2023 State of RESEARCH Address

Thomas Flaig, MD
Vice Chancellor for Research
University of Colorado Anschutz Medical Campus
December 12, 2023
Agenda

• Research Landscape
• Funding Snapshot and Key Research Metrics
• Our Team: Your Partners in Science
• Campus Research Highlights
• Power of Partnerships
• Looking to the Future
• Q&A
Trends and Headwinds

- Uncertainty in federal budgets; flat inflation-adjusted funding from NIH
- Opportunities with team-based, inter-campus/institutional research
- New funding opportunities (ARPA-H, EDA hubs)
- Adapting to post-COVID environment in research

How CU Anschutz is Responding

- Enhancing multidisciplinary, inter-institutional research collaborations
- Providing new resources and guidance to help diversify our funding portfolio
- Supporting study recruitment
- Formalizing our strategic approach
KEY RESEARCH METRICS
FY23 SPONSORED AWARDS BY TYPE

$704.8M Total

- Industry, 17%
- Hospitals and Universities, 10%
- Associations/Foundations, 9%
- State and Local Govt, 7%
- International, 2%

$390.6M in Federal Funds

- NIH, 83%
- DHHS, 7%
- DOD, 6%
- VA, 2%
- NSF, 1%
- Other, 1%
DIVERSIFYING OUR FUNDING PORTFOLIO

<table>
<thead>
<tr>
<th></th>
<th>FY2020</th>
<th>FY2021</th>
<th>FY2022</th>
<th>FY2023</th>
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<tbody>
<tr>
<td>DOD</td>
<td>$18M</td>
<td>$20M</td>
<td>$7M</td>
<td>$25M</td>
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<tr>
<td>DHHS</td>
<td>$20M</td>
<td>$29M</td>
<td>$25M</td>
<td>$28M</td>
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<tr>
<td>INDUSTRY</td>
<td>$84M</td>
<td>$111M</td>
<td>$122M</td>
<td>$123M</td>
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<tr>
<td>NIH</td>
<td>$295M</td>
<td>$297M</td>
<td>$329M</td>
<td>$322M</td>
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FACULTY AND STAFF GROWTH

- **2019**: 5,169 Faculty, 4,411 Staff
- **2020**: 5,307 Faculty, 4,287 Staff
- **2021**: 5,511 Faculty, 4,524 Staff
- **2022**: 5,846 Faculty, 5,167 Staff
- **2023**: 6,020 Faculty, 5,530 Staff

- **5-year Faculty Increase**: 6%
- **5-year Staff Increase**: 25%

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State of RESEARCH
FY23 RESEARCH HIGHLIGHTS

- **1.5K+** Principal Investigators on Campus
- **800K** Square Feet of Laboratory Space
- **14K+** People Enrolled in Research Studies in FY23
- **3.5K+** Active Clinical Trials
- **18%** Growth in Clinical Research Studies since FY20
OFFICE OF THE VICE CHANCELLOR FOR RESEARCH
Your Partners in Scientific Discovery
MISSION STATEMENT
Our reason to be
Committed to a diverse, team-based culture, we engage and collaborate with the research community to provide expertise, support and guidance for the advancement of science.

VISION STATEMENT
Where we want to go
Together, we make tomorrow’s research happen.
Helping investigators to conduct, safe, successful, compliant research

5577 Active human subject research protocols

795 Confidentiality Disclosure Agreements (CDAs) completed

487 Clinical Trial Agreements (CTAs) completed in FY23

37.7 Tons of chemical waste safely disposed of in 2023 (to date)

Alison Lakin, RN, LLB, LLM, PhD
Associate Vice Chancellor
Office of Regulatory Compliance
COMIRB: A TALE OF SHORTENED TIMELINES

- COMIRB application to be shortened from 76 to 20 pages

- 60% decrease in Expedited Median Days to Approval from 46 days to 18 days

- 54% decrease in Full Board Median Days to Approval from 42 days to 19 days

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UNIVERSITY OF COLORADO DENVER | ANSCHUTZ MEDICAL CAMPUS
There are many unique compliance issues associated with acute care research, so I feel really fortunate to work with our IRB and Regulatory Compliance teams. They are creative problem-solvers who go above and beyond to help us to answer important research questions while maintaining the highest ethical standards.”

– DR. GINDE

Adit Ginde, MD, MPH
Professor, Vice Chair for Research
Department of Emergency Medicine
Principal Investigator, ATLAS Research Program
EXPANDED FACILITIES

200%+
housing capacity increase in ABSL2+/ABSL3

450%
test/behavior room capacity increase

1/4
colonies moved to optimize access to resources

DEDICATED TEAM

6
veterinarians on staff

100+
team members

479
IACUC-approved research projects

Jori Leszczynski, DVM
Assistant Vice Chancellor
Office of Laboratory Animal Resources
Investments into the campus vivarium have allowed for critical updates and a much-needed expansion of the zebrafish facility. This has more than doubled my team’s capacity for experiments and allowed our growing community of investigators to be more far more productive and efficient in our scientific endeavors.”

– DR. APPEL

Bruce Appel, PhD
Professor, Section of Developmental Biology
Department of Pediatrics
CU School of Medicine
Assisting faculty to manage external support for their research activities including contracting, pre/post-award management, and processing of funds.

2,642  Grants submitted in FY23

3,116  Individual awards in FY23

34%  Grant success rate last year

Amy Gannon  
Associate Vice Chancellor  
Office of Grants and Contracts
Clinical Research Support Team (CReST)

330+ Research projects supported

37 Departments represented across 4 schools

$14M+ Total research funding negotiated by CReST

NEW: Clinical Research Recruitment Program and Workforce Development Program

Ben Echalier, MS, MBA
Assistant Vice Chancellor
Clinical Research Operations and Services
Supporting new advances in human health

- Advances researchers’ innovations and novel health solutions through expertise, support and collaboration
- Manages administrative, regulatory and safety elements of the product development lifecycle.

2023
Year the IND/IDE Office was founded at CU Anschutz

138
INDs/IDEs submitted to the FDA over the past three years

Heike Newman, MS, EMBA, CCRP
IDE/IDE Office Program Director
Office of the Vice Chancellor for Research
“Submitting an investigational new drug application is an intricate process, and it can be intimidating. The IND office was extremely knowledgeable and took care of everything, so I could focus on my research. I could never have launched a psilocybin trial without them.”

– DR. NOVICK

Andy Novick, MD, PhD
Assistant Professor of Psychiatry
CU School of Medicine
Building an ecosystem to elevate and accelerate our campus research funding portfolio

Laura Buccini, DrPH, MPH
Assistant Vice Chancellor
Office of Research Development and Strategy
Office of the Vice Chancellor for Research
UNIVERSITY OF COLORADO DENVER | ANSCHUTZ MEDICAL CAMPUS

ABNEXUS

$3.5M
grant funds distributed to
48 research teams

$22M+
external funds garnered by
awardees to date

State of RESEARCH

OFFICE OF RESEARCH DEVELOPMENT AND STRATEGY

ARPA-H

QUANTUM TECH HUB

LIMITED SUBMISSION OPPORTUNITIES

82 internal proposals
submitted in 2023

39% increase in submissions
over last year

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UNIVERSITY OF COLORADO DENVER | ANSCHUTZ MEDICAL CAMPUS
ABNEXUS
SUPPORTING DIVERSITY IN RESEARCH

Clinical Research Recruitment Workshops Hosted in 2023: 3
Total Attendees: 200+
Sharing our research successes and building the CU Anschutz brand

Oct 2023

Hosted 200+ international journalists on campus for the annual Science Writers conference

EXTERNAL RESEARCH COMMUNICATIONS

Followers across all campus social media channels

Annual web traffic increased to 125K+

Reach of broadcast & print media stories featuring CU Anschutz in 2022 533M

Hosted 200+ international journalists on campus for the annual Science Writers conference Oct 2023

30.2M Impressions delivered during spring 2023 CU Anschutz ad campaign
A THRIVING RESEARCH COMMUNITY
Pioneering groundbreaking new discoveries across fields and disciplines

- Diabetes
- Personalized Medicine
- Health Equity
- Drug Discovery
- Psychiatry/Mental Health
- Bioinformatics
Grants and contracts awarded to Cancer Center members in 2023, totaling $74.8M

Philanthropic gift established the new Katy O. and Paul M. Rady Esophageal and Gastric Center of Excellence

Cancer-focused publications produced by members last year
There is a lot you can learn from looking at the eyes. They can tell us about neurological or cardiovascular conditions. Today, AI technologies are helping us to use data from patients’ eyes to get a sense of overall health, so we can predict certain diseases sooner."

Jayashree Kalpathy-Cramer, PhD
Professor of Ophthalmology
CU School of Medicine
Taking cellular therapy and precision medicine to new heights

2020 Human clinical trials launched using CAR T-cells developed at CU Anschutz

2022 Historic $200M philanthropic commitment established the Gates Institute with Terry Fry, MD at helm

2023 Gates Institute celebrates official launch at Transforming Healthcare event
COLORADO SCHOOL OF PUBLIC HEALTH

Cathy Bradley, PhD
Professor, Dean
Colorado School of Public Health

$61M sponsored research funding in FY23

23% funding increase over FY22

600+ published research studies last year

Ranked among top NIH-funded public health schools nationwide
BUILDING RELATIONSHIPS WITH FEDERAL PARTNERS

U.S. Senator John Hickenlooper and FDA Commissioner Robert Califf, MD

Philippe Étienne, French Ambassador to the United States

Admiral Rachel Levine, MD
U.S. Asst Secretary for Health at DHHS

Lester Martínez-López, MD, MPH,
U.S. Asst Secretary of Defense for Health Affairs
THE POWER OF PARTNERSHIPS
NIH grant was renewed in 2023, funding CCTSI’s resources, services and infrastructure for another seven years!

$3M
Pilot grants/training awards distributed annually

179
T32 & K12 Career Development Awardees supported since 2008

>250
Principal Investigators leading protocols at CU Anschutz Clinical Translational Research Center

100+
Researchers attended the 2023 CU-CSU Summit on Dissemination & Implementation Science
### MY HEALTH CONNECTION

<table>
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<tr>
<th><strong>500K</strong></th>
<th>UCHHealth patients invited to join 58 research studies</th>
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<tbody>
<tr>
<td><strong>18K</strong></td>
<td>patients indicated a research area of interest</td>
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<tr>
<td><strong>8,000+</strong></td>
<td>potential participants have been identified for 47 studies</td>
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### RESEARCH PREFERENCES

- **TREATMENT RELATIONSHIP REPORTS**
  - 7,800 potential participants identified for 25 studies

### EPIC

- **21** clinical research studies implemented remote paperless e-consent directly within Epic
- **61** studies utilizing e-Case report forms (e-CRFs) within Epic

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Tom Campbell, MD  
Chief Clinical Research Officer  
Professor, CU Anschutz

Laurie Blumberg-Romero, MA  
Senior Director  
Research Administration UCHHealth
Child Health Research Enterprise is the centralized administrative, operational and scientific home for child health research at Children’s Hospital Colorado and CU Anschutz.

150+ Team members at Children’s Colorado

1,100 Active clinical research studies supported

$69M Philanthropy raised in support of child health research since 2018

#8 Ranking for NIH funding*

*Dept of Pediatrics and Children’s Colorado combined

Ronald Sokol, MD
Chief Scientific Officer, Child Health

Jenae Neiman, RN, BSN
Vice President, CHCO Research Operations
A centralized resource for T3-T4 research at CU Anschutz

100 Junior faculty supported with career development proposals and awards

1,200+ Attendees joined ACCORDS educational seminars and workshops

7 Strong methodological cores led by national experts, including two new offerings this year:
  • Learning Health Systems
  • Pragmatic Research and Trials

Jerica Berge, PhD, MPH
New Director of ACCORDS
Starting in January 2024
ANNUAL HIGHLIGHTS

189
Patents filed last year

145
New inventions by faculty

41
New licensing deals

$35M
Gross revenue to campus

Ranked a Top 5 Innovation Hub by the NIH and No. 4 Leading Academic Institution by Nature's Innovation Index.

CU Innovation’s Women-Led Innovation Event, April 2023
AT A GLANCE

91
Team members

>8,500
Research participants

>$26M
total funding since 2015

>450
Publications since 2015

Research Accomplishments

**ECHO Consortium**: Studying the effects of environmental exposures on child health and development:

**ENRICH Consortium**: Improving cardiovascular health of mothers and offspring

**Diabetes Research**: Studying predictors of diabetes in indigenous youth and the relationship between diabetes and Alzheimer’s

**Mentorship**: Supporting students, post-doc/medical fellows, and junior faculty

*LifeCourse Epidemiology of Adiposity & Diabetes (LEAD) Center*  
*Colorado School of Public Health*
Health Data Compass: A research data warehouse that’s changing how data flows across campus

DATA DELIVERY TEAM
2023 Highlights

• Cut the project queue in half and reduced turnaround times twofold
• Averaging one data delivery per day
• New service tiers to cater to specific data needs: Self-Service, Standard and Curated Data Delivery

Learn more at healthdatacompass.org

SUPPORTING NATIONALLY RECOGNIZED RESEARCH PROJECTS

PATHWEIGHT™
Pragmatic weight management in primary care

MENDS
MULTI-STATE EHR-BASED NETWORK FOR DISEASE SURVEILLANCE
LOOKING TO THE FUTURE
Our campus research community is strong, growing and has a collaborative spirit.

• Focusing on strategic development in research
• Diversifying our research portfolio
• Stewardship of campus research infrastructure and resources
• Optimizing our communications
• Strengthening and expanding our research partnerships
THANK YOU