Innovating In A New Health Care Landscape

The evolving health care landscape means fundamental assumptions are changing, suggesting new ways to design future products and systems. Successful innovations will depend on new ways of thinking and collaborating to articulate the advantages of these innovations. Here are several approaches, proven in other industries, that innovators can use to create new value in this changing environment.

- All aspects of health care are under assault and in the process of undergoing relatively rapid changes.
- The pace of this evolution both provides opportunities for and places pressure on innovators and entrepreneurs looking to address life science’s changing needs with new products and systems.
- In order to provide products that address these changing needs, innovators will need to adopt new ways of thinking and collaborating in order to demonstrate the value of these advances.
- The authors here suggest several approaches that have worked in other industries and can be adapted to life sciences to create new value in this changing environment.

Decades of evolutionary pressure from technical discovery, political reform, and attempts to control costs have created a new landscape of health care for everyone. Among the many changes, there are new systems of practice for clinicians, new expectations for care by patients, and new demands of suppliers to prove value in the system of care. The changing landscape begs for innovation; however, innovators will need to recognize and embrace four major forces that are shaping the health care landscape and altering the behavior of all the stakeholders. By understanding these shifting conditions it is possible to envision and design the next generation of health care practices, products, and systems that will thrive in the future. Innovators and designers – and the businesses they represent – will have to adopt some new ways of thinking and collaborating in order to articulate the value of their offerings in the new landscape. Fortunately, there are several proven approaches that innovators may take to respond to these forces and to create new value.

**STRONG DRIVERS SHAPING NEW HEALTH CARE LANDSCAPE**

The current health care system needs thoughtful innovation in order to improve the quality of care and to remain affordable in the years ahead. Because rising health care costs place a very large burden on every economy, health care practices have received considerable scrutiny for many years by all the participants and by politicians. While this political discussion continues, there is no reprieve for the providers of health care services, for which demand is rising. Accordingly, designers and innovators will seek ways to deliver products and services effectively and efficiently, and to improve the experience of everyone needing and giving care.

However, several specific strong forces are acting together to shape this new landscape and transform the health care industry as a whole. Any innovation will appear in a significantly different landscape of care, shaped and influenced by these new drivers. In order to articulate the value of new offerings in this landscape, innovators may need to act and collaborate in new ways – ways that align with the forces of change. If the rules are changing, what are the design principles and assumptions that might guide innovators today and into the future? To answer this question, it is useful to acknowledge some current trends and behaviors, and examine carefully the principal forces that are shaping the landscape of health care today.

**CURRENT CONDITIONS**

First, without judging the appropriate magnitude of health services for any society, these observations seem commonplace and widespread:

For many health needs, clinicians and health care consumers recognize there are...
abundant, available, diverse and useful offerings for care – an almost overflowing cornucopia of tools, therapies and information compared to a decade ago.

Clinicians and patients are often aware and desirous of these new and bountiful offerings, and are consuming them with a great appetite. For many, it is natural to desire things that improve their health and well-being. This appetite correlates strongly with wealth across the globe. (See Exhibit 1.)

Many people have broad access to multiple sources of information to review, recommend, and assess different options for care.

These conditions show no signs of abating, and suggest that strong demand will continue for health care products and services in any political or social climate.

Second, there have been many attempts to change the behavior of clinicians, patients, and payors. For some time, two of the major strategies for changing health care systems have focused on controlling costs and services. The first general strategy encompasses evidence-based medicine or outcomes research, which has the goal of understanding and rewarding what works safely and effectively, measured in clinical terms. The second strategy is shifting accountability and responsibility for care, which has had several incarnations in the last three decades. With both strategies, the hope is that stakeholders will design new methods of care delivery, responding to new data and new performance incentives. Both of these strategies are very important and worthy tools in the continuous improvement of health services; however, neither strategy has significantly changed the appetite for devouring health care services, and costs have continued to rise as a percentage of GDP. The high cost, slow pace, and complexity of outcomes research will likely limit the overall impact of findings, and innovators may outpace this research by creating ever more options to study. While there have been short-term changes in the expansion of costs, so far neither strategy has had success in curbing the long-term growth in costs, or in changing the way health care services are delivered. Certainly, innovators should therefore consider new strategies and approaches.

Third, innovators in the field of human biology are operating in a time of unprecedented and unforeseen discovery, deploying new tools that further increase the pace of activity. Examples of very fast-moving sectors include gene sequencing, cell research, and bio-pharma manufacturing processes. In addition to creating an enormous number of new therapies, diagnostic methods, and research tools, another consequence of this innovative activity is the emergence of dramatically different conditions under which people select options, use tools, interact with each other, and deliver care. Innovators will need to keep a sharp eye on new discoveries that may transform common practices, such as the way that polymerase chain reaction technologies transformed cellular research. All of these conditions create the backdrop for the new landscape.

**FOUR MAJOR DRIVERS IN THE LANDSCAPE OF CARE**

Much current discussion focuses on the political, social, and financial aspects of health care systems. However, beyond the many pieces of health care reform, which primarily address payment and entitlement for health care services, there are some independent forces that will define the future landscape of care. These specific forces will almost certainly exist regardless of any political and financial reforms, and will likely remain important for the quite some time in the future. Therefore, designers and innovators need to recognize these influences to create products that find acceptance and provide better care. Four major drivers stand out.

**Driver 1: An Era Of Abundance**

For many disease states, there are currently multiple options of intervention. For the most common ailments, many solutions are virtually commodities, that is, items in considerable demand, but without significant qualitative clinical differences. Examples are plentiful, including NSAIDs, certain orthopedic & cardiac implants, and basic clinical lab tests. The pressure for suppliers can be extreme. At one cardiac center, three companies competed for implants, and the hospital team numbered each of the field representatives (Rep#1, Rep#2, and Rep#3). Then the hospital selected devices by cycling through the numbers, skipping a number if the sales rep was absent. With products where there are many options available (such as for knee implants), busy clinical centers have found they can both improve quality and reduce complications by limiting the number of choices for physicians and streamlining processes. And since more and more physicians are now becoming hospital employees, that gives the institutions increased leverage over product selection, reducing physician preference for specific brands. These clinics also gain leverage in pricing with higher volume discounts.

Note that commodities are not necessarily inexpensive - gold and platinum are commodities. However, buyers can now substitute many health products more freely without concern for poorer outcomes. Many of these new offerings have appeared after roughly 1980, and thus face a business landscape of expired and expiring patents, along with widespread know-how about product features and manufacturing processes. All these
factors will place extreme price pressure on many products – as already dramatically witnessed in the pharma industry with numerous blockbuster brands becoming generic medicines. For example, pressure on prices for human insulin, the molecule that helped established the bio-pharma industry four decades ago, drove a recent partnership between Eli Lilly & Co. and Wal-Mart Stores Inc. to establish “everyday low prices” for human insulin at approximately one-third of the previous average price. Further, the fecundity of innovators has produced new types of competition among suppliers. For example, the provider of oral diabetes therapies may find themselves competing not only with similar drugs in the same class, but with diverse options such as weight management programs, nutritional supplements, and even insulin.

This era of abundance was not always the case. Few people could have foreseen the incredible growth of costs and services in health care today, and neither could anyone have predicted the blinding pace of discovery, innovation, and change that has occurred in recent decades. This steady change, now accelerating, is difficult to comprehend by viewing any snapshot of the health care system in the past. Indeed, many of the tools of modern medicine have emerged relatively recently (the last 30-40 years), including all forms of body imaging (except x-ray), minimally invasive surgical techniques, and most of the formulary for chemotherapies in oncology. Exhibit 2 shows the abundance of new drugs and new clinical lab test systems and assays, most of which are still available and in use.

Previously, a result of this abundance was not competition leading to lower costs, but often price inflation; however, the historical factors that created this condition may soon change. These factors included: genuinely unique and superior (and thus favored) products, consistently unmet health needs (many health offerings being palliative, not curative, leaving much room for improvement and market demand), and the freedom of physicians to prescribe solutions that they personally prefer, perhaps aligning with their personal skill and familiarity, perhaps benefitting themselves or their institution, or simply being more interesting to employ. Today, more generic offerings, reimbursement changes, and new accountable care organizations are all creating pressure for lower prices and for new processes by which patients select among options.

Navigating this complexity and abundance is a new requirement in health care. Fortunately, we can gain insight about the transition to commoditization from familiar patterns that exist in other industries. For example, in an era of abundance designers might expect to see these shifts:

- **FROM:** Focus on features and intellectual property, **TO:** Focus on brands and relationships
- **FROM:** Targeting large populations, **TO:** Targeting specific market segments
- **FROM:** Abundant “free” adjuvant services, **TO:** Automated- and self-service
- **FROM:** Focus on performance of isolated products, **TO:** Focus on performance of products in a system of care
- **FROM:** Supporting professional/clinical choices, **TO:** Supporting professional AND consumer choices

### Driver 2: An Explosion Of Knowledge

At the root of this explosion of innovation is the astonishing pace of discovery in human biology. Some areas of study in human biology are now moving even faster than Moore’s Law, which may be a harbinger of astonishing innovations in the near future. For example, the cost (and speed) of gene sequencing, once a complicated and expensive task, has dropped by approximately five orders of magnitude in the last decade and technologies continue to evolve very quickly. Research on the topics of stem cells and epigenetics has similar promise. In many areas of biology, constant discoveries are speeding the introduction of new goods, services, and technologies. In some cases, the fast pace of discovery has clearly outpaced the rate of product development, because developing new devices, processes, and systems can require several years to reach the market, gain regulatory approval, or to become new standards of practice.

Interestingly, much of this productive effort in biology is available in the public domain, having been funded by public research sponsors, such as the National Institutes of Health in the US. The result is that potential innovators have a wide and deep trough of knowledge from which to draw inspiration and information (whence the abundance of offerings in Driver 1). Also, the health industry is now leveraging many technologies from other fast-moving industries in order to transform care. Examples include networked, accessible electronic medical records, mobile telecommunications, advanced software interfaces, and even social networks for sharing knowledge (for both health care professionals and consumers). Web sites such as www.patient-slikeme.com, and www.diabetesmine.com are strong examples of the latter, offering new sources of information for consumers, and leveraging the experience and trust of empathetic peers.

In such a rapidly changing environment, where knowledge and assumptions change frequently, developers need to consider creating offerings that can adapt and evolve. In order to
support this necessary adaptability, institutions need to implement systems that are flexible and support change strategically. This is not typically the case for many institutions that work in a regulated environment.

In an environment where new discoveries outpace the ability of enterprises to create and validate products, the pressure to accelerate the launch of new products increases. Teams and corporations may wish to manage this desire for speed by embracing the need for continuous learning – where developers design and release solid (but limited) versions of new offerings. Then, by maintaining a strategy of staying close to users and emerging technical opportunities, developers can gather timely feedback about the market, observe novel uses of new technologies, and wisely add features in future versions of offerings.

In a climate of rapid discovery and change, designers might expect to see these shifts in product development:

- **FROM:** Perfection at launch, with many features, **TO:** Accelerated launches, adding features over time
- **FROM:** Placing a few very large “bets” in development, **TO:** Trying many small experiments to learn
- **FROM:** Relying on internal feedback and opinions, **TO:** Gathering more external feedback
- **FROM:** IP ownership with a long-term view, **TO:** IP partnerships with a flexible shorter-term view

For delivery of health services, the increased complexity could suggest new models of care:

- **FROM:** Individual “gatekeepers,” **TO:** Teams of specialized care consultants
- **FROM:** Establishing strict, fixed protocols, **TO:** Trying small experiments to learn
- **FROM:** Individual interpretation of acceptable practice, **TO:** Institutional models of “best practice”

**Driver 3: Existing Payors Have Exhausted Their Resources**

Even after decades of attempts at reform, costs have continued to rise relentlessly (partly due to the drivers above), along with the demand for care. In the past three decades the percent of GDP spent on health care in the US has nearly doubled (~9% to ~17%), and both private employers and public systems bear this increase in costs. In turn, this growing burden has amplified the debate about the value of health services and the measurement of improvements in health. This sobering situation has resulted in the introduction of many schemes to shift costs and encourage savings. Popular examples include:

- Health savings accounts (HSA) – empowering consumers to pay their own bills from pre-funded accounts. To be successful (i.e., consumers make intelligent and prudent decisions), providers will have to understand their costs, explain their services, and communicate their pricing structure. New offerings should reflect the need for this transparency and access to information.
- Accountable care organizations (ACO) – requiring accountability of providers for results – not just performing services to some standard, but accepting responsibility for desired health outcomes, and being accountable for follow-up care, re-work, and complications. Providers will certainly not travel this road alone, and will likely soon demand corresponding risk-sharing with key providers of supplies and services. Further, providers (systems integrators of health care) will be primarily responsible for establishing new systems of care, and defining the tools they need. Designers of new offerings should prepare for risk-sharing partnerships, and consider new business models that serve providers in managing their own risks. This will require that design teams familiarize themselves with the needs of these new integrators as key stakeholders in design and decision-making, and weigh their needs fairly against traditional stakeholders, such as medical key opinion leaders.
- Preventive care and “wellness” programs – supporting efforts to promote healthy living, and preventing the migration to unhealthy conditions. Designing new services that can demonstrate long-term savings by engaging people in their health will create new value. Many of these programs will require behavioral change, which will require a focused human-centered approach to care, as contrasted to a clinical-centered approach. Such programs need to appeal to new payors, such as patients and caregivers themselves, who see the benefit of healthy lifestyles and health security.
- Low-cost suppliers – outsourcing of many supplies and services will steadily continue, even to emerging economies (as seen with the manufacture of consumer goods). Designers will be challenged to simplify designs and support fledgling quality systems.
- “Concierge medicine” – enabling payment for “elite” services, usually combining an existing health insurance plan with extra personal payments for extraordinary, timely, and personal service. Designers will now need to consider the needs of this new group, which is likely to grow over time as service models evolve to serve the middle class in addition to wealthy subscribers.

One way to articulate value will be to design and prove new meta-clinical endpoints for devices and interventions that reflect needs beyond traditional clinical endpoints. For example, establishing a clinical endpoint of lower HbA1c with a new drug may not articulate new value against comparable drugs; however, observing or proving a meta-clinical endpoint that patients were more adherent, exercised more frequently, or modified their diet with this drug could articulate new value that is meaningful to both users and prescribers. Human-centered designers will play a key role in understanding which new meta-clinical features will be meaningful to buyers, and expressing them in new offerings.

When seeking ways to save costs, share accountability, and attract new payors, designers might expect to see these shifts:

- **FROM:** Companies “in charge of their own destiny,” **TO:** Companies collaborating for the future
- **FROM:** Making the offering work well by itself, **TO:** Making the offering work well in a system of care
- **FROM:** Trials with narrow, purely clinical outcomes, **TO:** Trials with additional meta-clinical outcomes
- **FROM:** Appealing primarily to physicians, **TO:** Appealing to multiple stakeholders & patients
**Driver 4: Emergence Of Personal Responsibility**

In a previous era (before 1980, roughly), fewer options of care existed. Compared to today, there were scant varieties of pharmaceuticals, limited diagnostic imaging modalities, a limited range of clinical lab tests (many of poor sensitivity and specificity), and few implantable devices. Exploratory surgery was a standard of care. In this environment, the health-related behaviors of individuals had a minor impact on overall health care costs – there was simply less that could be done. This was certainly the circumstance in the early 1960s when Medicare and modern health insurance became the new norm for funding health care services. So, while individuals might lead compromised lives – and bear real suffering – as a consequence of their behavior (smoking, obesity, etc.), the impact on costs was small and local.

Today, all manner of innovations exist to mend and support failing bodies, regardless of the path that led to the need for care. The chronic (and often preventable) illnesses that unhealthy behaviors create account for a very significant proportion of health care spending, which is borne by the general population through higher insurance premiums and taxation. Societies everywhere are wrestling with the new ethical dilemma of desiring to provide universal humane care, while asking “What is fair?” when people who share the cost of care exploit the benefits. The topic seems anathema in political discussions, but the consequences are real and surfacing as an issue with payors and consumers.

Already, employers are considering personal conditions in the cost of care. For example, some major employers are now requiring biometric assessments of employees in their insurance pool, offering discounted premiums to compliant employees. Typical measurements can include smoking, blood pressure, cholesterol levels, and assessments of obesity (e.g., body mass index). Almost all large employers offer wellness programs to help their employees manage weight, exercise, and smoking cessation. Business-level scrutiny of employee behavior has never been higher while employers struggle to rein in health insurance costs. Looking forward, there will be significant efforts to identify measurements or proxies that correlate with health risks, and steady movement to payment structures that reflect risks and behaviors. Designers will strive to create original offerings that engage people in their health, and support new business models incorporating a distribution of risks and responsibilities.

New pressures for accountability and individual responsibility may promote discussion about these emerging – and potentially politically sensitive - topics:

- **FROM:** Expectations of benefits by patients,  
  **TO:** Expectations of participation/engagement by patients

- **FROM:** Broad provisions of care,  
  **TO:** Separation of preventable vs. catastrophic care

- **FROM:** Locality-based insurance premiums,  
  **TO:** Behavior-based insurance premiums

- **FROM:** Tools and information for clinicians,  
  **TO:** Tools and information for patients

- **FROM:** Focus on business economics/strategies,  
  **TO:** Focus on people and behavioral change

The four drivers in this article reflect fundamental conditions that are likely to prevail for some time, and therefore, transform the landscape of health care. The ability to choose among abundant options of care, the rapid pace of discovery, and the desire to manage costs wisely (and fairly) will define the new conditions for health care providers – and for designers and innovators. These drivers are creating pressure for new shifts in thinking, changing relationships among the stakeholders, and different approaches to development.

**NEW LANDSCAPE INVITES NEW APPROACHES TO INNOVATION.**

Given these strong drivers affecting the industry as a whole, what creative approaches can inventors and entrepreneurs take to create innovative offerings in this new landscape? Fortunately, these innovators may choose to employ a varied constellation of new approaches to innovation, often leveraging experiences from other industries.

Although health care has responded slowly to the new forces, many of the factors that are changing health care are not unfamiliar to other industries. These industries have faced the transition from offering unique, high-margin products, to competing in a sea of commoditized choices. Examples include consumer goods like toothpaste and soap, and sophisticated products like personal computers and home video systems. Many businesses have consistently improved the performance of their products and the infrastructure that distributes them – today’s automobiles are distant relatives of the first fussy machines. Still other innovators articulate value by designing systems that enable better performance of individual components, such as the integration of computers, mobile telephony, data access in the cloud, and access to abundant software applications and media.

In the new landscape, the role of designers – people who thoughtfully and tangibly articulate value to users – becomes more important and more strategic than previously imagined. Designers and innovators typically employ a few consistent methodologies and behaviors in their success. A common practice is to become strongly human-centered (versus technology-centered), and gain an intimate understanding of what is meaningful to users. Such familiarity can often reveal new user subgroups with unique needs and market potential. When systems are complex and assumptions are either unclear or changing, the best innovators are often skilled investigators, using prototypes and rapid, small experiments to clarify assumptions and reveal frameworks and relationships. Good examples of this approach today include software programmers who employ agile development techniques to discover, prototype, and co-develop ideas with users.

The next generation of products and services will need to adapt these lessons to the domain of health care, while aligning with many specialized requirements of health, such as indirect reimbursement, information privacy, ethical obligations of product performance, and the need to appropriately communicate essential information supporting very complex choices. The next sections describe several approaches to innovation that embrace previous learning, and reflect the demands of the new landscape.

**Emphasize Brands And Relationships**

Today, there is a dearth of well-known prescription health brands – consumers recognize very few of the suppliers that provide their care. The primary reason for this is that consumers (patients) mostly do not choose their care or the goods supporting
their care. This will change in a new landscape of commoditized products, personal responsibility, and patient empowerment.

The opportunity exists today to create de novo a modern definition of health brands (versus consumer brands). Given the proper constraint that ethical communications about many health care products should avoid being promotional (to support the best outcome for patient care), what is the appropriate stance for a health brand? How can a health brand be informative and engaging, while simultaneously avoiding inappropriate marketing practices? The following list may help describe new boundaries for health brands that are different than consumer brands:

- **FROM:** Creating product lust
  **TO:** Creating engagement in health
- **FROM:** Identification with the “brand promise”
  **TO:** Identification with a healthy lifestyle
- **FROM:** Caveat emptor
  **TO:** Educating and supporting users
- **FROM:** Marketing-focused communication to sell products
  **TO:** Benefit-focused communication to engage users

Some very good examples of emphasizing relationships (and creating a halo for the brand) are the long-standing support that Johnson & Johnson has provided for both nursing care and infant/child care. The result is a loyal base of supporters around nursing infrastructure and trusted guidance for family health.

**Reveal Meta-Clinical Outcomes**

If traditional clinical endpoints and outcomes are insufficient to articulate value, then what are the new endpoints that help users achieve better health? Today, most new offerings seek to prove rather narrow clinical endpoints (designed by clinical teams) in order to gain market approval in a regulatory process, but these valid clinical outcomes are often similar to many other competitive products. With this traditional approach, reaching these endpoints merely establishes parity with other products.

It will be the role of inventors/designers, collaborating with the clinical team and other stakeholders in care, to seek and create other features and measures that increase the value of a new offering, i.e., the meta-clinical outcomes that go beyond baseline clinical outcomes. A frequent need for many therapeutic offerings will be systems that reinforce patterns of adherence that align with user aspirations and support caregivers. Adherence will be an especially desirable feature for the myriad bio-pharma products that fill development pipelines today; their higher cost will only be justified if the drugs can be successful in real patients – meaning solid adherence to a therapeutic plan that matches their lifestyle. Other useful features may support users in tasks of daily life, and in achieving other desirable behaviors. Observing and documenting these meta-clinical outcomes will be one way to show new value. Such outcomes could include mobility, healthy activities, exercise, and social connectivity.

Considering meta-clinical endpoints may also be the first step in accounting for co-morbidities today when testing new therapies. For example, with Type 2 diabetes, two very common co-morbidities are heart disease (63% of deaths) and depression. With such high rates of co-morbidities, it is uncertain that single-endpoint drug trials will accurately assess the effectiveness of drugs in the real target population, even with spectacularly effective drug profiles. It is also a fair question to ask how effectively one may treat Type 2 diabetes without addressing these issues simultaneously.

We may expect designers and developers to think about these changes:

- **FROM:** Safe and effective
  **TO:** Safe, effective, and successful
- **FROM:** Purely clinical measures and proxies
  **TO:** Human-centered measures of healthy lives
- **FROM:** Measures of clinical practice productivity
  **TO:** Stakeholder engagement in good health
- **FROM:** Fixed protocols from trials
  **TO:** Flexible pathways to success

**Support Choice**

If people wish to pay a premium for health services, or wish to become more engaged in their health, then how can designers and developers help them make successful choices in their care? And who should have the final voice in selection? This has become a critical need now that many patients often consider a range of therapeutic options for their care. Also, more and more clinical specialists are working as teams to consider many options for treatments. In the past, the primary information available to support choices of therapy has been clinical trial data, but today patients may consider other data and personal preferences in their choices. For example, 30-, 50-, or 80-year old patients may have significantly different outlooks about treating their breast cancer (or prostate cancer).

Health consumers, facing this new array of choices, are navigating their choices by applying the skills they currently possess. Specifically, these are skills that consumers have gathered from lengthy experience selecting consumer products. Thus, consumers have come to expect much support from providers, including access to information, online search tools, and reviews from social networks, among other things. Designers and developers will need to create new information offerings, directed at a wider audience (not just clinicians) in order to inform users, and support patient aspirations and choices. Often, this may mean communicating authentically to people managing their diseases, whether or not patients eventually select their products. This will suggest talking about the “why” of products, i.e., what are the meaningful goals that users may achieve, in addition to the “what” of products – lists of features, specifications, and instructions for use. For consumers, the “why” may be a description of how the product or service fits into their life, and less about the clinical data. Also, more and more products will work in concert with other products and therapies, which will demand more collaboration by suppliers and clinical providers to achieve larger objectives of care.

Further, patients are demanding good consumer experiences. Some health institutions have recognized this competitive advantage. When building a new health center in Aurora, CO, officials hired The Walt Disney Co. to advise on the construction of new patient wings, recognizing the importance of “on-stage” and “off-stage” activities in a clinic. A recent request by the authors when seeking a clinical specialist elicited this response: “OK. I can recommend a few good folks. Would you rather have a great supportive experience during this procedure? Or would
you rather have an excellent craftsman, where the experience may be rather less comforting?”

New offerings will reside in a sea of options, with advice coming from multiple sources, and with individuals expressing personal preferences. These types of design activities can support this change:

- **FROM: Creating clinically-focused features, TO: Creating additional human-centered features**
- **FROM: Supporting clinical outcomes, TO: Also supporting patient aspirations**
- **FROM: Professional labeling and language, TO: Universal, patient-centered labeling**
- **FROM: Focusing on “promotion” of product, TO: Focusing on engagement in personal health goals**
- **FROM: Communicating about features (“what”), TO: Communicating about achieving goals (“why”)**
- **FROM: Supporting individual clinicians, TO: Also supporting integrated, diverse care teams**
- **FROM: Debating costs and discounts, TO: Debating the best ways to collaborate for care**

### Accountability By Design

When collaborating for system improvements, suppliers of new services and products will need to be partners in accountable care – indeed this will be an inevitable requirement of vendors in the chain of delivery of care, whether care occurs at clinics or at home. Designers need to create offerings that support these new partnerships. Key factors in risk-sharing include sharing knowledge, and designing protocols for care that optimize outcomes. This means that health care providers and suppliers of goods and services need to co-design care delivery.

Currently, legislation and professional standards encourage arms-length relationships between suppliers and clinical providers in order not to bias purchases against optimal patient care. In the future, if suppliers are also accountable for care, new regulations need to permit collaborative development of optimal protocols. Suppliers may need to share their performance data, and providers will need to adjust care plans. In exchange, as part of being co-accountable, suppliers may request a greater role in establishing new optimal care protocols that assure success of the portions of service they provide. This desire will create a shift to more integrated measures of outcomes, e.g., moving from simply normalizing blood sugar levels to managing overall diabetic health, or from reconstructing a hip joint to supporting mobility and activity.

New thinking about regulations in several areas will be helpful to promote accountability. If new coordination and collaboration between suppliers and providers can create better overall outcomes and support adherence, then should new rules enforce transparency (instead of discouraging cronymy)? If insurers face restrictions on raising premiums to account adequately for risky behaviors, then what other ways can they engage people in change (and reward good behaviors)? If people have a larger voice in the choice of their therapies, how might labeling rules change to support the sharing of important information?

A new landscape of collaboration may see these shifts:

- **FROM: Selling products, TO: Valuing outcomes**
- **FROM: Supporting demands for service and support, TO: Supporting shared protocols**
- **FROM: Product performance earning market share, TO: Product performance defining new business models**
- **FROM: Arms-length relationships, TO: New dependencies and accountability**

### Collaborating for System Improvements

Along with new types of accountability by suppliers, there is also the potential to create great efficiency by designing better overall systems of care, versus marginal efficiency from creating better components and parts in the system of care. Examples of such opportunities include:

- **Redesigning work flows for specific, common procedures, including preparation and follow-up. New specialty clinics already do this with skill and creativity, and often showing superior outcomes.**
- **Integrating pre-hospital, in-hospital, and post-hospital protocols to create new outcome measures that integrate all the steps of a therapeutic plan (diagnose hip joint issues, image joint and plan surgery, select supplies, surgery, post-op care, physical therapy, etc.) – and insisting this be a new standard of care, not a local option.**
- **Creating new team consultation protocols and follow-up of patients, versus diagnosis, care management, and “gate-keeping” by a single clinician. Note: this is true collaborative care and planning, which is substantially different than collegial consultation and sharing data in a clinic through electronic medical records.**
- **Creating new models of payment and reimbursement linked to holistic, human-centered outcomes measures and overall clinical efficacy. This could mean collaboration and experimentation with payors in addition to clinicians and suppliers.**

Designers will want to think about fitting their new offerings into a larger system of care. One challenge will be creating the right partnerships for sharing prototypes and experimenting with new ideas, and devising ways of sharing the rewards from innovation. As one example, delivering medications to patients in a large hospital is an enormous challenge (>10,000 doses per day for a medium-sized institution). Safe, timely delivery of increasingly complex medications involves collaboration between drug manufacturers (clear labels and appropriate package formats), wholesalers (sourcing, and just-in-time delivery), automation systems (robots, dispensing systems), hospital pharmacies, and dynamic input from bedside clinical staff.

We may see these new constraints and pressures when designing for systems:

- **FROM: Individual stakeholder incentives, TO: Aligned incentives of a collaborative team**
- **FROM: Proprietary design with key opinion leaders, TO: Co-design with system stakeholders**
- **FROM: Integration of care by providers, TO: Integration by design with suppliers**
- **FROM: Suppliers designing value in features/services, TO: Stakeholders designing value collaboratively**
CHANGE BRINGS RISK BUT ALSO OPPORTUNITIES

Some strong forces are changing the delivery of care – and placing new demands on designers and developers of new products and services. However, by recognizing and embracing these trends, everyone may increase their probability of success when introducing new offerings. Designers and developers can also learn much from players in other industries who have already faced similar trends such as commoditization, the appearance of new stakeholders, and explosive or disruptive innovation. Many of these players changed and thrived by responding with new approaches that aligned with current drivers in their industry. The coming health care landscape invites different behaviors and the exploration of very innovative opportunities, including: new types of relationships, partnerships and collaboration, reconsideration of clinical endpoints and consideration of new meta-clinical measures, creative support of choices for care, designed to engage people in their health, shared accountability among stakeholders to reach meaningful and human-centered outcomes, and collaborative development of integrated and extended plans of care.

These new models of care and increased engagement in care should also create unique and sustainable value by aligning incentives in the system, revealing better measures of clinical results, and increasing patient satisfaction. Building on the existing enormous base of innovation and discovery, the time has come to collaborate differently for a healthier future for patients, providers and product companies.

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