Envisioning the Clinical/Translational Campus

Leadership in Team Science (LITeS)

Sponsors: Alison Lakin, Jean Kutner
How can we imbue our academic health campus with a sense of mission that incorporates clinical and translational research as essential to all that we do in teaching, research, clinical care, population health, and community service?

1) Integration of Clinical Care and Research
2) Enable the conduct of research
3) Educate Professionals in clinical and translational research
4) Educate Community about the role of research
Why? ~The Time is Now!

- Mission of UC Anschutz
- Readiness for Change with New Leadership
- Differentiation of UC from Competitors: Locally and Nationally
- Enhance Opportunities for National Resources: NIH, PCORI, other research funding sources
- Align Campus with Changing Payer Model: ACA, Insurers
- Increase Patient Base and Revenue
- Enhance Populations and Care of CO
- Enhanced Community Engagement, to Foster Philanthropy
TEAM ONE -THE CHARGE:

- What would it take to truly integrate clinical care and research?
- What would that look like?
- Who has to buy in?
- What are the barriers?
- Is a culture shift necessary?
WHAT WOULD THE INTEGRATION OF CLINICAL CARE - RESEARCH LOOK LIKE?

TRANSLATIONAL RESEARCH EXCELLENCE TO IMPROVE OUTCOMES AND WELLNESS

- Promotion of Wellness and Disease Prevention
- Community Engagement
- Infrastructure Bridging Clinic ↔ Research
- Clinical Translational Research
- Unique clinical offerings
- Robust Patient Base
- Strong Basic Science
WHAT WOULD IT TAKE TO TRULY INTEGRATE CLINICAL CARE AND RESEARCH?
WHO HAS TO BUY IN? COMMITMENT & ACTION PLAN – FIRST STEPS

- Decision and commitment for the CTC
- Develop the Infrastructure
- Identify the Key Leaders and Drivers
- Agree upon the Metrics of Success
- Define and Engage the Stakeholders EARLY
- Pilot Quickly then Act Broadly
CLINICAL TRANSLATIONAL RESEARCH INTEGRATION – DEVELOP THE INFRASTRUCTURE

- Community Participation
- Patient Facing Research Enterprise
- Recruitment, Enrollment
- Rapid, Robust Clinical Trials Support
- Data acquisition & Storage
- Tissue Acquisition/Storage
- Rapid, Robust Use of Data & Tissues

EPIC mHEALTH
ORIEN
ONCORE
COMPASS

DISCOVERY/DEVELOPMENT

LEADER IN IMPROVING CLINICAL CARE, HEALTH & RESEARCH

Patient/Research Subject
UTILIZING THE BROADER COMMUNITY AS THE CAMPUS TO INTEGRATE CLINICAL CARE AND RESEARCH

Engage the consumer
- mHEALTH
- My Health Connection

Inter-operability
- Community Facing Research Portals
- Self-selection recruitment strategies

Colorado as Community
- UC Health
- UCD Affiliates
- State-wide network

The Clinical Translational Campus
What Would It Look Like? What are the Barriers?
Practical Models/Action Steps

• Determine 2-4 areas to initiate transition
  • Community -> Clinic -> Specialty clinic -> Inpatient
  • Volunteers present!!

• Leverage existing strengths and infrastructure
  • Center Lungs-Breathing, Cancer Center, CCTSI, ACCORDS
  • Community/School based –Colorado ECHO
  • PIVOT-DASH Transformational Research Award

• Standardize the approach
  • Define and plan metrics and quality measures a priori

• Design roll-out plan and timeline to have campus-wide engagement rapidly take place.
Barrier = Opportunity
Clinical Research and APM’s ($$$$)

• Current data collection efforts are flawed
  • Stale, inaccurate data being gathered and analyzed
  • “Bad” data are applied to payment schemes
  • Accurate entry not more time consuming

• Industry has no incentive to foster accuracy

• Consolidation is not the Answer?
  • Evidence that market share drives up cost
  • Efforts to discourage growth in market share

• Miller HD, CHQPR, 2014.
Leverage the Needs of a Changing Health Care Environment & Clinical Research World Together

• Can we demonstrate that bigger is better?
  • Enroll patients in time of health/wellness
  • Register research possibilities at each encounter
  • Offer research participation when feasible
  • Use two-way bench to bedside transfer of information to show value

• Cannot achieve these outcomes with small systems- we can prove it!
  • Start large, prove concept of “big data” for both outcomes research and patient accrual into studies
  • Leverage IT resources to maximize yield on required elements
SUMMARY OF INTEGRATION OF CLINICAL CARE AND RESEARCH

Deep clinical and research expertise → highly successful CTC

BENEFITS:
- Depth, speed, cost and quality of research
- Improved adherence to measures of care and readiness for the changing healthcare environment
- Adherence to regulatory requirements
- Novel discovery and leading next healthcare breakthroughs

THE CULTURE SHIFT ENTAILS:

Recognizing that our strength as treaters-researchers of disease & the AMC can be the start, but broader goal of achieving integration across community, Colorado and prevention of disease will ultimately be the strongest outcome
Team 2

2) Enable conduct of research
   • What does it take to be effective and efficient in the conduct of research?
   • What do faculty need, particularly recruitment, accrual and retention of diverse populations?
   • What are the barriers?
   • What structural changes would help?
Challenges Integrating Research and Care

• **Faculty**: competing demands, expectations
• **Organizational Infrastructure**:  
  • Silos – impact enrollment, conduct  
  • Inconsistent support- institution, schools, departments
• **Data Management, Bioinformatics and Biostatistics**
• **Research Resources and Core services**:  
  • Redundant  
  • Limited availability and awareness
Integrating Clinical and Research

1. Faculty Development and Culture
2. Centralized recruitment and biorepository
3. Integrated Data Management, Bioinformatics/Biostatistics
4. Optimizing Research Resources/Shared Research Facilities
• Governance Body: To integrate clinical and research programs and ensure awareness, communication and implementation
• Led by CCRO Flaig and Vice Chancellor Traystman
• Involvement by all stakeholders
• **Culture change**: Bridging UCHealth, UCD (all schools), Affiliates, and other key partners
• Provide Oversight Infrastructure, Resources
Faculty Culture & Development: Shared Mission

• Faculty Development: Leadership & Education (Group 3)
  • Expand and support programs such as LITeS, Others
  • Research training for investigators and clinicians

• Support Metrics and Dedicated Time

• Measures of research success
  • Programmatic and individual

• Research ambassador:
  • Public Relations: Internal and External (Group 4)
  • Structured recognition program- Call out faculty
  • Promote research externally
Everyone is a Potential Research Participant

Advancing Care

Current Studies

Future Studies

Dissemination & Implementation

• Centralize patient enrollment
• Research Match (CCTSI)/Research Portal
• Centralized recruit, enroll & retain subjects: OnCore, EPIC
  • Screening
  • Inclusion/Exclusion Criteria
  • Electronic Consent
  • Integrated clinical process
Integrated Data Management, Bioinformatics, and Biostatistics

• Biorepository: all patients

• Data capture/database:
  • Standardized data, workflow, storage
  • Translational Informatics and Computational Resources (TICR) Computation
  • Common data elements EPIC

• “Federation” Bioinformatics and Biostatistics

Source Kathleen Barnes, CCPM
Optimize Research Resources & Shared Research Facilities/Cores

• **Centralized access** to enhance access: CCTSI plays integral part through its Cores

• **Enhanced Communication:** between Cores, Leadership, Researchers

• **Institutional Support:** recommended and required

• **Competitive pricing** for research costs

• **Annual reporting:** Finances, Utilization, Optimization

• **RBC^2** oversee Research Resources
Summary: Recommendations

• Governance: Research Bridging Care Council (RBC²)

• Research Ambassador: Community and UCD/UCHealth

• Integrate and Provide Resources for:
  o Faculty development
  o Subject recruitment, enrollment and retention, biorepository
  o Support current Programs:
    • Centers: CCTSI, CCPM, UCCC, ACCORD, Others
    • Data Integration
    • Federation of Bioinformaticians/Biostatisticians
  o Resources/Cores optimized to enhance research
Envisioning the Clinical/Translational Campus

1) Integration of Clinical Care and Research
2) Enable the conduct of research
3) Educate Professionals in clinical and translational research
4) Educate Community about the role of research
Our Team:

H. Wald, MD, MSPH, Medicine, School of Medicine
J. Kendall, MD, Emergency Medicine, Denver Health
M. McDermott, MD, School of Medicine
L. Newman, MD, MA, Colorado School of Public Health, and SOM
S. Wilson, MD, FACS, School of Medicine
Our Charge/Challenge:

• What changes are needed in the education and in-service training of health professionals’ education to help them understand research and clinical care?
• Who must be involved, where must change be made?
• What are the barriers?
• How can we build on what we have?
Culture, Alignment by Goals and Rewards

Scientific Discovery/Thinking

Clinical Care
CU Anschutz Research Education Initiative
Building Blocks for Success

- Undergraduate Medical Education
  - Evidence-based medicine training
  - Mentored scholarly activity
  - Research track
  - Medical Scientist Training Program

- Graduate Medical Education
  - DOM Residency research
  - DOM Physician Scientist Ward Team

- College of Nursing
  - Research program
  - Doctorate of Nursing Practice (QI projects)

- Public Health integration
  - Dual degree programs

- Graduate school trainee integration

- Community Engagement to identify research interests of patients

- Academy of Medical Educators

- Many, many other efforts (school of dentistry)
Case Study

• University of Michigan’s medical school curriculum was antiquated
• Strategic team of people in alignment ($1.1M grant AMA)
• Leadership and health policy are now included in the core curriculum
• Students will develop expertise in patient safety, quality improvement, and systems thinking
• Practical, longitudinal, mentored professional development
Team for Redesign
QI Dean, Prof Med Edu, Dean Hospital, Dean Edu

- Large lecture halls had little retention
- 1 yr trunk (policy, leadership, QI/rsch)
- Small group discussions second year
- Students branch early
- Basic science faculty round in hospital
- Academy for medical educators created
- Faculty required to be more engaged
  - *EDU units* created for faculty to get “credit”
<table>
<thead>
<tr>
<th>Rank</th>
<th>School Name</th>
<th>Tuition</th>
<th>Total Medical School Enrollment</th>
<th>Median MCAT Total Score</th>
<th>Median Undergraduate GPA</th>
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<td>Harvard University</td>
<td>$55,050 (full-time)</td>
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Research focus can translate to $$$

- Income from research UM: $1.33B annually
- NIH $509M
- Industry $73M
- Recent philanthropic drive $45M
  - 244 endowed chairs ($956M)

https://medicine.umich.edu/medschool/research

Insurance Coverage U. Michigan

Operating budget $2.5B
INTEGRATING RESEARCH INTO CLINICAL PRACTICE (IRCP): INNOVATIONS IN HEALTHCARE DELIVERY INITIATIVE

Integrating Research into Clinical Practice (IRCP): Innovations in Healthcare Delivery Initiative
Faculty Publications at National Jewish Health

We are pleased to provide you with an update on the research initiatives of National Jewish Health in our Faculty Publications list.

Our scientific advancements, including those in genetics, proteomics, advanced imaging and molecular biology, will enable us to develop a personalized program for each and every patient. We will integrate our research and clinical efforts at the point of the patient so that each patient can benefit from transformative research.

Featured Articles

Clinical


Research


Faculty by Research

The discoveries made in the laboratories at National Jewish Health have a profound impact on the treatment and prevention of human disease.

Become our Faculty by Area of Research.
Interim Summary

- Focus shift to clinical and population health research, requires alignment
- Tension exists between scientific thinking and clinical productivity
- University positioned for “value-based” and “research-based” care
- Physicians and hospital need to work together for success
- To maximize research done at CU, prices charged might need evaluation
Interim Recommendations:

• Create committee to evaluate Academic Value Units
• Consolidate the educational resources we have in place
• Curricula modification to emphasize broad scientific thinking
• Decrease low value clinical work to allow for research/education
• Follow change with data to monitor progress
Team #4

THE TEAM:
- Brian Day, PhD
- Glenn Furuta, MD
- Resa Lewiss, MD
- Edward Melanson, PhD
- Rebecca Sands Braverman, MD
- Marci Sontag, PhD

1) Integration of Clinical Care and Research
2) Enable the conduct of research
3) Educate Professionals in clinical and translational research
4) Educate Community about the role of research
THE CHARGE

• How should the broader population be educated about the role of research in health care? What do patients need to understand the inclusion of research in the continuum of health services? How might this be tied to research participation? What barriers might be expected?
How should the broader population be educated about the role in research in health care?

- Community is inclusive – it must include and understand under-represented groups (e.g. minorities, peoples with disabilities), cultures, traditions, and social classes.
What is research?

- Medical research - Basic, pre-clinical, applied, or translational research conducted to add and support development of knowledge in the field of medicine.

The ultimate goal of medical research is to improve the health and well-being of our community.
Successful Models of Community Engagement

Other Institutions
- Vanderbilt University
- Detroit Community-Academic Urban Research Center

Our Institutions
- Take off Pounds Sensibly (TOPS), Nia Mitchell, MD
- IMAGE Alumni Events (Wendy Kohrt, PhD, and Robert Schwartz, MD)
- Women’s Health Center (Judy Regensteiner, PhD)
- Community on Campus (Lisa Jensen, BSN)
- Bridging Research and Aurora Neighborhoods for Community Health (BRANCH)
- Community-Campus Partnership Program (Robert McGranaghan, PhD)
- CCTSI Community Engagement Core (Donald Nease, Jr., MD)
- National Jewish Community and Outreach Translational Core
IMAGE Alumni Parties

• Bi-annual event
• All participants in ongoing and completed research invited to attend
  • Many “repeat customers”
• Overview of new projects
• Brief presentation of interim or final results of 2 or 3 studies
  • Community Q & A
• Also mail regular IMAGE newsletters
CCTSI Community Engagement Core

Donald Nease, Jr., MD (Director)

• **Community Engagement Mission:** To transform the way communities and researchers work together to design and conduct research by building bridges between health research, clinical practice and community health initiatives to improve the health of the people of Colorado and the Rocky Mountain Region.

• Programs and Services
  - Partnership of Academicians and Communities for Translation (PACT)
  - Bi-directional Immersion Training
  - Pilot grants
  - Seminars and Workshops
  - Community Networking events

www.ucdenver.edu/research/CCTSI
Community-Campus Partnership Program

- Identify, foster, and support mutually beneficial collaborations and partnerships
  - Education
  - Career pipeline programs
  - Workforce and job development
  - Service and service learning

- Engage community
  - Grassroots efforts to identify issues that effect their well-being
  - Work collaboratively to improve health and well-being of the community

- Improve economic well-being
  - “Hire Local” program – increase # of Aurora residents employed at AMC in “pipeline” programs

Robert J. McGranaghan, MPH, Director
Senior Instructor, Department of Family Medicine
University of Colorado Anschutz Medical Campus

http://com-cam.org/
Community on Campus Day!!
Thursday, February 19, 8:00 - 4:30

What is Community on Campus Day?
Community on Campus Day is a chance for people living in our community to experience a slice of life on the University of Colorado Anschutz Medical Campus. Community on Campus Day brings researchers and community members together to learn about the research, education and resources happening on campus. By the end of the day, participants will get to see a side of campus that many do not know!

What to expect?
- We will take care of you!
  - Free parking
  - A light breakfast, lunch and afternoon snack included
  - A shuttle tour around the Anschutz Medical Campus
- You will learn new things:
  - Go on a tour of an innovative teaching lab with fake people and computer (bad actors)
  - Experience fun cooking demonstration by a professional chef at the Anschutz Health and Wellness Center
- What we need from you:
  - Please arrive on time and wear comfortable shoes.
  - Get ready to see, learn and have fun!

Join us for Anschutz Medical Campus
Community on Campus Day!!

You are invited! But space is limited, so please call Lizzy Sinatra at 303-724-8473 or Elizabeth.Sinatra@ucdenver.edu no later than Friday, Feb. 13, 2015.

Lisa Jensen, BSN, Director
Campus Connections Program

Our Action-Packed Agenda for September 22, 2015

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
<th>Location</th>
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<tbody>
<tr>
<td>8:30 AM</td>
<td>Welcome &amp; Continental Breakfast with: Donald E. Nease, Jr. MD Green-Edeleman Chair for Practice-Based Research Associate Professor and Vice Chair for Research, Dept. of Family Medicine Director of Community Engagement &amp; Research, Colorado Clinical and Translational Sciences Institute</td>
<td>Anschutz Health and Wellness Center, Rm 3007</td>
</tr>
<tr>
<td>9:30 AM</td>
<td>Tour of Anschutz Health and Wellness Center</td>
<td>Anschutz Health and Wellness Center Front Desk</td>
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<tr>
<td>10 - 11 AM</td>
<td>&quot;Personalized Medicine: What it Means for You&quot; Presentation by: Christina Aquilante, Pharm.D., FCCP, Associate Professor, Department of Pharmaceutical Sciences University of Colorado Skaggs School of Pharmacy and Pharmaceutical Sciences</td>
<td>Anschutz Health and Wellness Center, Rm 3007</td>
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<td>11 AM</td>
<td>Driving tour of campus:</td>
<td>Campus Shuttle</td>
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<tr>
<td>11:30 AM</td>
<td>CEDAR, University of Colorado Hospital, Children’s Hospital</td>
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Campus programs are working independently
What barriers might be expected?

**Internal**
- Researchers are not trained in community engagement
- Overlap: many stakeholder and leaders
- Lack of centralized, updated repository of all current clinical research
- IRB challenges
  - Need an “opt in” provision to for participation
- Recognition of importance by campus leadership

**External**
- Limited understanding or misunderstanding of research.
  - Concern of being “guinea pigs”
  - Perceptions about unethical research in certain communities
- Limited access to care and programs at AMC
- Geographic challenges of AMC Campus
  - How do we bring the research to the community?
  - How can we make it easier for the community to engage in research here?
A plan for action: Development of a Research Ambassador for Community Engagement

- **Research Ambassador** model should be built on the premise that engaging the community is a different model than philanthropy
  - Under the direction of the Research Bridging Care Council/CCRO
  - Public relations, communication, and community engagement specialists
- **Mission**
  - Identify and understand the wants and needs of different communities in Denver, the Front Range, and Colorado
  - Educate communities about research; Identify long-term community leaders
  - Educate researchers about these communities
  - Improve the perceived benefits of participating in research
Research Ambassador for Community Engagement: **Priorities**

- Capitalize on existing expertise
  - Recognize and support those that are already successful at doing this
  - Utilize their collective experiences and knowledge base
  - Use the experts to engage the community
- Consolidate and streamline existing programs
  - Bridge with the National Behavioral Health and Innovation Center
- Partner with a proactive PR department and Public Health Departments
- Develop a plan for regular dissemination of results to the community (coordinate with new RFA for the CTSA)
Research Ambassador for Community Engagement: **Priorities**

- Develop a model program for researcher education
  - Develop a common language
  - Educate researchers about how to engage with the community
    - Develop training opportunities, starting with junior investigators
  - Develop an AMC Speaker’s bureau
    - Promote engagement of researchers with community; educate them about how to communicate with the community
    - Match researchers with opportunities for speaking at community events
    - Find opportunities for our best people to speak – and support $$ (reward the investigators for taking the time to do this)
Team #4

THE TEAM:

Brian Day, PhD
Glenn Furuta, MD
Resa Lewiss, MD
Edward Melanson, PhD
Rebecca Sands Braverman, MD
Marci Sontag, PhD

Impact the future of health care!

LITeS Program 2015-2016
HOW CAN WE IMBUE OUR ACADEMIC HEALTH CAMPUS WITH A SENSE OF MISSION THAT INCORPORATES CLINICAL AND TRANSLATIONAL RESEARCH AS ESSENTIAL TO ALL THAT WE DO IN TEACHING, RESEARCH, CLINICAL CARE, POPULATION HEALTH, AND COMMUNITY SERVICE?

Conclusions:

1) Integration of Clinical Care and Research
   - Leverage strengths
   - Infrastructure & Define Metrics
   - Pilot programs
   - Broad Implementation

2) Enable the conduct of research
   - CRO

3) Educate Professionals in clinical and translational research
   - Academic value units
   - Restructuring of SOM curriculum to be more scientifically based

4) Educate Community about the role of research
   - No. of community-based lectures
   - Research Ambassador

- Research Bridging Care Council
- Integrated Recruitment & Data Management
- Optimization Core and Research Resources
Acknowledgements

Leadership for Innovative Team Science (LITeS)

Judith Albino, PhD
Anne Libby, PhD
Emily Warren, M.A.
Acknowledgements

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• Greg Downey, MD
• David Engelke, PhD

• Chris Forkner, CFO NJ
• Tom Flaig, MD
• Joseph Kolars, MD
• Mark Moss, MD
• Ron Sokol, MD
• Dick Traystman, PhD
• Rich Zane, MD