

Vital Signs UPDATE: DOCTORS SAY E-HEALTH DELIVERS

While health care prognosticators have been conducting postmortems of failed e-health start-ups and speculating about the impediments to e-health, doctors have been steadily adding the Internet to their medical bag of tools. A new study by The Boston Consulting Group indicates that a large percentage of doctors are using the Web and finding that it has a major impact on their medical knowledge, their efficiency, and the care they provide to patients. These latest findings—which build on BCG’s analysis in *Vital Signs: The Impact of E-Health on Patients and Physicians* (February 2001)—yield several unexpected and important conclusions about physicians’ use of the Internet:

- The Internet is not—as many once believed—a mere diversion for small groups of doctors who are technophiles or have light clinical practices. Rather, BCG’s survey of 400 U.S. doctors reveals that physicians use the Internet widely to increase their medical knowledge.
- The busiest practitioners are most likely to turn to the Web to enrich their professional knowledge. This makes the Internet a powerful vehicle that pharmaceutical companies, managed care organizations (MCOs), and health-care-delivery systems can use to reach doctors who regularly see a large number of patients. These doctors are

In addition to the findings in this report, BCG’s survey gathered data on physicians’ use of tools for practice administration, including the handling of claims online. For more information, please visit our Web site, www.bcg.com.

the very targets that health care players are already spending billions of dollars to reach through offline channels, with pharmaceutical companies spending the lion’s share at \$13 billion last year in the United States.

- The information that doctors are finding online is influencing—in many cases significantly—the types of diagnoses they are making and the kinds of medications they are prescribing.
- When it comes to seeking medical information on the Web, doctors behave like online consumers, who return often to their favorite sites, rather than patients, who don’t demonstrate the same loyalty to medical sites. Thus, as in the consumer market, a small number of high-traffic medical sites are emerging as potential vehicles for reaching a large number of doctors online.
- Although at first many doctors were skeptical about the benefits of using online tools for patient care—and therefore avoided them—the doctors who have used the tools find them highly effective. They say that electronic medical records, electronic prescribing, online communication with patients, and remote disease monitoring have significantly boosted their efficiency and the quality of the care they provide.

Fueled by these developments, e-health is poised to quietly transform the economics of health care as well as the methods used to influence decision makers in the industry. Already, physicians have entered the online realm of knowledge enrichment in force,

where they learn more about medicine through activities such as reading journals on the Web. And the high rates of planned adoption of patient-care tools will greatly increase the strength of the e-health channel in the next year and a half.

This evolution has ramifications for all health care players. For instance, because electronic prescribing is increasing physicians' compliance with managed care formularies, this tool promises to alter the balance of influence among suppliers and payers. In view of this reality, health care companies must address the opportunities and challenges that the online tools pose as they begin to change the financial and clinical face of medicine.

To assist companies in this effort, we take a closer look here at the two areas of e-health—knowledge enrichment and patient care—that offer players the greatest opportunity to add value to physicians and influence their behavior, and thus reap the greatest potential benefits. This report is a follow-up to *Vital Signs* and to the update *The E-Health Patient Paradox* (May 2001), which demonstrated how the Internet is influencing patients to become more active in diagnosing and treating their own conditions.

Beyond the findings in this report, BCG's latest survey explored online tools designed to simplify practice administration. Readers can find a summary of our conclusions on our Web site, www.bcg.com.

A REALITY TODAY: MOST DOCTORS USE THE WEB TO GAIN MEDICAL KNOWLEDGE

Of the 400 physicians we surveyed, 89 percent use the Internet. Of the average eight hours per week that those doctors reported spending online, they devote about three to medical activities. Although three hours doesn't sound like much, BCG experience indicates that the average doctor spends *less than one hour* a week with drug reps, who are considered a successful channel for reaching doctors.

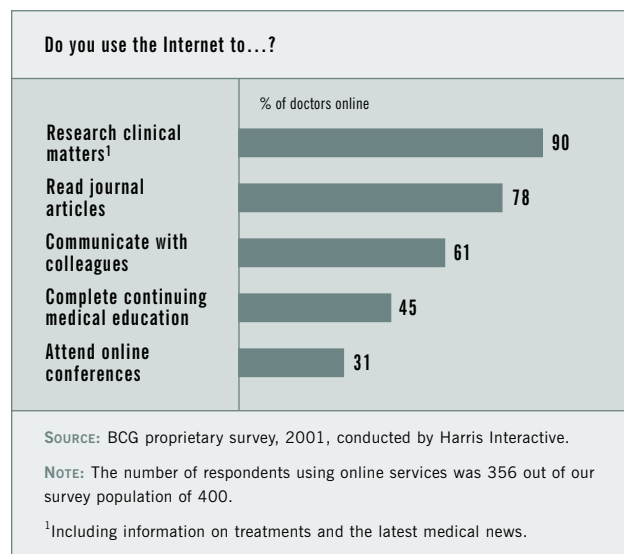
Virtually all physicians who use the Internet for professional purposes have migrated some basic knowledge-enrichment activities to this channel. In

fact, fully 90 percent of doctors online reported that they research clinical information on the Internet, while about 80 percent said that they read journal articles online. Also gaining acceptance are interactive formats for sharing information, such as online conferences and online courses for continuing medical education, with adoption rates ranging from 31 to 45 percent. (See Exhibit 1.)

Even more significant is our finding that the Internet has become a valued resource for physicians who spend a great deal of time with patients. Of the busiest practitioners—those who spend 65 or more hours a week with patients—fully two-thirds reported that they seek medical information online, whereas only half of their counterparts who dedicate 20 to 34 hours a week to patient care do so. (See Exhibit 2.) The most active clinicians have more opportunities to diagnose conditions, manage patient care, select treatments, and write prescriptions. As high-volume providers, they are very attractive customers for any organization that seeks to influence the delivery of health care.

Indeed, our study shows that the Internet *does* influence the way doctors deliver care. The vast majority

EXHIBIT 1 MOST DOCTORS SEEK MEDICAL INFORMATION ONLINE

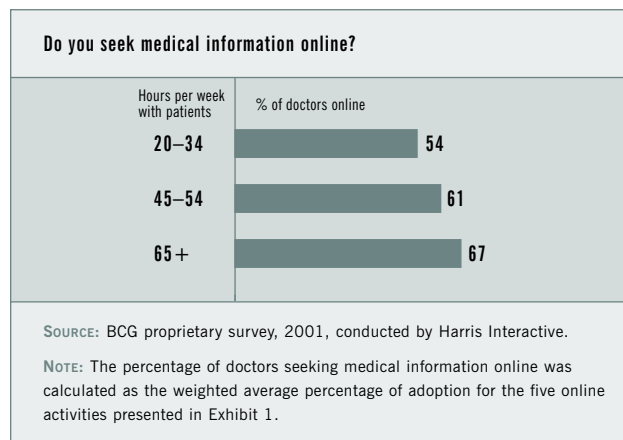


of respondents who visit health-related Web sites—from more than 70 percent to more than 90 percent, depending on the response in question—reported that the information they find online influences their knowledge, their diagnoses, the types of drugs they prescribe, and the way they interact with patients. (See Exhibit 3.)

More important, roughly one-third of those same doctors reported that the information they find on the Internet has a *major* impact on their knowledge of drugs and other treatments; around 20 percent said that it has a major impact on their knowledge of symptoms and diagnoses, as well as on the way they interact with patients; and 13 percent said that it has a major impact on the drugs they prescribe. These doctors may well represent the first wave of e-health practitioners.

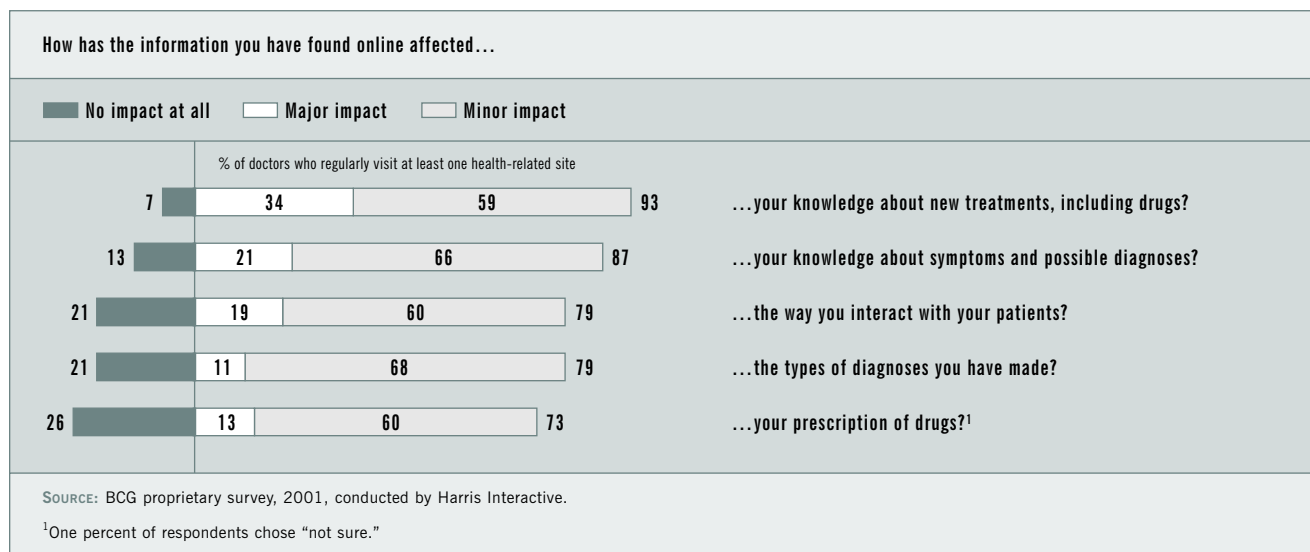
In short, the Internet is playing an increasing role in changing the behaviors that health care players seek to influence. Far from being simply an additional avenue for delivering information available through offline means, the Internet provides convenience, functionality, and reach that make it a powerful channel in its own right.

EXHIBIT 2 THE BUSIEST PRACTITIONERS ARE MOST LIKELY TO GO ONLINE FOR MEDICAL INFORMATION



This power is enhanced by the fact that most physicians online concentrate on a handful of Web sites, making these doctors easy to find in cyberspace. *The E-Health Patient Paradox* reported that patients tend to use general search engines and don't usually return to health sites directly when looking for health information. In contrast, more than two-thirds of the physicians we surveyed behave like

EXHIBIT 3 THE INFORMATION THAT DOCTORS FIND ONLINE INFLUENCES THEIR CLINICAL BEHAVIOR AND TREATMENT DECISIONS



online consumers, returning regularly to between two and five sites.¹ Doctors who visit at least one site regularly named WebMD, Medscape, and Physicians' Online as their top three destinations.

This behavior has powerful yet perplexing implications for health care organizations trying to reach physicians on the Web. On the one hand, usage patterns indicate that players could access a critical mass of physicians by partnering with just a few popular sites. On the other hand, the sites to which doctors return most frequently place strict limits on sponsorship and content, making it difficult for players to use them to their advantage. Therefore, although it is relatively easy to find doctors online, organizations will need to focus on devising unique and customized ways to reach them.

TAPPING INTO THE POWER OF ONLINE KNOWLEDGE ENRICHMENT

While online knowledge-enrichment tools create a new opportunity for health care players that seek to reach and influence physicians, they also present a challenge. Because a large percentage of doctors gather at least some of their medical knowledge online, all players should continually reevaluate their strategies—and budgets—for reaching physicians. For instance, pharmaceutical companies spent about \$13 billion last year marketing to doctors almost exclusively through traditional channels such as sales forces, physicians' meetings, and ads in print journals, according to financial analyst WR Hambrecht and Company. In fact, they spent only about 1 percent of that amount to reach doctors through the Internet. This disparity suggests that companies that don't reallocate some of their investments may soon find themselves underinvesting in a highly promising new channel.

Just as *The E-Health Patient Paradox* revealed that e-health complements rather than supplants traditional patient-doctor relationships, the same holds true for physicians' relationships with health care

players. As a result, drug companies, MCOs, and other players should realign their offline and online marketing strategies and resources to more fully exploit the richness, reach, and interactivity that the Internet channel offers.

Pharmaceutical companies, for instance, should determine which offline strategies they should complement, replicate, or replace online. This could include influencing online content by funding studies that are published in online and offline journals or by placing targeted advertisements that disseminate medical information on sites frequented by physicians. Drug companies could also use technology to complement and extend the personal relationships that drug reps already have with physicians. This may include enabling doctors to research diseases and treatments online between visits from reps. Such a site might also let physicians request product information and samples, and enroll in—perhaps even take—continuing medical education (CME) courses. Merck & Company's MerckMedicus is a good example of this type of offering. The drug company is enlisting its sales force to promote the online portal for researching medical information and obtaining CME credits.

MCOs cannot afford to sit on the sidelines while suppliers such as pharmaceutical companies push ahead on meeting, and possibly even heightening, physicians' demand for knowledge-building tools on the Web. To the extent that these tools will increasingly influence doctors' decisions about therapy, MCOs will be thwarted in their efforts to encourage doctors to comply with preferred treatment guidelines and formularies. To date, most MCOs have focused their e-business strategy on offering practice administration tools that meet physicians' needs in handling claims or referrals. But these payers will also have to try to increase their presence on the narrow set of knowledge-building sites that doctors visit regularly.

Clearly, in an environment of increased financial and competitive pressures, pharmaceutical compa-

1. BCG explored online shopping patterns in the report *Winning the Online Consumer: Insights into Online Consumer Behavior*, March 2000.

nies, MCOs, and health-care-delivery systems cannot afford to ignore the potential advantages that online knowledge-enrichment tools offer. These advantages will not accrue to incumbents that continue to relegate e-health to small-scale experiments at the periphery of their businesses.

AN EMERGING REALITY: DOCTORS ARE USING ONLINE TOOLS FOR PATIENT CARE

While not yet as popular as knowledge-enrichment tools, electronic tools that help physicians with their daily patient care have the potential to deliver additional value. That's because patient-care tools get to the heart of health care delivery. In fact, more and more doctors are using them today because they want to improve both efficiency and quality of care, and current users report that the tools are starting to deliver on those goals.

Our survey examined the tools that seem to offer the greatest potential to doctors and incumbents:

- *Electronic medical records* help manage overall practice and patient documentation
- *Electronic prescribing* promises to effect dramatic changes in the drug-selection, prescription-writing, and drug-fulfillment processes
- *Online communication* and *remote disease monitoring* offer new ways of interacting with patients

About one-third of the doctors in our survey said they now use or soon plan to use at least one of the first three tools, and a smaller percentage plan to adopt remote disease monitoring. Admittedly, doctors' reports of their plans to adopt these tools may be overambitious. But even if only half of the respondents who plan to adopt the online tools actually do so, the increased use will have a significant impact on the health care industry.

Initially, several factors—*Vital Signs* cited cost, reimbursement, and privacy issues, among others—kept doctors from embracing online patient-care tools. Although those concerns linger—as Exhibit 4A on

page 6 indicates—the tools are gaining acceptance as use of the Internet in general, and knowledge-enrichment tools in particular, spreads among doctors and paves the way for more advanced online interactions. Already, 26 percent of the physicians we surveyed are communicating with patients over the Internet. And 22 percent are relying on electronic medical records to store and track information about their patients. (See Exhibit 4B, page 6.)

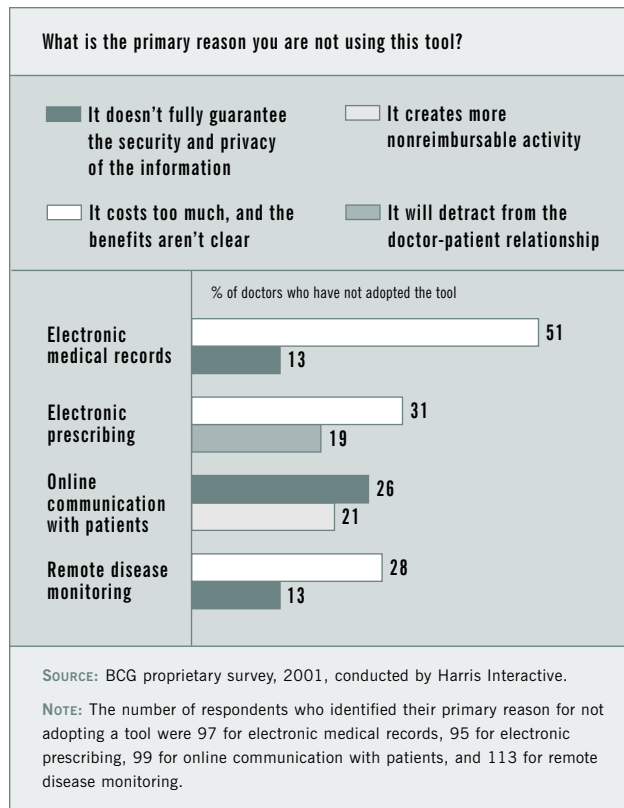
Electronic prescribing and remote disease monitoring are being used by physicians today on a smaller scale: 11 percent of doctors reported that they prescribe drugs electronically, and 5 percent that they monitor patients' health electronically. Planned adoption would roughly triple the percentage of doctors turning to e-prescribing and remote disease monitoring in the next 18 months.

Such growth will arise primarily as word spreads in the physician community that the tools deliver: most users in our survey reported that online patient-care tools have improved their overall efficiency, enabled them to deliver better care, increased patient satisfaction, and, in some cases, saved their practices money. (See Exhibit 4C, page 7.) The growth will also result from the “virtuous circle” of adoption: as users see results with one online mechanism, they become more open to others. The early successes with patient-care tools illustrate the depth and breadth of the opportunities they present to doctors—and health care players.

Electronic Medical Records (EMRs). Health care experts have been touting the virtues of EMRs for more than a decade. They have contended that automated records would be more comprehensive and more easily accessible to doctors and patients, thereby reducing medical errors as well as the cost and burden of documentation. Today, our research shows, EMRs are delivering on their promise for those who have made the financial investment and trained physicians in this online capability.

As we noted above, 22 percent of the physicians in our survey are using some type of EMR system—such as Medscape's Logician—to enter and access

EXHIBIT 4A
MANY DOCTORS ARE SKEPTICAL ABOUT THE BENEFITS OF PATIENT-CARE TOOLS...



information about their patients' medical histories and treatments. Another 20 percent said they expected to adopt this capability within the next 18 months.

More significantly, an impressive 92 percent of users reported that EMRs have improved their overall efficiency, while 88 percent said they have improved the quality of the care they deliver to patients. About half of the users in both cases described the impact as major. That means EMRs are indeed liberating doctors from the hassle of documentation so they can concentrate on providing better care. EMRs are also reducing the costs of transcribing, filing, and storing patients' charts, enabling two-thirds of the physicians who use them to save their practices money, with 29 percent reporting that the savings are substantial.

Today EMRs are used primarily by larger practices, which tend to have deeper pockets and can absorb the costs of adopting this tool. Achieving higher penetration, however, will be a challenge. Indeed, our research shows that the costs associated with buying and implementing the necessary technologies remain a concern among 51 percent of doctors who have yet to adopt the tool. But the growing cost-effectiveness of the Web for accessing and processing information should continue to make EMRs more affordable and thus more attractive.

Electronic Prescribing. Of the physicians in our survey, 31 percent have adopted or plan to adopt the use of computers or hand-held devices to submit prescriptions to pharmacies electronically. Overall, the physicians who use e-prescribing write an average of 55 percent of their prescriptions online.

It is interesting, however, that improving efficiency—the main reason physicians are adopting this tool—is not the area where e-prescribing is having its greatest impact. Thirty-six percent of respondents reported that the tool does indeed increase efficiency significantly. But an even larger 45 percent said that it has a major impact on their compliance with managed care formularies, although

EXHIBIT 4B
...BUT ABOUT ONE-THIRD OF DOCTORS ARE USING OR PLAN TO USE SUCH TOOLS...

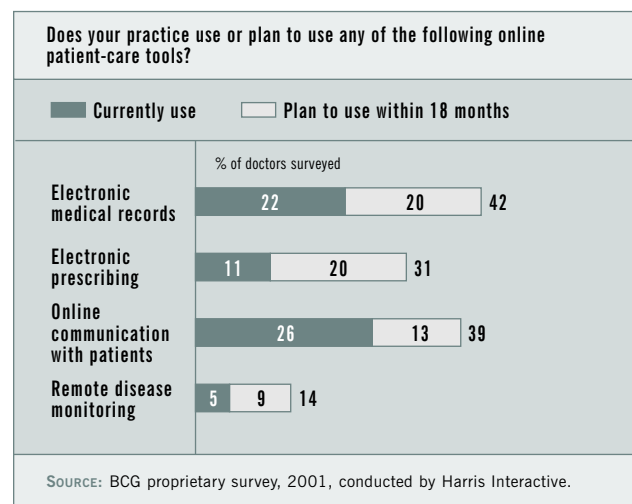
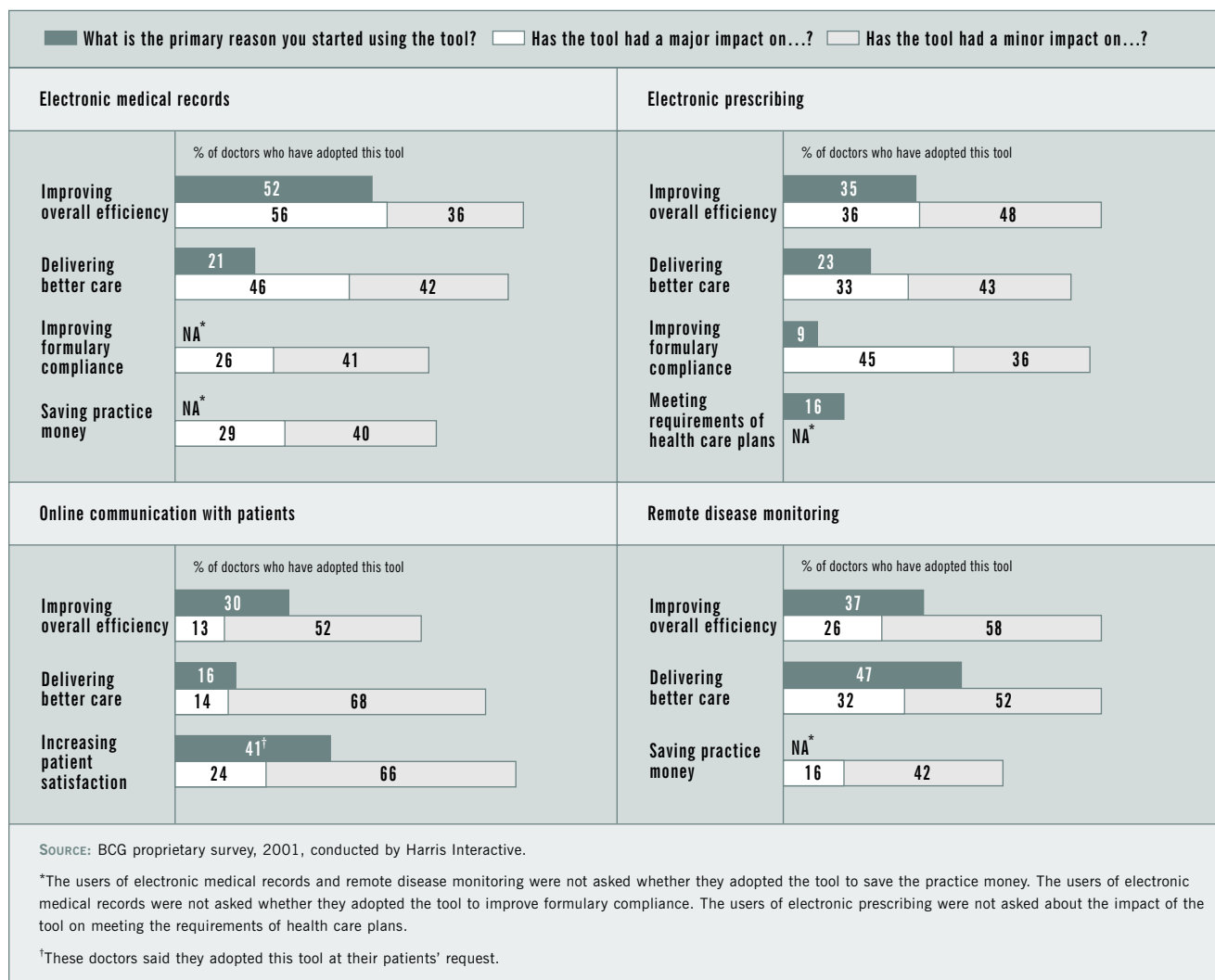


EXHIBIT 4C

...AND USERS ARE SEEING THE TOOLS DELIVER ON THEIR PROMISE



only 9 percent cited improving compliance with formularies as their primary reason for adopting it.

The gains in efficiency and compliance with formularies have been made because the devices generally let doctors select drugs and standardized doses from a pull-down list that is segmented or searchable by disease or type of treatment. This approach eliminates the need for pharmacy inquiries on illegible handwriting, improper or unclear instructions on dosing, and prescriptions for drugs not covered by a patient's insurance plan.

The improvements in formulary compliance foreshadow the long-term economic impact that electronic prescribing could have on the industry. If e-prescribing increases the influence of MCOs over physicians' selection of drugs, as our data suggest, it will limit the influence now enjoyed by drug companies. Such a shift in the balance of power from drug suppliers to managed care players would change the nature of pricing negotiations, granting MCOs a stronger position and forcing drug companies to use lower pricing to gain a position on formularies.

Despite some early successes by a few e-prescribing services such as Allscripts and iScribe, widespread use of e-prescribing will depend on the establishment of standards for software and hardware. Certainly, the importance of standards is not new to the industry: attempts in the early 1980s to introduce electronic data interchange for third-party payments to pharmacies didn't take off until common platforms were established across all drug retailers and payers. Today RxHub—a joint venture of pharmacy benefit managers—seeks to introduce standards that will make e-prescribing software compatible across all doctors, formularies, managed care players, and pharmacies.

Online Communication with Patients. Unlike other patient-care tools, it is demand by patients—rather than the promise of improved efficiency or care—that draws physicians to tools that let them communicate with their patients online. Among such tools are e-mail and consultations conducted over the Internet. Indeed, a hefty 41 percent cited increasing patient satisfaction as their primary reason for communicating with patients online. On this front, the tools deliver extremely well, with 90 percent of doctors seeing improvement—and 24 percent seeing major improvement—in patient satisfaction as a result of engaging with patients online.

Because online communication lets patients seek and receive advice outside the time-consuming constraints of a scheduled office visit, it allows them to address pressing issues as they arise. It also gives them a more active role—and their doctors greater input—in their health. In this way, the tools not only meet the needs of increasingly consumer-focused health care but also strengthen doctors' relationships with their patients and let them treat conditions before they worsen. In combination, all these factors allow online communication to confer other benefits beyond patient satisfaction, such as helping physicians deliver better care (82 percent) and improving their overall efficiency (65 percent). These are the precise objectives that Aventis Pharmaceuticals has cited in launching MyDocOnline, its own Internet-based communication resource for physicians and patients.

But unless online communication becomes more cost and time effective, even such glowing reports may not lure nonusers to adopt these tools. In contrast to our findings for online knowledge-enrichment tools, the busiest practitioners were half as likely to engage in online communication with patients as the least busy: just 16 percent of physicians who see patients 65 or more hours a week reported that they use e-mail and online consultations, compared with 31 percent of physicians who spend 20 to 34 hours a week with patients. Also, 21 percent of doctors who don't communicate with patients online said that they steer clear of these tools because they fear that they will not be reimbursed for time they spend replying to messages. Another 26 percent cited the lack of guaranteed security and privacy for online information.

All these concerns might soon be alleviated by offerings from health care players such as Healinx, particularly if they enable doctors to be reimbursed for online consultations. Internet start-up Healinx offers guided online consultations and secure messaging as a viable alternative to office visits and telephone discussions. It uses an online form to help patients provide doctors with a succinct message summarizing the nature, severity, and frequency of their symptoms, so that doctors need not wade through lengthy narratives in search of relevant data. It then allows users to submit the messages to a secure site. But, most important, Healinx has launched a pilot with Blue Shield of California, under which doctors are reimbursed for the time they spend communicating with patients online.

Remote Disease Monitoring (RDM). If e-mail is the first step in virtual consultations, RDM—which lets health care providers track patients' chronic conditions electronically—sits at the other end of the online patient-care spectrum. RDM tools such as Internet-connected glucose monitors, peak flow meters to measure lung capacity, and scales to monitor weight gain can collect and automatically transmit daily or weekly readings from patients with diabetes, lung disease, or heart disease. Physicians can use the results to decide when and what type of interventions may be necessary. By administering

the right kind of care at the right time, doctors can help chronic-care patients avoid serious complications as well as more invasive procedures.

In some cases, the doctor's office may correspond with the patient using the electronic tools, asking follow-up questions or relaying recommendations. One example is the Health Buddy monitoring and communication device employed by Health Hero, an Internet start-up that focuses on disease monitoring. RDM can also offer automated tracking and notification to alert doctors when patients' results change suddenly or fall into dangerous ranges.

Although RDM is the least prevalent of all the patient-care tools, our finding that the percentage of doctors using it could triple over the next 18 months is noteworthy. Such growth sounds high but may be quite feasible owing to the strong case that users make for the tool's value: nearly one-third of all users reported that RDM has had a major impact on their ability to deliver better care, and one-fourth said that it has had a major impact on improving efficiency. These respondents are subsets of the 84 percent of doctors who indicated that the tools have had an impact—whether major or minor—on their patient care and efficiency. On the periphery of possibility in e-health today, RDM may well be a harbinger of a future in which it is common for doctors to diagnose, monitor, and treat patients remotely using electronic tools.

DEPLOYING PATIENT-CARE TOOLS FOR VALUE AND PROFIT

Because online tools for patient care are delivering on their promises, they are already creating value for doctors and patients. Incumbents such as drug companies, MCOs, and health-care-delivery systems can capitalize on this value and even capture some for themselves by adding these tools—or at least linking them—to their current offerings.

At a time when pharmaceutical companies are competing intensely for attention from physicians, offering valuable and unique online tools may help

them differentiate themselves or gain more time with physicians. Likewise, as MCOs struggle to find new avenues for improving care and squeezing costs, they can turn to online tools to gain greater access to doctors—and perhaps even to guide them—as they make patient-care decisions.

Ultimately, incumbents will find most useful those e-health tools that enable them to maximize the value they deliver to physicians *and* themselves. That is, companies should strike a delicate balance between altruism and blatant self-interest by offering tools beneficial enough to provide real value to physicians yet powerful enough to confer advantage to the sponsor. That means avoiding free perks that benefit doctors but provide no advantage to the company subsidizing them, such as an online medical dictionary. Such a tool, although desired by physicians, would fail to translate into greater direct influence for companies.

Conversely, by providing tools that are of high value to the incumbent but of low value to physicians—for instance, online clinical guidelines that obviously favor a particular treatment or product—a company risks seeing its tools dismissed out of hand, and even losing credibility with physicians.

To maximize value for physicians, health care players must recognize that none of the tools will have universal appeal. Our research shows that different types of tools are attractive to physicians with different workloads and areas of focus. Thus, incumbents must carefully segment their customers, first identifying and then targeting the primary causes of inefficiency and the opportunities to improve patient care for different doctors and practices.

To create the most value for themselves, health care companies will need to selectively offer those tools that are best at building on their particular capabilities, brands, and products. Viewing tools through the lens of competitive advantage is especially valuable because some tools may actually undermine rather than boost influence. A good example is the threat that e-prescribing poses to the pharmaceutical industry.

To illustrate the real opportunities in e-health today, we offer the following examples—many of which demonstrate how e-health can be a double-edged sword. First, while some tools promise to increase a player's influence, others may threaten its market position. Second, gains in influence won through e-health tools may ripple through the industry, resulting in equal and opposite losses in influence by other types of players.

Pharmaceutical Companies. The relationships that drug companies forge with doctors are often very personal; therefore, their introduction and tailoring of electronic tools to physicians must be just as individual. A drug rep might, for example, identify a subset of general practitioners who see a high number of diabetic patients. In conversations with those doctors, the rep may note that almost all of them complain that patients' incomplete blood-sugar logs make it hard to manage treatments for recently diagnosed diabetics and those whose conditions are compounded by other illnesses.

If this rep could call on resources—perhaps through his or her own company or through specialized vendors—to help establish a system of electronic diaries or RDM tools for the diabetic patients, the rep could help this subset of doctors save time, please their patients, and improve care. The tool would also open the door for follow-up visits by the rep and other company liaisons to monitor or update the system, or to train the patients or office staff to use it. And the rep could offer still more value by introducing the physicians to company-sponsored tools that let them navigate medical content and stay abreast of continuing medical education focused on diabetes. Finally, the tools could boost drug sales by improving compliance in large populations of chronic-care patients.

The trust, respect, and loyalty fostered by enhancing personal relationships in this way can result in increased access to physicians, increased openness to messages from the company, and increased influence over prescribing behavior. Likewise, in an era in which reps scramble for the same scarce time for drug detailing, online offerings can allow pharma-

ceutical companies to differentiate themselves in product classes swollen with competitors and me-too marketing strategies. Collectively, all these intangible gains can translate into very real gains to the top and bottom lines.

For this reason, a number of pharmaceutical companies are already exploring ways to add value to physicians and patients. Pfizer appears to have made the boldest move to date. It has teamed up with technology industry leaders IBM and Microsoft to develop Web-based software and devices for improving practice administration and patient care.

In stark contrast to the opportunities promised by these efforts, electronic prescribing, with its major impact on formulary enforcement, poses an obvious threat to pharmaceutical companies because it may limit their influence over drug selection by physicians. Although the threat may be somewhat less pronounced for companies that have negotiated favorable formulary positions or have highly cost-effective products, most pharmaceutical companies will find e-prescribing troubling. The strategic response that companies may take to address this threat will be driven by the specifics of their product portfolio. Steps may range from investing in the technology as an offensive move to deploying tactics geared toward limiting the impact of e-prescribing on formulary enforcement.

Managed Care Organizations. MCOs face their own set of opportunities and challenges in e-health. On the one hand, suppliers, like drug companies, are likely to use online tools to bolster their already strong position with doctors—to the exclusion of payers. A particular threat to payer profitability may arise if drug companies successfully deploy knowledge-enrichment and RDM tools to increase patients' utilization of drugs. On the other hand, MCOs can take advantage of e-prescribing and other patient-care tools that foster patient-physician links in order to maintain and enhance their relationships with physicians.

Obviously, e-prescribing offers MCOs direct economic and strategic benefits. The enhanced formu-

lary compliance that our survey has uncovered could translate directly into real control of pharmacy costs and, ultimately, improved bottom-line performance. It could also lead to greater leverage for MCOs when they negotiate with pharmaceutical companies, particularly in performance-based contracts, which grant MCOs greater discounts for helping to increase product share among the covered population. Just as they have helped move physicians to begin using online claims, MCOs will probably want to operate as catalysts driving physicians' use of e-prescribing tools.

MCOs can also use e-health tools to help affiliated physicians become lower-cost providers—a “win-win” strategy that benefits both payers and physicians. Indeed, as we stated earlier, the first wave of MCOs' online initiatives focused on practice administration tools, which permit electronic billing, resolution, and payment of claims; referrals; and verification of coverage. Like tools for knowledge enrichment, tools that simplify practice administration enjoy widespread use and are more likely to be adopted by busier clinicians.

And payers will also want to help foster connectivity between patients and doctors so that they can allow more cost-effective and higher-quality interactions—and boost customer satisfaction. These goals make MCOs natural sponsors of online communication between doctors and patients. As we noted above, Blue Shield of California is piloting a program with Healinx that reimburses doctors for online consultations with patients. The program reimburses for those consultations at a rate below that of office visits in order not to encourage a wholesale shift to online communication.

Health-Care-Delivery Systems. Academic medical centers (AMCs), regional hospital networks, and integrated delivery systems should be prepared for a time in the near future when their busiest doctors will be clamoring for online tools to increase efficiency. These institutions can strengthen their relationships with their physicians and promote greater productivity by prescreening such tools and using marketing and education to steer physicians to the

most effective ones. This will prevent doctors from having to experiment with inferior services or tools. It also may allow AMCs and hospitals to use their economies of scale to secure advantaged pricing and to streamline implementation of the tools throughout the system.

A REGIMEN FOR REALIZING OPPORTUNITIES IN E-HEALTH

As we suggested in *Vital Signs*, once companies identify which online tools offer them the greatest strategic advantage—and how they can tailor them to the specific audience they are seeking to influence—the best approach for introducing those tools mirrors one that is already proven among physicians: the drug launch process. Even MCOs and health-care-delivery systems will find this strategy useful because it engages the forces that move doctors to trial: demonstrated efficacy, key opinion leaders, and targeted marketing.

In helping our health care clients profit from these tools, we emphasize the importance of not just selecting the most effective tools but also marketing them effectively, using the best principles of the drug launch process.

Detail aggressively: take the new products directly to doctors and train them in how to use them. Consider the following example: An academic medical center recently offered a system for the electronic submission and payment of claims that was designed to save doctors significant time and costs. But the tool languished until the AMC sent representatives, armed with support materials, to meet with every physician in its service area. Most doctors admitted that they had not been aware of the tool and adopted it soon after the visit.

Provide evidence of efficacy: furnish compelling data on the tool's effectiveness. Doctors will want proof that the tools improve efficiency and patient care for other doctors just like themselves. Without such proof, they'll be unwilling to invest time and money to acquire or experiment with the tools.

Cultivate a network of key opinion leaders. Beyond the hard facts, physicians will want personal testimony and professional recommendations from respected peers who have found the tools valuable.

Deploy copromotion and comarketing aggressively: use strategic partnerships. Incumbents may not possess the technical staff or skills necessary to evaluate tools, tailor them, or maintain and update them. For those needs, they may look to Internet start-ups, which lack the relationships with physicians that the incumbents enjoy.

The findings in this report suggest that the key elements are falling into place to support such marketing efforts. Doctors are beginning to perceive e-health tools as efficacious, and key opinion leaders are beginning to emerge among busy practitioners who are adopting the tools. Health

care players can tap into those doctors on the cutting edge to help move the broader community of physicians toward these solutions. As the word spreads that e-health delivers, doctors will become more open to experimenting with a new bag of powerful tools.

This report highlights the main findings of BCG's latest survey on e-health. It explores physicians' use of e-health tools and examines the implications for health care organizations. This proprietary study was jointly designed by BCG and Harris Interactive, and the findings result from research conducted using Harris Interactive's online research capabilities to poll physicians. Through this follow-up and our continuing research, we are able to advise our clients on strategies for harnessing the Internet to create value in the business of health care.

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For Further Contact

The ideas in this report represent learning from BCG's client work and proprietary research. We welcome your questions and feedback. For inquiries about this report or BCG's Health Care practice, please contact:

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BCG PROPRIETARY PHYSICIAN SURVEY, 2001

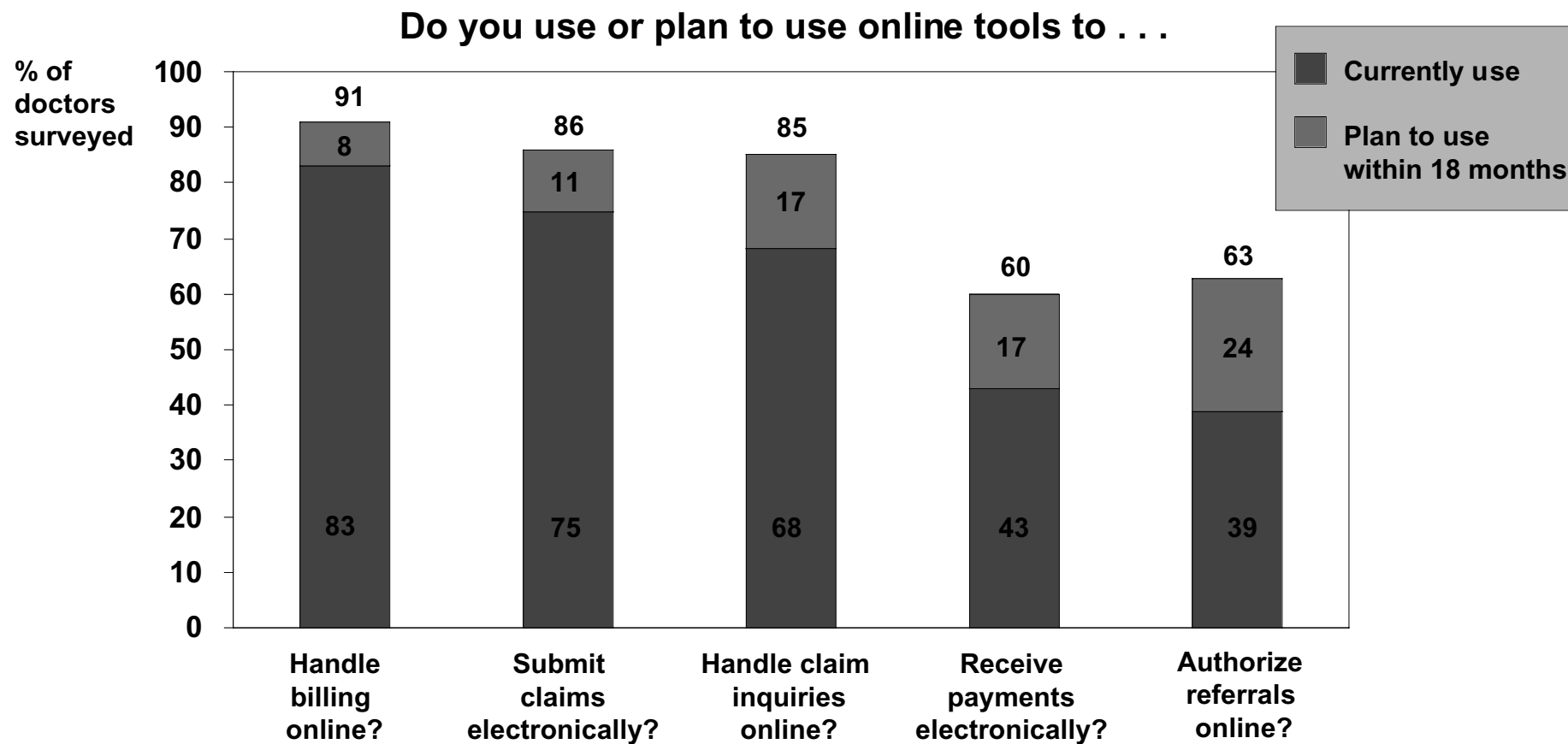
Supplement on Practice Administration Tools

The following exhibits serve as a supplement to The Boston Consulting Group's latest study on e-health. This proprietary study was jointly designed by BCG and Harris Interactive, and the findings result from research conducted using Harris Interactive's online research capabilities to poll physicians.

The report on the study's findings, *Doctors Say E-Health Delivers*, explores physicians' use of e-health tools in the areas of knowledge building and patient care; it also examines the implications for health care organizations. Both the study and the report build on our earlier analysis in *Vital Signs: The Impact of E-Health on Patients and Physicians* and *The E-Health Patient Paradox*; all three reports can be downloaded from the BCG Web site.

The exhibits presented here highlight physicians' use of online tools to simplify practice administration, which includes billing, payment, and resolution of insurance claims.

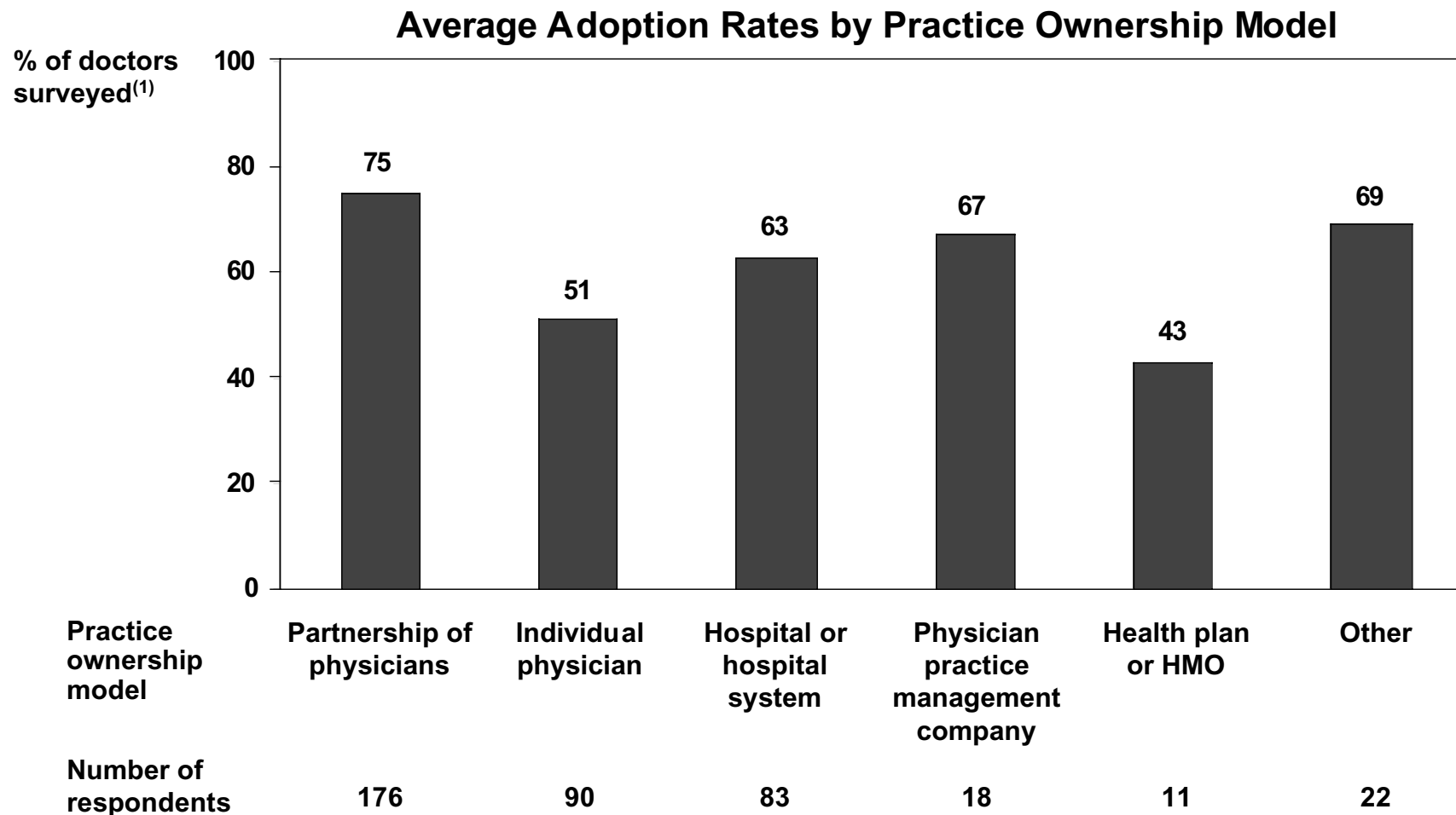
THE MAJORITY OF DOCTORS USE ONLINE TOOLS FOR PRACTICE ADMINISTRATION



Note: Doctors asked whether they had adopted a particular tool could respond yes, no or not sure. Five percent of the 400 respondents were not sure whether they used online billing; 3 percent were not sure whether they submitted claims electronically; 6 percent were not sure whether they handled claim inquiries online; 13 percent were not sure whether they received payments electronically; and 4 percent were not sure whether they authorized referrals online.

Source: BCG proprietary physician survey, 2001, conducted by Harris Interactive.

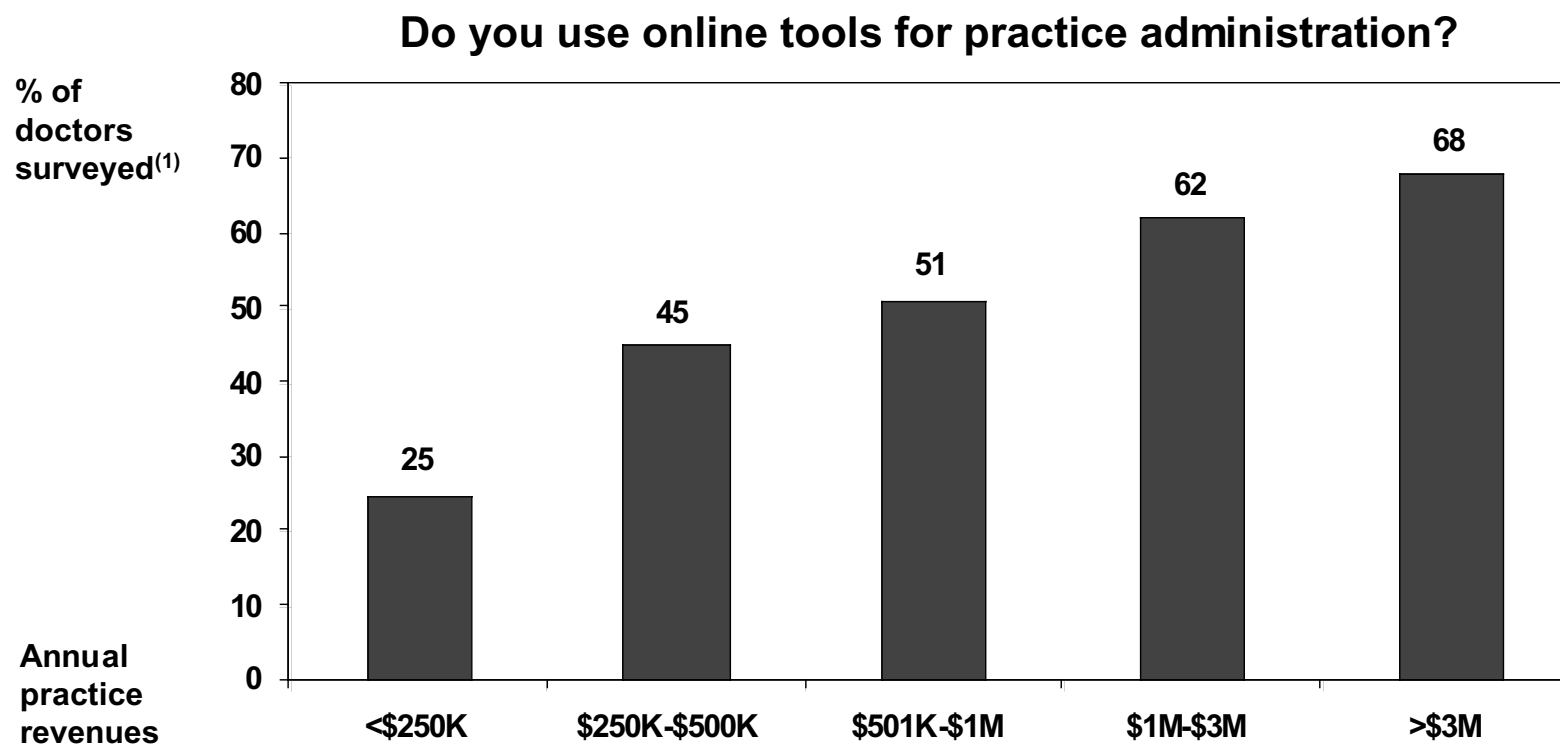
BUT ADOPTION RATES VARY SIGNIFICANTLY ACROSS VARIOUS PRACTICE OWNERSHIP MODELS



(1) For each ownership model, the percentage of doctors using practice administration tools was calculated as the weighted average percentage of adoption for the five online activities presented in Exhibit 1.

Source: BCG proprietary physician survey, 2001, conducted by Harris Interactive.

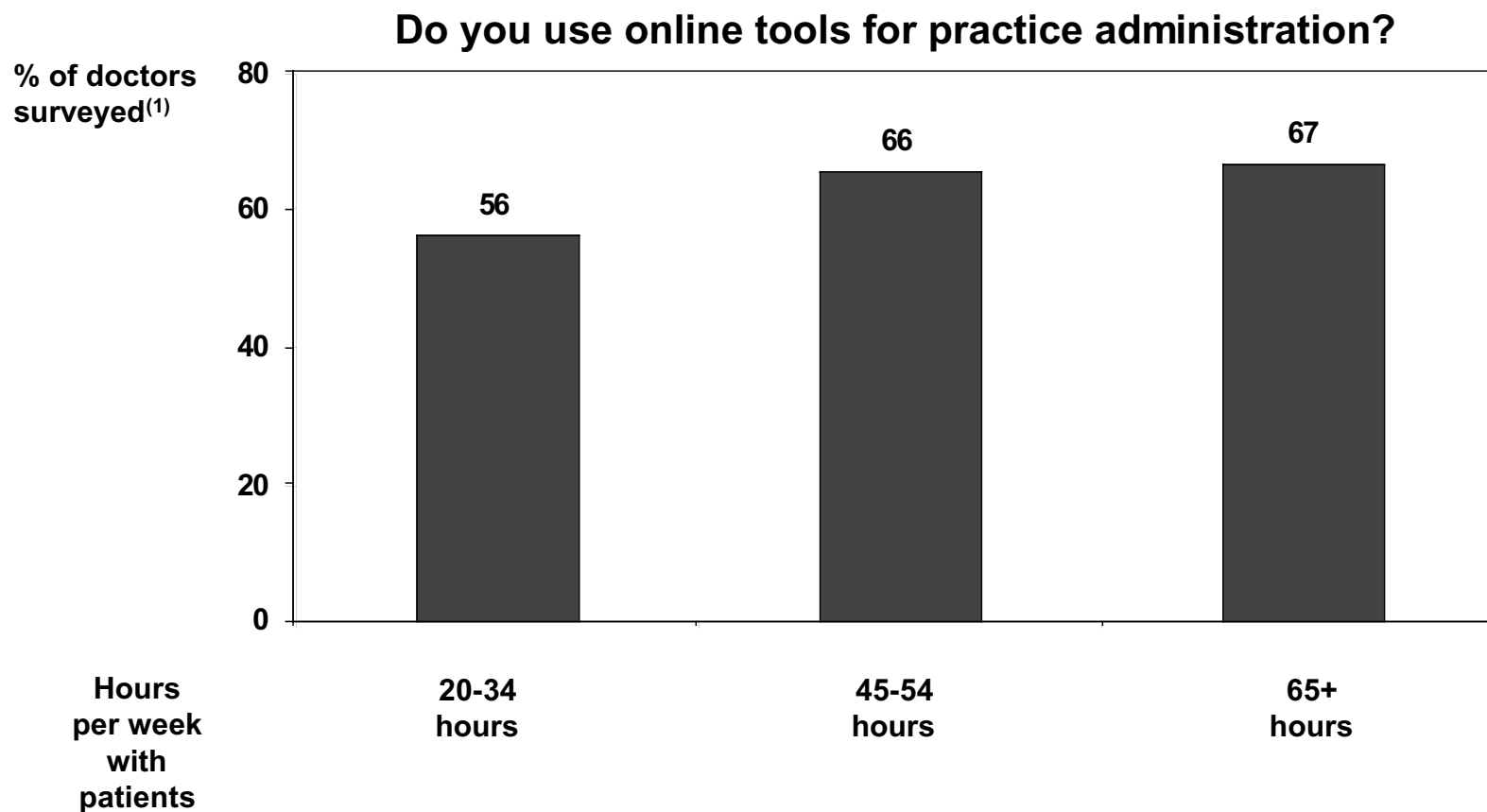
HIGHER-VOLUME PRACTICES MORE LIKELY TO INVEST IN TOOLS



(1) The percentage of doctors using practice administration tools was calculated as the weighted average percentage of adoption for the five online activities presented in Exhibit 1.

Source: BCG proprietary physician survey, 2001, conducted by Harris Interactive.

DOCTORS WHO SPEND MORE TIME WITH PATIENTS ARE ALSO MORE LIKELY TO USE ONLINE TOOLS



(1) The percentage of doctors using practice administration tools was calculated as the weighted average percentage of adoption for the five online activities presented in Exhibit 1.

Source: BCG proprietary physician survey, 2001, conducted by Harris Interactive.