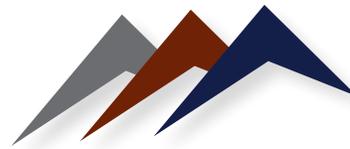# Silicon Flatirons

A Center for Law, Technology, and Entrepreneurship at the University of Colorado

Roundtable Series on Entrepreneurship, Innovation, and Public Policy*

How Academic Institutions Can Advance Health Care Innovations

Phil Weiser and Amy Ellis†

December 2013

COLORADO LAW
UNIVERSITY OF COLORADO **BOULDER**

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The basic premise for an informal, October 16th 2013 roundtable discussion organized by the Silicon Flatirons Center for Law, Technology, and Entrepreneurship was that there is a role for universities to envision, test, and evaluate different strategies for transforming our health care system. To begin, Colorado Law Dean Phil Weiser, who moderated the discussion, asked a diverse group of physicians, lawyers, academics, and entrepreneurs,[1] "if the University of Colorado received $100 million to support the cause of facilitating health care transformation, what should we do to advance that goal?" In response, participants offered both concrete ideas and general concepts to promote collaboration across different silos, engagement with our communities, investments in technology, and a mindset around empowering consumers.

A basic consensus of the roundtable participants was that health care delivery can be radically improved through the integration of resources already available and that could work together more effectively. Dr. Mary Krugman, Director of Nursing Innovation and Outcomes at University of Colorado Hospital, for example, suggested that there are important opportunities to increase the efficiency and effectiveness of nursing units through better teamwork. She noted that one unit sought to advance this goal by simply hanging a poster on the wall detailing each person's job description, thereby allowing members of the unit to reduce duplication and quickly identify who to consult for particular tasks. More generally, Dr. Krugman observed that there is considerable room for improvement as to how those on the Anschutz Medical Campus can work together as a team, explaining that nursing units can play a valuable role in developing and adopting the latest programs on how to promote program cooperation and collaboration across different units.

Dr. Jean Kutner, Head of the Division of Internal Medicine at the University of Colorado School of Medicine, recognized that in addition to stronger connections within each unit, entities across campuses can also connect to better leverage resources. Echoing this sentiment was Dr. Doug Jones, Senior Associate Dean for Clinical Affairs at the University of Colorado School of Medicine, who advocated for investing funds to help health care delivery systems operate as a unit, rather than a collection of silos. A different perspective on fragmentation was offered by Bruce Johnson, Partner at Polsinelli, who thought involving stakeholders outside of the system, such as lawyers, economists, and policy researchers, would generate new ideas to promote collaboration. In short, one important point of consensus is that the tradition of silos and fragmented units in health care delivery is both inefficient and impedes opportunities for innovation.

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[1] The participants in the discussion are set out in Appendix A. They came together for this discussion immediately preceding a Silicon Flatirons conference on conference on The Future of Health Care Innovation.

Several members of the group also emphasized the importance of engaging with communities to improve public health and encourage healthy behavior that can lower health care costs. Health is impacted by many factors outside of the health care system, Dr. David Goff, Dean of the Colorado School of Public Health, was quick to point out. The broad goal, he asserted, should be to reduce demand on the healthcare system. One idea he proposed is hiring psychology majors as social workers staffed in easily accessible retail clinics. These providers would serve as both a way to increase access to behavioral health resources on a primary care level and also serve as a gateway to more sophisticated services. Investing in prevention was also called for by Dr. Shale Wong, who is a pediatrician at Children's Hospital Colorado. Dr. Wong reminded the group that investing in a child's health goes a long way toward helping that person thrive over their lifetime.

To facilitate more effective preventive medicine, Dr. Wong participates in a Medical-Legal Partnership (MLP) between Children's Hospital Colorado and Colorado Legal Services. By screening for unmet legal needs that are impacting a child's health, such as substandard housing, Dr. Wong and other participants in the MLP improve health and prevent more serious problems that might have manifested down the road. Dr. Frank deGruy, Chair of the Department of Family Medicine for the University of Colorado Anschutz Medical Campus, echoed the importance of embedding a primary care foundation in neighborhoods, because "health is won or lost in the community." The participants largely agreed that primary care is the essential foundation of an improved health care model and that effective primary care requires much deeper community engagement than is currently the case.

The participants also discussed how effective investments in and use of health technology could have a substantial impact on quality and costs. From a purely medical perspective, Dr. Naresh Mandava, Chair of the Department of Ophthalmology at the University of Colorado School of Medicine, explained how telemedicine could be used eliminate unnecessary visits to doctors' offices. He explained, for example, that remote imaging technology, home vision testing, and video conferencing can be used to substitute for traditional eye exams, thereby more effectively treating patients who live far away from a health care center.

Another realm of technological change that is coming to health care is the advent of big data. Dr. Larry Gold, founder of SomaLogic, suggested that very little data is actually used effectively, despite its enormous potential to transform a "sick care" system to a true health care system. For example, he noted that Google term searches can be used to track outbreaks of illnesses like the flu. Dr. Heidi Wald, Vice Chair for Quality in the Department of Medicine,

also explained the potential impact of leveraging data, suggesting that there could be important quality improvements and cost savings as a result of making more information available to providers in a manageable fashion.

The final theme discussed at the roundtable was the importance of making the health care system friendlier to consumers. Dr. Pete Hudson, CEO and co-founder of iTriage, emphasized how consumers often struggle to navigate the health care system. To address this issue, he developed iTriage, one of the most popular health care smartphone applications, to allow consumers to control their personal healthcare through researching symptoms and connecting to appropriate providers. Dr. Bob Kocher, Partner at Venrock, suggested that health care needs to be de-mystified and viewed more like a consumer product, giving consumers more control and awareness of their health care options and relative cost and quality. For example, he suggested that companies like Geisinger, which guarantee results for their services, and Castlight, that helps people understand cost and value, has the potential to put pressure on the entire system. Another dynamic that could drive effective reforms is the move from traditional fee-for-service model to a capitated system, where consumers pay for an episode of care rather than individual treatment decisions.

Dr. Oliver Kharraz also called for making increased information available to consumers. ZocDoc, a company he founded in 2007, helps patients to schedule appointments online with providers within their networks and rate their physicians, making health care services far easier for patients to access and navigate. The concern that patients don't know how to navigate the medical system was echoed by Dr. Malik Kahook, Chief of the Glaucoma service at the University of Colorado Department of Ophthalmology. Dr. Kahook pointed out that patients routinely get duplicate diagnostic tests and fail to adhere to prescribed medications due to suboptimal information management and lack of clear lines of communication across different healthcare settings.

One overarching barrier seemed to be actually implementing transformative ideas. Though the idea of offering $100 million was meant to suggest that money would not limit big ideas, some among the group focused on the limits of such a grant. Among them was Dr. Richard Krugman, Dean of the University of Colorado School of Medicine, who articulated that innovation's hurdle was one of scale – or in other words, focusing funds not only on developing more effective approaches to problem-solving, but then implementing the new ideas. Dr. Adam Atherly, Chair of Department of Health Systems, Management & Policy at the Colorado School of Public Health, pointed out that part of the frustration of innovation in health care is that the problems are already well-articulated, and so are many of the solutions. The sticking point has been in scaling up the identified solutions. One such solution Dr. Atherly identified is

developing incentives for patients to choose accountable-care type systems for their health needs. Despite the collective impatience of the group to see these ideas take form on a broad scale, a few members also cautioned that sometimes the best way to make meaningful changes is not through a few sweeping modifications but rather through thousands of incremental improvements.

Though participants varied on how much they would emphasize integration, primary care, technology solutions or consumerization, all would agree that the system is ripe for transformation. A challenge is that most health care participants—such as doctors, patients, nurses, and hospital administrators—are generally entrenched in the day-to-day trials. The task for an academic medical center, suggested Dr. Glenn Steele, CEO of Geisinger Health Systems, is to rise above such pressures and make a long term commitment to being a living laboratory for innovation. To do so, Dr. Steele observed, takes leadership and a commitment that the current model—which often fails to facilitate collaboration, community engagement, leveraging technology, or engaging consumers—must be reformed.

APPENDIX A: PARTICIPANTS IN HEALTH CARE INNOVATION ROUNDTABLE

Dr. Adam Atherly, *Colorado School of Public Health*
Katherine Blair, *Office of Governor John Hickenlooper*
Dr. Frank deGruy, *University of Colorado School of Medicine*
Robert Di Scipio, *Aegis Analytical Corporation*

Amy C. Ellis, *University of Colorado Law School*

Dr. David Goff, *Colorado School of Public Health*

Dr. Larry Gold, *SomaLogic*

Dr. Peter Hudson, *iTriage*

Bruce Johnson, *Polsinelli*

Dr. Doug Jones, *University of Colorado School of Medicine*

Dr. Malik Kahook, *University of Colorado Department of Ophthalmology*

Dr. Oliver Kharraz, *ZocDoc*

Dr. Bob Kocher, *Venrock*

Dr. Mary Krugman, *University of Colorado Hospital*

Dr. Richard Krugman, *University of Colorado School of Medicine*

Dr. Jean Kutner, *University of Colorado School of Medicine*

Dr. Thomas Lee, *One Medical Group*

Laura Littman, *Silicon Flatirons Center at the University of Colorado Law School*

Dr. Naresh Mandava, *University of Colorado School of Medicine*

Ed Park, *Athena Health*

Janet Shikles, *Health Policy Consulting*

Dr. Glen Steele, *Geisinger Health Systems*

Dr. Heidi Wald, *University of Colorado School of Medicine*

Phil Weiser, *University of Colorado Law School*

Dr. Jennifer Wiler, *University of Colorado School of Medicine*

Dr. Shale Wong, *Children's Hospital Colorado*