

Executive Briefing

How “Search” is Changing Healthcare

By David Moise, Decide Consulting

Summary

Search engines are not done changing business. In fact they have just begun. They have yet to realize their full potential. Healthcare can become one of the biggest beneficiaries of “search” technology. Google Health is one of the first steps to achieving these benefits. There is still quite a bit of investment and work for clinics and the software companies that serve them to do to realize these benefits.

Here are some company market values to think about

Exxon / Mobil	- \$464B
General Electric	- \$302B
Wal-Mart	- \$224B
Google	- \$180B
General Motors	- \$10B

Exxon Mobil is this size because it was two different companies a few short years ago. GE owns NBC, Universal Studios, Telemundo as well as all the appliances. Wal-Mart has over 7,300 stores. Years ago there was a relevant statement regarding GM – “so goes GM, so goes the US”. And Google is a search engine started in 1998, yet its market value is right up there with these stock market powerhouses that have been around for years.

The financial markets are making a statement that “search” is changing the way we work and, more importantly, the way we will work. Said another way, the *answers* from “search” are the change drivers. Saying it yet one more way, the questions we are now *asking* and *expecting* “search” to *answer* are changing the way we work. “Search” will continue being a disruptive technology.

It is a disruptive technology because it changes the playing field. Cars were a disruptive technology to the buggy whip. PCs were a disruptive technology to the typewriter, as well as a few other things. A new set of rules follows and new industries rise with them.

Where Search is Going

“Search” has evolved from just pulling content. It has, and still is, evolving into a collaboration tool. Still on the horizon is how “search” will evolve into true problem solving. This has far reaching implications in all industries, but can take on some special properties and benefits when it comes to healthcare.

First let’s explain the content-to-collaboration-to-problem-solving-cycle. For the example we will use one of the more popular topics in many households – Pokemon. I can search to discover all sorts of things about the Charizard EX card. I can learn that it comes from the Fire Red/ Green Leaf box, it has 160 hit points, can inflict 200 damage points and is sold for up to \$150 on eBay (seriously). I can discuss with other pokemoners where to get the card, strategies on how to play it and the merits of having this Charizard EX versus Wailord EX. What I cannot do

yet is retrieve automatic, real-time feedback about how many energy cards to use when I am battling another pokemoner.

These are good examples of the content-to-collaboration-to-problem-solving cycle. Content is the properties of Charizard EX. Collaboration is the discussions and post about it. Problem solving is the immediate feedback to the current situation.

For content, we need the knowledge base to be created, published, complete and accessible. For collaboration, we need people to absorb said knowledge base, interpret it, provide informed opinions on it and make these opinions available. For problem solving, we need the knowledge base coupled with automated methods (a.k.a. services) to provide those same opinions tailored to our specific situation and those services need to be on demand.

We use Pokemon in a tongue-in-cheek manner. Imagine healthcare “search” evolving along these same lines and the benefits we can achieve with true online problem solving. We see lots of online content and collaboration currently in healthcare, but it is missing two critical components:

- It is not personalized in that it does not consider an individuals own medical history.
- Real problem solving is still far off. Sites like WebMD are still collaboration.

Google, Microsoft and Yahoo are the front runners in “search”. The undisputed majority of searches go through these search engines. The word “google” is this generation’s “Xerox”. This should put Google’s market dominance in perspective. Google has the vision to see other frontiers beyond the content search. One of these frontiers is Google Health.

The Health Information Network

Google is already the starting point for most health-related searches. A lot of the core content and collaboration is there but not the personal information or the problem solving. Enter Google Health. Google Health is the first step from Google to create its own Health Information Network (HIN) that provides relevant, organized and timely information to the consumer and the healthcare community.

For those unfamiliar with Google Health, let’s lay out a few things about what is included in it. For starters, it collects the basic building blocks of information:

- Age, sex, height , weight
- Conditions
- allergies
- Medications
- Procedures
- Test results
- Immunizations

Secondly, it collects some history by allowing imports from existing medical records. One can import medical records from the following sources:

- Longs Drug Stores
- Medco
- CVS
- Quest Diagnostics

- Walgreens

Lastly, one can use online medical services like the following:

- EPillBox - create a medication schedule based on your prescriptions and your preferences
- VaccineView - check how your immunization history matches the guidelines from the U.S. Centers for Disease Control and Prevention
- iHealth - lets patients communicate with their doctors online
- Lifestar - create views of your health history that can be printed or exported for sharing with health care providers, family, and caregivers
- NoMoreClipboard - deliver your records to your doctor before your next visit or give a loved one emergency access to your health records
- MCT-Diabetes - diabetes monitoring tool that improves the health and wellness in people with diabetes

Google is not the only kid on the block providing this set of services. There are at least 250 other online health information networks. Most of these will be absorbed or merged by other companies.

Google Health and the other HINs are mainly content-based in terms of the search evolution. Demographic and medical histories are nothing more than part of the collective knowledge bases. It is on the personal side of it, but it is still content. The medical service sites are beginning to creep into the collaboration equation. What is still missing is the problem solving aspect of it. Being able to tell a user the side effects of a medication is not problem solving. Telling a user the probability of a side effect based on their medical history and combining that with their test results from this morning is problem-solving.

Moving Slowly

Healthcare is notoriously behind in IT advancements. There has been little imperative to move forward by the existing healthcare software companies and clinics that buy their products. Progress toward electronic health records, and the sharing of those records, is moving significantly slower than it should. This is especially disturbing when one realizes the potential benefits the healthcare community is not realizing.

There are many reasons for the lack of progress. Physicians feel that patients are being served well as is. This is understandable considering most of them work 40+ hours a week doing nothing but serving patients. The patients themselves are not demanding that the physicians move to an e-records format or have their clinic systems become interoperable. The vision of the full benefits from "search" is too far out for most to absorb.

ROI Not There Yet

The cost of moving the IT strategies do not have an appealing ROI yet. A typical practice management (PM) system or electronic health record (HER) system can run a private practice \$10,000 to \$50,000. Community health centers, which have greater functional needs, can see price tags of \$20,000 to \$200,000. These systems are broad and deep considering the amount of functionality and the complexity of it. We now want to put an interoperability layer (a.k.a. services) on top of this to work with a broad spectrum of other systems. Just the price tag of the development effort alone is high.

This interoperability layer cannot be put in flippantly. An error can have devastating affects, such as a missed diagnosis or a lost life. Because of the high stakes, companies have to be rigorous in their requirements and QA processes.

Any spoke of this network system cannot experience outages. In 2008 a large ISP was in the news because they experienced a power outage that lasted over 48 hours. They had a literal explosion in their data center that caused a power outage of over 9000 servers. The fire department would not allow their backup generators to be turned on for safety reasons. If people's lives or health depended on this, one needs greater than redundancy than one hosting facility.

These types of requirements, development, QA and infrastructure cost money. A lot of money. The ROI for a clinic or mid-size software company is not good when these are the precautions one needs to plan for. You do not achieve this level of risk averseness for \$30,000, or even for \$300,000.

Speeding Up

Google Health and Microsoft's attempts at the online health records bring attention to the need to move "search" forward in healthcare. Without short term economic returns available or customer demand driving it, the need for interoperable health information only has one remaining driver moving it forward – the vision and investment of a company seeing the long term benefits and revenues.

Google, Microsoft and a few others have the deep pockets and vision to start the process. Even if Google Health gets two million people to store their medical history and 100 new online partners, until the current EHR and PM systems that exist decide to link into the networks, progress will be slow. The EHR and PM software is where the ambulance tire meets the road. These are the primary sources of new patient information and their doctor visits. Without these systems, our "search" will stay content.

As Google and Microsoft continue to grow their HINs, the EHR and PM software companies will be motivated to progress. Many will see this as a means to create a competitive advantage. Others will view it as a "grow or die" scenario. Regardless, the more Google Health expands, the greater the list of meaningful partners that will be added to it.

As a clinic or practice, there are things to do to help progress. When selecting an EHR or PM, go with a company that is actively talking about a Services Oriented Architecture (SOA). SOA is the building block for more companies integrating with HINs. The companies talking and doing something about it now are going to be the leaders in this movement, as well as the ones still standing.

If a software company has not yet implanted an SOA strategy, it should consider it. This will be a competitive advantage. These companies should also establish relationships with HINs. Not all of the HINs will still be around in five years, but the SW companies working with them will be.

"Search" has and is changing the nature of business. The most fundamental piece of this change is the questions we now ask and readily expect the answer. As "search" progresses, the business and clients of healthcare will reap great benefits from this. While the change and motivation to change have been slow and, at times, difficult to justify, those in the business of



“search” and creating new devices that will motivate healthcare to realize all the benefits of “search”.

About the Author

David Moise is the founder and president of Decide Consulting. Started in 2002, Decide Consulting has been servicing multiple healthcare companies since then. Healthcare has continued pressing needs to expand access and care and still control costs. Decide Consulting understands that increased efficiency is the answer. For more information on Decide Consulting, please visit <http://www.decideconsulting.com>