

# American Competitiveness and the Health Care System

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## *Introduction*

One impetus behind the drive to address the ills of the American health care sector has been a linkage between that sector's performance and the competitiveness of the American economy. In the early days of the Obama administration, then-White House Chief of Staff Rahm Emanuel made the case on CBS' Face the Nation:

“The health care system is a particular example where America's economic competitiveness, its strength around the world is sapped because we have a health care system that doesn't allow American workers and business to compete.”(Sweet 2009)

While the debate over health care reform that ensued may have been highly partisan, the tie between health and competitiveness was not. In a speech in late 2007, Sen. John McCain (R-AZ) said:

“You and I both know that rising health care costs are a threat to our global competitiveness, a threat to our families' budgets, a threat to our government's solvency, and a threat to the profitability of American business.”(McCain 2007)

Academic studies have also pointed to the deleterious economic impact of high and growing health spending. For example, Sood et al. estimated that a 10% increase in excess growth in health care spending (defined as outpacing gross domestic product growth) would cause a loss of 120,803 jobs, a \$28bn decline in gross output and \$14bn in lost value added to GDP. (Sood et al. 2009)<sup>1</sup> Baicker and Chandra estimate that the portion of the 40% increase in health insurance premiums between 1996 and 2002 may have caused up to a 6% decrease in employment and an 8% decrease in full-time work for the employed. (Baicker and Chandra 2005)

The importance of the health sector *writ large* to the broader American economy is striking. In 2007, the United States spent 16 % of its income on health care. (OECD 2010) That is significantly more than the

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<sup>1</sup> It must be noted that these studies are, as the authors acknowledge, based on partial equilibrium analysis. The authors are careful not to make claims about the aggregate impact of health insurance costs on the overall economy.

11% share spent by France in 2007, the next most health care-intensive country, and more than triple the 5.9% spent by Mexico, the OECD country with the lowest share of GDP devoted to health care. By 2009, the US share had risen to 17.3%.

These figures highlight one way in which the American system of health care delivery differs dramatically from that in other countries: it consumes substantially more of our national income. Of course this does not necessarily imply the American health care system is inefficient. Americans can legitimately choose to spend their income on a different bundle of goods and services than other countries. While spending patterns alone do not prove there is an efficiency problem, for a range of reasons, discussed below, we will argue that in fact the American health care system generates higher spending than the outcomes warrant. This may reflect inefficiency in production or consumption or it may reflect a transfer from consumers to producers that does not necessarily imply inefficiency in a strict economic sense. It is likely both phenomenon are occurring. Yet because even in the latter case we spend more than is justified by output, we will label both as inefficient.

This inefficiency does not necessarily imply that the costs of the U.S. health care system adversely affect U.S. competitiveness. Specifically, the U.S. system relies heavily on private provision of health insurance, particularly through employers. Thus the costs of health care appear on employer financial statements, which gives the impression that employers pay for health care. Moreover, other features of our system beyond costs, including the reliance on employer financing as opposed to a tax-financed system, may affect competitiveness. Given the integrated global economy, employer financing of health care has fed the perception that health care spending, and more broadly our health care system, significantly adversely impact America's ability to compete internationally.

However, the arguments linking health policy and American competitiveness are often loose and suggestive, rather than rigorous. Most competitiveness arguments fail even to define the term "competitiveness." It is used simply as a device to add urgency. A looming problem is more alarming if it portends national failure.

Paul Krugman, over a decade ago, challenged the wide-spread use of the term "competitiveness" as a motivator for domestic policy reform (Krugman 1994). He presented a series of arguments for why the analogy of

competition was flawed when applied to countries. Krugman also argued that unlike a corporation, which ceases to exist if its market position is uncompetitive or unsustainable, a country will continue even when it is faring worse than its neighbors.

Krugman highlighted a distinction between productivity, which refers to the output a country can produce in absolute terms, given its endowments of resources, and competitiveness, which refers to a country's ability to win some particular contest. There are many actions a nation may take to enhance its productivity. Because these actions will drive the level of national output, they will necessarily affect a country's relative standing in international tables. In this light, countries are only serving as points of comparison, not truly competing.

Mindful of this critique, this paper attempts to disentangle the arguments surrounding competitiveness and health care and thereby provide a framework for both future research and for more fruitful policy debate. We adhere to a rigorous definition of competitiveness and distinguish between those policies that are truly directed at international competition and those that primarily address national productivity. To do so, we outline taxonomy of the routes by which health care policy is likely to have a broad economic impact. Although there have been vigorous recent debates about changes to the U.S. health care system, this is not an analysis of those changes. Rather, it considers how the distinctive and persistent features of the U.S. health care system affect competitiveness.

Our analysis is focused on the 'competitiveness' of the nation, and not the competitiveness of any industry or segment of the economy. In a general equilibrium framework, a given industry within a country may not be competitive, but that does not necessarily imply the country is not competitive. This focus is important because certain aspects of a country's system may disadvantage some industries, but not others. In fact, the standard theory of comparative advantage in trade economics argues that an open economy (relative to a closed economy) will do just this – boost some sectors, diminish others, all while increasing national welfare. This does not preclude the possibility that there are international competitions and that health policy can affect their outcome, but it raises the bar. Our contention is that even if the American health care system adversely affects the competitiveness of some industries, it may not reduce aggregate American competitiveness.

The next section discusses the distinction between competitiveness and productivity and reviews the efficiency of the US system. Section 3 considers the dimensions in which we are likely to see global competition and suggests how health policy could factor in. Section 4 provides a comparison of international approaches to health care in light of the preceding discussion. Section 5 concludes.

### ***Productivity versus Competitiveness***

#### **Defining the Concept**

The lure of the competitiveness analogy is strong. Whether watching a World Cup soccer match or two businesses vying for market share, we are thoroughly steeped in the schema of competition. Competitors struggle for dominance. Adopting better policies, whether improved training techniques or innovative policies, can make one side more competitive than the other. The more competitive side is likely to win, the less competitive side to lose.

A defining feature of such competitions is that they are zero-sum. One soccer team emerges as the champion, the rest do not. This domination need not be total, of course. One firm could emerge with 80 percent market share while its less-competitive rival emerges with 20 percent, but either firm's gains must come at the other's expense.

Invoking the specter of international competition can be particularly effective in stirring a nationalistic audience to action. In international economic policy, however, it is also particularly problematic. Trade relations between countries are generally not zero-sum; countries can all grow and benefit. There are numerous examples in which the practices one nation adopts to enhance its productivity have a *positive* effect on the well-being of other nations.<sup>2</sup> Even if there are no such beneficial spillovers, it is difficult to find the international equivalent to losing a competition. As Krugman so aptly noted, countries do not go out of business the way corporations do.

For the purposes of discussing health care policy and its economic impact, we draw a distinction between those measures that affect

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<sup>2</sup> As one example, see Coe, D.T., Helpman, E. and Hoffmaister, A.W. 1997. North-South R&D Spillovers. *Economic Journal, Royal Economic Society* 107(440): 134-149. They find that research and development activities in developed countries enhance productivity in developing countries.

productivity and those that affect international competitions. The latter are easiest to define:

**Definition 1:** A government policy improves a country's competitiveness if it boosts one country's well-being at the expense of other countries.<sup>3</sup>

In practical terms, this means that competitiveness arguments should be able to identify the prize for which a country is competing. We will defer a more thorough discussion of competitions that meet this criterion to the next section, but legitimate examples of 'prizes' could include the location of a factory, rents in an imperfectly competitive industry, or the residency of a particularly desirable group of individuals.<sup>4</sup>

To make the competitiveness term meaningful, we rule out prizes such as the honorific titles "most productive" or "most improved." These are frequently the implicit prizes in discussions that center on improving the U.S. standard of living, infrastructure, or employment rate. These we will classify under the broad rubric of "productivity." This is not to minimize this objective in any way. Improving the domestic standard of living is and should be the principal objective of economic policy. For contrast, we can state:

**Definition 2:** A government policy affects a country's productivity if it boosts one country's well-being without reducing the well-being of other countries.<sup>5</sup>

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<sup>3</sup> More generally, we can think of changing the probability distribution over potential outcomes.

<sup>4</sup> In some ways, the narrower definition of competitiveness that we adopt may seem paradoxical. If we imagine, for a second, that every industry in a country produces internationally traded goods and services, then how can it be that each industry is engaged in an international competition while the economy as a whole — the sum of all those parts — may not be? The answer depends on linkages between the sectors that drive general equilibrium effects. Before all sectors could lose competitions, the losses of some would drive down costs for the others. Conversely, before every sector could win at its international competition, the incipient expansion of output would tax limited resources and drive up costs, causing some to contract. Thus, cut-throat industry-level competition can coexist with ensured national survival.

<sup>5</sup> We are using national productivity loosely to describe gains that do not stem from international contests. There are more precise definitions common in the study of national accounts. Note that this definition describes international Pareto improvements.

In our context, this would imply that our health care system would harm our competitiveness if it raised the wellbeing of other countries at the expense of our wellbeing. It is important to note that while aspects of our health care system may have big effects on productivity and wellbeing, in the context of trade, the health care system can only affect competitiveness if some industries or jobs are better than others and the distortion created by our health care system reduce our ability of attractive desirable industries or jobs.

Is this a worthwhile distinction to make? Why should it matter if advocates use the term “competitiveness” as shorthand for “urgent national policy priority”? Paul Krugman concluded his critique of the concept thus:

“Competitiveness is a meaningless word when applied to national economies. And the obsession with competitiveness is both wrong and dangerous.”(Krugman 1994)

In his argument, the danger comes from introducing an unjustified note of international rivalry, from providing a potential justification for trade protection or international tensions, and from the pernicious knock-on effects of loose and misguided reasoning. For example, if we concern ourselves with competitiveness, we may prefer, relative to the status quo, policies that lead to a reduction in welfare as long as our competitors’ wellbeing drops more. Similarly, we may reject policies that would improve our welfare, but our competitors’ welfare improves relatively more. Under almost any societal utility function, including focus on productivity or competitiveness, we would want to maximize the efficiency of every American industry. Yet a blind focus on competitiveness may not lead to an improvement in wellbeing. Thus even if an inefficient American health care system does not affect American competitiveness, we contend that such inefficiency is important and may potentially diminish welfare of Americans.

In the remainder of this section, we consider prominent arguments for ways in which U.S. health care practices affect the efficiency of the economy and consider whether those arguments deal with productivity or competitiveness. In the next section, we work backwards and consider potential prizes in international economic competitions and ask how health policies might influence those outcomes.

## **The efficiency of the American Health Care System**

Proving the inefficiency of the American health care system is difficult because outputs are multidimensional. They include the quality of clinical care (which itself is multidimensional), non-clinical aspects of quality, such as patient satisfaction, and non-quality attributes of the system itself, such as free choice of physician or treatment. We can readily observe that the American health care system is more expensive than other systems. Yet this multidimensionality complicates assessment of the benefit obtained from the extra spending.

Our argument that the system is inefficient takes several forms. First, we examine the quality measures that are easily observed. On these measures the United States appears to be at the middle or bottom of the pack for developed countries, suggesting we do not get much better quality for the additional money we spend. Second, we look for direct evidence of inefficiency in the American system. This includes review of the literature that examines geographic variation within the United States. This exercise reveals that areas with higher spending do not appear to have systematically better outcomes than areas with lower spending or better patient satisfaction. Of course, all areas in the US operate under basically the same rules, so this evidence demonstrates that our system has the capacity to generate both relatively efficient and inefficient outcomes. On balance we think it contributes to the plausibility that there is considerable inefficiency in the United States, though we note that it need not be the case that our system inevitably generates inefficient outcomes. Moreover, we also note that inefficiency within the US does not necessarily imply inefficiency relative to other countries, who may exhibit comparable variation and inefficiency. Third, we examine prices for care in the U.S. noting that we pay more for care than in other countries. The evidence suggests higher prices are a significant explanation behind higher American spending. Normally high prices would lead to under-consumption, and thus inefficiency. But other features of health care markets, such as insurance, may counter the tendency for under consumption and just lead to a transfer from consumers to producers. Inefficiency will arise only if that transfer distorts behavior. Finally, we explore institutional features of our system that can account for the inefficiency. As the geographic analysis indicates, these features may not affect all areas equally, either because of variation in traits across areas (e.g. competition) or variation in the outcomes that result from a given set of features.

## *International comparisons of outcomes*

Before discussing variations in outcomes, it is important to establish that Americans are not significantly sicker (or much healthier) than residents of other countries. In a 2008 study, McKinsey and Company found that the United States had lower disease prevalence in 21 of 35 medical conditions evaluated. (Farrell et al. 2008) Behavioral measures also show mixed results. While obesity is high in the United States, Americans smoke less than the people of other OECD countries, and alcohol consumption falls somewhere in the middle. (OECD 2010)

Although the United States spent over \$2,400<sup>6</sup> more per person on health care than the next most expensive OECD nation (Switzerland), health outcomes were not significantly better and in some cases were actually worse. McKinsey finds the United States does excel at two measures: adoption of new technologies and cancer survival rates. For instance, new prescription drugs are approved and enter the market one year earlier in the US than abroad. For other measures, however, the US has mixed results. Life expectancy at birth and at age 65, albeit a very crude measure of health system effectiveness, was lower in the US than the average across peer OECD countries.(OECD 2010)

The United States also lags on many other health system measures. The 2010 annual Commonwealth Fund report on cross-country health systems ranks the US last among 6 peer OECD countries on a composite of quality of care, access, efficiency, equity, quality and length of life, and expenditure measures. (The Commonwealth Fund et al. 2010)<sup>7</sup> (Some of these issues, such as access, may be ameliorated by the recent health reform law.) Over the four dimensions of quality measured (effectiveness, safety, coordination, and patient-centeredness) the United States falls in the middle of the pack for effectiveness and patient-centeredness, and lags towards the bottom in safety and care coordination. While the United States excels at some subcomponents of effectiveness, such as preventive care, the overall composite ranks them 6<sup>th</sup> out of 7. The United States ranks somewhat worse in the 2010 report than the 2008, which still shows the United States lagging,

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<sup>6</sup> In 2000, PPP adjusted dollars.

<sup>7</sup> Australia, Canada, Germany, Netherlands, New Zealand, United Kingdom, and the United States.

especially when it comes to access and implementation of electronic medical records.

So what are Americans buying with the extra spending if the evidence suggests the quality of care is not better? One possibility is autonomy for patients and physicians. Americans may prefer a system with few restraints and oversights on the care patients can seek and physicians can supply even if that system leads to higher costs and does not produce better health outcomes. While this is possible, survey evidence suggests otherwise and reasonable arguments can suggest that political and institutional forces, such as the clout of providers, consumer groups, disease advocacy groups and organized labor groups, who resist restrictions on care and work to prevent reforms that would lower costs without reducing quality, are at least partially responsible.(Blendon et al. 2006) Unfortunately the system is not designed to allow us to assess whether Americans are willing to pay for a system with as few restrictions as ours, or if their stated and revealed preferences are distorted by subsidies in the system that shield them from the full costs.

*Inefficiency in utilization within the US: Geographic variation*

Treatment, utilization and spending vary greatly across the United States. Specifically, unadjusted Medicare spending varies around 55% between the highest and lowest quintile regions (Fisher et al. 2003; Zuckerman et al. 2010; MedPAC 2011). This difference shrinks to around 30 percent when differences in health status and price differences are adjusted for (Zuckerman et al. 2010; MedPAC 2011).

While one might believe that patient preferences account for these differences, evidence suggests otherwise. For example, a high concentration of specialists (vs primary care) physicians is associated with higher spending areas. (Baicker and Chandra 2004). Yet Anthony et al (2009) conclude that patient preference for primary versus specialty care does not play a significant role in explaining variation, a finding bolstered by previous work of Fisher et al.(Pritchard et al. 1998; Anthony et al. 2009) In addition, patient preferences do not appear to play a role in very costly end-of-life care.

A related literature illustrates that utilization also varies widely, both between regions and within markets. Wennberg and Gittelsohn's research from 1973 documents substantial differences in practice patterns for similar patients within Vermont. More recent research has confirmed variation for

specific procedures such as rates of Cesarean deliveries, antibiotic prescriptions, and hospitalizations, and types of dialysis access. (Wennberg and Gittelsohn 1973; McLaughlin et al. 1989; Hirth et al. 1996; Wennberg et al. 2004; Baicker et al. 2006; Baker et al. 2008) A recent MedPac report estimates that while utilization varies less than spending, there is still a 30% difference in utilization between the highest and lowest quintiles. Likewise, differences in prices explain 17% of the total 55% variation between the 90<sup>th</sup> and 10<sup>th</sup> percentile areas.

### *High prices in the United States*

Evidence suggests that part of the reason why spending in the United States exceeds that in other countries is that Americans pay higher prices. High prices do not necessarily imply inefficiency. They may reflect a transfer from consumers to producers. Yet in standard economic models distorted prices lead to distorted consumption. In health care this is a bit less clear because insurance offsets the impact of prices on consumer behavior. Whether the insurance effect offsets the high prices to yield efficient consumption is unknown, but programs such as tiered formularies for drugs and managed care programs such as utilization review, implemented to reduce spending, may alter consumer behavior and generate distorted consumption.

Measuring the differences in prices across countries is complex because market baskets consumed in different countries may differ and product definitions (and quality) may vary. For example, to conclude that prices are systematically higher in the US, one needs to compare a standard set of services, and the choice and definition of these services may matter. In fact, work by Danzon and Furukawa found this to be the case with prescription drugs. (Danzon and Furukawa 2006; Danzon and Furukawa 2008) Specifically, the gap between American and foreign prices for drugs decreased when the same formulations were compared across countries. Instead, the gap in prescription drug spending between the United States and other countries appeared to be related to access to new formulations.

More broadly, typical approaches measure quantity (often crudely) and spending and infer the difference in spending not attributable to quantity is price. For example, much of the relevant literature uses broad product definitions, such as a hospital day. A common approach is to infer prices from measures of spending and crude measures of quantity such as physician

visits, hospital days, or inpatient visits. These measures do not indicate the complexity or intensity of work, although substantial differences between the United States persist over years of data. For example, two studies from the 1990s using this approach document higher prices as the driver behind differences in expenditure between the United States and Canada. (Fuchs and Hahn 1990; Welch et al. 1996) More recent analysis of OECD data and research published by the McKinsey Global Institute estimate that the prices in the United States are the primary driver behind spending disparity, based on that finding that spending in the United States is higher but utilization similar or even lower. (Anderson et al. 2003; Farrell et al. 2008; Vladeck and Rice 2009) For instance, while the United States spends 40% more than Germany on four chronic conditions, they receive 15% less services (defined broadly as physician visits or hospital days). (Anderson and Frogner 2008)

Nevertheless, a recent report looking at more specific service definitions finds that the cost in the United States is substantially higher than abroad. For example, the average cost for an angioplasty was well almost two and a half times more expensive than the next most expensive country (International Federation of Health Plans 2010) For scanning and imaging (Angiograms, various CT scans, MRIs), the United States paid the highest fee for every procedure except Angiogram, for which only New Zealand paid more. The average hospital and physician spending for a normal delivery was over 83% greater than the spending in the next most expensive country, Australia.

The conclusion that spending in the US exceeds that in other countries largely because of price is consistent with evidence that the US devotes about the same amount of labor to health care as other countries (Pauly 1993). Results suggest that total employment in the U.S. health sector as a percent of the total workforce is just above the average of OECD countries. He notes that the United States just spends more on that labor. If the labor were equivalent, we would interpret the differences essentially as a price difference. But if labor in the U.S. were more productive at producing health, then we should consider this a quality effect. This is consistent with the notion that the differences in spending between the U.S. and other countries at the most aggregate level, stems from price differences, though inefficiencies in use could exist to a greater or lesser extent at a more detailed level due to how those resources are allocated.

Part of the reason why the US spends more on health care labor is because the United States uses health care labor differently, with more specialists and fewer primary care physicians. One could classify the impact of specialists on spending as working through quantity (or quality) but it seems unlikely that, at a population level, more specialists leads to higher quality. While it is true that in some area specialists provide better care, particularly for well-defined conditions and when the match of condition to specialist is good, at a population level quality appears not to be related to share of specialists. (Hirth et al. 1996) For example, Baicker and Chandra find that state level utilization of several high-value services is actually inversely related to the concentration of specialists. (Baicker and Chandra 2004) By comparing quality across all states and ranking them according to a composite score, they find that increasing the number of specialists by 1 per 10,000 physicians is associated with a decrease in overall quality rank by almost 9 places. Several other studies employing disparate methods come to a similar conclusion. (Shi 1992; 1994; Vogel and Ackermann 1998; Shi et al. 1999; Starfield et al. 2005)

So then why do we have such a large share of specialists? Some of the explanation may be due to perceptions, contrary to the evidence, that specialist care is necessarily better than that provided by general physicians. Though this may be a contributing factor, one must be careful in emphasizing patient preference as a cause because insurance obscures patients' true willingness to pay for care from specialist. Perhaps a more salient factor is the large disparity between specialty and primary care pay, a gap wider in the United States than in other countries. (The Commonwealth Fund et al. 2010) This is driven a great deal by the administrative fee schedule in Medicare (which is often used as a template for private fees) that rewards procedure-oriented care. Historically, the Relative Value Unit updates (which define the Medicare fees for different services) have put relatively more value on "technical" procedural tasks and relatively less weight on "cognitive" ones such as physician visits (Bodenheimer et al. 2007; Sandy et al. 2009). While the longer training and technical skill acquired by specialists (arguably) warrants some increased enumeration, the current gap in the US is too large to strike a sustainable balance between specialty and primary care. The gap is likely exaggerated by factors like differences in lifestyle, prestige, and emphasis in medical schools on specialization (Lambert and Holmboe 2005; Sandy et al. 2009).

Apart from the existence of more specialists, there are several conceptual reasons to expect prices to be higher in the US than abroad. Vladeck and Rice argue that providers constitute a monopoly that drive up per unit spending on services. (Vladeck and Rice 2009) They observe substantial provider market power in the United States generated by barriers to entry and what they describe “Americans’ cultural and political antipathy to certain forms of market power.” By this he means American opposition to strong centralized purchasing power, a prominent feature of European and the Canadian systems.

Another reason for high prices in the United States may be a lack of competition among providers. American consumers overwhelmingly are insured against the cost of illness. This makes them insensitive to the prices charged by providers. In many cases they are even unaware of the prices charged. The insurance induced insensitivity to price is exacerbated by information problems including the inability to observe quality. If consumers take price as a sign of quality, demand elasticity will be dampened.

Other models emphasize the nature of competition in the health care sector as a factor leading to high prices. Work by Pauly and Satterthwaite, later augmented by Wong, found empirical evidence to support Satterthwaite’s (1979) general hypothesis that a greater number of sellers complicates consumer search and leads to higher prices in the healthcare market. (Satterthwaite 1979; Pauly and Satterthwaite 1981; Wong 1996)

#### *Other explanations for inefficiency in US.*

There are several other reasons, apart from models that emphasize high prices, that may explain why Americans spend more than other countries. One model emphasizes the role of physicians in attracting patients to hospitals. Hospitals are assumed to compete for physicians by offering highly specialized (and expensive) services. This feature of competition has been labeled the Medical Arms Race. The phenomenon of hospitals competing with non-price mechanisms was documented by a series of papers by Robinson and Luft in the 1980s which found a correlation between high hospital concentration and a substantially higher medical expenditure. (Robinson and Luft 1985; 1987; 1988) While evidence suggests that this trend abated somewhat during the era of managed care (Bamezai et al. 1999; Gift et al. 2002), more recent work shows a resurgence tied with

the increase in specialty-service lines. (Devers et al. 2003; Berenson et al. 2006; Carey et al. 2009)

A frequent rhetorical refrain used in health policy debates is that the United States spends more, and unnecessarily more, on “administrative” costs than its OECD peers. While studies consistently find relatively high administrative costs in the United States, the implications of this depend in large part on how we parse administrative versus non-administrative costs and how these costs are translated to balance sheets.

For instance, over five categories<sup>8</sup> of administrative-related health spending, the United States paid around three times as much per person as Canada in 1999. (Woolhandler et al. 2003) Of these five categories, the largest gap was in employers’ cost to manage health benefits (~600%) while the smallest gap was for nursing home administration (~50%). In addition, non-delivery personnel make up a greater portion (27.3%) of our health sector employment, not including insurance-industry personnel. Woolhandler et al. estimate that over 31% of American health spending goes towards administrative costs. Additionally, they estimate that physicians’ administrative work, which includes time spent dictating, submitting claims, hiring staff, paying rent and paying accounting and legal fees comes to around 27% of physicians’ gross income.

Another aspect of comparison is the relative cost of the United States’ predominantly private provision of health insurance and the more nationalized European models. In 2007 the United States spent an estimated \$156 billion on insurance administration, not including the time costs to hospitals and physician in negotiating fees. (The Commonwealth Fund 2009)

Greater administrative spending in the United States is not in itself an inefficient arrangement, but given evidence of comparable quality across systems, there is a good case for substantial inefficiency and opportunity for a shift from administrative activity towards more productive, “health-generating” work.

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<sup>8</sup> Insurance overhead, employers’ cost to manage health benefits, hospital administration, nursing home administration, administrative costs of practitioners, and home care administration.

In summary, the United States spends a higher share of its GDP on health care than any other country. Evidence that we get more for that spending is scant. For example, common quality indicators do not suggest that the quality of care or patient satisfaction is better in the U.S. than in other countries. Thus justification of our higher spending would need to rely on assertions that there are other features of our system, such as patient and provider autonomy that we value. Further, existing evidence suggests that our greater spending reflects, in part, higher prices, which may stem from imperfect competition among health care providers. This may represent a transfer as opposed to inefficiency, but responses to the high prices likely generate inefficiencies. In any case, there is no denying that American's spend more on health care and the concerns over such spending extend beyond the health care system to the economy as a whole.

### **The Health System's Effect on the Economy**

The high cost of the American health care system does not necessarily imply that our health care system hampers our competitiveness. To the extent that the high costs are driven by high prices, consumers pay more but providers earn more. This is a transfer. Yet many have argued that the high cost does have meaningful broader effects.

In this section, we consider four broad avenues by which the U.S. approach to health care provision could affect the economy: its effect on labor costs, costs for retirees, health effects and broader macroeconomic effects due to the system's overall cost. For each avenue, we consider the findings of the literature about the likely magnitude of impact and whether these should properly be classified as determining U.S. competitiveness.

#### ***Labor costs***

Not only does the health sector account for roughly one sixth of U.S. economic activity, the U.S. approach to health care provision has substantially broader effects on the functioning of U.S. business through its two-pronged impact on the U.S. labor market. The first prong is the important role that employer provision of health insurance plays in the compensation of employees (compensation effects). The second prong is potential for the health system to help determine the physical well-being and productivity of workers (physical effects).

The compensation effects have received substantially more attention in the literature. One popular argument is that employer provision of health insurance disadvantages U.S. firms relative to counterparts based in countries that do not rely on employer-provided health insurance. The popular form of this argument was captured in an article in the *Washington Post* some years back:

“For each mid-size car DaimlerChrysler AG builds at one of its U.S. plants, the company pays about \$1,300 to cover employee health care costs -- more than twice the cost of the sheet metal in the vehicle. When it builds an identical car across the border in Canada, the health care cost is negligible.” (Downey 2004)

The same article goes on to offer a corporate take on the implications for U.S. competitiveness:

“High health care costs have ‘created a competitive gap that’s driving investment decisions away from the U.S.,’ Ford Vice Chairman Allan Gilmour said in a speech at a recent auto industry conference. ‘If we cannot get our arms around this issue as a nation, our manufacturing base and many of our other businesses are in danger,’ he said, according to a transcript of the speech.”

This line of reasoning raises several conceptual issues. First, in a standard model of labor demand, a firm will pay a worker the worker’s marginal revenue product. This is a theory of *total compensation*, not of cash wages. In the abstract, from the firm’s perspective, it makes little difference in what form the compensation is delivered: direct deposit to a bank account or through health insurance premia. It may well matter to the employee, but these preferences presumably shape the firm’s balance of wages and benefits. An employee may prefer to receive health insurance through an employer because of the favorable tax treatment offered to such benefits in the United States. Even if there were an individual market for health insurance comparable to the group insurance market, the tax deductibility of health insurance benefits means that for a given level of total compensation, an employee could afford more generous insurance through an employer than that employee could purchase as an individual.

The presumption, then, is that the cost of labor to business – the compensation bill for a firm’s employees – will be unaffected by the costliness of health benefits in the long run. Health cost increases could be offset by slower wage growth or even a cut in wages [see, e.g., (Gruber and Krueger 1991; Gruber 1994; Pauly 2003)]. There are a number of reasons

why such offsets could be difficult. For example, in the short run, wages may be set through extended contracts, which might delay the offset. Other features of the market may impede a full wage benefit offset even in the long run. Institutional barriers, such as the minimum wage, represent one such barrier. However, market features could also yield the result that higher health care costs increase total compensation. For example, in equilibrium, total compensation reflects both labor supply and demand. While demand is based on marginal productivity, supply depends on the utility of any wage benefit package. If high health care costs reflect an inefficient system, it is possible that workers would demand higher compensation for any given amount of labor supplied. An upward shift in labor supply associated with inefficiency in the health care sector would yield higher wages. Firms would still be paying workers their marginal product, but, because workers marginal product depends on the number of workers hired the upward shift in the labor supply curve will result in fewer workers being hired at higher total compensation.

We should note that high (or inefficient) health care costs are analogous to high (or inefficient) costs for any commodity. The institutional feature that ties health care premiums to employment is largely just an accounting convention. Employers pay for employee food, housing, clothing and every other consumption expenditure via the wage. We would expect wages (and hence total compensation) to reflect the costs of all these commodities. For example, we would expect to see higher wages in high cost housing markets than low cost housing markets because of a labor supply effect. This will affect total compensation and employment just as high health care costs might.

Ultimately the impact of high health care costs on wages is an empirical question. While it is difficult to isolate the effects of increased insurance cost, most existing work suggests the trade-off is close to dollar for dollar (Gruber and Krueger 1991; Olson 1994; Ryan 1997; Sheiner 1999; Miller 2004). Moreover, there is some evidence that the wage offset is targeted to classes of workers experiencing high or increasing costs. For example, Gruber found that the wages of workers of childbearing age were disproportionately reduced by mandated coverage for maternity benefits. (Gruber 1994) Likewise, Sheiner (1999) found that groups with higher baseline costs face a greater reduction in wages when overall insurance costs rise.

Yet that literature is largely based on studies where variation in premium reflects benefits workers may value. Studies whose variation in costs may reflect inefficiency tend to find evidence consistent with the hypothesis that high health care costs in specific industries adversely affect employment in those industries and thus may affect equilibrium wages.

A key distinction is that in the case of non-health goods, consumers have more say over the bundle they wish to purchase whereas in health care the employer decides based on collective preferences and labor market forces. This may contribute to the ‘value gap’ between the value employees place on health insurance (and indirectly the care it facilitates access to) and the cost of health insurance. Nevertheless, the key question is what wage benefit package can employers offer to attract employees and how that is influenced by health care costs. We expect that to the extent that workers value the health benefit, and will trade wages for coverage dollar for dollar, high health care costs will not affect total compensation. Yet if workers in high cost areas do not value health benefits sufficiently, they will demand higher compensation and we may expect some equilibrium labor market effects. The extent to which workers will be able to maintain higher wages will depend on the extent to which the output is tradable across countries. Greater tradability will lead to similar total compensation and a shift in the supply curve will result in a smaller domestic industry. Yet this does not imply a drop in aggregate national competitiveness. Workers may shift to other industries in the long run, as the theory of comparative advantage would suggest. A drop in competitiveness requires some industries to be better than others and for workers to shift away from that industry.

The case mentioned above of an auto investment that might take place in either Detroit or in Windsor would seem to be an example of the effects of health care on U.S. competitiveness. There is an identifiable prize – the investors’ capital – and the configuration of the U.S. health care system arguably alters the likelihood of winning this prize. Yet the case also illustrates some of the pitfalls of this line of argument. Let us assume that U.S. and the Canadian auto workers are equally productive. There is no obvious reason why the total compensation of the U.S. worker would need to be higher than the total compensation for the Canadian counterpart. A total compensation discrepancy could certainly occur if wage levels were fixed through a collective bargaining agreement, for example. If the mandated wages were sufficiently high that the addition of employer-provided health benefits pushed the total U.S. compensation package above

the Canadian level, the U.S. worker could look relatively expensive and the investment could head north. But that is generally true of situations in which compensation is held above market-clearing levels and would be at least as attributable to the fixed wage levels as to the role of health benefits in the compensation package.

If workers in the United States demand higher wages because health care (or housing) is more expensive, we could also see labor intensive industries avoiding these areas. The fundamental question this raises is whether this shift will be offset by general equilibrium labor market adjustments. More generally, industry location decisions (and, in turn, the composition of national output) will be based on multiple determinants including compensation levels, productivity, quality of living (non-pecuniary benefits), taxation, regulatory environment, and infrastructure. Is one configuration inherently better than another?

In theory, some configurations are better than others. This brings us back to the question of prizes from our initial discussion of competitions. In the example of attracting the capital investment for a new factory, for example, the question translates into whether the community gets more than it pays. There is a global cost of capital and the owners of that capital will generally demand that return. If a particular industry, however, gives better than it gets, than it may qualify as a prize. This could be because it trains its workers, stimulates other local industries through its innovation, or captures unusual rents because it is in an imperfectly competitive industry. In each of these cases, the industry is a prize because it generates positive externalities.

An economy with higher health care costs could be particularly undesirable if it served to disproportionately discourage industries with such positive externalities or spillovers. To our knowledge, the literature has not yet established such an argument. To do so would first require identification of industries with positive local spillovers, a contentious exercise.<sup>9</sup> Further, to the extent that positive spillover industries depend on high skills and therefore high wages, they would have greater capacity for wage offsets when faced with high health care costs. Thus, there may be a presumption

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<sup>9</sup> For one seminal example of assessing the spillover effects of an industry, see Irwin, D.A. and Klenow, P.J. 1994. Learning-by-Doing Spillovers in the Semiconductor Industry. *Journal of Political Economy* 102(6): 1200-1227. Note that the spillovers must be local. If the industry throws off benefits that spread rapidly around the world, then there is no particular benefit to having that industry nearby.

that they would be relatively less susceptible to health cost discouragement than other industries.

It is, in fact, this relative effect on industries that matters. It is tempting to argue that high U.S. health care costs discourage employment in all industries, but the U.S. system has coexisted with periods of both high and low unemployment. Further, other OECD nations with lower health costs have certainly experienced periods of high unemployment.

In fact, some analyses of the deleterious employment effects associated with high health care costs are partial equilibrium analyses. For example, Sood et al. (2009) examine the association between high health care costs across industries. (Sood et al. 2009) Reductions in employment in industries that provide a lot of health care to workers (and thus are more affected by high health care costs) may be offset by gains in industries less likely to provide workers with coverage.

However, Baicker and Chandra employ an alternative method by using malpractice premiums as an instrumental variable at the state level. They find that for a 10% increase in health insurance premiums is associated with a 1.6% reduction in probability of employment and a 1.9% increase in the probability that a worker is employed only part-time. (Baicker et al. 2005) This raises the possibility that health care costs do affect aggregate employment and potentially competitiveness.

### **Retiree costs**

A related argument about high costs of care in the U.S. relates to the burden employers face from retiree coverage. This burden has been felt in the last 20 years especially, as the number of firms offering retiree coverage has more than halved since the late 1980 (KFF and HRET 2009). One of the most prominent instances in which retiree health costs figured prominently in corporate viability was the bankruptcy of General Motors. In 2009, the company, which had once been a paragon of American corporate might, was compelled to reorganize.<sup>10</sup> One driving force was the legacy of generous health benefits offered to employees and retirees. The open-ended nature of this commitment meant that GM was more exposed to rising health costs than many of its competitors. In this sense, it could be argued that rising

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<sup>10</sup> Ingrassia, Paul, "The Lessons of the GM Bankruptcy," *Wall Street Journal*, June 1, 2010.

<http://online.wsj.com/article/SB10001424052748704113504575264641145227612.html>

health costs dramatically affected the competitiveness of an American industry. Claims to this effect were cited above.

There were multiple factors that led to GM's bankruptcy. If we oversimplify and focus in on the burgeoning cost of retiree health benefits, there are several reasons to question the linkage between health costs and national competitiveness. First, as described above, there is an important distinction between industry competitiveness and national competitiveness. Second, even in this instance, what was bad for GM was not equally bad for the entire auto industry in America. Not all auto manufacturers had made equivalent promises to their retirees. Finally, even for GM, retiree health demands were ultimately separate from the operations of the firm, since they were formally separated in the bankruptcy process.

In general, retiree health benefit expenses are a fixed cost to firms and are unlikely to affect existing behavior, though it may affect firm viability and induce bankruptcy.<sup>11</sup> It is certainly true that long-term commitments to retirees for health coverage posed a significant risk to firms that offered them, given the variability of health costs. But such long-term bets have ample precedents among firms that have long investment lead times or make other irrevocable decisions well in advance. In this particular respect, there is nothing unique about the effects of health costs. In essence the problem was the generous promises about retiree health benefits made to workers in the auto industry, as much as to rising health care costs per se. Even if the rising costs reflected rising value, GM would have faced a higher than anticipated fiscal burden.

### **Health effects**

Another pathway through which our health care sector could influence competitiveness is by influencing worker health and thus productivity. In cases of developing countries, or even in past decades in the United States it was reasonable to believe that health care affected productivity. For example, at the beginning of the 20<sup>th</sup> century John. D. Rockefeller made a \$1 million donation to form the Rockefeller Sanitary Commission (RSC) whose purpose was to eradicate the prevalent hookworm from the American South.

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<sup>11</sup> It has been argued that the financial squeeze imposed on GM by retiree costs pushed the automaker to compromise on car quality, to the detriment of its performance. Whether or not that occurred in GM's case, a firm with a large fixed cost should attempt to maximize profits through its production and design choices, just as an unencumbered firm would. There may be other explanations for unfortunate management decisions.

Bleakley has recently evaluated the economic effects of hookworm eradication, and found that school enrollment, attendance, literacy, and longer term financial improvements can be linked to the eradication of the parasite. (Bleakley 2007) Looking more directly at agricultural productivity during this period, Brinkley finds that half of the 16.33 percent increase in Southern agricultural income between 1910 and 1920 can be attributed to the eradication of Hookworm. (Brinkley 1995)

Even if health has an important impact on productivity, it is not clear that the American health care system generates a beneficial effect through this pathway. For example, many of the interventions that affect health in ways that would impact productivity are likely to be interventions related to worker behavior, including diet and exercise. Medical interventions, with the exception of care for chronic diseases, may not be as salient.

When it comes to managing chronic disease the U.S. health care system (and general U.S. population) does a relatively poor job. For example, McGlynn et al. find Americans receive only about 50% of recommended care, much of which relates to chronic disease management. (McGlynn et al. 2003) Moreover, American adherence to medications for treating chronic disease is far from perfect. (Goldman et al. 2004; Gibson et al. 2005; Gibson et al. 2006)

Finally, to the extent that the American health care system devotes considerable resources to those over 65 or otherwise out of the labor force, it is unlikely that our system would boost competitiveness. Of course, relative performance matters, but at least compared to other developed countries, our performance on treating chronic disease is not exceptional. (The Commonwealth Fund et al. 2010)

### **Broader macro economic effects**

Apart from the impact of the health care system on the economy via cost or health effects, the institutional features of the American health care system may have an impact. Specifically, our system is employer based and, prior to the Affordable Care Act (ACA), voluntary. Thus some firms offered coverage and others did not. Even the mandates in the ACA do not force all firms to offer coverage so heterogeneity in firm offerings will likely continue. This employer based system, may influence the labor market in several ways, and thus influence competitiveness.

### *Job lock*

The employer based system of insurance may influence job mobility. Specifically, because the system is tied to employment, Americans may be less willing to switch jobs for fear of losing coverage. This phenomenon is termed 'job lock'.

The empirical evidence on job lock suggests a large effect between 20-30 percent, although this value is somewhat questionable due to differences in study design. Several studies that find large coefficients (22-32 percent) do not have statistically significant results due to lack of power (Mitchell 1982; Buchmueller and Valletta 1996), and two find a small and insignificant effect (Holtz-Eakin 1994; Kapur and House 1998). In addition Gruber and Madrian find a significant but much smaller (12-15 percent) effect when COBRA was implemented, a law that ensured some continued coverage (Gruber and Madrian 1996; 1997). Of those that find large effects, Anderson evaluated only men with pregnant spouses and Buchmeuller and Valletta (1996) included only men and women with dependent spouses (Anderson 1997).

As with health care costs, inefficiencies in the system may not affect competitiveness. An impact on competitiveness requires some industries or jobs to be more desirable than others and for job lock to adversely affect our ability to attract those industries or jobs.

### *Taxes*

To this point, our discussion has largely addressed the potential disadvantages of costly private financing and provision of health care, mostly channeled through employers. It is worth noting, however, that the proper comparison is not to free provision of health care but to viable alternative systems. The dominant alternative system in the world is public provision of insurance (and in some cases care) financed by taxes and generally more heavily regulated. These systems generally include some form of mandated (or automatic) coverage. Of course in the US, there is a large (and soon to be larger) public system including Medicare and Medicaid.

There are important costs associated with a tax financed system that can parallel those of employer-provided insurance. The extent of those costs will

depend on the efficiency of tax systems, which lies beyond the scope of this paper.

However, we note one potential inefficiency associated with taxes that might affect competitiveness: crowding out of other public investments.

Specifically, if voters have a limit regarding the absolute rate of taxation they will tolerate, health care spending will divert resources away from other activities such as building infrastructure or education.(Reinhardt 1989) Such a diversion can impact the development of human capital or infrastructure that promoted economic activity. Clearly that can affect wellbeing. It will affect competitiveness if it drives away desirable industries or jobs.

Overall two broad observations related to tax financed coverage and provision of care apply: i) the less efficient the system of taxation, the costlier public provision will be; ii) the more U.S. costs reflect inefficiencies as opposed to greater quality or quantity, the more desirable an efficient system of public provision of care (or more heavily regulated private provision) will look. Yet while the relative desirability of the American system will depend on the distortions associated with taxes and the inefficiencies through the public and private health care sectors, the impact of those features on competitiveness reflects their impact on desirable jobs and industries.

### *Comparing International Health Approaches*

#### **The American Health Care System**

In analyzing any health care system it is important to distinguish between health care financing and health care delivery. In both areas, the American health care system is a mixed, public/private system. In health care financing the government pays for about 45 percent of care (spending) through government programs (OECD 2010). The largest of these is Medicare, which is financed by a payroll tax. Medicare provides coverage for hospital, physician, prescription drug and some limited long term care services for retired and disabled beneficiaries. Dental services and vision services are excluded.

Most Medicare beneficiaries (about 80%) are enrolled in the traditional Medicare program, which imposes a government-set fee schedule for all services except prescription drugs. The traditional Medicare benefit package does not pay for the full cost of services. Beneficiaries face a

number of cost sharing requirements including inpatient deductibles and 20% co-insurance for physician and outpatient visits. Almost all providers choose to participate in Medicare and thus enrollees in the traditional Medicare program face few limits on choice of provider.

The Medicare program relies on markets in a number of ways. First, the vast majority of Medicare beneficiaries have supplemental coverage for the gaps in Medicare coverage (89% in 2007) (KFF 2009). Coverage is provided by private insurers, and purchased by former employers (34% of Medicare beneficiaries, including those without supplemental coverage) or individually in a regulated market for such coverage (39%) (KFF 2009). Second, prescription drugs for Medicare beneficiaries are covered in a separate program which relies on private insurers to provide coverage, subject to some constraints on the benefit packages. These private insurers negotiate with drug companies over the price of drugs and determine the formulary and cost sharing provisions faced by enrollees. Third, about 20% of Medicare beneficiaries choose to be enrolled in the Medicare Advantage program. This program provides premium support for private health plans who agree to provide beneficiaries with coverage at least as generous as the benefit package in traditional Medicare, though most plans provide more generous coverage. Medicare advantage plan use a wide range of techniques including restrictions on provider networks, to control the cost of care.

In addition to the Medicare program, low income Americans may qualify for the Medicaid program. Most beneficiaries are low income individuals with families, but most expenditures are for long term care services for individuals with low income and assets (perhaps because they spent down to Medicaid eligibility thresholds). Medicaid is a joint federal/state programs with details such as program eligibility, fees, reliance on private plans decided at the state level, yet subject to some federal restraints.

For individuals who do not qualify for Medicare or Medicaid (or a few other government programs), insurance is most commonly provided by employers. Small and medium size employers typically purchase coverage from a private health plan. Large employers often self-insure and use private plans to administer benefits. Private insurers typically pay providers 25% more than Medicare for services, while Medicaid fees are generally even lower. In addition, there is a small market for individual coverage that is generally expensive. Still, around 50.7 (16.7%) million Americans were uninsured as of 2009. While these individuals had some access to care through community health system and other safety net providers, evidence

suggests they received fewer services and had more difficulty accessing care. Looking to the future, provisions in the Affordable Care Act will require all citizens to buy coverage and provide substantial subsidies starting in 2014, which is expected to substantially reduce the number of insured Americans.

The care delivery system in the United States is dominated by private firms, including hospitals and medical practices. Most hospitals are non-profit firms, commonly affiliated with larger hospital systems. Only 18 percent of hospital beds are in for-profit entities (KFF 2010).

Physician distribution in the United States is heavily skewed away from primary care physicians. For example, 35 percent of practicing physician in the U.S. are considered to practice primary care (family medicine, general medicine, general internal medicine, and pediatricians). (Dodoo MN et al. 2005; Macinko et al. 2007)

In addition to the private provider system, there are some publicly run facilities. About 22% of hospitals are in government run facilities (including county hospitals and Veteran Administration hospitals).(Health Forum LLC and American Hospital Association 2010) There is also a system of safety net providers, including federally qualified health centers and public hospitals. Public hospitals service around 10 million people per year, while over 16 million use federally qualified health centers as their usual source of care.(Regenstein M and Huang J 2005; The Commonwealth Fund 2006) The typical patient receiving care at one of these centers earns below 100% of the federal poverty level, and is either uninsured (38%) or covered by Medicaid (35%).(U.S. Department of Health and Human Services Health Resources and Services Administration 2008).

### **Other countries**

The health care systems of most other countries are much more heavily dominated by government involvement. Typically the government takes a larger role in financing care and is more stringent in regulating provider markets, particularly prices.

### **United Kingdom**

One extreme is the United Kingdom, where both the delivery and financing of health care is largely government-dominated. Legal residents of the United Kingdom's four constituent countries (England, Scotland,

Wales and Northern Ireland) are provided with universal coverage and access via the National Health Service (NHS). The NHS is funded via direct taxes, value-added taxes, income taxes and local taxation, national insurance contributions and user contributions at point of service. Every three years, the government sets budgets for the NHS as a whole and for primary care trusts, which account for 85% of the NHS budget and receive funding based on a risk-adjusted capitation formula. Although funded centrally, the tasks of purchasing services and making specific policy decisions lies with the individual countries as well as local primary care trusts and so characteristics of coverage may vary slightly from country to country. Approximately 80% of national health expenditures in the UK are publically financed.

The majority of UK residents rely on the National Health Service for the receipt of medical care. Coverage under NHS system includes physician services, inpatient and outpatient hospital care, preventive services, mental health care, rehabilitation, learning disabilities and inpatient and outpatient drugs. Unlike Medicare, NHS beneficiaries do not face any cost sharing requirements for the receipt of these basic medical services, although a few cost sharing requirements exist for optical and dental services and some prescription drugs. These point- of-service costs account for slightly over 10 percent of total health expenditures (WHO Statistics 2007).

The system has in place several safety nets for those with low-income and other special groups. Prescription drug copayments are waived for those with low income, children under the age of 16, full-time students between the ages of 16-18, individuals over the age of 60, women who are pregnant or have had a child in the last year, and individuals who are disabled or have certain medical conditions. Those who require large quantities of prescription drugs are likewise eligible for discounts.

A private health insurance industry, including both for-profit and non-profit insurers offers supplementary coverage alongside the NHS. Private health insurance offers an alternative to some of the inconveniences of the NHS system, including greater comfort and privacy, choice of specialists, and no wait lines for elective procedures. Care can be obtained at both private and public (NHS) hospitals. Private coverage plays a minimal role in the UK health care system, accounting for only 1% of total expenditures in 2009, with only 12% of UK residents obtaining private coverage.(OECD 2011) Of this minority, receives coverage via their employers, while the remainder purchases coverage on an individual basis.(The Commonwealth Fund and Boyle S 2010)

Local commissioners of health services control much of the NHS budget and contract with providers to organize the infrastructure for service delivery. While technically self-employed, most general practitioners are effectively employees of NHS, receiving reimbursement directly from PCTs via a mix of salary, capitation, fee for service and more recently, pay for performance arrangements. Specialists perform most of their work in NHS hospitals and cannot be consulted without a referral from a general practitioner. While the majority of providers work for NHS, some may choose to have a private practice or to supplement their income by providing services to private patients. Private providers set their own FFS rates and are not reimbursed by NHS.

The system is made up of both public and private hospitals. Public hospitals include those organized as NHS trusts who answer to the Department of Health as well as self-governing, semi-autonomous foundation trusts. Private hospitals that are owned and staffed by private providers also exist, and in some cases, the NHS purchases care from these hospitals.

## **Canada**

The Canadian model shares some similarities with the United Kingdom's model (budgets), with a few differences. Universal coverage is provided to all Canadian residents under the system known as Medicare. Care is for the most part publically funded via federal (income), provincial and territorial taxes, while care is provided via the private sector. Federal funds are transferred to the individual provincial and territorial governments, which in turn administer their own health plans and determine local physician salaries and service fees, whilst abiding by the restrictions set by the Canada Health Act. In 2006, 65.7% of Canada's health expenditures were publically funded.

As part of the Medicare system, Canadian residents receive coverage for physician, hospital and diagnostic services that are deemed medically necessary; no copayments are charged for the receipt of these services. Prescription drugs, medical equipment and optical and dental services are not covered under Medicare, and as such, residents have the option of paying out of pocket for the full cost of care or obtaining supplementary private coverage.

A majority of Canadians enroll in private supplementary coverage (65%) for coverage of the aforementioned services that are not covered or only partially covered under Medicare. Private plans do not offer coverage for core medical services because, unlike in the UK, provincial laws to ensure equity in access to and quality of care prevent private plans from offering coverage of services that are available via Medicare.

Most hospitals in Canada operate as non-profit municipalities, voluntary organizations or community boards of trustees. While relatively autonomous in daily operations, they must adhere to annual global operating budgets set by provincial or territorial governments. Approximately 40% of hospitals are private, while only 1% are private and for profit.(OECD 2011)

Physicians working within the Canadian system are privately employed and contract with provincial or territorial plans for compensation. They are compensated on a fee for service basis, with payment reflective of fee schedules negotiated locally. Most primary care physicians work in small-group practices and are responsible for providing primary medical services (prevention, injury/disease treatment and emergency care) and coordinating referrals to specialists. Incentives have been placed in the system to discourage self-referral, although a referral is not required for specialist visits. Approximately 47% of Canadian providers are general practitioners; the remaining 53% provide specialist care.(OECD 2011)

## **Japan**

Japan has a universal health insurance system and requires that all individuals obtain coverage via one of three insurance schemes: employer-based insurance, national (public) insurance and insurance for the disabled or elderly. Japan has an employment-based financing system, with a combination of federal funds, employer and employee payroll taxes and income-based coinsurance payments from the self-employed funding the health care system. Though subject to strong government regulation, the provision of health care within the Japanese system is mostly privatized, with privately operated health insurance plans, hospitals and clinic systems. In 2008, 81% of total health expenditures were publically financed.(OECD 2011)

All three insurance schemes offer similar health benefits, although there are small differences in individual contribution to medical costs. Premiums vary according to income and monthly coinsurance amounts

depend on the type of program the individual is a member of. Coverage for physician services, hospital care, most dental care and prescription drugs are a feature of all plans. Preventive services, pregnancy and childbirth, abortion, traditional Japanese medicine (e.g., acupuncture) and certain high-tech procedures are not covered. Expenses incurred for services that fall out of the realm of the national health insurance scheme may be covered out of pocket or in some cases, funded by the welfare system. Currently, more than 5,000 health insurers participate in the Japanese health system.

Employer sponsored coverage forms the basis of the Japanese system, accounting for approximately 30% of the population. Employee plans fall into four categories: 1) society-managed plans for employees at large companies, 2) government-managed plans for employees of small to medium-sized companies, 3) mutual aid associations for government employees, and 4) plans for day laborers and seamen. The nominal value and the split of employee/employer payroll contributions for health premiums varies between plans. Only government-managed plans are subsidized by the government.

Japan's national health program offers coverage for individuals who do not receive employer-sponsored coverage or are not eligible for the country's plan for the elderly or disabled; approximately 34% of the population. Beneficiaries are also charged a fixed premium (split by employee and employer, or government if self-employed) as well as a 30% coinsurance fee for all health care costs.

Individuals between the ages of 40 to 64 who suffer from disabilities or those over 65 are eligible for the long-term care insurance program. In addition to the health benefits offered by all plans, the elderly and disabled are eligible for institutional care, home care or respite care, with a 10% coinsurance rate.

Households below the poverty line are eligible for welfare support and receive medical services devoid of any cost sharing. Other safety nets that exist within the system include a monthly ceiling for copayments (catastrophic coverage) as well as cash benefits from health plans for extended sickness and injury or expenses incurred due to pregnancy or childbirth.

Ambulatory providers in the Japanese delivery system work from private, non-profit office settings. Reimbursement is allocated on a fee for

service basis and must adhere to a uniform national fee schedule set by the Ministry of Health and Welfare (in other words, providers are not allowed to charge rates above the nationally recommended price for a certain procedure and all insurers must pay the same fees to providers). Rates for the national fee schedule, known as the point-fee system, are based simply on the complexity of the procedure, with no authorized variations on the basis of provider geographic location or setting, qualification or the actual cost of services rendered.

Most hospitals are non-profit and privately owned and operated (around 80%). The remainder of hospitals are operated by national, municipal or prefectural governments or quasi-public agencies. Hospital fees cover personnel costs, supplies, capital depreciation and basic room and board charges; additional fees may be charged to the patient for extra room and board for a set number of specialized services. There is some competition between providers based at clinics and hospitals as clinic providers do not have admitting rights to hospitals and patients treated at hospitals are usually not referred back to clinics, but instead treated at the hospital's outpatient center, once treated.

## **France**

France's national system of health insurance, Couverture Maladie Universelle (CMU), provides coverage to all citizens and foreign residents of France. The public system is financed by a series of federal and state taxes, including a national income tax, employer and employee payroll taxes, taxes on the revenue of private health insurers and taxes on tobacco and alcohol sales. In 2007, 79% of France's health expenditures were publically financed.

The CMU offers full coverage of ambulatory physician services, inpatient and outpatient hospital care and prescription drugs. Coverage for outpatient optical and dental services is limited.

An intricate system of cost sharing applies for all services and drugs that are publically financed. Co-insurance rates ranging from 0% to 50% of the full service cost are charged, and vary based on the type of care (doctor visit vs. hospital stay), patient class (chronic or poor vs. average), therapeutic value of the service (prescription drug) received and compliance with the extant gate-keeping system. Many of these co-insurance fees can be reimbursed by supplementary private health insurance, but users are also

responsible for non-reimbursable copayments for expensive treatments and ambulance journeys and a small per-prescription drug and per-doctor visit fee.

A majority of the population in France (90%) has supplementary private health insurance, which covers most cost-sharing requirements for publically-financed benefits.(The Commonwealth Fund and Durand-Zaleski I 2010) Most private health insurance plans are non-profit, employment-based mutual associations, with coverage limited to the same services offered via public health insurance. These complementary private plans are also available to low income individuals with substantial government subsidies. In addition, some commercial insurance plans (both for profit and non-profit) offer services not defined in the public benefits package. These commercial plans represented around 20% of supplementary options throughout the 1990's and early 2000's.(Buchmueller and Couffinal 2004)  
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The system has an extensive safety net so as to ensure that those with chronic illnesses, disabilities and low income receive adequate care. In addition to free optical and dental care, vouchers for supplementary private health insurance (at little or no cost) are available for individuals and families with low income. Low-income patients are exempted from co-insurance for most services and non-reimbursable copayments, and doctors are required to charge reference prices for all services rendered to low-income patients. Co-insurance exemptions also apply to all patients with specific chronic illnesses and individuals receiving invalidity and work injury benefits. The CMU exempts all patients, regardless of income or health status, from cost-sharing for certain surgical services as well as hospital fees beyond the first 31 days of hospitalization.

About a third of French hospitals are private, for-profit organizations; the remaining two thirds of hospitals are non-profit, government-owned institutions. While private hospitals only serve patients with supplementary private insurance, public hospitals are accessible to both private and public-only patients.

Under the CMU system, physicians are self-employed and have the prerogative to set their own FFS rates, which typically vary as a function of professional experience. The government, public insurance scheme and medical unions negotiate reference prices, which doctors can refer to as they set their own rates. Government reimbursement for services is limited to the

reference prices that are set; any difference between the reference price and charged price must be covered by the patient or supplementary private health insurance plan. Physicians working in public, non-profit hospitals are salaried.

### *Conclusions*

In lieu of rendering a verdict on whether the U.S. health care system undermines national competitiveness, this paper has sought to clarify the issue. The U.S. system differs from those in other major economies in important ways, ranging from the level of per capita spending to the reliance upon employer provision.

One central question in the literature has been whether the higher U.S. levels of spending reflect inefficiencies or whether Americans are getting more for their substantial expenditures. The literature has struggled with this question for several reasons. It is difficult to separate price effects from quality effects in studies, and the obvious comparisons in health outcomes can be muddied by factors that lie outside the provision of medical care (such as violent deaths).

Even were we able to present a clear answer on the relative efficiency of the U.S. health care system, the implications for competitiveness are not straightforward. The competitiveness of a nation is quite distinct from the competitiveness of an individual firm or even an industry. We set a high standard for national competitiveness – a country had to be engaged in a zero-sum competition with other countries. While it is not difficult to imagine such a competition, it is much harder to establish the case empirically, demonstrating the existence of worthwhile prizes, such as industries with positive local spillovers.

Even if we were to stipulate that certain industries qualified as prizes, it would remain to demonstrate that the particular features of the U.S. health care system made the country more or less likely to snatch those prizes. There are unresolved arguments in the literature about whether or not high health care costs even have an appreciable effect on total compensation within industries, much less whether total compensation effects demonstrably alter the outcomes of these contexts.

This all describes a relatively tenuous link between the U.S. health care system and international competitiveness. In no way does this imply,

however, that the inefficiencies and failings of the U.S. health care system are unimportant. Even if they do not alter the results of particular international competitions, they can have a very significant impact on the well-being of Americans. Although warnings about international competition may serve as an easy way to stir up sentiment about health care change, potential improvements ought to be judged on their own merits.

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