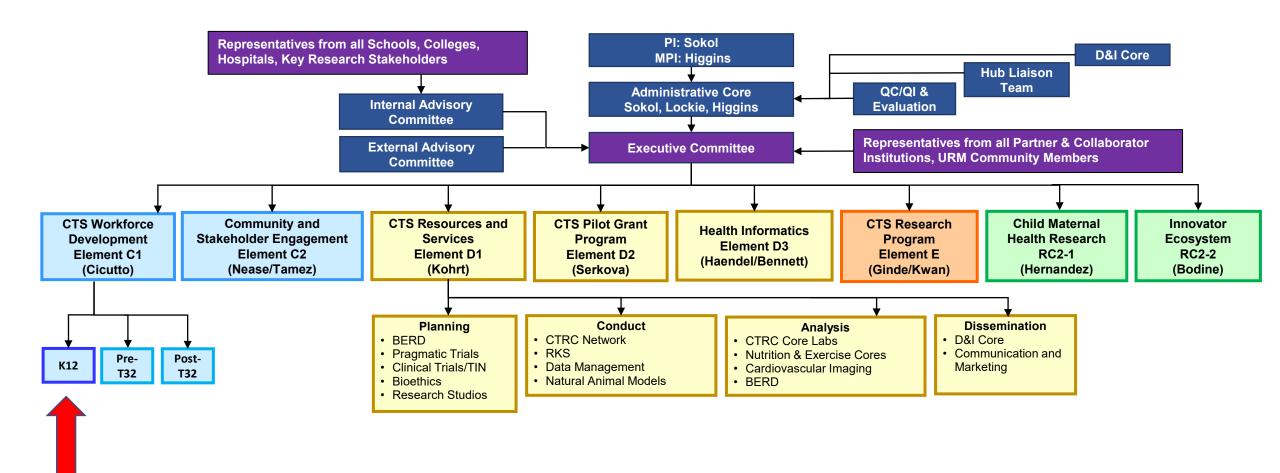
"Career Development in Clinical and Translational Science for Early Career Faculty"

K12 Program at the University of Colorado

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Strategic Goal

- The goal of our CCTSI K12 Program is to provide protected time and opportunities for an intensive, mentored career development experience that leads to independent extramural support and leadership positions in CTR and academia.
 - Aim to achieve this goal through <u>seven programmatic</u> <u>objectives</u> delineated in the FOA associated with the fundamental characteristics of CTS researchers.

Gilliland CT, White J, Gee B, et al. The Fundamental Characteristics of a Translational Scientist. *ACS Pharmacol Transl Sci* 2019;2:213-6.

Approach and Innovation

- Objective 1: Support core CTS knowledge growth through personalized didactic and experiential training
 - Approach: seminars, coursework individualized to scholars
 - Innovation: on-line ICDP "roadmap" in collaboration with scholar's mentors (faculty) and K12 Directors
- Objective 2: Evidence-informed mentor training by scholarmentor dyads
 - Approach: Co-Mentor seminars (scholar and a mentor)
 - Innovation: Co-Mentor Booster; 360 evaluation of mentor efficacy

Approach and Innovation

- Objective 3: Professional/managerial training, including DEI principles
 - Approach: monthly career development seminars with K12 leadership
 - Innovation: Leading and Teaming Effectiveness Skills (LATES) program; integration with CU-Anschutz Office of DEI for training
- Objective 4: Foster academic writing disciplines, including dissemination and communications strategies.
 - Approach: Mock study section service, Research Studios
 - Innovation: Writing Accountability Groups; 1 on 1 coaching with K12 leaders; Communicating Your Science to the Public

Approach and Innovation

- Objective 5: Relationship building with key stakeholders/members across the scientific ecosystem
 - Approach: Community Engagement Consults, Colorado Immersion Training
 - Innovation: Innovation Seminars; i-Corps @CCTSI; SPARK|REACH
- Objective 6: Connection to innovative CTS programs
 - Approach: Connection to biostatistical and epidemiology training;
 CTRCs
 - Innovation: Clinical Research Support Team (CReST); Health Informatics Training via CCTSI Health Informatics Core

DEIA and Health Equity: Objective 7

- Equitable recruitment processes and enhanced training of underrepresented individuals.
 - Approach: consider DEI impact throughout scholar recruitment process, and in the holistic review
 - Innovation: Diversity statement in application process and harmonization of language in applications materials
 - Additionally,
 - K12 Program leadership with longstanding DEI track record
 - E.g. Burnham (Women in CC for ATS); MacLean (NORC Diversity and Inclusion Committee)
 - CU-Anschutz Office of Diversity, Equity, and Inclusion will provide complementary K12 scholar training in DEI principles critical for team leadership
 - Del Pino-Jones: CCTSI WD Chair for DEI

DEIA and Health Equity: making an impact in recent years

KL2 Applicant Demographics, 2018-2020				
Description	2018	2019	2020	State of Colorado*
Women	70%	74%	75%	50%
African American	2%	0	3%	<5%
Hispanic Ethnicity	5%	11%	13%	22%
First-Gen College	14%	18%	22%	



Integration and Collaboration

Module B: Strategic Management

- Administrative Core
- Executive Committee

Module D1: CTS Resources and Services

- Biostatistics, Epidemiology & Research Design
- Regulatory Knowledge & Services
- Bioethics
- Clinical Research Support Team
- Research Studios
- Clinical & Translational Research Center Network, & Core Labs
- Dissemination & Implementation Consult Service

Module C1: CTS Workforce Development

K12 PROGRAM

- CO-Mentor
- Clinical Sciences Program
- Leading/Teaming Effectiveness Skills
- Researcher Management & Leadership Training
- Diversity, Equity, & Inclusion oversight
- Pre-K and K-to-R grant review programs
- Communicating Science to the Public
- Clinical Faculty Scholars Program

Leadership Advisory
Council

K12 External Advisory
Committee

Module C2: Community and Stakeholder Engagement

- Community
 Engagement consults
- Colorado Immersion Training

RC2(2): Innovators Ecosystem

- Innovation Seminars
- Innovation Corps@CCTSI

Module D3: Health Informatics

- Bioinformatics training
- Health Data Compass
- REDCap



Expected Outcomes and Impact

K12 Scholar/Program Interface with **Career Development Objectives**

Short-Term K12 Scholar **Outcomes for Evaluation**

Long-Term K12 Scholar-Alumni & **Program Outcomes for Evaluation**

Scholar Characteristics

- · Prior research experience (T0.5-T4)
- Prior scholarly products
- Gender
- Cultural interdependence
- Motivation/ passion

Program

- CTS expertise/ coaching
- · Belonging. cultural congruity, & identity

OBJECTIVES * **Academic Skills** Development, Information & Mentoring Network

- Obj. #1: ICDP to support core CTS knowledge growth
- Obi. #2: Evidence-informed mentoring training by scholar-mentor dyads
- Obj. #3: Professional/ managerial training. including DEI principles
- Obj. #4: Academic writing disciplines; dissemination/ communication strategies
- Obj. #5: Relationship building with key stakeholders/members across scientific ecosystem
- Obj. #6: Connection to innovative CTS programs

Scholarship of Discovery

- Publications
- Independent extramural research funding
- Competence in research leadership roles

Scholarship of

Teaching

research findings to

academic audiences

research findings to

Dissemination of

Dissemination of

non-academic

audiences

 Creation of collaborative networks

Scholarship of Integration

- Synthesizes & incorporates research ideas across disciplines & translational ecosystem
- Industry partnerships
- Community partnerships

Scholarship of Application

- Bridge research to real-world settings
- Apply research to urgent unmet needs in healthcare

K12 Scholar-Alumni

- Excellence in scholarship
- · National and/or International reputation for CTS research
- · Promotion and tenure
- · Leadership and service record
- · Outstanding/influential mentorship

K12 Program

- . Obj. #7: Equitable recruitment processes & enhanced training of underrepresented groups
- Persistence of scholars in CTS research
- · Publication record relative to like K12 programs
- Extramural funding relative to like K12 programs
- Integration with CCTSI programs
- Involvement in national CTSA initiatives
- · Dissemination of program materials

Characteristics

- · Social support
- K12 Directors'
- K12 peer network
- formation

Metrics and Evaluation: Active K12 Scholars

Milestone achievements (annually):

- . Bibliometric (# of publications, h-index, authorship location)
- . Extramural funding (submitted and funded proposals)
- . Career advancement (e.g., academic promotion)
- . Attainment of leadership roles

Short-term career development goals-collected in conjunction with ICDP

- . Attendance and utility of required K12 programs
- . Dissemination of research results to academicians /non-academicians
- Mentoring network size and scope
- . Industry and/or community partnerships
- Evidence of scholarship of application (e.g. research in real-world settings, addressing urgent unmet needs)
- 360 Scholar-Mentor assessment of mentoring and communications skills and efficacy

Satisfaction with K12 Program: leadership/mentoring access, areas for improvement, meeting expectations, use of CCTSI resources



Metrics and Evaluation: Preceptors and Mentors

K12 Faculty Mentors (Preceptors)

360 Scholar-Mentor assessment of mentoring, communications skills, and efficacy—upon entry and annually (CCTSI-developed questionnaire)

Attendance and utility of required K12 participation elements: Colorado Mentoring Training Program

Metrics and Evaluation: K12 Director and Associate Program Directors

Items reviewed in conjunction with EAC (annually)

Data from K12 coach regarding individual scholar progress, barriers,

identification of at-risk mentoring teams (every 4 months)

Recruitment and inclusion of scholars underrepresented in biomedical

research (annually)

Integration with CCTSI programs (annually)-

CCTSI questionnaire

National CTSA involvement (annually)-

Survey: CTSA Engagement & Dissemination

Dissemination of programs to other CTSAs, institutions (annually):

Survey: CTSA Engagement & Dissemination



Administrative Supplements to KL2 Program

- Administrative Supplement to KL2 Program as part of the INCLUDE (Investigation of Co-occurring Conditions across the Lifespan to Understand Down syndrome) Project
 - Marisa Stahl, MD, MSCS in conjunction with Joaquin Espinosa, PhD, UCD PI for INCLUDE project
- 2. Administrative **Diversity KL2 Supplement** to parent CCTSI UL1
 - Demetria McNeal, PhD, a junior faculty member with research focused on cardiovascular disease among URMs
- 3. Two KL2 scholars applied for KL2-specific R03 funding (fall 2022)
 - PAR-21-121