Social Science & Medicine 67 (2008) 1492–1496

Contents lists available at ScienceDirect

Social Science & Medicine

journal homepage: www.elsevier.com/locate/socscimed

Commentary

Oh look, there is a doctor after all: About the resilience of professional medicine: A Commentary on McKinlay and Marceau's 'When there is no doctor'

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ARTICLE INFO

Article history:
Available online 11 August 2008

Keywords
Primary care
Doctor–patient relationship
Guidelines
Health care
USA
The state
Consumerism

Pity the next generation. Our children and grandchildren, high with a fever or fighting the throbbing pain of an ear infection, knock on the door of a primary care physician to find the door closed. The things their elders tended to grouse about – long waits, hurried doctors, and stale magazines – are no longer relevant because their trusted doctor has skipped town. In McKinlay and Marceau's bleak futurama "When there is no doctor: Reasons for the disappearance of primary care physicians in the U.S. during the early 21st century" (McKinlay & Marceau, 2008) the primary care physician will have all but disappeared by 2025. The extinction is caused by a neoconservative state that exposes medicine's professional "market shelter" to the Wild West of economic forces (Freidson, 1994); educated patient populations with complex chronic conditions who either rely on self-care or specialized care; competition of cheaper health care workers; the erosive power of clinical practice guidelines; the demise of the physical exam; and the drudgery of being a first-line physician. It is important to be clear about McKinlay and Marceau's prediction. They envision a world without primary care *physicians* but not necessarily without primary care. Rather than knocking on the family doctor's office, our offspring may take care of their health needs by logging on a computer and communicating with a physician. While doing their weekly shopping, they may skip into a clinic attached to a store staffed by nurses or non-physician clinicians to take care of aches and pains. Or, they may visit a specialist right away.

Our future kin is thus not left at their own devices. The only change predicted by McKinlay and Marceau is that it becomes increasingly unlikely that they will see a primary care *physician*. Even on this point, the authors hedge a bit. They acknowledge that patients may still consult a primary care physician trained in a different country. They leave it ambiguous whether being treated by a foreign-trained physician is a good development or implies a drop in the quality of care.[1] Generally, however, their article suggests

DOI of original article: 10.1016/j.socscimed.2008.06.034.
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[1] The consensus in the medical literature is that employing doctors from developing countries in the U.S. is particularly devastating for the health care infrastructure of the sending countries. Many graduates from foreign schools are actually U.S. citizens.

0277-9536/$ – see front matter
doi:10.1016/j.socscimed.2008.07.010

that the retreat of physicians is a loss for primary care. I would like to evaluate their argument on scientific and health grounds. First, I give an overview of the current supply of primary care physicians in the USA.[2] Second, I examine the plausibility of McKinlay and Marceau's futuristic scenario: do all the factors inevitably lead to a disappearance of the primary care physician? Third, I ask whether it matters for the quality of primary care that physicians recede from the health care field.

Primary care in the U.S.

If the primary care physician was threatened with extinction, we would expect professional organizations to ring the alarm bell. In contrast, a policy group associated with the American Academy of Family Physicians announced:

> In 2004, there were 91,600 family physicians and general practitioners and 222,000 primary care physicians actively caring for patients, one for every 1,321 persons. These primary care physicians represent the largest and best-trained primary care physician workforce that has ever existed in the United States (Green, Fryer, et al., 2005, p. 2260).

Medical recruiters observed that demand for family physicians has been rising in 2003 and workforce studies suggest supply and demand are currently in balance (Champlin, 2005). However, the American College of Physicians, the umbrella organization for internal medicine, presented impending doom: "primary care, the backbone of the nation's health care system is at grave risk of collapse" (quoted in Bodenheimer, 2006, p. 861). To add further confusion, health economists have offered three different forecasts for the primary care physician workforce in 2020 with a supply-demand model suggesting sufficiency and a need-based model predicting serious shortages of primary care physicians in the next decades (Green, Dodoo, et al., 2005).

What are we to make of these different professional assessments and predictions? The literature suggests several overlapping trends:

1. *Over the past half a century the supply of physicians has doubled while leveling off in the past decade.* In 1960, the ratio of physicians per 100,000 population stood at about 140, by the end of the century the ratio was approximately 270 (U.S. Department of Health and Human Services, 2006). In the 1980s and 1990s, most observers agreed that the U.S. was training adequate numbers or even a surplus of physicians. A decade later, the consensus changed that the U.S. may have a shortage of physicians in most specialties. The fear in times of shortage is that primary care is the first specialty to suffer. In fact, primary care specialties have ebbed and flowed over the intervening period but no persistent declines in primary care have been observed (Brotherton, Rockey, & Etzel, 2005; Salsberg & Forte, 2002). For the last 30 years, the proportion of active physicians in primary care has been stable at just below 35%, although the proportion of sub-specialities has fluctuated (Macinko, Starfield, & Shi, 2007). In 1995, there were 80 primary care physicians per 100,000 population, in 2005 the rate increased to 90. While different organizations have produced different ratios, they seem to agree on the general trends. The ratio of primary care physicians increase outpaced the growth in specialists (Steinwald, 2008, pp. 7–8).
2. *There is an unequal regional distribution of primary care physicians in the U.S.* Most observers agree that generally physicians are geographically unevenly distributed with physicians preferring to work in wealthy urban or suburban areas with a sufficient patient load. The undersupply of primary care physicians in rural areas could be worsening but this is dependent on the method of assessment. Previous studies may have overestimated the extent of physician unequal distribution because they did not take into account that patients may cross county boundaries to access health care (Rosenthal, Zaslavsky, & Newhouse, 2005).
3. *While the current training of primary care physicians assures a steady supply of qualified physicians, some observers expect that the demand for primary care physicians will outpace the supply.* The major evidence mustered for a shortage is residents' and fellows' choice of primary care specialties. Yet, actual figures paint a nuanced picture. While the most recent figures show that fewer U.S. trained MDs specialize in primary care medicine than a decade ago, the total number of primary care residents has increased. Doctors of Osteopathy and foreign-trained doctors have more than offset the retreat of U.S. trained MDs from primary care. The data suggest that primary care specialties may be peaking, but are not necessarily declining (Brotherton et al., 2005). Assuming that physicians practice for 30–40 years, the current crop of residents in primary care guarantee a steady supply of primary care physicians beyond 2025. A second reason for a physician shortage is the demand for primary care with a growing elderly population and chronic disease. This prediction, however, would not lead to an abandonment of primary care by physicians but suggests that the current supply of physicians is insufficient to meet a growing demand. Medical recruiters suggest that family physicians may expect higher salaries in the near future (Hawkins, 2005).

The notion of primary care physician shortage and surplus presumes an "ideal" patient-care provider ratio and such workforce estimations are open for debate: "Evidence has always had a minor role in shaping physician workforce policy. The majority of workforce analyses are exercises in projecting supply and requirements adjusted for various factors" (Goodman, 2005, p. 108). Looking closely at the figures suggests that, while primary care

[2] The Bureau of Health Professions of the Health Resources and Services Administration defines primary care physicians as those from the specialties of family medicine, internal medicine, obstetrics/gynecology, pediatrics, and combined internal medicine/pediatrics. Not all studies include all these specialties.

specialties remain under stress and longstanding regional shortages persist, predictions about pending demise of primary care are exaggerated. In fact, the demand for primary care remains strong and the supply of primary care physicians is robust for the near future. This healthy situation is not limited to primary care *physicians*: reviewing the entire primary care field, the United States Government Accountability Office informed lawmakers in February 2008 that "the supply of primary care professionals has increased between 1995 and 2005, with the supply of non-physicians increasing faster than physicians. The number of primary professionals in training programs also increased" (Steinwald, 2008, p. 4).

Will primary care physicians disappear?

Presidents, medical leaders, and health care academics have an embarrassing record of missed predictions about the future state of the health care field (Ginzberg, 1999). Social scientists of all persuasions are also hard pressed to make predictions. In the 1980s, McKinlay joined scholars who predicted, contra Freidson, that the medical profession was in a spiral of decline (McKinlay & Arches, 1985). Two decades later, it has been very difficult to empirically settle the basic question of whether the medical profession has gained or lost power. As Freidson put it, "some are saying 'the cup is half empty,' and others 'the cup is half full.' More important, most talk past one another because they are not attending to the same data" (Freidson, 1993, p. 32). Still, the dire predictions of the decline of the medical profession have missed their mark. If anything, the last 30 years have demonstrated a remarkable resilience of the medical professions. Large policy initiatives aimed at redistributing power and money in the USA such as Medicare, Medicaid, managed care, the rise of the pharmaceutical industry, and the various health care reform initiatives were mourned as the final nail in the coffin of professionalism. Ultimately, the medical profession did change but the change did not imply a clear loss of professional power.

The recent history of health care contains an untold story of professional resilience in light of profound challenges. One of the best examples of this resilience is the medical profession's appropriation of clinical practice guidelines for their own purposes. McKinlay and Marceau attribute great causal powers to clinical practice guidelines and single the development of these guidelines out as one of the causal forces that will drive primary care physicians away (McKinlay & Marceau, 2008). Clinical practice guidelines are standardized lists based on the best available scientific evidence that provide guidance for how clinicians should treat patients. Thus, a clinician wondering about the latest care for asthma patients may consult national guidelines (NHLBI, 2007). McKinlay and Marceau argue that clinical guidelines erode professional autonomy and are attractive cost-cutting tools. This argument builds further on a list of predictions where clinical practice guidelines offer third parties a handle on the content of medical work and thus direct how medical practice will be conducted. Courts, insurance companies, and bureaucrats will be able to second-guess physicians and deny care on neutral, scientific grounds. This scenario has been portrayed before in the sociological literature (e.g., see Hafferty & Light, 1995). Unfortunately, it overstates the ability of these guidelines to affect clinical practice.

The rise of clinical practice guidelines depends to a large extent on the collaboration of the medical professional organizations. The overwhelming majority of guidelines are constructed by professional groups and independent government agencies employing medical professionals (Timmermans & Kolker, 2004). Insurance companies and other business interests create only a small minority of guidelines. Rather than an invasion of business interests, the guidelines reflect the stratification of the medical profession into physicians-bureaucrats and clinicians. Even more importantly, these guidelines have a marginal effect on contemporary clinical practice. Compiling the best evidence and publishing under the imprimatur of professional organizations have been insufficient to generate long lasting change. Meta analyses of the implementation of clinical practice guidelines have concluded that there is only about a 50% chance that a clinician will follow a practice guideline (Burstin et al., 1999; Grol, 2001). The reasons for this low "adherence" of clinicians to their own guidelines are complex (Armstrong, 2002; Timmermans & Mauck, 2005) but the explanation includes a build-in professional tension: professionals maintain autonomy over their work and they do not take advice, even from their own organizations, easily. The difficulty of changing professional behavior has long been a vexing conundrum for pharmaceutical companies, but in the aftermath of evidence-based medicine other interested parties have learned this lesson as well. Even linking guidelines to financial incentives in pay-for-performance schemes has had limited success in improving health outcomes (Glickman et al., 2007). Thus, practice guidelines have not been the detriment to professional interests that McKinlay and Marceau predict.

Regardless of whether the factors listed by McKinlay and Marceau will come to pass and threaten primary care, the unknown issue is how the medical professionals will react. McKinlay and Marceau present primary care physicians as recipients of external forces but a more appropriate metaphor is the profession as an aggressive countervailing power (Light, 2000). The current influx of specialization in health care has largely been attributed to an unintended effect of the introduction of government-backed educational standards in the aftermath of the Flexner Report[3] (Starr, 1982). Even in that case, however, the government did not act autonomously but aligned itself with professional interests and private foundations.

Government action has and could continue to make primary care attractive for a large proportion of physicians. The prediction that primary care physicians will disappear has been made with great urgency since the 1970s. Public policy and funding agencies responded with various initiatives: the National Health Services Corps, for example, offers loan repayments and scholarships for clinicians interested in primary care and has more than 4000 clinicians

[3] The Flexner Report of 1910 excluded and proposed future guidelines for medical education in the USA.

targeting medically underserved areas.[4] Title VII of the Public Health Service Act provides grants to institutions, student scholarships, repayment of educational loans and research to increase the number of primary care professionals, to improve the distribution of health professionals in underserved areas, and to increase medical student diversity. In addition, there has been a concerted effort to bring international medical graduates into the country. When fears of an oversupply of physicians emerged in the 1980s, efforts were undertaken to limit foreign-trained medical graduates but make more residency slots for primary care available in medical schools. Government is not the only force at work here. Health maintenance organizations saw primary care physicians as necessary gatekeepers for access to more expensive specialists and have stimulated the demand for primary care physicians (Cross, 2007). In addition, some professional organizations have pursued a deliberate strategy of specializing in primary care. Notably obstetricians/gynecologists have tried to corner the primary care market for female patients (Johns, 1999). Professionals may react to these incentives as intended or they may aim to counteract them on their own or through alliances. The counterfactual wisdom is that without government and private stimuli, primary care would be in a worse condition. Of course, government initiatives work in contradictory ways: reimbursement schemes still provide a financial incentive for specialization.

Professional groups may disappear. Once highly regarded and seemingly indispensable professions have now mainly historical value (Abbott, 1988). The key issue in disappearance is that the need for their services has vanished or that other professionals have taken over the jurisdiction. With the need for primary care unabated, in the most unfortunate professional scenario others perform the work of primary care physicians. In a couple of decades, patients may be less likely to find a primary care physician because the demand for primary care is too large for the current supply of primary care physicians but they still may find physicians who take care of them. Studies suggest a hidden system of primary care with physicians trained as specialists providing general primary care to their patients (Fryer et al., 2004; Rosenblatt, Hart, Baldwin, Chan, & Schneewiss, 1998).

In sum, McKinlay and Marceau base their workforce predictions on the presence of structural health care factors and developments that conspire to making primary care physicians disappear. However, the factors listed do not necessarily undermine professional interest but may be appropriated to strengthen professional positions. Rather than predict, we may want to "retrodict" and examine how similar forecasts about the demise of primary care have been dealt with. In the past, the decline in primary care was countered with government, private, and professional initiatives that succeeded in stemming the decline. Finally, other physicians and health care providers may jump into the breach of unfilled needs and provide primary care. Over the past century, health care reformers have learned costly lessons when they underestimated the resilience, political capital, and adaptability of the medical professions.

[4] http://nhsc.bhpr.hrsa.gov/about/. Accessed 22.02.08.

Do primary care physicians matter for population health?

Here is the real paradox: the U.S. relies more than other countries on specialists but has over the last decades poured resources in making primary care more attractive. Still, the country keeps lagging on all major health indicators. Are primary care physicians part of the problem or are they the solution for improving health? McKinlay and Marceau present a *professional* argument by predicting the decline of primary care physicians. The more important *health* issue pertains to the contribution of primary care in improving population health.

A recent literature review demonstrates with rare consensus that an investment in primary care physicians pays dividends for population health:

> ecological measures of primary care physician supply are consistently associated with improved health outcomes regardless of the year, level of analysis, or type of outcome studied. A one-unit increase in primary care supply (one primary care provider/10,000 population) resulted in improvements in all health outcomes studied, with a range of 0.66 to 10.8 percent improvement, depending on the outcome and the geographic unit of analysis … Race stratified analyses suggest that potential reductions in mortality would be greater for blacks than for whites (Macinko et al., 2007, p. 119).

The health benefits of primary care physicians reside in their ability to improve primary prevention, detect disease early, and improve the efficiency of the health system.

Still, we can offer two qualifiers to this conclusion. First, primary care physicians have ample room to improve the quality of their care. In the era of evidence-based medicine, clinicians are presumed to provide care uniformly and according to the best available medical knowledge (Timmermans & Berg, 2003). Yet, small area variation studies have shown great dissimilarity in the kind of care provided in the U.S. (Wennberg, 1999). This problem persists among primary care physicians. Treatment for urinary tract infections, for example, is specialty and geographic location-specific (Wigton et al., 1999). Primary care physicians are also less likely to implement national asthma guidelines (Finkelstein et al., 2000; Gipson, Millard, Kennerly, & Bokovoy, 2000). A study checking adherence to quality indicators among primary care providers concluded that "many clinical practice guidelines for chronic illness are not followed for a majority of patients and that large majorities do not reach desired clinical outcomes" (Ornstein & Jenkins, 1999, p. 625).

Second, are the positive benefits specific to primary care physicians or would other providers be able to do the job as well? Physician assistants and nurse practitioners, for example, provide primary care in a way that is similar to physician care (Hooker & McCaig, 2001). Some of the developments listed by McKinlay and Marceau such as telemedicine, nurse triaging, complementary medicine, and retail walk-in clinics may lead to superior health benefits. Primary care may thus matter more than primary care physicians.

Conclusion

McKinlay and Marceau are correct in pointing out the importance of primary care for population health. Yet, future generations of Americans should not be too worried that they will lack access to primary care, including qualified physicians. Due, in part, to vigilant advocacy of medical professional organizations, cost-conscious health payers, and government policies, there is currently a solid supply of primary care physicians and primary care residency programs remain well populated. Even if the demand for primary care outstrips the supply of primary care physicians, other specialists and non-physician health care providers are likely to fill the gaps. If their feistiness in the past century is any indication, the medical professions have shown great resilience in maintaining their market position.

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