

Epic Discussion with CPI

**Accelerating the role of human health
data in interdisciplinary Research**

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Digital Health

ATM | TEXAS A&M UNIVERSITY
HEALTH

What is Digital Health?

The field of knowledge and practice associated with the development and use of digital technologies to improve the maintenance and restoration of physical, mental, and social well-being.

What is Digital Health at Texas A&M?

A Digital Health Initiative (DHI) influenced by a Digital Health Organization (DHO) that aims to unify and amplify Digital Health research, services, and academics.

Digital Health Organization

Our Mission

To **create, unify, and amplify** digital health capabilities (processes, systems, tools, and technologies) that drive **research, service, and academics** by teaming up and collaborating with both industry partners and faculty, staff, and students across Texas A&M University and Texas A&M Health units (Institutes, Centers, and Schools)



Processes, Systems, Tools, Technologies

Examples:

- AI
 - Gen AI
 - Machine Learning (ML)
- Big Data
 - Federated, Marketplace
- Analytics
 - ML, Modern BI
- UX – All Roles
 - Obtainability
 - Familiarity
 - Utility
 - Credibility

Data Marketplace

Texas A&M Data Marketplace

<https://tamu.app.data.world>



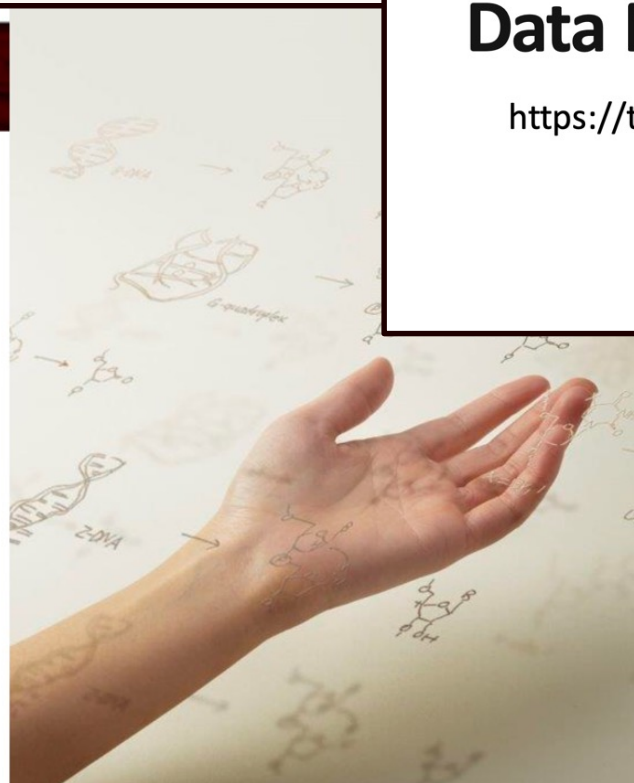
Imagine a world....

...where researchers can continually find like-minded colleagues within and beyond their institution.

...where collaborators can quickly discover potential data sources to augment their research and securely share this data with as many or as few people as they desire.

...where those with data to contribute for analysis have a one-stop place to 'advertise.'

...where collaboration is rewarded by the entire research ecosystem (e.g. grants, expedition of publications, career advancement).



**Nationwide summit with other
Tier 1 academic institutions
being planned for 1H2025**

What is an EHR?

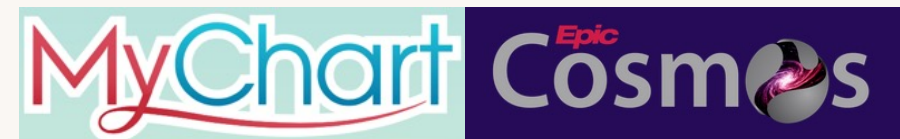
Electronic Health Record:



A digital representation of the entire history of the physical, mental, and social characteristics of humans relating to clinical interactions, treatments and their outcomes, self-assessment reports, and other emerging insights suitable for enabling world class, collaborative research

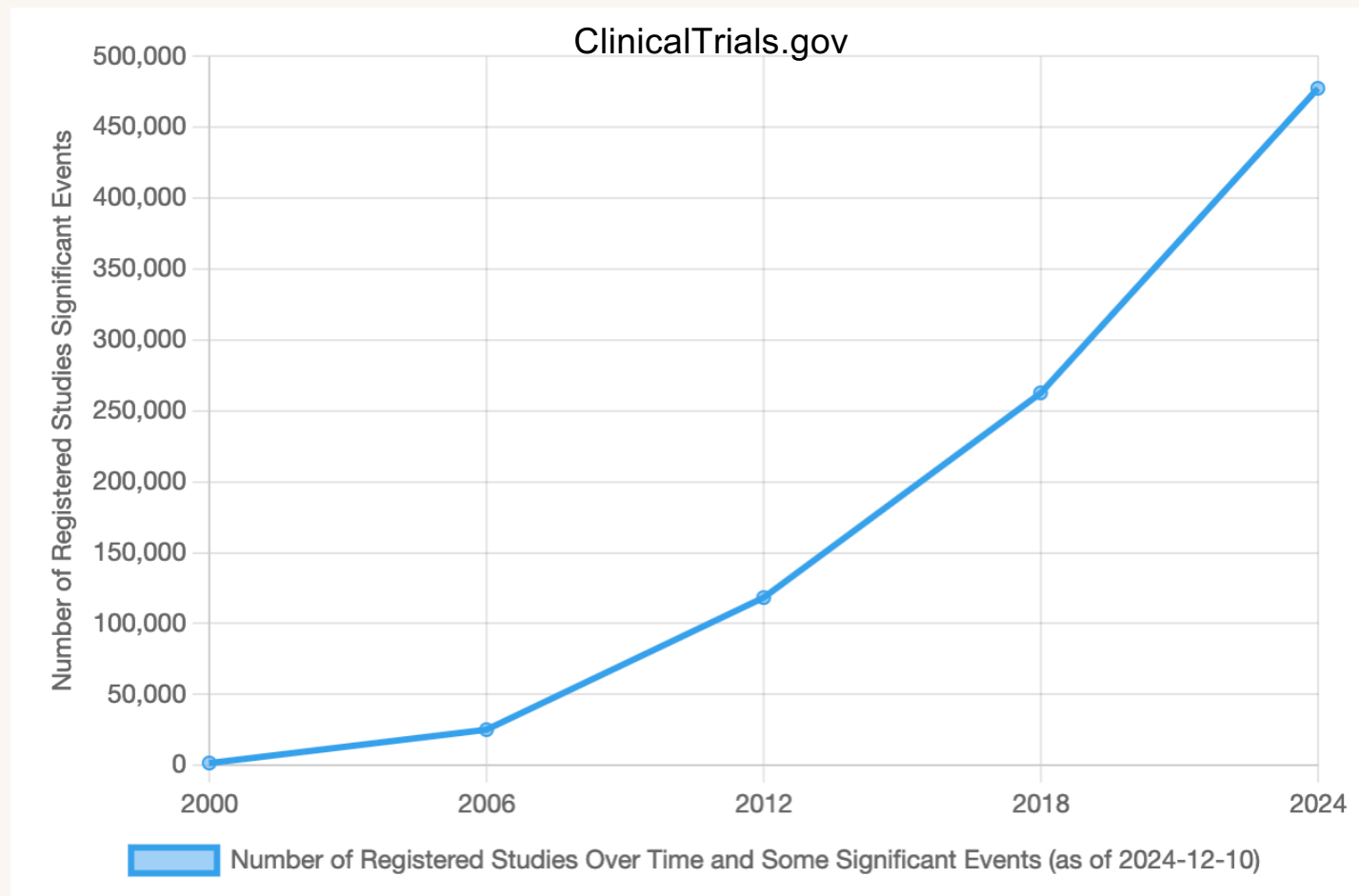
EHR Re-platform (eCW -> Epic)

- **Goals:**
 - **Enable research collaboration with Tier 1 academic institutions across the nation**
 - Improve care coordination with local, regional and statewide hospital systems
 - Ensure academic excellence for all students to be trained on an EHR platform that is most likely to be encountered in employment
- **Scope of Deployment:**
 - Phase 1: TAMU: Medicine, Nursing, Dentistry, Pharmacy, Public Health, EnMed, UHS, TEES, Agrilife, ...
 - Phase 2-N: TAMUS (Tarleton State, Prairie View A&M, TAM-SA, TAMU-Int, TAMU-CC, TAMU-Commerce, ...)
- **Phase 1 Target:**
 - Go Live with Epic Garden Plot: May 2025
 - Sunset eCW: Sept 2025
- **Sponsors:**
 - TAMU HSC, TAMU IT, TAMU Research, TAMUS



RESEARCH

Human Subject Research Growth



Research Leadership Demands Epic

Every top 20 NIH awardee has Epic

ORGANIZATION	CITY	ST	FUNDING
Johns Hopkins University	Baltimore	MD	\$582,000,000
University of California, San Francisco	San Francisco	CA	\$526,000,000
University of Michigan	Ann Arbor	MI	\$513,000,000
University of Pennsylvania	Philadelphia	PA	\$446,000,000
University of Pittsburgh	Pittsburgh	PA	\$440,000,000
Yale University	New Haven	CT	\$420,000,000
Washington University	Saint Louis	MO	\$408,000,000
Massachusetts General Hospital	Boston	MA	\$404,000,000
Stanford University	Stanford	CA	\$403,000,000
Columbia University	New York	NY	\$391,000,000
University of California, San Diego	La Jolla	CA	\$371,000,000
University of North Carolina	Chapel Hill	NC	\$357,000,000
University of California, Los Angeles	Los Angeles	CA	\$355,000,000
University of Washington	Seattle	WA	\$354,000,000
Duke University	Durham	NC	\$337,000,000
Vanderbilt University	Nashville	TN	\$316,000,000
Emory University	Atlanta	GA	\$303,000,000
Mount Sinai	New York	NY	\$298,000,000
Brigham and Women's Hospital	Boston	MA	\$278,000,000
University of Wisconsin	Madison	WI	\$260,000,000

- Texas

- Driscoll Children's Hospital
- CHI St. Joseph's Hospital – College Station / Bryan
- Baylor Scott and White Health
- UT Health Science Center Houston*
- UT Southwestern Medical Center*
- UT MD Anderson Cancer Center*
- UTMB Health*
- Baylor College of Medicine*
- Houston Methodist
- Memorial Hermann Hospital System
- Parkland Health
- Cook Children's Healthcare System
- University Health — San Antonio

- National

- University of California, San Francisco*
- University of Michigan*
- University of North Carolina*
- University of Pennsylvania*
- University of Pittsburgh*
- Vanderbilt University*
- Washington University*
- Columbia University*
- Duke University Health System*
- Johns Hopkins University*
- Stanford University Medicine*
- University of California, Los Angeles*
- University of California, San Diego*
- Stanford University Medicine*
- University of California, Los Angeles*
- University of California, San Diego*
- Massachusetts General Hospital (Harvard*)
- UC Davis Health*
- UHealth — Colorado*
- UCLA Health*
- UPMC Health*
- WVU Medicine*
- Mercy Medical Center (Iowa*)
- NYU Langone Health*

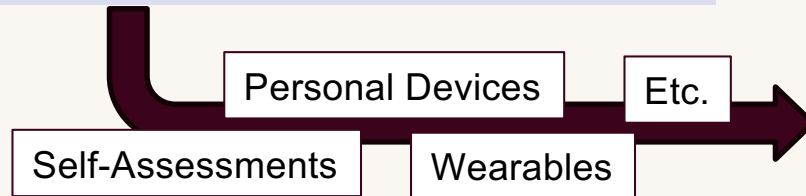
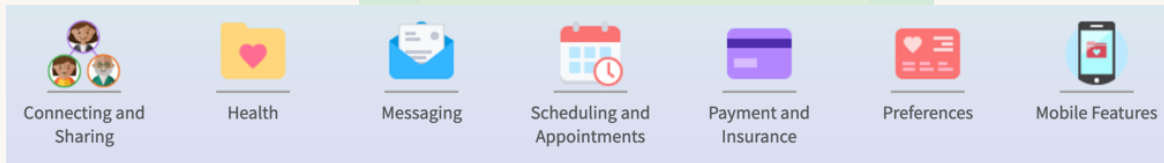
Cross TAMU/TAMUS benefits

Cosmos; MyChart
GenAI Pre-integrated

- ⇒ More submissions
- ⇒ Better quality submissions
- ⇒ Better insights
- ⇒ More awards

**Academic Medical Entities/Institutions*

Epic eco-system



 284 Million Patients	 14.4 Billion Encounters	 6.9 Billion Face-to-Face Visits
 36.9K Clinics	 1,614 Hospitals	
 308K Beds	 389K Physicians	

Epic Cosmos - Interdisciplinary Impact (examples)

Economic Impact: Health & Productivity

Study Focus: Impact of chronic diseases (e.g., diabetes, heart disease) on workforce productivity and absenteeism.

Impact: Provided insights on the **economic burden** of health issues

Social Determinants of Health in Housing Policy

Study Focus: Link between health outcomes and factors like housing conditions and socioeconomic status.

Impact: Informed **housing policies** by connecting **health disparities** with **neighborhood conditions** and housing instability.

Environmental Policy: Health & Air Quality

Study Focus: Relationship between air pollution and health outcomes (respiratory, cardiovascular conditions).

Impact: Influenced **environmental policy** to improve air quality standards and reduce health risks from pollution.

Consumer Behavior in the Wellness Industry

Study Focus: Health conditions and their influence on consumer behaviors (fitness trackers, wellness apps).

Impact: Enabled **personalized marketing** and tailored wellness products for consumers with specific health needs.

Education & Health Outcomes Research

Study Focus: How chronic illnesses (e.g., asthma, ADHD) affect school attendance and academic performance.

Impact: Led to **policy recommendations** for integrating **health services** into schools and **improving student outcomes**.

Epic MyChart – Interdisciplinary Impact (examples)

Enhancing Patient-Reported Data for Research

Patients track symptoms, medication adherence, and lifestyle habits via MyChart.

Impact: Provides real-time, granular data for **non-health research** on behavior, economic hardship, and social outcomes.

Integration with Social Determinants of Health

MyChart captures demographic data (e.g., income, employment status, living conditions).

Impact: Enables research on the **relationship between social factors** (income, housing) and health outcomes, plus broader societal outcomes like **education** or **economic mobility**.

Behavioral and Lifestyle Insights

MyChart tracks wellness behaviors (exercise, diet, stress).

Impact: Facilitates studies on how **health behaviors** correlate with **workplace productivity, consumer behavior, and financial well-being**.

Consumer Behavior & Personalization in Marketing

MyChart data reveals patient preferences and engagement with healthcare services.

Impact: Businesses use this to create **personalized marketing strategies** or develop **targeted wellness products** based on **health-related needs**.

Enabling Real-Time Data for Societal Studies

MyChart provides **real-time data** from patients on their health status and behaviors.

Impact: Supports studies on the **immediate societal impacts** of health events, such as **pandemics** and their effects on **economic stability** and **social mobility**.

Epic MyChart – Recruiting Humans

Researchers can work with healthcare organizations to embed **research surveys or questionnaires** within the MyChart platform. These surveys are usually designed to gather specific patient-reported data on health behaviors, outcomes, or experiences.

The data from these MyChart users adds significant value to research, as it includes **patient-reported outcomes**, lifestyle data, and other personal health information that can be used for non-health-related studies, in addition to traditional healthcare research.

Summary of Steps for Researchers Using MyChart:

- 1. Collaborate with healthcare organizations** to access de-identified data and engage patients.
- 2. Develop and embed surveys** within MyChart to collect patient-reported data.
- 3. Invite patients to participate** in research studies through secure messaging and digital consent.
- 4. Extract anonymized data** from Epic Cosmos, including clinical and patient-reported data.
- 5. Use MyChart for real-time monitoring** and follow-up for ongoing studies or interventions.

NEXT STEPS

CPI Action(s)

- **Embrace the Data Marketplace**
 - Nationwide summit being planned for Spring with other Tier 1 Institutions
 - Demonstrate TAMU leadership
- **Become familiar with EHR data**
- **Consider how EHR data can amplify, accelerate, and/or transform your research agenda**
- **Contact Digital Health to lend (non-financial) support**