

Health Data Compass (HDC)

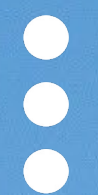
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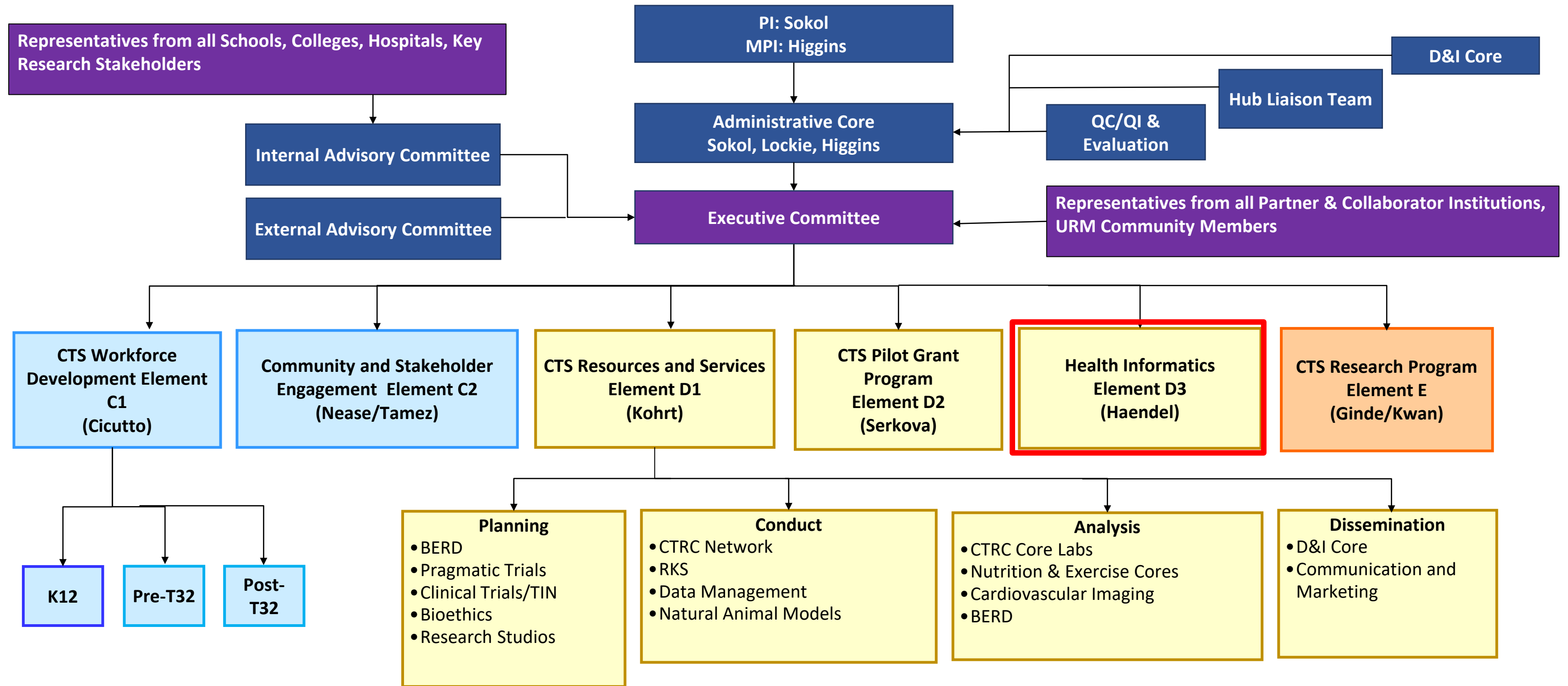


Colorado Clinical and Translational
Sciences Institute (CCTSI)

UNIVERSITY OF COLORADO DENVER | ANSCHUTZ MEDICAL CAMPUS



Integration Across CCTSI



Health Informatics (D3) Strategic Goals

1. Goal: Integrate clinical, biological, administrative, and public health data and deploy robust analytical environments

- Roadblocks addressed: Enhance scientific rigor and reproducibility, Minimize infrastructure roadblocks for conducting CTR

2. Goal: Improve accessibility and interoperability of regional and national data sharing and analytics

- Roadblocks addressed: Minimize infrastructure roadblocks for conducting CTR

3. Goal: Develop, validate, and deploy CDS and clinical trial execution tools

- Roadblocks addressed: Enhance scientific rigor and reproducibility

4. Goal: Expand hands-on translational informatics education for various career stages and disciplines

- Roadblocks addressed: Enhance scientific rigor and reproducibility



Leadership Team & Diversity – Health Data Compass – the Enterprise Research Data Warehouse



Ian Brooks, PhD
Director of HDC

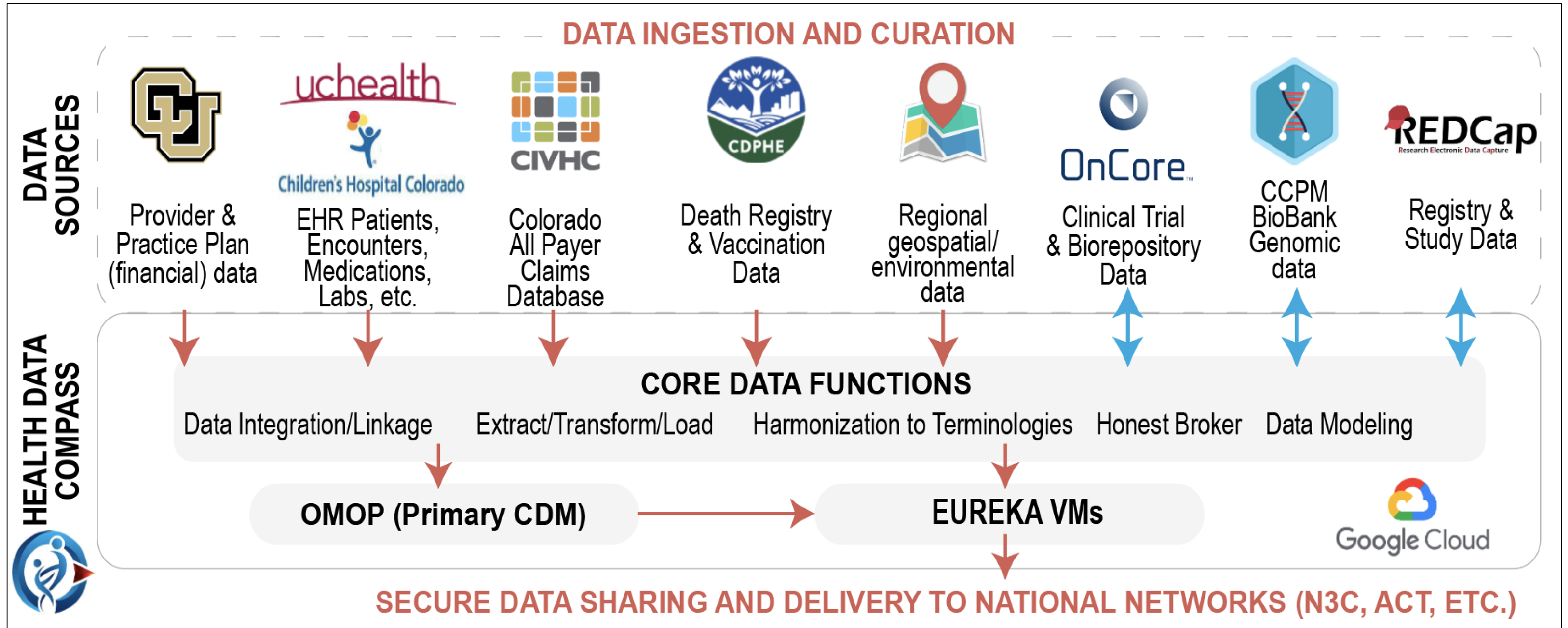


Melissa Haendel, PhD
Through April 15, 2024

Health Data Compass (HDC)
55% female;
19% PhD; 61% Masters;
3% Students; 48% POC



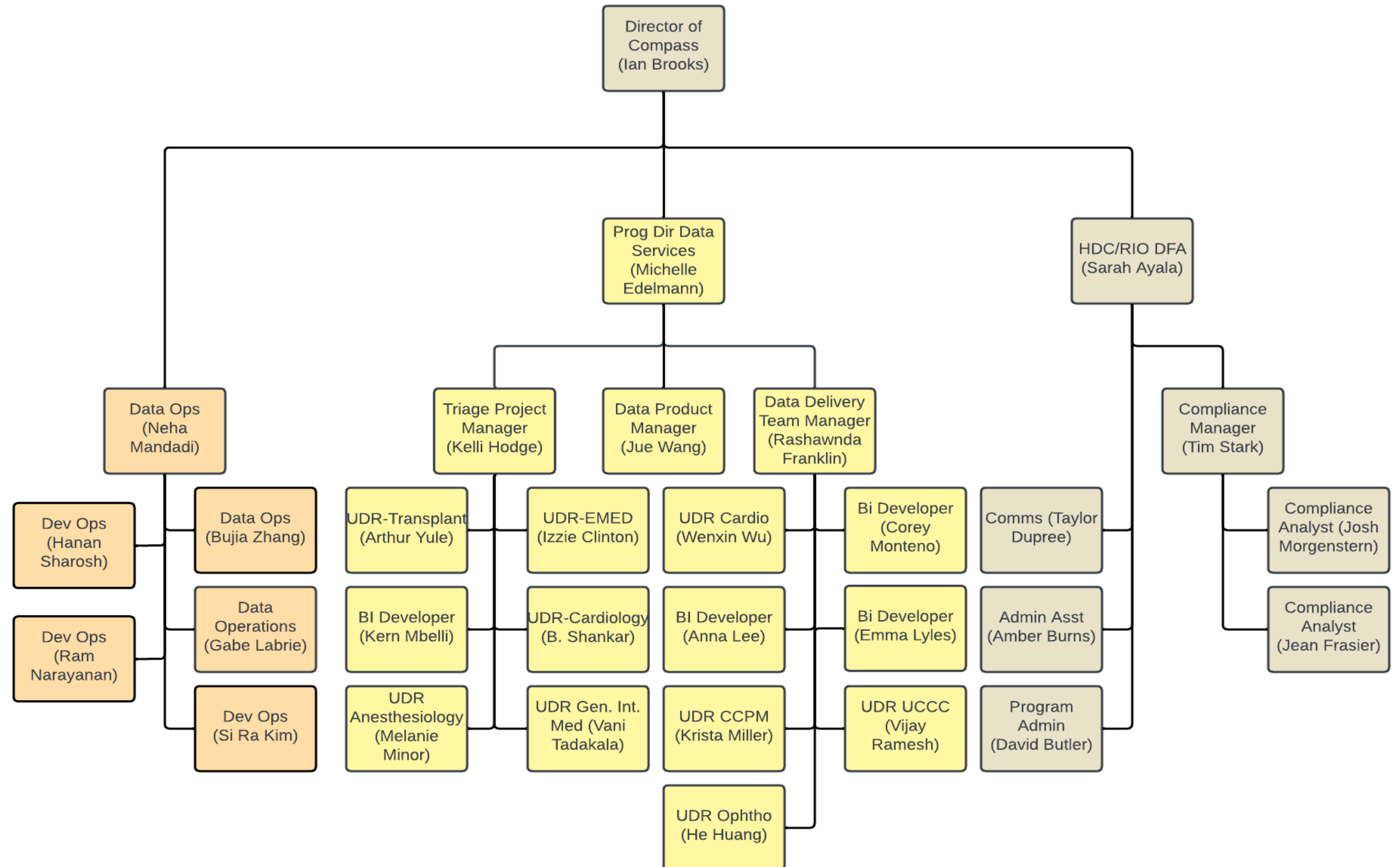
Health Data Compass – Enterprise Data Warehouse



Health Data Compass Team

Health Data Compass is formed of three units:

- **Administration**, which includes security and compliance
- **Data and cloud engineering**
- **Data Services**, which includes data delivery.





CTS Roadblocks to Address

- 1. Enhance scientific rigor and reproducibility**
- 2. Minimize infrastructure roadblocks for conducting CTR**



Year 1 Progress & Impact

• Staffing

- Retrained and reclassified the Compass team. Mandatory Epic and GCP certifications for staff + leadership training for managers. Added new positions.
- Redesigned Data Delivery Team to have a triage arm = cut waiting times by >50%

• Health Data Compass

- **216** HDC data deliveries in 2023; 2,363 deliveries in total
- **48** multi-user EUREKA VMs currently active
- **44** PubMed indexed manuscripts in 2023 (incl our own)
- HDC contributed to **>\$15M NIH funded grants** in FY23/24
- **Data sharing** locally and nationally – N3C, CDC VISION, & MENDS, + TrinetX (**522** projects for **264** users) & Flatiron national registries



Goal 1 Progress & Impact

- **Goal 1.1 Improve data quality and usability**

- Worked with partners in UCHHealth designing a new clinical data warehouse using modern SaaS software. Expect launch in FY25.
- Performed extensive data quality programming with raw data and OMOP mapped data. We have also explored Caboodle schema stability and built a new data archive.

- **Goal 1.2 Expand data resources integrated within HDC**

- Continued our effort to improve geolocation data.
- Launched the Leaf data browser

- **Goal 1.3 Advance our analytic environment**

- Developed and launched our latest Eureka VM (v4), with a newly developed temporary internet access tool, a new operating system, and upgraded user interface.



Goal 2 Progress & Impact

- **Goal 2.1 Promulgate data harmonization and mapping best practices**
 - We supported the development and validation of an OMOP-on-FHIR bulk data transfer service that currently supports data transfer of 2.3M patients for a CDC funded public health surveillance project.
- **Goal 2.2 Share data responsibly**
 - Completed ISO 27001 audit and certification. Compass is compliant with all domestic and international standards for data compliance and IT security.



Year 2 Plans

- Launch new CDW utilizing modern SaaS tools. This will give us near real-time access to data in both Clarity & Caboodle.
- Refine access control infrastructure to enable improved access to data lakes for clinical, image, streaming, notes data. Expand our data lake network.
- Continue to improve Eureka 4 based on user feedback; create permissive environment for Console access; Expand Eureka HPC as a HIPAA compliant campus resource.
- Continue to expand our mapped geolocation, environmental and SDoH data, ensuring conformance to OMOP and FHIR standards.
- PPRL and MPI for clinical and other data. Continue our investment in advancing data security and compliance tools and methods.

