

# On The Front Lines Of Care: Primary Care Doctors' Office Systems, Experiences, And Views In Seven Countries

Country variations in primary care practices indicate opportunities to learn to improve outcomes and efficiency.

**by Cathy Schoen, Robin Osborn, Phuong Trang Huynh, Michelle Doty, Jordon Peugh, and Kinga Zapert**

**ABSTRACT:** This 2006 survey of primary care physicians in Australia, Canada, Germany, New Zealand, the Netherlands, the United Kingdom, and the United States reveals striking differences in elements of practice systems that underpin quality and efficiency. Wide gaps exist between leading and lagging countries in clinical information systems and payment incentives. U.S. physicians are among the least likely to have extensive clinical information systems or incentives targeted on quality and the most likely to report that their patients have difficulty paying for care. Disease management capacity varies widely. Overall, findings highlight the importance of nationwide policies: Policy changes in the United States could lead to improved performance. [*Health Affairs* 25 (2006): w555–w571 (published online 2 November 2006; 10.1377/hlthaff.25.w555)]

PRIMARY CARE PHYSICIANS ARE ON THE front lines of care, providing first contact and preventive and ongoing essential care. Even in the United States, with its highly specialized physician workforce, primary care doctors account for the majority of patient visits for common conditions and are the doctors patients typically name when asked if they have a regular source of care.<sup>1</sup> Moreover, U.S. patients value having a “medical home” that serves as an ongoing source of care and helps coordinate care.<sup>2</sup> Increasingly, countries are instituting policies to hold primary care practices accountable for managing chronic conditions and meeting clinical standards. These include financial incentives and primary care practice redesign, with an emphasis on information technology (IT) and teams to support effective, safe, patient-centered, coordinated, and efficient care.

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The experiences and views of practicing primary care physicians offer a unique window on issues confronting doctors as they seek to meet the needs of their patients. The 2006 Commonwealth Fund International Health Policy Survey of Primary Care Physicians interviewed doctors in seven countries: Australia, Canada, Germany, the Netherlands, New Zealand, the United Kingdom, and the United States. The ninth in a series of cross-national surveys, this survey focuses on IT and clinical record systems, care coordination, use of teams, participation in quality initiatives, and financial incentives.

In contrast to the United States, the other six countries rely extensively on general practitioners (GPs) and family practitioners (FPs) to deliver a broad range of services. These physicians typically serve as the gatekeeper to more specialized care, with referrals required to some extent in all six.<sup>3</sup> In addition, patients register with a primary care doctor in the United Kingdom, Netherlands, and New Zealand. There is no such requirement in Australia, Canada, or Germany, although German “sickness funds” (insurance plans) must offer an enrollment option.

Countries also differ in the way primary care doctors are paid and in insurance coverage. The United Kingdom pays for primary care on a capitation basis and has new incentives for quality improvement.<sup>4</sup> Recently, the Netherlands switched from predominantly capitation payments to a mix of capitation and fees.<sup>5</sup> All of the other countries pay primarily on a fee-for-service basis, although New Zealand, through its creation of Primary Health Organizations, has moved toward capitation. The United Kingdom provides the most comprehensive coverage with little or no patient cost sharing. Canada covers physician visits in full, but medication coverage varies by province. Australia, the Netherlands, New Zealand, and Germany include varying degrees of cost sharing. New Zealand, however, is reducing or eliminating patient fees for primary care, particularly for vulnerable populations. The United States stands alone with a high share of the population that is uninsured; when people are insured, they often face high cost sharing, including deductibles, for primary care.

Each country is pursuing initiatives aimed at improving primary care with a focus on key elements of practice systems that together constitute a foundation to support high-quality, efficient care.<sup>6</sup> These include practice- and systemwide information systems capable of following patients across sites of care, supporting disease management, preventing duplication and medication errors, and improving clinical quality; organizing practices to assure timely access; and payments that support prevention/care management and provide incentives to improve. The survey findings point to rich opportunities to learn from variations in policy and primary care systems to improve performance.

## Study Design And Methods

■ **Sample and study design.** The survey consisted of interviews with representative samples of primary care physicians in seven countries using a common ques-

tionnaire. The definition of *primary care* included GPs and FPs in all countries and also general internists and pediatricians in Canada, Germany, and the United States in proportion to their share of primary care physicians in each country.<sup>7</sup> Practicing physicians were randomly selected from lists available from private or government sources.

Harris Interactive; country affiliates; and, in the Netherlands, the Centre for Quality of Care Research (WOK), Radboud University Nijmegen, conducted interviews by mail and telephone from late February through July 2006.<sup>8</sup> Unweighted sample sizes are listed in Exhibit 1. The Commonwealth Fund provided core support for the study and the U.S. and Dutch samples, and it partnered with the Health Foundation (U.K.) and the Australian Primary Health Care Research Institute for expanded samples to enable within-country analyses. The German Institute for Quality and Efficiency in Health Care funded the German sample.

Researchers at the Commonwealth Fund and Harris Interactive designed the four-page questionnaire, with advice and review by experts in each country. It focused on indicators of primary care practice capacity to manage care well and on payment incentives to support quality improvement. The survey was conducted in German in Germany, Dutch in the Netherlands, and English elsewhere.

The analysis weighted final samples to the distribution of physicians by region of the country, sex, primary care specialty (GP/FP, internist, or pediatrician), and, in the United States, whether office- or hospital-based. In general, country samples closely matched initial characteristics available from lists of physicians. For sample sizes of 1,000 and 500, the margin of sample error ranges from  $\pm 3$  percent to  $\pm 5$  percent, respectively, at the 95 percent confidence level. Exhibits indicate where differences are significant ( $p < .05$ ).

■ **Physician characteristics.** The distribution of physicians by age and sex was similar across countries: In each country, about one-third were female, and about half were age fifty or older. Practice size, however, varied greatly. Dutch and German primary care physicians were the most likely and U.K. doctors the least likely to report solo practice (U.K., 14 percent; Canada, 24 percent; Australia, 25 percent; New Zealand, 26 percent; U.S., 27 percent; Germany, 68 percent; and Netherlands, 72 percent). Except in the United States (24 percent) and Canada (17 percent), groups of ten or more doctors were rare, accounting for 5 percent or less of practices.<sup>9</sup>

## Study Findings

■ **Information technology and office systems.** The seven-country survey reveals strikingly different country rates of primary care practices' use of IT and the range of functions supported by office systems (Exhibits 1 and 2). Primary care doctors in Australia, the Netherlands, New Zealand, and the United Kingdom have the most widespread and multifunctional systems; Canadian and U.S. doctors lag well behind. German rates tend to be in the mid-range.

Nearly all doctors in the Netherlands and the vast majority in Australia, New

**EXHIBIT 1**  
**Information Technology (IT) Use Among Primary Care Physicians In Seven Countries, 2006**

	AUS (%)	CAN (%)	GER (%)	NET (%)	NZ (%)	UK (%)	US (%)
Electronic medical record (EMR) system							
Do you currently use EMRs in your practice?							
Yes	79 <sup>b,c,d,e,f,g</sup>	23 <sup>c,d,e,f,g</sup>	42 <sup>d,e,f,g</sup>	98 <sup>e,f,g</sup>	92 <sup>g</sup>	89 <sup>g</sup>	28
No, but plan to implement in the next year	6 <sup>b,c,d,e,f,g</sup>	18 <sup>c,d,e,f,g</sup>	9 <sup>d,e,f,g</sup>	1 <sup>g</sup>	3 <sup>g</sup>	4 <sup>g</sup>	31
Does your EMR system allow you to (base: all doctors; percent yes)							
Share records electronically with clinicians outside your practice	10 <sup>b,d,e,f</sup>	6 <sup>c,d,e,f,g</sup>	9 <sup>d,e,f,g</sup>	45 <sup>e,f,g</sup>	17 <sup>g</sup>	15	12
Access medical records when you are outside the office	19 <sup>b,d,e</sup>	11 <sup>c,d,e,f,g</sup>	16 <sup>d,e,f,g</sup>	32 <sup>e,f,g</sup>	36 <sup>f,g</sup>	22	22
Provide patients with easy access to their medical records	36 <sup>b,c,d,f,g</sup>	6 <sup>c,e,f,g</sup>	15 <sup>d,e,f,g</sup>	8 <sup>e,f</sup>	32 <sup>f,g</sup>	50 <sup>g</sup>	10
Do you currently use any of the following technologies in your practice? (base: all doctors)							
Electronic ordering of tests							
Yes, routinely	65 <sup>b,c,d,f,g</sup>	8 <sup>c,d,e,f,g</sup>	27 <sup>d,e,f,g</sup>	5 <sup>e,f,g</sup>	62 <sup>f,g</sup>	20	22
Yes, occasionally	6 <sup>c,f,g</sup>	4 <sup>c,f,g</sup>	18 <sup>d,e,f,g</sup>	8 <sup>f</sup>	6 <sup>f,g</sup>	10	9
Electronic prescribing of medication							
Yes, routinely	81 <sup>b,c,f,g</sup>	11 <sup>c,d,e,f,g</sup>	59 <sup>d,e,f,g</sup>	85 <sup>e,f,g</sup>	78 <sup>f,g</sup>	55 <sup>g</sup>	20
Yes, occasionally	3 <sup>c,g</sup>	4 <sup>g</sup>	5 <sup>e,g</sup>	4 <sup>g</sup>	3 <sup>g</sup>	4 <sup>g</sup>	8
Electronic access to patients' test results							
Yes, routinely	76 <sup>b,c,e,f,g</sup>	27 <sup>c,d,e,f,g</sup>	34 <sup>d,e,f,g</sup>	78 <sup>e,f,g</sup>	90 <sup>f,g</sup>	84 <sup>g</sup>	48
Yes, occasionally	7 <sup>b,c,e,g</sup>	17 <sup>c,d,e,f</sup>	24 <sup>d,e,f,g</sup>	8 <sup>e,g</sup>	2 <sup>f,g</sup>	7 <sup>g</sup>	19
Electronic access to patients' hospital records							
Yes, routinely	12 <sup>c,e,f,g</sup>	15 <sup>c,d,e,g</sup>	7 <sup>d,e,f,g</sup>	11 <sup>e,f,g</sup>	44	19 <sup>g</sup>	40
Yes, occasionally	7 <sup>d,e,g</sup>	10 <sup>e,f,g</sup>	7 <sup>d,e,g</sup>	11 <sup>e,f,g</sup>	17 <sup>f</sup>	5 <sup>g</sup>	18
Yes, routinely to first 3	61 <sup>b,c,d,f,g</sup>	4 <sup>c,e,f,g</sup>	15 <sup>d,e,g</sup>	4 <sup>f,g</sup>	60 <sup>f,g</sup>	15 <sup>g</sup>	13
Yes, routinely to all 4	10 <sup>b,c,d,e,f</sup>	2 <sup>e,f,g</sup>	4 <sup>d,e,g</sup>	1 <sup>e,f,g</sup>	33 <sup>f,g</sup>	5 <sup>g</sup>	10
Unweighted N	1,003	578	1,006	931	503	1,063	1,004

**SOURCE:** Commonwealth Fund International Health Policy Survey of Primary Care Physicians, 2006.

**NOTES:** Reading from left to right starting with Australia (AUS), the letter indicates significant differences with the country or countries to the right, as indicated ( $p < .05$ ).

<sup>b</sup> Different from Canada.

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<sup>f</sup> Different from the United Kingdom.

<sup>g</sup> Different from the United States.

Zealand, and the United Kingdom use electronic medical records (EMRs). The majority of doctors in these countries also reported routine use of electronic prescribing and electronic access to test results (Exhibit 1).

Existing EMR systems at best only partially support access to records when physicians are away from the office or access to patients' hospital records. Dutch doctors were the most likely to report systems that enable sharing records electronically with other doctors, and New Zealand doctors were the most likely to

## EXHIBIT 2 Patient Clinical Information And Office Systems Among Primary Care Physicians In Seven Countries, 2006

	AUS (%)	CAN (%)	GER (%)	NET (%)	NZ (%)	UK (%)	US (%)
Are the following tasks routinely performed in your practice?							
Doctor receives alert or prompt about a potential problem with drug dose or interaction							
Yes, using computerized system	80 <sup>b,c,d,e,f,g</sup>	10 <sup>c,d,e,f,g</sup>	40 <sup>d,e,f,g</sup>	93 <sup>e,g</sup>	87 <sup>g</sup>	91 <sup>g</sup>	23
Yes, using manual system	10 <sup>b,c,d,e,f,g</sup>	31 <sup>c,d,e,f</sup>	33 <sup>d,e,f,g</sup>	2 <sup>e,f,g</sup>	6 <sup>g</sup>	6 <sup>g</sup>	28
No	11 <sup>b,c,d,f,g</sup>	56 <sup>c,d,e,f,g</sup>	27 <sup>d,e,f,g</sup>	4 <sup>g</sup>	7 <sup>f,g</sup>	3 <sup>g</sup>	47
Doctor receives alert or prompt to provide patients with test results							
Yes, using computerized system	52 <sup>b,c,d,g</sup>	6 <sup>c,d,e,f,g</sup>	32 <sup>d,e,f,g</sup>	16 <sup>e,f</sup>	51 <sup>g</sup>	53 <sup>g</sup>	15
Yes, using manual system	17 <sup>b,c,d,e,f,g</sup>	37 <sup>c,d,e,f</sup>	30 <sup>d,e,f,g</sup>	14 <sup>e,f,g</sup>	8 <sup>g</sup>	9 <sup>g</sup>	40
No	31 <sup>b,c,d,e,f,g</sup>	53 <sup>c,d,e,f,g</sup>	38 <sup>d</sup>	69 <sup>e,f,g</sup>	41	37	41
Patients sent reminder notices for preventive or follow-up care							
Yes, using computerized system	65 <sup>b,c,e,f,g</sup>	8 <sup>c,d,e,f,g</sup>	28 <sup>d,e,f,g</sup>	61 <sup>e,f,g</sup>	93 <sup>f,g</sup>	83 <sup>g</sup>	18
Yes, using manual system	18 <sup>c,d,e,g</sup>	20 <sup>d,e,g</sup>	24 <sup>d,e,f,g</sup>	16 <sup>e,g</sup>	5 <sup>f,g</sup>	14 <sup>g</sup>	32
No	17 <sup>b,c,d,e,f,g</sup>	68 <sup>c,d,e,f,g</sup>	48 <sup>d,e,f</sup>	23 <sup>e,f,g</sup>	2 <sup>g</sup>	3 <sup>g</sup>	47
With your current patient medical records system, how easy is it for you to generate							
List of patients by diagnosis or health risk							
Easy	68 <sup>b,c,d,e,f,g</sup>	26 <sup>c,d,e,f,g</sup>	81 <sup>d,f,g</sup>	63 <sup>e,f,g</sup>	80 <sup>f,g</sup>	92 <sup>g</sup>	37
Somewhat difficult	17 <sup>b,c,d,f,g</sup>	28 <sup>c,e,f</sup>	9 <sup>d,e,g</sup>	30 <sup>e,f</sup>	14 <sup>f,g</sup>	6 <sup>g</sup>	27
Very difficult/can't generate	14 <sup>b,c,d,e,f,g</sup>	43 <sup>c,d,e,f,g</sup>	10 <sup>d,e,f,g</sup>	7 <sup>f,g</sup>	6 <sup>f,g</sup>	1 <sup>g</sup>	33
List of patients who are due or overdue for tests or preventive care							
Easy	62 <sup>b,d,e,f,g</sup>	13 <sup>c,d,e,f,g</sup>	64 <sup>d,e,f,g</sup>	42 <sup>e,f,g</sup>	82 <sup>f,g</sup>	77 <sup>g</sup>	20
Somewhat difficult	25 <sup>c,d,e,f,g</sup>	25 <sup>c,d,e,f,g</sup>	18 <sup>d,g</sup>	40 <sup>e,f,g</sup>	14 <sup>g</sup>	18 <sup>g</sup>	36
Very difficult/can't generate	12 <sup>b,c,d,e,f,g</sup>	57 <sup>c,d,e,f,g</sup>	19 <sup>e,f,g</sup>	18 <sup>e,f,g</sup>	4 <sup>g</sup>	5 <sup>g</sup>	41
List of all medications taken by patients, including Rx by other doctors							
Easy	74 <sup>b,c,d,f,g</sup>	25 <sup>c,d,e,f,g</sup>	55 <sup>e,f,g</sup>	59 <sup>e,f,g</sup>	72 <sup>f,g</sup>	88 <sup>g</sup>	37
Somewhat difficult	16 <sup>b,c,d,f,g</sup>	24 <sup>f</sup>	22 <sup>f</sup>	20 <sup>f,g</sup>	20 <sup>f,g</sup>	11 <sup>g</sup>	26
Very difficult/can't generate	10 <sup>b,c,d,f,g</sup>	48 <sup>c,d,e,f,g</sup>	23 <sup>e,f,g</sup>	20 <sup>e,f,g</sup>	9 <sup>f,g</sup>	2 <sup>g</sup>	34
Percent easy to all	44 <sup>b,d,e,f,g</sup>	5 <sup>c,d,e,f,g</sup>	40 <sup>d,e,f,g</sup>	29 <sup>e,g</sup>	57 <sup>f,g</sup>	68 <sup>g</sup>	12
Practice clinical information functions <sup>h</sup>							
Low (0–2)	12 <sup>b,c,d,e,f,g</sup>	73 <sup>c,d,e,f,g</sup>	21 <sup>d,e,f,g</sup>	2 <sup>e,f,g</sup>	2 <sup>f,g</sup>	1 <sup>g</sup>	52
Middle (3–6)	16	19	47	39	11	16	29
High (7–14)	72	8	32	59	87	83	19

**SOURCE:** Commonwealth Fund International Health Policy Survey of Primary Care Physicians, 2006.

**NOTES:** Reading from left to right starting with Australia (AUS), the letter indicates significant differences with the country or countries to the right, as indicated ( $p < .05$ ). For unweighted N, see Exhibit 1.

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<sup>e</sup> Different from New Zealand.

<sup>f</sup> Different from the United Kingdom.

<sup>g</sup> Different from the United States.

<sup>h</sup> Count of fourteen includes electronic medical record (EMR); EMR access—other doctors, outside office, patient access to records; routine electronic—ordering of tests, prescriptions, access test results, access hospital records; computer for patient reminders, Rx alerts, prompt tests results; “easy” to generate diagnosis, medications, patients due for tests or preventive care. Significant differences between countries are indicated for distribution of summary variable rather than individual responses.

say that they can access records when outside the office—yet only one-third reported such access. Australian, New Zealand, and U.K. doctors were the most likely to report that their EMR system gives patients access to medical records.

Use rates in Canadian and U.S. primary care practices are low—and well below those of the leading countries—for EMRs and for electronic prescribing and retrieval of test results. In both countries, IT capacity and multifunctionality tend to be concentrated in larger groups, a pattern found in earlier U.S. studies.<sup>10</sup> In the leading four countries, EMR/IT use rates are high in solo and larger practices.

Primary care physicians in the various countries differ in their access to alerts, prompts and patient reminders, and office systems to support monitoring of chronically ill patients (Exhibit 2). In the four countries with widespread EMR use, half to as many as 90 percent of doctors routinely use computerized alerts about potential prescribing problems, reminder systems to notify patients about preventive or follow-up care, and prompts to provide patients with test results (except the Netherlands). In contrast, fewer than one of four Canadian and U.S. doctors have computerized systems for these three functions. Moreover, 40 percent or more of U.S. and Canadian physicians said that they have no system, manual or computerized, for these tasks.

A significant majority of doctors in the four high-EMR-use countries—with the exception of the Netherlands on tests—also reported that it is “easy” with their EMR systems to generate lists of patients by diagnosis (registries) and patients who are due or overdue for tests or care, and to list medications by patient, including prescriptions by other doctors. The majority of German physicians also said that it is easy to generate such lists. Repeating the pattern of more limited information capacity, Canadian and U.S. doctors were most likely to report that these activities would be difficult or impossible.

To assess overall information system functional capacity, we created a summary variable of IT and other specified tasks that physicians reported as computerized or “easy” with current clinical record systems.<sup>11</sup> The vast majority of physicians in Australia, United Kingdom, and New Zealand reported seven or more of fourteen specified functions, as did 59 percent of Dutch doctors (Exhibit 2). Canadian and U.S. information systems lag well behind those of the other countries: A majority of physicians there reported two or fewer functions. Further analyses indicate that even among Canadian and U.S. practices with EMRs, multifunctional rates (seven or more), including prompts and registries, are below rates achieved by practices with EMRs in New Zealand, Australia, and the United Kingdom.<sup>12</sup>

■ **Coordination.** Primary care physicians are central to efforts to improve care coordination by managing referrals and by connecting care and medical information over time and across settings. A sizable proportion of physicians in all countries reported that coordination gaps occur as patients move across sites of care. Areas of concern vary by country (Exhibit 3).

More than one-third of doctors in all countries except Germany said that their

**EXHIBIT 3**  
**Coordination Of Care: Primary Care Physicians' Reports On Experiences In Seven Countries, 2006**

	AUS (%)	CAN (%)	GER (%)	NET (%)	NZ (%)	UK (%)	US (%)
During the past 12 months, how often have your patients experienced the following?							
Problems because care was not well coordinated across multiple sites or providers							
Often	5 <sup>f</sup>	5 <sup>f</sup>	5 <sup>f</sup>	5 <sup>f</sup>	4 <sup>f</sup>	15 <sup>g</sup>	5
Sometimes	35 <sup>b,c,d,e,f</sup>	41 <sup>c,f,g</sup>	16 <sup>d,e,f,g</sup>	41 <sup>f,g</sup>	45 <sup>g</sup>	50 <sup>g</sup>	32
Rarely/never	60 <sup>b,c,d,e,f</sup>	51 <sup>c,f,g</sup>	78 <sup>d,e,f,g</sup>	52 <sup>f,g</sup>	51 <sup>f,g</sup>	34 <sup>g</sup>	60
A patient's medical record/clinical information was not available at the time of scheduled visit							
Often	4 <sup>b,d,f,g</sup>	10 <sup>c,d,e</sup>	3 <sup>d,f,g</sup>	1 <sup>f,g</sup>	2 <sup>g</sup>	7 <sup>e</sup>	8
Sometimes	24 <sup>b,c,d,g</sup>	31 <sup>c,d,e</sup>	8 <sup>d,e,f,g</sup>	15 <sup>e,f,g</sup>	25 <sup>g</sup>	29	32
Rarely/never	72 <sup>b,c,d,f,g</sup>	56 <sup>c,d,e,f</sup>	89 <sup>d,e,f,g</sup>	83 <sup>e,f,g</sup>	72 <sup>f,g</sup>	64 <sup>g</sup>	58
Tests or procedures had to be repeated because findings were unavailable							
Often	1 <sup>b,d,f</sup>	3 <sup>c,d,e</sup>	1 <sup>d,f</sup>	<1 <sup>g</sup>	1 <sup>f</sup>	3	2
Sometimes	9 <sup>b,c,d,e,f,g</sup>	17 <sup>c,d,f</sup>	3 <sup>d,e,f,g</sup>	7 <sup>e,f,g</sup>	13 <sup>f</sup>	24 <sup>g</sup>	14
Rarely/never	89 <sup>b,c,d,e,f,g</sup>	78 <sup>c,d,e</sup>	95 <sup>e,f,g</sup>	92 <sup>e,f,g</sup>	86 <sup>f</sup>	73 <sup>g</sup>	82
When you refer a patient to another doctor, for what percentage of patients do you get information back about the results of the referral?							
Almost all	76 <sup>b,c,d,e,g</sup>	62 <sup>c,e,f,g</sup>	68 <sup>d,e,f,g</sup>	61 <sup>e,f,g</sup>	82 <sup>f,g</sup>	75 <sup>g</sup>	37
Most	19 <sup>d,e,g</sup>	22 <sup>d,e,f,g</sup>	21 <sup>d,e,f,g</sup>	35 <sup>e,f</sup>	14 <sup>g</sup>	18 <sup>g</sup>	33
About half or fewer	5 <sup>b,c,g</sup>	15 <sup>d,e,f,g</sup>	11 <sup>d,e,f,g</sup>	4 <sup>g</sup>	3 <sup>f,g</sup>	7 <sup>g</sup>	28
After patient has been discharged, how long does it take to receive a full discharge report from the hospital?							
Less than 48 hours	10 <sup>b,c,d,e,f,g</sup>	3 <sup>e,g</sup>	4 <sup>e,g</sup>	5 <sup>e,g</sup>	29 <sup>f,g</sup>	4 <sup>g</sup>	14
2-4 days	21 <sup>b,c,d,f,g</sup>	6 <sup>e,f,g</sup>	7 <sup>e,g</sup>	7 <sup>e,g</sup>	19 <sup>f,g</sup>	10 <sup>g</sup>	25
5-14 days	40 <sup>b,c,e,f,g</sup>	28 <sup>c,d,f,g</sup>	35	35	34	34	34
15 days or more, or rarely receive a full report	28 <sup>b,c,d,e,f,g</sup>	58 <sup>c,d,e,g</sup>	53 <sup>e,g</sup>	48	18 <sup>f,g</sup>	52	23
15-30 days	16	33	37	40	13	36	11
More than 30 days or rarely receive full report	12	25	16	9	5	18	12

**SOURCE:** Commonwealth Fund International Health Policy Survey of Primary Care Physicians, 2006.

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<sup>f</sup> Different from the United Kingdom.

<sup>g</sup> Different from the United States.

patients sometimes or often experience coordination problems. U.K. physicians were particularly concerned. U.S. doctors were the most likely to report not hearing about results of referrals to other doctors and, with Canadian doctors, more likely to report that medical records are sometimes/often not available at the time of an appointment. German and Dutch doctors were the least likely and U.K. doctors the most likely to say that tests are sometimes/often repeated because results were not available. On three of these four coordination questions, German doctors reported among the lowest rates of concern.

Country differences are wide in timely receipt of hospital discharge reports. About half or more of physicians in Canada, Germany, the Netherlands, and the United Kingdom reported that they wait fifteen days or longer, and few receive reports within four days. In contrast, about 40 percent or more of U.S. and New Zealand doctors reported that they receive a full discharge report within four days. Doctors in these two countries were also the most likely to say that they have electronic access to hospital reports. Notably, German doctors apparently do not view their relatively long waits for discharge information as a “coordination” issue, given their responses when asked about problems that occur as patients move across sites of care (Exhibit 3).

■ **Caring for patients with chronic illnesses and use of teams.** Patients with multiple chronic conditions or mental health concerns often receive care from many clinicians; have complex medication regimens; and are at increased risk for hospitalization, adverse drug events, and complications, if effective primary care and coordination are lacking.<sup>13</sup> The high share of national spending and risks for these vulnerable patients has focused policy attention on efforts to raise standards of care, use teams, and engage patients in the management of their own conditions.

Reflecting the challenge, a high proportion of primary care doctors in all countries except Germany said that they are less than well prepared to care for patients with multiple conditions (Exhibit 4). Concerns are particularly acute in Canada. Primary care doctors in all countries are even less confident about their capacity to care for patients with mental health problems.

Among countries, German doctors stand out for a sizable majority reporting that they routinely give patients with chronic diseases written instructions to help them manage their care at home. Despite evidence of the efficacy of this approach, at most one-third of physicians in the other countries reported using this practice routinely. The percentage of German doctors saying that it is “easy” to identify patients by diagnosis, patients due for care, and lists of medications is also high. These responses might reflect Germany’s national disease management initiatives, which put a premium on physicians’ ability to identify, monitor, and manage care for patients with chronic diseases.<sup>14</sup>

Use of multidisciplinary teams and involvement of nurses and other nonphysicians in primary care can improve coordination and outcomes, with more efficient use of resources.<sup>15</sup> U.K., Dutch, and German doctors are the most likely to be in practices that routinely use multidisciplinary teams. More than half of doctors in the United Kingdom, Germany, and New Zealand use nonphysicians routinely to deliver chronic and primary care: The United Kingdom stands out for high rates on all three aspects of team care. Canadian physicians’ rates of routine use of nonphysicians for primary or chronic care are significantly lower than those of the other countries. Except for Germany, where most doctors reported routine use of nonphysicians in their practices, a significant majority of primary care physicians in each country would definitely or somewhat support expanded use of nonphysi-

#### EXHIBIT 4 Care For Chronically Ill Patients And Use Of Teams Among Primary Care Physicians In Seven Countries, 2006

	AUS (%)	CAN (%)	GER (%)	NET (%)	NZ (%)	UK (%)	US (%)
How prepared is your practice to provide optimal care for the following types of patients <sup>a</sup>							
Patients with multiple chronic diseases							
Well prepared	69 <sup>b,c,d,f</sup>	55 <sup>c,d,e,f,g</sup>	93 <sup>d,e,f,g</sup>	75 <sup>e,g</sup>	67 <sup>f</sup>	76 <sup>g</sup>	68
Somewhat prepared	29 <sup>b,c,d</sup>	40 <sup>c,d,e,f,g</sup>	7 <sup>d,e,f,g</sup>	24 <sup>e</sup>	32 <sup>f</sup>	24	27
Patients with mental health problems, including depression <sup>a</sup>							
Well prepared	50 <sup>b,c,d,g</sup>	40 <sup>c,d,e,f</sup>	70 <sup>d,e,f,g</sup>	65 <sup>e,f,g</sup>	48 <sup>f,g</sup>	55 <sup>g</sup>	37
Somewhat prepared	48 <sup>c,d,g</sup>	46 <sup>c,d,g</sup>	27 <sup>d,e,f,g</sup>	33 <sup>e,f,g</sup>	48	43 <sup>g</sup>	52
Do you give patients with chronic diseases written instructions about how to manage their care at home?							
Yes, routinely	29 <sup>b,c,e,f</sup>	14 <sup>c,d,f,g</sup>	63 <sup>d,e,f,g</sup>	25 <sup>e,g</sup>	18 <sup>g</sup>	21 <sup>g</sup>	33
Yes, occasionally	62 <sup>c,e,g</sup>	57 <sup>c,d,e</sup>	30 <sup>d,e,f,g</sup>	62 <sup>e</sup>	72 <sup>f,g</sup>	62 <sup>g</sup>	53
No	9 <sup>b,f,g</sup>	26 <sup>c,d,e,f,g</sup>	7 <sup>d,f,g</sup>	12 <sup>f</sup>	10 <sup>f</sup>	17 <sup>g</sup>	12
Does your practice routinely use multidisciplinary teams? (percent yes)							
	32 <sup>c,d,f</sup>	32 <sup>c,d,f</sup>	49 <sup>e,f,g</sup>	50 <sup>e,f,g</sup>	30 <sup>f</sup>	81 <sup>g</sup>	29
Does your practice use any nonphysician clinicians to help manage patients with multiple chronic diseases							
Yes, routinely	38 <sup>b,c,d,e,f</sup>	25 <sup>c,d,e,f,g</sup>	62 <sup>d,e,f,g</sup>	46 <sup>e,f,g</sup>	57 <sup>f,g</sup>	73 <sup>g</sup>	36
Yes, occasionally	35 <sup>b,c,d,f,g</sup>	24 <sup>d,e,f</sup>	21 <sup>e,g</sup>	19 <sup>e,g</sup>	33 <sup>f,g</sup>	17 <sup>g</sup>	26
No	26 <sup>b,c,d,e,f,g</sup>	49 <sup>c,d,e,f,g</sup>	17 <sup>d,e,f,g</sup>	35 <sup>e,f</sup>	10 <sup>g</sup>	10 <sup>g</sup>	35
Provide primary care services to your patients							
Yes, routinely	38 <sup>b,c,d,e,f</sup>	22 <sup>c,d,e,f,g</sup>	56 <sup>d,f,g</sup>	33 <sup>e,f,g</sup>	51 <sup>f,g</sup>	70 <sup>g</sup>	39
Yes, occasionally	30 <sup>b,c,d,e,f,g</sup>	18 <sup>c,e</sup>	26 <sup>d,e,f,g</sup>	21 <sup>e,g</sup>	35 <sup>f,g</sup>	17	16
No	33 <sup>b,c,d,e,f,g</sup>	58 <sup>c,d,e,f,g</sup>	19 <sup>d,e,f,g</sup>	45 <sup>e,f</sup>	15 <sup>g</sup>	13 <sup>g</sup>	42
Would you support expanding the roles of nonphysicians in delivering care to your patients?							
Yes, definitely	24 <sup>b,c,e,f</sup>	30 <sup>c,f,g</sup>	15 <sup>d,e,f,g</sup>	27 <sup>e,f,g</sup>	34 <sup>f,g</sup>	41 <sup>g</sup>	21
Yes, somewhat	57 <sup>c,f,g</sup>	52 <sup>c,f</sup>	29 <sup>d,e,f,g</sup>	55 <sup>f,g</sup>	56 <sup>f,g</sup>	44	47
No	18 <sup>b,c,e,f,g</sup>	12 <sup>c,g</sup>	56 <sup>d,e,f,g</sup>	16 <sup>e,g</sup>	10 <sup>g</sup>	14 <sup>g</sup>	28

**SOURCE:** Commonwealth Fund International Health Policy Survey of Primary Care Physicians, 2006.

**NOTES:** Reading from left to right starting with Australia (AUS), the letter indicates significant differences with the country or countries to the right, as indicated ( $p < .05$ ). For unweighted N, see Exhibit 1.

<sup>a</sup> Percentages answering "not prepared" are not shown in the exhibit.

<sup>b</sup> Different from Canada.

<sup>c</sup> Different from Germany.

<sup>d</sup> Different from the Netherlands.

<sup>e</sup> Different from New Zealand.

<sup>f</sup> Different from the United Kingdom.

<sup>g</sup> Different from the United States.

icians to deliver care in their practices.

■ **Access to primary care and waiting times.** Timely access to primary care depends on doctors' office hours, coverage after hours, and affordability. Physicians' reports on all three aspects of access indicate wide country differences. Physicians in Australia, Germany, and the Netherlands are most likely to offer early morning office hours and some hours beyond the typical workday (Exhibit 5). In the four other countries, fewer than half of physicians reported early morning, evening, or week-

**EXHIBIT 5**  
**Access Experiences And Office Hours Among Primary Care Physicians In Seven Countries, 2006**

	AUS (%)	CAN (%)	GER (%)	NET (%)	NZ (%)	UK (%)	US (%)
<b>Office hours</b>							
Does your practice have office hours to see patients at the following times?							
Some early morning hours (before 8:30 a.m.)	43 <sup>b,c,d,e,f</sup>	27 <sup>c,d,e,f,g</sup>	80 <sup>d,e,f,g</sup>	85 <sup>e,f,g</sup>	37	33 <sup>g</sup>	40
Some evening hours (after 6:00 p.m.)	52 <sup>c,d,e,f,g</sup>	48 <sup>c,d,e,f,g</sup>	74 <sup>d,e,f,g</sup>	4 <sup>e,f,g</sup>	38	39	38
Some weekend hours	76 <sup>b,c,d,e,f,g</sup>	38 <sup>c,d,f,g</sup>	24 <sup>d,e,f,g</sup>	2 <sup>e,f,g</sup>	39 <sup>f,g</sup>	5 <sup>g</sup>	47
None of these	14 <sup>b,c,e,f,g</sup>	34 <sup>c,d,f</sup>	7 <sup>d,e,f,g</sup>	13 <sup>e,f,g</sup>	34 <sup>f</sup>	40 <sup>g</sup>	29
Does your practice have an arrangement where patients can be seen by a doctor or nurse if needed, when the practice is closed, not including ER? (percent yes)							
	81 <sup>b,c,d,e,f,g</sup>	47 <sup>c,d,e,f,g</sup>	76 <sup>d,e,f,g</sup>	95 <sup>e,f,g</sup>	90 <sup>g</sup>	87 <sup>g</sup>	40
How often do you think your patients experience the following?							
Difficulty paying for prescriptions							
Often	15 <sup>b,c,d,e,g</sup>	24 <sup>d,f,g</sup>	23 <sup>d,f,g</sup>	7 <sup>e,f,g</sup>	27 <sup>f,g</sup>	13 <sup>g</sup>	51
Sometimes	64 <sup>b,c,d,f,g</sup>	56 <sup>c,e,f,g</sup>	35 <sup>d,e,f,g</sup>	55 <sup>f,g</sup>	62 <sup>f,g</sup>	48	43
Rarely/never	21 <sup>c,d,e,f,g</sup>	18 <sup>c,d,e,f,g</sup>	42 <sup>d,e,g</sup>	36 <sup>e,g</sup>	11 <sup>f,g</sup>	39 <sup>g</sup>	5
Difficulty paying for care other than prescriptions							
Often	27 <sup>c,d,e,f,g</sup>	25 <sup>c,d,e,f,g</sup>	35 <sup>d,f,g</sup>	12 <sup>a,g</sup>	39 <sup>f</sup>	14 <sup>g</sup>	42
Sometimes	59 <sup>b,c,f,g</sup>	51 <sup>c,d</sup>	36 <sup>d,e,f,g</sup>	61 <sup>e,f,g</sup>	54	50	51
Rarely/never	14 <sup>b,c,d,e,f,g</sup>	22 <sup>c,e,f,g</sup>	29 <sup>e,f,g</sup>	26 <sup>e,f,g</sup>	7 <sup>f</sup>	35 <sup>g</sup>	7
Long waiting times for diagnostic tests							
Often	6 <sup>b,d,e,f,g</sup>	51 <sup>c,d,e,f,g</sup>	8 <sup>d,e,f</sup>	26 <sup>f,g</sup>	28 <sup>f,g</sup>	57 <sup>g</sup>	9
Sometimes	39 <sup>c,d,e</sup>	39 <sup>c,d,e</sup>	16 <sup>d,e,f,g</sup>	49 <sup>f,g</sup>	53 <sup>f,g</sup>	36 <sup>g</sup>	42
Rarely/never	55 <sup>b,c,d,e,f,g</sup>	9 <sup>c,d,e,f,g</sup>	76 <sup>d,e,f,g</sup>	23 <sup>f,g</sup>	19 <sup>f,g</sup>	6 <sup>g</sup>	48
Long waiting times for elective surgery or hospital care							
Often	69 <sup>c,d,e,f,g</sup>	70 <sup>c,d,e,f,g</sup>	9 <sup>d,e,f</sup>	51 <sup>e,f,g</sup>	85 <sup>f,g</sup>	62 <sup>g</sup>	9
Sometimes	26 <sup>d,e,f,g</sup>	24 <sup>d,e,f,g</sup>	27 <sup>d,e,f,g</sup>	42 <sup>e,f,g</sup>	14 <sup>f,g</sup>	35	34
Rarely/never	4 <sup>c,e,g</sup>	4 <sup>c,e,g</sup>	66 <sup>d,e,f,g</sup>	7 <sup>e,f,g</sup>	1 <sup>f,g</sup>	2 <sup>g</sup>	56

**SOURCE:** Commonwealth Fund International Health Policy Survey of Primary Care Physicians, 2006.

**NOTES:** Reading from left to right starting with Australia (AUS), the letter indicates significant differences with the country or countries to the right, as indicated ( $p < .05$ ). For unweighted N, see Exhibit 1.

<sup>b</sup> Different from Canada.

<sup>c</sup> Different from Germany.

<sup>d</sup> Different from the Netherlands.

<sup>e</sup> Different from New Zealand.

<sup>f</sup> Different from the United Kingdom.

<sup>g</sup> Different from the United States.

end office hours. One-third or more of U.S., New Zealand, Canadian, and U.K. primary care doctors reported no office hours during these times.

After-hours coverage arrangements vary remarkably. Three of five U.S. and half of Canadian doctors said that they have no after-hours arrangements. In contrast, at least three-quarters of physicians in the other countries, including nearly all Dutch doctors, reported having these arrangements. Notably, in 2004 and 2005 patient surveys, patients in both Canada and the United States reported difficulty getting care after hours and the highest use of the emergency room (ER) for care that could have been provided by a regular doctor if available.<sup>16</sup>

The extent to which physicians reported that their patients experience difficulty paying for care tracks the insurance arrangements in each country. The United States—the only country without universal insurance and increasingly high deductibles for the insured—stands out: More than half of U.S. physicians reported that patients “often” have difficulty paying for medications. A high proportion also said that their patients often have difficulty paying for care, as did German and New Zealand doctors. On both questions, U.K. and Dutch physicians were the least likely to cite affordability concerns.

Physicians’ perceptions of waiting times vary significantly by country and type of care. German, Australian, and U.S. doctors were the least likely and Canadian and U.K. doctors the most likely to say that their patients often confront long waits for diagnostic tests. Based on doctors’ reports, long waits for elective surgery appear to be the norm in New Zealand; occur often in Australia, Canada, the Netherlands, and the United Kingdom; but are rare in Germany and the United States. Physicians’ concerns about affordability and waiting times in each country generally match patient-reported experiences in a 2005 survey that included all countries except the Netherlands.<sup>17</sup>

■ **Quality improvement (QI) initiatives.** All seven countries have initiatives to engage physicians in collaborative efforts to learn and innovate, benchmark clinical performance, set targets for improvement, and provide incentives to improve care and manage chronic conditions. The survey found high levels of recent primary care physician participation in collaborative QI efforts or undertaking training in QI methods or tools. Yet physicians’ responses reveal wide country differences in the scope and intensity of other quality-focused initiatives (Exhibit 6).

Countries are experimenting with pay-for-performance approaches to motivate improvement and hold physicians accountable for care. The survey asked physicians about the availability of incentives for five aspects of their practice. On all measures, U.K. doctors were significantly more likely than doctors in other countries to report incentives. The finding that most U.K. doctors receive or have the potential to receive incentive payments reflects the expansive terms of the GP contract implemented in 2004, which rewards performance based on 146 indicators that span clinical, organizational, patient experience, and preventive care domains.<sup>18</sup> Financial incentives are also widespread in New Zealand, where they are embedded in the structure of Primary Health Organizations, and Australia, where they are included in GP contractual and special fee incentive arrangements.<sup>19</sup>

With the exception of the United States, payments for managing patients with chronic diseases or complex needs are among the most widely implemented across countries. Incentives for high patient satisfaction ratings are rare outside the United Kingdom and United States. Except for support of managing chronic disease, Canadian rates are low on the specified list. Overall, U.S. doctors were the least likely to report receiving any of the specified incentives for QI activities.

Feedback to primary care doctors on their clinical performance can provide a

**EXHIBIT 6**  
**Quality Initiatives Among Primary Care Physicians In Seven Countries, 2006**

	AUS (%)	CAN (%)	GER (%)	NET (%)	NZ (%)	UK (%)	US (%)
In the past 2 years, have you participated in any of the following activities to improve the quality of care for your patients? (percent yes)							
Collaborative QI efforts with other practices, hospitals, government agencies, or professional associations	58 <sup>b,c,d,e,g</sup>	48 <sup>c,d,e,f</sup>	76 <sup>d,f,g</sup>	70 <sup>d,e,f,g</sup>	78 <sup>d,f,g</sup>	58 <sup>g</sup>	49
Training on QI methods and tools	60 <sup>b,c,e,g</sup>	44 <sup>c,d,e,f,g</sup>	87 <sup>d,e,f,g</sup>	62 <sup>e,g</sup>	69 <sup>f</sup>	61 <sup>g</sup>	67
Do you receive (or have the potential to receive) financial incentives based on any of the following? (percent yes)							
Achieving certain clinical care targets	33 <sup>b,c,d,e,f,g</sup>	10 <sup>e,f,g</sup>	9 <sup>e,f,g</sup>	6 <sup>e,f,g</sup>	43 <sup>f,g</sup>	92 <sup>g</sup>	23
High ratings for patient satisfaction	5 <sup>b,d,e,f,g</sup>	<1 <sup>c,e,f,g</sup>	5 <sup>d,e,f,g</sup>	1 <sup>f,g</sup>	2 <sup>f,g</sup>	52 <sup>g</sup>	20
Managing patients with chronic diseases or complex needs	62 <sup>b,c,d,e,f,g</sup>	37 <sup>c,d,e,f,g</sup>	24 <sup>d,e,f,g</sup>	47 <sup>e,f,g</sup>	68 <sup>f,g</sup>	79 <sup>g</sup>	8
Enhanced preventive care activities	53 <sup>b,c,d,e,f,g</sup>	13 <sup>c,e,f</sup>	28 <sup>d,e,f,g</sup>	18 <sup>e,f,g</sup>	42 <sup>f,g</sup>	72 <sup>g</sup>	12
Participating in QI activities	35 <sup>b,c,d,e,f,g</sup>	7 <sup>c,d,e,f,g</sup>	21 <sup>d,e,f</sup>	28 <sup>e,f,g</sup>	47 <sup>f,g</sup>	82 <sup>g</sup>	19
Percent yes to any financial incentive	72 <sup>b,c,d,e,f,g</sup>	41 <sup>d,e,f,g</sup>	43 <sup>d,e,f,g</sup>	58 <sup>e,f,g</sup>	79 <sup>f,g</sup>	95 <sup>g</sup>	30
Do you routinely receive data on either of the following aspects of your patients' care? (percent yes)							
Patients' clinical outcomes	36 <sup>b,c,e,f,g</sup>	24 <sup>c,d,e,f,g</sup>	71 <sup>d,e,f,g</sup>	37 <sup>e,f,g</sup>	54 <sup>f,g</sup>	78 <sup>g</sup>	43
Surveys of patient satisfaction and experiences with care	29 <sup>b,d,f,g</sup>	11 <sup>c,d,e,f,g</sup>	27 <sup>d,e,f,g</sup>	16 <sup>e,f,g</sup>	33 <sup>f,g</sup>	89 <sup>g</sup>	48
Percent yes to either or both	47 <sup>b,c,d,e,f,g</sup>	29 <sup>c,d,e,f,g</sup>	75 <sup>d,e,f,g</sup>	38 <sup>e,f,g</sup>	65 <sup>f</sup>	94 <sup>g</sup>	62
Clinical targets and audits							
Does your practice set specific formal targets for clinical performance? (percent yes)	26 <sup>c,d,e,f,g</sup>	27 <sup>c,d,e,f,g</sup>	70 <sup>d,e,g</sup>	35 <sup>e,f,g</sup>	41 <sup>f,g</sup>	70 <sup>g</sup>	50
Have you conducted clinical audit of care that your patients receive in the past 2 years? (percent yes)	76 <sup>b,c,d,e,f,g</sup>	45 <sup>c,e,f,g</sup>	69 <sup>d,e,f</sup>	46 <sup>e,f,g</sup>	82 <sup>f,g</sup>	96 <sup>g</sup>	70
Safety tracking system							
Does your practice have a documented process for follow-up and analysis of adverse events?							
Yes, for all adverse events	35 <sup>b,d,e,f</sup>	20 <sup>c,d,e,f,g</sup>	32 <sup>d,e,f,g</sup>	7 <sup>e,f,g</sup>	41 <sup>f</sup>	79 <sup>g</sup>	37
Yes, for adverse drug reactions only	21 <sup>c,d,f</sup>	19 <sup>c,d,f</sup>	26 <sup>d,e,f,g</sup>	10 <sup>e,g</sup>	19 <sup>f</sup>	8 <sup>g</sup>	19
No	44 <sup>b,d,f</sup>	58 <sup>c,d,e,f,g</sup>	42 <sup>d,f</sup>	82 <sup>e,f,g</sup>	40 <sup>f</sup>	13 <sup>g</sup>	41

**SOURCE:** Commonwealth Fund International Health Policy Survey of Primary Care Physicians, 2006.

**NOTES:** Reading from left to right starting with Australia (AUS), the letter indicates significant differences with the country or countries to the right, as indicated ( $p < .05$ ). For unweighted N, see Exhibit 1. QI is quality improvement.

<sup>b</sup> Different from Canada.

<sup>c</sup> Different from Germany.

<sup>d</sup> Different from the Netherlands.

<sup>e</sup> Different from New Zealand.

<sup>f</sup> Different from the United Kingdom.

<sup>g</sup> Different from the United States.

nonfinancial incentive to improve and can appeal to physicians' sense of professionalism. In only the United Kingdom, Germany, and New Zealand did the majority of physicians say that they routinely receive data on clinical outcomes. The United Kingdom stands alone for nearly all physicians reporting receiving feedback from patient surveys and for conducting clinical audits of care, evidence of national efforts to include patients' experiences as outcome indicators.<sup>20</sup>

U.K. physicians were also the most likely to report having a documented process to follow up on adverse events for their patients. In the other countries, 40 percent or more of physicians said that their practice does not have such a system.

## Summary And Policy Implications

Results from the seven-country survey depict a time of extensive global experimentation in primary care redesign. Primary care physicians' reports highlight the shared challenge of how to coordinate care well and manage patients with chronic diseases. Yet their experiences also reveal sharp differences in incentives, practice information capacity, access, and use of teams. The patterns across countries reflect the effects of underlying strategic choices of policies within countries, including the extent to which payment practices and other initiatives are national in scope or depend on local, market-driven actions.

■ **Payment policies and primary care.** In each country, the question of how to pay for care to reward and support improved performance has been central to policy discussions. The United Kingdom has implemented a broad spectrum of reforms of the National Health Service (NHS), including the 2004 GP contract that provided substantial financial incentives tied to achievement of clinical and other performance targets. The United Kingdom has also developed evidence-based clinical guidelines and patient surveys.<sup>21</sup> The scope of these quality initiatives is evident across the survey.

The high rates of physicians receiving quality-related incentives in Australia and New Zealand also reflect national payment schemes and decisions to invest in primary care. Australia's Practice Incentives Program (PIP) and Enhanced Primary Care include payments for management of chronic disease, rewards for achieving prevention targets, expanded use of nurses, after-hours care, and use of IT.<sup>22</sup> New Zealand initiatives provide capitation payments for prevention and chronic care management through Primary Health Organizations structured around interdisciplinary teams that emphasize population health.<sup>23</sup> Dutch incentives build on that country's earlier investment in national guidelines and include payments to GP practices for nurse practitioners to manage chronic disease. Under national reforms implemented in 2006, payments to Dutch doctors will blend capitation, fees for consultations, and payments for performance.<sup>24</sup> Germany has instituted disease management programs and clinical guidelines for chronic care, with financial incentives for sickness funds to develop and enroll patients and hold physicians more accountable for care.<sup>25</sup>

In contrast, the United States and Canada do not yet have national payment initiatives that focus on physicians and primary care. The United States, instead, has relied on private insurance and employer initiatives such as California's Integrated Healthcare Association (a multipayer consortium) and Bridges to Excellence, some state initiatives, and national demonstrations sponsored by the federal government to explore incentives or new payment methods. Canada's Primary Health

Care Transition Fund supports the creation of new primary care models to provide team-based and coordinated care with a focus on chronic care and health promotion.<sup>26</sup> Some provinces have implemented incentives for primary care networks to provide round-the-clock care to geographic regions.<sup>27</sup>

■ **IT: investing in primary care capacity.** Clinical information systems with decision support and the capacity to assess and monitor care can improve outcomes and enable more innovative, efficient use of physicians' time and practice resources. Achieving this potential requires a critical mass to enable electronic links to pharmacies, labs, and sites of specialized care.<sup>28</sup> The United States and Canada lag well behind in information capacity. Both countries to date have relied primarily on market-driven, individual care systems (such as Kaiser Permanente or the U.S. Department of Veterans Affairs) or physician investment to build IT capacity.

U.K. physicians now have among the highest use of EMRs, supported by national investment in IT capacity. Dutch GPs acted collectively in the 1990s through their national professional association to receive partial public financial support to reimburse start-up costs.<sup>29</sup> Australia provided national financial incentives as early as 1996 to adopt and update IT, and its federal government has continued to provide financial and technical support with HealthConnect, a national effort to build information networks of practices across sectors and give patients access to personal health records.<sup>30</sup> New Zealand is also seeking to connect sectors through a public-private initiative.<sup>31</sup>

Collective efforts to support primary care in these countries have enabled broad participation of solo and small group practices. The countries illustrate that it is possible to achieve widespread diffusion of information systems with a national approach that includes financial and technical support to offset implementation costs and enable information exchange.

Germany and Canada lag behind these leaders, but each has national plans to move forward. Germany will introduce a new e-health "smart" card in 2006 capable of including information about medications, allergy, blood type, and other items in electronic personal health insurance cards.<sup>32</sup> Canada's Health Infoway reflects a national plan for diffusion of health IT and committed federal financial support, with the goal of linking provinces and clinicians across sectors.<sup>33</sup> The United States appears to be the only country without a national plan to support expanded primary care IT capacity.

■ **Access and patient-centered care.** Wide country differences also emerge in physicians' reports about access and practice resources to support more-patient-centered care. Here, too, patterns often are linked to underlying national policies. In the Netherlands, national reforms since 2000–2002 have resulted in large-scale, physician-run primary care cooperatives to provide coverage on nights and weekends, with nurses as a first point of contact and family physicians available as necessary.<sup>34</sup> Australia supports after-hours coverage with special payment incentives, and the United Kingdom requires that practices arrange coverage and has set up a twenty-

*“The United States stands out for the high percentage of physicians saying that patients have difficulty paying for care and medications.”*

four-hour nurse-led help line and NHS walk-in centers.

Among the seven countries, the United States stands out for the high percentage of physicians saying that patients have difficulty paying for care and medications. Within the United States, chronically ill patients who face financial barriers are less likely than others to adhere to recommended care and more likely to have worse health outcomes.<sup>35</sup> Current trends toward higher cost sharing by patients make it difficult to hold primary care physicians accountable for helping patients keep their chronic conditions under control.

■ **Disease management.** Improving the management of patients with chronic diseases is central to international efforts to improve care outcomes. The ability to create registries, use of teams, reminder systems, and decision-support systems that alert and prompt physicians are all viewed as critical elements in primary care practice capacity to provide high-quality care management.<sup>36</sup> In the survey, the range of elements reported by even small practices in several countries suggest that practice size itself need not be a barrier if efforts are coupled with national policies and payment systems. All but Canada and the United States have high proportions of practices with office systems that include multiple elements believed to be instrumental to better quality, coordination, and efficiency—yet each country has distinct patterns. These variations offer rich opportunities to learn from national experiments in practice redesign regarding the effect on outcomes and costs.

■ **U.S. exceptionalism.** The United States outspends the other countries: Total per capita costs in 2003 came to \$5,635, compared with \$2,876 in Australia, \$3,003 in Canada, \$2,996 in Germany, \$2,976 in the Netherlands, \$1,886 in New Zealand, and \$2,231 in the United Kingdom.<sup>37</sup> Yet U.S. primary care physician practices are more limited than the leading countries in information capacity, provide less patient access outside of “normal” work hours, and are among the least likely to use teams or to receive financial rewards for quality. U.S. physician responses further indicate little capacity to generate information to compare or assess performance from either internal or external sources. Together these responses add up to a U.S. primary care practice profile with less capacity to ensure accessible, high-quality, or patient-centered primary care.

International comparative studies indicate that these deficits matter. The United States is often not a leader on clinical outcomes and ranks low among industrialized countries for mortality from diseases that are amenable to medical care, despite much higher spending.<sup>38</sup> In the 2005 survey of patients, the United States often ranked last or tied for last on safety, access, and care efficiency.<sup>39</sup>

As the United States confronts how to redesign incentives to improve access, quality, and efficiency amid a more fragmented payer system, it has an opportunity

to learn from the diverse approaches in countries that are implementing systemwide initiatives. From an international perspective, the survey findings underscore the need for new national policies. Cohesive, broad-based policy changes in the United States could lead to improved absolute and relative performance.

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## NOTES

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8. Canadian, Dutch, and U.S. interviews were conducted by mail. Harris Interactive followed survey practices recommended by affiliates in other countries: German and U.K. interviews were primarily by phone, and Australian and New Zealand interviews used a combination of phone recruitment to a mail/fax survey. Field periods were four to six weeks in Australia, Germany, and New Zealand; four to six months in the three countries using mail; and six months in the United Kingdom to achieve oversamples. The different approaches and field periods resulted in varying response rates. Based on initial lists and varying calculation methods from affiliates, rates ranged from 43 percent to 51 percent in the three countries using mail and 18 percent to 32 percent in the four countries using phone methodologies. The response rates introduce an unknown bias. Final sample distributions generally closely matched known characteristics for physicians based on available lists in each country.
9. Median practice size was one in Netherlands and Germany; two in New Zealand; three in Australia and the United Kingdom; and four in Canada and the United States.
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