

Do Other Countries Have a Better Mix of Generalists and Specialists?

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Abstract The conventional wisdom that the United States has an imbalance of specialty and generalist physicians is supported by data from the Organisation for Economic Co-operation and Development (OECD), which show that just 12 percent of physicians in the United States are generalists and 88 percent are specialists. While it is undisputed that US physicians can choose to train in a striking array of medical specialties and subspecialties not seen elsewhere, the perception that the United States has a specialty-dominated workforce is not accurate. The US definition of *generalist* does not fit the OECD definition because the OECD considers only family and general practitioners as generalists. OECD numbers reinforce a tendency to define primary care as family and general practitioners, without recognizing the diversity of generalist physicians providing care. In addition, while other countries may have had more generalists that fit the OECD definition, many countries have seen a relative decline in the share of generalists that is slowly reshaping the generalist-specialty balance elsewhere. These two factors, along with changing international benchmarks against which the United States is compared, support the reassessment of the conventional wisdom.

Keywords physicians, general practitioners, specialists, workforce, OECD

In 1949, 50 percent of US physicians were general or family practitioners. Today, data from the Organisation for Economic Co-operation and Development (OECD) suggest a predominance of specialist physicians: 87.7 percent of US physicians are specialists and 12 percent are “generalists.” This evidently lopsided distribution is one of the most castigated features of the US health care system. The dominance of specialties in the US system is thought to be partly related to payment policies that are more

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favorable to specialists, which entice more physicians into specialty medicine. Americans are thought to demand more specialty care, which may also encourage a specialist-heavy system. Indeed, many US procedural and surgical specialists (but not all specialists) earn more and charge higher fees than their colleagues in other high-income Western nations. And while payments for office visits in the United States are still higher than in other countries, the gap between fees for office visits in the United States and elsewhere is smaller than the international price differential for procedural and surgical services (Laugesen and Glied 2011).

Historically, the United States was less specialty oriented. In 1949, 50 percent of physicians were general or family practitioners. Today, however, the proportion of generalists over specialists is significantly different. At the same time (and this is acknowledged by the OECD itself), at least compared to other countries, the maldistribution of specialties and generalists in the United States has been overstated, because the estimate of generalists includes only family and general practitioners. One reason for this overstatement is that the OECD definition supports a general shift in health policy debates away from describing “generalists” to a narrower discussion focused on primary care—and within that discussion, the importance of family and general practitioners over other generalists has been overlooked. In the last two decades, the debate over the workforce has narrowed and focused more heavily on a subset of generalist physicians, without recognizing the diversity of generalist physicians (and nonphysicians) that provide services in primary care settings or provide generalist services in nonprimary care settings in the United States.

Conventional Wisdom on Generalists, Specialists, and Primary Care

The conventional wisdom is likely exaggerated (as the discussion in the next section on the classification of physicians shows). Rather than being an omission or statistical quirk, however, the numbers are indicative of how we think about primary care and how the US health care system is perceived more generally. The debates around generalists, specialists, and primary care are instructive because they have become proxies for larger debates about what is wrong with the US health care system. In the process, a number of misperceptions, a degree of misdirection, and misplaced blame have arisen that have contributed to confusion about the nature of the health care workforce.

Misperceptions

There is one fact that is undisputable: the US system houses a striking range of medical specialties and subspecialties not seen elsewhere. A total of 130 different specialties and subspecialty residency programs were recognized by the Accreditation Council for Graduate Medical Education (2017), and board certification is awarded in more than 145 specialties and subspecialties (American Board of Medical Specialties 2016). By contrast, about 95 specialties are recognized in the United Kingdom and 52 in Germany (UK General Medical Council 2011).

The subspecialization and expansion of categories within medicine have likely contributed to the idea that the United States has too many specialists, which in turn has become a proxy for many important perceived failures of the US health care system. Some larger, and somewhat unrelated, critiques muddy the analysis of workforce issues, such as the relative roles of price and specialty numbers in driving the cost of health care. Thus, in the discussion of health care expenditures, high US expenditures are frequently attributed to the perceived dominance of specialists. The United States does spend twice as much as other countries on physician services, but this is a function of higher prices, including for generalist care, rather than simply the composition of our workforce. Focusing on workforce issues omits a more contentious discussion (compared to the more palatable prospect of expanding residencies for family physicians) regarding the role of health care prices in driving expenditure. If affordability of health care or health care expenditures are problematic, the high reimbursements for procedurally oriented specialists are likely a more significant driver than composition alone. The rationale often given is that we would spend less money if only US patients saw more primary care providers. Yet, there are fundamental problems with the skewed pricing of procedural and surgical services (Laugesen 2016). Even though specialists earn more than generalists, fees and incomes vary significantly across different specialties. In some areas of medicine (such as gastroenterology), new technology and the expansion of procedures over the last forty years have made procedural specialties more lucrative, while so-called cognitive specialties, such as neurology and rheumatology, have become less attractive. In other words, while the specialty balance may be related to higher expenditures, this reflects cause and effect interactions rather than simply too many specialists.

High expenditures are also not a function of the US patient necessarily receiving more medical services or even more technologically intensive services than in other countries. At the same time, indeed, in the United

States a strong “medical-cultural nexus” (Brown 2008) has for a century equated high-quality care with the progress of science, technology, specialization, and institutions of medical education that pledge to honor and expand these advances. Yet, an impression has developed that specialists are part of the “problem” of US medicine as technologically oriented and intensive. Books like *The Painful Prescription* (1984), which compares the United States to the (then) resource-constrained UK National Health Service, may have put the US health care system into sharper relief than it would otherwise have been if compared, for example, with France or Germany, which are hardly seen as lacking medical technology or highly specialized physicians.

One reason people believe more general and family practitioners would reduce costs is that they believe primary care or generalist gatekeepers are the norm in all other countries. Although the United Kingdom and many countries do have gatekeepers, a misperception developed that people in other countries are unable to access specialty care without a referral. While many countries have some kind of gatekeeping role in the primary care setting, not all do. People also perceive that, for example, UK citizens rarely protest when told to start their medical journey with a visit to a well- and broadly trained general practitioner, who acts as a gatekeeper for referrals to specialists. To be sure, in the United States gatekeeping by primary care physicians under the auspices of managed care triggered a popular backlash and an outpouring of direct-access laws in the states, but I show in the discussion further below that the use of generalist physicians is quite high in the United States.

By extension, the perception that almost all problems in other countries are managed by generalist physicians is suspect. Referral rates are higher in the United States than in the United Kingdom (Forrest et al. 2003); however, there are also pockets in the health care system or certain types of patients with identical referral rates, such as children with worse health. The difference is that in the United States the threshold for referral is much lower.

Misdirection

Discussions in US health policy shifted away from generalists in the 1990s. After the late 1990s and early 2000s, the emphasis in discussions about the specialty-generalist mix became focused on *primary care* physicians rather than *generalist* physicians. A slew of studies supported expanding primary care services. Researchers showed that people living in states with

more general practitioners get more effective and lower-cost care (Starfield, Shi, and Macinko 2005; Baicker and Chandra 2004). In states with more primary care physicians, mortality rates are lower; in those with more specialists, they are higher (Macinko, Starfield, and Shi 2007). One study suggested that an increase of one primary care physician for every 10,000 people (about 20 percent) would likely trigger a 6 percent decline in all-cause mortality and a decrease of roughly 3 percent in low-birth-weight infants and mortality from stroke (Macinko, Starfield, and Shi 2007).

The discussion around the need for more generalists was dominant in the early to mid-1990s, but it gradually morphed into an argument that we needed more primary care physicians providing primary care. Barbara Starfield (1994: 1129) defined primary care as “first-contact, continuous, comprehensive, and coordinated care.” This particular definition often found the United States deficient precisely because its workforce does not fit the definition of primary care as “provided to populations undifferentiated by gender, disease, or organ system” (1129)—which in practical terms would include only family practitioners and general practitioners. Narrowing the definition this way meant we became less focused on other generalist providers that do not neatly fit the Starfield definition.

Of course, misdirection was likely unintentional, and those who developed the primary care framework likely recognized that a strict definition of primary care omits many US physicians. This may be why researchers often expanded their definition when researching primary care physicians, defining them as “physicians engaging in office-based patient care in family medicine or general practice, general internal medicine, and general pediatrics were considered primary care physicians” because “only these three fulfill the criteria for primary care practice” (Starfield, Shi, and Macinko 2005: 458).

Likewise, the Institute of Medicine revised its definition of primary care in 1996, when it said that, despite the attractiveness of a single definition, it would define primary care as “multidimensional” and said it could not be based in “residency training, care setting, or level of care (e.g., first contact)” (Donaldson et al. 1996: 28). This process of undefinition might best characterize the United States, which, like its system of pounds and ounces, tends to buck international norms or standard definitions.

Misplaced Blame

As with the overemphasis on the importance of specialization, to some extent there has been a tendency to blame the deficiencies of the primary

care system on the composition of the workforce alone. If only there could be more general and family practitioners, the argument goes, we could address the deficiencies in primary care system and, by extension, the health care system writ large. While the primary care system has ample room for improvement, the responsibility for a lack of coordinated and gatekeeping primary care should not necessarily be attributed only to the physician workforce mix. As mentioned above, a big issue is payment. The higher reimbursement of surgical and procedural specialties in the allocation of resources (Laugesen 2016) is likely a more potent explanation of the underinvestment in and lower priority of the primary care system. Likewise, the supposed imbalance and purported declining access to primary care are framed narrowly and met with a single solution—again, one that is more politically inoffensive: train more primary care physicians. In fact, limitations on nurse practitioners significantly impact access to care, but many physician organizations have essentially refused to acknowledge their potential to close gaps in the primary care system.

Blame directed at the workforce mix has obscured larger issues or even created the idea that other systems are only stronger *because* they have more generalists or primary care physicians. This neglects the overall higher level of policy coordination outside of the United States (which does not lead to better policy at all times but is likely helpful). Other countries have many more levers to integrate care and provide a more seamless patient experience, but again, this is distinct from having more generalist physicians. For example, other systems adopted information technology earlier, for both specialists and primary care. In the United States, it was relatively late that the Centers for Medicare and Medicaid Services provided subsidies, and to some extent even those subsidies might have never arisen but for the post-financial crisis stimulus spending package. The history of health information technology (with multiple competing and proprietary systems) points to the overall tendency away from coordination to separate systems—but this is not the fault of the workforce mix. Multiple factors contribute to the situation, including our predominantly privately funded and physician-governed system and the tendency of rent seeking to exacerbate the fragmentation of private payers, providers, and government (see Gross and Laugesen's article in this volume).

Bringing the delivery of care closer to the needs of the public is a meritorious goal. To have a coordinated primary care system and better health outcomes, we should have more generalists. However, we should not expect that this alone is the answer. A shrewd analyst of public policy would argue,

as Stone (2002) has, that problems and problem definitions are frequently misaligned and that the solutions therefore end up being orthogonal. The misperception, misdirection, and misplaced blame reflects that kind of misalignment.

Counting Generalists

As I note above, estimates of numbers of generalists appear alarmingly low for the United States compared to other countries. Across other OECD nations, on average, generalists constitute 32.5 percent of the total physician workforce, and 59.2 percent are specialists, whereas in the United States, 12.3 percent practice primary care and 87.7 percent are specialists (OECD 2011). These data are misleading, however. The OECD restricts its definition of generalists to a limited group of physicians, which includes family practitioners, general practitioners, and “other generalists,” who “do not limit their practice to certain disease categories or methods of treatment, but who work in hospitals or other settings, as well as medical interns and residents who have no area of specialization” (OECD 2011: 30). In most European countries, general and internal medicine physicians are specialists who deliver hospital-based services, and about half work as subspecialists (Cranston et al. 2013); the same holds for Canada, Australia, and New Zealand. In some countries, such as Germany, the “other generalists” category constitutes a significant portion of the generalist workforce.

As is necessary in cross-national comparisons, the OECD standardizes the US data to fit with their generalist definition, which excludes physicians treating adults and children such that they are counted as specialists. Although it is not straightforward to define generalists even within the United States (Grumbach et al. 1995), the widely used Association of American Medical Colleges (2012) definition counts primary care generalists as those who practice family medicine/general practice, pediatrics, and internal medicine. In Canada also, generalist pediatricians provide 30–50 percent of the visits of children for primary care (Canadian Paediatric Society, n.d.) and so would be considered generalists in the United States.

The definition used by the OECD is understandable in the context of greater comparability of international data. The OECD is well aware of the limitations of its approach to the United States, with ample cautions provided that the share of “generalist medical practitioners” is “very low” in the United States because of the counting method (OECD 2012: 13). The OECD methodology explicitly states that US internal medicine practices “can be very similar to [those] of general practitioners” (OECD 2012: 13).

Table 1 Numbers of Generalists and Specialists Based on Different OECD and US Definitions

Definition	Percentage of all physicians		Density per 1,000 people	
	Generalists	Specialists	Generalists	Specialists
OECD classification ^a				
OECD countries (mean)	31.47%	58.63%	1.05	2.10
United States	11.89%	88.11%	0.31	2.27
Association of American Medical Colleges classification ^b				
United States	32.70%	67.30%	0.80	1.89

Sources: OECD 2017; Centers for Disease Control and Prevention 2016.

Notes: ^aData are for 2014. The mean excludes the United States, and it excludes Japan because of missing data. The generalist category includes general and family practitioners, plus “other generalist” medical practitioners who do not limit their practice to certain disease categories or methods of treatment (OECD 2011).

^bData are for 2013. The generalist category includes general and family practitioners, pediatricians (excluding subspecialists), and general and internal medicine practitioners (Association of American Medical Colleges 2012).

As stated, the United States has a habit of developing its own categories and standards. The generalist physician workforce in the United States is larger than OECD figures suggest. Specifically, combining the number of general and internal medicine physicians, along with general pediatrician physicians (categories that are not separated in the OECD data), yields a higher proportion of generalist physicians than is usually acknowledged.

Changing the Definition of *Generalist*

The impact of the definitions of generalists is important. Table 1 shows the OECD and US numbers, illustrating the effect of using the traditional OECD definition alongside a revised consideration based on the Association of American Medical Colleges categories. Using this revised definition, which includes general and family practitioners (11.5 percent), general pediatrics (7.1 percent), and general and internal medicine (14.2 percent), the proportion of generalists in the United States increases from 11.9 percent to 32.7 percent of all physicians. The percentage of specialists in the United States drops correspondingly from 88.1 percent to 67.3 percent. With a generalist proportion of 32.7 percent, the United States is almost in line with the OECD average of 31.5 percent. Table 1 also shows

how the density of generalists (per 1,000 people) increases from 0.31 physicians per 1,000 people to 0.80 generalist physicians per 1,000 people in the United States, if we expand the definition of generalists. This is lower than the number elsewhere, since the OECD average is 1.05. Interestingly, however, the density of specialists in the United States correspondingly declines from 2.27 to 1.89 per 1,000 people. In sum, changing the definition of *generalist* transforms the United States from an outlier to a nation close to the OECD average of 1.05 per 1,000 people.

Tables 2 and 3 provide details of the US and OECD averages. The contrast based on new data is striking because it also suggests there is a degree of diversity beneath the classification of generalists in many countries. The composition of the workforce also shows that this is only part of the story: table 3 measures the workforce relative to population, which reveals the importance of looking at physician-population counts alongside overall proportions. When the actual availability of physicians is compared, the US primary care to population ratio of 0.80 is higher than that of many countries, including Denmark, Italy, Spain, Sweden, and most surprisingly, the United Kingdom. Countries such as the United Kingdom are much closer to the United States than we had previously thought, if we consider the density as an alternative measure.

Additional insight is provided by table 4, which shows trends in percentages of specialists and generalists in OECD countries over time. The declines in generalist physicians may not be as unique as we might believe. The share of generalists across the OECD has fallen from 41 percent in 1990 to 34.5 percent in 2014. While some countries have increased the share of generalists, other countries such as Australia have seen declines of 10 percentage points between 1995 and 2013.

Care Delivered by Specialists

One argument against such an analysis would be that generalists are not providing generalist care, or at least not all the time. This was examined by Grumbach et al. (1995), who estimated that the counting of the number of physicians providing generalist care drops by 25 percent if physicians also practicing specialty medicine are included. At the same time, the same study revealed that general practitioners had the highest percentage of physicians practicing outside of their specialty (34 percent).

One way to assess the care provided is to examine how many visits are provided by generalists. In table 5, which shows the distribution of office visits to physicians by physician type in the United States, over half (52.4

Table 2 Generalists and Specialists as a Percentage of All Physicians in Select OECD Countries and the United States, 2014

Country	% Physicians			
	All generalists	General practitioners	Other generalists ^a	All specialists
Australia	44.8	38	11.4	48.3
Austria	32.8	16.2	16.7	53.1
Belgium	37.7	38.4		61.1
Canada	47.6	47		52.5
Czech Republic	19.0			79.7
Denmark	19.5			46.1
Finland	38.7			58.2
France	46.4	48.7		53.6
Germany	42.0	17.7	24.3	58.0
Greece	6.3			74.9
Hungary	11.7			57.6
Iceland	15.8	15.8		60.5
Ireland	59.0	13.5	52.8	41.1
Israel	30.6			69.5
Italy	22.7			77.3
Luxembourg	30.8	29.5	0	69.2
Netherlands	44.3			55.7
New Zealand	32.0			54.1
Norway	20.2	20.3	40.2	40.5
Spain	19.7	19.9		64.1
Sweden	15.4			53.1
Switzerland	27.3			58.1
Turkey	30.6			69.4
United Kingdom	28.5			71.6
OECD mean^b	31.47	27.73	26.80	58.63
United States				
OECD classification ^c	11.9			88.1
Association of American Medical Colleges classification ^d	32.7			67.3

Sources: OECD 2017, all data are from 2014 except for Hungary, which uses 2013 data. Data for US general and internal medicine physicians are from National Center for Health Statistics (Centers for Disease Control and Prevention 2016). OECD data were used for US generalist and pediatric physician numbers.

Notes: ^aThe “other generalists” category includes generalist/nonspecialist practitioners working in hospitals or in other settings, and medical interns or residents without any area of specialization yet.

^bExcludes the United States.

^cThe generalist category includes general practitioners plus “other generalist” medical practitioners who do not limit their practice to certain disease categories or methods of treatment (OECD 2011).

^dThe generalist category includes general pediatricians and general and internal medicine practitioners (Association of American Medical Colleges 2012).

Table 3 Density of Physician Generalists and Specialists in Select OECD Countries and the United States

Country	Density per 1,000 people	
	Generalists ^a	Specialists
Australia	1.55	1.67
Austria	1.65	2.68
Belgium	1.12	1.82
Canada	1.24	1.37
Czech Republic	0.70	2.94
Denmark	0.71	1.69
Finland	1.31	1.97
France	1.55	1.79
Germany	1.72	2.38
Greece	0.40	4.73
Hungary	0.34	1.65
Iceland	0.57	2.21
Ireland	1.79	1.25
Israel	0.96	2.17
Italy	0.88	3.00
Luxembourg	0.88	1.98
Netherlands	1.52	1.91
New Zealand	0.91	1.54
Norway	0.89	1.79
Spain	0.75	2.44
Sweden	0.65	2.22
Switzerland	1.13	2.40
Turkey	0.54	1.22
United Kingdom	0.80	2.00
OECD mean^a	1.05	2.10
United States		
OECD definition ^b	0.31	2.27
Association of American Medical Colleges definition ^c	0.80	1.98

Sources: OECD 2017. Data for US general and internal medicine physicians using the Association of American Medical Colleges definition are from National Center for Health Statistics (Centers for Disease Control and Prevention 2013). OECD data were used to calculate the US generalist and pediatric physician numbers.

Notes: OECD country data are for 2014.

^aExcludes the United States.

^bThe generalist category includes general and family practitioners, plus “other generalist” medical practitioners who do not limit their practice to certain disease categories or methods of treatment (OECD 2011).

^cThe generalist category includes those defined as primary care specialties, general practitioners, pediatricians, and general and internal medicine physicians (Association of American Medical Colleges 2012).

Table 4 Trends in Percentage of Physicians Who Practice Generalist Medicine, OECD Countries, 1990–2014

Country	% Generalist Medical Practitioners										Change 2014–2005
	1990	1995	2000	2005	2010	2011	2012	2013	2014		
Australia	59.9	55.4	55.3	52.1	—	—	47.2	45.1	44.8	–16.3%	
Austria	36.0	35.9	35.4	34.0	33.0	33.0	33.1	32.9	32.8	–3.7%	
Belgium	—	—	42.3	41.2	38.4	38.2	37.9	37.8	37.7	–9.5%	
Canada	50.3	48.8	47.5	48.1	47.0	47.0	47.2	47.2	47.6	–1.2%	
Denmark	—	16.9	22.2	21.0	19.9	19.7	19.7	19.6	19.5	–7.6%	
Finland	—	—	—	33.5	36.4	37.8	37.1	38.2	38.7	13.3%	
France	53.2	50.9	49.6	49.3	48.7	47.3	46.9	46.7	46.4	–6.3%	
Germany	—	50.9	45.7	42.9	42.2	42.1	41.7	41.9	42.0	–2.3%	
Ireland	—	—	—	82.8	66.3	60.5	62.4	59.5	59.0	–40.5%	
Luxembourg	38.5	35.5	29.7	30.7	29.5	29.7	29.8	30.6	30.8	0.3%	
Netherlands	—	—	47.6	43.4	42.3	44.6	44.3	44.0	44.3	2.2%	
New Zealand	—	—	39.4	35.7	28.6	31.4	30.6	27.4	32.0	–11.3%	
Norway	—	—	—	21.7	20.1	20.0	20.3	20.3	20.2	–7.3%	
Spain	—	—	—	20.2	19.8	19.4	19.6	19.7	19.7	–2.2%	
Sweden	—	16.6	17.1	16.8	16.2	15.9	15.8	15.6	15.4	–9.3%	
Switzerland	12.2	11.7	11.2	13.6	15.9	27.6	27.5	27.5	27.3	50.2%	
United Kingdom	36.8	35.0	32.9	30.2	29.3	29.4	29.1	28.7	28.5	–6.0%	
United States	—	12.6	12.9	12.4	12.3	12.1	12.1	11.9	11.9	–4.6%	
OECD average	41.0	35.8	36.6	36.3	33.3	34.0	34.7	34.3	34.5	–5.2%	

Source: OECD 2017.

Notes: Percentages are based on head counts of physicians rather than full-time equivalents. The OECD average excludes the United States.

percent) of all office visits to physicians are to primary care physicians, although it includes obstetrics and gynecology, the method used by the National Center for Health Statistics (Centers for Disease Control and Prevention 2014) in its “primary care” physician category. But even without obstetrician-gynecologists, the figure is still just under half (47.1 percent). Twenty-one percent of all primary care visits are to general and family practitioners, and visits to practitioners of internal medicine (14.3 percent) and to pediatricians (11.0 percent) account for 25.3 percent of all physician visits. Among visits to specialists, those to surgical specialists account for about one-fifth (19.5 percent) and those to nonsurgical specialists (including subspecialties of internal medicine and pediatrics) constitute more

Table 5 Physician Office Visits, by Select Physician Characteristics: United States, 2014

Physician category	Percent distribution	Visits per 100 persons per year
Primary care	52.4%	262.2
General and family practice	21.8%	61.6
Internal medicine	14.3%	40.4
Obstetrics and gynecology ^a	5.3%	35.9
Pediatrics	11.0%	124.3
Medical specialty	28.3%	79.8
Surgical specialty	19.5%	55.0

Source: Calculated from data from Centers for Disease Control and Prevention 2014.

Notes: Total visits = 884,707.

^aThe inclusion of obstetrics and gynecology under primary care here deviates from the Association of American Medical Colleges definition used in tables 1–3.

than one-quarter (28.3 percent). Although visits to primary care physicians have declined as a share of all visits, from 66.2 percent in 1980 to 55.2 percent in 2010, while the share of visits to specialists rose from 33.8 percent in 1980 to 44.8 percent in 2010 (Centers for Disease Control and Prevention 2013), in the allegedly hyperspecialized twenty-first-century US health care system, primary care physicians remain the port of first call more than half the time.

Thus, there are also good reasons to believe that many US internal medicine physicians provide similar kinds of care. There is a perception that these physicians deliver a higher intensity of care (more tests and interventions) than do general practitioners. In fact, family practitioners and internists had only small differences in utilization profiles (Greenfield et al. 1992).

As said, many nations rely more heavily on general and family practitioners to act as a first point of entry to specialist services. In the United Kingdom and the Netherlands, for example, patients are required to visit their general practitioner before seeing a specialist, except in emergencies (Schafer et al. 2010: 149). Moreover, as said, US primary care physicians refer patients to specialists more readily than do their colleagues elsewhere: in the United States about one in three patients visiting a primary care physician is referred to a specialist annually, whereas in the United Kingdom only one in seven is referred (Forrest et al. 2002). Moreover, a patient who

visits a US specialist is likely to have subsequent appointments with that same physician, even for routine care, because specialists tend not to refer patients back to primary care physicians (Valderas et al. 2009). This is a key difference between the United States and other countries.

Thus, the Achilles heel of the US system may be care coordination, no matter which provider is referring patients. It is hard to know whether the larger proportion of general and family practitioners in other countries does, in fact, explain the better health outcomes familiarly associated with access to primary care (e.g., Starfield et al. 2005), or whether such factors as the stewardship of the health care system, the scope and depth of coverage, social determinants and the policies that address them, and cultural and behavior also account partly—or predominately—for these outcomes.

Implications for Health Policy

For decades, US policy makers have debated whether and how to change the generalist-specialist balance by means of measures that expand the ranks of the former and/or shrink the ranks of the latter. Specialization confers prestige for physicians everywhere, but other countries have restrained it by adopting supply-side limits on resources or on hospital positions, medical research funds, and admissions into medical school. Across the OECD, government policies crucially shape the supply and mix of physicians.

A significant constraint on policy makers are uncertain forecasts of the future adequacy of the medical workforce, which have swung from surplus to shortage and back again with metronomic regularity. Amid a surplus phase, the US Congress in 1997 capped training slots for allopathic and osteopathic residents in the nation's medical schools. After the Affordable Care Act was passed in 2010, there were calls to revise that policy in the face of forebodings of a shortage (in part attributable to the act's coverage for millions of previously uninsured Americans).

Should policy makers get serious about augmenting the supply of generalists and primary care physicians, they have, at least in principle, levers with which to do so. The main case in point is financing medical training by means of graduate medical education payments by Medicare and (on a smaller scale) Medicaid, the Department of Defense, the Department of Veterans Affairs, and state governments. As of now, medical schools need not offer training in general practice, but they could be required to do so. Medical education payments to institutions could be more tightly tailored to what schools spend on the education of primary care residents and

to the achievement of desirable program outcomes (Rich et al. 2002). The distribution of indirect medical education payments could be calibrated to the attainment of performance standards (Hackbarth and Boccuti 2011).

The federal government can also strengthen financial incentives for physicians to enter generalist fields and primary care. Under President Obama, modest and temporary enhancements in Medicare payments for primary care were included in the Affordable Care Act. How high payments for primary care must rise, and how long these higher payments must be sustained, in order to have a substantial effect on supply is unclear, however. Decisions to specialize depend not only on monetary incentives but also on professional and personal considerations, which include the wish to emulate faculty mentors and role models, eagerness to acquire research grants, and ambitions to make clinical breakthroughs and to publish them in prestigious journals. The weighting of these several variables in particular cases, let alone across the medical workforce, defies easy generalization.

Physicians are not, of course, the only providers of primary care in a modern health care system, so the extent to which the United States and other nations tap the advantages of nonphysician personnel is central to gauging performance. Nurses are a key part of the US system, and their role is increasing. This terrain is difficult to explore, however, for two reasons. First, some nations—for instance, Germany and the Netherlands, which use an expansive “social care” definition of primary care—blur the boundaries between medical care, social care, and related health services (which may escape inclusion in the data on “health care”). Second, even within the medical sector, allied health professionals (who are not included in counts of physicians) may provide primary care that goes unrecorded in tallies of physician care, even if this care gets incorporated in national health accounts. The evidence available indicates that the role of nonphysician personnel in delivering primary care tends to be less developed in the United States than in comparable nations.

By contrast, in the United Kingdom limited prescribing by nurses was introduced in 1998 and expanded in 2006 to include all medical conditions except those requiring controlled drugs (Ettelt et al. 2006). Nurses in the Netherlands have delivered primary care services since 1978 and carry out physical and laboratory examinations, diagnoses, and treatments, usually under the supervision of a physician (Ettelt et al. 2006). Nurses in Sweden work both in physician practices under the supervision of physicians and independently in nurse-led clinics, where they manage chronic conditions such as diabetes (Ettelt et al. 2006). These examples suggest that fuller

deployment of nurses and other nonphysician personnel in the United States might significantly improve access to primary care.

Conclusion

This review of the role of generalists suggests it is important to continually revise the conventional wisdom around the facts (and flaws) of the US health care system. There may be a tendency to confuse characteristics of the US health care system and causes, especially the negative characteristics. In many cases, we adopt reforms (as occurs elsewhere too) based on assumptions rather than data, for example, our knee-jerk opposition to fee-for-service payment, even though it is used widely throughout the world (Marmor and Oberlander 2012).

Recalibrating the US data alongside OECD countries tells a different story, if we both expand our definition of physicians beyond the OECD definition and consider the historical trajectory of other countries, which is converging (albeit at a relatively slower pace), such that classic general practitioners are not necessarily in the majority around the world. This has implications for how we think about primary care providers and the primary care system. In the United States, the erosion of primary care has been defined as a problem of having too few general and family practitioners, but this definition has ignored the role of other factors in the health care system.

Unpacking definitions reveals a distinct politics around the contrast between specialists and primary care that is used strategically to advance policy actors' agendas. Definitions and numerical counts can be used strategically to frame policy issues (Stone 2002), for example, when states require insurers to define obstetricians as "first contact providers" so that patients can go to them without a referral from a primary care provider (Laugesen et al. 2006). The ability of numbers to strategically frame policy debates and the fact that legislators see the definition of primary care as more elastic than do health policy analysts provide an important lesson about the US health care system, which is that definitions themselves may not be accurate.

Definitions are used in discussions of the workforce to make arguments about the US health care system as a whole. Arguments for increased compensation have been made based on the justification that we do not have enough primary care physicians, a more palatable discussion than one of payment policies and the role of physician organizations. On the other hand, internal medicine specialists may have tried to distinguish themselves as having more expertise and deserving of higher fees than primary and general practitioners.

If we acknowledge that we should count physicians not traditionally counted, the future of primary care might look more hopeful. But of course, as I have already stated, the number of providers is only part of the issue. Is primary care a first-contact, point-person model, or is it a reflection of continuity and long-term personal trust with one provider? A key question is whether it is the relationship that matters more, and especially whether it matters more that a practitioner (whether a rheumatologist or a nurse practitioner) is coordinating care than what the practitioner's training or area of expertise is. If we always want patients to have a first point of contact (the quality of care when patients are referred by a physician as opposed to a self-referral), should we not reconsider whether self-referral actually speaks volumes about the variations in quality, rather than the need for patients to have a first contact? Can only general and family practitioners provide those advantages? Should a concerted effort be made to incorporate other professionals such as nurse practitioners by challenging the scope of practice regulations? To what extent has general and internal medicine been separated from general and family practitioners simply on the basis of status? An important question is whether general and internal medicine physicians currently provide the same kinds of coordinated care as general and family practitioners provide in other countries.

The argument here is not, however, simply about terminology. We need to parse these issues before we arrive at ill-suited, conventional solutions that do not address the specific US context.

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