Health 2.0
The Market and Its Conference
A Report by Circle Square
Sponsored by SureScripts-RxHub
December 2008

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Health 2.0 is a movement. It's a set of ideas and attitudes about the wisdom of crowds and about how networks of health consumers and providers can bring basic transformation to the healthcare system. The recent Health 2.0 Conference in San Francisco is an outgrowth of a blog by Matthew Holt. It's the second year of the event which attracted about 1000 attendees with a tuition of $1,400. Sponsors included Kaiser Permanente, J&J, Cisco and dozens of others.   SureScripts-RxHub asked me to attend on its behalf and report back for the company and its industry friends on what I found out there about the H2.0 market and its community.

At the Conference: Setting

The Marriott San Francisco has an enormous ballroom on its lowest level that served as the main venue for the conference. Eight to ten people sat around 100 tables. A stage stretched across the front of the room with three floor to ceiling projection screens and chairs arranged to spotlight panel discussions. Theater sound systems boomed. From the very outset it seemed hip and modern with a casual, inclusive attitude that mirrors the conference focus on community.

My table was probably typical. I sat next to an entrepreneur who recently left an electronic prescribing venture and was looking at other healthcare opportunities to work on. Also at the table were the CEO at the start-up, Cadit (a web-based physician scheduling platform); an executive at DestinationRx (consumer tools for managing prescription costs); an entrepreneur who ran a number of healthcare portals; a VP at Healthwise (a health content developer); and a few others in similar positions. This conference was as much about the attendees as the speakers.

About half the time we were all together in this big room watching panel discussions, short pitches, product demos and video. David Kibbe produced a short video showing him on a motorcycle tour across the US looking for evidence of Health 2.0, *The Great American Health 2.0 Motorcycle Tour*. Clay Shirky did the keynote. He is best known as the author of *Here Comes Everybody*, an analysis of how technology lets us organize without organizations (2005 TED Conference Video). He also co-authored with Carol Diamond the recent *Health Affairs* article warning about "magical thinking" in HIT.

About half the time we went to smaller rooms where 4-5 companies in related markets presented 10 minute overviews including short demos followed by a facilitated panel discussion. Social networks, health search, patient-provider communications, wellness, disease management, gaming and other areas were some topics. There was also an exhibit hall with demos available from about 20 companies. And also there was time to network around coffee urns during breaks. I spent some time talking with the team at SafeMed, a web-based clinical decision support service, which was a conference sponsor. It was interesting to quickly be able to get the impression of others about the conference presentations.

Working Definition

The conference was subtitled, *User-Generated Healthcare*, and that's probably a good place to start when thinking about the H2.0 ideas. Ted Eytan, MD, a Kaiser physician-blogger, likes *Participatory Healthcare*. The ideas around *self-service / teleservice* and *wisdom of crowds* are also involved. In the center seem like the following segments:

- Health search

- Patient communities

- Physician communities

- Physician-patient interaction

- Provider search and ratings

- Health self service

Other segments were represented at the conference that are supporting these core ideas, such as the personal health record, clinical content publishing, health gaming, remote monitoring and others.

Health Search

A number of companies at the conference were expanding the capabilities of health search. Google is of course the place most people start when looking for health information. Microsoft, AOL and Yahoo also

host lots of health searches. The H2.0 companies involved in health search are making the results one gets more meaningful. Health search also creates value in the long tail of healthcare, in providing search support for those seeking information about less common health issues.

Kosmix in partnership with RightHealth was the standout at the conference in this group. Kosmix does a great job at organizing search results by category. It is particularly strong in showing multi-media links for images, slide shows and videos about the topic. It shows the top Google results along with links from dozens of other specialized health sites.

OganizedWisdom is another company in health search that has an interesting model. It reviews the search terms frequently entered into Google and manually builds responses into sets of Wisdom Cards. These are packaged to provide a deep view into a topic, such as high blood pressure with hundreds of relevant links.

Other health search companies with interesting ideas include:

[Healthline Networks](#): employs an advanced semantic and health grammar capability to add value to search in the form of HealthMaps (diagram on the right). Investors include Aetna and Kaiser as well as traditional venture firms.

[Healia](#): site includes search, communities, a blog and a deep set of topic centered Health Guides.

[SearchMedica](#) and [GoPubMed](#): sites that are focused on search for health professionals; [RSIFocalSearch](#) combines that with CME.

[MyDailyApple](#): delivers news and search results that are tailored to specific conditions using [Praxeon's](#) proprietary Semantic Fingerprint technology.

[Wellsphere](#): with origins as a health tools company, it now handles search, communities, tools, blogs and provider search.

[HealthLibrarian](#): narrows the search to a limited vocabulary of medical concepts and uses these to query public databases including government sites, libraries and clinical trials.
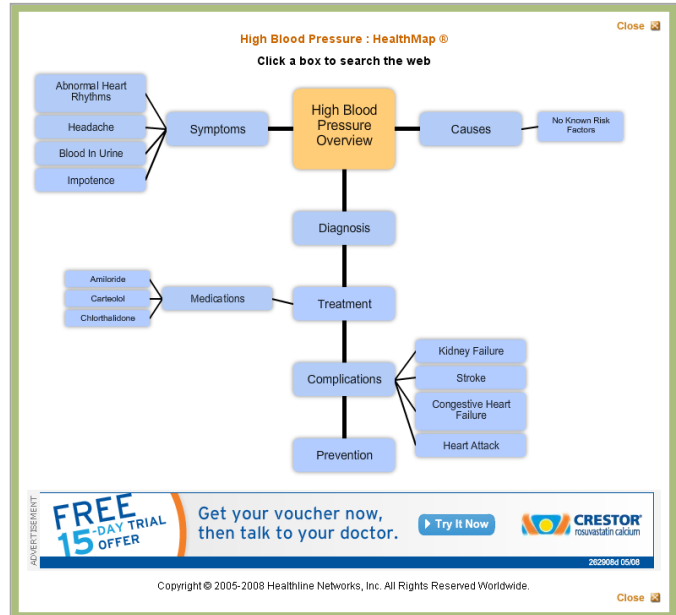
At the Conference: The Role of the Consumer Aggregators (PHR platforms)

The first panel discussion at the conference was a reprise from last year's conference attempting to show the progress of several large companies working on personal health record platforms. In general, the pitches and demos were unimpressive with the best presentations coming from healthcare organizations that have a more intimate relationship with the real-world workflows of these things. Aetna and Kaiser Permanente seem to be making real progress providing very useful tools to members. Below is an outline of the progress of the key players in this area.

WebMD

Wayne Gattinella, President and CEO, presented the company and did a demo of Verizon's HealthZone, a client site provided by WebMD. The company is presented as having the largest number of mainstream users from over 100 health plans generating $100 million per year through license deals with employers and plans. The HealthZone site utilized claims data to build a member's personal health record. Health risk assessment data can be added. Lower cost alternative medication therapy might be suggested from the data. The record may be shared with providers through a PIN code.

Microsoft

Peter Neupert, Corporate VP, Health Solutions Group, presented the division and did a demo of the product. Let me rephrase that. He attempted to demo the product. He never could figure out how to log in. (The H2.0 conference organizers had strict rules about only demonstrating live, working products.)

Kaiser Permanente was on hand however to show how it is integrating with Microsoft HealthVault. The functionality of the Kaiser PHR solution, based on Epic's MyChart, is very impressive. The presenter said that 2.5 million members were using it. It was communicating with HealthVault using the Community of Care Record (CCR) standards. I use the Kaiser Permanente solution as a member of its Northern California plan and routinely email my primary care physician, review lab results and clinical notes, and refill medications.

Microsoft presented that it had 91 partners, 40 applications and 50 devices connected to its HealthVault. There are three ways to connect: (1) portal, (2) EMR, (3) drop-off paper. The data model handles 72 new data types including genomics. It hopes to create an industry to support the HealthVault architecture. When asked why it's doing this, Neupert said it just wants to increase the volume of health-related activities on the Internet. It may want to develop additional services as well.

Aetna

Mark Bertolini, President, presented and did a demo of the ActiveHealth personal health record and related tools operating on its NaviNet network. At the heart of the service is a rules engine that generates alerts for members. Aetna expects 6-7 million members using it by the end of the year. The service has also been integrated with HealthVault to increase its portability.

Aetna reports that its PHR represents the 5th largest database in the country. It includes lab results, 10 health trackers and many specific wellness programs. In the last three months it published over 1 million gaps-in-care alerts. It also uses HealthLine as a search tool. The company is in this project because it saves a lot of money. It predicts savings of $500 thousand for each 1% reduction in estimation of benefit (EOB) inquiries alone.

Google

Roni Zeiger, MD, Product Manager, Google Health, attempted to demonstrate the integration between Duane Reade and Meir pharmacies using PDX software and the Google Health PHR platform. It didn't work. When asked about progress over the last year, Roni replied that it's been hard, but the product is working. He said Google is focused on making it practical and easy to use. He also explained how important customer trust is to Google.

Yahoo!

Michael Yang, VP and General Manager of Yahoo! Health, Real Estate and Autos, discussed the company's focus on health search and physician directories. For now, it has opted not to compete in the PHR segment.

Patient Communities

Patient community is an area that holds perhaps the most promise among H2.0 segments. Some companies choose to focus on a single condition like dfLife does with diabetes. Some, like Disaboom, focus on a range of conditions, all of which are associated with a disability of some kind. Others provide a very broad service, like HealthCentral, that manages a range of sites. Hundreds of companies are participating in this segment and there are some very interesting ideas emerging.

At the center of the concept is the idea of patients connecting with patients. Individuals can get support from others with similar health experiences. They can find out the newest available treatments, the best physicians and collaborate about what works and what doesn't. This last idea is among the most interesting. This is the wisdom of crowds and emergent group behavior. Occasionally these groups develop clinical findings that just can't be developed through the normal clinical trials process. Here are some of what I found to be the most interesting companies in this segment.

PatientsLikeMe: this is one of the most mature patient networking sites. It focuses on less common conditions such as MS, ALS, Parkinson's and many others. It serves as a good model for the segment. Patients can find each other, share experiences, learn about the latest research and in some cases actually participate in research. One current project is research on ALS and lithium.

iMedix: combines search with patient community in a very interesting model. A user visits iMedix to search for content on health-related matters, and in the course of their search would also be presented with opportunities to connect with other users interested in the same issues, either via chat or messaging. Users create profile pages with tags relevant to their interests and search results can be voted on in order to help the site learn more about preferences over time.

Inspire: provides online patient communities in collaboration with leading patient advocacy organizations such as the ALS Association, Arthritis Foundation, Lung Cancer Alliance, National Organization of Rare Disorders, and the National Osteoporosis Foundation, and others.

Disaboom: was a stand-out at the conference. It's a practical solution for those with disabilities and cuts across condition categories. It's a well-executed site with a point-of-view that is focused on real world problem solving. It contains specific and useful health information, tips for living with disabilities, a full range of tools for community (profiles, blogging, chats, photos) and a rich marketplace of products and services.

CureTogether: focuses more directly on the wisdom of the crowd idea. It's not a community, but rather a medical research site that collects symptoms and other user experience about 100+ conditions and analyzes patterns.

Diabetes: a number of companies focus on support for diabetics. These include:

dLife: is a multi-media approach to supporting the diabetes community. It includes a TV show at CNBC, a radio show, English-speaking and Spanish-speaking web portals, direct mail services and a retail brand.

TuDiabetes: is a bilingual site supporting the diabetes community

DiabetesMine: is focused on personal stories and blogging about diabetes.

DiabeticConnect: is a diabetes community that is part of Alliance Health Network, a company building a sophisticated health marketing platform that connects health product companies with health consumers.

SugarStats: is not primarily a patient community, although it provides one. It is focused on helping diabetics track glucose readings, test result scores, food intake and other statistics critical to living with the disease. It's an amazing collection of logs, diaries and statistical display applications.

Two companies I found focus not on the patient but the care giver. One is CareFlash. It provides a portal where people may submit, retrieve and share information and well-wishes surrounding a loved one's health circumstances. Additionally it provides hundreds of 3-D healthcare animations on disorders, procedures and anatomical function. CareFlash also allows the caretaker to reach-out to their friends and family and ask for specific help. The other is ENURGI (pronounced "energy").   This is an online toolset for care givers that encourages a marketplace and supports the functions of the job.

At the Conference: Looking Ahead— The Business and Society of Health 2.0

The last panel discussion at the conference was an attempt to bring together the information presented over the two day event and assess its meaning and forecast its impact (see video). Alan Greene, MD, a pediatrician and founder of DrGreene.com, painted a rosy picture of H2.0 that portrays the healthcare world turned upside down in just a few years. David Lansky, CEO of the Pacific Business Group on Health, an organization working with west coast employers, disagreed. He saw

the institutions of healthcare as intractable and adequately prepared to defend the status quo; entrenched interests of health plans, large health providers, and government departments are unlikely to be co-opted in the near term by patients talking to patients. He argued that the answer is in consumers lobbying government representatives. Rob Kolodner, MD, National Coordinator for HIT, saw change as inevitable, but over a long period of time. He used the term "churn" to describe the process of try-fail, try-fail, try-succeed, implement and credits Bill Stead at Vanderbilt with the idea. Many of the companies at the 2007 conference were not still in business for the 2008 event and I suspect the same will be true next year. David Kibbe, MD, Senior Advisor, AAFP, saw the H2.0 glass as half-full because it is encouraging collaboration and addressing major plumbing issues with healthcare architecture. He cautioned that we not automate the current outmoded systems and pleaded for better leadership.

Physician Communities

Physician community is another important segment within H2.0. A few are attracting significant numbers of physicians and developing potentially sustainable business models. Here are some key players in this evolving segment:

Sermo: is the standout of the group with 90,000 registered physicians and 10 pharmaceutical manufacturers sponsoring. It's a physician-only site where physicians pose questions and make observations. Sponsors from pharma, financial services and government agencies can gain access to the wisdom of the group. Physicians can also benefit financially from making highly regarded posts.

Ozmosis: is also a physician-only site. It provides tools to bookmark and post content – journal abstracts, medical cases, videos, podcasts, blog entries, clinical studies – from anywhere on the Web. It then combines these into searchable repository that is updated in real-time. Relationships among physicians on the network are tracked, similar to LinkedIn.

Within3: is an exclusive, private environment where health and life sciences professionals connect with others through people they know, find and validate information, and collaborate online. In addition, members interact in private and public communities established by a wide range of professional organizations. It makes money by charging companies who want to develop such communities online, such as a university in Ohio, a technology and psychiatry organization, a cancer center in India, a county medical society and many others.

MedicalPlexus: is a restricted-access network in which doctors and life science researchers can connect, interact, and share their work. Recently launched, it has 1000 users who share large files, create cases, message work group members, participate in grand rounds and other collaborate tasks. It is advertising supported.

iMedExchange: is a physician-only site that provides a place to network about business, clinical and personal issues. It seeds groups and forums with news and other content to stimulate dialog. It is advertising supported.

At the Conference: Health 2.0 Accelerator and Health 2.0 Advisors

The conference highlighted the work of an emerging collaboration called *Health 2.0 Accelerator*. It is working to extend the ideas of the conference in the following practical ways:

- Removing integration barriers that limit collaborative business opportunities
- Facilitating organic growth of partnerships and community initiatives
- Allowing incremental automation of clinical and business processes
- Driving plug-and-play commerce among new and established businesses
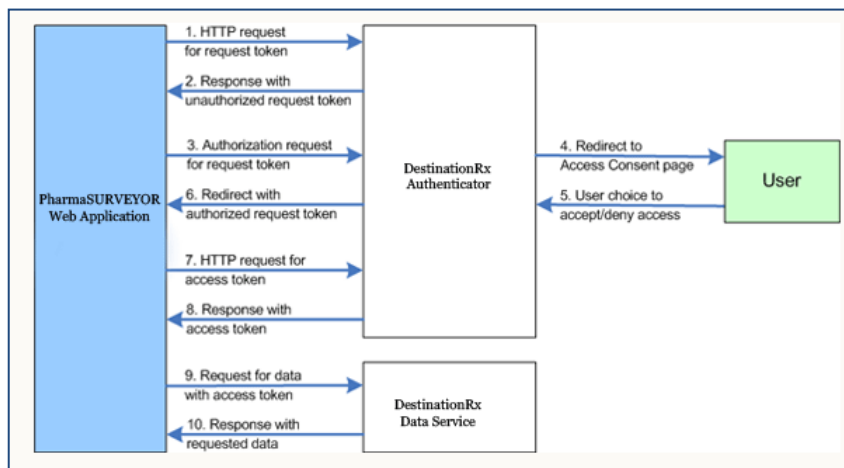
The group is currently forming a not-for-profit structure to help organize its work. One early project was demonstrated at the conference. DestinationRx and PharmaSURVEYOR used the Continuity of Care Record (CCR) standard to communicate clinical information between websites. Manatt Health Solutions is also investing its time in the process.

The conference also provided a platform for its organizers to announce a new consulting firm, *Health 2.0 Advisors*. It promises "value, not vapor," and includes: Matthew Holt, Brian Klepper, Michael Millenson, and Jane Sarasohn-Kahn.

Physician-Patient Interaction

Another interesting H2.0 segment includes the tools to facilitate physician and patient interactions. Some of these companies focus on interactions surrounding an encounter while some attempt to be the encounter itself. Some have been around a while and a few are very recent entrants. Here are some of the most interesting companies pursuing this strategy:

AmericanWell: was the overall standout of the conference across all segments. It is an elegant implementation of an online physician and patient encounter. The demonstration was flawless. It seemed easy to use for both physicians and patients. A first implementation is being rolled out by the Blue Cross plan in Hawaii. The diagram at the right shows an outline of major functions.

RelayHealth: is a division of McKesson and a pioneer in physician-patient communications. The service allows patients to make appointments, refill prescriptions, get lab results, structure e-visits through email and perform other functions. A patient record can also be managed through Microsoft HealthVault.

HelloHealth: is a concierge-type service with a first implementation in the Williamsburg neighborhood in Brooklyn, NY. Members can access physicians online and chat, ask questions and request appointments same day or ask for a house call.

TelaDoc: is a national network of board certified, licensed primary care physicians available to members over the telephone 24 hours a day, 7 days a week, and 365 days a year. It uses to technology approaches to support the telephone interaction.

MedHelp: is a site where patients get their questions answered by physicians associated with prominent universities and medical centers. It has long-standing partnerships with the Cleveland Clinic, National Jewish, Partners Health, and Mount Sinai to respond to "ask a doctor."

Provider Location and Ratings

Part of the H2.0 movement is related to consumer empowerment. Finding and rating providers is one market segment pursuing this idea. A few of the more interesting companies are outlined below:

HealthGrades: is a public company (Nasdaq:HGRD) that rates hospitals, nursing homes, physicians and drugs. Physicians are compared listing five elements: professional misconduct, board certification, years since medical school, gender and foreign languages.

ZocDoc: began as a dentist booking service in New York City. It has expanded to include physicians and is targeting additional geographies and specialties. It lets individuals find doctors and dentists in their neighborhood, judge their quality by patient reviews & ratings, filter them by insurance and book them online 24/7.

Angie's List Medical: is using established online tools and a great consumer brand to provide health ratings. It reports that 76% of its 750,000 members asked for the service. Here's a list of example questions they ask members to answer:

- Was the office staff helpful and courteous?
- Were the waiting and examination areas clean and comfortable?
- Did the office staff file insurance claims for you (if applicable)?
- Did the physician explain things in a way that you could understand?
- Did you feel you could make your concerns understood to the physician?
- Did your physician (or office staff) follow up with you to determine if the treatment was effective?
- What did you like most/least about this physician?
- What words of advice would you give other members considering this physician?

Health Self-Service

This wasn't a separate category at the H2.0 conference, but is a driver of the movement. Below are some interesting companies that have a significant self-service component in the area of clinical testing. Most participated in conference activities.

MyMedLab: packages clinical lab testing services online to consumers. The web user interface is exceptional.

Physicians Wellness Network: is a community, organized in 2001, now comprising 250 board-certified physicians who authorize and help interpret lab test results through the network's unique online system—webLAB™.

Navigenics and 23andme are personal genomics and biotechnology companies that have developed new methods and technologies which can enable consumers to understand their own genetic information. They provide tests for genome-wide, select single nucleotide polymorphisms. 23andme charges $399; Navigenics includes physician consultations as a $2500 package. Google has invested $3.9M in 23andMe, whose co-founder Anne Wojcicki is married to Google co-founder Sergey Brin. Health Evolution Partners, David Brailer's venture company, has a stake in Navigenics.

After the Conference: Market Assessment and Forecast

Health 2.0 is a movement. It's still finding its center. Here's a summary assessment.

1. The companies adding value to health search had interesting ideas, although creating business value through fitting well into the Google flow seems difficult. Kosmix and Organized Wisdom are leaders.

2. The ideas around the wisdom of crowds in patient and provider communities are sound. The implementations are early and business models elusive. Sermo is an exception and has found a model that is working.

3. Patient communities as health support groups that can foster healthy behavior and better self care are working. Patient participation is low. iMedix and Disaboom were among the most interesting implementations.

4. Companies connecting providers and patients to extend the visit or replace it were the most impressive to me and potentially the most disruptive to traditional health delivery. This seems like a trend on a faster track. AmericanWell and MyMedLab are standouts.

The institutions of healthcare have the most to gain from this work and will likely begin to get more involved. Health plans, health systems, physician organizations, pharmacies and others can lower costs and improve the patient experience through some of the Health 2.0 technologies. Aetna, Kaiser Permanente, Regence Group and WellPoint showed real examples of how this work is taking cost out of the business and improving provider and member satisfaction.

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