committed to supporting research focused on improving the health of patients and informing science and public health. The YODA Project can only improve with your feedback. Please share your comments and ideas.

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OUR MODEL

The YODA Project seeks mutually beneficial partnerships with Data Partners, promoting independence, responsible conduct of research, good stewardship of data, and the generation of knowledge in the best interest of society. To participate, each Data Partner must transfer full jurisdiction over data access to the YODA Project.

[HOW IT WORKS](#)

REQUEST DATA

Are you ready to request data? To date, 350 trials have been identified as available. The YODA Project and Data Partners continue to identify and add more.

[GET STARTED](#)

Principles of the YODA Project

- **Promote sharing of clinical research data to advance science and improve public health and healthcare**
- **Promote responsible conduct of research**
- **Ensure good stewardship of clinical research data by external investigators**
- **Protect rights of research participants**

Johnson & Johnson Partnership

- **Initiated in 2014 – effort focused on promoting and facilitating access to clinical trial data:**
 - **All pharmaceutical products (including legacy trials)**
 - **Device and diagnostic products as of 2015**
 - **Consumer products as of 2017**
- **Established data access policy and procedures, with input from Steering Committee, experts, stakeholders, and public comment**

Trials By Generic Name

Below is a list of trials that have been identified as available. This is not a complete list of the trials that are available for sharing. Before a trial can be shared, Data Partners must confirm data location and availability in an electronic format, and confirm that data availability conforms to any applicable partner agreements. All trials listed below have gone through this process. We continue to add trials to this list on a regular basis.

Don't see the trial(s) you are looking for?

[Submit an Inquiry](#)

GENERIC NAME

PRODUCT CLASS

THERAPEUTIC AREA

CONDITION STUDIED

ADVANCED SEARCH

Abiraterone acetate

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Ablation Catheter

[VIEW TRIALS](#)

Acetaminophen

[VIEW TRIALS](#)

Bedaquiline/TMC207

[VIEW TRIALS](#)

Bosentan

[VIEW TRIALS](#)

Canagliflozin

[VIEW TRIALS](#)

Daratumumab

[VIEW TRIALS](#)

Darunavir

[VIEW TRIALS](#)

Doxorubicin hydrochloride

[VIEW TRIALS](#)

Epoetin alfa

[VIEW TRIALS](#)

Ethinyl estradiol

[VIEW TRIALS](#)

Etravirine

[VIEW TRIALS](#)

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GENERIC NAME	PRODUCT CLASS	THERAPEUTIC AREA	CONDITION STUDIED	ADVANCED SEARCH
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Abiraterone acetate	Ablation Catheter	Acetaminophen	Bedaquiline/TMC207
VIEW TRIALS	VIEW TRIALS	VIEW TRIALS	VIEW TRIALS

Bosentan	Canagliflozin	Daratumumab	Darunavir
VIEW TRIALS	VIEW TRIALS	VIEW TRIALS	VIEW TRIALS

Doxorubicin hydrochloride	Epoetin alfa	Ethinyl estradiol	Etravirine
VIEW TRIALS	VIEW TRIALS	VIEW TRIALS	VIEW TRIALS

STUDY
PHASE
3

A Randomized, Double-Blind Trial of Anti-TNF Chimeric Monoclonal Antibody (Infliximab) in Combination With Methotrexate for the Treatment of Patients With Polyarticular Juvenile Rheumatoid Arthritis

 CSR Summary	 NCT00036374	 Primary Citation	 Data Specification	 Annotated CRF Available upon data request approval
Add Trial to Data Request				

PRODUCT INFO

Generic Name Infliximab	Product Class Antirheumatic Agents - Biologic Response Modifiers
Product Name REMICADE®	Sponsor Protocol Number C0168T32
Therapeutic Area Muscle, Bone, and Cartilage Diseases	Data Partner Johnson & Johnson
Enrollment 123	Condition Studied Arthritis, Juvenile
% Female 85.9%	Mean/Median Age (Years) 11.2
% White 92.1%	

SUPPORTING DOCUMENTATION

- Clinical Study Report
- Collected Datasets
- Data Definition Specification
- Annotated Case Report Form
- Protocol with Amendments
- Statistical Analysis Plan

APPROVED DATA REQUESTS ASSOCIATED WITH THIS TRIAL

Impact of the dose of immunomodulators on pharmacokinetics of biologics: Patient level meta-analysis of randomized controlled trials
Impact of Biologic Therapy on the Risk of Arterial and Venous Thromboembolic Events In Chronic Autoimmune Diseases: A Post-Hoc Analysis of RCTS

Requests Submitted Online

- Investigator names, affiliations, funding
- Narrative summary / public abstract
- Detailed research proposal, including:
 - Project background, clear objectives
 - Trials, sample eligibility criteria, variables
 - Primary and secondary endpoints
 - Statistical analysis plan
- Project purpose (meta-analysis, validation ...)
- Timeline and dissemination plan
- Data use agreement training



YODA Project Review

The YODA Project reviews proposals to ensure that each proposal has scientific merit, specifically verifying:

- Scientific purpose is clearly described
- Data requested will be used to create or materially enhance generalizable scientific and/or medical knowledge to inform science and public health
- Proposed research can be pursued using the requested data

Data Partner Review

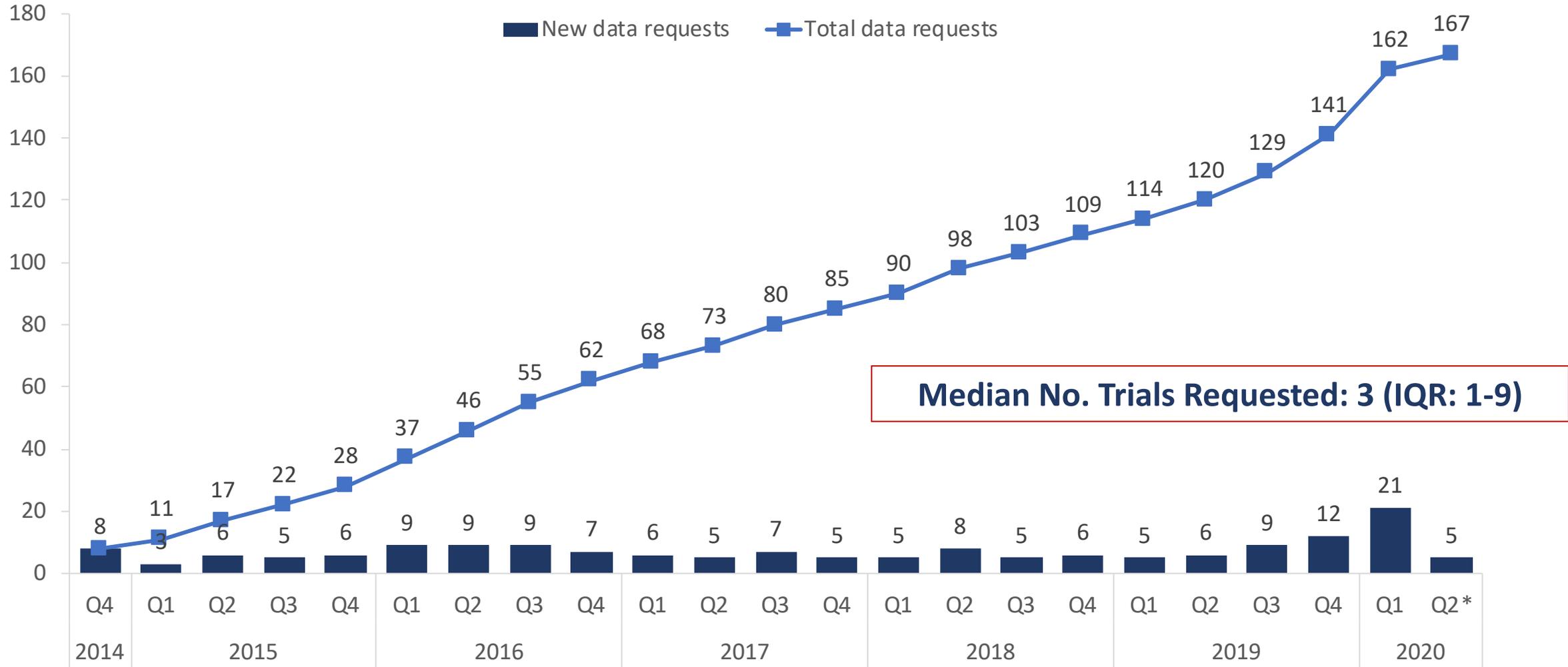
Requests for data undergo a Due Diligence Assessment by the Data Partner to evaluate their ability to make the data available to be shared, including assessment of:

- **Patient privacy**
- **Similar research studies**
- **Required variables**
- **Appropriateness of requested data (e.g. CSR vs IPD)**



- **Once approved, require signed DUA**
- **Investigators gain access to data maintained on secure platform, via VPN**
- **Prevents distribution, protects patient privacy**

Number of Data Requests Submitted



*As of May 1, 2020

Approved Requests to Use Johnson and Johnson Data*

YODA Project Protocol Number	PI and Affiliation	Research Proposal	Product(s) of Interest	YODA Project Review and Data Partner Due Diligence Assessment	Project Status
2014-0340	Heldi Storgaard, MD, PhD ; University of Copenhagen, Center for Diabetes Research	The effects of SGLT-2 inhibitors in patients with type 2 diabetes: a systematic review with meta-analysis of randomised trials	INVOKANA	<ul style="list-style-type: none"> YODA Project Review Due Diligence Assessment 	Complete; Published in <i>PLOS ONE</i> November 11, 2016.
2014-0333	Guru Sonpavde, MD ; University of Alabama, Birmingham (UAB) School of Medicine	RECIST response as a surrogate endpoint in metastatic castration-resistant prostate cancer: Retro-spective analysis of COU-AA-203 and COU-AA-301	ZYTIGA	<ul style="list-style-type: none"> YODA Project Review Due Diligence Assessment 	Unknown; data access revoked, investigator has not reported results as requested.
2014-0334	Raymond Cross, MD, MS ; University of Maryland,	Gender differences in weight gain in patients with inflammatory bowel disease treated with Infliximab	REMICADE	<ul style="list-style-type: none"> YODA Project Review Due Diligence 	Complete; Published in <i>Inflamm Bowel Dis</i> July 2, 2019.

Data Requests

Approved Data Requests

Inquiries and CSR Summaries

*The YODA Project posts approved proposals once data access has been granted.

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Submitted Data Requests Withdrawn/Not Approved*

The following data requests could not be fulfilled due to patient privacy concerns, data element availability, data security concerns, or lack of research proposal clarity.

YODA Project Protocol Number	PI and Affiliation	Research Proposal	Product(s) of Interest	YODA Project Review and Data Partner Due Diligence Assessment	Project Status
2014-0287	William J. Sandborn, MD; University of California, San Diego	Post hoc analysis of the ACT-1 & ACT-2 trials to simulate individualized dosing regimens using a predictive model	REMICADE	<ul style="list-style-type: none"> YODA Project Review Due Diligence Assessment 	*Request originally approved but subsequently withdrawn: data could not be downloaded as requested
2015-0406	Nicola Schieda, MD FRCP(C); University of Ottawa	Is primary tumor in prostate cancer a reliable target lesion (measurable disease) at contrast-enhanced (CE) CT	ZYTIGA	<ul style="list-style-type: none"> YODA Project Review Due Diligence Assessment 	*Request originally approved but subsequently withdrawn: CT scans not available due to patient privacy concerns
2015-0501	Anthony Otley, MD, MSc;	Towards An Improved Pediatric Crohn's Disease	REMICADE	<ul style="list-style-type: none"> YODA Project Review 	*Request originally

*The YODA Project posts withdrawn/unapproved proposals at the time the decision is made.

Experience so far ...

- **Of 403 trials currently listed on the site, 71% have thus far been requested (13 available only since March 2020)**
- **Of 164 applications submitted, 145 (89%) approved, 2 (1%) remain under review; 16 (10%) withdrawn/closed**
 - **Usually because data not available/cannot be adequately de-identified**
- **Nearly all require some administrative revision, but 44 (27%) required scientific revision after review for clarity**
- **35 manuscripts have been submitted for publication to peer-reviewed journals, 28 of which have been published**
 - **Thus far, 35% of projects with data access for ≥ 1 year published**

Strengthening Science through Data Sharing

- Numerous studies that might not otherwise have been feasible to pursue, some of which have impacted health policies and guidelines
- Facilitated direct collaborations with original investigators
- Developed efficiencies (J&J now conducts all trials intending to share)
- Replication studies have supported – not undermined – original study
- No instances of patient privacy breaches
- No publications of spurious safety findings that received unwarranted attention or disrupted patient care
- No data have been used for commercial or litigious purposes

Challenges Remain

- **Broadening awareness of data availability**
- **Fostering expertise in using data from clinical trials (*it's complicated*)**
- **Making older trial data available in contemporary formats**
- **Adopt data standards, across sponsors, to enable meta-analyses**
- **Sustainable model that covers the cost of data sharing**
- **Data Use Agreements ...**
- **Establish standards: when should data be available, for how long, how to reward those who share data?**
- **Many large pharma sharing, what about other sponsors?**

SCIENTIFIC DATA

OPEN

Overview and experience of the YODA Project with clinical trial data sharing after 5 years

Joseph S. Ross^{1,2,3,4}, Joanne Waldstreicher⁵, Stephen Bamford⁶, Jesse A. Berlin⁵, Karla Childers⁵, Nihar R. Desai^{4,7}, Ginger Gamble⁴, Cary P. Gross^{1,2,4,8}, Richard Kuntz⁹, Richard Lehman¹⁰, Peter Lins⁵, Sandra A. Morris⁵, Jessica D. Ritchie⁴ & Harlan M. Krumholz^{2,3,4,7}

Received: 28 March 2018

Accepted: 24 October 2018

Published: 27 November 2018

The Yale University Open Data Access (YODA) Project has facilitated access to clinical trial data since 2013. The purpose of this article is to provide an overview of the Project, describe key decisions that were made when establishing data sharing policies, and suggest how our experience and the experiences of our first two data generator partners, Medtronic, Inc. and Johnson & Johnson, can be used to enhance other ongoing or future initiatives.

the **YODA** PROJECT | Forging a unified scientific community

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“Somewhere, something incredible is waiting to be known.”

Carl Sagan

Albert Szent-Györgyi

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<http://yoda.yale.edu>

@YODAProject



@jsross119