

Intersections: Where technology and business meet to transform health plans

Introduction: Are you ready for a revolution?

We live in interesting times. In our last edition of Intersections, we explored the challenges of competition and change in an uncertain market – specifically how health plans should reform their business operating systems in order to tackle large / complex federal mandates (e.g. ICD-10 recoding) and simultaneously build in future flexibility. These pressures have not and will not fade away, even as a fundamentally new competitive landscape rapidly comes into view.

Much has changed since our last edition. The new administration has made health care reform a top priority in the midst of the most difficult economic times since the great depression. Leaders of major industries have been publicly chastised. Employers have slashed payrolls and benefits at unprecedented levels, and consumers are flexing their activist muscles. The need for health plans to innovate and differentiate themselves is so intense, it may be more appropriate to describe it as a need to reinvent themselves. The coming months will be packed with strategic planning sessions and management offsites (at suitably modest locations), and the prevailing wisdom may suggest waiting for more clarity, both from Washington and from top leadership, before taking any action.

However, we believe there is a real risk of missing the trees for the forest, while waiting for the big picture to emerge. It would be a mistake for IT leadership to sit on its hands, waiting to learn its role in the grand strategic plan. Now is the time for IT leaders to become agents of change in these strategic discussions and to move forward with concrete, tactical strategies to improve plans' overall IT fitness and adaptability.

Whatever shape health care reform takes, there is little doubt that information technology will be central to that change. Indeed, whether the question is how health care will be financed and administered or how costs will be contained or quality improved, the answers are inextricably linked to what IT can support. On the financing side, some health plans are already struggling to respond to the growth of health spending accounts and the emergence of blended health and wealth products; soon they may have to contend with government-mandated minimum benefit packages and configurable "buy-up" coverage options. Administrative simplification – which will require substantial changes to core administrative systems – is highly likely. On the care delivery side, we believe four areas of programmatic change should come about to achieve truly lower costs and improved care (Figure 1).

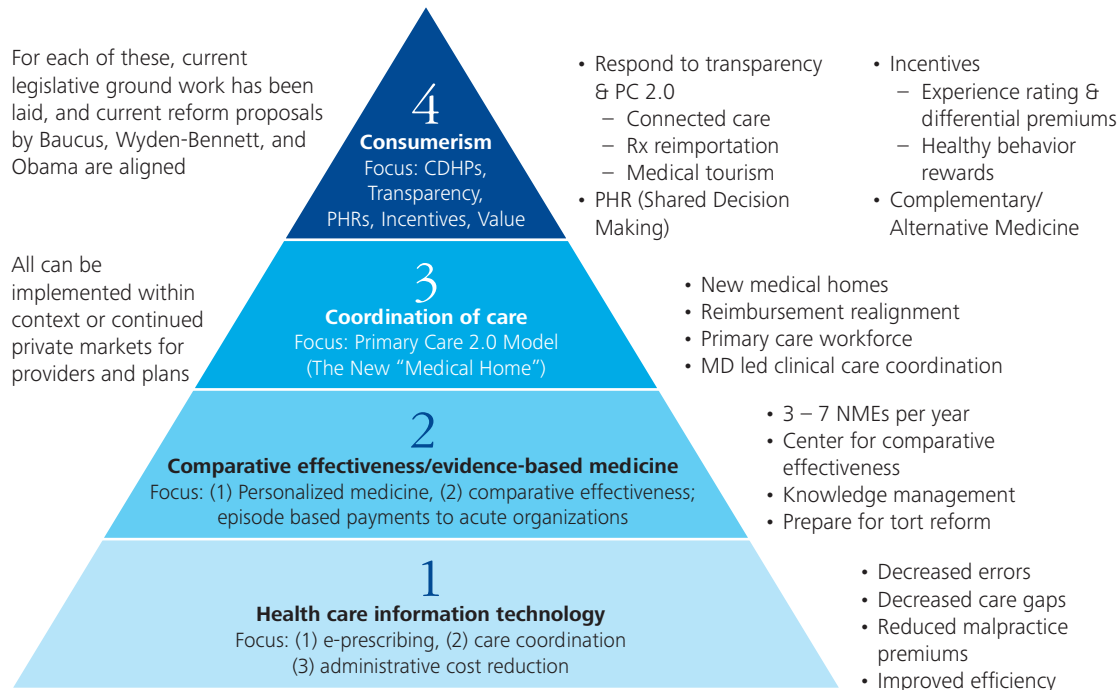
Health care information technology forms the base of the pyramid, with a focus on e-prescribing, care coordination, and cost reduction. However, IT permeates every level of the pyramid: in personal health records, the aggregation of evidence-based medicine and coordination of care across multiple sites, to name just a few initiatives. Health plans will either already have a technology architecture that can support these multiple and radical changes, or they will need to embark upon significant workarounds to deliver the outputs demanded by federal regulation and consumers alike.

So the question becomes, what will it take to be ready?

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Figure 1: The Health Reform Pyramid: Four programmatic areas that can help bend the curve to reduce costs and improve care¹



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The purpose of this newsletter is not to discuss the implications of specific legislation but to help IT leaders in their efforts to put their houses in order so that they are prepared to support whatever shape this agenda takes. Two areas in great need of focus – both in terms of cost-efficiency and competitiveness – are operational productivity and the customer sales channel.

We focus on these two strategic initiatives in the following articles:

- **“Efficient IT in a downward market – Five strategies to consider:”** Although IT departments have been tasked with doing more with less for some time, there are still opportunities to tighten belts while increasing effectiveness. This article looks at five cost-saving opportunities, including: creating a green IT environment, virtualization, redefining the enterprise architect role and sourcing. Each of these initiatives can achieve positive return on investment (ROI) and help position plans for success in the future.

- **“Web 2.0 + You = Health Plan 2.0:”** Health plans have typically underutilized the most cost-effective way of building consumer relationships: the online channel. As consumerism continues to shape the health care marketplace, now is the time for health plans to expand their online presence and reach via enhanced Internet capabilities. The Web 2.0 movement, in particular, offers step function improvements in how the online channel may be leveraged and, ultimately, the end-user experience improved. Investments in this area can provide greater transparency and more robust information to a health plan’s customer base and may potentially enable a fundamentally different relationship between health plans and their members.

¹ “Reducing Costs while Improving the U.S. Health Care System,” The Deloitte Center for Health Solutions, January 2009.

The ideas presented in these articles focus on helping health plan IT leaders in their efforts to make their departments as fit and agile as possible as they prepare for the long, and potentially winding, road ahead. If pursued, we believe none of the ideas will be a wasted effort, regardless of the path of health care reform.

In upcoming articles, we intend to have a robust dialogue over health care reform and what it means for IT. For now, our final note, **Preparing for a future relationship between plans and members**, highlights four areas – incentives, collection, security, and analytics – that we believe will be core to a new value proposition between plans and members. Plans who intend to lead in market innovation should assess whether their current performance in these areas will help or hinder possible future strategies.

In an ideal world, plans would have time to set their strategies and get out ahead of regulation and competitors, but rapidly evolving discussions may require plans to react quickly. Management cannot become paralyzed by the uncertainty inherent in health care reform, do nothing, and arrive at the starting line out of breath rather than ready to lead the race. In this window of time, before the debate is resolved, health plans should take clear, attainable, and immediate action to improve efficiency and effectiveness.

The next few years, and indeed, the next six months, will test all industries, not just health care. We appreciate this opportunity to share some insights and perspectives that may help you create value for your business.

Sincerely,



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Efficient IT in a downward market – Five strategies to consider

You cannot grow your way out of a failing business; only by doing more with less or increasing productivity can you drive increased profitability. Health plans and their IT organizations are not immune from this mandate to increase efficiency. Yet budget cuts without targeted investment too often create situations where working harder does not equal working smarter.

We have identified five opportunities for IT organizations to boost their efficiency and better meet the demands of their business partners. These strategies can result in positive ROI and enhance IT effectiveness in the near term. The five strategies are to:

- Deploy virtualization
- Create a green IT environment
- Redefine the enterprise architect
- Tap strategic sourcing arrangements
- Establish enterprise release management

We should note, as well, that significant productivity improvements may be found in time-tested places. Now is an ideal time to move forward on small projects like improving adjudication rates, rather than waiting for that new claim system that's been cut from the budget, move trading partners from manual data submissions to electronic data interchange (EDI) and improve EDI validation rates. Consolidating disparate electronic data transfers to a single common gateway can streamline intake, improve data quality, and reduce maintenance costs. Even in some of the most advanced IT shops, it is not uncommon to still see these types of opportunities to improve productivity.

Deploy virtualization

Virtualization, itself a green strategy, allows firms to optimize their computing capacity without adding physical hardware. The green aspect of a virtualization strategy is that a single computer server can mimic multiple, different hardware environments, all while consuming the space and power of a single computer server. Virtualization is a technique where a virtual machine environment allows for complete simulation of the underlying hardware. Over the past decade, many firms experienced spurts of growth in their IT infrastructure that left it oversized and underutilized in places. This poor match of demand and capacity can create excess overhead for the technicians (often outsourced) and can create a jumbled landscape of hardware that supports its own resident applications, but provides limited additional value.

Virtualization, where all the software running on the raw hardware can now be run in a virtual environment, allows for optimization and significant rationalization of machine use. The four key areas of virtualization include: servers, storage, networks, and associated end-user applications. In effect, the virtual environment reduces operating costs and annual hardware spending by providing a shared IT infrastructure. A wide variety of services can be delivered to business units with greater reliability, efficiency, and effectiveness.

When integrated into the architecture models of advanced enterprises, virtualization can deliver other tactical benefits as well. For example, in a virtualized server world, requesting additional storage for an application or applications becomes a simple request to the data center. This can greatly accelerate the time from concept to deployment for the next new application. Similarly, scalability can be supported on demand. A single platform may be more quickly adopted company-wide, which can yield substantial gains in effectiveness by standardizing data and creating consistent metrics across the organization.

But virtualization doesn't reside only in the world of data centers and servers. Indeed, it extends to concepts such as telecommuting and virtual conferencing (which also have a green aspect to them). Virtualization of the workplace, conference rooms, servers, desktops and applications can trigger multiple benefits, including cost reduction, expanded capacity and optimized applications. Deloitte research shows that a company with a \$20 million spend on IT operations and hardware could expect to reduce its costs by between \$4 million and \$8 million annually with effective use of virtualization.”²

Create a green IT environment

Companies are becoming increasingly aware of the impact of energy consumption on their overhead costs. Given the high energy demands of data centers, CIOs may soon be expected to address this area as part of their overall fiduciary responsibilities. “Greening” IT can significantly lower overhead costs, particularly energy use, and allow firms to capture additional benefits in productivity and government incentives. Green initiatives can be as small as motion-sensor-equipped lighting or as large as complex renovation efforts around data center migration and consolidation.

² Deloitte research, experience and analysis.

*As used in this document, “Deloitte” means Deloitte Consulting LLP, a subsidiary of Deloitte LLP. Please see www.deloitte.com/us/about for a detailed description of the legal structure of Deloitte LLP and its subsidiaries.

There are a number of areas to consider under the broad definition of green IT. We will focus on one particularly powerful green initiative for the IT department – reducing energy consumption. In some efforts, this initiative can involve something as simple as improved power management of a company’s PCs or as complex as a green data center renovation.

In relation to effective power management, there are many successful case studies to consider. For example, Washington Mutual, General Electric, and Dell recorded savings of \$3 million per year, \$2.5 million per year, and \$1.8 million per year,³ respectively, through more effective power management of PCs.

In the area of green renovations, Adobe Systems focused on more efficient energy use in its \$1.4 million green renovation of its San Jose, California, headquarters; the annual energy savings of \$1.2 million it achieved helped to generate a substantial ROI and a rapid payback. One of the green renovation’s tactics was so simple that all firms should adopt it: Adobe spent \$153,095 installing “Watt-Stoppers,” a series of outlets and power strips connected to motion sensors that turn off office equipment like computer monitors in unoccupied rooms. This modest outlay generated a 253% ROI.⁴

Examples can be found within health care as well: A northeast regional Blues plan recently constructed a new 86,000-square-foot, Tier III data center facility, certified by the U.S. Green Building Council as a leader in energy and environmental design. Although the new facility is three times larger than the old one, its energy costs are the same. By focusing on green building principles, the Blues plan not only alleviated space and storage constraints; it avoided a substantial increase in energy costs and is protected against future increases in electricity costs. With forecasts predicting that the cost per kilowatt will increase by 20-30% after 2010, companies have ample reason to begin thinking about energy consumption today.⁵

In addition to the annual cost savings of reduced energy consumption, a green strategy can take advantage of a variety of governmental incentives and utility company rebates. For instance, Adobe Systems received \$389,000 in grants and equipment purchase rebates from the State of California and Pacific Gas & Electric for the energy-conserving technologies they installed. Other examples of incentives include: the New York State Green Building Tax Credit program, which gives state tax breaks to

commercial projects that incorporate Leadership in Energy and Environmental Design or “LEED”-based strategies; California’s Savings by Design program, which provides subsidies for energy-efficient nonresidential buildings; and the Federal Energy Policy Act of 2005, which provides a tax deduction of up to \$1.80 per square foot for commercial buildings that reduce heating and cooling energy consumption by at least 50%.

Redefine the enterprise architect

Over the last several years, with the rollout of increasingly complex systems, technology and enterprise applications, many organizations developed a small battalion of enterprise architects to help oversee and drive technical and architectural decisions. Their job was to help define and maintain standards, develop technology roadmaps, draw future state conceptual system diagrams and develop architectural blueprints. Their impact: projects more tightly focused on strategic objectives; projects delivered faster, cheaper, and on scope; code standardized and repeatable; and end results cost appropriate and relevant to market demands. The benefits can be substantial; in financial services, for example, a large Canadian bank was able to lower its operating costs from an industry average of 2.5% of assets to 0.43% of assets through more effective enterprise architecture, business process and services management.⁶

Despite these benefits, many enterprise architects developed a reputation for being above the immediate issues of implementation – much to the chagrin of project managers. Now, with belt-tightening measures required for every budget, the role of the enterprise architect needs a reboot – both to banish its “ivory tower” image and to extend its potential to reduce costs. Enterprise architects should consider the following to help refocus their mission:

- **Get back to basics:** An appropriate way to address the “ivory tower” perception is to increase the enterprise architect’s hands-on time with project and implementation teams. Enterprise architects need to roll up their sleeves and produce the sequence diagram or lead the writing of technical and non-functional requirements that might be assigned to the junior IT staffer. Active, hands-on engagement can help make the enterprise architect role more valuable and visible to the organization. It can also help to confirm that the benefits of those seemingly academic exercises, like technology blueprinting or the rollout of a new enterprise architecture methodology, are clear to the entire management hierarchy.

³ Doug Washburn, “How Much Money are your idle PC’s Wasting?,” Forrester Research, 2007.

⁴ Ibid.

⁵ Doug Washburn, Robert Whiteley, Rachel A. Dines, Christian Kane, and Ben Echols, “Is Green IT Your Emperor With No Clothes? Measure Your Green IT Baseline Or Risk Being Caught With Your Pants Down,” Forrester Research, 2008

⁶ J. Ross and P. Weil and D. Robinson, “Enterprise Architecture as a Strategy: Creating a foundation for business execution,” HBS, 2006.

- **Be active in the enterprise portfolio process:** With the focus on spending wisely and spending on the right projects, enterprise architects should become actively involved in the organization's enterprise portfolio management process. Executives want to understand project ROI and prioritization – but decisions are typically driven primarily from the business perspective. Rather than wait for portfolios to be approved, enterprise architects should share their opinions about technical feasibility and architectural alignment earlier in the process. Making these recommendations at the start of the portfolio decision-making process can help reduce the likelihood of delays, or worse, troubled or challenged projects that produce static and inflexible workarounds.
- **Develop the business architect:** The traditional “sweet spot” for enterprise architecture has been in providing solution, integration and technical guidance on implementation projects. Increasingly, we see the need for enterprise architects to better understand their business counterparts and be armed with accurate and complete information on business strategy and stakeholder issues – becoming, in effect, business architects. Effective IT organizations are beginning to architect the business in the same way they would IT systems -- by defining organizational models, business capability maps, operational procedures and optimized processes to increase cost effectiveness and business value. Many enterprise architects already play a role, directly or indirectly, in these areas during implementation projects, and this change in emphasis is a logical extension of their value in aligning business with IT.

Tap strategic sourcing arrangements

Often, we see health plans contract with a wide variety of technology companies without putting significant thought into how to best manage and enhance those relationships. One example is around how organizations handle external resources. These types of resources can fall into multiple categories from contractors to outsourced support or maintenance, to management and technology consulting on a project basis.

From a contractor perspective, we often see organizations leverage contract resources through a series of one-off or ad-hoc relationships, across multiple vendors, that are

confined to a specific business process or technology specialty that leaves little room (and no incentive) for knowledge transfer. Improving how these resources are used and contracted by limiting it to the key vendors and adjusting the contract terms to include defined metrics and measures around knowledge transfer should deliver immediate impact to the bottom line.

From an outsourcing perspective, there are many advantages to leveraging an outsourcing model to an organization's benefit. While there are cost-savings associated with outsourcing IT development, it is often handled within the narrow perspective of individual projects and departments, without regard to the organization's overall business needs. This approach can leave significant money on the table: Forrester Research estimates that about 60% of infrastructure work is suitable for outsourcing, which translates into an addressable market of about \$132 billion per year. Using Forrester's rule-of-thumb for outsourcing savings of 15%, U.S. businesses are potentially sitting on unrealized savings of about \$19.8 billion per year.⁷ Translating that into real terms, a company with annual technology budget of \$200 million that spends \$30 million of that budget on infrastructure could stand to save between \$4 million and \$5 million per year (15% of \$30 million).

Efficiencies in sourcing can be realized through closer alignment with business strategy (portfolio and product rationalization) as well as by employing a standardized, centralized approach to vendor management. Strategic sourcing requires a proactive approach to the:

- Identification, procurement and management of technology relationships across hardware and software platforms and vendors;
- Delivery and maintenance of new products or processes via outsourcing, insourcing or contracting; and
- Synchronization with consulting services focused on strategy and planning.

Sourcing costs can be reduced through a more global understanding of outsourcing's impact across business lines, enforcement of standard processes, establishment of common procurement tools and improvements in vendor pricing.

⁷ Galen Schreck, Simon Yates, Christopher Mines, and Rachel A. Dines, "Five Green IT Trends That Will Impact the IT Infrastructure and Operations Professional," Forrester Research, 2007.

A successful sourcing strategy begins with an assessment of current relationships and a robust investigation of a wider set of potential alliance organizations. Other key elements include:

- Defining targets for where and to what extent external sourcing will be used
- Establishing processes and tools to monitor and improve upon the efficiency of sourcing across the organization, and
- Dedicating a team within IT that works to optimize existing relationships and develop new business relationships based on the evolution of sourcing landscape

Initiating a strategic sourcing strategy can lead to productive discussions around knowledge transfer and the potential for forward or backward integration of elements of the value chain. It can also highlight possible new market opportunities with (or threats of disintermediation from) sourcing alliances.

We should note that many firms have undergone some variation of strategic sourcing at some point. However, these arrangements are often not reviewed or refined despite changes in the market, leadership or strategic objectives, or the introduction of new vendors or capabilities among current vendors. Few firms dedicate resources for this purpose, and some parties may have strong incentives against revisiting current arrangements. That said, reviewing one’s trading relationships is an

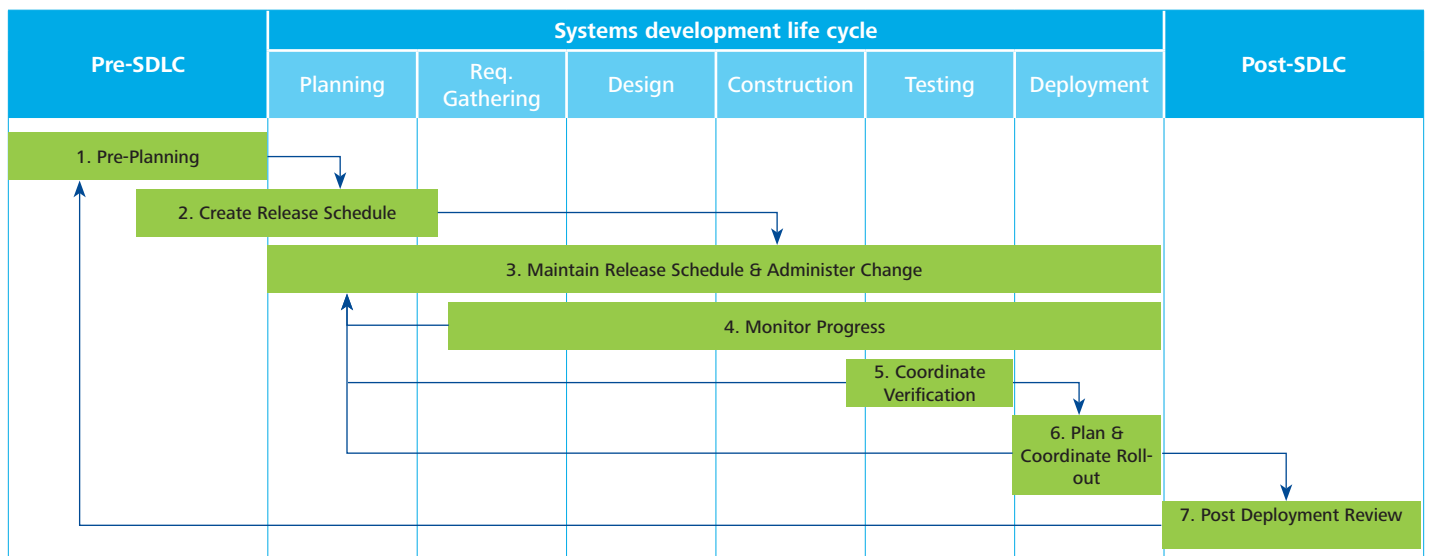
essential “fitness” regimen for managers. In this turbulent time, that review can yield both savings and a fresh perspective on the market.

Establish enterprise release management

Implementing an enterprise release management strategy is a perfect example of a smaller, more focused initiative that can help prepare health plans for impending regulatory mandates and major transformation efforts. Enterprise release management refers to how an organization orders development, testing, deployment, and operations of a given platform in the context of the organization’s strategy. By aligning technology initiatives with specific business objectives and the introduction of new business capabilities, changes in a given application can be better understood and compensated for in an integrated and coordinated fashion across the organization.

An enterprise release management initiative involves aligning the system and project implementation processes with both a calendar and series of “gates” associated with stages of an organization’s Systems Development Life Cycle or SDLC. To create an enterprise release management process, release management would be managed at the enterprise portfolio level and require projects to align their approach and timing with the enterprise release calendar. This is a process that takes focused discipline and planning to achieve the desired alignment. Figure 2 outlines a representative enterprise release management process.

Figure 2: Example enterprise release management process



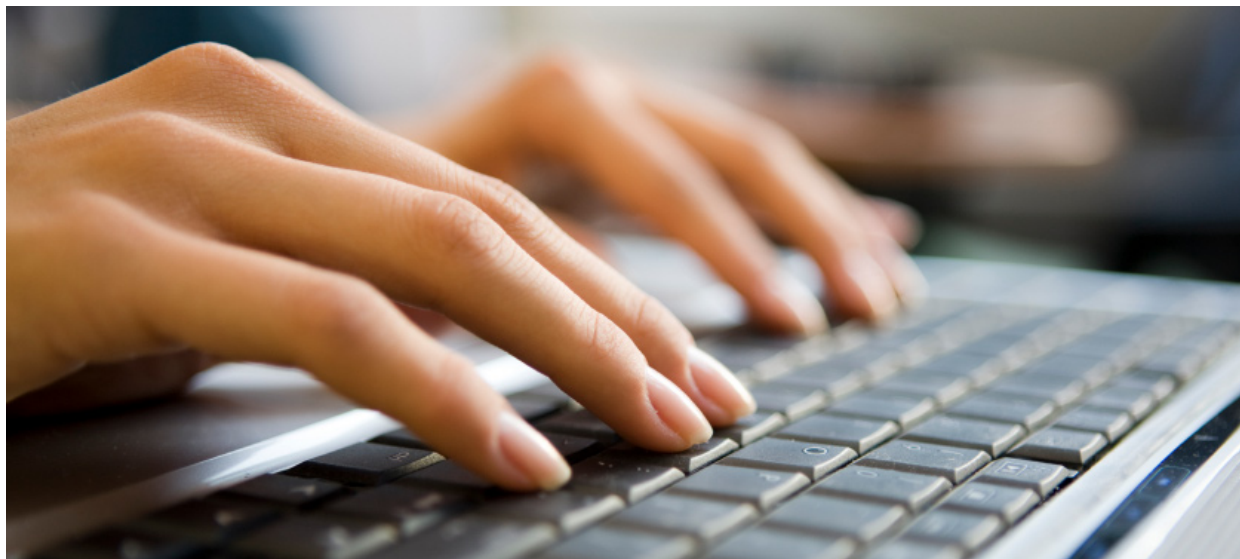
A key, desired outcome of an enterprise release management initiative is a process and a calendar that the organization can understand and plan around. Making the release management process more transparent and synchronized with strategic and operational objectives is imperative in an increasingly complex business environment. New regulations promise to require larger, more global transformation efforts. Previous initiatives, like the federally mandated National Provider Identifier, were less-invasive and allowed updating individual systems in a phased approach. New mandates, not the least of which is ICD-10, will impact multiple systems simultaneously. Enterprise release management should help reduce the chaos of these changes, and, going forward, help deliver greater data consistency and transparency.

Furthermore, as the pace of innovation quickens, health plans will be tasked with integrating new products into legacy platforms. Plans may need to enhance their release management process in order to coordinate the various cycles of development, testing and implementation phases across these initiatives. By synchronizing these new product introductions with business priorities, the enterprise release management process can help plans deliver on improved speed to market and deliver consistent, high-quality outcomes.

Often, we see significant opportunity to improve existing enterprise release management processes by “re-connecting” or reestablishing quality assurance and testing aspects of the development life cycle. In less disciplined organizations, testing traditionally needs to be re-invented for each initiative; but an integrated release management program would ideally maintain an organization dedicated to testing in an economical way. This central organization would provide a shared service to all IT initiatives by establishing a project-based project management office, standardizing expectations and methodologies across business areas and coordinating data across platforms and enterprise-wide testing cycles.

You had me at “Virtualization” – Taking the first step

In a time when every penny counts and when every health plan should ready itself for government- and consumer-led forces of transformation, every opportunity to work more efficiently and more effectively deserves investigation. The five strategies presented here are a good place to start, and each can help position your organization for future success. It’s just a matter of identifying which of the strategies are right for your organization and taking the first step.



Web 2.0 + You = Health Plan 2.0

The online channel, in particular, is an ideal medium for innovation. Its cost structure relative to other methods of outreach offers some relief at a time when health plans must contend with spiraling overhead, decreasing enrollment, and downward pressures on premiums. Furthermore, it offers the potential to involve members in curbing rising medical costs and utilization, spurred in part by an aging population and a rise in chronic diseases and obesity. Finally, it may act as a gateway to unify an increasingly fragmented care delivery landscape that includes specialty centers, retail sites, and new technologies such as genetic screening.

Given these concerns, today's plans should develop online tools that will be capable of shouldering the burdens of a retail business model. Health plans should upgrade their approach to the customer channel to encompass:

- Expanded and more informed health and wellness initiatives
- Streamlined administrative processes and systems
- Greater emphasis on speed-to-market and new business models
- Capacity to collect and analyze data across multiple sites
- Ability to evaluate the cost benefit of new technologies
- More sophisticated market segmentation and risk assessment

Investments in the customer-facing channel, and the next generation of health plan portals in particular, will lay the groundwork for redefining the member-plan relationship. In this context, the technologies and concepts that underpin Web 2.0 offer considerable promise.

It is an unfortunate coincidence that health plans are faced with two dramatic, and potentially very expensive, market challenges at the same time. While the largest single payer in the country, the federal government, is considering sweeping global reforms, the individual market is growing and consumers are becoming more demanding. The gradual erosion of employer-funded health care, along with the low cost of Internet-enabled information gathering, have all fueled the transition from members as passive participants in the health care system to a more active, savvy consumer.⁸ And while health plans may wait to see what shape federal reforms take, they cannot sit idly by as consumers take change into their own hands.

Consider:

- More and more Americans are using the Internet to navigate the growing amount of health-related content available online. According to some surveys, the Internet now rivals physicians as the leading source of health-related information. Consumers seek information about prices, premiums, benefits, doctors, hospitals, treatment options and medications, and they want that information organized specific to their needs. Online tools, particularly health care portals, are increasingly shaping the patient experience.⁹
- On average, health care spending is consuming a larger portion of a household's income. For most households, it is approaching 17%.¹⁰ For households whose incomes are lower than average, health care spending can be north of 20%¹¹ of household income, hitting those that need it the most the hardest. With so much at stake, future health care products and associated benefit plan design and financing may become a significant consumer issue.
- With increased cost sharing in traditional plans, high-deductible plans and the growth of health spending accounts, consumers already direct a higher proportion of their health care spending. Consumers will seek tools to help them manage their spending and modes of care (e.g., alternative medicine) that offer lower costs and more control.

All these trends point to more cost-conscious, more information- and option-hungry consumers. Health plans should gear their business models, processes and systems to be consumer-centric. (See Figure 3 on following page.)

Creating this model will require investments in analytics that paint a more holistic and longitudinal picture of consumer health, core administrative systems to process and analyze a wider variety of transactions, and more focus on developing a positive customer experience.

Several health plans have made strides in developing their online capabilities already. Heavy and continued investment in health plan portals by the major national commercial and HMO plans, among many others, has focused on providing more health and decision-making information to their members. Kaiser Permanente, for example, has developed online capabilities that, among other things, allow members to email their physicians, check their lab results, order prescriptions or schedule an appointment online.¹²

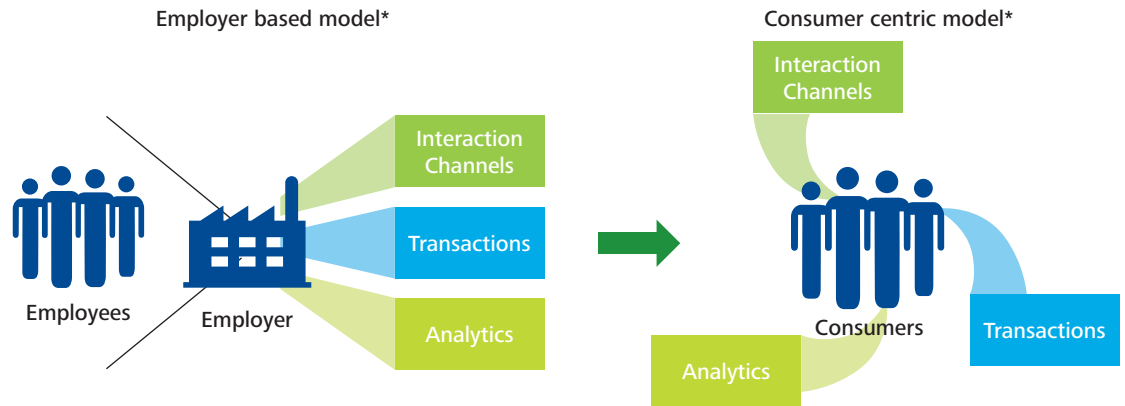
⁸ 2009 Survey of Health Care Consumers, Deloitte Center for Health Solutions, 2009.

⁹ Ibid.

^{10, 11} Deloitte research, experience and analysis.

¹² www.kp.org.

Figure 3: Evolution to a consumer centric model



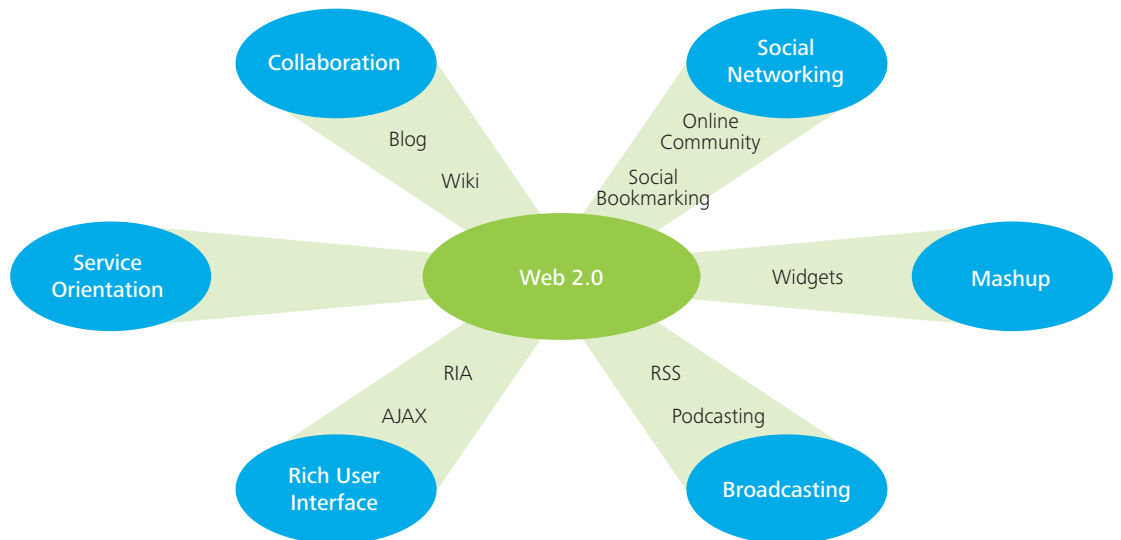
* In both models, the interaction channels, transactions and analytics represent health plan functions
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What is Web 2.0?

While there are many definitions, Web 2.0 emphasizes the use of the Internet as a platform for a variety of applications and disparate data sources, as opposed to a gateway for transactions and company-authored content. Web 2.0 typically supports four key user-oriented concepts: social networking, collaboration, broadcasting and a rich user interface. New applications and disparate sources of information are deployed through effective service orientation and application mashups. (See Figure 4 and page 11 for definitions.) The result is a dynamic, interconnected and interactive experience that evolves through community information sharing, user-generated content and individual preferences.

There are thousands of Web 2.0 sites currently in use, including: Twitter, Yample, AskAboutMoney, Wikipedia, and LinkedIn. All of these applications make multiple streams of information accessible to users and enable users to collaborate more effectively using blogs, wikis, and social networks. Overall, Manhattan Research estimates that 60 million U.S. adults already use health care-related blogs, online support groups, prescription rating sites and other health-related social media sites.¹³

Figure 4: What is Web 2.0?



¹³ The Health Care Blog
 "http://www.thehealthcareblog.com/the_health_care_blog/2008/11/metrics-web-20.html".

Key Web 2.0 terms

Social Networking

Social networking tools enable like-minded people to connect on the web. There are thousands of social networks, including several that are being embraced by businesses. LinkedIn, Myspace, Facebook and Secondlife are among the more popular social networking sites. Social networking is gaining adoption in health care as well with sites like Patientslikeme, Vitals and Sobercircle. All are facilitators for disseminating institutional and peer-peer knowledge.

Broadcasting

Broadcasting takes several forms. The overall objective is the distribution of video, audio and/or text to users. A form of broadcasting is based on a Web 2.0 technology termed RSS (Real Simple Syndication). RSS technology enables users to subscribe to “feeds” such as blogs, wikis, or podcasts. When content changes, updates are retrieved and presented to the subscriber. The subscriber may use a variety of channels to receive the feed – email, portal, wiki, text message or in some cases, a voicemail.

Service orientation

In the Web 2.0 context, service orientation refers to the fast and easy deployment of new content or applications through the use of APIs (Application Programming Interfaces.) A prime example is the iPhone; Apple provides the device and software interfaces for deploying applications. Application developers create and distribute applications using the interfaces.

Mashup

Mashup refers to information that is being pulled from more than one source or database, for example a blend of data from a publicly available database with data from a company’s own database. Real estate firms often create a mashup by combing information from a public regional database of for-sale listings and their own database, which contains photo tours of houses represented by that brokerage.

Rich user interface

The terms Rich User Interface or Rich Internet Applications (RIA) are used to describe user-friendly, interactive, personalized web-applications that have the look and feel of desktop applications. Examples include Flickr, Monster, Netflix and iGoogle. The AJAX component of the Rich User Interface allows the site to retrieve new information from the server without disrupting the interface display.

Collaboration

Several tools that facilitate sharing of user-generated content include Wikis, Blogs, and Social Bookmarking:

- Wikis enable users to easily contribute or edit the contents of a website, using a simpler markup language powered by Wiki software. Wikipedia is probably the most prominent example of a Wiki. In 2008, the site had 211 million unique visitors.
- Blogs – a website usually maintained by an individual with regular entries of commentary, allowing visitors to add their feedback and comments—contributing to a whole online community called the blogosphere.
- Social bookmarking enables users to store, organize and share bookmarks; e.g., del.icio.us

Addressing the market of one

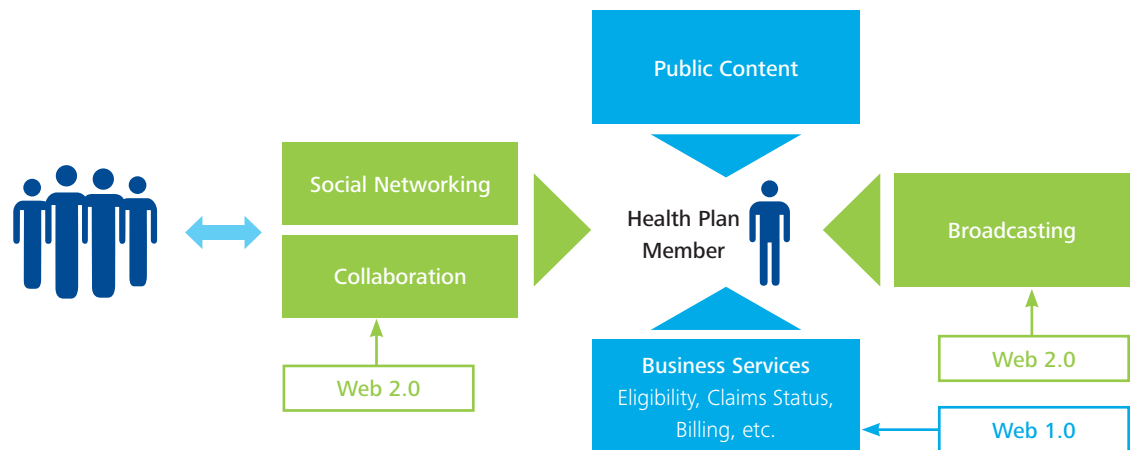
Harnessed optimally, Web 2.0 concepts may facilitate the transition to a consumer-centric business model. (See Figure 5 below.) To date, health plan portals have largely focused on offering a combination of content and self-service capabilities. Leveraging the true potential of these portals has been somewhat constrained by the limitations of core-administrative systems. But many promising applications of Web 2.0 technologies have already begun to infiltrate the health care space, including:

- Social networking tools to support online communities: Health plans can offer their own versions or interface with existing social networking sites like Patientslikeme for patients or Vitals for physicians.
- Strengthened wellness and preventative care: CIGNA uses a site to promote healthy-lifestyle techniques.¹⁴ Humana created a game on Facebook called Battle of the Bulge;¹⁵ the objective of the game is to keep the pounds off a slightly over-weight avatar.
- More informed decision-making: A regional Blue Cross Blue Shield plan created a website called the health carescoop.com.¹⁶ Its purpose is to elicit patient feedback on care received from local physicians and hospitals.

- Broadcasting to strengthen member retention: A large regional Blue Cross Blue Shield plan recently used Twitter to monitor certain key words such as Blue Cross, Insurance, etc. A user was pleasantly surprised when a Blue Cross Blue Shield customer service representative called her to resolve a claims issue she had posted on a twitter site. In this instance, a potentially negative PR issue was resolved expeditiously and the member came away impressed with the technical savvy of the health plan.
- Rich user interface applications are particularly useful in guiding sales and making health plan portals more customer-friendly. A large national Blue Cross plan has a rich user interface application to market health insurance to young adults ages 19 to 29.

These early experiments in Web 2.0 still have room to grow, both in member-to-member interactivity and member-to-plan. One of the most powerful applications we see on the horizon for health plans will be an intelligence-driven sales process.

Figure 5: Deloitte Consulting Web 2.0 roadmap



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¹⁴ www.cigna.com.

¹⁵ Humana.com. "Humana Promoting Exercise, Nutrition and Fun During Holidays with New Online Games," Dec. 22, 2008 <<http://humana.com/>>. Path: About Humana; newsroom; current releases.

¹⁶ "HealthcareScoop Site Hopes to Get People Talking," www.startribune.com, Dec. 14 2007.

Optimizing the sales channel

As health care moves increasingly to a retail model, we can anticipate consumers researching and shopping for insurance online; indeed, if health reform results in a government-mandated base plan with consumer-elected buy-ups in coverage options, an optimized online sales channel will be critical to keeping sales costs low as consumers shop for health insurance. Already, seven in 10 health plan shoppers look for information online.¹⁷

A key and persistent challenge for health plans is capturing valid prospective member data and underwriting it quickly and consistently. The difficulty lies in the need to automate the vast number of underwriting rules necessary to stratify each prospective member into a risk pool and to assign an associated rate. Behind a majority of the online services that offer individual insurance products lurks a very cumbersome process: front-end, data collection tools drop prospective member information onto a health plan employee's desktop. The health plan employee then performs a manual underwriting review that may or may not include a detailed medical search, and derives a risk level and rate for the applicant. A quote is then returned to the prospective member. This combined automated/manual process is hardly an example of 21st century technology at its best.

A web application that is more consumer-centric and configurable could lead to higher rates of participation, lower costs, and improved actuarial decisions. In this new world, the process of buying individual insurance might go as follows:

1. The prospective customer goes online and accesses a product wizard that helps him/her clearly understand available coverage options and associated costs.
2. From there, the customer moves to an interactive purchasing application that imports information from the product wizard to begin the true application process and collects key data to identify the individual and gain necessary permissions from the customer.
3. Once the pertinent information is entered, an automated process is initiated to process the application through the plan's internal database and external sources to verify the accuracy and completeness of the data.
 - Check internal claims data for major illness¹⁸
 - Look at credit and risk checks in external data repositories
 - Query pharmacy benefit managers for drugs that would suggest chronic illness

4. Consumer gets a response and a rating-based price, plus a series of buy-up options and their cost that are available by checking a box.
5. Consumer makes purchasing decision. The whole transaction takes less than 5 minutes.

The speed of this transaction offers numerous obvious advantages:

- Reduction in the time for the potential new member to leave or have second thoughts and buy from a competitor
- Significant reduction in the manual effort required to process applications; and costs that do not rise with greater volumes
- Standardization of underwriting rules for more consistent administration of rates and creation of a better actuarial base

Some plans, such as a number of single state Blue Cross Blue Shield plans, have already successfully invested money, thought and time into automating this function and bringing it to the web.

Web 2.0 and other technology considerations

Web 2.0 technologies make this scenario come to life. From the rich user interface, to the level of interactivity and mashup, Web 2.0 capabilities enhance the customer's experience and help to create a customer-centric experience.

In addition to the Web 2.0 concepts required, the technology investments needed to support this type of highly customized, flexible and interactive sales application also require significant integration with existing systems and tools. For example, close integration with rules engines allow the automation and standardization of underwriting rules. By combining existing capabilities with analytical tools, the development of such an application can be an extremely effective and repeatable process. For example, one might purchase standardized underwriting guidelines such as Milliman or other government-specific rules and build them into a rules engine like Blaze or Isis. Some upfront manual loading might be necessary, but additional rules could be phased in. The end result -- a centralized repository of underwriting rules that can be integrated with any application, continuously updated and extended -- would pay dividends multiple times over.

¹⁷ 2009 Survey of Health Care Consumers, Deloitte Center for Health Solutions, 2009.

¹⁸ Depending on the shape of health reform, this medical underwriting step might not be required. Both AHIP and the Blue Cross Blue Shield Association have indicated a willingness to forego the ability to do medical underwriting if there is a universal coverage mandate. (Deloitte research, experience and analysis.)

How do I get there from here? A Web 2.0 roadmap for health plans

The good news is that migrating from the current state of static web portals to a Web 2.0-enabled world is not difficult to achieve. As opposed to the high-cost of entry of the first generation of web portals, Web 2.0 technologies piggyback on those investments with interesting cost and revenue effects. A case in point is Dell, who worked with Socialtext to deploy an enterprise wiki in their call center. The wiki acted as a participatory knowledge base; when customer calls came in, call center representatives were able to solve questions more quickly, decreasing the average call time by 10-20%.¹⁹ The higher call center productivity will allow Dell to improve its operating margins as sales increase. Jive Software recently quoted an organization where phone support cost \$12 per incident, whereas wiki support cost \$0.25.²⁰

The first step for any health plan seeking a pragmatic strategy to optimize customer experience and its online channel through the use of Web 2.0 applications starts with an assessment of current capabilities, desired end states, and the identification of gaps that need to be addressed. Health plans should then evaluate the business case and technical viability of any proposed capability. Figure 6 below, based on Deloitte's Innovation Methodology, depicts a structured approach for adopting new Web 2.0 capabilities.

The four stages of ideation, prototype, commercialize, and operate can be adjusted according to the application and strategic goal, whether the goal is to lower costs through greater front-end automation, or take a more radical approach and redefine the member-plan relationship.

Health Plan 2.0

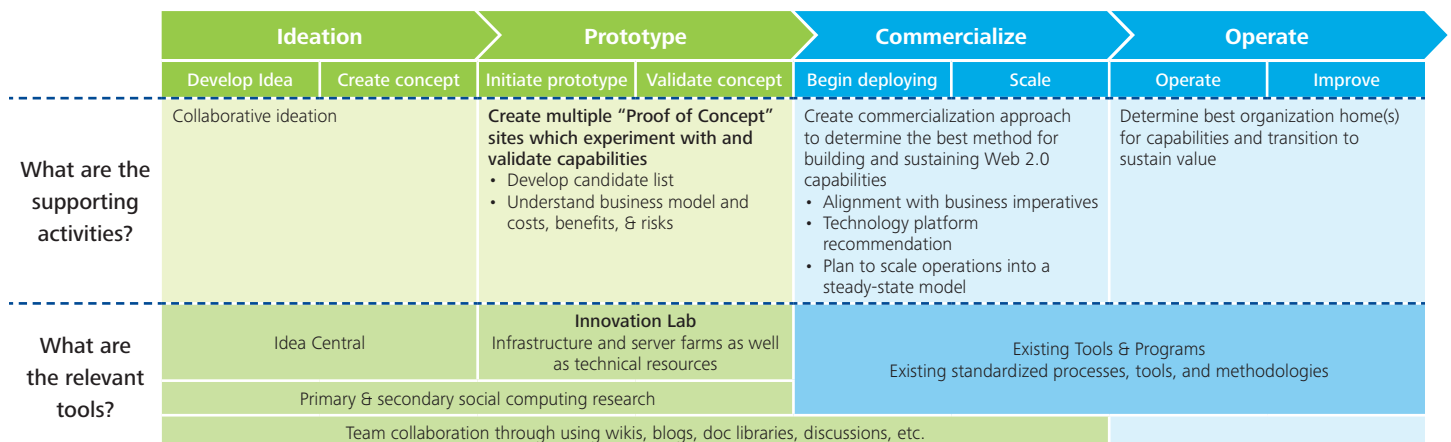
Consumerism and government-led reform are interdependent market forces, both resulting from a health care system that is breaking down under an unsustainable cost structure. If a health insurance exchange and a standard minimum benefits package come into play, people will ultimately shop for health insurance and make care decisions in a new way, and today's most innovative Web 2.0 applications may well become table-stakes in just a few years.

When evaluating the ROI of a proposed Web 2.0 project, one may consider whether it advances a longer-term strategic vision. Adopting collaborative, user-oriented tools are only the first step to Health Plan 2.0, which we predict will include:

- Better consumer access to their health / wealth information
- An opportunity for greater transparency between a plan and a consumer
- More meaningful incentive structures and rewards for desired behaviors
- Greater accountability from both the plan and the member to achieve better outcomes over longer term contract agreements

Even in this time of uncertainty, health plans that embrace innovation can gain significant competitive advantage. By developing an infrastructure today that starts to address challenges, such as consumer-direct sales opportunities, transparency of health data and tools for consumers to better understand the cost/quality challenge, health plans may be able to set the foundation for a successful future.

Figure 6: Deloitte's Web 2.0 & innovation methodology overview



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¹⁹ C.G. Lynch, "Enterprise Wikis Seen As a Way to End 'Reply-All' Email Threads," CIO.com, March 14, 2008.

²⁰ John Mel, Web 2.0 Ideas and Strategy, June 12, 2009.

A final note: A future relationship between plans and members

"Whenever you see darkness, there is extraordinary opportunity for the light to burn brighter." – Bono

This newsletter has intentionally focused on actionable areas that we believe plans will need to address regardless of what direction health care reform takes. Tactically, health plans need to keep moving forward on efficiency, effectiveness and consumerism. At the same time, however, the industry is preoccupied with questions such as: in a world of federally mandated reform, what will the future rules of engagement look like, where are the points of market influence, and what investments are needed today to prepare for change?

Getting ready for reform requires improving one's agility as a first condition, but there is still a need to think strategically about the plan's desired market role plans in the long-term and outline various options and contingencies. Given the shift to a retail model, it is our view that the next generation of health plans will ultimately focus on the value created in their relationship with members, with plans arraying themselves on a continuum of loose to tight member relationships. In tight relationships, plans seek to become the aggregator and guardian of transparent health data to build a more holistic and complete view of its members, with multiple value-added services to manage the health of their covered populations.

Under this scenario, health plans should build a foundation of trust between the plan and its members. Plans will have to develop the vocabulary, syntax and incentives – such as lower rates or eligibility for special plans -- to ask members to be more open about their health status and lifestyles. The data capture strategy would ideally tap into new data sources, such as consumer or behavioral data, and feed into refined analytics and algorithms that complete their understanding of individual health details. Ultimately, product development should be dynamic and tailored to the individual, and shape the relationship for the better.

Four areas will underpin the scope of that relationship and deserve assessment today: incentives, analytics, collection, and security. Health plans with investments in these areas today may have more options for near-term innovation and more latitude in buying or building these capabilities.

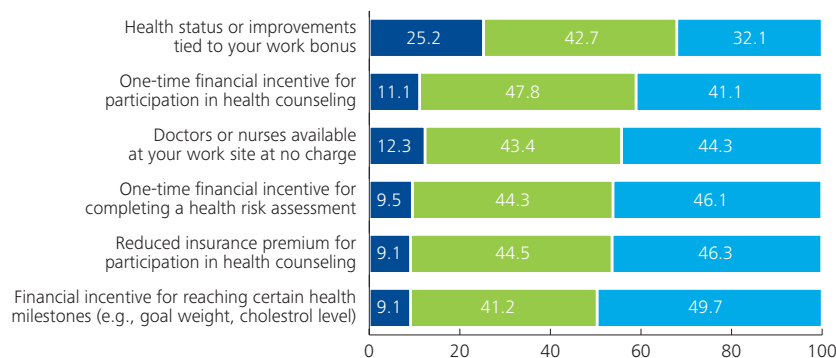
Incentives

To create a much deeper and trusted connection between the consumer and the health plan, plans will need to find creative incentives and new channels to capture individual health information. The industry has struggled to develop member trust, so the trade-offs between care and information sharing will need to be worthwhile. Other industries have successfully adopted incentives to bridge data gaps and convince consumers to share more personal data. Some common examples of the benefit outweighing the disclosure of personal information range from registering for frequent shopper programs to gain discounts, to submitting fingerprints and retinal scans, and being subject to background checks to speed through airport security.

Health care, of course, is an information landscape studded with personal and public landmines. Still, the economic climate may make money-saving incentives more attractive. Some options might be lower rates for people with health club memberships, frequent checkups and participation in monitored health programs, or free services in exchange for data collection in disease management programs. Forrester performed a survey in March 2007 that asked people what incentives they would be interested in. Figure 7 depicts the results.

The chart indicates that, given the right incentives, consumers are open to negotiating a more comprehensive relationship with the right partner. The question then is, what technology foundation is needed to support that relationship?

Figure 7: Health care incentive effectiveness²¹
Employees look favorably on goal-based wellness incentives



Please indicate whether each of the following would encourage or discourage your participation in a health improvement program at work. Scale 1 (strongly discourage) to 6 (strongly encourage).

■ Discourage (1,2) ■ Neutral (3,4) ■ Encourage (5,6)

Base: Online US individuals who are employed by a company
Source: Forrester's NACTAS Q4 2006 Healthcare, Travel, And Customer Experience Online Survey, 2007

²¹ Elizabeth Boehm et al, 2007
Forrester Research, "What Health Records Do Consumers Want?," 2007.

Analytics

Incentives are linked to what types of data will be employed to analyze health factors. Real-time or near real-time sources can capture key data (weight, sugar level, pulse, etc.) that allow close monitoring of member health status. The source for this type of information could come from data manually entered on a website, biometric devices that have wireless technology, or third-party vendors (e.g., pathology labs) among others.

In addition to pure health data, consumer data may be utilized to provide a broader perspective on individual health. Plans could understand more about a member's eating habits by looking at credit card purchases; get downloads from health clubs as to activities, or get a glimpse into those members who have adventurous hobbies such as bungee jumping or fishing. As the informatics practices within health plans become more sophisticated, they will enable the correlation of lifestyle data to overall health status. Many industries, (e.g., financial services, direct marketing firms) already use this information. Health plans can and should begin to leverage some of these models and collection methods as a foundation for the future.

As a first step to developing deeper analytical capabilities, plans should understand what is happening both within and outside the industry in data aggregation and analytics around health care data. Microsoft and Google offer personal health records (PHRs) to their account holders, integrating hospitals, clinics, and doctors via open yet secured web-services for electronic medical records/electronic health records (EMRs/EHRs).²² Sensory technology is another area of rapid growth: Intel's Active Detection Technology has built prototypes of smart homes, outfitted with sensors to gather living habits.²³ Through HealthVault, Microsoft connects individuals with their health care providers. The site also uploads health information from other gadgets and connects to a slew of on-line health content providers.²⁴ ZUME Life has developed a handheld device to track and monitor prescription drugs, biometrics, and food intake for individuals.²⁵ The data gathered through these technologies allows physicians to apply evidence-based medicine more effectively to their patients.



Collection

The next component of a data transparency strategy is collection. Collection methods take numerous forms and utilize various technologies; a collection strategy can also be tied to one's plan for analytics and vice versa. The challenge will be to develop a simple infrastructure to accept information from all sources. An event-based architecture would allow for simple yet effective integration from a wide variety of sources. Ideally, over time, a series of industry-wide standards will emerge to cover the vast spectrum of devices/appliances, plans and third-party vendors and will facilitate the sharing and organization of information across all of the various available channels. Ideally, these standards would leverage current HIPAA 5010 transaction standards. The architecture, however, should focus on accommodating a high volume of small messages, submitted securely via multiple channels, and have around the clock availability. To that end, Figure 8 (on the following page) represents a conceptual model for how health plans might want to consider organizing their architecture around data intake and the associated trading relationships who will need to interact with this model. While simple, it does help to outline and organize the key interaction points.

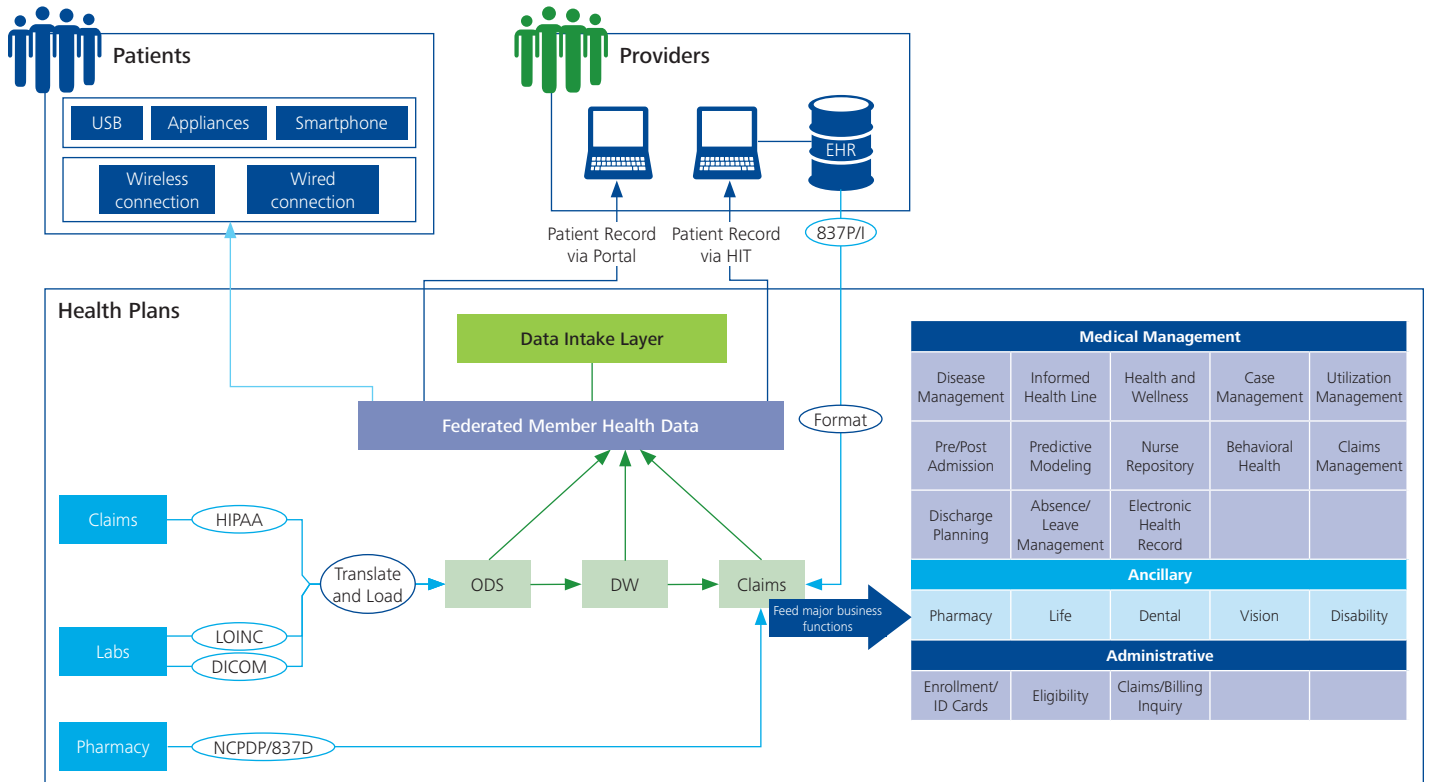
²² www.google.com/health; <http://www.healthvault.com/Personal/index.html>.

²³ Intel.com. "Intel Showcases Innovative Wireless Sensor Networks for In-Home Health Care Solutions," March 16, 2004 <<http://intel.com/>>. Path: Pressroom; archive; releases; 2004.

²⁴ Healthvault.com "Health and Fitness Sites that Connect with HealthVault." <<http://www.healthvault.com/Personal/websites.html?type=application/>>.

²⁵ <http://www.zumelife.com>.

Figure 8: Conceptual health plan data intake model of the future



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Security

Lack of trust and fear of personal information being stolen or accessed inappropriately has the potential to significantly slow the progress that can be made in collection of voluntary member health information. For example, 4 of 10 consumers have concerns about privacy and security associated with the use of electronic PHRs.²⁶ Sadly, leakage of private information has become too common. For example, there have been security breaches that have exposed the private information of a number of members. Members must come to trust that plans will implement the right level of security to protect them and their personal health information from malevolence.

Security must be engineered into all levels of an architecture - from infrastructure to applications. Luckily, the same scheme of weak to strong authentication can be applied at each layer to provide an initial foundation of protection.

The trifecta of authentication resides on these three simple questions: what I know, what I have, who I am:

1. What I know: This is your typical password, which is created at the time you first use a web portal, and which you will have to keep secret.
2. What I have: This is validated by the use of a security key device, an access card, etc. For example, recently banks released smart cards to their customers to ensure a higher degree of security when using web portals and to reduce potential "phishing" and identity theft.
3. Who I am: This proves that you are whom you say you are; usually using biometric information such as palms/fingers prints, iris pattern or voice recognition.

Members need to believe whole heartedly that their health plan is concerned about their personal health data and that the plan is doing everything necessary to protect that data. If plans can do that, they will make great strides in collecting new and more usable health information.

²⁶ 2009 Survey of Health Care Consumers, Deloitte Center for Health Solutions, 2009.

It might not be tomorrow....

We realize that the scenario we just outlined is difficult to focus on, given the whirlwind of developments around health care reform. Furthermore, this type of relationship between member and plan may take many years to develop. However, the value in and need for a greater connection between members and their health plans is a discussion well into its second decade. If innovation is the best defense against disintermediation and obsolescence, then aligning the incentives, establishing the relationship and vocabulary, and building the technology foundation to support a strong, transparent and trusted relationship could go a long way towards tightening the bonds between members and their health plans.

For more information

For more information about the ideas and concepts outlined in "Efficient IT in a Downward Market – Five Strategies to Consider," please contact the author, Chris Smith.

For more information about the ideas and concepts outlined in "Web 2.0 + You = Health Plan 2.0," please contact the author, Rajeev Ronanki, who leads our health plan technology Web 2.0 group.

Deloitte is in the process of surveying health plans and related parties to see where they are in leveraging some or all aspects of Web2.0. We plan to conduct this confidential survey in the Fall of 2009 and will report the results in our next newsletter. If you are interested, please contact Rajeev Ronanki.

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