

The Evolution of HIT

Creating the Missing Link

Good futurists spend a considerable amount of time studying history to identify and understand the significant events that preceded major changes. Like biologists, geologists and archeologists, futurists probe the past for evidence of transition, the “missing link” that will explain how a system evolved into something new, different and viable.

In today’s high-tech world, researchers are using information technology on a variety of fronts to reveal unknown stages between past and future states. Once a viable transition mechanism is revealed in theory, computers delineate steps for producing it in reality. A few drugs have already been developed *in silico* (i.e., on a computer chip) rather than *in vivo* (i.e., in the body) with new software that finds chemical solutions for selected disease processes.

With these advances, some steps in the evolution of healthcare can be reverse-engineered. Specific changes that would have taken a very long time to occur before the arrival of informatics are now being produced with remarkable speed. Those of us who imagine viable futures for HIT can apply the concept of interventional evolution to find missing links between now and then.

BRIDGING THE GAP TO THE FUTURE

I expect that nearly everyone involved in HIT can envision the day when people will spend healthcare dollars as efficiently and effectively as possible under the circumstances. (The medical marketplace will never be perfect.) Consumers will know about alternative treatments and make rational choices because they can get all the necessary information. Ongoing progress in the capabilities and use of electronic records, the growing power of search engines, accelerating digitization of business processes and nearly universal connectivity all lead toward this differ-

ent and better future in healthcare.

Lack of information will not be a long-term roadblock to evolution in our business. HIT professionals do a remarkable job in making information available. However, no one has been assigned responsibility and authority to make sure consumers get appropriate information and use it correctly. The missing link on the consumer side of the market is a resource for making all the information useful to a highly diverse group of consumers.

In matters of health, each individual is a unique combination of genetic predispositions, environmental and behavioral determinants of health, cultural expectations, and economic resources that ultimately determine his or her optimal choices. Digitally sophisticated customers will customize search engines to meet their diverse information needs, but most people will want and need a real, conflict-free person to help separate relevant kernels of information from the chaff. This information agent is our missing link—a specialist that must be created in order for HIT to achieve its desired future.

ADVISER? DOCUMENTALIST? CATALYST? CONCIERGE?

If HIT’s missing link already existed, the position would have a name. It doesn’t. Whatever name is ultimately assigned to the job, its qualified practitioners will need a broad array of skills to find and understand health information in the context of each individual client they

serve. Health information agents must be able to interpret each patient’s needs and possibilities from the perspective of his or her aspirations and possibilities for health status, cultural context, literacy, language, and economic resources.

To support informed choice for individual consumers of healthcare, the qualified expert’s specific job functions would likely include:

- Conducting and coordinating searches in all media where information is located, including electronic data bases and print resources.
- Finding information reflecting a client’s genetic predispositions, home and occupational environments, eligibility for third-party benefits, health history and other health status parameters.
- Evaluating the quality of information on a case-by-case basis.
- Isolating valid and reliable information that is truly useful to the client and discouraging use of inappropriate or erroneous information.
- Explaining the appropriate information to the client in a manner that supports fully informed decisions.
- Identifying qualified health practitioners based on location, total cost (third-party and out-of-pocket), availability and other relevant considerations.

NATURAL SELECTION

As with any evolutionary process, different developments over many years will ultimately forge HIT’s missing link. Some obvious efforts have already been launched in that direction, such as the medical home and patient-centered care. Web search engines are being developed to expand processes of informed, individually tailored decision-making. Librarians are also known to help patients who do not know how to get the information they want (which is not necessarily the information they need).

Powerful professional and commercial resources are pushing these creative developments, but none has passed the “survival of the fittest” test and demonstrated an ability to reproduce on its own—that is, to be financially viable. Economic sustainability is a major challenge, particularly in a country that does not aggressively promote investments in public health.

Professional turf-fighting will be another roadblock on the evolutionary trail. Many battles will be fought to determine if facilitating informed choice constitutes the practice of medicine. With luck (a critical factor in successful development of a new species), special interests that control the medical marketplace will work to create the missing link by defining it in terms of demonstrated competencies, not professional degrees.

From an evolutionary perspective, new knowledge about the beneficial power of biodiversity suggests that the missing link is most likely to survive if it is compatible with many other species (e.g., medicine, nursing, pharmacy, informatics). Forward-looking policymakers and progressive leaders of health professions will be wise to design a path that empowers different “species” of health practitioners to

build an information bridge that connects the present to the future.

The recent successes in structured evolution, such as development of designer drugs, required teamwork. The same principle applies in health reform. Many stakeholders share a common vision of the efficient marketplace that can be created with HIT. History shows that col-

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laboration is the key to creating a missing link, sooner rather than later. Extinction is a common fate for species that do not learn and apply this lesson. **JHIM**

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