

U.S. House of Representatives
Committee on Small Business
Subcommittee on Health and Technology
Testimony of Ideomed, Inc., CEO Keith Brophy
June 27, 2013



Chairman Collins, Ranking Member Hahn, and members of the Subcommittee, I am Keith Brophy, CEO of Ideomed, Inc., and I appreciate the opportunity to address you today.

Ideomed is a Michigan-based company with a national focus. Our mission is to solve one of healthcare's most vexing issues: engaging patients long-term in managing their own health and chronic illnesses. Ideomed was launched in 2010 through Spectrum Health Innovations, a business unit of Spectrum Health, a major midwestern health system. The vision was to improve health outcomes through patient daily health engagement. It was a vision driven by real economic need: our nation's growing cost of chronic conditions — by some estimates 75% of every dollar spent on health care — was a catalyst.

I'm also here today as part of the Association for Competitive Technology (ACT), a trade association that represents technology companies involved in mobile app development. Founded in 1998 by software developers, ACT supports companies like us across the world: innovative small businesses that develop mobile apps, whether as a primary focus or, like Ideomed, as part of a broader solution. They help us navigate the laws and government regulations, and they advocate for developers at all levels of government. I am part of a large community of developer members who have benefited from ACT's hard work and resources.

A key player in the early vision for Ideomed was Spectrum Health Innovation's leader Kris White. Before becoming president of Spectrum Health Innovations, she'd enjoyed a successful nursing career and worked her way through the ranks to become a health system executive in charge of patient engagement. Another visionary was Ideomed's technology vice president Lisa Schutte, Ph.D., who brought expertise from her background in healthcare and product development. My own background as a successful transformational technology business entrepreneur, growth team builder, and innovative thought leader in human engagement solutions aligned perfectly with the company's mission.

More importantly, we assembled the current team of more than 30 employees with an eye on diversity of expertise and talent, and brought together people with an innovative, entrepreneurial spirit who are driven to transform health care. The team's collective background spans science, technology, engineering, math, user experience, content and creative design, and healthcare and business development. This team now constitutes one of the nation's greatest concentrations of health information technology expertise for a company our size. But early in our journey there were just a couple of us in a one-room office with a dream of making a difference.



The original prototype: an inhaler sleeve that provided medication reminders and encouraging messages.

Our original product concept was a sleeve device that slid onto an asthma inhaler to provide medication reminders and messages of encouragement to an asthmatic child. Our motivations to make a difference in the realm of asthma were great: 14% of all children in the United States have been diagnosed with asthma, according to the federal Centers for Disease Control and Prevention, making it the number one chronic illness among children and the fifth largest for the population at large. For those who suffer from it, asthma can have a major impact on quality of health and life. It can also be deadly.

In 2010 alone, the nation's emergency rooms saw 1.8 million unique visits in which the primary diagnosis was asthma, according to the CDC's National Hospital Ambulatory Medical Care Survey. We also understood the payer impact behind this condition. Of all ER visits in 2010, almost half — 49.1% —

listed Medicare, Medicaid, or CHIP (Children's Health Insurance Programs) as the primary payer, according to the CDC's National Hospital Ambulatory Medical Care Survey. Another 36.9% were privately insured.

By early 2011, we had produced a working prototype of this solution and a manufacturing plan for it. We also assessed how we might apply the same sleeve device concept to a pill bottle. We continued to have concerns about how we would get our product to market, including obtaining the FDA Class I or Class II medical device approval our sleeve would require, and how we would continue to innovate alongside the rapidly evolving pace of other consumer technology devices. We also continued to contemplate how our custom device could advance in the future considering the constant waves of innovation that were rippling across the industry of standard consumer technology devices.

Ideomed invested a significant amount in the development of the original prototype and in preparing for the marketing introduction in the face



Abriiz® Health Monster supports a wide range of user types with a number of tracking features that can be configured based on the end user's health focus.



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of these questions. As our team worked to move the solution forward, it became increasingly clear that committing more time and money — required to achieve FDA approval and bring the product to market — would be prohibitive to us as a small company working to build our entrepreneurial survival in a fast-changing market through progressive business success.

During this timeframe we gained tremendous insights into chronic condition management through our ongoing research, focus groups, and analysis, and developed a philosophy of successful patient engagement. We also recognized an interesting aspect about the ever-improving commercial mobile platforms.

Consumer trends and technology advances in mobile devices — mp3 players, smartphones and tablets — and rapid consumer adoption of them offered tantalizing possibilities. The adoption and use trends were

hyperbolic: as of June 2013, smartphone penetration in the United States is at 61%, according to Nielsen, and people were relying on the mobile devices more and more for an assortment of tasks. Why not have health-related tasks as one of them?

We shifted strategy, leveraging the explosive growth in consumer adoption of smart device and mobile technology and refining our business focus with awareness of the requirements presented in the Patient Protection and Affordable Care Act (PPACA). In less than 6 months, the Abriiz (“ah-breeze”) web- and mobile-based engagement platform was born. Our aim was to make the stewardship of one’s health a breeze.

This bold step allowed us to enhance the adherence, awareness, and engagement motivators we could surround an individual with through the mobile experience. We made it our mission to inspire individuals to steward their own health, rather than taking a policing or enforcement approach. Our goal was to make the experience valuable, easy, and fun where it was appropriate to do so. And most of all, to make it matter.

Abriiz® Heart, which targets elderly heart failure patients, debunked the myth that seniors wouldn't adopt mobile device technology.



Abriiz® Diabetes joined the product lineup in early 2013.



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A wide variety of industry studies clearly show that sustained engagement can drive better health outcomes. Studies have also demonstrated that a care management based multi-modal approach can have a positive impact on adherence and outcomes in chronically ill populations. Ideomed blended these approaches. We recognized the need for an enhanced system to assist care managers in supporting larger populations, accessing real-time patient compliance data, and engaging patients in their own care for ensuring long-term success.

Defining a replicable and scalable approach to "patient engagement" that simultaneously supported the care partner's existing efforts became the central focus behind the development of the Abriiz technology. We integrated various aspects of engagement and adherence science: tracker/reminders, incentives, repetitive motivation and education, self-monitoring, connected monitoring, positive social engagement, badge-based gamification, and more. The experience we offered to patients at the mobile level also connected to insurance companies at the web level, with the ability to involve families as well.

The screenshot shows the abriiz web application interface. At the top, it displays a photo of a child, Alex Brooks, and statistics: 2 Emergency Missed and 14 Rescue Taken. It also shows "DOSES IN LAST 30 DAYS". Below this is a search bar for "Select a person with asthma" and dropdown menus for "Available People" and "View All People". The main navigation menu includes CALENDAR, TRENDS, MEDICATIONS, GOALS, CLIPBOARD, and SETTINGS. The calendar view for June 2 - June 8 is shown, with each day having an "EDIT" button. The MEDICATIONS section lists "DAILY MEDICATIONS" for Advair (Morning and Afternoon) and "DAILY ENTRIES" for a Rescue Inhaler, Asthma Attack, Peak Flow 1, Peak Flow 2, Peak Flow 3, Triggers, Symptoms, and Activity Level. The WEATHER section shows predicted weather for the user's zip code. A copyright notice at the bottom states "© Copyright 2013 Ideomed, Inc. & Abriiz. All rights reserved." and "Version v3.5.10 13-JUN-2013".



Ideomed's cornerstone product, Abriiz® Asthma, provided a template for first-in-class user experience and brought our proprietary engagement science techniques to the interface level. Features such as the Dashboard, (web view shown at left) gives case managers and care partners a hub for sorting and viewing patients' daily tracking details in a scalable manner.

The initial iteration of the Abriiz web application was designed for insurance company case managers and, optionally, parents of the pediatric asthma patient. Insurance companies purchase the solution to drive better outcomes in their member populations.

The “care partner” tailors the mobile experience to the individual by creating medication reminders set for the exact time a dose should be taken. They can also create goals and incentivize the child to achieve them; for example, adherence to a medication regimen daily for 2 weeks is rewarded with a pizza party. If a patient or their guardian chooses, they can share account access with other care partners such as grandparents, school nurses, or other members of the broad care team, or “care web.” That care web becomes a powerful engine, helping the patient stay engaged, while acting as a safety net to catch early warning signs of a flare-up or need for an intervention.

The mobile app, which connected to the care manager’s web account, was initially designed for children and has an interface that was styled to address usability issues unique to a pediatric population. The app also features a built-in game designed to encourage use: as the child tracks and demonstrates adherence, they earn badges called “Abriizlings,” critters that interact and respond in the mobile interface.

We intentionally started our Abriiz journey with populations perceived to be the toughest — managed Medicaid provider populations often in disadvantaged social and income circumstances. We were warned that making a measured difference in these populations would fail for a variety of reasons: lack of internet access, lack of interest, inability to protect the devices. All of these warnings turned out to be overstated myths; our experience has illustrated this repeatedly as we continued to build success data.



Originally designed for pediatric users, Ideomed has found that the “Abriizlings” in our app-based game hold universal appeal.



Studies show that well-controlled asthma leads not only to better health outcomes, but significant cost savings in management of the disease. A 2011 study in Annals of Allergy, Asthma & Immunology showed that the costs of very poorly controlled asthma were more than twice as high as asthma under better control; those costs dropped as the status of their asthma control improved.

Abriiz has consistently demonstrated positive results in the field. Three early clinical trials showed a drop in emergency room visits during or after using Abriiz as well as other positive impacts. This suggested cost benefits as well, and we began to collect data in these areas.



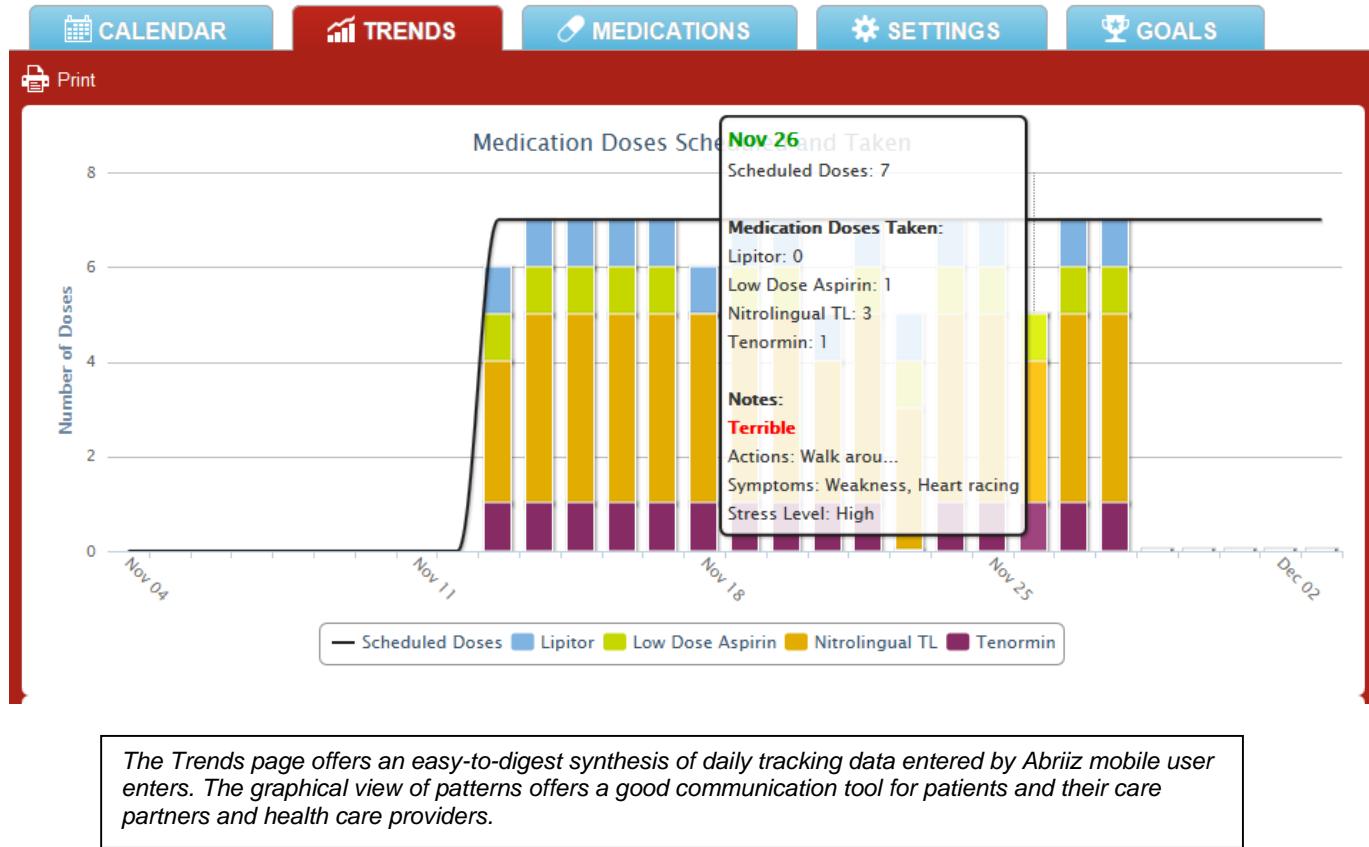
The results suggest Abriiz does all we'd hoped, and more. It upended assumptions — ours and others' — about whether we could successfully engage with more challenging populations, such as managed Medicaid. Why not apply the platform's principles to other chronic conditions, ones that present the same challenges as asthma? We started with heart failure at the end of 2012.

We ran into new traditional thinking myths, including the oft-stated assumption that older populations would not use mobile devices on a sustained basis. Our first usability study with a home health heart program debunked that myth also; the average number of days on which seniors used the mobile application exceeded 80% over a 6-month period.

Based on these encouraging myth-busting experiences, we continued to expand the suite. The Abriiz portfolio now includes solutions for diabetes, palliative care, and multiple conditions/co-morbid condition management. We have more products and integration capabilities in the works.

We're poised to enjoy incredible success. We've expanded our customer ranks across the midwest and nation. We've won a number of awards recognizing Ideomed's leadership and innovation. We even came full circle on the device front. We're now integrating, rather than custom building, a wide variety of devices used in monitoring personal health metrics — wearable devices, scales, glucose monitors and more.

We're united with health care providers and health insurers in our shared mission of saving lives and improving population health. And our solution addresses one of population health management's most difficult to solve issues: how to move the needle on behavior change in chronic condition management, how to develop an integrated care web to drive change and to drive engagement, and ultimately, how to persuade individuals to effectively take the wheel for their own health journey.



Abriiz represents a new breed of health applications. The application does not dispense any medical advice nor replace the role of any clinician. Rather, it extends the insight of the clinician and it inspires the human behavior and empowerment of the patient. This is a winning combination.

We look to a future of possibilities and touching lives, and peer ahead to anticipate the emerging guidelines which are not yet present for our industry. Ideomed welcomes governance, guidance, and regulatory partnership in shepherding a new era of patient-driven health care through mobile engagement.

As we build out a mature, effective, and highly integratable solution suite, we highlight the value of quick clarity in governance to innovative emerging businesses such as Ideomed. We are vigilantly careful about building solutions that are of the highest caliber for our users, and which simultaneously protect their data to the highest standards. Our success has been shaped by our ability to turn on a dime, to take this patient vigilance forward, to turn assumptions upside down, and, ultimately, to empower individuals with the ability to steward their health with the care and connectedness of a broader team, whoever might be part of that team.

It is important to remember the impact laws and regulations have on small businesses. I thank the Committee for placing the spotlight on developers like Ideomed who are working hard in a very competitive industry. With the possibility of unintended consequences disproportionately affecting small businesses, it's important for Congress to move carefully when making changes that affect health care mobile technologies.

These are transformational times in American health care, and we are proud to be an engine of that responsible transformation.