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Ironworks

The Future of Healthcare Knowledge Sharing

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“Patients should have access to a health care system in which health professionals share information, learn from each other, and hold themselves and one another accountable in order to generate the best medical outcome at the most reasonable cost for each patient.”

“Delivery System Reform,” November 4, 2008; A Joint Perspective from Intermountain Healthgroup, Kaiser Permanente, and Mayo Clinic

Healthcare organizations are under pressure, struggling to cope with rising costs and battling barriers to efficiency. At the same time, they're trying to deliver compelling value and improve patient care, outcomes and wellness.

Knowledge sharing is addressing these issues head-on and transforming healthcare delivery. Organizations that embrace it are raising the quality and availability of care, increasing operational efficiency, and reducing healthcare costs.

This paper will look at knowledge gaps, discuss the future of healthcare knowledge sharing, examine what industry leaders are doing, and address concerns about using the Internet to distribute medical expertise.

The Knowledge Gap

A wealth of healthcare information, observations and wisdom resides on the Internet, and the latest web tools – forums, blogs, video, social networking, wikis, real-time collaboration – have enabled an exponential increase in content. The obstacles that limited knowledge sharing are gone. Anyone can publish, and consumer-generated content is pervasive. Specialty sites are expanding virally. The demand for knowledge seems insatiable.

However, there are barriers to accessing healthcare knowledge. Internet search results are disorganized, and it's hard to find what we

Knowledge communities are transforming the delivery of healthcare.

Knowledge is being created faster than ever with the latest web tools: forums, blogs, video, social media, wikis and real-time collaboration.

Consumers, providers and payers all have significant knowledge needs, but there are barriers to accessing relevant knowledge.

need. Life-saving data may be cloistered within an organization, or it simply isn't recorded yet. The result is the knowledge gap, which is the *inability to access the right information from the right source at the right time*. We need to harness, record, filter, and deliver the avalanche of knowledge.

Knowledge Needs

With the complexity of medicine and sophistication of care, patients, providers, and payers are craving more information and knowledge. Information and knowledge are different. Information is defined as facts, data or communications, while knowledge is expertise, observations and insights, as well as an awareness of information within a field.¹

Consumer Needs

Consumers are becoming more demanding and want:

- ❑ Specialized resources for information about symptoms, diseases, treatment options, and alternative medicine.
- ❑ Professional and peer input to help choose the best doctors, care facilities, and insurers.
- ❑ Control over the cost of their healthcare, including services, treatments, drugs, and insurance.
- ❑ Wellness programs to reduce the need for care.

Physician Needs

Physicians must have timely and credible knowledge. They need:

- ❑ Decision support, including real-time peer consultation, the most recent research results, and up to date reference materials.
- ❑ Tools to share their knowledge and observations.
- ❑ Efficient interaction with payers.

Payer Needs

As healthcare costs soar, payers' knowledge needs are expanding rapidly. To maintain a sustainable business model for themselves and care providers, payers must have:

- ❑ Expert advice and observations on the latest procedures.

- ❑ Research results that identify the most and least effective treatments.
- ❑ Understanding of when medicine is “overpracticed.”
- ❑ Collaboration with affiliates and access to policies.
- ❑ Wellness programs.

The Future of Healthcare Knowledge Sharing

The key trends in knowledge sharing are knowledge ownership, endorsement of informal channels, specialized communities, real-time knowledge sharing, consumer-generated knowledge, mandated sharing of the “collective intelligence,” and improved access to knowledge. These trends will progressively resolve the problems of disorganized data, inaccessibility, and undocumented knowledge.

Knowledge Ownership

Knowledge ownership will be a huge industry advantage. Both organizations and consumers will be “knowledge owners.”

Healthcare participants will be drawn to quality content, and a knowledge community is a compelling and relevant destination. The organization that captures, “owns,” and shares its knowledge will be in a superior competitive position. When they provide valuable content:

- ❑ Hospitals will attract the best and brightest.
- ❑ Associations will expand their member roles.
- ❑ Insurers will enhance consumer retention, lower cost of service, and increase business efficiency.
- ❑ Charities will attract and retain donors.
- ❑ Nonprofit organizations will enhance their value to the community.
- ❑ Consumers will influence services and behaviors of other participants in the healthcare community.
- ❑ Organizations will sell the insights generated in their community to other organizations.
- ❑ Communities will form cross-domain partnerships, spawn further knowledge made possible by scale, and attract more members.

Endorsement of Informal Channels

Like it or not, social media is here to stay, and its importance will grow. Both healthcare professionals and consumers will use, contribute, and control mainstream knowledge using channels such as:

- ❑ Wikis
- ❑ Online forums
- ❑ Social networks (Facebook, Twitter)
- ❑ Video sharing (YouTube)
- ❑ Blogs

Consumers' healthcare choices will be highly influenced by social networks, blogs, and forums.

Consumers' choices of physicians, hospitals, treatments, and payers will be highly influenced by these informal channels. They will be better educated before buying a healthcare plan or selecting a provider, and they will not get their knowledge from a brochure. Hospitals, associations and insurers will become much more involved in contributing to and monitoring blogs and forums, and responding to consumer feedback promptly.

Providers will use tools like wikis for internal community authoring. They will ask and answer questions from their peers in online forums. YouTube video training is already a cost-effective way to reach remote practitioners. These channels will become accepted for knowledge sharing at all levels of the profession.

Specialized Communities

Health professionals will become loyal members of online communities of practice, organized around specialties. They will build relationships, network, refer, ask, collaborate, learn, and contribute within the knowledge sharing community.

Organizations will break down knowledge silos and make their specialized know-how available within and outside their walls.

Consumer communities will bridge specialties so patients can learn how to manage multiple chronic conditions.

Consumers will depend on peer-to-peer communities built around specialties. The communities will provide emotional support and share similar experiences. They will gather knowledge from multiple specialized communities, providing insights such as how to manage multiple chronic conditions. Leaders will emerge as consumer advocates, giving the community influence in the industry.

Real-Time Knowledge Sharing

Real-time consultation over the Internet will become a standard as a way to control costs and make expertise available globally. This will give a significant boost to remote areas that lack doctors, help practitioners that do not have the knowledge necessary for a case, and enhance communications within hospital systems.

Consumer-Generated Knowledge

Patients will take a leading role in selected research efforts, and providers, payers and pharmaceutical companies will respond to their findings.

Patients will expand their role in medical and public health research. They will:

- ❑ Demand, conduct, and participate in research that is faster and less restrictive than randomized controlled clinical trials.
- ❑ Monitor drug reactions for “soft” outcomes such as quality of life.
- ❑ Form working groups with pharmaceutical companies, physicians, hospitals, and research organizations to focus on the evidence provided by community experiences.

Mandated Knowledge Sharing

The U.S. Government will mandate knowledge sharing as part of healthcare reform.

The U.S. Federal Government has legislation (HR 6898 and S 3408) pending that will mandate information and knowledge sharing in healthcare. The goals of both bills are to reduce the costs and improve quality of healthcare in the United States.

While no one knows what behavioral changes the legislation will bring, it's clear that knowledge sharing is an important part of the solution to control healthcare costs.

Improved Access to Knowledge

Web searches will become much more specific, personalized, and sharable.

New search tools will make it easier to find appropriate content. Users will have more flexibility in how and what they search. Relevance, quality, and preferences will sharpen the search results. “Fuzzy searches” will give related results, also filtered by user preference. Users will be able to save searches and the results as a package and share them with others. Searches will optionally span private communities, corporate and government portals, the Internet at large – virtually any combination the user chooses. The user will get more specific, high quality search results.

Why Implement Knowledge Communities

Benefits

Knowledge communities will improve the quality while reducing the cost of care, increase efficiency, and add value to services.

Knowledge communities have important benefits. They:

- ❑ Reduce operating costs by eliminating unnecessary office and hospital visits, tests, and treatments.
- ❑ Improve outcomes by removing care limitations imposed by geography and expert availability.
- ❑ Increase patient safety.
- ❑ Eliminate bottlenecks in research and speed time to market for new treatments.
- ❑ Shift the hub of care from the office or hospital to the patient's home.²
- ❑ Add value to consumer services.
- ❑ Help professionals keep up to date at their convenience.

Risks of Ignoring Knowledge Communities

“Not embracing social networking is like saying I'd rather hide my money under the mattress than put it in the bank.”

Rene Bonvanie, Serena Software

Knowledge sharing is a “disruptive” development, causing fundamental changes to healthcare delivery. Organizations that have started building a knowledge library and attracting members are positioned to develop critical mass and experience the “snowball effect” of new content and more users. Those that are slow to respond, or choose to ignore knowledge communities, will be caught by surprise.

You can see the disruption already. Consumers are restless with the inefficiency and expense of the traditional healthcare system. They are acquiring expertise from sources other than their physician, using free resources created by other consumers and medical professionals. Physicians are becoming online practitioners, working remotely with support from professional communities.

If you don't believe these changes will occur any time soon, consider that today:

- ❑ The majority of patients (59%) are using the Internet first for healthcare needs and physicians second.³
- ❑ One third of adults are consulting other consumers online for decisions on care.⁴

- ❑ 75% of physicians prefer to obtain information from professional knowledge communities and portals rather than from general Internet searches.⁵
- ❑ Medical students with a question are seven times more likely to call on an electronic resource than a colleague or teacher.⁶
- ❑ Associations are creating communities of practice explicitly for the purpose of migrating members' attention away from other groups.⁷
- ❑ Insurance providers are being judged harshly and publically for decisions that ignore available knowledge.⁸

Knowledge Communities in Action

Achieving critical mass is vital to become a successful knowledge community.

Five years ago, the technology to enable knowledge communities didn't exist. Organizations had to build communities from scratch, and the expense was prohibitive. Today, new technology is available to manage content, users, collaboration and search functions. Leading healthcare knowledge communities are using these tools to deliver value, build awareness, and support their mission. Achieving critical mass attracts further participants. Here are some examples of communities in action.

Providers

SERMO

When doctors need to collaborate on cases, where do they go? Many go online to SERMO, a knowledge community with 68 communities of practice. Membership is limited to licensed physicians practicing in the U.S. Doctors can post unusual clinical findings or observations and invite discussion, challenges, and corroboration. Participants rate postings. They supplement evidence-based practice with experience. SERMO members have access to the collective knowledge of over 65,000 member physicians.

Mayo Clinic

Mayo Clinic hosts a wealth of knowledge resources for consumers, physicians, provider organizations, associations, and payers. They share knowledge in almost every major area of consumer healthcare, including disease, treatments, expert referrals, wellness, specialists

Mayo Clinic has built one of the leading consumer health and wellness knowledge communities.

online, and drug updates. Mayo Clinic physicians and other medical experts review and approve all content.⁹

MayoClinic.com has received many awards, including “Best Consumer Portal” for healthcare, “Best Consumer Health Publisher” on the web,¹⁰ and the highest-honor platinum award for “Best Overall Internet Site” for healthcare.¹¹

Johns Hopkins Medicine

Johns Hopkins Hospital, ranked number one in the United States,¹² has many award-winning medical departments. They have implemented telemedicine to deliver their expertise to a worldwide audience. Hopkins physicians interact in real-time with foreign colleagues, many in remote locations without available specialists. They do bedside videoconferences, consult on cases, and provide treatment recommendations. Patients receive the best care, even when local expertise isn’t available and traveling is not an option.

Consumers

The Life Raft Group

The Life Raft Group is a patient and caregiver community. They conduct drug side-effect studies for treatment of GIST, a rare form of cancer. There is one requirement for community membership: you must have been diagnosed with GIST or be the caretaker of someone who has it – no exceptions.

Their “Science Team” is an all-star collection of members, including a virologist, a microbiologist, a surgeon, a physicist, and a member of the Human Genome Project.¹³ The team reviews medical literature, speaks with leading specialists, interacts with top researchers, keeps up to date on the latest drug information, and checks in with other support groups. They distribute the results of their research to the public. The Life Raft Group has been instrumental in influencing pharmaceutical companies’ research & development efforts.

Associations

Association of Cancer Online Resources (ACOR)

Patient support networks have been active for more than a decade. One of the largest, Association of Cancer Online Resources (ACOR), is a nonprofit organization that offers emotional support, practical

“Telemedicine is an important way to distribute medical knowledge broadly and cost-effectively to a global audience.”

Dr. Joseph Kvedar, Partners HealthCare System

“The Life Raft Group has provided...a unique kind of data bank that cannot be replicated anywhere else, not even in patient trials.”

Dr. Daniel Vasella, CEO, Novartis

ACOR has obtained critical mass.

advice, and shared experiences to members of 159 online cancer communities. ACOR sends over 1.5 million emails per week. Members consolidate information from many sources. Doctors, hospitals, and clinics do not have the breadth of information and experience that ACOR can provide.

Revenue Opportunities

The Doctor's Channel

The Doctor's Channel demonstrates the value of building a community and then attracting other partners to expand their knowledgebase.

The Doctor's Channel produces short 1- to 2-minute videos on 35 medical specialties. Videos can be viewed online or downloaded to an iPod. Viewers comment on and share the videos.

The Doctor's Channel is a leader in sharing knowledge content. For instance, they license their video library to Ozmosis, a physician community. They also create and distribute content for others. They have partnered with Reuters Health to produce short videos of the top three health-related news events each day, which are viewable on The Doctor's Channel.¹⁴

WebMD

WebMD harnessed the power of knowledge ownership.

WebMD has been aggressively creating and licensing knowledge for years. To help employees and members make decisions about wellness and treatments, 82 corporations and insurance providers use WebMD content. The WebMD network averages over 41.8 million unique visitors per month.¹⁵ Consumer Reports WebWatch has rated WebMD number one in trust and credibility.¹⁶

Concerns

Quality control, trust and security concerns are no longer valid show-stoppers.

Healthcare knowledge communities have caused concerns about trust, quality, security, privacy, and compliance. Fortunately, communities have developed effective processes and technology has evolved to address these concerns.

- ❑ Knowledge communities can pre-screen members to make sure they are trusted. Credentials, such as physician licenses, can be validated in real-time.
- ❑ Most sites reward quality by using contributor rankings. Many communities police themselves by giving members the ability to correct or challenge bad content.

- ❑ Site moderators can use a workflow-driven approval process to review all submissions for accuracy.
- ❑ Sites are secured by authenticating users and authorizing them to access only specific functions.
- ❑ Encryption keeps private information safe, allowing visibility to authorized users only.
- ❑ Periodic review and deletion can be automated with retention management tools.

Stepping into the Future

"That will be our legacy for the future health care system - that CHI learns to leverage the wisdom of the whole, efficiently, effectively, and humanely."
Kevin Lofton, CEO, Catholic Health Initiatives

Knowledge communities are changing the dynamics of traditional healthcare, shifting power to owners of knowledge, including both businesses and consumers. Organizations that find a way to develop and exploit knowledge will flourish.

The ability to deliver knowledge in a sure-fire manner to the point of need will affect the bottom line, improve outcomes, and ultimately reduce healthcare costs. Industry leaders are making an active commitment to knowledge communities. This commitment can begin with small steps, and it must begin now – or organizations risk being left behind. Join the leaders by including knowledge communities in your organization's strategy today.

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About Ironworks

Ironworks Consulting has extensive experience planning, delivering and managing knowledge solutions. With over 200 consultants, Ironworks provides end-to-end business and technical consulting and implementation services. If you need assistance planning or developing a knowledge community, Ironworks can help.

Please take a moment and let us know if this paper was helpful.

<http://www.sundanceresearch.net/fbwphealthcarefuture.html>

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