UNIVERSITY OF CALIFORNIA
HEALTH

Transforming Health Data into Actionable Insights that Improve Patient Care, Power Research, and Ignite Innovation

2025-2026 Annual Report
Center for Data-driven Insights and Innovation



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Executive Summary

This past year, the Center for Data-driven Insights and Innovation (CDI2) reached several major milestones. The team implemented significant steps to modernize the University of California Health Data Warehouse (UCHDW), making systemwide analytics faster, more scalable, and more secure. The team also completed its integration of clinical notes from all six UC academic health centers into the UCHDW. Together with the structured data, these notes will provide new opportunities to build on prior success in advancing operational goals, improving patient care, and inspiring new research. Research engagement on CDI2's secure data science environment grew 34% year over year, fueling a surge in publications and cross-campus collaboration. Two new Real-World Evidence partnerships with biopharmaceutical companies generated external revenue for campuses and elevated UC Health's profile as a premier destination for data-driven discovery. CDI2 also continued its work as a policy voice, providing expert guidance to state and federal legislators on the responsible use of artificial intelligence (AI) in healthcare. Taken together, these accomplishments reflect CDI2's continued evolution to keep pace with the demands of a modern health system and advance data-driven care, research, and innovation at scale.

> ***As we build on Atul Butte's legacy, CDI2 is moving into its next chapter with a clear sense of purpose and confidence in what we can accomplish together. In a rapidly changing AI landscape, we are growing our capabilities, strengthening partnerships across UC and beyond, and continually asking how data, AI, and technology can help us improve care and make a meaningful difference for patients. By bringing together the strengths of our people, our data, and AI, we have an opportunity not simply to keep pace with change, but to help shape what comes next—responsibly, collaboratively, and always focused on better outcomes for the people we serve.***



– Cora Han, JD

Chief Health Data Officer, UC Health, and Executive Director, CDI2

FY 2025-2026 Systemwide Impact Dashboard

Data-driven Improvements

Provided key metrics to UC Population Health initiatives to sustain high quality care for patients with chronic disease – with **four key quality measurements showing sustained upward trends**.

Over **$6.5M total cost-of-care savings since 2024** through the UC Population Health Pharmacy biosimilars initiative.

Real-World Insights (RWI) / Innovation

Brought industry revenue to further UC's mission in health by launching *Real-World Insights* service: two pilot studies supported by Gilead and Genentech.

Research Initiatives

80+ articles and presentations derived from UCHDW to date.

Over **500 users** in the research enclave "UCDDP" and growing on average almost 5% every month.

Accessible and Modern AI Platform

CDI2 launched PatientExploreR and Databricks Genie, giving researchers and business partners AI-powered insight tools for UCHDW data.

Transparent and Responsible Data Governance

CDI2 coordinated systemwide responses to federal Requests for Information about AI policy and opportunities for mission-aligned innovation.

CDI2 is fortunate to have the guidance of our Advisory Board, chaired by Albert Duntugan, MHA (Chief Data and Analytics Officer, UCLA), which brings valuable expertise and perspectives to guide our strategic direction.

For a current list of the CDI2 and UCHDW teams, click HERE.

From Data Foundation to Systemwide Asset

Every day, UC provides care to millions of Californians. CDI2 helps to ensure that the insights hidden within the extraordinary breadth of care delivered by UC's academic health centers can be found, trusted, and acted upon by continuing to build and improve its primary data asset, the UCHDW. CDI2 has recently added more capabilities to the UCHDW platform including AI-enabled tools that empower users to explore data that in turn inform targeted solutions. New partnerships with biopharma industry leaders generate funding that flows back to UC campuses, while CDI2's voice in state and federal policy helps set the national standard for responsible health AI. When data works this well, the result is not just better science; it is better care for every Californian who walks through a door at one of UC's health locations.

> ***At its core, CDI2's work is about improving patients' lives. Data and analytics are essential to making health care and research as impactful as possible. That's why CDI2 is empowering clinical teams and researchers across the UC system to translate data into higher-quality, more efficient care and new medical discoveries. This critical strategic capability positions UC to lead the nation in data-driven health care.***



– David Rubin, MD, MSCE
Executive Vice President, UC Health



VALUE

- State-of-the-art, systemwide data assets are **trustworthy, secure, and rapidly advance decisions and solutions** across UC academic health centers
- UC healthcare leaders have **timely access to clear and relevant metrics**, dashboards, and analytics that show goal progress
- Real-World Evidence and AI academic-industry partnerships generate funding and revenue that flow to UC's health locations and **improve translational impact**
- Accessible and modern AI platform **democratizes data-driven innovation**
- **Easy-to-use interfaces** provide a fuller picture of care and drive high-impact research
- Active community of industry partners and UC researchers **increase opportunities for multi-campus funded studies**
- Data are UC controlled and governed in **alignment with UC mission**

CAPABILITIES

- Advanced analytics
- Research cohort discovery tools
- Best practice data governance
- Plain-language querying of curated datasets for operational and business projects
- A secure, cloud-based research and data science enclave (UCDDP)

DATA FOUNDATION

UCHDW

Data from the electronic health records (EHR) of patients across UC Health's owned and operated facilities

Unstructured EHR Data

Searchable clinical notes from patients' EHR

Structured EHR Data

- **11M+** patients' data
- **11.7B+** procedures, labs, medications
- **70K+** genomic test results
- **115K+** tumor staging data

Non-EHR Data

Additional information, including claims data

Transforming Health Data into Actionable Insights

Behind every UC healthcare appointment, diagnosis, and prescription is a data point. CDI2 turns those data points into tools that help clinicians and organization leaders make better decisions, improve patient care and outcomes, and identify systemwide efficiencies.

Improving Access to Care and Patient Experience

CDI2's primary directive has always been to support operational initiatives with systemwide data and analytics to improve timely and equitable care. In the last fiscal year, CDI2 continued to partner with clinical and operational leaders to analyze patient access and appointment data. CDI2's data-driven insights helped leaders design targeted interventions that reduced appointment delays and served to improve patient experiences across UC's health facilities. Specifically, this partnership between CDI2 and Clinical Affairs successfully reduced wait times for new cancer patients, while data-driven collaboration with clinical and operational experts from all UC medical centers has demonstrated expanded access to UC prenatal care for more than 1,500 additional patients over the past three years.

Advancing Care Quality, Safety, and Equity

CDI2 also equips UC healthcare leaders with integrated data and analytics to focus on and align best practices in patient care systemwide. Timely metrics reveal disparities in patient outcomes, giving experts information they need to design and deploy programs to improve outcomes for high-risk populations. These efforts help ensure equitable care delivery across UC, with key programs focused on maternal health equity, chronic disease management, and cancer. Through collaboration with UC Population Health, CDI2 tracked data showing that UC's health locations have sustained steady improvements for patients with diabetes and hypertension, with four key quality measurements showing sustained upward trends.

Reducing Cost and Improving Value

Delivering measurable financial impact while maintaining clinical quality is essential. The UC Population Health Pharmacy team led a systemwide initiative to reduce costs through data-driven prescribing strategies. For example, using biosimilar drugs (medicines that are a highly similar, safe, and effective version of an existing drug that is high cost) helps to save money for everyone. CDI2 partnered to support this effort by providing analytics, data visualization, and outcome tracking to monitor impact and guide decision-making. Together, these efforts improved affordability while maintaining high-quality patient care. The results speak for themselves: biosimilar prescribing rose 120 percent systemwide, saving the UC Self-Funded Health Plans nearly $6.5 million since 2024.

Case Study: UC Population Health Pharmacy Biosimilars Initiative

The Strategy: The UC Population Health Pharmacy team implemented a systemwide approach to increase use of biosimilar medications through coordinated, data-informed prescribing strategies.

The Impact: CDI2 supported the initiative by leveraging systemwide data to visualize performance, track outcomes, and highlight opportunities for optimization. These insights helped reinforce prescribing shifts toward clinically equivalent, lower-cost options, contributing to a 120% increase in biosimilar usage and nearly $6.5M in cost-of-care savings since 2024.

> ***To be a learning healthcare system, the very first thing we must do is measure the care we are delivering today, so that when we go and implement changes, we have a way to get to desired outcomes. Collecting data on a systemwide level helps us benchmark, helps us improve, and helps us know that the care we are delivering today is better.***



– Karandeep Singh, MD, MMSc

Chief Health AI Officer, UCSD Health and Executive Director, Jacobs Center for Health Innovation

Supporting Strategic Communication with Analytics

CDI2 partnered with UC Health Communications to develop a customized dashboard that turns systemwide patient and service volume data into accessible information. By providing timely, reliable access to key utilization metrics, the dashboard supports stakeholder education, issues management, and proactive storytelling. These data help communications leaders clearly demonstrate UC Health's reach and impact, while strengthening the organization's ability to engage policymakers, partners, and the public. In doing so, CDI2 ensures that data generated through care delivery can be translated into meaningful narratives that advance UC Health's mission.

Powering Research and Igniting Innovation

Research Initiatives

Driving Investigator Engagement for High-Impact Research

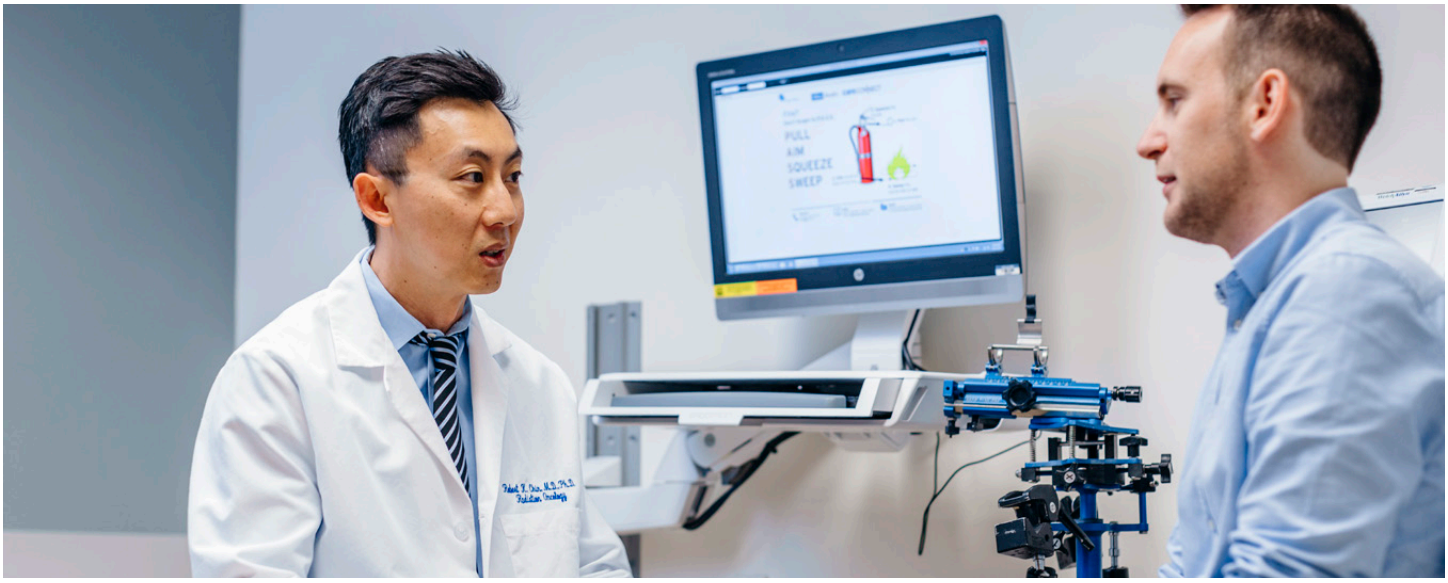
Researcher engagement with the UC Data Discovery Platform (UCDDP) more than tripled since March 2024, reaching over 500 active users and producing 80 published articles and presentations, highlighting the growing value of this resource to the UC research community. In this fiscal year, CDI2 also extended access to the UCDDP to the UC Riverside School of Medicine and the UC Berkeley School of Public Health and School of Optometry.

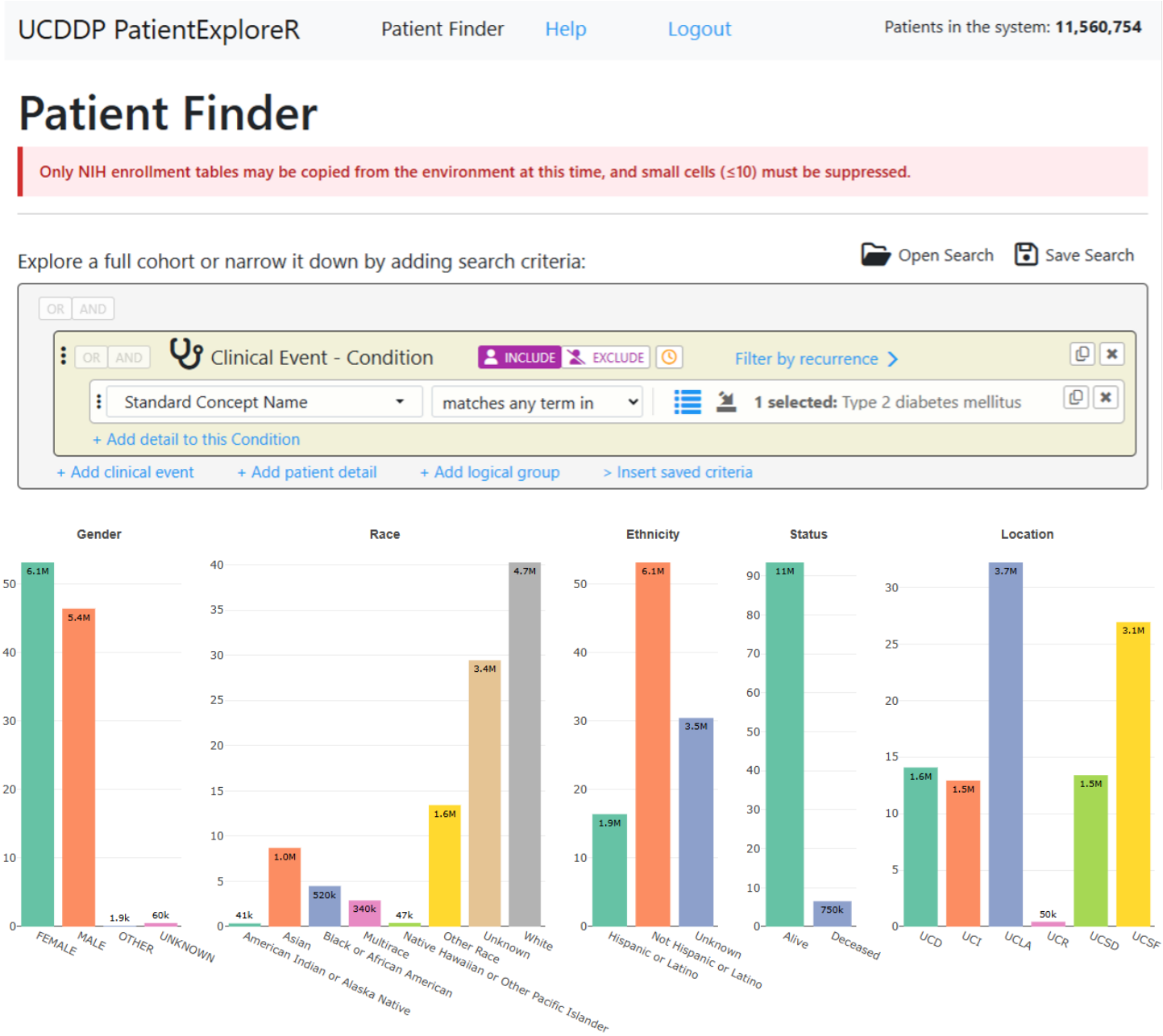
CDI2 has focused on helping the UC research community grow their research over the last four years, facilitating and streamlining access to the UCDDP, building knowledge and awareness of available research resources, including creating tutorials and other educational tools for researchers, and providing researchers with guidance on how to incorporate CDI2 data resources into their grants and publications.

Introducing User-Friendly Tools to Query the Data

A major milestone this year was the launch of UC PatientExploreR, a tool that lets researchers explore clinical data, select patient groups, and build clear visual summaries of their findings. PatientExploreR launches in the UCDDP, allowing users to dig into real data right away, without needing to write code to develop queries and build cohorts.

To help users get the most out of these tools, CDI2 hosts monthly office hours for both new and returning users. Researchers also have access to a Frequently Asked Questions resource, as well as fact sheets and tutorials for the UC Data Discovery Platform and the UC PatientExploreR tool. A data dictionary dashboard is also available for those users working on the platform.





Publication Highlight

Researchers at UCSF, UC Berkeley, and UCOP analyzed real-world data to identify factors associated with CAR-T therapy receipt among patients with multiple myeloma. They found that treatment location and patient-reported race were associated with differences in CAR-T utilization, even after accounting for disease severity and insurance status. GPT-4 analysis of clinical notes revealed potentially eligible patients who had no documented discussion of CAR-T therapy, highlighting an important opportunity to improve equitable access to advanced therapies.

Building on work that was previously described in CDI2's 2024 Annual Report, researchers at UCSF, with collaborators at UCLA, UCSD, and UCI, developed a machine learning model on data from over 200,000 patients to classify interstitial lung disease (ILD), which has historically proven challenging to study in large electronic databases, due to a lack of reliable markers for the disease. The model consistently outperformed traditional rule-based methods across multiple UC academic health centers, demonstrating strong accuracy and generalizability. This work provides a scalable approach for improving patient identification in ILD epidemiological research and clinical trial recruitment.

Systemwide Clinical Study Recruitment Service

Building on the success of the Systemwide Clinical Study Participant Recruitment Pilot, CDI2 expanded approved research use of the UC Health Data Warehouse (UCHDW) to support prospective participant recruitment across the UC clinical trial locations. This service enables researchers to efficiently select diverse patient populations using clinical data. By providing secure access to recruitment-ready contact information, CDI2 helps accelerate study enrollment, broaden representation, and strengthen research impact across California.

External Partnerships and Projects

Activating Real-World Data Partnerships for Innovative Solutions

CDI2's External Partnerships and Projects team continues their important work to activate collaborative relationships across UC's health locations and with biopharmaceutical industry partners. More than creating new revenue streams through products and services, CDI2's attention and effort to foster these partnerships has led to a thriving academic-industry community. This community convenes together during the year to leverage the responsible use of real-world data towards making discoveries that help improve patient outcomes.

Real-World Insights Takes Flight

This year, CDI2 launched UC Real-World Insights (UCRWI), a first-of-its-kind model for academic-industry partnerships. UCRWI is a paid service in which CDI2 generates reports for biopharmaceutical leaders, providing clinically informed insights drawn from over 11 million patients' data in the UCHDW. In its first year, UCRWI is piloting two studies with biopharma companies Gilead and Genentech. These collaborations generate revenue while keeping health data secure and mission-aligned.

> ***The RWE Collaborative brings together expertise and excellence across UC, creating opportunities to answer important real-world questions at a scale that would be difficult for any single campus to achieve alone.***



– Dr. Liang Zhao, PhD, MAS, MBA

Professor, Department of Bioengineering and Therapeutic Sciences, UCSF

Leading and Expanding the Real-World Evidence Community

The fourth annual UC Health – CDI2 Data Conference brought together clinicians, researchers, data scientists, and patient advocates from UC and the community under one theme: using data and AI to improve care. The conference reflected a shared belief that healthcare must keep evolving to meet new challenges, and that data and innovation are key tools for making that happen. Ysabel Duron, founder of The Latino Cancer Institute, put it plainly: real understanding of data starts with listening to the people behind it. That spirit carried through every session. A key message from clinicians was that data can close the gap between what happens in research labs and what happens with real patients in the clinic every day. Together, the conversations pointed to a simple but powerful idea: when healthcare systems measure what they are doing, share what they learn, and listen to the people they serve, they can deliver care that keeps getting better.

Aligning Academia and Industry to Fund Research: Merck

CDI2 helps researchers across UC identify industry partners, secure external funding, and launch collaborative research projects. One example is CDI2's work with Merck, which has supported multi-campus efforts to apply AI and real-world data to important clinical challenges.

A Merck-funded collaboration between UC Irvine and UC San Francisco advanced AI-enabled analysis of electronic health record data to study Post-Acute Sequelae of COVID-19 (PASC, or "Long COVID"), resulting in abstracts accepted by the American Public Health Association (APHA) and the American Medical Informatics Association (AMIA), with a manuscript under review for publication. Building on this momentum, UC San Francisco received a $387,000 Merck award to evaluate an agent-based large language model framework for automating lung cancer data abstraction from electronic health records.











Scan the QR code to watch the 2026 conference video

> ***It is important to bring diverse voices to the table to have diverse outcomes. To be able to understand from each person's lived experience, understand what external factors they see that contribute to their selves, their family or their communities' health challenges, that is when you begin to really understand and deeply comprehend the data, giving you a full picture so you can treat patients with precision.***



– Ysabel Duron

Founder and President, The Latino Cancer Institute





Earning Trust Through Responsible Health Data Governance

Guiding Responsible Health Data Governance

Getting data governance right is not optional; it is the foundation that makes all data use trustworthy. UC Health's Data Sharing Guidelines, developed by a systemwide task force led by CDI2, provide a consistent, transparent process for evaluating proposed data sharing with parties outside UC, balancing opportunities for research and innovation with the protection of patient privacy. These guidelines ensure that higher-risk collaborations receive appropriate local and systemwide oversight.

CDI2's work is grounded in and guided by this governance framework. As CDI2 develops services such as Real-World Insights for industry collaborators, strong data governance ensures that valuable health data can be used to advance research and improve care while upholding UC's commitment to responsible stewardship.

Safeguarding Patient Trust
To balance healthcare advancement with patient privacy, UC relies on a two-tiered system of Health Data Oversight Committees (HDOCs). Established by the **2024 UC Health Data Governance Task Force**, this multi-stakeholder framework ensures consistent, transparent oversight whenever health data is shared externally.

Local HDOCs (Campus Level)

- **Function:** Manage data sharing requests specific to their respective campuses
- **Focus:** Assess proposals presenting material risks or ethical concerns locally

Systemwide HDOC (UCOP Level)

- **Function:** Act as the highest review body for complex or escalated requests
- **Focus:** Evaluate proposals originating from UCOP, involving multiple campuses with conflicting interests, or categorized as high risk

Data Sharing "Red Flags"
Committees rigorously screen external requests, flagging any proposals involving:

- The apparent sale or barter of health data
- Large volumes of data, highly sensitive information, or potentially identifiable biometric data
- Data requests exceeding the minimum necessary for the project
- Redisclosure of data (including de-identified data) without restriction
- Third parties with a history of data breaches
- Exclusive data sharing rights, unusual terms and conditions, or significant conflicts of interest



Collaborating to Provide a Trustworthy Voice in AI Governance

As AI continues to be a strategic priority across UC, CDI2 works with healthcare leaders as well as systemwide partners to advance responsible AI, contributing health-specific and governance expertise. One example is CDI2's participation in the UC AI council, a UC-wide group arising from the University of California Presidential Working Group's 2021 report on Responsible AI. Over the past year, the Council's Risk, Transparency, and Audit Subcommittee created two webinars to help people across UC better understand AI and how to mitigate certain risks associated with the quickly evolving technology.

Promoting Coordinated Advocacy in Health and AI Policy

CDI2 gives UC Health's Policy and Regulatory Affairs (HPRA) team a real-time picture of the patients and communities at stake in any legislative debate. CDI2 continues to create dashboards that show the healthcare services UC patients receive, organized by congressional district. The HPRA team uses these dashboards to communicate with state and federal lawmakers. They track how many patients are seen, how often, and what types of care they receive, and are updated regularly to reflect new laws and ballot measures like last year's Proposition 50.

CDI2 equips UC Health's leaders with the data they need to defend Medi-Cal funding, helping to show lawmakers how many Californians depend on the program and what services they would lose if the fragile California safety-net ecosystem were further destabilized. A major concern is the impact of H.R. 1, a federal bill that would cut Medicaid funding by about one trillion dollars over the next decade by making it harder for people to qualify for the program [see this link for a policy briefing on this topic hosted by UC Health and California Association of Public Hospitals in April 2026].

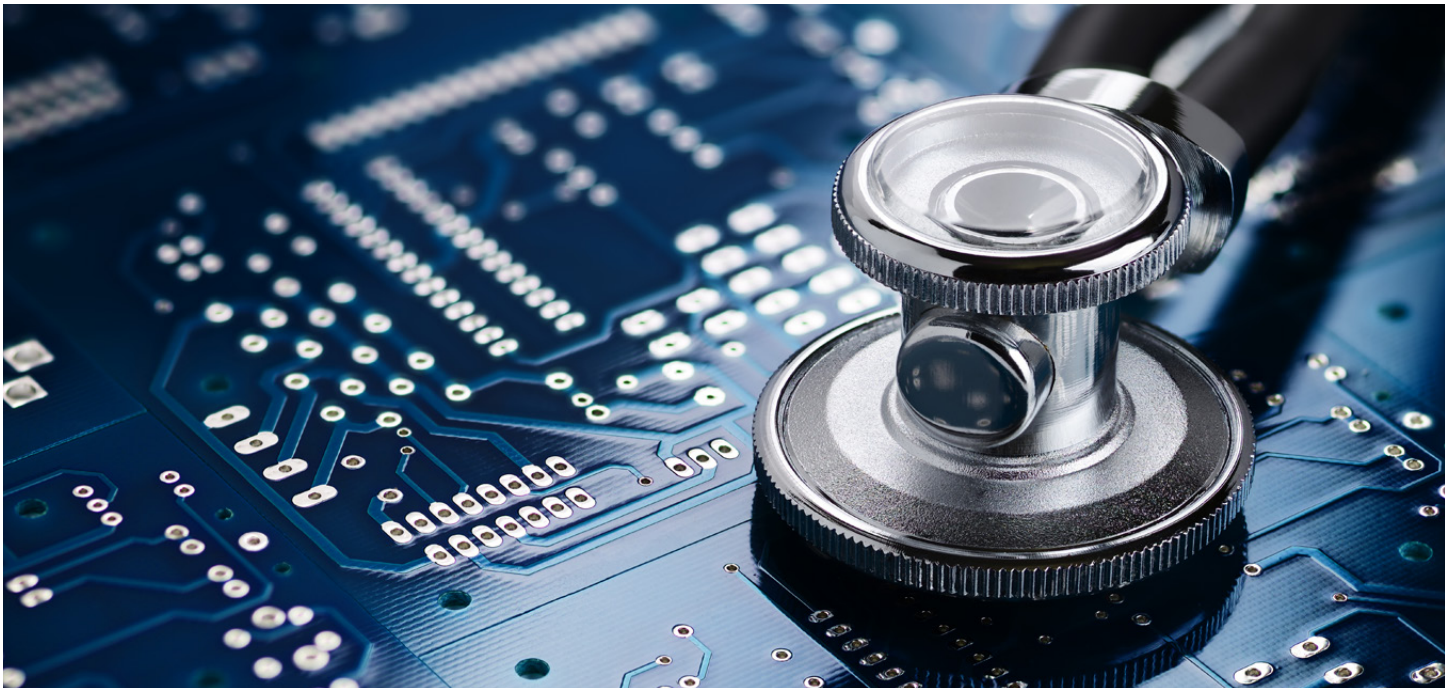
CDI2 also helps UC guide federal and state AI policy by offering real-world solutions that have the potential to make healthcare more affordable and accessible, while also improving outcomes. In February 2026, CDI2 worked with the UC Health Chief AI Officers to submit a systemwide response to a request for comment by the U.S. Department of Health and Human Services (HHS) on HHS's AI strategy. UC Health recommended that HHS facilitate the creation of special testing zones called "regulatory sandboxes," that would allow health systems and industry innovators to test new AI-enabled models of care under a time-limited regulatory framework with strict safeguards. The comment letter gave two examples of how this could help patients: using AI to help doctors prescribe medication refills more affordably as Utah is now piloting and using AI to translate communications between doctors and patients who speak different languages.

Looking Ahead: CDI2's Strategic Direction

CDI2 knows that healthcare needs and technologies continue to evolve, making it critical for CDI2 to anticipate emerging data and analytics needs and build the capabilities to support them. To make sure it remains focused on the most impactful work, CDI2 recently gathered input from key people across UC to update its 5-year strategic plan. These stakeholders identified the most important priorities, the resources needed to support them, and clear recommendations for moving forward.

Through this process CDI2 identified opportunities to build on its expertise in data science and data governance, as well as its strong partnerships across UC's health locations, to intentionally integrate AI into its strategic priorities. Over the next three years, these plans include:

1. Working with UC partners to build additional AI-enabled tools and measurements that help reach clinical and business goals so UC's health locations can more effectively identify gaps, track progress, and improve outcomes.
2. Turning UC academic health centers' large collection of clinical notes into an organized, searchable resource that organization leaders and researchers can use, making it easier to uncover patterns in patient care that structured data alone cannot reveal.
3. Building and sharing AI models across UC's health locations in partnership with leaders, giving local campuses opportunity to scale their ideas.
4. Leading efforts to create clear data and AI governance policies that help the entire system, so every campus can move quickly and responsibly when adopting new AI tools.



Our Shared Future

The work ahead is ambitious, but the foundation is strong. UC sees nearly three million patients every year, and every encounter generates data that holds the potential to improve the next patient's care. CDI2 exists to make sure that potential is never wasted. With the right tools, the right partners, and a shared commitment to responsible innovation, CDI2 will keep turning UC Health's data into something that matters: better outcomes, stronger research, and more equitable care for every Californian.

