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Flatirons Report

Building a Great Health Care Innovation Ecosystem

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Silicon Flatirons is a center for innovation at the University of Colorado Boulder to serve students, entrepreneurs, policymakers, and professionals at the intersection of law, policy, and technology.

Flatirons Reports capture thoughtful analysis of various issues in law, technology, and entrepreneurship. These reports are derived from research conducted by Silicon Flatirons faculty, fellows, and research assistants, as well as from thoughtful conference and roundtable conversations hosted by Silicon Flatirons that include academia, policymakers, legal professionals, entrepreneurs, and students sharing their knowledge and best practices on specific topics.

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Executive Summary

Entrepreneurs and their upstart companies are challenging the health care industry's high costs, frequent lack of transparency, and outdated processes. These innovators are responding to opportunities created by artificial intelligence, internet-based technologies, and regulatory pressure to provide value-based, outcome-driven care on an individual level. But entrepreneurs must find incumbent partners to navigate the risks and uncertainties inherent in health care and to understand its complex processes, regulatory approvals, and patient sensitivities.

For their part, many payers and commercial vendors recognize that the status quo is unsustainable. The United States is experiencing stagnating patient outcomes despite oversize increases in costs. In response, the Center for Medicaid and Medicare Services (CMS) and Congress have championed new reimbursement plans that increase efficiencies and outcomes.

Tackling health care's recurring problems and scaling these new models require entrepreneurship and fresh thinking, but many incumbents will attempt to control the transition to health care's future. They will fail in this misguided effort. Those that adapt to a changing environment—by listening to entrepreneurs, responding to the demands of consumers, and urgently scaling new experiments—will thrive.

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Introduction

On June 2, 2017, the Silicon Flatirons Center for Law, Technology, and Entrepreneurship convened a roundtable entitled *Building a Great Health Care Innovation Ecosystem* at Polsinelli in Denver.[1] As described in the report, the diverse set of attendees—representing providers, upstart firms, academic institutions, and governmental officials—was eager to extend Colorado's reputation as a leading hub for health care innovation.

Colorado's entrepreneurial community supports the state's many health care startups. The roundtable included representatives from Colorado-based startups 3PHealth, ReVision Solutions, MBio Diagnostics, RxRevu, cliexa, Friday Health Plans, and guests from San Francisco's Blockchain Health. Multiple organizations within Colorado support these companies, including the Blackstone Entrepreneurs Network (a community connector), 10.10.10 (a venture generator), Prime Health (a health innovation ecosystem), and, opening in 2018, Catalyst HTI (a digital health facility). Through StartUp Health, regional entrepreneurs now have access to a global network of partner facilities, entrepreneurs, and mentors, plus the regional resources of The University of Colorado Anschutz Medical Campus, UCHealth, and Children's Hospital Colorado. Entrepreneurs and incumbents benefit from the open data ecosystem made possible by the region's two clinical health information exchanges, CORHIO and Quality Health Network (QHN). The Colorado Longitudinal Study, which plans to create a one million participant biobank over a 10-year period, will further bolster Colorado's reputation as an epicenter of medical research and collaboration.

Coloradans directly benefit from this ecosystem. For example, consumers can compare the quality and costs of medical treatment through Colorado's All Payer Claims Database, administered by the Center for Improving Value in Health Care (CIVHC). And Colorado recently received a grant from the Center for Medicaid and Medicare Services (CMS) to develop an Accountable Health Communities Model (AHCM).[2] The AHCM focuses on the gap between clinical care and community services by addressing the health-related social needs of Medicare and Medicaid beneficiaries.

To propel health care innovation in Colorado, incumbent providers and payers must proactively partner with entrepreneurs. Part I's prognosis of three disruptive trends exhibits the symbiotic power of partnerships between incumbents and entrepreneurs. Incumbents may look to Part II for a roadmap for attracting entrepreneurs. Entrepreneurs may look to Part III to separate the leaders from the copycats; its objective—recalibrating mindsets—is essential to health care transformation. Finally, Part IV explains how academic medical centers can engage with entrepreneurs and drive innovation.

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[1] The list of participants is set out in Appendix A. A brief primer for those unfamiliar with Silicon Flatirons roundtables: pre-roundtable, participants are provided with a packet of readings, an agenda, and an outline with "strawman concepts" to be debated, discussed, and supplemented at the roundtable. This roundtable was divided into three one-hour sections: Best Practices on Open Innovation, Fostering Innovation in Academic Medical Centers and Hospitals, and Creating Innovation Communities. A "firestarter" kicks off each section with a five- to ten-minute introduction and is followed by a "responder" who may directly respond or tee up other points for participants to discuss. This roundtable followed the Chatham House Rule, meaning no participant was quoted without his or her permission.

[2] *Accountable Health Communities Model*, CMS.GOV, https://innovation.cms.gov/initiatives/ahcm/ (last visited July 7, 2017).

I. Partnerships Secure Positive Outcomes for Patients, Providers, and Entrepreneurs

Many entrepreneurs migrate to the health care industry from other fields after becoming frustrated with the health care system. They want the same transparent pricing, accurate insight into alternatives, and fast, reliable delivery that they receive in other industries. Entrepreneurs attempt open and urgent innovation, but incumbents are slow to adapt, citing bureaucracy, regulation, and consumer safety. Part I highlights three trends that promise to drive changes in health care: artificial intelligence, consumer applications, and regulations that favor value-based care over fee-for-service medicine. Each development points toward a future where consumers are empowered to take care of themselves.

Artificial Intelligence (AI) Potential roadblocks, including regulatory hurdles, upfront costs, and issues with workflow integration, are not dulling industry interest in artificial intelligence.[3] After all, "is Watson coming to eat all our lunches, leaving us to sweep the floors?," asked CT Lin, Chief Medical Information Officer of UCHealth and Professor of Medicine at University of Colorado School of Medicine. "I'm not convinced that won't be the case."

Regulation Health care has been relatively isolated because of its payment platform. However, new regulations are driving change, and the traditional health care model may not be viable in the near-future. The bipartisan Medicare Access and CHIP Reauthorization Act of 2015 (MACRA) establishes benchmarks for new payment models. It represents a shift away from the past practices by linking provider reimbursement from Medicare to performance on quality, cost, and other variables, and it creates financial incentives for physicians and other health care providers to migrate to care delivery and payment models involving shared financial risk for patients covered by Medicare and other payers. Bruce A. Johnson, Shareholder at Polsinelli, warned, "MACRA presents both opportunities and financial risks to the provider community, and any provider organization that is slow to adopt strategies to succeed under MACRA, or who hasn't fully engaged by 2019, will likely have challenges in the future because MACRA will impact what the provider gets paid by Medicare."

Internet-Enabled Applications (Apps) Unregulated, consumer-facing apps allow companies to rapidly scale and constantly iterate—using in-app data, usage, and surveys. A small tech company can create a minimum viable product within weeks, offer it for free to millions of consumers via a public app marketplace, and charge for additional functionality and analysis. Current health care-related apps primarily track wellness metrics like activity levels, sleep cycles, fertility, and stress; however, advanced devices offering heart rate, blood pressure, and even ultrasounds are increasingly connected to the smartphone. The immediacy, personalization, and connectivity of apps enable enhanced satisfaction and engagement among patients, noted Jeffrey Nathanson, President of 10.10.10. Companies should allow consumers to own their data and drive analysis, skipping the headaches they currently endure for the rare opportunity to discuss their test results and medical bills with their physician.

[3] Rachel Z. Arndt, *Artificial Intelligence Takes on Medical Imaging*, MOD. HEALTHCARE (July 8, 2017), http://www.modernhealthcare.com/article/20170708/TRANSFORMATION03/170709944.

The flexibility of consumer apps attracts innovators into the direct-to-consumer marketplace and away from the traditional health care industry's incumbents, noted Sally Hatcher, Co-founder of MBio Diagnostics, despite the potential rewards. "At Galvanize and Boulder Startup Week," Hatcher explained, "the urgency and excitement is palpable. There just doesn't seem to be the same urgency among traditional health care systems." It is also important to note that each app not integrated into the health system creates another data silo, in direct conflict to the data consolidation goals of most health systems. Wayne Guerra, Physician Entrepreneur, CU Innovations, agreed. Guerra's app, iTriage, serves as a "symptom checker to avoid ER visits." Consumers can download the app, select their symptoms, and view appropriate treatment facilities, options, and costs. Shortly after Guerra introduced iTriage on public app marketplaces and proved its value to consumers, Guerra approached urgent care centers and ERs. Initial adoption was slow. He anticipated more enthusiasm given the better patient outcomes and more efficient treatment. His experience accords with many other entrepreneurs within health care who express frustration at "regulatory hurdles, long sales cycles, and a high burden of proof" when trying to sell to health care systems.[4] While entrepreneurs who focus on unregulated consumer apps might see returns within five years, those who target health systems may not see returns for over a decade.[5]

Entrepreneurs who wish to tap into existing consumer networks must work with incumbents to navigate regulations, advise on seamless integration into the health care workflow, and shorten cycles. Partnerships with hospital systems can accelerate development by helping entrepreneurs answer "why?," "what if?," and "how?" These three questions, Guerra said, will prevent everyone from building their own hammers and independently looking for nails. "Why" starts as a basic reaction among consumers to a health care visit. "Why can't I get the price, why don't I know what my doctor is thinking, where are my medical records," Guerra questioned. Entrepreneurs analyze the "why" and ask "what if" by honing in on a result. "Those with deep knowledge need to help entrepreneurs ideate and assist them with the 'how,'" said Guerra, "the 'how' is all about execution and is typically the hardest part of the process." To answer "how," Mehmet Kazgan, Co-founder and Chief Executive Officer of cliexa, wants to be "tortured" and challenged by the industry, not simply told his idea is great. Incumbents can help entrepreneurs discern which health care player—patient, payer, or provider—is their customer, and how to tailor solutions to each player's needs, said Vanessa Carmean, Senior Manager of Healthcare Strategic Partnerships at Zayo Group.

To sway incumbents and spur adoption of current technology, newcomers must create market pressure, said Bart Foster, Chairman of ReVision Solutions. For example, self-vision exams are possible with current technology. But the 40,000 optometrists in the United States pay an army of lobbyists to resist the disruption of the current prescription process. If the health care industry, including optometrists, continue to spend big on lobbying, they may win the battle but lose the war.

[4] Christina Farr, *Silicon Valley Health Care Investments Take the Easy Path in Health Care*, CNBC: HEALTH TECH MATTERS (June 4, 2017, 2:03 PM), http://www.cnbc.com/2017/06/04/silicon-valley-health-care-investments-take-the-easy-path.html.
[5] *Id.*

II. To Attract Partners, Incumbents Must Simplify and Become Open By Default

Incumbents need newcomers to innovate. Through partnerships with entrepreneurs, incumbents urgently shorten development cycles and may openly engage disruptors on beneficial terms. Part II offers four practices incumbents can embrace to attract entrepreneurs and reduce friction within the health care community. The entire company must support these practices; as Liz Coker, Chief Operating Officer of 3PHealth, said, the existence of innovation groups (which can now be found in every major health care system) does not necessarily mean the rest of the organization is innovating or even accepting of change.

Open by default Incumbents need innovation partners. "We are an elephant, and it is tough to make the elephant dance," observed CT Lin. Competition for market share between health care systems has created discrete pockets of innovation with no integration efficiencies. There is little current overlap and no coordination, said Jeffrey Nathanson. All the major health care delivery systems in Colorado have developed some type of an innovation process, but he noted there is an opportunity to bridge these programs and enhance access for entrepreneurs: "we need to reduce the friction."

To overcome these siloes, Colorado must actively foster an ecosystem where collaboration is the norm. The forthcoming Health Innovation Strategic Plan, from the Colorado Office of eHealth Innovation, promises address many of these issues.

Systems can take advantage of outside influences and support, but first they must identify their strengths and weaknesses. Elaine Morrato, Interim Dean, Colorado School of Public Health, sees this process as spearheaded by multifunctional teams, where every player's inputs are valuable. "It can be organic, or designed; the core question is how to build across networks," Morrato said. David Pinkert, Chief Operating Officer and Co-founder of Friday Health Plans, agreed. Improving the quality and price in health insurance is too big a task for any one company. By innovating with partners, Pinkert noted, payers can work with providers, both new and old, to tackle care delivery and value-based reimbursement.

Incumbents must first overcome the industry's predilection for making knowledge proprietary, said Morrato. Companies like Procter & Gamble have succeeded by capitalizing on their consumer market knowledge after investing in it heavily. "Successful innovators channel the voice of the consumer when creating value and challenging traditional business models," Morrato said. Sharing consumer market knowledge built over time mitigates the need for data collection and "create, collect, repeat," she noted, because you learn from individuals with historical knowledge and market sense. Teaming industry mentors and long-term employees with entrepreneurs and newcomers promises to shorten time cycles to market.

Entrepreneurs and would-be partners demand responsiveness. When a startup contacts UCHealth, Julie Reisetter, Vice President of Innovation, talks to the company within three to five days. Of the 185 companies UCHealth has talked to, 35 of them are currently engaged in UCHealth's vetting process. Reisetter sets expectations early by plainly answering companies with a "yes," or "no," and minimizes the number of times she says "we'll get back to you." This direct

approach honors entrepreneurs' time. In the small startup world, respect builds relationships, and relationships build partnerships.

Educate and allow access Incumbents in the health care industry have an obligation to help new and experienced entrepreneurs answer Kazgan's questions of "why?," "what if?," and "how?" Educating entrepreneurs on the systems and daily workflow of clinicians is a key to success. "Time is the currency with which we negotiate with providers," said Carm Huntress, Chief Executive Officer of RxRevu. While developing RxRevu, Huntress spent hours every month with physicians to learn their processes within emergency rooms. Beyond time, entrepreneurs should focus on increasing workflow efficiency and decreasing time to market, added Kate Horle, Chief Operations Officer of CORHIO.

One solution to connecting entrepreneurs and physicians is CT Lin's Physicians' Informatics Group (PIGs). Around 20 PIG members serve as physician-teachers, technology builders, and clinical experts. They ensure physicians stay abreast of change and can partner with entrepreneurs and systems to implement new innovations.

Embrace data and measurements Interoperable backbone technologies are crucial for innovation. First, datasets validate what works. Many health care startups must prove that what they are doing works to continue receiving national or state grant funding, explained Carm Huntress. In the regular consumer tech industries, investors can easily observe user interaction and adoption. But it is harder to show value in the health care context. Second, consumers will increasingly demand access to their data. On average, patients remember only 30 percent of what their physician tells them at discharge, said CT Lin. But "data wants to be free," he remarked, and eventually patients will demand their complete health care records and data.

To prepare for this inevitability, Lin noted that four out of five Denver health care centers use Epic, a technology company behind electronic health records, and those using Epic can share data with others within Epic. In contrast, one entrepreneur expressed frustration with health care technology providers, noting that interoperability is rare—even when using the same provider—despite available technology. And medium-size hospitals are too small for larger technology providers; these hospitals have hundreds of independent legacy systems that don't talk to each other, said Steve Sherick, Founder and Chief Executive Officer at Innova Emergency Medical Associates. At this point, it's "easier to scale a health care IT consulting business than to scale a health care IT platform," said Ryan Kirkpatrick, Partner at Colorado Impact Fund. "We're just starting to get the right payment models, the right backbone infrastructure, and the right mindset."

Colorado organizations are already working on open data access at the state level. CORHIO and QHN are two clinical health information exchanges. CIVHC has claims data as the administrator of Colorado's All Payer Claims Database, as does UCHealth Data Compass. All three have an entrepreneurial spirit; "for fun," CORHIO is investigating blockchain and working to move emergency medical service records just to "see what happens, if doctors will use it the way they say they want to do so," said Kate Horle. But CORHIO struggles to find partners who scale as fast as they do, she said. And CIVHC struggles to convince the industry that claims data should be married to clinical data to advance innovation. Academics must commit to understanding claims data to incorporate it into their research and clinical trials, urged Tracey D.

Campbell, Vice President, Strategy and Business Development at CIVHC. Nonetheless, Campbell and CIVHC remain enthusiastic, "This is a bipartisan issue—it is *the topic* that synergizes the state. The Chamber of Commerce is completely behind making Colorado the healthiest state in the nation."

Capital Successful seed rounds and supportive investors can help spur the exits and returns venture capitalists look for, said Ryan Kirkpatrick. Startups need capital—and often much more than founders expect. But funding can be hard to find; health care companies are not natural choices for first-round venture capital investors due to industry-specific concerns around traction, adoption, and time to exit, noted Liz Coker. To attract venture capital money, startups need to validate their solutions quickly. Startups must adopt Silicon Valley's creed "fail early and fail fast," said Vanessa Carmean, and "quickly pivot on intention, solution, and usability as needed." A typical seed round of $500,000 or less may not be enough runway to fully prove a solution, but Colorado's regional reach across consumers of different demographics will maximize funding. Investors want to see companies interacting across regions and customer groups. In Colorado, they can. The region's health care entrepreneurs must be patient: Wayne Guerra encouraged participants to think of creating a community like learning a sport. It takes a core group, coached by mentors and practicing together, to create success, which begets success.

III. Auditing the Incumbent's Mindset for Mission, Passion, and Urgency

"Health care," said Mehmet Kazgan, "is about changing the behavior of patients and physicians." Part II's practices require a significant recalibration of the incumbent's mindset. Part III considers how to begin this transformation. Every individual within the organization must learn to embrace uncertainty, reevaluate risk, and question the status quo. The challenge for the incumbent provider or payer is harmonizing these qualities within the unique demands of the health care industry.

Hire and recruit entrepreneurs Steven Krein, Co-founder and Chief Executive Officer of Startup Health, encouraged incumbents to focus on collaborating with entrepreneurs building startups rather than only trying to identify and acquire the next health care Goliath. "This is day one in the re-imagination of health and health care; there are plenty of nimble, hungry entrepreneurs who are willing to work closely with you to build a solution that works for you," Klein said. Take the top twenty companies in Startup Health, Krein observed, and you will find that each of them have iterated on their initial ideas to collaborate and find product market fit. David Pinkert similarly suggested interviewers ask new candidates about their "innovation agenda:" what drives you, what would you like to fix, what are the challenges you have seen within the industry, and how would you fix them here? This assumes health care systems can recruit external talent; many may need to make internal changes.

Tone from the top—audit for mission, passion, and urgency "But that's the way we've always done it" rings hollow to entrepreneurs and a new generation of clinical-innovators. It will be hard to shake health care's "millennia of paternalism," said CT Lin. But that hasn't stopped him from trying. Lin offers a healthy dose of levity and wit to sway those who fear the future. He quips, "If you don't like change, you'll like irrelevance even less." During the roundtable, Lin performed

his own variation of Johnny Cash's "I've Been Everywhere," which he sings to entertain physicians resistant to technological change.

Lin is the example of an innovator working in an academic medical center. He started researching open notes (records to be shared with patients) in 2001; 16 years later, UCHealth is deploying open notes system-wide.[6] During the process, Lin observed that physicians range on the "innovation friendliness spectrum: you have the pen-and-paper physicians working alongside those with Bluetooth natural-language tablets in the wall." The younger generation increasingly expects innovation, "as this is the world they've grown up in," said Jean S. Kutner, Chief Medical Officer at University of Colorado Hospital. The challenge for Lin is bridging the two groups in a constructive way and teaching clinicians to live in both worlds.

"You can audit and change your own mindset," Steven Krein said, "and there is no cost to making the decision to change it." The mindset of a leadership team should be an initial focus, as they partner with entrepreneurs and mentor newcomers. Leaders should quickly identify those who block innovation from happening; Krein calls them "Chief Prevention Officers." While Krein noted that Chief Prevention Officers are in every organization, one entrepreneur urged health care systems to excise those who take too long. Systems should "disengage and disinvite" those that refuse to embrace innovation. Newcomers to the health care profession join entrepreneurs' low tolerance for "Prevention Officers." Thus, auditing culture must be a priority for incumbents.

Incentivize experimentation The risk-averse culture at an academic medical research center may result, in part, from the pressure to cultivate an academic dossier, said Elaine Morrato. The traditional academic world values individual scholarship and contribution over the team, on credentials, teaching, publication, and long-cycle grant funding. To shift the present culture, systems must encourage risk-taking. Morrato suggested externships, "short outbursts," and built-in sabbaticals. These should not be too structured. Indeed, Steve VanNurden emphasized that failing early and often is required to innovate. Thus, the significance of any results may even be downplayed beyond self-discovery during these brief departures. Mehmet Kazgan agreed, saying "health care innovation is not a strict process, but is agile and iterative."

These nontraditional journeys, however short, can spur creativity and induce empathy. "We all have personal health care stories," noted Kate Horle, "it is required for people to survive." These stories are what drives the urgency in entrepreneurs, said Steven Krein. "These personal stories can change someone's mindset in a moment," Krein said. Clinicians and researchers could witness these personal stories during a sabbatical or externship. VanNurden advised, "talk to patient advocacy groups for a sense of relentless urgency and passion for patients. We must laser focus on the end patient." Sabbaticals and similar excursions are a good first step.

Encourage collaboration across boundaries Physicians no longer operate as the sole, autonomous leader of a patient's health. Massachusetts General Hospital, said Creagh Milford, Chief Executive Officer of FullWell, prepared for this inevitability by creating flexible outlines for clinicians and residents to partner with entrepreneurs and innovators. Almost weekly gatherings of residents, payers, leaders, and entrepreneurs engaging in an open dialogue fostered urgency and

[6] *See also* E. Andrew Balas, *From Appropriate Care to Evidence-Based Medicine*, 27 Pediatric Annals 581, 581–84, (1998) (finding that it took an average of 17 years to implement original research in practice.).

an appreciation for the needs of other stakeholders. Health care systems also shared residents, facilitating innovation clusters and information sharing. Milford suggested Harvard's innovation track as an example of a more formal approach to incentivize innovation—participants can, for example, receive credit for filing patents. The track is offered as an alternative to others, like an National Institutes of Health researcher track.

Regardless of the path taken, any shift in mindset must retain a focus on the patient. A system's internal culture and support network will help channel the pressure to adopt novel technologies and models without fully understanding their costs and benefits. Steve Sherick likened the health care industry's range of innovation adoption to a train's caboose and conductor. "Do we shorten the distance between the front and back of the train? Or do we push the conductor farther forward?" Shortening the distance, he added, may be better for the overall community.

IV. The Academic Medical Center as the Entrepreneur's Patron and Proving Ground

Academic medical centers (AMCs) are perfectly positioned to spearhead the growth of Colorado's health care innovation community by ushering coherency and fast scaling. The thresholds for scale, regulatory hurdles, and regional differences are high in the industry, and innovative solutions must appease multiple stakeholders and their unique workflows. AMCs can act as a "proving ground" to test new hypotheses and innovation, said Ryan Kirkpatrick. Heidi Wald, Associate Professor of Medicine at University of Colorado School of Medicine and Physician Advisor to the Colorado Hospital Association, added that Colorado's advances in health care must contemplate the entire state. Colorado is diverse. Rural and critical access hospitals need to innovate to serve their communities. Telehealth is a promising example of a technology innovation for rural communities.

Coordinate CU Medical Center operates like the brain of the central nervous system, said Brett Peterson, Director of Ventures at CU Innovations, University of Colorado Anschutz Medical Campus. Peterson encouraged AMCs to adopt an incubator model and mirror the central nervous system's two-way communication paths to simultaneously disperse ideas to each node and bring in the new. Mehmet Kazgan encouraged CU to reach out to entrepreneurs doing cool things, not simply ideas that are directly relevant to its own roadmap.

Validate The current validation model requires five to seven years because it occurs at the medical system and center level, said Kimberly Muller, Director of CU Innovations, University of Colorado Anschutz Medical Campus, with each entity independently testing and trialing new innovations. An AMC's value, according to CT Lin, is 4,000 physicians using one common electronic health record (EHR) platform. UCHealth has one common patient portal across 4,000 physicians, seven hospital systems, and two million active patients. Lin suggested entrepreneurs innovate within clinics to conserve resources, then expand to the rest of the system to easily scale using the AMCs clinical infrastructure. Brett Peterson agreed, noting that CU can test point-of-care innovations across specialties, from pediatric to geriatric. The AMC supports both the development and deployment of new innovations, fulfilling "research on the translational edge—getting it to the consumer," summarized Heidi Wald.

Integrate AMCs can function as living clinical laboratories, said Muller, reducing the disconnect between clinicians and entrepreneurs. "An entrepreneur will look at tech and say it's amazing. Then a clinician will look at it and see reasons why it would never work in practice." Muller called this final step between physician and patient the "last mile." AMCs have unique insight into how new innovations will be used and how they will act in the physician's workflow because they can gather entrepreneurs, insurance companies, providers, and patients around the table, said Muller.

This iterative process—where AMCs and stakeholders challenge entrepreneurs on the advantages, drawbacks, and possible alternatives of their new idea—must be urgent. To avoid obsolescence by the time a new platform or model is ready, the innovation cycle must be shortened from three to five years to a couple of months, entrepreneur Mehmet Kazgan noted. Carm Huntress' RxRevu is now fully integrated into UCHealth's EHR. The accomplishment comes about one year after RxRevu and UCHealth began a pilot program to develop the platform. RxRevu is now the backbone for UCHealth's Prescription Decision Support platform.[7] RxRevu's trajectory presents the perfect case study for accelerated development from close partnerships with existing stakeholders.

Conclusion

Entrepreneurs and incumbents need each other to create lasting change in health care for the good of patients. This report captures participants' suggestions on how to foster that collaboration and entrepreneurial drive. Participants were united in their call for Colorado to become a health care innovation hub, and encouraged the community to continue the conversation beyond the roundtable's three hours. Colorado's providers, payers, patients, and entrepreneurs—across all the state's regions—must have an ongoing seat at the table.

[7] Paula Freund, *UCHealth Deploys Breakthrough Technology to Improve Treatment Accuracy for Heart Failure Patients*, UCHEALTH (Apr. 5, 2017), https://www.uchealth.org/today/2017/04/05/uchealth-deploys-breakthrough-technology-to-improve-treatment-accuracy-for-heart-failure-patients/.

Appendix A –Roundtable Participants

Tracey D. Campbell, Vice President, Strategy and Business Development, CIVHC
Vanessa Carmean, Senior Manager, Healthcare Strategic Partnerships, Zayo Group
Elizabeth (Liz) Coker, Chief Operating Officer, 3PHealth
Kathryn Costanza, Law Student, University of Colorado Boulder
John Crossman, Chief Operating Officer, Blockchain Health Co.
Julia Duvall, State Director, Senator Michael Bennet's Office
Donald M. Elliman, Jr., Chancellor, University of Colorado Anschutz Medical Campus
Bart Foster, Chairman, ReVision Solutions; Founder, SoloHealth; Chief Executive Officer, Sanitas Advisors
Wayne Guerra, Physician Entrepreneur, CU Innovations, University of Colorado Anschutz Medical Campus
Sally Hatcher, Co-founder, MBio Diagnostics
Kate Horle, Chief Operations Officer, CORHIO
Carm Huntress, Chief Executive Officer, RxRevu
Ethan James, Consultant
Bruce A. Johnson, Shareholder, Polsinelli
Mehmet Kazgan, Co-founder, Chief Executive Officer, cliexa
Ryan Kirkpatrick, Partner, Colorado Impact Fund
Steven Krein, Co-founder, Chief Executive Officer, Startup Health
Jean S. Kutner, Chief Medical Officer, University of Colorado Hospital and Professor of Medicine, Associate Dean for Clinical Affairs, University of Colorado School of Medicine
Richard B. Levin, Shareholder, Polsinelli
CT Lin, Chief Medical Information Officer, UCHealth; Professor of Medicine, UCDenver School of Medicine
Ashley Marie Mannino, Chief Operating Officer, Innova Emergency Medical Associates
Janet McIntyre, Vice President, Professional Services, Colorado Hospital Association
Creagh Milford, Chief Executive Officer, FullWell
Elaine Morrato, Interim Dean, Colorado School of Public Health; Director, I-Corps Training Program, Colorado Clinical & Translational Sciences Institute, University of Colorado Anschutz Medical Campus
Kimberly Muller, Director, CU Innovations, University of Colorado Anschutz Medical Campus
Jeffrey Nathanson, President, 10.10.10
Brett Peterson, Director of Ventures, CU Innovations, University of Colorado Anschutz Medical Campus
David Pinkert, Chief Operating Officer and Co-founder, Friday Health Plans
Joshua J. Pranckun, Associate, Polsinelli
Brynmor Rees, Director, Technology Transfer, University of Colorado Boulder and Colorado Springs
Julie Reisetter, Vice President, Innovation, UCHealth
Steve Sherick, Founder, Chief Executive Officer, Innova Emergency Medical Associates
Ryan Singer, Chief Executive Officer, Blockchain Health Co.
Steve VanNurden, Executive Director, Biotechnology Relationships, University of Colorado Anschutz Medical Campus and Chief Executive Officer of the Fitzsimons Redevelopment Authority
Jack Vihstadt, Law Student, University of Colorado Boulder
Heidi Wald, Associate Professor of Medicine, University of Colorado School of Medicine; Physician Advisor to the Colorado Hospital Association
Phil Weiser, Hatfield Professor of Law, University of Colorado Law School; Executive Director, Silicon Flatirons
Sidney Welch, Shareholder, Health Care Innovation Practice Chair, Polsinelli
Jennifer Wiler, Executive Vice Chair and Associate Professor, Department of Emergency Medicine, University of Colorado School of Medicine; Founder, Director, UCHealth CARE Innovation Center
Phyllis M. Wise, Chief Executive Officer, Colorado Longitudinal Study