



IMPLICATIONS FOR INSTITUTIONS/POLICY ISSUES

Educating Doctors to Provide Counseling and Preventive Care: Turning 20th Century Professional Values Head Over Heels

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ABSTRACT *Internationally, 20th century medical education concentrated on equipping new graduates with technical skills and pushing the frontiers of technological sciences to extend and enhance life in ways unimaginable in previous decades. In the 21st century, health services are expected to be characterized not by the “fix-up-when-things-go-wrong” type of care that 20th century physicians have become so good at, but by preventive care that can obviate much of the need for these fix-up services. Enabling doctors to deal with the different health care needs of future patients will require a values shift in medical education. The United States leads the world in per capita health care expenditure yet trails in many important measures of health status. It epitomizes many elements of both the good and the bad in current medical education that may be less obvious in other countries that are less wealthy, less technologically oriented, and less committed to individual freedoms. In this paper we use the US as a case study to argue the need for a fundamental shift in values away from the 20th century emphasis on disease, specialization and treatment, and towards health, generalization and prevention. We draw on data from the National Ambulatory Medical Care Survey to compare roles of primary care physicians and other office-based medical specialties in delivering preventive health care. We also estimate the cost of providing preventive care in terms of physician time. Finally, we contemplate how medical education values must change in the US and other countries if 21st century physicians are to be prepared to meet the health care needs of their communities.*

KEYWORDS *Prevention, education, changing values.*

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Moving Past Dated Perspectives of Medical Education

Medical schools are responsible first for educating medical practitioners who are able to meet the health care needs of their local communities. Historically, medical education has been delivered by apprenticeship programs—tending to focus more on conveying to students the lessons derived from teachers' personal experiences than on emphasizing what students need to learn to meet their obligations as doctors in their local community. Recent curricular revisions, particularly in the last decade, have started to reorient medical education to equip students to meet the known and unknown future needs of their patients (Papa & Harasym, 1999; Schwartz *et al.*, 1999). Continuing this process is the challenge for medical educators in the next decades. It must be done if doctors are to fulfill the social obligations that are among the defining characteristics of professions (Wynia *et al.*, 1999).

Medical education in the 20th century developed alongside medical technology (McWhinney, 1981). At the beginning of that century, hospitals were places that housed sick (and mainly poor) people. Wealthy people received care in their own homes. By the end of the century, the reverse was often the case: wealthier people enjoyed the benefits of the latest technology available in hospitals while poorer people had greater difficulty accessing care at this level. Throughout the century, the location of medical schools in hospitals meant that schools focused on *treatments* for the medical problems of patients who make it to their hospitals. This resulted in increasingly sophisticated treatment technologies for more advanced stage diseases (see, for example, Stadtmauer *et al.*, 2000), an overemphasis on the phenomena that occur at the end of life and at times of great clinical crisis, and the relative neglect of the bulk of clinical problems that beset most people most of the time (O'Neale Roach, 2000). This process has distorted budgeting priorities, anchoring much of medicine in hospitals, where most people are not. Such misalignments have occurred in every country, regardless of health system structure, but to different degrees, depending in part on a country's wealth.

There is little doubt that medical technologies will continue to develop to our collective benefit in the 21st century. For instance, the greater effectiveness of gene therapies and the prospect of overcoming the cancer epidemic are reasonable expectations of new medical technologies in the foreseeable future (Court, 1995; Orleans *et al.*, 1998). However, physicians can no longer be educated for meeting their obligations to society where medical education continues to be centered around care that is not often needed, which is provided in hospitals to which a sizeable group of a country's population has limited access, and where people may not attend at the times of their lives when powerful interventions have become available. Population-based, health-related activities outside of hospitals have substantial impact because virtually everyone is affected and in some instances these interventions avert the need for later hospital treatment.

Internationally, the major threats that health systems will need to grapple with in coming years are mainly not amenable to technological intervention. They require lifestyle changes. These are issues related to exercise, nutrition, child development, addiction, stress and other mental health issues (Davis, 2000; Grimley Evans, 2000; O'Neale Roach, 2000). Recurrent calls for medical education to place greater emphasis on these issues have resulted in some reform of some curricula. Yet, overall, legitimized health care systems, especially in the US, continue to produce education programs that emphasize crisis care, end of life care and dramatic care. Preventive care and behavioral and educational interventions have been undervalued and de-emphasized, relative to their importance to health.

Rhetoric for much of the last century notwithstanding, the US has substantial room for improvement in creating a balanced health care system that is staffed by health professionals educated to meet the health care needs of their whole communities. That there are problems with the health system in the US is suggested by the fact that this country leads the world in per capita health care expenditure yet still trails in many important measures of health status (Anderson & Poullier, 1999). One important area of health service activity associated with gains in health status is the delivery of preventive care and counseling services. In the following section, we use existing data from the US to establish current patterns of care provision in this area. This provides a basis for speculating on developments that the existing system might entertain in the future.

Preventive Care and Counseling by Primary Care Physicians in the US

In this section we consider the extent of preventive health care currently provided by office-based physicians (as opposed to those practicing almost entirely in a hospital setting). We use data from the most recently available National Ambulatory Medical Care Survey (NAMCS) (1997). This survey contains physician-reported information from 24,714 patient visits to 1247 offices of office-based physicians (excluding radiologists, pathologists, and anesthesiologists). The survey used a multistage probability sample design with physician practices in the second stage and patient visits to selected physicians in the third stage. Most consultations in this data set (23,939; 96.9%) involved some time spent with a physician. Most visits (92.3%) were with allopathic physicians. The data reported here relate to patient visits that involved time spent with an allopathic physician (22,105 visits; 89.4% of the original survey). To assist transferability of findings to other countries where osteopathic physicians do not have as strong a role in the health system as they do in the USA, data relating to visits with osteopathic physicians were excluded.

Primary care visits were identified as visits with family physicians, general internists, or general pediatricians (7380 visits; 33.4%), consistent with the

Institute of Medicine definition of primary care physicians (Institute of Medicine, 1999). Apart from visits with specialist obstetricians and gynecologists (ObGyns), all other physician visits were denoted as visits with secondary care physicians (12,855; 58.2%). ObGyn visits (1870; 8.5%) were regarded as distinct from both of the other physician groups because the social expectation is that ObGyn specialists will be involved in both primary and secondary health care services.

Overall, most visits were for the care of acute problems (7035; 31.8%), an acute exacerbation of a chronic problem (2162; 9.8%), or routine care for a chronic problem (6577; 29.7%). Non-illness care was the main reason for the visit in 3542 cases (16.0%). With increasing age, the proportion of visits for non-illness care decreased (from 31.1% of visits for children aged 0–4 to 8.7% of visits made by people aged over 64) and the proportion of visits for care for chronic problems increased.

A substantial minority of visits (5856; 26.5%) involved prevention and counseling in the areas of diet or nutrition, exercise, HIV/STD transmission, contraception, prenatal care, breast self-examination, tobacco use, growth and development, mental health, stress management, and skin cancer or injury prevention. Table 1 shows the proportion of total visits involving different types of preventive and education services, by type of medical specialty. A higher proportion of total visits with physicians working in obstetrics and gynecology, psychiatry, and cardiovascular medicine reported the preventive and counseling issues examined (46.9% of all ObGyn visits; 40.2% of all visits with psychiatrists; 39.4% of all visits with cardiovascular specialists). Family practice was the specialty providing the most visits related to health promotion in all areas (1514), followed by ObGyn specialists (1471) and pediatricians (1409). Primary care physicians (including family physicians, general internists and general pediatricians) provided 42.7% of all these preventive care visits and ObGyn provided a further 15.8%.

Primary care physicians provided more of the visits involving diet/nutrition counseling, growth development, and injury prevention than were provided by physicians in other office-based specialties. Specialists in ObGyn provided most visits involving sexually transmitted disease education, contraception advice, prenatal education and counseling in breast self-examination. Psychiatrists provided the majority of visits related to mental health preventive services and dermatologists provided the majority of visits related to skin cancer prevention.

Family physicians provided more of the visits involving exercise counseling, tobacco use education, and stress management than any other specialty. In almost all other prevention and counseling categories examined (including issues related to obstetrics, gynecology, and mental health), family physicians were the second most frequent providers. Pediatricians, orthopedic specialists and family physicians were the first, second, and third most frequent providers of visits relating to injury prevention, contributing 38.3%, 16.0% and 15.4% of these visits, respectively.

Table 1. Preventive health services by physician specialty (% of visits involving each prevention activity that were undertaken by each specialty)

	Primary care specialties					All other office-based medical specialties								
	<i>N</i> visits (% of all visits)	Family medicine	Internal medicine	Pediatrics	All primary care specialties	General surgery	Obstetrics and gynecology	Orthopedics	Cardio-vascular medicine	Dermatology	Urology	Psychiatry	Neurology	All other
Diet/nutrition counseling	2995 (13.5)	514 (17.2)	465 (15.5)	573 (19.1)	1552 (51.8)	125 (4.2)	320 (10.7)	2 (0.1)	436 (14.6)	16 (0.5)	65 (2.2)	7 (0.2)	33 (1.1)	439 (14.7)
Exercise counseling	2202 (10.0)	392 (19.4)	307 (15.2)	122 (6.0)	821 (40.6)	67 (3.3)	182 (9.0)	263 (13.0)	337 (16.7)	5 (0.2)	32 (1.6)	8 (0.4)	43 (2.1)	264 (13.1)
Mental health	695 (3.1)	78 (11.2)	30 (4.3)	32 (4.6)	140 (20.1)	4 (0.6)	20 (2.9)		15 (2.2)	1 (0.1)	3 (0.4)	486 (69.9)	11 (1.6)	15 (2.2)
Growth development	494 (2.2)	44 (8.9)	3 (0.6)	413 (83.6)	460 (93.1)	5 (1.0)	13 (2.6)	3 (0.6)			1 (0.2)	1 (0.2)	3 (0.6)	8 (1.6)
Injury prevention	494 (2.2)	73 (15.4)	32 (6.5)	189 (38.3)	294 (59.5)	15 (3.0)	10 (2.0)	79 (16.0)	8 (1.6)	6 (1.2)	2 (0.4)		25 (5.1)	52 (10.5)
Stress management	458 (2.1)	108 (23.6)	57 (12.4)	18 (3.9)	183 (40.0)	5 (1.1)	29 (6.3)		53 (11.6)	6 (1.3)		87 (19.0)	27 (5.9)	68 (14.8)
Skin cancer prevention	457 (2.1)	30 (6.6)	15 (3.3)	21 (4.6)	66 (14.4)	14 (3.1)	4 (0.9)	1 (0.2)		331 (72.4)		1 (0.2)	1 (0.2)	39 (8.5)
Tobacco use	446 (2.0)	119 (26.7)	73 (16.4)	26 (5.8)	218 (48.9)	33 (7.4)	40 (9.0)	2 (0.4)	66 (14.8)	3 (0.7)	6 (1.3)		7 (1.6)	71 (15.9)
Prenatal education	420 (1.9)	23 (5.5)	3 (0.7)	1 (0.2)	27 (6.4)		370 (88.1)		1 (0.2)	1 (0.2)		1 (0.2)		20 (4.8)
Breast self-examination	403 (1.8)	63 (15.6)	33 (8.2)	4 (1.0)	100 (24.8)	50 (12.4)	222 (55.1)		2 (0.5)					29 (7.2)
Contraception	272 (1.2)	43 (15.8)	15 (5.5)	7 (2.6)	65 (23.9)	5 (1.8)	183 (67.3)			3 (1.1)	12 (4.4)	1 (0.4)	1 (0.4)	2 (0.7)
HIV/STD education	143 (0.6)	27 (18.9)	16 (11.2)	3 (2.1)	46 (32.2)	1 (0.7)	78 (54.5)		2 (1.4)	8 (5.6)	2 (1.4)	1 (0.7)		5 (3.5)

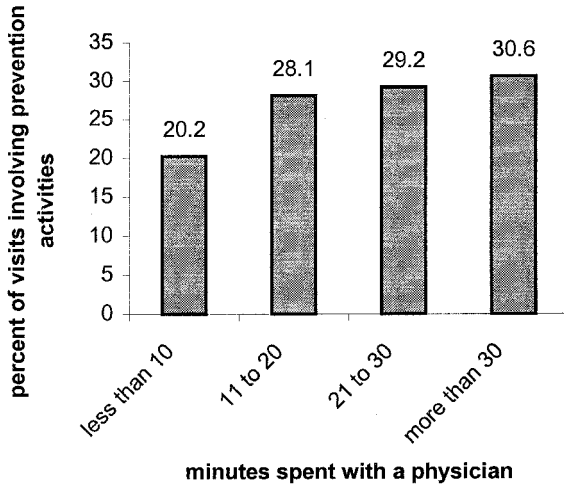


Figure 1. Percentage of visits involving a prevention activity by time spent with a physician.

Time Spent with Patients

The time spent in a patient/physician visit provides a measure of the opportunity to deliver preventive and education health care. The education and prevention activities listed in Table 1 were a component of 26.5% of all 22,105 visits examined. In the 22,105 visits, the mean amount of time spent with a physician was 20.2 minutes (median and mode = 15.0 minutes). The likelihood of addressing at least one of the listed prevention activities increased with increasing time spent with a physician (Figure 1). Including a prevention activity in the consultation added only 1.4 minutes to the mean consultation time overall.¹

Implications for Medical Educators

These results from the US cannot be assumed to apply to other countries for at least two reasons. First, in most other countries general practitioners (and not internists or pediatricians) deliver ambulatory care in the community. Additionally, the usual length of consultations also differs between countries: in some European countries, consultation times may be shorter than in the US while in others, such as Australia and New Zealand, they may be longer. Nevertheless, this US case study is presented as an example that may have implications for medical educators in countries outside the US as well as those within.

Notable among the results of the above analysis is the relative infrequency of physician-reported visits involving education or counseling. Other studies involving direct observation of counseling and prevention activities in primary care report slightly higher rates of 32% (Flocke *et al.*, 1998) and 38% (Goodwin *et al.*, 1999), suggesting that reports in the NAMCS may underrepresent the level

of care actually provided. Nevertheless, visits involving memorable (to the physician) items of counseling or preventive education are likely to have been included.²

The adverse health consequences of tobacco use have been well documented and publicly debated for many years and there exists a literature in support of the effectiveness of opportunistic smoking cessation education provided by physicians (Orleans *et al.*, 1998). Yet even in this area, only 2.1% of all visits included advice or counseling. Notable also are (on the one hand) the clear boundaries between medical specialties in the scope of their activities and on the other, the overarching scope of the activities of primary care (and family medicine in particular) to include the activities of other specialties. These two findings suggest that there is room for more frequent inclusion of counseling and education in health care visits. Furthermore, particular ownership of this responsibility by primary care providers might be more effective in its implementation than a decision that, for example, education about skin cancer was the responsibility of dermatologists or counseling on mental health was the responsibility of psychiatrists. Certainly, education in these specialty areas does reside in the domain of specialist physicians, but an acknowledged, shared responsibility with primary care physicians may result in the responsibility being met more often.

The results of this 1997 survey may already provide estimates that are too low for current (year 2000) physician involvement in preventive care activities. This may be due not only to underreporting, but also to changes in medical school curricula. In the past decade many medical schools began producing graduates who received more teaching of “evidence-based medicine” and who will practice more preventive medicine. Whatever number of graduates are steeped in this paradigm are new to the practicing physician community and were likely uncommon among the providers in the sample of visits chosen for this survey in 1997.

The second implication is that an increased emphasis on educating physicians who will practice in primary care is needed in the US. This finding is likely to apply to other countries as well, because the medical education systems of most countries are still founded on hospital-based medicine. This analysis confirms that in the US primary care already provides most visits involving counseling and preventive services and fills in the gaps—the important health prevention activities that are not claimed by any individual specialty. This is where there is room for growth. We refer again to smoking cessation education as an example. Primary care physicians in the US could be more aggressive in championing this cause. Perhaps they have not been so far because this has been left up to cardiovascular specialists, or perhaps competing demands at any given visit (the unit of analysis here) make it an unlikely component of routine care (Jaen *et al.*, 1997). However, cardiovascular specialists do not see the people who are seen in primary care—the people for whom early smoking cessation education could save lives. A similar problem exists with the interface between primary care

physicians and ObGyn specialists. If primary care physicians adopt a mindset that accepts that all obstetric-related services will be delivered by ObGyn specialists, they will let skip the opportunity for important, life-saving preconception prevention education such as advice about folic acid (MRC Vitamin Study Research Group, 1991; Czeizel & Dudas, 1992). ObGyn specialists tend to see women *after* they become pregnant, although the intervention needs to be received *before*.

A further message is that consultations involving prevention and counseling take more physician time, but not much more—only a minute and a half. Whereas in this analysis preventive care was a component of only one out of every five consultations of 10 minutes duration, for consultations of between 11 and 20 minutes duration, almost one in three involved a prevention activity. This rate was not much more elevated in consultations of 21–30 minutes or in those that were more than 30 minutes. Other research has confirmed that attending to preventive care adds only one or two minutes to a routine primary care consultation (Jaen *et al.*, 1998; Stange *et al.*, 1998; Goodwin *et al.*, 1999). Educators could start by educating their students to expect to spend (slightly) longer with their patients as they accept the responsibility of preventive care.

Conclusion

In the fragmented US health system, we can confirm that medical specialists are providing preventive and counseling care within their professional scope, in some visits with patients. Primary care physicians also provide some preventive care and counseling. Overall, however, the preventive care provided in the US in 1997 was probably too little (considering the potential these interventions have for health benefit) and too late (if not attended to by primary care physicians). Abundant opportunities remain for improving health in the community by providing more of such services, at a modest time cost. Because of the scope of their practices, these opportunities apply most to primary care providers, particularly family physicians. Medical educators can help improve on the current situation by reorienting the values they impart to their students. How well they do this will be a measure of the success of health systems in the coming years.

Notes

1. It is important to emphasize that this doesn't necessarily mean that 1.4 minutes was devoted to prevention. We only know that the average total length of these visits was that much longer. Given that effective prevention can seldom be done in such a short amount of time, it is likely that many of these physicians traded off time from other activities so as to include their prevention efforts.

2. We must emphasize that we have no information on the adequacy of the education or prevention services provided.

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