

Pharma 2005

Marketing to the Individual



The world in which we live is changing, and the PricewaterhouseCoopers Global Pharmaceutical Practice has taken on the challenge of exploring the future and its implications for today's pharmaceutical companies. From the forces converging on the individual to the acceleration of change due to the e-environment, we have explored multiple healthcare scenarios. The prospect of individualized health management creates new opportunities and challenges. An understanding of these findings will be critical as you prepare today to ensure success tomorrow.

Other Publications

Pharma 2005: An Industrial Revolution in R&D

Pharma 2005: Silicon Rally – The Race to e-R&D

Healthcast 2010SM: Smaller World, Bigger Expectations

Acknowledgements

PricewaterhouseCoopers would like to acknowledge the many excellent contributions provided by our customers, as well as the time and effort of the following:

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Contents

1	Converging Forces and a New Form of Healthcare	2
2	Living in the Midst of Disruptive Dynamics	4
	The new “e” in our environment	5
	Consumers with real clout	6
	Peer pressure	7
	Webs and flows	8
	Cyberscriptions	9
	Emerging e-pharma	10
	Virtual bodies and biodegradable implants	10
	The book of life	12
3	Focusing on the Individual	13
	A new perspective in healthcare	13
	Individualized outcomes	14
4	Identifying Enhanced Market Opportunities	17
	PharmaFramework SM and the biological continuum	17
5	Finding a Way Forward	19
	Developing a portfolio for individuals	19
	Collecting individualized market intelligence	20
	Segmenting in new ways	21
	Building brands and corporate identities	22
6	Learning to Operate in the e-Environment	24
	Leveraging the e-environment	24
	Planning adaptively	25
	Forging partnerships, networks and alliances	26
7	Starting Today for Success Tomorrow	27

1 Converging Forces and a New Form of Healthcare

“Before the tidal wave of innovation breaks upon us, it is vitally important that we understand how change comes about, so as to manage it better.”

James Burke, author and columnist ¹

Huge forces are changing the world in which we live and – with it – the world of healthcare. A global shift in consumer attitudes is taking place. Empowered by better access to higher education, information sources like the Internet, and greater personal wealth, consumers want a much bigger say in their own medical treatment. Their expectations are rising, too. They increasingly regard healthcare as a right, not the privilege it was considered by former generations. And the way in which they define health is expanding to encompass quality of life, not just the absence of illness.

Consumer empowerment is only one of the forces transforming our world. Massive advances in information management, technology, and science are also taking place. Improvements in information management are forging the tools that connect people across the globe. They are likewise providing the means with which to manage a growing mountain of data and maximize its value. Meanwhile, new diagnostic tools are providing ever more accurate pictures of man’s internal organs; miniaturization is paving the way for tiny surgical devices such as intelligent pacemakers; and the code that makes up the human genome is steadily being deciphered.

These forces – facilitated by an increasingly pervasive electronic environment – are rapidly converging and accelerating the pace of change. James Watson and Francis Crick discovered the DNA double helix nearly 100 years after Gregor Mendel demonstrated the existence of inherited traits. Yet, if the sequencing of the human genome goes according to plan, it will be finished less than a decade after the base sequence of all the genes of a bacterium was first identified.

The convergence of all four forces – consumer empowerment, information management, technology, and science – is not just accelerating the rate of change, it is also magnifying the impact of each change. In isolation, they would be dramatic. Collectively, they will alter the very way in which we think, interact, and move. They will reshape life itself.

Or, rather, they will reshape lives, for they all have the same focal point: the individual. Consumerism has created the “me” generation; the revolution in information systems has resulted in the *personal* computer; technology has produced the pocket-sized mobile phone and the CD Walkman; and the study of genomics is unraveling the single nucleotide polymorphisms that account for the genetic differences between one human being and another.

This individual-centric environment opens the way for a totally different form of healthcare – one that provides individualized, informed, interactive, immediate, and integrated health management.

¹ Author of *Connections*, published by Little, Brown and Company in 1995

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Converging Forces Drive the Market Towards the Individual



Individualized health management in an e-environment is informed, interactive, immediate, and integrated.

The trend towards individualized health management will create enormous opportunities for manufacturers and service providers within the pharmaceutical industry (Pharma), by enabling them to enhance their traditional offerings and to exploit entirely new market spaces. It will open up the possibility of producing a better quality of life for individual patients, better health for whole populations, and better returns for the shareholders who underwrite those improvements. In other words, it will offer pharmaceutical companies a wider range of strategic options than ever before.

So what can they do to equip themselves for the change? They can identify and evaluate the options implicit within individualized healthcare; acquire or develop techniques for capturing individualized market intelligence; and begin to incorporate that feedback into their innovation and commercialization processes. They can also build on their current marketing skills; learn how to capitalize on the power of connectivity; adapt to a new environment; and recruit or develop the people to drive a new organizational model. If they do all these things, they will be able to tackle today's problems with an eye to tomorrow.

2 Living in the Midst of Disruptive Dynamics

The pharmaceutical industry is currently facing serious pressures. *Pharma 2005: An Industrial Revolution in R&D*, the report PricewaterhouseCoopers published in November 1998, discusses the pressures on discovery and development. Marketing, too, has its tensions.

Our research shows that one of the biggest industry concerns is the introduction of government-led pricing controls, such as those being proposed under reforms to Medicare (the US health entitlement system for senior citizens).² The soaring cost of developing and launching new products is another. Indeed, recent reports suggest that costs per approved medicine average nearly \$700 million.

A growing number of people are also influencing product choices. Where once it was just the physician who made the prescribing decision, healthcare payers, pharmacists, and patients themselves are now increasingly involved – and reaching those “influencers” with relevant messages is becoming ever more complex and expensive.

As if this were not challenging enough, competition – both from decreasing periods of exclusivity and from patent expirations – is intensifying. The gap between the first and second products in a new market segment keeps plummeting. When SmithKline Beecham launched Tagamet® (cimetidine) in 1977, it was the only effective prescription medicine on the anti-ulcer market for six years. Conversely, Celebrex® (celecoxib) – Searle’s new Cox-2 anti-inflammatory medicine – enjoyed less than six months of market exclusivity before the approval of Merck’s Vioxx® (rofecoxib). Moreover, 53 of today’s top 100 pharmaceuticals will come off patent between now and the year 2005, compounding the competitive squeeze.

Pharma’s Immediate Concerns

- **Increasing New Product Costs**
 - Launch Costs
 - R&D Costs/Time
- **Government Intervention and Price Control**
- **More Influencers on Product Choice**
- **Increasing Competition**
 - Decreasing Exclusivity
 - Patent Expirations
 - Globalization

Meanwhile, shareholder expectations have hit a 20-year high. Given returns that have comfortably exceeded those in many other sectors, investors expect future economic profits to continue to grow significantly. This is why they are so closely tracking the way in which companies seek new sources of innovation, the efficiency of their operations, and how they actually exploit market opportunities.

² PricewaterhouseCoopers’ sixth annual survey of the *Key Issues Facing the Pharmaceutical and Healthcare Products Industry*, published in October 1999, provides further details of the industry’s paramount concerns

Marketing to the Individual

Recognizing that, collectively, these pressures pose significant financial threats, many of the industry leaders have begun to reposition themselves. They have restructured their Marketing and Sales functions, expanded their sales teams, started advertising directly to consumers, where regulations permit, and increased public service messages, where regulations restrict direct-to-consumer advertising. Solving the problems of today will not be enough, however, given the speed and scale of the changes now taking place.

The world in which we live – the foundation of our lives – is undergoing enormous upheavals, thanks to four major forces. Our attitudes are shifting, our information management tools are evolving, our technologies are improving, and our scientific knowledge is expanding. But what differentiates the current situation from past periods of transformation is the breakneck speed of the changes – and their combined overall impact whereby human culture is becoming increasingly electronic.

In this new environment, we believe that pharmaceutical discovery and delivery will also change. The “one-size-fits-all” model of medicine will gradually be eroded in favor of customized therapies. Further, where once the focus was on treating the sick, it will increasingly be on helping people to stay well. In short, we shall move into an era of individualized health management that offers all sorts of new opportunities.

The new “e” in our environment

The forces converging to create this new era, the rapidity of the change, and the sheer scale of the disruption are themselves being facilitated by an increasingly pervasive electronic milieu. We have called it the “e-environment” because it goes far beyond both e-commerce (the marketing and selling of products over the Internet) and e-business (the use of connectivity to improve business performance).³

The e-environment is the fabric that binds these forces together and accelerates the process of change. It is also, paradoxically, the product of those forces. It is about all-embracing connectivity, the rapid exchange of information, the union of technology and science, and the creation of communities of interest: about the “death of distance,” immediacy, and mobility.⁴

Of course, the death of distance has profound economic implications, since it recalibrates the costs associated with distance. The physical exchange of goods, services, or ideas over distance takes time and is geographically constrained. In virtual space, by contrast, location is no barrier and the exchange can be almost instantaneous. But the e-environment is not simply an economic phenomenon. It is also a way of life – and what we are experiencing today is only the start.

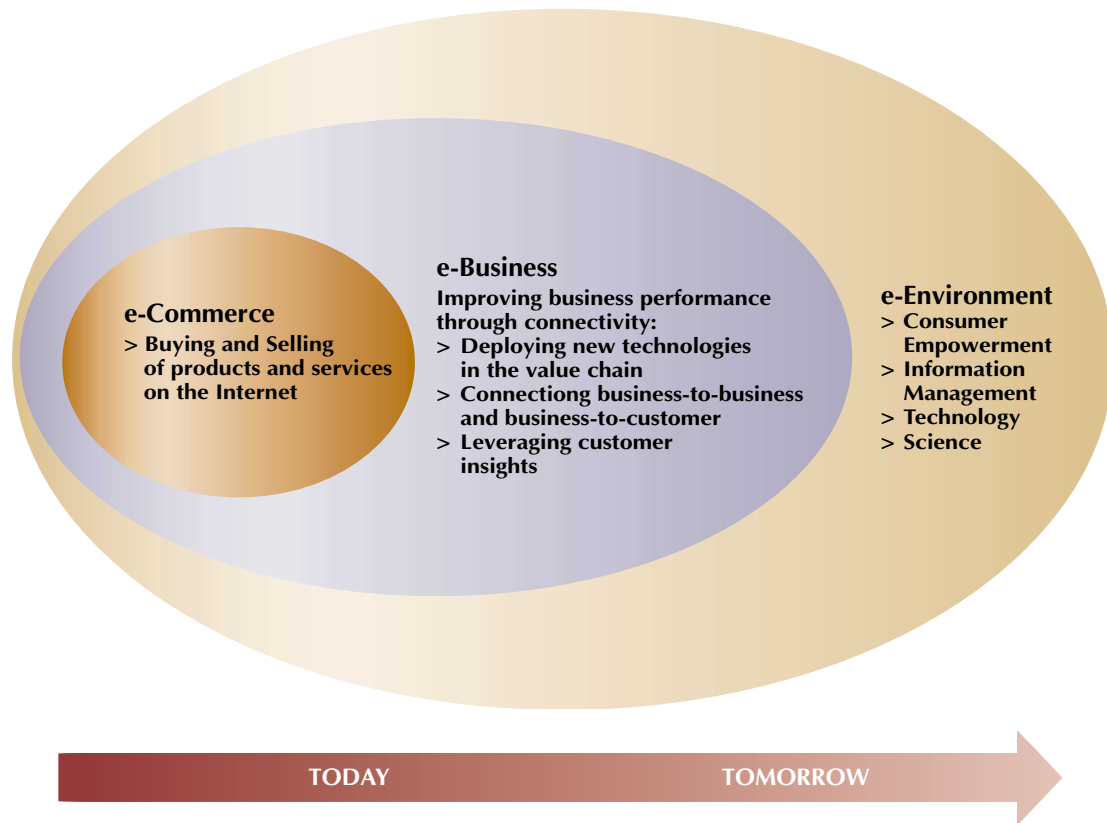


3 For additional information on the “e” revolution, see *E-Business Technology Forecast*, which was published by PricewaterhouseCoopers in May 1999

4 For a full discussion of the impact of connectivity, see Frances Cairncross’ book *The Death of Distance*, published by Harvard Business School Press in 1997

Marketing to the Individual

e-Environment: More than e-Commerce and e-Business



The e-environment is the fabric that binds and accelerates the convergence of forces.

Consumers with real clout

One of the main forces for change within the e-environment is consumer empowerment. With greater access to higher education and better, more readily available sources of information than their forefathers, consumers are assuming an increasingly active role in their own healthcare.

Armed with information, they are questioning their physicians, pushing back against institutions such as government and organized care, and demanding better health benefits from their employers. They also want healthcare for everyone, not just a wealthy elite. And the way in which they define health is much more ambitious; they see pharmaceuticals not merely as medicines to cure illness, but as a means to prevent illness and enhance wellness too.

This new activism is particularly characteristic of the “Baby Boomers” – some 80 million Americans alone were born in the wake of World War II. These people tend to have a higher amount of disposable income than their parents and less time in which to spend it. They also tend to question authority, self-medicate, and look for other solutions when conventional treatments fail to elicit the cure they want.

More to the point, the “me” generation is now growing older. Data from the Organization for Economic Cooperation and Development shows that the per capita spend on healthcare for people aged 65-plus is already over double that for those in mid-life, and grey-haired Baby Boomers will boost this spend dramatically. They will also create totally new market opportunities.

Marketing to the Individual

These knowledgeable and proactive consumers may well become a pharmaceutical company's greatest allies because they want to fix things before they need fixing and to ameliorate every ailment, slight or significant. Arthritis, decreasing libido, bulging midribs, hair loss, and lower cognitive speeds: surely, they think, there must be some sort of pill, potion or diet to palliate or, preferably, cure such "problems." In other words, they want convenience and quality of life – and many of them are willing to contribute to the costs of getting what they want.

Peer pressure

Enlightened and empowered consumers will not be the only ones to benefit from such activism. Complacent consumers will also reap the rewards of the work of their peers as new standards of service are established. There is already evidence of this trend.

Activist patient-consumers have been very effective in accelerating approval of Herceptin® (trastuzumab), the first breast cancer product targeted at a gene defect. Herceptin NOW – an advocacy coalition representing consumers, government, and the industry – helped to push the medicine through the US Food and Drug Administration with unprecedented speed. AIDS patient groups have been even more influential in raising awareness of HIV, securing funds for their cause, changing medicine development protocols, and accelerating product approvals.

Such enlightened consumers are people with whom the pharmaceutical industry would do well to cultivate relationships. When the Wellcome Foundation engaged in an active dialogue with the AIDS community in the 1980s, for example, it succeeded in shedding a negative corporate image and creating a strong customer relationship that continues today. Moreover, powerful advocacy groups are often a valuable source of information about alternative treatments, self-administered trials, and new medicines in the pipeline.

If a pharmaceutical company can learn to work with enlightened and empowered consumers, and then target such consumers and create partnerships with them, it may well find them potent allies. Conversely, if it ignores them, those same consumers could become an insurmountable obstacle.

Defining Characteristics of Each Generation



GI Generation (b1900 - 1930)

- One of the most assertive in American history
- Strong civic spirit
- Supported and built institutions



Silent Generation (b1931-1948)

- Characterized by compromise
- Great legislators
- Refrain from radical reconstruction of institutions



Baby Boomers (b1949-1964)

- Idealists and activists
- Place individual over institution
- Believe in individuals taking on more responsibility for health



Generation "X" (b1965-1985)

- More pragmatic than Boomers
- Computer literate and media savvy
- Self-reliant and skeptical of institutions

Source: Adapted from *The Future of Complementary and Alternative Approaches in US Health Care*, Institute for Alternative Futures, July, 1998

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Webs and flows

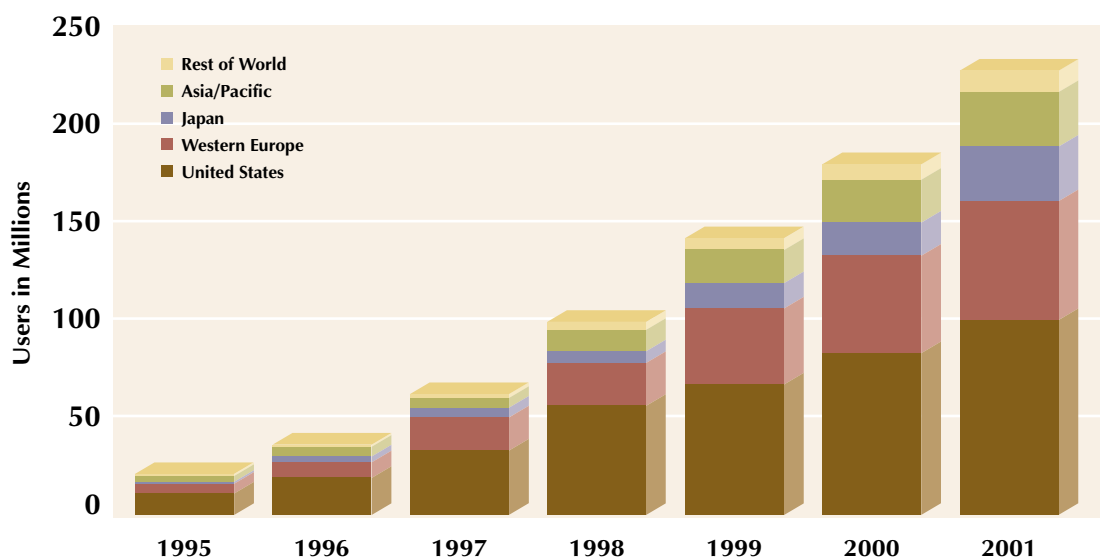
Information is the ammunition that arms consumers, and with the advent of the Internet they have never had so much. In 1998, according to on-line market services firm Cyber Dialogue, more than 17 million US adults used the Internet to access health and medical information, making it one of the most heavily trafficked search categories. Some 33% of these inquiries focused on pharmaceutical products.

Commercial sites such as DrKoop.com, the Mayo Clinic's HealthOasis.com, Johns Hopkins' IntelliHeath.com, and Medscape.com offer easy access to health information and build upon recognized identities. Public sites like those supported by the National Institutes of Health and the Center for Disease Control and Prevention in the US and NHS Direct supported by the National Health Service in the UK likewise provide information for the general public. There has also been an explosion in the number of disease-based web sites, at last count there were over 20,000 health-related web pages.

But use of on-line technology will not be confined to the Western world. It is already expanding across the globe and is expected to advance rapidly even in developing countries. As technology progresses, consumers in developing countries typically leapfrog over the intermediate stages and jump directly to what is cutting-edge. Many people in both Eastern Europe and Asia Pacific moved straight from having no phones to cell phones. In Cambodia, for example, 70% of the population that have telephones have cell phones, as compared with just 28% in the US.

Adoption of the Internet is expected to follow a similar growth pattern – with consensus forecasts suggesting that, by the year 2005, more than 500 million people will regularly connect to the World Wide Web. The Internet is even penetrating countries like China, the Philippines, and Venezuela, although economic pressures mean an entire community might share a single terminal. Thus, what is now happening in North America is effectively a harbinger of what will happen over the next few years throughout the rest of the world.

Access to the Internet: Growing and Global



Source: Dataquest, 1999

Marketing to the Individual

Cyberscriptions

The Internet revolution will define how people seek, and exchange, information. It will enable companies to gain more information about their end-users than ever before and thus to form more intimate and rewarding relationships with those customers. It will also transform the pharmaceutical chain. At present when a patient feels ill, he typically visits a physician, obtains a prescription, and goes to a pharmacy in person. The pharmacy then verifies his coverage and gives him the medicine. But thanks to the Internet, this flow of events will become increasingly electronic.

During the initial visit, the physician will be able to send an electronic message to the pharmacy verifying the patient's eligibility and directing the pharmacy to deliver the medication by express service to his home. The physician will also be able to monitor the patient's progress using remote electronic devices. Indeed, access to healthcare may ultimately be available without even having to step out of doors.

Patients in some countries can already go on-line to find the best physician, given their particular diagnosis and location. And in the near term, they will also be able to make appointments, get their prescriptions checked, and have their insurance coverage verified on-line. In the US, for example, some hospitals under the aegis of the government's Veterans Administration already mandate that physicians enter all prescriptions electronically so that they can be checked for dosage, potential interactions with other medications, and formulary restrictions – thereby reducing the potential for mistakes.

Patients in the US and elsewhere can already get their prescriptions filled electronically, as a result of the various virtual pharmacies that have sprung up this year. In fact, some on-line pharmacies have already gone beyond the purely transactional phase. PlanetRx.com has, for example, linked up with leading pharmacy benefits manager (PBM) Express Script – a deal cemented when Express Script purchased a 19.9% stake in the company. CVS, which relaunched CVS.com after the purchase of Soma.com, has also joined forces with MedicalLogic to create a secure network connecting patients, physicians, and pharmacists. Patients are able to send on-line messages or refill requests to their physician, who in turn forwards on-line instructions to the pharmacy. Patients have the option of picking up their medication or receiving it by mail.

Meanwhile, Merck-Medco, another major US PBM, has not only formed an alliance with CVS.com for over-the-counter (OTC) and general health products, but has entered an agreement with e-commerce provider Healtheon (currently merging with WebMD) to develop an on-line prescription service for physicians who have a large number of patients participating in prescription plans administered by the company. Healtheon Rx will provide physicians with details of a patient's prescription history and eligibility, supply a list of the most suitable medications, and automatically check the selected product for any drug-drug interactions or other potential complications.

Despite objections from the American Medical Association and the National Association of Boards of Pharmacy, some sites will even issue new prescriptions without a physical examination. The patient completes an electronic questionnaire, which a licensed physician working on-line then approves. They will also distribute health maintenance medicines – like Viagra® (sildenafil citrate), Propecia® (finasteride), and Xenical® (orlistat) – via the same process.



Marketing to the Individual

Emerging e-pharma

The big pharmacy chains have been quick to realize the benefits of the Internet, but its potential as a low-cost, precision-marketing vehicle has not escaped Pharma's notice. Almost every company now has a homepage. Many companies have also established sites dedicated to specific products, with web addresses based on brand names. Others have created sites of general interest to consumers – such as www.acidcontrol.com, which is run by AstraZeneca. Indeed, some companies have even built proprietary databases by offering members useful health tips, discount coupons, and prizes for participating in contests.

They have not restricted their attention to consumers. A number of pharmaceutical companies have also targeted healthcare professionals by giving them access to medical and clinical information on-line. Many of these services offer the added convenience of hyperlinks to other information sources and on-line pharmacies.

But the opportunities for improvements in value and service are far bigger. According to Nobel prize-winning economist Ronald Coase, interaction costs – the time people and companies spend searching, coordinating, and checking, whenever they exchange goods, services or ideas – account for as much as a third of all economic activity in the US. The Internet looks likely to cut this sum dramatically.

That said, there are still a number of legal issues to resolve. These include general concerns over security of data and patient confidentiality. In Europe at least, regulatory constraints are also a big factor – in particular, the restrictions on e-commerce across borders as a result of the various national pricing systems and regulations on parallel importing.

Nevertheless, the Internet will change what pharmaceutical marketers do. It will enable them to reach and influence their customers relatively economically. It will also provide a way of seamlessly connecting the industry with a growing army of new decision-shapers, including health advocacy groups, health infomediaries providing dedicated sites, cyber clinicians, and virtual pharmacies.

Virtual bodies and biodegradable implants

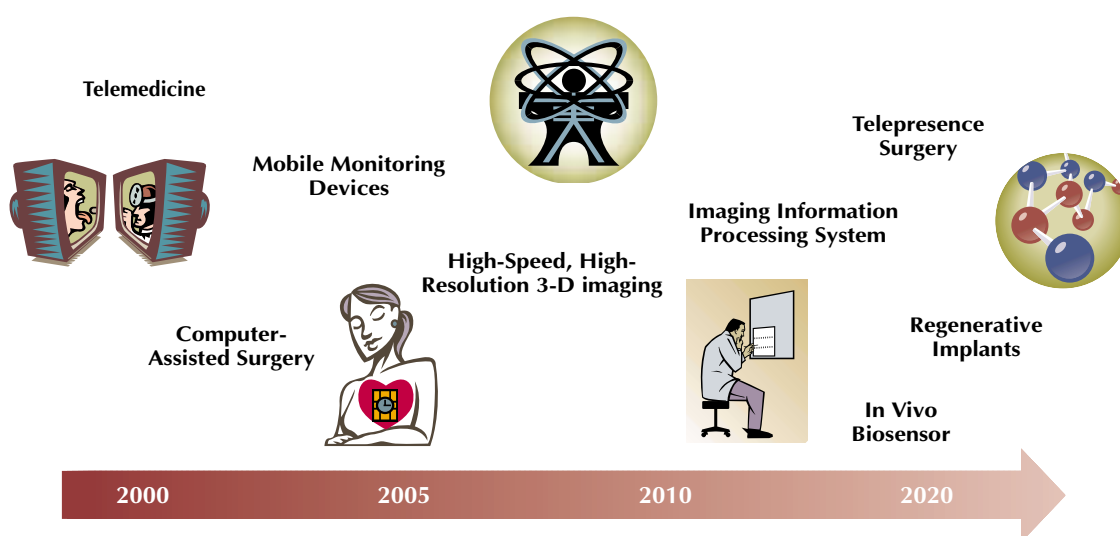
What the Internet is doing for the globe, a dazzling array of three-dimensional digital technologies will soon do for the human body – by giving physicians virtual access. The Visible Human Project (commissioned by the US National Library of Medicine and originating from the NASA space program) has already made a fundamental contribution to medicine by producing a database with digital images of male and female bodies, cut in precise sections. New tools are now being developed to exploit its potential.

Telemedicine, which has long been used to provide specialized care in remote areas like Norway, rural Canada, and parts of the state of Kansas, has also advanced dramatically with improvements in technology and lower costs. At Beth-Israel Deaconess Medical Center in Boston, for example, families with infants discharged from intensive care are linked to the hospital via a desktop video-conferencing center that allows them quicker and easier access to medical attention from their own home. This program cuts costs too. Even in developing countries like Guyana, early forms of long-distance primary care use a two-way radio to check on the delivery of drugs and supplies, as well as to inquire on the status of a patient.

Marketing to the Individual

In addition, delivery of medicines continues to advance. Nanoparticulation can enhance the solubility and bioavailability of compounds, facilitating their delivery and making them viable pharmaceutical products. Sophisticated technologies such as digital imaging have begun to enhance current techniques like X-ray screening. Similarly, robotics and miniaturization are enabling surgeons to work with greater precision – even perform surgery on hearts that are actually beating. And in the longer term, tissue engineering – the regeneration of human tissue using biodegradable materials such as polymers or corals as a scaffold on which to grow tissue, bones, veins, arteries, and even complete organs – will enable them to replace disabled or amputated body parts.

Technology: Advances to Improve Diagnosis and Disease Treatment



Nanotechnology, the technique of constructing new entities one atom or molecule at a time, is expected to produce even more spectacular results. Indeed, the development of “nano” computers small enough to insert into living cells without compromising their cellular function could take medicine into realms hitherto confined to science fiction. One such application might be “cell sentinels” with the ability to monitor a host cell’s structures and create an artificial immune system resistant to things like the common cold and to more serious infections like AIDS.

To sum up, technologies such as these will eventually transform healthcare – not just the way in which it is delivered, but also what it can do. Thanks to remote technologies like telemedicine, a physician can already diagnose and even operate on a patient many miles away. But virtual surgery is just a tiny part of the promise the next 20 years holds.⁵

5 *HealthCast 2010SM: Smaller World, Bigger Expectations*, the report published by PricewaterhouseCoopers in October 1999, describes how technologies like telemedicine, imaging, tissue engineering and nanotechnology will transform medical diagnosis and treatment decisions

Marketing to the Individual

The book of life

Our medical technologies are not the only ones that are thriving within the e-environment. New sciences, like genomics and proteomics, are blossoming too. Scientists at various eminent research institutes will jointly finish reading the text that contains the secrets of our species as early as the year 2002. Meanwhile, Pharma is assuming a lead role in the commercialization of that knowledge and development of useful applications.

Functional genomics has, for example, enabled Genzyme to locate the mutated gene responsible for cystic fibrosis, uncover its function, and determine the mechanism causing the disease. The company is now conducting clinical trials on a treatment designed to rectify the dysfunctional gene and alleviate, or even cure, cystic fibrosis.

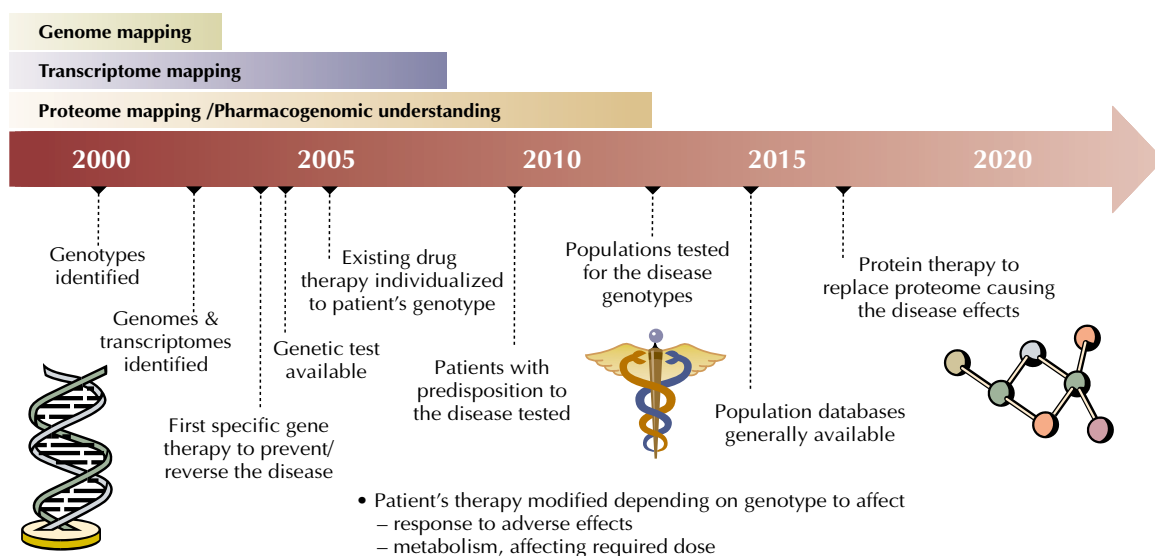
But the development of medicines to cure conditions that have long bedeviled the human race is only one of the benefits functional genomics will deliver over time. It will also help in understanding the genetic variations which cause individuals to differ in their reactions to the same medication – including how well they respond and what side effects they experience. This is known as gene polymorphism.

It is also the focus of one of the biggest research projects now taking place. The Icelandic government has encouraged the collaboration agreement between deCODE, a genomics company, and Hoffmann-La Roche to create a database that combines medical, genealogical, and genetic data on the entire population. (Iceland's situation is unique since most of its nearly 300,000 people are related to each other, if you go back some eight generations.)

Of course genetic screening raises all sorts of difficult ethical issues, which is why Iceland's citizens can opt out of the study if they wish. However, the growing body of knowledge about gene polymorphism also paves the way for better diagnostic tools and hence the better use of existing therapies. In fact, it does much more.

Functional genomics will ultimately result in the development of customized (and then individualized) medicines. It will expand the number of ways in which treatments can be introduced into the human body. It will increase our ability to anticipate disease rather than merely react to it. It will also provide a means of personalizing healthcare in a potentially depersonalized electronic environment.

Science: Genomics to Transform Diagnosis and Individualize Health Management



3 Focusing on the Individual

A new perspective in healthcare

The forces of consumerism, information management, technology, and science, facilitated by the e-environment, all focus on one thing: the individual. We suggest that they also point to a new healthcare vision, one that focuses on individualized health management, which in an e-environment is informed, interactive, immediate, and integrated. Put another way, healthcare will be delivered in an automated context, making full use of electronic medical records, personalized treatment protocols, and, ultimately, personalized medicines.

It is important to note that this phenomenon will not be merely North American. In an e-environment, there are few regional boundaries. Patients will look for information and purchasers will seek the best products at the best prices, regardless of borders. Moreover, "electronification" will enable them to get answers to their inquiries within a matter of seconds. In short, the marketplace will become truly global, with customer segments based not on geography but on the shared needs, values, and demographics of individual consumers – a development that could challenge many companies current pricing strategies.

The trend towards individualized health management will not just create new customer segments. It will also create new market levers – as the needs, values, and expectations of those customer segments change over time. In the last few decades, healthcare has shifted from the treatment of acute illnesses to the management (and, most recently, prevention) of chronic diseases. In the next few years we think it will alter even further, from the management of disease to the management of health throughout the lifetime of individual patient-consumers.

This has huge implications for healthcare. The most obvious change will be that in the role played by consumers. Instead of being the passive recipients of judgements and treatments handed out by the medical community, consumers will be actively involved in managing their own healthcare. They will demand a better quality of life, better care, personalized treatment, convenience, choice, and value for money.

Consumer clout will, in turn, affect what the professionals do. In Europe, for example, physicians will see a still greater erosion of their decision-making powers. In the US, they will focus to a greater extent on the interests of patient-consumers, while remaining efficient and cost-conscious – the criteria laid down by the managed care organizations. (With increasing access to information, automation, and standardization, nurse practitioners, physician assistants, and medical technicians will also begin to fill some of the roles now filled by physicians.)

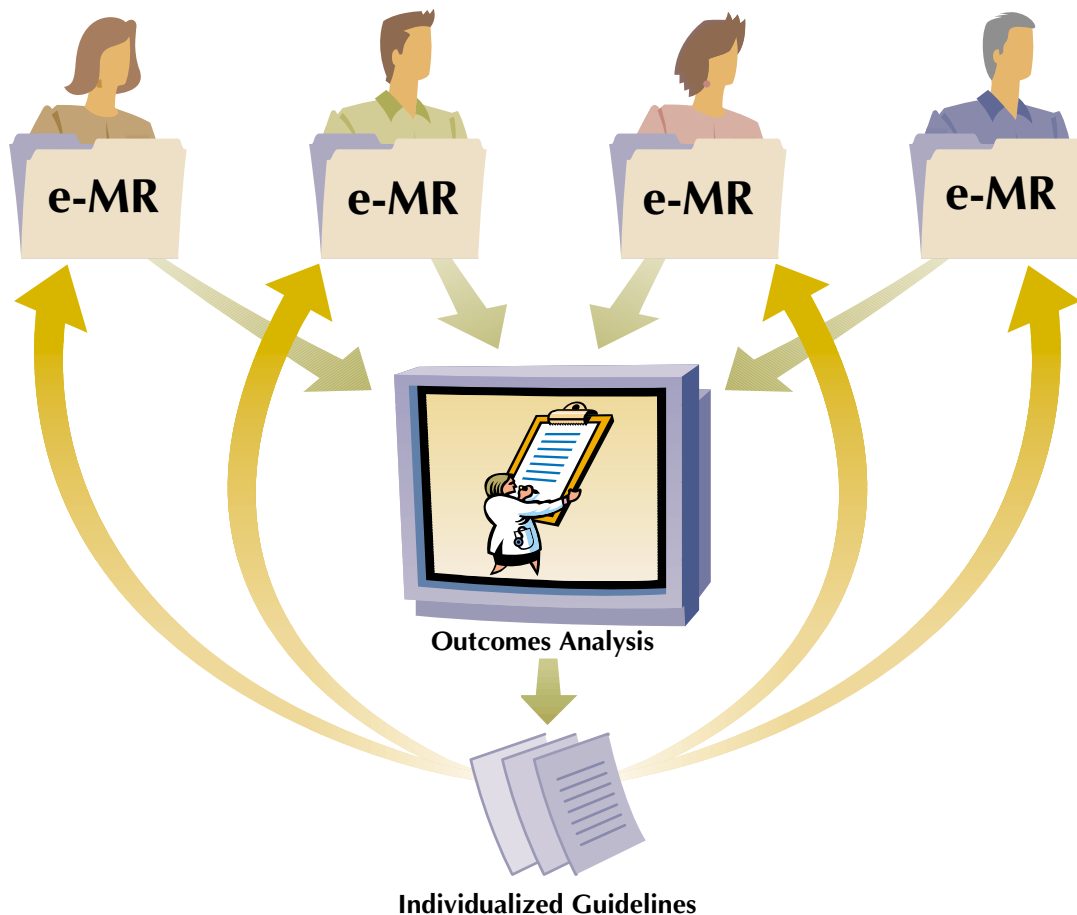
The priorities of healthcare payers will alter, too. Although cost-containment will remain a major consideration, healthcare payers will increasingly look for an overall improvement in medical outcomes. This is partly because an overall improvement in outcomes may ultimately save money. But it is also because many of those same payers are governments and are themselves dependent on individual voters.

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Individualized outcomes

One of the key components of individual health management is the universal electronic medical record – a personalized, automated, and up-to-date record of every illness, accident, treatment, and adverse medicine reaction that has befallen a patient, together with his genetic profile and family history. As the e-environment expands across the globe, the electronic medical record will help to set medical standards.

Electronic Medical Records (e-MRs) to Individualize Evidence-Based Medicine



An individual's electronic medical record will form the basis for outcomes analysis, individualized guidelines, and improved health management.

A number of European countries have already made headway in this respect (as, indeed, have various academic centers in the US). The UK plans to begin work on an electronic medical record providing on-line medical histories to physicians, nurses, and even paramedics at the scene of an accident by early 2000. France has gone further still. It is rapidly rolling out the Réseau Santé Social (RSS), a national healthcare Intranet through which healthcare providers, professionals, and insurers have access to information stored on a patient's "Vitale" – a smart card that was issued to most of the population in early 1999. The system captures a patient's medical history, including every prescription that has been issued; allows healthcare professionals to look at that history in its entirety; and enables insurers to reimburse the patient automatically.

Marketing to the Individual

In the longer term, however, the electronic medical record offers far more than a convenient means of viewing and disseminating information. It will also result in a full picture of outcomes, which can be fed back into the development of better treatment protocols, standards, and healthcare management techniques. The electronic medical record will ultimately give us truly individualized evidence-based medicine.

Evidence-based medicine will have a two-fold impact on the pharmaceutical industry. First, it will enable medicine makers to capture post-launch data that could further substantiate the value of a therapy or identify additional benefits such as improvements in quality of life and cost effectiveness. Second, it will draw clear distinctions between the best therapy and less effective medications in the same class. Together, the electronic medical record and evidence-based medicine will ultimately improve the quality of care and outcomes.

Various evidence-based medicine initiatives are already afoot. In Australia, for example, the Medex consortium has set up the ACT Health Communications Trial. This pilot project allows healthcare professionals to connect to an extranet that operates on a virtual private network and accesses a number of databases of medical information. This entry point provides integrated search facilities so that professionals can gain access to a number of data and information sources in a seamless way. It could eventually be extended to pharmaceutical companies and medical suppliers, so that they can monitor outcomes more effectively.

The UK government has launched an even more powerful arrangement. The National Institute for Clinical Excellence (NICE), which opened its doors last April, will set, deliver, and monitor standards throughout the National Health Service. It will also appraise new and existing technologies (including pharmaceuticals, devices, diagnostics, and procedures), develop clinical guidelines, and produce audit methodologies.

In sum, scientific advances and emerging technologies will produce a more detailed understanding of the individual, while consumer empowerment and increased access to information will ensure that knowledge is widely distributed. (The use of blinded data, health intermediaries, and new techniques for managing information will ensure that this is not at the expense of patients' privacy.) We believe the logical extension of these changes is medical care based on individual outcomes: medical care that exploits the benefits of collective clinical data but is developed and practiced with each individual in mind – not evidenced best for the population, but evidenced best for “me.”



Marketing to the Individual

IN 2015, VIRTUAL HEALTH AGENTS?

Developments that are likely to dominate healthcare in the first two decades of the next century include: evidence-based medicine; comprehensive electronic medical records; and an Internet conduit linking providers, patients, and payers. Add new medical instruments and diagnostic devices – increasingly small, sensitive, and non-invasive – to this mix and the practice of healthcare will change dramatically.

Here's how it all comes together. Meet Elliot Carter, a 40-year-old professional living in the year 2015. He starts each day with an at-home medical scan and a consultation with his virtual on-line physician, Dr. Franklin Thomas. The encounter goes like this:

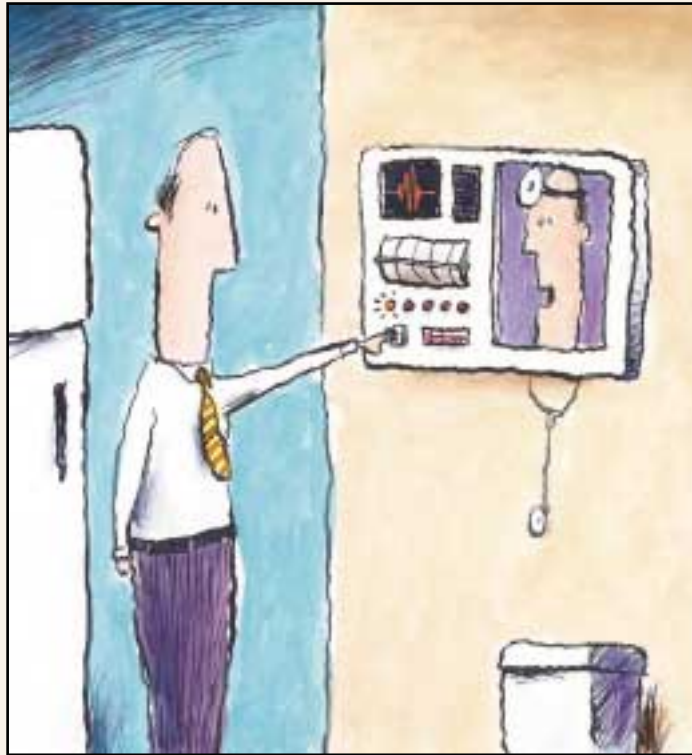
The medical scan. Elliot inserts his left forefinger into a digital terminal to measure his blood pressure and circulation. He places a lightweight, oral probe under his tongue for an instant temperature and viral antibody reading. His saliva is sampled for a rapid nutritional analysis of yesterday's food and liquid intake.

The virtual consultation. The measurements are transmitted to Elliot's health agent, a successor to today's health plan, which has the information technology to assess the data instantly, store it, and compare it to Elliot's medical history, stowed in a vast medical records data warehouse. Dr. Thomas, an on-screen personification of the health agent, tells Elliot that he has a slight cold and overindulged in food and drink the day before. Dr. Thomas prescribes a medicine to treat the cold and proposes a meal plan to maximize Elliot's limited energy over the next 24 hours.

Healthcare delivery. Unless Elliot is acutely sick, he rarely needs to see a physician face-to-face. Dr. Thomas uses two-way technology to "observe" him. A speedy one-hour delivery service rushes any necessary prescriptions to his home or office.

On the few occasions when Elliot must make an out-patient visit, his health agent puts the business out to bid, combing through extensive provider records to see which providers have the best proven outcomes. They are invited to submit their bids. The health agent then determines which is the best provider (based on the best outcome at the best price) and schedules an appointment.

Elliot no longer sees one real practitioner regularly, but he relates to Dr. Thomas – with whom he "talks" daily – in a similar way. Besides, Elliot is pleased at how responsive his service is. No medical question is too big or too small for this virtual health agent, which is available 24 hours a day, seven days a week. What he has is health advocacy at its best.



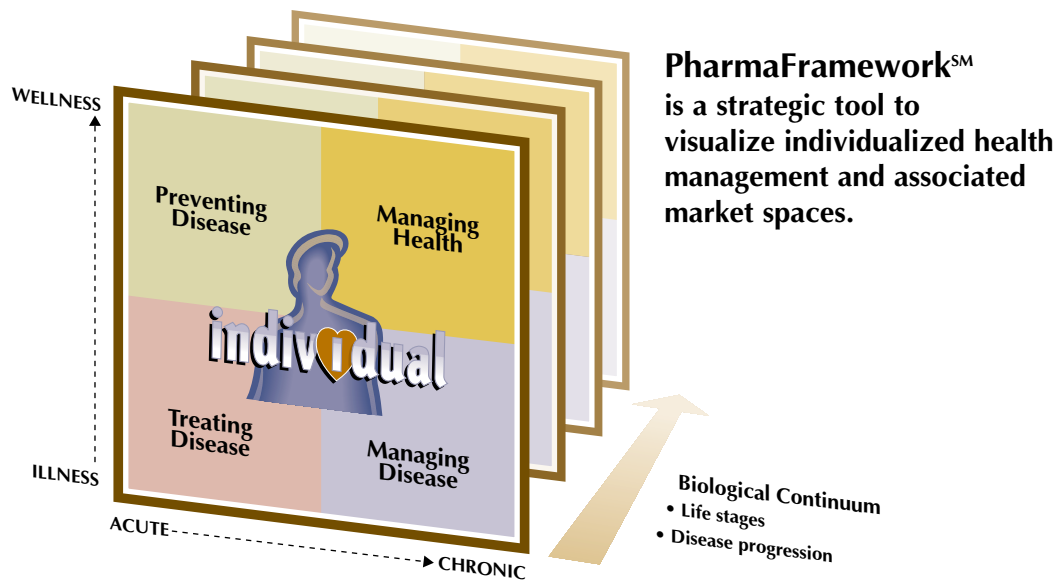
"Hi Elliot. You're looking a bit sluggish today!"

4 Identifying Enhanced Market Opportunities

The trend towards individualized health and medicines based on individual outcomes will create some very exciting market opportunities for the pharmaceutical industry. However, it will also require a different perspective. Pharmaceutical companies have traditionally aimed to produce medicines that cater to the masses – preferably “blockbusters” with annual revenues of \$500m or more. But scientific and technical advances, coupled with more information, will lead to products and services that are increasingly tailored to individual needs, not to those of the population at large.

PharmaFrameworkSM and the biological continuum

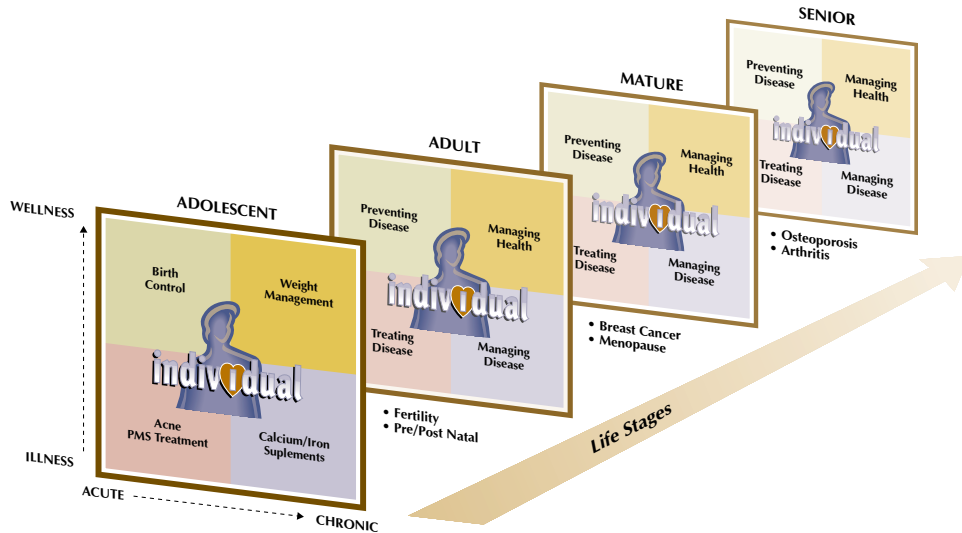
We have depicted the evolving market spaces – and hence the new opportunities and options – emerging from the trend towards individualized health management in the diagram below:



PharmaFrameworkSM shows four quadrants: the three widely recognized categories are disease treatment, management, and prevention. The fourth is *health* management. These four stages of health change over time, as an individual ages, a disease progresses, and medicine advances. However, analysis of the industry within this framework shows that most pharmaceutical companies typically concentrate their efforts on illness management – rather than providing a full array of products and services that cover the individual’s needs in all four quadrants. Two examples illustrate the nature and extent of these opportunities.

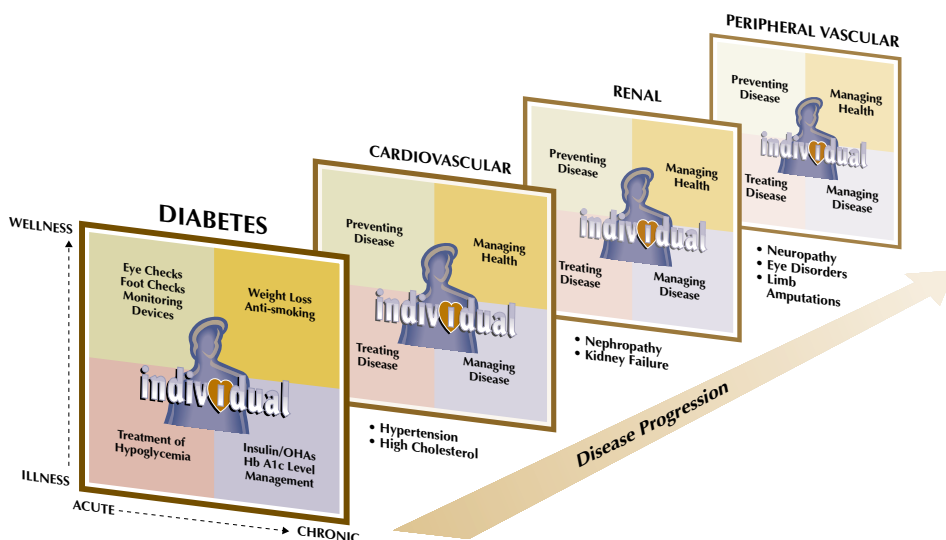
Take women’s health, one area that has already attracted considerable interest. Each stage in a woman’s life provides Pharma with different opportunities to forge – or cement – a relationship. In the teenage years, for example, a woman is likely to be most interested in treatments for acne, PMS, and other typically adolescent problems. She is also likely to be concerned about birth control and weight management – issues that have less to do with illness than with wellness. But as she matures and moves into the childbearing stage of her life, her focus will shift from birth control to fertility, pregnancy, and giving birth. In later years, it will shift again to issues like breast and cervical cancer, the menopause, and osteoporosis. It will ultimately turn to the problems of old age, including concerns such as a broken hip.

Marketing to the Individual

PharmaFrameworkSM Scenario: Health Management Needs Evolve over a Woman's Life

Seen in this light, women's health is not a series of unrelated issues but a biological continuum. Yet most pharmaceutical companies only address small parts of that continuum. They produce birth control pills but not breast cancer treatments; they make weight loss products but leave osteoporosis to others. This is in marked contrast with the strategy we believe the company focused on individualized health management will adopt. Equipped with an understanding of the individual, including the way in which his or her needs evolve over time, the company will deliver a total healthcare package spanning every aspect and stage of a particular therapeutic category.

If management of an individual's health during the various life stages is one of the new opportunities emerging from the change in healthcare, a second is the management of an individual's disease across therapeutic boundaries. People with diabetes, for instance, are also highly susceptible to cardiovascular disease, renal problems, and eye disorders. In other words, they need healthcare that covers diabetes and all the other illnesses associated with the disease as it progresses over time.

PharmaFrameworkSM Scenario: A Patient's Needs Change as Diabetes Progresses

Rather than focus on just one dimension of that disease, a pharmaceutical company can develop a range of treatments covering related illnesses and risk factors. In this way, it can provide the patient with continuous care – with a solution to his problems, not just a selection of products and services. It can also develop an enduring relationship with a customer whose disease it understands in every respect.

5 Finding a Way Forward

We have talked about the new market spaces emerging from the trend towards individualized, informed, interactive, immediate, and integrated healthcare. Other things flow from this vision, including the need to construct a broader portfolio of products and services, collect individualized market intelligence, and create a strong corporate identity. So what does that entail?

Developing a portfolio for individuals

A portfolio focused on individualized health management is different from two concepts already familiar to Pharma: therapeutic franchise and disease management. The distinguishing feature of an *individualized* portfolio is that it spans every aspect of a particular disease throughout the individual's lifetime, including all the associated co-morbidities.

Thus, a company with an individualized health management portfolio for people with coronary artery disease would provide medicines for treating acute angina and acute coronary syndrome; medicines for managing cholesterol levels, atherosclerosis and chronic angina; stents for angioplasty; nutritional counseling for preventing the disease in those showing early signs or symptoms; and "wellness" measures like exercise programs. But it would also provide products and services to deal with peripheral vascular disease, stroke, and myocardial infarction, which are prevalent amongst people suffering from coronary artery disease.

Indeed, it could even anticipate a patient's needs, simulate his behavior, and model his patterns of interactions and adoption. Using vast stores of market intelligence and genetic information on individual patients – as it becomes available – the company would be able to identify and target someone at risk of coronary artery disease long before he was aware of his predisposition or the need for intervention. In this way, the pharmaceutical company would be able to win his confidence, treat him, and become his provider of choice for the rest of his life.

However, it is important to recognize that few, if any, companies will be able to make and market the full range of products and services required for an individualized health management portfolio by themselves. Most companies will find it far easier to satisfy the needs of consumers by expanding their range through a mixture of organic growth, acquisitions, and joint ventures. They have already done as much in R&D, via mergers, licensing deals, partnerships with biotech operations, and outsourcing to contract research organizations.

It is equally important to acknowledge that the industry is a long way from realizing this vision and that every company will start from a different point. In the interim period, it therefore makes sense to capitalize on any opportunities for individualization that emerge. Given Pharma's traditional way of doing things, one of the most obvious routes is to continue producing blockbuster medicines and tailor the information on those products – as distinct from the products themselves – for individual use.

In the long term, though, this approach has two drawbacks. First, as pharmacogenomics provides the means with which to customize pharmaceuticals for sub-populations (and ultimately individual patients) with particular genetic polymorphisms, so demand for products that are aimed at the population in general will fall. Second, a customized medicine should, by definition, produce better results (or have fewer side effects) than a medicine for the masses – and medicines that produce inferior outcomes may eventually attract lower rates of reimbursement. For both these reasons, one-size-fits-all products will generate smaller revenues in the age of individual health management, unless they treat diseases for which there is no individualized therapy.

Marketing to the Individual

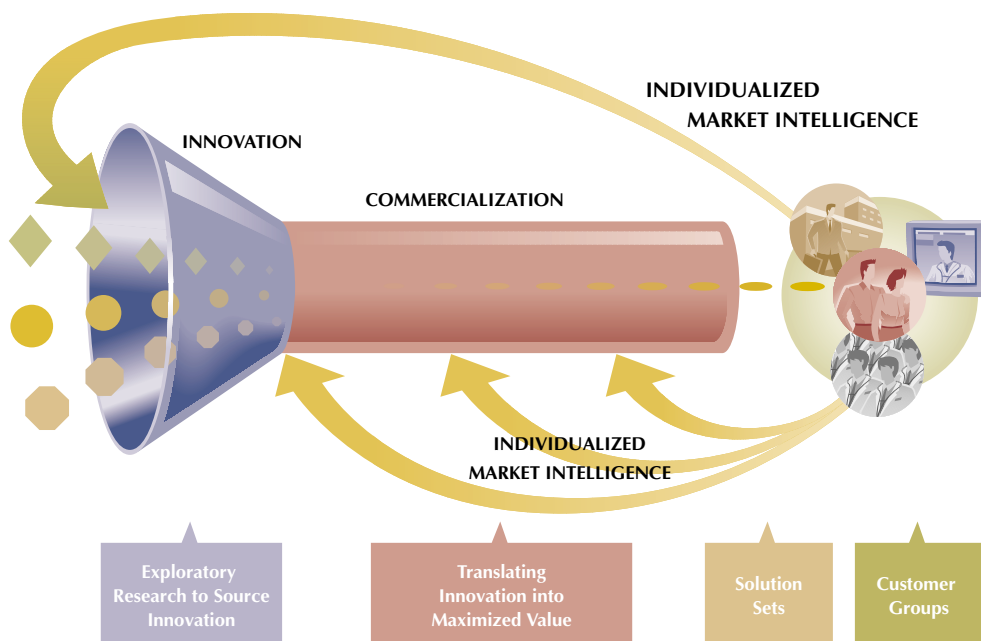
Collecting individualized market intelligence

Whether a company chooses to develop a fully-fledged individualized health management portfolio or stops short of this goal, it will clearly have to collect individualized market intelligence – data on the needs, values, expectations, behaviors, and outcomes of individual customers, particularly patient-consumers. After all, if it is to provide what those customers really want, it must first establish what that is. It must also use professional and consumer feedback to maximize the value created by innovation (the process through which Pharma sources, discovers, and finds new products and services) and commercialization (the process through which it translates that innovation into economic value).

The industry leaders are already much more market-aware than they were a few years ago. However, every company will become increasingly reliant on the quality and quantity of its market intelligence, as the people responsible for commercialization link innovation more closely with the marketplace. Individualized market intelligence – including feedback from consumers, physicians, health agents, and insurers – will then shape what companies discover, what they develop, and how they manage their portfolios. For though every R&D opportunity may not be a market opportunity, every market opportunity is undoubtedly an R&D opportunity, as Irwin Lerner, former president and chief executive of Hoffmann-La-Roche, once said.

Creating a continuous loop between market intelligence, innovation, and commercialization will ensure that commercial viability is a key consideration throughout the pharmaceutical process. It will dictate the development of a full portfolio of new products and services; the development of line extensions; and the management of the lifecycle of each drug from the very start. It will also dictate the management of the entire portfolio provided by any one company and its partners. In short, it will enable Pharma to align and concentrate its resources on the areas that matter most to its customers and deliver a seamless, all-inclusive solution set. In this way, it will result in better outcomes for individual patient-consumers and better returns for investors.

Individualized Market Intelligence Critical to Decision Making throughout Innovation and Commercialization



Individualized market intelligence is data on the needs, values, expectations, behaviors, and outcomes of individual customers.

Marketing to the Individual

That said, one condition is absolutely essential if individualized market intelligence is to deliver these benefits; it must be shared. Many companies still operate along functional lines, a structure that means information flows are often restricted. But even though each department within an organization may collect and analyze its own market intelligence independently, that information must be distributed throughout the entire organization in order to drive the innovation and commercialization process from beginning to end.

Sharing Individualized Market Intelligence



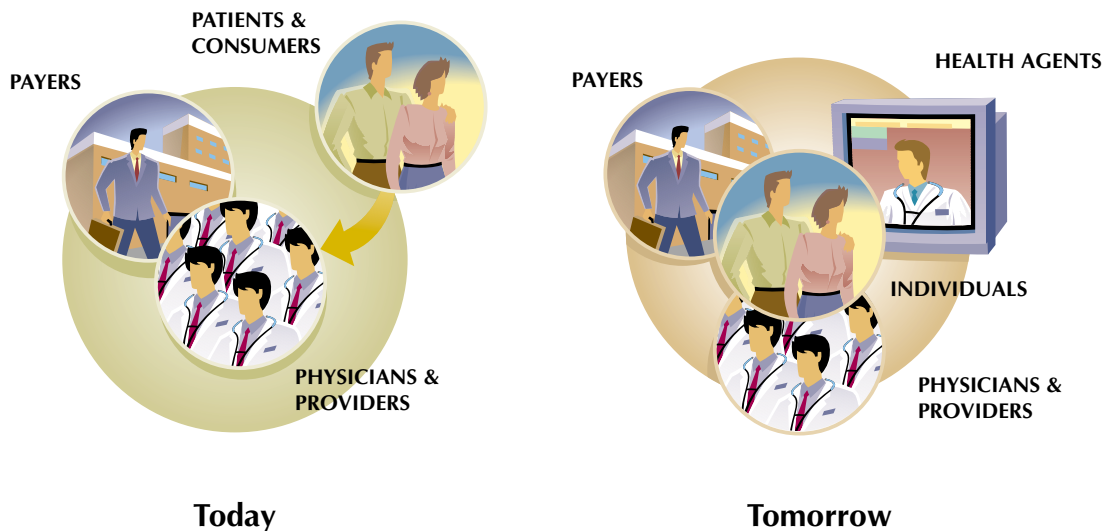
Segmenting in new ways

If individualized market intelligence is a core requirement for the increased focus on individualized healthcare, so – obviously – is the ability to reach individual customers. This depends on two qualities in particular: innovative segmentation; and a corporate identity that resonates in people's minds.

Many companies currently focus primarily on healthcare professionals and payers. But in the age of individualized health management, they will also need to engage with individual patient-consumers and the emerging health agents, or infomediaries who would manage care, health information, and insight on behalf of the individual. This is not to say that healthcare professionals and payers will cease to play a role. The point is, rather, that the balance between customers will change; where once the consumer played a minimal role in the equation, in the future he will stand center stage.

Marketing to the Individual

Balance, Mix, and Influence of Customers to Change over Time



The recent surge in direct-to-consumer advertising reflects Pharma's growing awareness of the end-user. But it is only a start. Making the transition to a mixed market model that includes individual patients and consumers rests on the ability to understand and establish a rapport with specific consumer segments, and to extend that rapport to individual consumers over time. Notable current examples of programs designed for the individual include Point of ChangeSM, a combined weight management and behavior change program offered through Knoll, and XeniCareSM, a similar program offered through Roche. A relationship with the end user, in turn, rests on the ability to create powerful brands. Its specific therapeutic expertise, its brands, and corporate identity will become part of a company's "signature" – that which differentiates it from its rivals and makes it unique.

Building brands and corporate identities

A number of companies have been successful in creating products and brand names that are widely recognized in the professional community: Pfizer with Norvasc[®] (amlodipine); Merck with Vasotec[®] (enalapril); and Stuart (now part of AstraZeneca) with Tenormin[®] (atenolol), for example. Apart from a few notable exceptions – Prozac[®] (fluoxetine), the anti-depressive from Eli Lilly; Viagra[®] (sildenafil citrate), Pfizer's little blue pill for erectile dysfunction; and Claritin[®] (loratadine), Schering-Plough's antihistamine for seasonal allergy – most companies have found it hard to create strong brand images with consumers or to capture their awareness.

There is evidence, however, that branding from an early stage increases name recognition. Take the case of Lipitor[®] (atorvastatin), the cholesterol-reducing agent jointly promoted by Parke-Davis and Pfizer. The two companies contacted 86,000 physicians in the US before the product was even introduced. The strategy paid dividends: although Lipitor was the fifth statin to be launched, it generated 8.4 million prescriptions in 1997 (its first year on the market), was judged the *Med Ad News* Brand of the Year for 1999, and is now the market leader.

The emerging e-environment is also likely to accelerate brand development by providing instant access to consumers all over the world (although markets will remain culturally distinct). However, it is just as likely to accelerate the erosion of brand values once a product comes off patent, since the makers of generic substitutes will be equally free to exploit the power of the Internet in promoting the cost effectiveness of their products. The lifecycle plan for any new medicine (and its line extensions) should therefore include plans for managing the brand – not merely because brands evolve over time but because that evolution may well become much quicker.

Marketing to the Individual

Equally pertinent is the fact that though the pharmaceutical industry can learn much from the world of fast moving consumer goods, prescription product brands will differ in one key respect. The trend towards evidence-based medicine will ultimately provide proof of individual outcomes – and thus an empirical underpinning that brands in less highly regulated industries do not necessarily possess. This means that products with marginal benefits will find it hard to maintain market share.

Moreover, while product branding will remain important, it will not be enough to establish an individualized health management identity. Even today Mads Ovlisen, President and CEO of Novo Nordisk, says, “Increasingly, our customers do not buy our products, they buy our companies.” In the future, as a company becomes dominant in providing full solution sets for segments like women or for patients, say, with diabetes, its overall corporate identity will assume much greater importance than its brands. It will have to demonstrate the breadth of its portfolio to a wide range of customers with potentially different needs, interests, and levels of knowledge, by creating a reputation that is synonymous with its particular therapeutic specialty – in much the same way that Kellogg, for example, connotes nutritious breakfast foods. Only Johnson & Johnson has come close to this advantageous position in the healthcare products sector.

A company’s corporate identity and brands should also reinforce each other, just as Kellogg’s corporate identity reinforces (and is reinforced by) product brands like Corn Flakes®, Special K®, All-Bran®, and Frosted Flakes®, catering to different customer constituencies. Here Pharma has a distinct advantage over many other industries. Since many pharmaceutical companies are starting from scratch, they do not face the challenge of trying to reconcile a new umbrella identity with legacy brands that are far too valuable to jettison – although starting from scratch is certainly not easy.



6 Learning to Operate in the e-Environment

If they are to exploit the expanding range of strategic options and opportunities presented by the trend towards individualized health management that is also informed, interactive, immediate, and integrated, pharmaceutical companies will need to develop a number of underlying skills. These include the ability to leverage the e-environment, to plan adaptively, and to manage large networks – many of them virtual. They will also, of course, need to hire the right people.

Leveraging the e-environment

The e-environment will revolutionize the market intelligence process by providing the means with which to “talk” and interact with consumers directly. It will enable a company to establish a one-to-one and two-way dialogue with individual patient-consumers and thus to learn more about its end-users than it has ever known before. It will be able to find out what consumers buy, what they want, and – most important of all, perhaps – what they expect from healthcare. It will also be able to track those experiences and expectations, as they change over time.

In other words, connectivity will give pharmaceutical companies a platform on which to build strong customer relationships – one of the most valuable forms of intellectual capital, as Thomas Stewart points out.⁶

Evolving Opportunities in the e-Environment



6 For further information, see Thomas Stewart's book *Intellectual Capital: The New Wealth of Organizations*, published by Doubleday in 1997

Marketing to the Individual

If they are to do so, however, they will have to integrate every customer touch point, with a coordinated “customer gateway,” aligned databases, and processes that focus on the customer and his needs. Only then will they be able to provide a seamless and proactive service. They will also have to engage with new participants in the pharmaceutical chain, including on-line pharmacies, health infomediaries, cyber physicians, remote surveillance systems transmitting clinical data on patients with chronic conditions, and other institutions that are impossible even to predict at this point.

Looking forward, the e-environment will open up all sorts of opportunities for e-business, including business-to-business, business-to-consumer and business-to-patient. *Pharma 2005: Silicon Rally - The Race to e-R&D*, which was published by PricewaterhouseCoopers in July 1999, outlines some of the opportunities for developing an envelope of services around e-R&D. The same applies to marketing. Cyberdetailing and e-sampling, for example, could enhance a marketing operation’s business performance and thus its relations with individual customers. On-demand continuing medical education programs (supported by on-line data analysis and distance learning) could likewise reinforce a company’s relations with specific practitioners.

Planning adaptively

The e-environment is inherently dynamic and uncertain – hence the importance of being able to anticipate, and adapt to, change. In such an environment, the ability to identify and execute flexible business strategies is a critical component of success. Predictive market modeling, simulation and scenario-planning tools like Real Option Valuation™ (which evaluates the probability and impact of alternative futures) and Individual Choice Measurement™ (which predicts the future choices of individual customers) are invaluable in this context. They enable a company to gauge how likely it is that something will – or will not – happen, weigh their options, and allocate resources accordingly. They also facilitate decision-making by providing a basis on which to analyze vast amounts of information and build a way forward.

But options modeling is only part of the adaptive planning process. Constant monitoring of the e-environment for signs of new trends and competitive threats, including key indicators like the rate of e-adoption, provider integration of electronic capabilities, resolution of privacy and security issues, e-regulation, and economic downturns or upturns, will also be vital. So, too, will be the ability to conduct and learn from experimental marketing forays – indeed, to see learning as an investment rather than a cost. All these skills will help to keep a pharmaceutical company abreast of new developments in the rapidly evolving e-environment, creating an organization not just prepared for change but likely to initiate it: an organization able to make difficult decisions and lead the way in a world of unprecedented complexity.

Adaptive Planning Helps Manage Opportunities and Risks

ADAPTIVE PLANNING & DECISION ANALYSIS

- Follow flexible and adaptive decision making by utilizing scenario planning
- Do predictive marketing modeling and simulation
- Monitor key indicators of e-environment, emerging trends and competitive threats
- Apply options analysis like Real Options Valuation™ to evaluate and allocate resources
- Conduct and learn from expeditionary marketing (adaptive experimentation)
- Review and iterate decisions

KEY INDICATORS

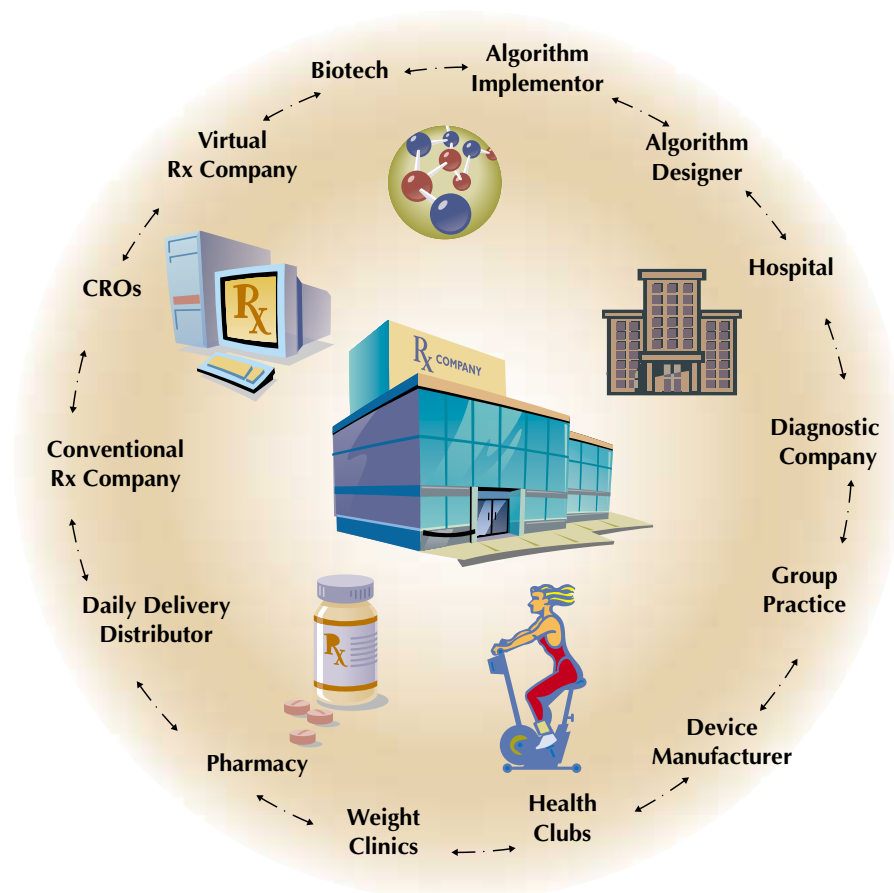


Marketing to the Individual

Forging partnerships, networks and alliances

The trend towards individualized health management has other ramifications. We have already touched on the fact that most pharmaceutical companies will find it easier to satisfy the needs of their customers by expanding their scope through acquisitions and joint ventures – be they equity partnerships, strategic alliances or other co-operative arrangements.⁷ In short, they will need to build extended enterprises.

Collaboration Fundamental to Opportunities in Individualized Health Management



But the number of communication paths needed to support such a network rises exponentially with the number of partners in the network. Moreover, though the e-environment is rapidly erasing geographic barriers, it does not address variations in management style, work processes, and culture. So any organization that wants to operate across the entire PharmaFrameworkSM will need to learn how to develop and manage extended enterprises with very different characteristics. It will also need to understand the planning opportunities and tax consequences associated with operating as a network that spans several jurisdictions.

A fully networked organization, operating in the e-environment, will fuse knowledge, technologies, and people, which has implications for the sort of employees the industry will need. Arguably even more important, however, is the change in perspective that will be required. Only a few companies will have the resources to create by themselves a portfolio of individualized healthcare products, and fewer still will have the in-house expertise to become service providers – and that is what will be required to succeed in the era of individualized health management.

⁷ Some of these options are more fully described in the report *High-Performing Strategic Alliances in the Pharmaceutical, Biotechnology, and Medical Device and Diagnostic Industries*, published by PricewaterhouseCoopers in August 1999

7 Starting Today for Success Tomorrow

“Successful businesses keep renewing themselves by looking beyond the familiar confines of their present markets and products for new opportunities”

George Day, author and marketing professor ⁸

This leaves a number of questions. First, when will the transition to individualized health management happen? By the year 2005, over one-sixth of the people living in Italy and Japan will be 65 or older. By the year 2006, the same will be true in Germany. But the real crunch will come between 2010 and 2015, as the percentage of retired people in the UK, France, Canada, and the US climbs to similar levels. In short, the seeds are already here and the transition to this new healthcare vision has already begun. As the global aging curve soars, so more consumers will strive both to prolong their lives and to preserve the quality of life they have previously enjoyed. Demand for the medicines and services that can help them to do these things – together with the advances in other technologies and sciences that can deliver these things – will culminate in the provision of individualized, informed, interactive, immediate, and integrated health management.

Second question, how much will individualized health management cost? This is currently impossible to quantify, since we are exploring the very frontiers of healthcare. Moreover, the evidence is mixed. Better outcomes – with right-first-time diagnoses, individualized medicines that eliminate adverse side effects, robotic prompts reminding patients to take their medication, and coherent care programs – should all reduce costs. So should the death of distance, automation and use of medical technicians to fulfill some of the activities currently performed by physicians. However, higher consumer expectations and the rise in the number of retired people (particularly those over 80) will have the reverse effect.

Third question, who will pay for individualized health management? If consumers see healthcare as a right rather than a privilege, it seems likely that they will expect universal access to healthcare which is individualized, informed, interactive, immediate, and integrated. But as aging Baby Boomers increase the burden on the working population, so governments will try to curb the soaring public health spend.

A number of nations are already trying to distinguish the core elements of healthcare – those that should be covered by tax or social insurance funding – from those that should be the responsibility of individual citizens. Though there is as yet no evidence that most people are ready to accept significant curbs on public health services, this probably marks the start of a protracted debate.

For all payers, however, the emphasis will be on value – and newness, in and of itself, has no value. If governments (and hence taxpayers) foot much of the bill for individualized healthcare, they will only pay for treatments that provide demonstrable evidence of an improvement. Similarly, if consumers have to dip into their own pockets, they will only pay for those products and services they genuinely want, those products and services they believe provide genuine value for money. In other words, Pharma will have to identify and make what patients really want, make it at a price they will pay and prove that it really works *for them*. This is no small challenge, with difficult negotiations expected along the way.

So what should pharmaceutical companies do? One thing seems clear: they cannot afford to wait until consumers are pounding at the gates. Individualized health management is not just the next decade’s challenge, it is also the key to solving many of Pharma’s current problems. We now have the technologies to help us learn more about customers – professionals, payers, consumers, and infomediaries – than we ever dreamed we could know. We are developing the technologies to create products and services that we never dreamed were possible. For those companies that make the necessary investment, the returns promise to be very rich indeed.

⁸ Professor of Marketing at the University of Toronto, Visiting Professor of Marketing at the Harvard Business School, and author of *Market Driven Strategy: Processes for Creating Value* published by The Free Press in 1990

Marketing to the Individual

What Can Be Done Today?

We have identified six immediate steps we believe pharmaceutical companies should now be considering, and the sort of questions they will need to ask to accomplish those steps.

IMMEDIATE STEPS TO TAKE

KEY QUESTIONS TO CONSIDER

Develop a compelling vision for competitive advantage in the age of individualized health management.

What does individualized health management mean for our company? What are our strategic options? Where can we generate the most revenue with the greatest return?

Design a road map with clear outcomes-oriented milestones.

What are the key indicators to watch? How do we anticipate scenarios and manage the risk associated with uncertainty?

Define capabilities needed to realize our vision.

Which capabilities will differentiate our company in an era of individualized health management? Which should be put in place now and which developed later?

Challenge the current "go-to-market" model.

How should our marketing expenditure be realigned without losing competitive advantage during the transition? How can we leverage e-business today and prepare for the e-environment of tomorrow?

Identify immediate opportunities that form the foundation of our vision for individual health management.

What individualized market intelligence do we need now? How do we leverage our existing portfolio, given our vision for individualized health management?

Revisit existing development priorities in context of the individualized health management portfolio.

How do our current development priorities enhance the individualized health management portfolio we envision? Which people skills do we need for a networked organization and how should they be integrated with knowledge and technology?



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