Community members address health care challenges during hack-a-thon

Lisa Hildebrand

Experts across the country – physicians, employers, legislators, insurers, and others—are working every day to reduce the costs and improve the quality of health care. So, too, are community members like those who participated in the BuildHealth event in Milwaukee in April.

Engineers, students, nurses, and educators were among the 34 people who shared their skills and interests during the 28-hour BuildHealth (www.buildhealth.org) "hack-a-thon."

The goal of the event was to generate positive dialog among community members with the intent of generating creative solutions to pressing problems in health care, according to Tim Syth, who produced the event. "The idea is to start the dialogue, get the conversation going and then carry it forward," Syth said. "There are a lot of passionate and informed people who want to contribute. This is a way to bring together different skillsets to address community challenges."

Five teams emerged from an opening conversation Saturday, April 14 about various health care issues. Society Chief Operating Officer Linda Syth, Society Chief Medical Officer (CMO) Tim Bartholow, MD, and Mary Reinke of Aurora Health Care shared their expertise as team members researched and discussed the challenges they selected. The Society, University of Wisconsin-Madison Population Health Institute, US Department of Health and Human Services (HHS) and other organizations supported the event at Bucketworks, a non-profit organization that provides collaborative and creative space for individuals, businesses, and community groups in Milwaukee.

"The Wisconsin Medical Society is honored to play an important role in fostering the development of the kind of cutting-edge solutions that are so critically needed to improve access and provide the best possible care to all patients," said Wisconsin Medical Society CEO William "Rick" Abrams, JD.

The Top Two Concepts

By noon the second day and after several participants worked throughout the night, the 5 teams presented their projects to a panel of 3 judges. The winning team—The Hardware Guys—developed a multi-surface ultraviolet (UV) room sanitation system to help reduce the incidence of health-care–acquired infections in hospitals and other medical facilities.

Jesse Robinson of Beloit came to the BuildHealth event with a basic idea for the automated UV system, and Steve North and Alex Lee partnered with Robinson to refine the 3-device concept. The system is designed to supplement and reduce current cleaning procedures and improve efficiency. While current devices rely on extended exposure time to kill pathogens in shadows, this system cuts sanitation times and provides direct light to all areas in a room to improve effectiveness.

"A lot of great work was done by all of the groups," said Society Treasurer John Hartman, MD, of Green Bay, who served as one the judges. "It was an honor for me to participate." The other judges were Tina Chang, CEO of SysLogic, Milwaukee; and Greg Tracy, chief technology officer of Asthmapolis, Madison.

In addition to a $1,500 cash prize for their winning concept, which Dr. Hartman called "an innovative approach to a problem that's been around a long time," The Hardware Guys received the People's Choice Award (and $500) after a vote by all of the participants.

The first-place prize also included an invitation to the 2012 Health Data Initiative Forum, a national competition for the best new apps and services created using health and health care-related data. However, the

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About BuildHealth

A program of the School Factory (http://schoolfactory.org/), BuildHealth was designed to activate community members in Milwaukee and throughout the state around health care issues. The School Factory is non-profit organization based in downtown Milwaukee that supports and creates communities that transform education. Designed to align with the US Department of Health and Human Services' Health Data Initiative (www.hdiforum.org/), BuildHealth was conceived and produced independently to focus on community solutions to community challenges.

BuildHealth: Fall 2012 is scheduled October 15-21 and will include listening sessions in the broader Milwaukee community, an "unconference" to crowd-source the health care challenges brought forth by community members, and a 2-day hack-a-thon.
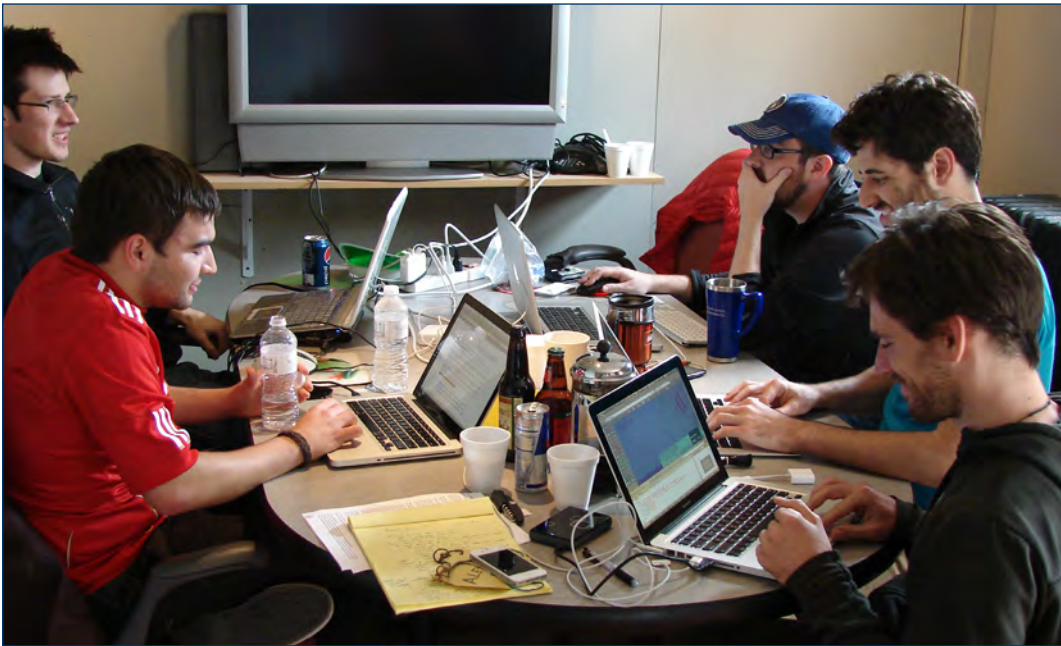
The triage.me team puts the finishing touches on its application to help guide patients to the most appropriate care option. At left are Mark Wolters and Stuart James. Alex Luger, MD, is at the head of the table. Mark Olschesky (with baseball cap) and Dan Wilson—both of moxeHealth—are seated next to Dr. Luger. Olschesky and Wilson presented the application at the 2012 Health Data Initiative Forum in June—a national competition in Washington, DC.

financial resources to develop a more presentable prototype in that timeframe were unavailable, and The Hardware Guys "passed the torch to 'triage.me'," Tim Syth said.

The Challenge

Geared toward underserved and uninsured patients, 'triage.me' tackles the education, transportation, and incentive factors that lead people to rely on their local emergency departments (ED) for routine care. Two team members—Dan Wilson and Mark Olschesky of MoxeHealth—presented the triage.me application at the Health Data Initiative Forum in Washington, DC, in June.

The application grew out of a challenge Reinke posed to the BuildHealth participants: How can technology help overcome and change behaviors associated with using the emergency department for routine care? The challenge stated that from March 2011 through February 2012, more than 21,000 of the ED cases at Aurora Sinai Medical Center were categorized as non-emergent/low-severity.

"My initial reaction was that I wasn't sure what technology could do to solve this problem," said Wilson, CEO of MoxeHealth in Madison. "At the same time, that's what made it the most compelling. We were there

to think completely outside the box. The more Mark and I thought about it, we realized the potential."

Triage.me uses highly scalable web and short message service (SMS) technologies to provide real-time decision making that helps patients locate the nearest open free clinic, federally qualified health center (FQHC), urgent care or ED based on the acuity of their medical condition and their insurance status. The application, which is designed to help patients find appropriate care and to reduce the inappropriate use of ED services, includes a web-based portal for triaging care needs and a database to help the patient locate the closest and most appropriate care provider (along with directions and public transportation options).

Other triage.me team members were Alex Luger, MD, Stuart James, Mark Wolters, and Tom Kaczmarek. An internal medicine resident in California, Dr Luger traveled to Milwaukee for the BuildHealth event after learning about it from Mark Ratzburg, an adviser for the event. "I thought it was an excellent opportunity to visit Wisconsin," said Dr Luger, who received his bachelor's degree from the University of Wisconsin-Madison and is originally from the Minneapolis area. "I've always had an interest in both technology and health care."

Doctor Luger was glad he made the trip. "It was amazing how everyone collaborated so well together," he said. "It was clear that everyone was there for a common goal of creating solutions." He's excited about triage.me receiving national attention and said, "I think it's commendable that they wanted to focus on patients who otherwise don't have good access to care."

Taking it to The Next Level

After learning that they would be participating in the national Health Data Initiative Forum, Wilson and Olschesky rebuilt the triage.me application to include the necessary security and make it more stable. They also researched the factors most often attributed to inappropriate ED use.

In many cases, people simply are unaware of the resources and care options available to them, Wilson said, adding that "access is another issue." As reimbursements by Medicare and Medicaid continue to decrease, physicians are limiting the number of their patients who receive these benefits.

"In addition, clinic hours are listed for only one of the free clinics on the Wisconsin Department of Health Services website," said Wilson, who graduated from the University of Michigan and met Olschesky when they both

were working for Epic Systems Corporation in Verona, Wisconsin.

The redesigned triage.me application addresses the lack of information regarding clinic hours. "We've put a system in place to handle the randomness of their schedules," Wilson said. "Clinics can send a text message to triage.me to say when they are open or closed, and triage.me can better expose that information to patients."

Another factor leading to inappropriate ED use is misaligned financial incentives, Wilson. "Bad debt is rising for health care organizations, and it is being compounded by people who have other options for routine care but for whatever reasons are not utilizing them," he said. "Inefficiency is reinforced because it seems like it's free to go to the emergency department. We're looking at ways to incentivize patients to seek appropriate care in an outpatient setting, where they would be better served."

Wilson never imagined he would be presenting an application like triage.me at a national competition when he founded MoxeHealth less than a year ago. His original intent for the company was to focus on outpatient case management. Then he heard about the BuildHealth event through the Madison Health Tech group (www.madisonhealthtech.com).

"The core issues with this and other challenges facing health care are operational process and policy," Wilson said. "Very few problems in health care are directly related to technology. What technology can do, though, is expose operational weaknesses, support better practices and prompt improvements."

Community Action to Improve Health

Also known as the Health Datapalooza, the Health Data Initiative Forum (www.hdiforum.org) highlights the creativity of inventors using health data to develop applications that raise awareness of health and health system performance and spark community action to improve health.

Now in its third year, the Health Datapalooza is organized by the public-private Health Data Consortium. The national

Winning team members and judges join Kenneth Munson, far right, of the U.S. Department of Health and Human Services for the BuildHealth award ceremony. From left to right are judge Tina Chang, judge John Hartman, MD, team member Steve North, judge Greg Tracy, team members Alex Lee and Jesse Robinson, and Munson.

competition brings together data experts, technology developers, entrepreneurs, policy makers, health care system leaders and community advocates to support innovative applications of health and health care data. The Institute of Medicine and US Department of Health and Human Services originally launched the event in 2010 as the Community Health Data Initiative.

"This is a wonderful opportunity for MoxeHealth to showcase what we're trying to do," Wilson said. "Triage.me is about serving the underserved, who are consistently overlooked in our health care system. There's a large societal cost to care for these patients, and we're excited to introduce new technologies to help clinicians spend more productive time with them while hopefully reducing overall expenditures. Triage.me sends the right message for what we're about as a company."

Other Concepts

Third place in the BuildHealth event was awarded to the Reality (Check) team, which developed a website that helps patients align their medical choices with their expectations. A database of information from patients about their expectations, experiences, and outcomes for specific conditions (eg, diabetes) or procedures (eg, knee replacement surgery) serves as the foundation for the virtual network. Other patients then could use this information in consultation with their physician when considering treatment options.

"Physicians could direct patients with

a specific medical condition to the Reality (Check) site for information from other patients who experienced the same diagnosis," said Linda Syth, who participated on the team. "Shared decision making is the foundation to the patient-physician relationship, and it's helpful for patients to have appropriate information from the perspective of other people in similar situations."

Physicians and other health care professionals also could use the information to learn about trends in patient expectations and to enhance future conversations with patients. The group suggested a partnership with local support groups to encourage and assist with participation by patients and physicians. Mark Huber and Paul Sanchez led the Reality (Check) team, which also included Tom Bach, Heidi Massey, JoAnne Penney, Kathy Walters, and Mike Zielinski.

The other two concepts developed at the BuildHealth event focused on interactive patient education to enhance shared decision making and a system of data entry and management to speed up patient admissions and paper-to-digital data input.

"BuildHealth brought together programmers and other community-minded individuals with health care workers who know the challenges of getting health care to those that need it—together they created innovative solutions that neither alone could have produced," said Dr. Bartholow.

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