Weill Cornell Medicine

Obtaining Electronic Patient Data for Research



Overview

Problem

Approach

Research Computing at Weill Cornell Medicine
Architecture for Research Computing in Health (ARCH)

Examples

Discussion

Problem

Obtaining electronic health record (EHR) data for clinical and translational research is difficult

Repurpose transactions for research

Use one or more tools

Understand strengths and limitations

Obtain approval

Optimal approaches are unknown

Research Informatics can help investigators

Obtain EHR data

Collect novel measures

Integrate data

Approach: Research Computing at Weill Cornell Medicine

Conduct

Scientific Computing

Research Informatics

Research
Administrative
Computing

Information Technology Infrastructure

Prospective Retrospective College-Electronic **FDC** Multi-Research **FHR** wide Data institutional Data integrated Cohort Reporting Capture Repositories **Data Sharing** with EHR (EDC) Discovery Consent WCM-NYP-CUMC Data Sharing **Biobank and Ancillary Omics** Data Core **Data Integration** Compliance & Planning Scientific Computing Clinical Translation



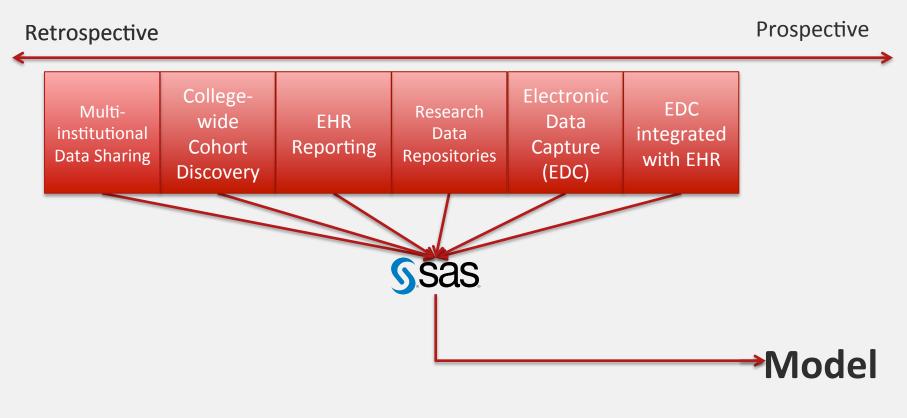
Retrospective Prospective



Data Integration

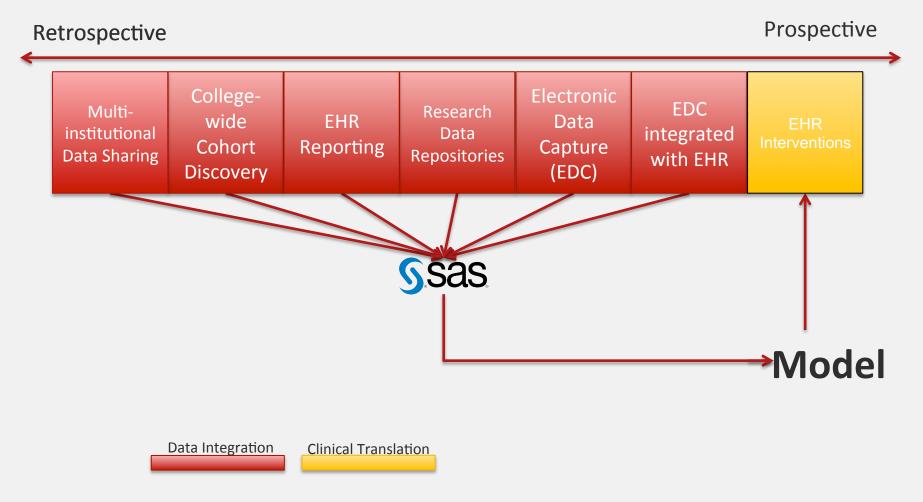
Prospective Retrospective College-Electronic **FDC** Multi-Research wide **FHR** Data institutional Data integrated Cohort Reporting Capture Repositories **Data Sharing** with EHR (EDC) Discovery



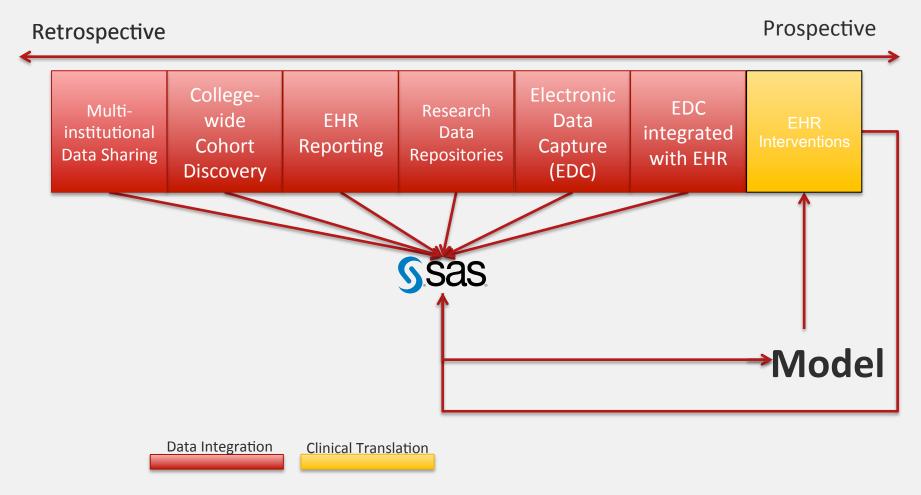














Prospective Retrospective College-Electronic **FDC** Multi-Research wide **EHR** Data institutional Data integrated Cohort Reporting Capture Repositories **Data Sharing** with EHR (EDC) Discovery



POIS or NYP

Prospective Retrospective College-Electronic **FDC** Multi-Research wide **EHR** Data institutional Data integrated Cohort Reporting Capture Repositories **Data Sharing** with EHR (EDC) Discovery **Tripartite Request Assessment Committee (TRAC)** Allscripts



POIS or NYP

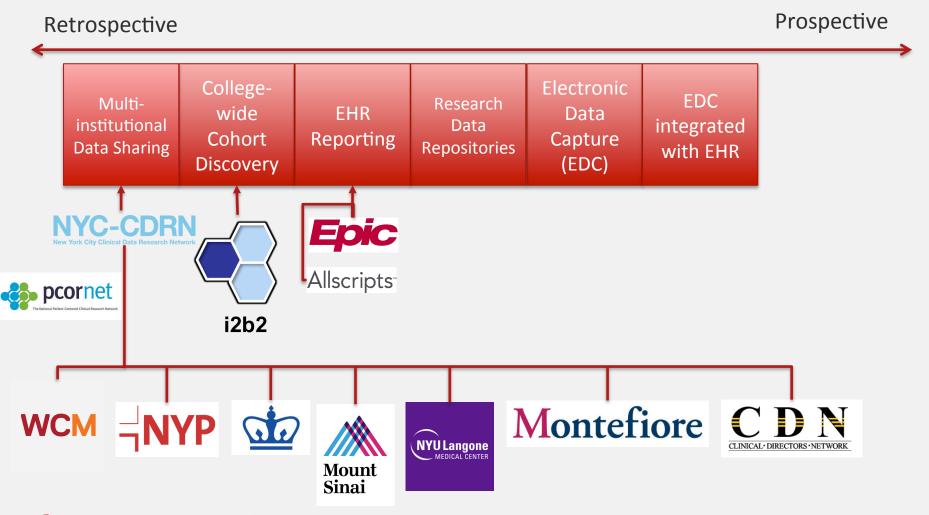
Prospective Retrospective College-Electronic **FDC** Multi-Research wide **EHR** Data institutional Data integrated Cohort Reporting Capture Repositories **Data Sharing** with EHR (EDC) Discovery C-CDRN Allscripts^{**} i2b2



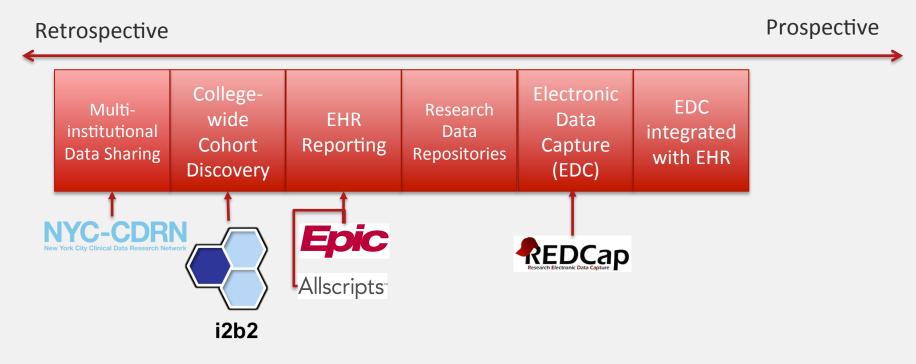
NYGC, HPR, and ITS

ITS

POIS or NYP



14



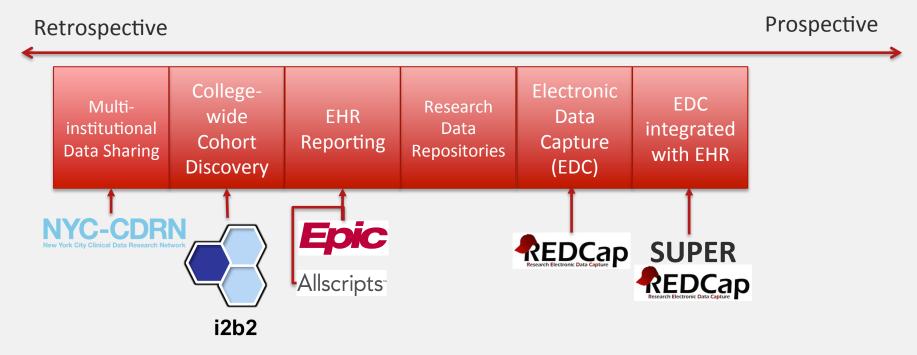


NYGC, HPR, and ITS

ITS

POIS or NYP

CTSC





NYGC, HPR, and ITS

ITS

POIS or NYP

CTSC CTSC and ITS

Retrospective Prospective

College-Electronic **FDC** Multi-Research wide **FHR** Data institutional Data integrated Cohort Reporting Capture Repositories **Data Sharing** with EHR (EDC) Discovery





Retrospective Prospective

College-Electronic **FDC** Multi-Research wide **FHR** Data institutional Data integrated Cohort Reporting Capture Repositories **Data Sharing** with EHR (EDC) Discovery





Prospective Retrospective

College-Multiwide institutional Cohort **Data Sharing** Discovery

FHR Reporting

Research Data Repositories Electronic Data Capture (EDC)

FDC integrated with EHR





Allscripts™

Prospective Retrospective

College-Multiwide institutional Cohort **Data Sharing** Discovery

FHR Reporting

Research Data Repositories Electronic Data Capture (EDC)

FDC integrated with EHR





Allscripts^{**}

CompuRecord

Prospective Retrospective

College-Multiwide institutional Cohort **Data Sharing** Discovery

FHR Reporting

Research Data Repositories Electronic Data Capture (EDC)

FDC integrated with EHR

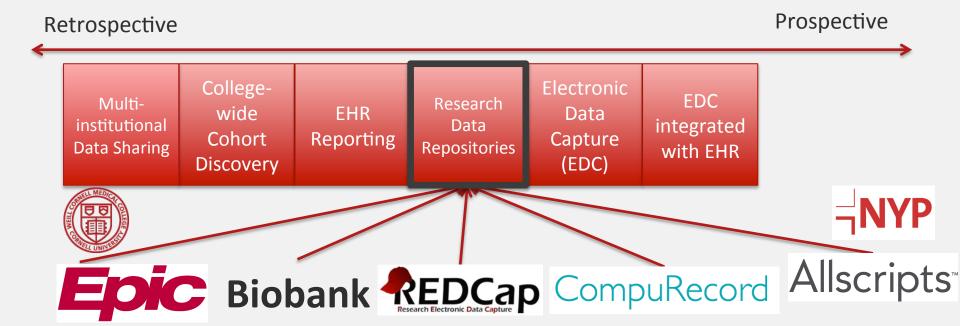




Allscripts^{**}

CompuRecord

Biobank



Disparate Sources Research Data Repositories (RDRs) Epic Allscripts" **Centralized Integration** CompuRecord **Transform Aggregate IProfiler** Other

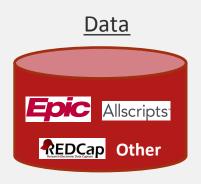
Disparate Sources Research Data Repositories (RDRs) Epic **Anesthesiology** Allscripts **Centralized Integration** CompuRecord **Transform Aggregate**

24

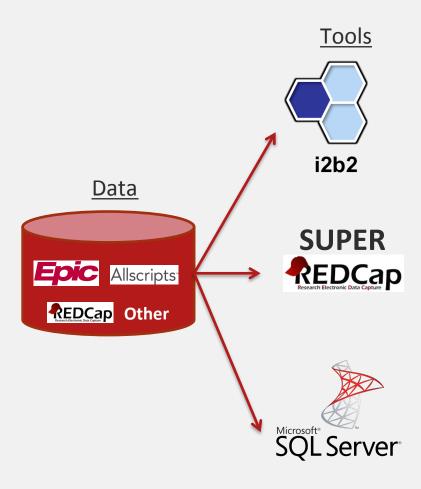
Disparate Sources Research Data Repositories (RDRs) Epic Allscripts **Centralized Integration** CompuRecord Center for **Transform Aggregate Advanced Digestive Care IProfiler**

Weill Cornell Medicine

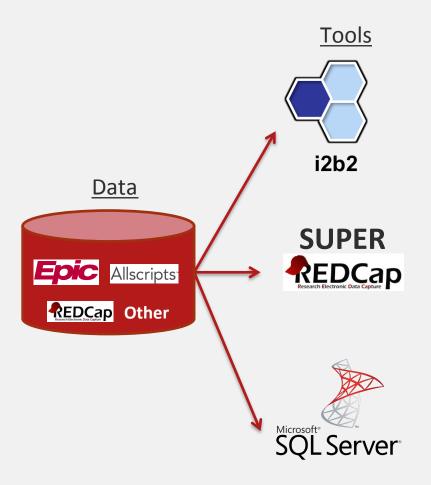
Disparate Sources Research Data Repositories (RDRs) Epic Allscripts** **Centralized Integration** REDCap **Transform Aggregate** Freezer^{PRO} Leukemia **Program**











Workflows

Discovery

Hypothesis generation

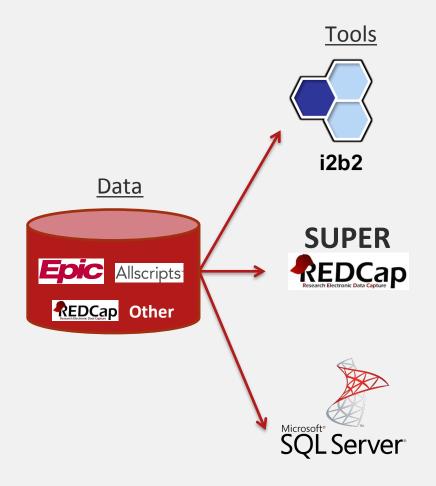
Patient counts

Collection

Capture of novel measures Annotation of existing data

Analysis

Scientific variable definition Hypothesis testing



Workflows

Discovery

Hypothesis generation

Patient counts

Collection

Capture of novel measures Annotation of existing data

Analysis

Scientific variable definition Hypothesis testing

Examples

Identify patients of interest

Record rare findings from experts

Define rowsand-columns of data set

Discussion

Research Informatics can help investigators

Obtain EHR data

Collect novel research data

Integrate data

ARCH matches investigators with right tools and services with respect to

Study design

Data sources

Cost

Acknowledgments

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Questions

Access and inquiries

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ARCH inquiries: arch-support@med.cornell.edu

Web resources

ARCH: http://arch.weill.cornell.edu NYC-CDRN: http://www.nyccdrn.org

TRAC inpatient data: https://webapps.nyp.org/trac

Epic outpatient data: https://sharepoint.weill.cornell.edu/sites/pois/POISRequests/

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