Health Care Data Sets & Information Support Services at the UMHS

March 30, 2016
Andrew Rosenberg- CIO UMHS
Mary Hill – Director COMPASS
Erin Kaleba – Director Data Office/RDW
AGENDA

• UMHS data landscape overview
• Comprehensive Analytics Services & Support (COMPASS)
• Data Office for Clinical and Translational Research (DOCTR)
• Privacy, security and compliance
• Data available: UMHS Data Set Catalog
UMHS Data Landscape

There are numerous data sets available for use at the Health System.

Some data sets that reach into the early 2000’s, so there are rich sources of longitudinal data to use.

We are working to make these more visible and accessible, where appropriate.

We have recently begun to publicize external data sets that can be shared within certain constituencies (e.g. the Institute for Health Policy Innovation).
Health Care Data Complexity

Patient care data is complex.

- Inconsistent uses and variable element definitions or interpretations.
- Patient care methodologies change constantly and how physicians capture data can be individualistic.
- Standards even change, as was seen recently with the International Classification of Diseases move from ICD-9 to ICD-10.
The UMHS Enterprise Analytics Roadmap and Plan (COMPASS)

**Enabling Pillars**

- **9 Use Cases**
- **54 User-Informed Scenarios**
- **Federated Analytics Architecture**
- **Total Cost of Ownership**
- **Federated Enterprise Data Governance**
- **Over 50 Enterprise Analytics Recommended Projects**

The Roadmap effort was led by

- **Dr. Andrew Rosenberg**, UMHS Chief Medical Information Officer;
- **Ted Hanss**, CIO of the U-M Medical School
- **Sue Schade**, CIO of the U-M Hospitals and Health Centers.
- **A Faculty Advisory Committee** including diverse academic leadership from various UMHS educational, clinical, research, interdisciplinary, administrative, and other areas.
Health System Analytics Organization Vision & the COMPASS Support Model

Data Analytics Support
- Business Intelligence and Analytics
- Dashboard Development Support
- Data Concierge Service
- Report Development Support
- Connect to Data Science Support
- Connect to Statistical Analysis Support

Data Governance and Metadata
- Data Governance Framework
- API Governance
- Data Concierge Service
- Conceptual Data Models
- Logical Data Models
- Reference Data and Standards
- Master Data Management
- Data Quality Framework
- Data Set Catalog
- Report Catalog
- Information Management Glossary

Data Management Operations
- Data Storage and Operations
- Physical Models and Data Warehousing
- Data Security and Access Management
- Data Integration and ETL Services
- API Manager Infrastructure
- Report/Dashboard Provisioning

Compass Collaboration
Data Office for Clinical and Translational Research

Part of the UMMS Office of Research and the Medical School’s Strategic Research Initiative, the Data Office offers a menu of resources to assist U-M researchers with compliant, secure access to patient health data. From using self-service tools such as Data Direct to tap into repositories of 3.8+ million patients, to tailored requests involving the expert consultants, to assistance navigating the many data resources here at the U-M, the Data Office can help you find the patient data you need for your research.

- **Self-Serve Data Tools**: Support your new funding proposal, inform study design, and craft limited patient data searches. *Free.*
- **Custom Data Request**: Complex data pull that self-serve tools cannot address. *Fee for service.*
- **Data Consultation**: Consultation tailored to your needs and a deep dive into all patient health data resources available. *Free.*
- **Data Sharing Agreement**: Assure privacy and security safeguards are in place when sharing patient health data with external collaborators.

We host quarterly presentations on accessing clinical data for research. Please consider inviting us to present for your department meetings. *Contact us.*

https://medicine.umich.edu/medschool/research/office-research/data-office-clinical-and-translational-research
Health Care

Providing patient care, conducting medical research and administering a large scale health system give rise to many legislative and regulatory compliance obligations. Due to its complexity, the U-M Health System (UMHS) has its own dedicated UMHS Compliance Office that oversees a full compliance program. However, there is considerable cross-over between UMHS and the wider U-M campus: for instance, Medical and Nursing School personnel perform both clinical and campus roles, and non-UMHS faculty, staff and students may interact with U-M’s clinical function through their research and study. This site is intended to help connect such people with the relevant requirements and experts.

Responsibilities for health care compliance

- All faculty, staff, students, volunteers, scholars and trainees who work in any capacity in the UMHS (including as observers) are considered part of the UMHS workforce, and are responsible for ensuring compliance with relevant laws, and abiding by the UMHS Code of Conduct. This applies equally to U-M faculty, staff and students who normally work and study outside the UMHS, but who interact with the UMHS in the course of their research, work or study (even on a temporary visiting basis, and even if only as observers).
- All faculty, staff, students, volunteers, scholars and trainees have a duty to report any known or suspected violation of the law or UMHS Code of Conduct by the UMHS workforce.
- The Executive Vice-President for Medical Affairs is the chief executive officer of the UMHS, and has ultimate responsibility for compliance by U-M with all laws and regulations related to the provision of health care. (Regents Bylaw 2.06)
- The UMHS Compliance Office (viewable on U-M networks only; or see this external page) oversees compliance by UMHS with all laws and regulations related to its research, education and health care missions. The UMHS Compliance Committee has direct oversight responsibility for UMHS compliance activities and assists the UMHS in fulfilling its legal obligations.

http://compliance.umich.edu/healthcare/
The UMHS Data Set Catalog is a listing of data sets available to various constituents within the University, along with associated metadata that describes what each data set contains, how it can be accessed, who its stakeholders are, and what its history has been.

https://datasetcatalog.med.umich.edu/
Information Contained in the Data Set Catalog

For each data set listed, the following information is detailed:

• Summary, including data asset type, high-level data model, and PHI indicator
• Stakeholders, including Data Manager, Data Steward, publisher, and collaborators
• Access, including qualifications required for access, access mechanism, access technical protocols, and terms of use
• Composition, including subject area coverage, data element definitions, system of record, source(s), and other notes
• History, including initial create date, last modified date, update schedule, and retention schedule
Data Set Catalog

20 datasets found for "procedure"

PROCEDURES subject area - Research Data Warehouse
Procedures is one subject area of data captured within the Research Data Warehouse (RDW). The Procedures subject area contains Facility/Hospital codes (ICD-9) and professional...

Operating Room (OR) - Health System Data Warehouse
The OR subject area of the HSDW contains operating room data about supply usage cost and charges, time, and Procedure and Case level details for all University of Michigan...

MedPAR Research Identifiable File (RIF) - Centers for Medicare and Medicaid S...
Data Model, Data Dictionaries,
Information Management Glossary
**UM 30 Day Primary Care Flu DX Trend by Age Group (CRYSTAL)**

**Description**
The daily 30 Day Primary Care (PC) Flu DX Trend by Age Group report is intended for the Primary Care Clinics. The report displays visit counts of patients who have had a DX of flu within the past rolling 30 days by specific age group. The first page of the report includes a graph for all PC clinics and a summary cross tab with detail. Each individual page thereafter, displays a cross tab for each Department/VCU. This report includes Sunday and Holiday dates. Categories for age groups include 0-4, 5-24, 25-49, 50-64 and 65+. The diagnosis for flu is based upon ICD-9 and ICD-10 coding. ICD-10 codes will not be in effect until Oct. 2014.

**Report Type**
Outpatient

**Extraction/Analytics Tool**
Epic-Crystal

**Report Group**
UM AMBULATORY - USER

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**UM Urology Encounter Closure (CRYSTAL)**

**Description**
Urology Encounter Closures Report

**Report Type**
Outpatient

**Extraction/Analytics Tool**
Epic-Crystal
Questions?
<table>
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<tr>
<th>Sample Data Set Listing</th>
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<tbody>
<tr>
<td><strong>Patient Summary List (HSDW)</strong></td>
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<tr>
<td><strong>Operating Room (HSDW)</strong></td>
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<td><strong>Nursing (RDW)</strong></td>
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## SAMPLE Data Set Listing

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<tr>
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<tbody>
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<td><strong>Laboratory (RDW)</strong></td>
<td>Laboratory is one subject area of data captured within the Research Data Warehouse (RDW). The Laboratory subject area contains real-time pathology orders and results. The RDW is a physical SQL-based warehouse combining data from multiple sources with the primary purpose of supporting clinician researchers with self-service capabilities.</td>
<td><a href="https://datasetcatalog.med.umich.edu/dataset/laboratory_subject_area__research_data_warehouse">https://datasetcatalog.med.umich.edu/dataset/laboratory_subject_area__research_data_warehouse</a></td>
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<td><strong>Publications (UMMS)</strong></td>
<td>The Publications dataset is a curated faculty enrichment tool that matches UM Medical School and several other UM school faculty with their publications. It includes data on subject matter, authors, and organizations associated with publications. This dataset is used internally for promotion and tenure reviews, in support of grant applications, and as a tool for understanding the research enterprise through publications. The Publications dataset is public however access must be requested through the medical school.</td>
<td><a href="https://datasetcatalog.med.umich.edu/dataset/publications__umms_business_data_warehouse">https://datasetcatalog.med.umich.edu/dataset/publications__umms_business_data_warehouse</a></td>
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<td><strong>Health Care Cost Institute (HCCI)</strong></td>
<td>HCCI currently holds the largest collection of longitudinal health care claims data devoted to public reporting and research. HCCI's multi-year, HIPAA-compliant dataset includes the health care claims of 50 million individual-insureds, group-insureds, and Medicare Advantage insureds per year. This represents more than $1 trillion of health care spending, over 5,000 hospitals, and 1 million different medical service providers. These data, contributed by four large national insurers, consist of de-identified medical claims with the actual amounts paid. HCCI datasets are de-identified in full compliance with HIPAA regulations.</td>
<td><a href="https://datasetcatalog.med.umich.edu/dataset/health_care_cost_institute_hcci">https://datasetcatalog.med.umich.edu/dataset/health_care_cost_institute_hcci</a></td>
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<td><strong>American Hospital Association Annual Survey</strong></td>
<td>The AHA annual survey is the most comprehensive and authoritative source on U.S. hospitals, and their associated characteristics. Although the dataset can be used independently for studies of hospitals, many health care researchers link these data to other administrative or medical datasets, such as Medicare, Medicaid, and state or national inpatient datasets. Such linkages permit the analysis of patterns of practice and healthcare outcomes by types of hospitals. Almost 900 variables are present that permit categorization of hospitals based on size, ownership (for-profit, not-for-profit, government, system, etc), teaching status, and the presence of many facilities and services. <a href="https://datasetcatalog.med.umich.edu/dataset/american_hospital_association_annual_survey">https://datasetcatalog.med.umich.edu/dataset/american_hospital_association_annual_survey</a></td>
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<td><strong>Proposal Management – eResearch (UM)</strong></td>
<td>The eResearch Proposal Management data set contains administrative and financial data on proposals and awards processed by the Office of Research &amp; Sponsored Projects. All proposals and awards are keyword coded, enabling searches on the sponsored activities of the faculty. eResearch is the University of Michigan's site for electronic research administration. eResearch data can be obtained from user-defined ad hoc queries. <a href="https://datasetcatalog.med.umich.edu/dataset/proposal_management__eresearch__um_data_warehouse">https://datasetcatalog.med.umich.edu/dataset/proposal_management__eresearch__um_data_warehouse</a></td>
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<td><strong>UM Hospital Tumor Registry – Cancer Registry</strong></td>
<td>Curated data-set containing structured data on inpatients and outpatients diagnosed or treated for malignant tumors and some benign CNS tumors at the University of Michigan Hospital. Collected in Metriq (specialized application). Data includes: demographic information, tumor characterization, treatment information, and outcomes (yearly follow-up for life). All eligible cases first seen at UM Hospital after 1/1/1995 have complete records and incomplete data is available for some cases seen before 1995. <a href="https://datasetcatalog.med.umich.edu/dataset/um_hospital_tumor_registry__cancer_registry">https://datasetcatalog.med.umich.edu/dataset/um_hospital_tumor_registry__cancer_registry</a></td>
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