

Trinity University

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Edward J. Schumacher Professor and Chair Department of Health Care Administration

November 12, 2021

As the Chair of the Department of Health Care Administration at Trinity University, it is my pleasure to submit our application for the CAHME/George and Regi Herzlinger Innovation Education Award. Included in this packet is our explanation for why we think our program should receive this award, letters of support from alumni, students, and Trinity Administration, and an example of one of our student team's business plan for a health care innovation.

Trinity University has been continuously accredited by CAHME since 1968. Our last site visit was in fall 2018 and we received the full seven years. As explained in our narrative, we are very proud of how our faculty work together to integrate concepts of innovation in healthcare management throughout our curriculum.

If we were to receive this award, we agree to make a short video about our success, we would have a representative present at the 2022 ACHE Annual Congress on Sunday March 27, 2022, and we commit to spending the award grant in ways designated in the application that would allow us to further our efforts to expose students to the value of the innovation journey.

If you have any questions or need further information from me, please do not hesitate to contact me.

Sincerely,

Ed Schumacher

Program Overview: Trinity University's graduate program for health care administration (HCAD) has a rich history and a vast alumni network, having been continuously accredited by CAHME since 1968. Our mission is "to enhance the practice of health care administration by preparing individuals for management and leadership roles in the health care field," and our vision is "to be the number one program in preparing leaders who will transform health care." Integrating academic preparation with experiential learning for students in both residential and Executive modalities, the HCAD program equips and empowers our graduates to exercise transformational leadership across a broad range of health services organizations.

In accord with CAHME's mission, our program has sought to advance and continuously improve the quality of its own education efforts, including through the guidance of its Advisory Council, its numerous collaborations with the industry that enhance faculty efforts and expertise, and a vibrant curriculum that is continually revisited to emphasize cross-disciplinary projects, student collaboration, real-world data, current demands, and hands-on experience. Additionally, our program seeks to advance the quality of healthcare management education beyond our institution, with efforts including, among others: the collaborative development and continual validation of the Collaborative Leadership competency model (Stefl, 2008; Clement et al., 2010; Kazley et al., 2016); active faculty engagement and leadership in the Association of University Programs in Health Administration; and, membership in CAHME's Mentorship Circle, with a focus on mentoring other programs' efforts to thread innovation throughout the health administration curriculum (illustrated most directly through our development of the Healthcare PRISm Pitch Competition, described in greater detail below).

Focusing On Innovation: Our program traces the origins of its innovation focus to April 2014, when our Advisory Council challenged the HCAD program to address the growing

demands of an ever-changing industry by focusing its attention on developing future leaders who would be comfortable innovating and transforming the organizations they would someday lead. Over the next year, the HCAD faculty worked with Trinity University's Center for Innovation and Entrepreneurship to weave principles of innovation and entrepreneurship throughout our curriculum, fueled by the conviction that healthcare organizations face an innovation imperative and need leaders who embrace an entrepreneurial mindset. As a result, we have created a curriculum that equips future healthcare entrepreneurs and intrapreneurs alike to define innovation as more than just exercising creativity, but as a continual mindset and approach to problem solving that incorporates empathy, vision, creative confidence, and critical thinking to meaningfully address problems or needs by developing and effectively executing solutions that are highly valued by organizations and end users alike. Within our evaluation of students' competencies, we strive to emphasize innovation not as a siloed concept separate from other content but as a guiding principle that is integral to many competencies students develop during their progression, including problem solving and decision making, leading and managing others, healthcare issues and trends, working in teams, and performance improvement, among others.

As part of our cohort model, all HCAD students navigate the same course progression together, and all students are exposed to a progression of innovation content across multiple courses such as *Operations Management*; *Health Services Organization & Policy*; *Health Economics*; and, *Policy*, *Populations, and Innovation*. Initiating the innovation progression in their first semester, students are exposed to the subject of innovation and engage in a design thinking workshop, emphasizing the values of human-centered design, stretch-thinking, collaboration, and continual experimentation. In their second semester, students validate and explore varied healthcare problems through a series of empathy exercises and ideation sessions,

leading them to self-organize into small teams that share a common interest in a specific healthcare problem. Teams are exposed to value proposition design and the Lean Canvas business model tool as they explore their selected problems and iterate potential solutions while consulting and workshopping their concepts with faculty and industry experts, including healthcare entrepreneurs. These efforts culminate in an internal innovation pitch competition known as "Tiger Tank." Like the "Shark Tank" reality television show, the Tiger Tank pitch competition – named for Trinity University's mascot – involves teams pitching their concepts to an external panel of healthcare executives and entrepreneurs.

Since 2015, we have annually hosted the Tiger Tank competition, becoming an integral event within our graduate program experience. As a result of their innovation journey, students subsequently initiate and apply their own innovation approaches to future curricular experiences, including in their fourth semester capstone course as they engage in small groups to execute live projects solving current challenges for varied healthcare organizations in the field. Following their coursework, all students complete a year-long administrative residency, and a required element of that experience is applying the skills and approaches they gained through the innovation journey to identify, understand, and explore solutions to existing problems in their residency organizations. Furthermore, we see the lasting impact this innovation journey has had on our graduates, with alumni repeatedly sharing how they are putting the innovation competencies they developed into practice at their respective healthcare organizations. These alumni in turn give back to the program by sharing their experiences and perspectives with students, whether through informal mentoring and conversations or through formal opportunities such as serving as Tiger Tank consultants or judges. Numerous alumni who have progressed to develop their own healthcare startups serve as architects of the Tiger Tank experience and are an integral part of delivering innovation content to students through design thinking workshops, ideation and iteration consultations, and educational sessions. Importantly, Tiger Tank has also illustrated a critical link to equity and inclusion. As students have navigated the innovation journey, they have embraced the opportunity to tackle a problem of direct interest to them, driven by their own passion without any requirement for prior relationships, resources, or work experiences that can so often serve as barriers for advancement. Students express that this has in turn fostered confidence, creativity, and innovation among a diverse array of peers.

As Tiger Tank developed through subsequent iterations, the value that students found in the innovation journey and the interest it received from the field prompted the HCAD faculty to consider how we could share our innovation journey for other health administration graduate programs and students to experience as well. This led to a variety of scholarship efforts – including numerous education sessions and two "Best Posters" at AUPHA Annual Meetings and a manuscript under review at the Journal of Health Administration Education – as well as, most notably, the development of a national pitch competition. In the Fall of 2020, Trinity University's HCAD program formally launched the inaugural Healthcare PRISm Pitch Competition – which stands for "Healthcare Problems Require Innovative Solutions" – as a free virtual event challenging healthcare management graduate students to embrace their own innovation journeys. Following a similar structure to our internal Tiger Tank pitch competition, Healthcare PRISm equips teams for innovation by offering virtual workshops and online lessons from the Healthcare PRISm website, covering a progression of content relating to design thinking and creative problem solving. As they progress through an innovation journey that spans from late August to early February, teams continually explore their problems and iterate their concepts, supported with further online instruction and individualized coaching from

healthcare entrepreneurs and intrapreneurs as they approach the moment they make their pitch. In its inaugural year, we learned of one program – the University of the Incarnate Word – that desired to make Healthcare PRISm a required element of its curriculum, and we offered close guidance and support in threading innovation through their curriculum, which became a key factor for our membership in CAHME's Mentorship Circle. Now in its second year, and with entries from a range of participating programs, we have been thrilled to also see two other programs include Healthcare PRISm as an integral part of their curricular experience, and it is our sincere hope that this embrace of the innovation journey only grows in the years to come.

As we note to our own students, we imagine both Tiger Tank and Healthcare PRISm as the start – not the end – to their creative solutions and innovative efforts. In other words, we view innovation as more than a single project or event; rather than a race with a finish line, it truly is a dynamic and constant journey, encompassing an entire approach to seeing the world and creating meaningful change. As a result, and as we continually navigate our own "innovation journey," our program commits to supporting opportunities for life-long learning on innovation, including through the efforts relating to scholarship, alumni engagement, and educational content relating to Healthcare PRISm as previously described.

Using the Award: If we were to receive these funds, we assure that they would be used to further grow the Healthcare PRISm Pitch Competition. Students highly value the coaching sessions from healthcare entrepreneurs and intrapreneurs, and additional funding could enhance this experience by increasing the time students spend with these innovators. We would also be eager to bring additional expert voices into the Healthcare PRISm innovation journey, including an online innovation symposium accessible to all.

November 12, 2021



To: CAHME George and Regi Herzlinger Innovation Education Award Selection Committee

Howdy,

We all enter healthcare administration with a mission. We don't know how we are going to fulfill that mission or even the path down which this mission will take us. Sometimes we are distracted from our missions, or our missions evolve and change.

Core to these missions is a fundamental need, as humans, to leave an impact. Some of us want to solve today's problems, some of us want to build a better system for tomorrow. Rarely do I see someone dedicate his or her career to health care without embracing a core personal framework of service. Only the best institutions and individuals know every day what service means to them. For the rest of us muggles, we lose sight of that service, and sometimes the passion fades.

Health care is not an easy industry to serve. Systemic change is hard. Impact is hard. Everything we do for this industry is incremental, and incremental progress can be difficult to measure, difficult to celebrate, and difficult to connect back to our mission.

Trinity opened my eyes to the world beyond hospital administration when I was a student. This was what ultimately infected me with the sickness (and it is, according to my family, a sickness) of entrepreneurship. The Trinity HCAD program saw this future of health care beyond the normal construct of our system as we knew it. Trinity started me down this path, and I am forever grateful. However, it was not until nearly a decade after I graduated that Trinity really changed my life.

Trinity has created a program through which students learn what it really means to incrementally disrupt this system and impact the lives of those we serve. Focused on pure innovation, Trinity has found the formula to inspire entrepreneurship and intrapreneurship and give students the confidence to make a difference, especially when the world feels immovable. Trinity has captured a spark in the industry and is preparing our future leaders for their new reality, not for the healthcare system we knew 20 years ago.

Most importantly, Trinity has ignited a passion not just in their students, but in their alumni. Like me, countless alumni have been inspired by this modern vision of the program and Trinity's impact can be seen across the US and in all socioeconomic levels in our system. Trinity has helped more and more alumni every year rekindle their dedication to their personal missions and reminded us all why we chose to serve.

This is the true innovation that should be recognized.

Sincerely,

Buzz White

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November 12, 2021

Dear members of the CAHME Selection Committee:

It's an honor to write a letter in support of the program's impact on my career, along with so many others and the innovative skill sets nurtured in the students of the past and future. I'm deeply indebted to this university for providing the foundation of my understanding of healthcare, the promise for healthcare's future, and the potential to advance the care delivery system for all.

Trinity is a catalyst for healthcare improvement, and training ground for the leaders needed to succeed in the ever evolving world. This is embodied by the program's approach in three main areas: in the classroom, in support of careers, and in the greater healthcare community.

In the classroom, students are ushered through a learning experience that emphasizes human-centered design and the intrapreneurial skills required to create sustainable improvements. The program's Tiger Tank program (similar to Shark Tank), has yielded viable ideas that were years before their time and produced health system executives that employ these skills, as well as several alumni that lead award-winning healthcare startups. In support of the careers, the program created formal and informal forums for alumni to discuss novel approaches to challenges and mentor early careerists. Lastly, Trinity has responded to the needs of the greater healthcare administration community by expanding the teaching of innovation principles with its national pitch competition. Through this initiative, students from every leading program across the nation tap into the expertise of Trinity's professors and innovation partner network.

As a leader of a healthcare startup and a trained healthcare administrator, I leverage the education and frameworks for improvement daily to create change in healthcare. The education, support, and encouragement that I have received through the program is immeasurable and the program's advances are only the beginning of the legacy of innovation Trinity will pave. I write this letter of support of Trinity's Health Care Administration program for the CAHME Innovation Education Award; as a proud alumni, and as a leader dedicated to making healthcare work for everyone and as a supporter of the next generation of changemakers.

Best Regards,

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Jerold McDonald CEO, Omaiven Health

Trinity University Alumni: Master of Science, Health Care Administration, 2008





To Dana Alexander, and Other Awesome People:

Hello! My name is Patrick Halinski and as a brief bit of background, I graduated from the Trinity HCAD program in 2011 and afterwards went to work in the hospital industry in various leadership roles. After 6 years in the industry, I became aware of a gap in technology related to "on-demand" staffing support for nursing leaders. I found a business partner and two investors and started my own company, Stogo, in June of 2017 and have been building that company ever since.

My educational experience at Trinity was invaluable for my pre-entrepreneur role as well as in my current role as the founder of Stogo. The didactic portion of my education developed a strong foundation in leadership, industry knowledge as well as giving me exposure to the various paths available to me post-graduation. Through various classes, guest speakers and creative class assignments the program challenged me to engage with the many facets of healthcare and all potential avenues of growth available to me throughout my career.

At the time of my graduation in 2011, the HCAD program at Trinity was beginning to create a more robust innovation program, focusing on both intrapreneur and well as entrepreneur skills and mindsets that would be beneficial no matter what role we attained post-graduation. Since then, under the leadership of Drs. Schumacher and Shay, the program has continually increased opportunities for students to learn and practice innovative behaviors. There are multiple external competitions that the students are encouraged to participate it as well as the creation of the PRISm program run by the HCAD department.

In addition to these expanded opportunities to "try on" the innovation hat, the school continues to engage entrepreneurs to come to campus and teach the students about all types of opportunities available post-graduation. As an example, I have personal experience using, as well as teaching, a human-centered design process commonly called Design Thinking (DT). Every year the school invites me to campus to teach the students how to use DT in every aspect of both projects as well as future employment. I use this as an example of yet another way the program continues to engage alumni in the industry to come and expose the students to all forms of innovation and how it can be applied to whatever task they are asked to perform.

Innovation is really about seeking new ideas and never being stuck in, "the way its always been done." From my personal experience as a student as well as an alumni and guest lecturer, I am constantly impressed at the HCAD program's drive to push the student to be innovative and to never be satisfied by the status quo. Any investment in the HCAD program to further innovative education will have a large impact on future healthcare leaders.

Please feel free to reach out to me directly with any questions or thoughts that you would like to discuss.

Patrick Halinski Founder, Stogo

www.stogo.com info@stogo.com

Dear selection committee

I am writing to recommend that Trinity University be awarded the CAHME/George and Regi Herzlinger Innovation Education Award. I am a second-year student in their residential Master's Degree program and will graduate in December of 2022 after completing my Administrative Residency at St. Luke's Health in Houston, Texas. I feel that my time in the didactic portion of the program has set me up to be the transformational leader that I aspire to be. While I learned a lot in all of my course work and through interacting with the faculty and my classmates, the most impactful time for me was going through the Tiger Tank journey. It was during this process that I grew the most and developed a sense of creative confidence. Working in self-identified teams, we were tasked to identify a problem, validate that this was a problem, develop a solution, and then pitch our solution to a panel of external judges. This was a messy process, sometimes frustrating, but it was also very exciting to see my team grow to a place where they were defending their ideas in front of experienced health care executives.

Projects like Tiger Tank allow for a different set of people to shine. It's allows them to choose a problem that they are passionate about and are also potential experts on in their own right. It gives them a voice to talk about something that might not be discussed or actively being solved. That personal investment and passion into the problem breeds a natural confidence, blooms creativity, and can then lead to a real innovative solution for the problem at hand.

Another thing that made this experience so meaningful to me was how it did not feel like a typical project. While we learned a lot from professors about human-centered design, ideation techniques, the importance of prototyping and getting feedback, the most valuable parts were when we got to interact with entrepreneurs and intrepreneurs. They didn't treat us like students, but instead, as if we were fellow start-ups. Of course, they mentored us on our proposed solutions, but they also gave us valuable insight into how their careers brought them to where they are today and helped us to see our career paths could take many different forks if we followed our passion.

In conclusion, I want to stress how thankful I am that I was able to go through this process. Regardless of whether I stay in a traditional health system my whole career, or get into the start up space, the approach to problem solving that I learned from the Tiger Tank journey will always be with me. I am excited as I move forward in my career to have the opportunity to use these tools to create a better health care system for everyone.

If you have questions or would like more information, please let me know.

Tyler Peavy,

tpeavy@trinity.edu

Letter of Recommendation CAHME & George and Regi Herzlinger Innovation Education Award

Andrea R. Simon November 2021

To whom it may concern,

I have the honor of providing this committee with a letter of support for Trinity University's Graduate Program in Healthcare Administration as a candidate for the inaugural George and Regi Herzlinger Innovation Education Award. I became a graduate student at Trinity in August 2019 to earn my Master of Science in Healthcare Administration in their 26-month on-campus program. I completed the didactic portion of my degree in December 2020 and will formally graduate in December 2021 upon completion of my year-long Administrative Residency. As I approach my graduation, I can make no exaggeration of my pride and faith in the quality of education I have received as a student at Trinity and hope to demonstrate with this letter how the program has specifically cultivated my passion for healthcare innovation.

First, I'd like to provide you with some background about me. I left home at the age of 14 on full-scholarship to attend Culver Academies – an elite Indiana boarding school with a long history of top-tier academics and numerous awards for their focused leadership development program. From there, I attended Emory University and graduated in 2015 Summa Cum Laude and with Highest Honors in Educational Studies (B.A., Psychology & Educational Studies). Shortly after my graduation I became a research coordinator at Baylor College of Medicine and Texas Children's Hospital where I helped launch the nation's largest-ever autism research study through the Simons Foundation. And in 2017, I participated in the National Science Foundation's Innovation Corps program which uses experiential education to help researchers gain valuable insight into entrepreneurship, enabling the transformation of invention to impact. I tell you this to make it clear that I have had the profound privilege of attending exceptional schools and working with world renowned institutions for over 14 years. Needless to say, I came to Trinity University with high expectations for what my education might look like. With this in mind, I hope that you will take my enthusiastic support of Trinity's graduate program for this specific award very seriously.

My Experience with Trinity's Innovation Curriculum

Trinity's curriculum integrates innovation constructs throughout every semester of oncampus learning, weaving education, exposure, and experience across courses in the form of joint projects, special sessions, guest speakers, curated reading lists, and so much more. As a student, we explored other countries and industries, imagined the potential impact of new technologies, investigated emerging care models, and completed workshops in consumer interviewing, problem discovery, design thinking, rapid prototyping, and idea generation (just

to name a few). All of this was in preparation for the hallmark *Tiger Tank Pitch Competition* in which we identified and innovated on real healthcare problems and then pitched our ideas to a panel of industry leaders and healthcare entrepreneurs. My experience with the Tiger Tank project was so impactful towards developing my critical thinking skills and understanding of healthcare transformation that I have personally found it to be more valuable than any case competition.

The reason that a project like Tiger Tank even came to exist is that Trinity's faculty are constantly innovating their own curriculum. Professors regularly seek, accept, and act upon student feedback by updating projects, re-focusing lesson plans, and even re-designing whole courses in response to student needs and the ever-changing healthcare landscape. It is this open-mindedness for new ideas and enthusiasm for change that has allowed the Trinity program to remain a leading graduate program in healthcare administration since 1968 and ultimately to develop projects like Tiger Tank.

Applying Innovation Principles as an Administrative Resident

A core feature of Trinity's innovation curriculum is that innovation is not a great idea or a clever product, it is a mindset and a method for understanding the true nature of a problem in order to identify novel solutions. This training has stuck with me throughout my administrative residency, impacting everything from how I conduct consumer interviews and leader meet-and-greets to how I approach new assignments, analyze data, or develop deliverables. Here I will provide three examples of how I have used my experiences with innovation at Trinity during my administrative residency.

- In my first month as a resident at one of our hospitals, I used discovery interviewing methods to identify a problem impacting EMS program managers across more than 25 hospitals which prevented them from collecting accurate data on EMS arrivals to the ED. After interviewing various stakeholders, I was able to recommend a small change in one field of the Epic EMR that would solve this problem. I then worked with program managers to understand which questions mattered most in order to bring the right metrics into a user-friendly, system-wide Tableau dashboard. Every step of this process leveraged lessons in innovation that I learned at trinity—from identifying the true problem to generating solutions to designing and iterating a user-friendly data dashboard.
- 2. More recently, I discovered a way to maintain insight to the physician group landscape with greater depth and scale than ever before and with no additional cost to the organization. Using my experience with the *Tiger Tank Pitch Competition*, I was able to construct a clear and compelling case, pitch my idea to our executive leadership team with confidence, and ultimately received approval to move forward with an even larger

- vision for the project than I had even pitched. Developing the confidence to present a new idea and risk failure is key to successful innovation and a primary take-away from my experience with Tiger Tank. While my team did not win the Tiger Tank competition, we did receive the "IDEO Award" for having best embodied the vision of the project by embracing principles of innovation and methods of discovery and design.
- 3. Finally, my passion for healthcare innovation has become so clear to our executive team that I was asked to work with our Training and Education team to develop the curriculum for an "Innovation Fellowship" for senior leaders in the organization to enhance their understanding of innovation principles and explore the emerging healthcare landscape. The first cohort for this fellowship will begin the program in January 2022.

Looking forward

Looking forward, I desire to build a career in healthcare strategy in order to advance healthcare innovation and transformation. In January 2022 I will transition into a new role serving as chief-of-staff for our Senior Executive Vice President and Chief Experience Officer. In this role, I will directly support projects in Consumer Strategy, Product Development, and Strategic Transformation in order to discover, design, and deploy new products and services across one of the nation's largest non-profit health systems. As I approach the final weeks of my administrative residency, one thing has become clear-- my education in healthcare innovation began at Trinity but will most certainly be a life-long learning journey.

Final Thoughts

It is my understanding that Trinity intends to use this award to further develop the *Healthcare PRISm Pitch Competition* — a companion of the Tiger Tank project that is open to students nationwide. Having watched Healthcare PRISm come to life in the middle of the COVID-19 pandemic when other schools were canceling case competitions and summer internships, I can assure you that Trinity's enthusiasm for sharing this experience with other schools is not only genuine, it is a priority. I can think of no program more deserving of this award than Trinity University and have no doubt that the support will go far towards bringing a truly transformative experience to many, many students.

Sincerely,

Andrea Simon
Trinity University MSHA Class of 2021

CAHME / George & Regi Herzlinger Innovation Education Award – Student Letter Written By: Claire Tallman, Trinity University MHA Candidate Class of 2022 November 2021

Like many students who first begin a Master's in Healthcare Administration (HCAD), I was excited to learn about hospital operations with the desire to one day become a CEO. While I still believe this to be an admirable goal, my professors, courses, project work and out of classroom opportunities have shown me just how much more there is to health and the administrative side of healthcare that exists beyond hospital operations. What stands out about Trinity's HCAD program is their dedication to innovation, which can be seen through different perspectives represented during classes, and even to the ways the professors embrace change and alter classes to best fit each year's cohort.

The program's classes are designed to help students think innovatively. Firstly, our courses are integrated with one another, which ensures that we are not learning in silos, but rather thinking about how to connect dots between the needs of finance and human resources as an example. This has helped us to become better strategic thinkers and get more accustomed to looking at the whole picture of challenges healthcare institutions and patients face. Secondly, our courses offer diverse perspectives about the industry as a whole, allowing us to dive into hospitals, clinics, insurance, managed care, patient experience, social determinants of health, health data, and more. We are fortunate to have guest speakers who come from large hospital systems, to start-ups, data analytic organizations, GPOs, clinics and more. They do not all agree with one another, but each of these perspectives enables my classmates and I to get a glimpse of the diversity of thought in healthcare!

There are so many ways that Trinity's HCAD program has shown my classmates and I the importance of innovation in healthcare. We have had sessions with entrepreneurs on using

tools or frameworks to think innovatively in a traditional workplace. We learned about design thinking and how to meaningfully use the lean canvas tool. We have been introduced to individuals, articles and books that speak to the importance of generating ideas and having the confidence to pursue them. Our projects are coordinated across classes, so we don't just learn how to integrate both business, clinical and social concepts. Much of this culminates in a project housed in two courses that is dedicated to identifying a challenge in healthcare and devising an idea of how to overcome it. We then compete against one another and pitch our solutions as if we were on Shark Tank, but call it Tiger Tank to pay homage to the Trinity Tigers! Not only was it a lot of fun to be able to flex our creativity, but we learned about the importance of being creative in a more traditional industry that is slow to change. It gave me hope that those working in healthcare wish for a better way to deliver care, and that by having the creative confidence to pitch ideas we can make it happen!

The most unique way that Trinity's program shows its dedication to innovation is in how our professors lead by example. In every class I have taken, there are slight tweaks in the way that the course is delivered. COVID certainly pushed every professor to think creatively and find ways to get students engaged, which changed a lot over the past year. However one professor, who is Trinity's new professor for Healthcare Finance, is a great example that extends beyond COVID. We were her first class to teach as a new professor, the amount of time, energy, and effort she put into making positive changes from Healthcare Finance I to Healthcare Finance II based off my cohort's comments, suggestions and recommendations was amazing. She showcased how to use design thinking and innovative approaches to help us learn better.

Traditionally healthcare has existed in silos. It has been thought of in silos, taught in silos and unfortunately still functions in silos today. What I have learned from my coursework is that

while it is satisfying to dive deep into topics such as operations or finance the most meaningful conversations are spurred when we are challenged to connect dots and build bridges between those areas. Zooming out allows us to see the silos more clearly and offers the opportunity to think creatively about how solve issues in healthcare.

Umm

Claire Tallman



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November 11, 2021

To the CAHME/George and Regi Herzlinger Innovation Education Award Committee:

I am writing to support the application of Trinity University's Health Care Administration (HCAD) to receive the inaugural CAHME/George and Regi Herzlinger Innovation Education Award.

Trinity University is deeply committed to innovation university-wide. Innovation initiatives are not centered in any specific department nor within a particular college or school, our Center provides support and assistance to *every* academic department. This work is well beyond the traditional tech transfer licensing, intellectual property and startup activities of a University. Trinity's Center for Innovation and Entrepreneurship develops entrepreneurial leaders from diverse backgrounds and disciplines by providing interdisciplinary curricular and co-curricular programming to students, faculty, staff, and alumni. Through Trinity's Center, members of the Trinity community engage with entrepreneurs, service providers, and investors to contribute to the innovation ecosystem.

In addition to faculty/staff innovation grants and support for collaborative efforts like Trinity's Makerspace, one of our approaches is to work directly with departments to brainstorm and implement innovative approaches to their work. Among the range of campus departments we have supported from Religion and Art to Education and Business, we have worked with HCAD department for the last eight years in the design, development, and implementation of Tiger Tank as a critical component of the HCAD curriculum that strives to instill the principles of innovation and entrepreneurship into their health care leadership development and community engagement.

HCAD-5311 (Policy, Population and Innovation) and HCAD 5313 (Economic Analysis in Health Care Organizations) are both required courses in the Masters in Healthcare Administration taken by all graduate students in their second semester. Since its inception in 2015, we have been involved with Drs. Schumacher and Shay in working with 23-25 Masters in Healthcare Administration students to develop startup concepts in the healthcare space. The class culminates in a pitch competition where each team pitches to a panel of experienced healthcare executives and entrepreneurs.

This incredible collaboration has become <u>a signature</u> component of the Masters in Healthcare Administration providing almost 200 future health care leaders the opportunity to develop a startup concept and pitch it to executives. Many students have indicated that the Tiger Tank experience was a definite factor in securing their Administrative Residency and was the reason they chose to attend Trinity University over other health care management programs.

I had the good fortune of witnessing work the faculty does with the students in these classes. The student work is consistently *exceptional*. These students worked effectively as a team, clearly showing the success of the dynamic and approach that Dr. Shay and Schumacher took in helping build real collaborative teams that were doing high-level work in solving real problems with innovative solutions.

While not every concept is pursued by the students as a real venture, the judges consistently remark every year on the high quality of the teams' concepts and how every venture concept should be given the opportunity to fully develop as an actual initiative. Furthermore, every student praised not only the quality of the course content but how their worldview had been tangibly broadened, preparing them for a landscape of unbridled innovation and disruption in health care.

The success of this program was greatly expanded in 2021 as the Healthcare PRISm Pitch Competition for Healthcare Administration Program, a nationwide pitch competition of *intrepreneurial* engagement with national healthcare systems. This co-curricular competition takes what the faculty are doing within the program and expands it across the nation, to all health care management programs. In my opinion this is exactly the type of curriculum our future health care leaders need, and seeing the great work the students have done gives me great hope for the future of our health care system.

We are thrilled to continue to programmatically and financially support these two innovative initiatives and the opportunity to work with the program faculty on this vision to transform the health care industry. I enthusiastically recommend the program for the CAHME/George and Regi Herzlinger Innovation Education Award without any reservation.

If you have questions or need further information, please do not hesitate to contact me.

Sincerely,

Luis Martinez, Ph.D.

Director, Center for Innovation and Entrepreneurship



Example of student team-based business plan for a healthcare innovation

As noted in our application statement, *Tiger Tank* is an internal pitch competition that involves competing student teams pitching their innovative concepts and solutions to healthcare problems before a panel of healthcare executives and entrepreneurs. It is a required element of two concurrent courses – *Policy, Populations, and Innovation* and *Economic Aspects of Health Care Administration* – that encompasses a months-long journey in which students embrace design thinking, business model canvassing, and creative problem solving, with students self-organizing into groups of 2-4 individuals. Each group focuses upon a specific healthcare problem of their choice and spends months exploring that problem and pursuing an innovative solution that they pitch at *Tiger Tank*, with the key deliverables including a 5-minute pitch (with accompanying pitch deck), a <u>Lean Business Model Canvas</u>, and a one-page executive summary.

The following materials share the deliverables a two-member team submitted to our *Tiger Tank* pitch competition in April 2020 for their concept, HealthBlox. During their innovation journey, the two students – Ian Crawford and Garrett Dewbre – joined together with a mutual passion to understand problems relating to healthcare providers' and medical groups' experiences with EHRs. Their HealthBlox concept is detailed in the accompanying Executive Summary, slide deck, and Lean Canvas model, which is the business model template that our program uses for the *Tiger Tank* experience. An adaptation of Alex Osterwalder's Business Model Canvas tool, the Lean Canvas is designed specifically for startup concepts and helps innovators clearly and concisely communicate their ideas and key assumptions at the early stages of concept development.

- -- Page 2: HealthBlox Executive Summary
- -- Page 3: HealthBlox Lean Canvas
- -- Pages 4-28: HealthBlox Pitch Deck
- -- Pages 29-33: Evidence of HealthBlox's viability Zus Health



Executive Summary

<u>Problem</u>: More and more physician groups are looking to get away from their off-the-shelf electronic health record (EHR) solutions, and move towards a custom built EHR. Despite the advantages of using a custom EHR, building a custom EHR is difficult. It requires lots of money, time, and effort for all of the development work and compliance adherence for certifications.

Solution: HealthBlox is the "WordPress" for EHRs. It's a tool that helps developers build EHRs in less time, with less programming. Technically speaking, HealthBlox is an API-first, low-code EHR platform-as-a-service. HealthBlox manages three overarching functionalities: Certification, Regulation, and basic EHR module functions. Each function of the platform is completely modular, like Legos, allowing for developers to plug and play EHR functions wherever needed.

<u>Target Customer and Business Model</u>: Our two main target customers are third-party development shops and in-house development teams within healthcare organizations. Customers are charged \$75 per month per active provider using the EHR that was built with HealthBlox. The assumption of 20,000 active providers on the platform at \$75 per provider yields \$1.5 million in monthly pre-tax revenue – or \$18 million annually.

Market Size and Validation: The overall EHR market is expected to reach \$38 billion by 2025. The Top 10 EHR companies have more than 250,000 customers, generating approximately 2.2 million monthly active users. And while the SaaS and IaaS markets are relatively saturated, there is still substantial room for growth within the PaaS market, which grew from 2.4% in 2014 to 12.5% in 2017. Nearly 2/3 of physicians said they want to switch EHRs, about ½ of physicians feel that they are neglected by their EHR vendor, and almost 1/3 state they wish their EHR was customizable.

Market Adoption: Expected early adopters of HealthBlox are Technology-Driven Health Startups, Value-Based Provider Organizations, and DPC-Provider Organizations. We plan to reach these organizations in a variety of ways: 1) Offering a "freemium" version of the product; 2) Hosting collegiate level "hack-a-thons"; 3) Attending professional conferences like HIMSS; and, 4) Search engine and social media marketing.

Competition: HealthBlox has one direct competitor in the PaaS space – blueEHR. blueEHR entered the market about a decade ago but they have failed to gain significant traction. This is due to their unnecessary capital investment in network infrastructure, a direct-to-provider business model, as well as their overall company mission.

Competitive Advantages: HealthBlox's competitive advantages include a proprietary method of data transfer between modules and the possibility to acquire a utility patent. Lastly, the decision to outsource network infrastructure rather than purchase allows for significant savings and reduction in projected costs.



Lean Canvas

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Problem (1)	Solution (2)	Unique Value P		Unfair Advantage	Customer Segments (1)
Physician groups want EHRs built around their workflows, but Out-of-the box EHRs offer extremely limited flexibility and customization. Building a custom EHR is difficult. It requires teams of developers to custom build the EHR from scratch using open source frameworks, and takes about 18 months to build and become certified. Both out-of-the-box and custom EHRs fail to grow and adapt to the needs of organizations over time.	Make it easy to build, deploy, and adapt EHRs with an EHR development platform. Provides modular EHR functionalities that can be connected together like legos to build an EHR. Functions include documentation, e-prescribe, lab test reporting, etc EHR platform constantly maintains the most up-to-date privacy, secuirty and regulatory compliance standards including HIPAA, HITRUST, PCI and GDPR, as well as ONC and CCHIT certifications. Key Metrics (4) Acquisition: - website and social media engagements - hack-a-thon participants Activation: - sign-ups - number of new patients added	- Build and deploy a custom EHR in up to 90% less time. (Increases development throughput and efficiency) - Ability to reference function modules, and utilize pre-built APIs thus saving time from writing basic code for standard functions like e-prescribe, scheduling and charting. - Less programming required End User: - Faster rollout times for implementation - Custom build is significantly less-expensive - Flexability for future change as organization adapts to ever-changing landscape - Practice specific EHR - Improved practice flow - Easier data capture		knowledge. - Possibilty to aquire utility patent for software design and infrastructure. Channels (3,4) - "Hack-a-Thons" at colleges to promote our brand, advertise to the community, and train future developers on how to use our platform - Booths at Health IT conventions such as HIMSS	Development shops/businesses building custom EHRs for 3rd party healthcare organizations. In house development teams for mid-sized healthcare organizations. Healthcare organizations that are displeased with functionality of their current EHR
Existing Alternatives (1)	- number of new clinicians added Retention:			Technology blogs, articles, magazines and press releases Serach enginge marketing	Early Adopters (2)
Pay millions of dollars to have an out-of-the-box EHR company make a few customizations for you. A software development team can use open-source frameworks to build a custom EHR for a physician group.	- number of active users Revenue: - customer acquisition cost				Technology-driven physician group startups (e.g. lora Health, One-Medical, CareMore, etc.) Organizations with primary focus on value-based care DTC-focused healthcare organizations
Cost Structure (4)			Revenue Streams (2,3)		
Customer acquisition cost: \$ 12,163 Marketing and sales monthly: \$97,300 Engineers monthly: \$67,500 Hosting monthly: \$3,000 Monthly fixed: \$164,800 Monthly variable cost per provider: \$17.86			Revenue model: Charge \$75 per active provider on a HealthBlox EHR Average customer life-span: 4 years (48months) Average customer life-time value: \$40,485.72 Break-even point: 2884 providers Break-even point timeline: 2.7 years (32 months) CAC / LTV ratio: 3.3		

Color Codes

Product Risk Customer Risk Market Risk



Crawford, Dewbre

Custom EHRs are "In"

Innovative medical groups are going custom...

one medical





Off-the-Shelf EHR

- X Little customization
- X Lack of interoperability
- X Slow to adapt

Custom-Build EHR

- ✓ Practice specific
- ✓ Improved practice flow
- ✓ Easier data capture

Problem

Building an EHR is difficult...







Labor-intensive

Problem

Building an EHR is difficult...



Certification Requirements



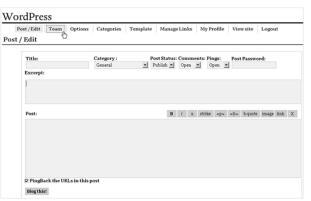


Lots of Planning and Development

Website Development

1990's

2000's



2010's







EHR Development

1990's

<caption style = "font-size:24px; color: #90F; font-weight: bold;"> An HTML Table for Tabular Data </caption> Col 1 Heading Col 2 Heading &td> :

2000's

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<caption style = "font-size:24px; color: #90F; font-weight: bold;">
 An HTML Table for Tabular Data
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 Col 1 Heading
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2010's

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<caption style = "font-size:24px; color: #90F; font-weight: bold;">
 An HTML Table for Tabular Data
</caption>
 Col 1 Heading
 Col 2 Heading
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Solution

The "WordPress" for EHRs...

HealthBlox helps developers build EHRs

in **less time** and with **less programming**.

Solution

The "WordPress" for EHRs...

API-First

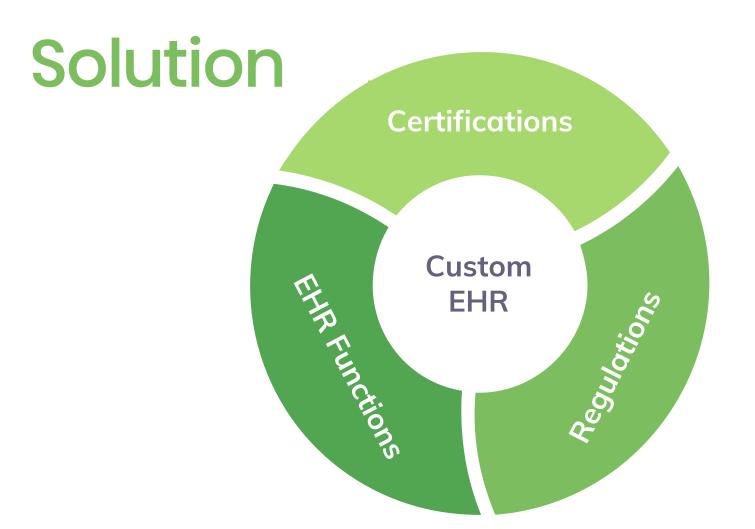
Interoperable with other tools

Low-Code

Developer friendly and easy to use

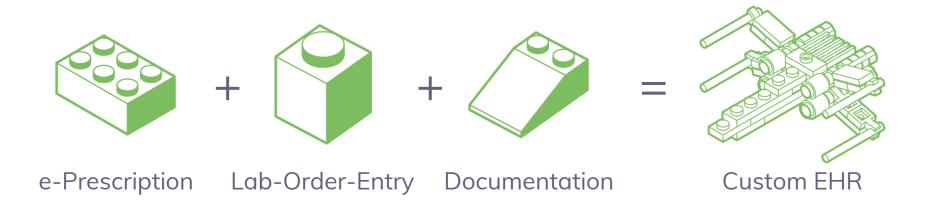
SDK

Software development kit



Solution

Modular EHR functions are like legos...



Target Customers

Developers building custom EHRs...



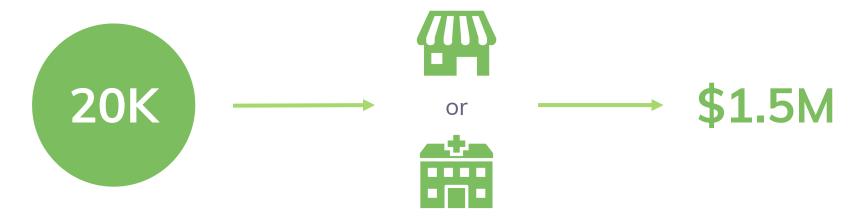
Third-Party
Development
Shops



In-House Developers at Physician Groups

Business Model

Subscription pricing: \$75 per month per EHR provider.



Active EHR Providers

Providers on an EHR built with HealthBlox.

Target Customers

Pay 75\$ per month per EHR Provider.

Monthly Revenue

 $(20K) \times (\$75)$

Market Validation

29% of physicians want customizable EHRs¹

47% of physicians feel neglected by EHR vendors¹

67% of physicians would switch EHRs²

Market Size

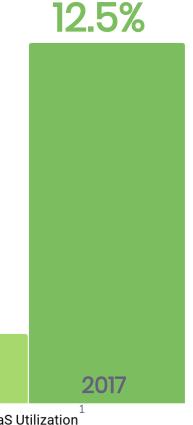
\$38B Expected size of EHR Market by 2025¹

265 Top 10 EHR Vendor Customers²

2.2 Top 10 EHR Vendor End-Users²

Market Size

PaaS utilization in healthcare is increasing.



PaaS Utilization

2.4%

2014

Market Adoption

Expected early adopters...

- √ Technology-Driven Health Startups
- √ Value-Based Provider Organizations
 - ✓ DPC-Provider Organizations

Market Adoption



Using the "Freemium" Model



Collegiate Hack-a-Thons



Professional Conferences



Website and Social Media Marketing

Pitch Deck

Competition



Competitive Advantages



Proprietary data transfer

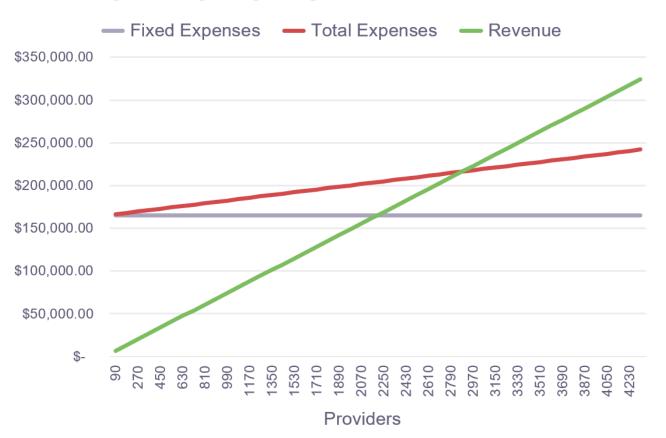


Ability to apply for **utility patent**



Outsourced infrastructure (laaS)

Financials



2885 providers to breakeven

2.7 years to break even

Financials



Monthly Fixed Costs



Variable Costs Per Provider



CAC / LTV Ratio



Appendix

Financial Assumptions

Storage Usage	
Annual added storage per patient (MB)	80
Annual added storage per patient (GB)	0.08
Monthly added storage per patient (MB)	6.67
Monthly added storage per patient (GB)	0.01
Starting monthly storage per patient (MB)	400
Starting monthly storage per patient (GB)	0.4
Storage cost with AWS S3 (per GB)	\$ 0.02
Storage request cost with AWS S3 (per, 1,000 requests)	\$ 0.005
Annual visit per patient	3
Average requests per visit	5
Annual requests per patient	15
Monthly requests per patient	1.25
Hosting/Compute Power	
Monthly Hosting with AWS (big start-up)	\$ 3,000.00

Providers			
Average PCP panel size per physician	2300		
Average DPC panel size per physician	500		
Our assumed average physicicna panel size		1500	
Engineers			
Engineer annual cost	\$	100,000.00	
Number of engineers		6	
Salary & benefits cost	\$	600,000.00	
Overhead muliplier		1.35	
Total annual engineer cost	\$	810,000.00	
Total monthly engineer cost	\$	67,500.00	
Monthly subscription cost per provider	\$	75.00	

CAC & LTV Tables

Customer Ad	cquisition Cost		
	Sales	Sales Eng	Inside Sales
Team composition	2	0	2
On target earnings	\$120,000	\$140,000	\$96,000
Salary Cost	\$240,000	\$0	\$192,000
Overhead multiplier	1.35	1.35	1.35
Salary + Overhead	\$324,000	\$0	\$259,200
Total Team Cost	\$583,200		
Avg. team failure rate	25%		
Adjusted team cost	\$777,600		
No. of Marketing people	2		
Avg cost per person	\$120,000		
Marketing programs spend	\$150,000		
Total Marketing costs	\$390,000		
Total Sales & Marketing spend	\$1,167,600		
No of deals per year	96		
Cost of Customer Acquisition	\$12,163		
Monthly Sales & Marketing spend	\$97,300.00		

Customer LTV	
Purchase price	\$ 75.00
Average providers per customer	11
Average monthly purchase value	\$ 843.45
Average purchase frequency rate	Once per month
Average customer lifespan (months)	48
Customer lifetime value	\$ 40,485.72



Interestingly, we are also including an article that was published recently – in June 2021 – detailing the launch of a new venture called Zus Health by Jonathan Bush, a serial healthcare entrepreneur and the founder and former CEO of Athenahealth. Although slightly different, the announcement of Zus Health describes a concept that shares numerous similarities with HealthBlox, a Tiger Tank concept that predated the introduction of Zus Health by more than a year (including descriptions of Zus Health as a "'Lego kit' for builders of digital health companies"). When we saw this story during the summer, we shared it with the HealthBlox team (who are currently completing their administrative residencies at hospital-based organizations), and we all received this news as strong validation and evidence of the strength and viability of the innovative concepts that Trinity University's students develop and present through their innovation journeys! The *Tiger Tank* project illustrates the power of equipping today's health administration students with the creative confidence and innovation competencies they will need to serve as tomorrow's transformational healthcare leaders.



Tech

Jonathan Bush is back at the reins of a health tech company with \$34M in the bank from a16z, Rock Health

by Heather Landi | Jun 18, 2021 7:45am

Well-known health tech entrepreneur Jonathan Bush has launched a new venture that aims to be a "Lego kit" for builders of digital health companies.

The company, which gained \$34 million in series A financing backed by Andreessen Horowitz (a16z), provides a shared development platform to be the common layer digital health companies use to build their tools.

"It's a Build-a-Bear for EMR, patient relationship management and CRM (customer relationship management)," Bush told Fierce Healthcare. The company, called **Zus Health**, will provide a shared data record back end and a software development kit that enables digital health companies to build and scale quickly at a lower cost, he said.

Companies can instead devote more resources to the front-end technologies that differentiate them in the marketplace, Bush, CEO of Zus Health, said.

Digital health startups are trying to innovate in an industry that has highly segmented data and complex regulations while they are also trying to hire engineers to build technologies in medicine.



"Laying all that track before they can even start to build a unique app or design or service experience is painful, it's expensive, time-consuming and hard to do well in a way that scales," Bush said. "What Zus is going to do is lay that track for what we're calling the digital health builder community so that they can get right to work on things that are unique to their businesses, products and services."

A confluence of technological, regulatory and financial tailwinds makes the timing ripe to launch the new venture, said Bush, who is the founder and former CEO of medical IT giant Athenahealth.

Zus Health is launching as federal regulatory changes open up access to patients' health records. The 21st Century Cures Act, implemented over the next two years, will require data sharing among non-affiliated providers and provide individuals with electronic copies of their data. "That's a big opportunity for the liberation of data," Bush said.

At the same time, there is an unprecedented level of investment in digital health, spurred by the shift to virtual care during the COVID-19 pandemic.

"The COVID-19 pandemic was a giant trial of all these new companies, and in that same year, \$14.1 billion went into early-stage digital health companies. We have a very large and growing group of well-funded, brilliant entrepreneurs and engineers that weren't there even five years ago," he said.

In contrast, when Bush launched his More Disruption Please marketplace in 2014, total venture capital into digital health companies topped \$896 million.

"We also have compute today that we never dreamed of five years ago. We have a new era of companies that actually want to share information. They don't do it because the law is making them; they want to because they need to be successful, and that makes for a willingness to use new technologies that work well in other sectors," Bush said.



The company plans to offer tools and capabilities across the tech stack including a growing library of software tools around patient relationship management, a data aggregation service that pulls together medical records to share across providers, a platform infrastructure that enables companies to unite their proprietary data with health records and a patient portal that lets users understand how their data are shared and accessed.

Zus collapses multiple layers of the tech stack—patient data retrieval, identity management and workflow automation—into a single platform and creates a community of digital health builders, said Julie Yoo, general partner at Andreessen Horowitz and newly added Zus board member.

"Zus will enable an entire generation of healthcare developers to spend their time building value at the clinical and experience layer, versus reinventing the infrastructure over and over again," she said.

Startups Cityblock Health, Dorsata, Firefly Health and Oak Street Health are working with Zus as early adopters. The companies will initially use Zus as an "information sidecar" and with the aim of building proprietary apps for consumption over time, according to the company.

"Time and resources are the two most precious commodities that startups have. Spending either rebuilding 'dependencies' in the healthcare stack is a distraction at best or a death wish at worst," said David Fairbrothers, co-founder and CEO of Dorsata, in a statement.

"We need to spend every minute and every dollar innovating solutions to real problems facing providers, patients and health plans and not reinventing 50 individual wheels. Much like how Amazon Web Services ushered in an era of internet innovation where launching a company only required a single laptop and nearly zero capital, Zus Health will drastically lower the cost of health care innovation and will speed our ability to solve important problems facing our health care economy," Fairbrothers said.

F-Prime Capital, Maverick Ventures, Rock Health, Martin Ventures and Oxeon Investments also participated in the series A round. Zus will use the fresh capital to grow its engineering team and invest in the platform, tools and products, according to a company press release.



It marks the second health tech company Bush has launched in more than two decades. Bush, a cousin of former President George W. Bush, co-founded Athenahealth in 1997 and ran the company until he was <u>forced out in 2018 amid pressure from activist investor Elliott Management</u>.

The company was sold to Elliott Management and private equity firm Veritas Capital for \$5.7 billion in November 2018. He reentered the health tech space in 2019 as **executive chairman of Firefly Health**, a primary care startup. He also holds board and advisory roles at several healthcare startups.