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Health Care Crisis: Potential Solutions to the Perverse Reimbursement System and the Fragmented Care Delivery System

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Introduction

America's Failing Health Care System

The United States is in a health care crisis. The health care system is inefficient and creates much national debt. We spend more than any other country in the world on health care, but get much lower health outcomes.

Currently, the U.S. is the "most powerful, innovative, and richest nation the planet has ever known."[1] Yet, it is not proportionally healthy compared to other nations. A study done by the World Health Organization (WHO) ranked the United States 37th out of 191 countries for health care systems in 2010.[2] This was based on overall health care efficiency, including cost and output.

Most developed and rich countries in the world outstrip the United States in nearly all health statistics, including longer life expectancy and lower infant mortality. The United States stands near the bottom in most important rankings: access to and quality of medical care.[3]

A 2008 report by the Commonwealth Fund found that the United States ranked lowest of all developed countries for "deaths before age 75 from conditions that are at least partially modifiable with effective medical care."[4] The U.S. scored twice as high as France and Japan. Among 19 wealthy countries, the U.S. ranked 19th

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[1] T.R. Reid. *The Healing of America: A Global Quest for Better, Cheaper, and Fairer Health Care*. New York: The Penguin Press, 2009: 28.

[2] World Health Organization. *Measuring Overall Health System Performance For 191 Countries*. By A.J. Tandon, et al. GPE Discussion Paper Series: No. 30. http://www.who.int/healthinfo/paper30.pdf.

[3] T.R. Reid, op. cit., p. 9

[4] Cathy Schoen, et al. "U.S. Health System Performance: A National Scorecard." *Health Affairs* Web Exclusive, September 20, 2006, p. W457.

in curing people who could be cured with decent care.[5] A Commonwealth Fund study done between 2001-2004 showed that Americans diagnosed with asthma die sooner than their counterparts in seven other countries.[6] Americans with diabetes die younger than diabetics in any other developed country.[7] Among the "nine rich nations," the per-capita rate of "deaths due to surgical or medical mishaps" was highest by far in the U.S.[8] Out of 23 wealthy countries the United States ranks dead last when it comes to keeping newborns alive.[9] In a 2006 survey by the Commonwealth Fund scoring countries on "healthy life expectancy at age 60," the U.S. was tied for last, while Japan came in first.[10]

These low health rankings would make sense if the U.S. spent very little on health care. This is not the case. America spends 17.8% of its Gross Domestic Product on health care expenditures alone.[11] Per capita health costs equal $8,362 annually. This is roughly twice as much as other rich countries spend on health care.

The citizens and politicians of America are ready for change. In the 2008 election, only 18% of Americans said the U.S. health care system was doing well. 79% said they wanted to see either "fundamental change" or "a complete overhaul."[12] President Barack Obama responded to this growing discontent by

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[5] Ellen Nolte, et al. "Measuring the Health of Nations: Updating an Earlier Analysis," *Health Affairs* (2008): 71.
[6] The Commonwealth Fund, *Multinational Comparisons of Health Systems Data*, November 2006.
[7] T.R. Reid, op. cit., 32.
[8] ibid.
[9] ibid.
[10] Cathy Schoen, et al., op. cit., 71.
[11] This and other information concerning American health care can be found on the World Health Organizations website at http://www.who.int/en/.
[12] Thomas Bodenheimer and Kevin Grumbach. *Understanding Health Policy: A Clinical*

making health care reform a main tenant of his campaign and continued to focus on health care reform during the first term of his presidency. He succeeded in passing the Affordable Care Act, a piece of health care reform legislation that will go into effect between 2013-2014.

Although this legislation is a step in the right direction, it is not the final answer to all problems within the health care system. Cross-cultural comparison can also teach invaluable lessons.

France Does it Best

WHO ranked France 1st out of 191 countries for health care systems in 2010 based on overall health care efficiency.[13] This clear proof of their superior health care system make the nation an ideal candidate for study by health care reform leaders in the United States.

France spends 11.9% of its GDP on health care expenditures.[14] The country's health costs per capita amounts to only $4,021 annually. This is half the cost of health care in America. A study by the Bank of America in 2006 found that if Americans could get our health care spending down to the French level we would save about $600 billion annually.[15]

France not only spends far less than the U.S., but it also produces outcomes that far surpass those of the United States. The French have a higher life expectancy

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Approach (Lange Medical Books, 2005): 3.

[13] World Health Organization, *Measuring Overall Health System Performance*, op. cit.

[14] This and other information concerning French health care can be found on the World Health Organizations website at http://www.who.int/en/.

[15] *Wall Street Journal*, January 25, 2007, p. C1.

at birth than Americans.[16] France does a better job than almost any other country both in encouraging health and in treating those who get sick.[17] The French system also does the best job of curing people with curable diseases.[18] These are just a few of France's health care successes.

France has created an efficient health care system and achieved what the United States has not: universal health care. There are three main insurance funds in France. One is for salaried workers, one is for professionals and the self employed, and one is for farmers.[19] These are accompanied by 11 smaller insurance funds covering specific industries. Premiums are extremely cheap, particularly for those under employer insurance.[20] The French can also buy supplemental health insurance to cover the costs not covered by the public insurance companies. This insurance is purchased from either non-profit cooperatives or from for-profit insurance companies.[21] The supplemental insurance premiums are even cheaper than those of the public sickness funds, so almost 90% of workers buy it.[22] Supplemental insurance helps pay for the share of the co-pays that the sickness funds don't reimburse.

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[16] This and other information concerning French health care can be found on the World Health Organizations website at http://www.who.int/en/.
[17] T.R. Reid, op. cit., 49
[18] The Commonwealth Fund, *Multinational Comparisons*, op. cit.
[19] T.R. Reid, op. cit., 53.
[20] ibid.
[21] ibid.
[22] ibid., p. 50.

Japan is Like Us—but Succeeds

France is not the only nation deserving consideration. Japan also has succeeded in keeping its costs some of the lowest globally while achieving a relatively high level of health care quality.

WHO ranked Japan 10th out of 191 countries for health care systems in 2010 based on overall health care efficiency.[23] Although not as efficient as France, Japan still ranks 17 places higher in efficiency than the United States.

Japan spends a mere 9.5% of their GDP on health care expenditures.[24] Health care costs the nation $3,24 per capita. These costs are far lower than those of United States, and are even lower than the number one ranked France.

These low costs have not impeded Japan's ability to provide effective health care. Japan has one of the highest life expectancies at birth in the world (83 years).[25] Japan also uses more health care services than a large majority of other nations, including the United States. The average Japanese visits the doctor about 14.5 times per year, three times as often as the U.S. average.[26] In contrast to the U.S., nearly all primary care physicians make house calls, either daily or weekly. The Japanese get twice as many CAT scans as Americans, and three times as many MRIs.[27] The

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[23] World Health Organization, *Measuring Overall Health System Performance*, op. cit.
[24] This and other information concerning Japanese health care can be found on the World Health Organizations website at http://www.who.int/en/.
[25] This and other information concerning Japanese health care can be found on the World Health Organizations website at http://www.who.int/en/.
[26] T.R. Reid, op. cit., 84.
[27] ibid.

average hospital stay in Japan is 36 nights. In the United States, the average hospital stay is 6 nights. The fees for surgery are also much lower in Japan.[28]

Japan, like France, has achieved universal health care. Their system involves no lists or waiting, no gatekeepers, no rationing, and a broad array of patient choice.[29] There is a rigid cost-control mechanism in place to counteract these patient freedoms.

What makes Japan a particularly useful model for the United States is their health insurance market. Like us, they have multiple payers that are responsible for different groups of people, usually based on the individual's employer. Japan has around 3,500 health insurance plans, falling into three general categories.[30] Health care is paid for through these insurance plans. The patient pays 30% of the doctor's bill as co-pay and insurance picks up the rest.[31] There are monthly limits on patient's co-pay, which ensure nobody has to pay more than $650 in a single month.[32] Because the Japanese system is like ours in having multiple payers, we can learn from them about how such a system could achieve better outcomes than we do today.

Addressing the Issues Head On

Political pressures beginning in the 1920's have led American health care to its current state of ruin. Every president, beginning with Franklin D. Roosevelt, has had to grapple with the growing problems of our health care system. For nearly a

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[28] ibid.
[29] ibid.
[30] ibid., p. 86.
[31] ibid.
[32] ibid.

century these issues were pushed aside because of the extreme opposition the presidents faced.[33] Now that Obama has finally succeeded in pushing through health care reform, it is important to consider his legislation and understand the probable effects it will have on the health care system.

This paper will explore the two principal factors driving the rise in health care expenditures in the United States: the reimbursement system and the fragmented care delivery. The experiences, successes, and failures of France and Japan offer useful lessons for United States.

In chapter 1 I describe the reimbursement structure. The issues in American reimbursement is explained, followed by a discussion about the reimbursement structures present in France and Japan.

Chapter 2 depicts possible reimbursement structures the United States could adopt. There are only three main types of reimbursement structures in health care, but there are dozens of ways these three can be blended to create an optimal reimbursement structure.

I explain the failures of American fragmented care delivery in chapter 3. France and Japan offer two examples of various stages of successful delivery integration.

In chapters 4 and 5 I discuss two examples of successful health care delivery within the United States. The Mayo Clinic is a hospital with an international reputation for its low health care costs and high health outcomes. Grand Junction,

[33] For more information about the history of President's struggles with health care reform, see http://www.kff.org/healthreform/upload/7871.pdf.

Colorado provides an example of a group of private practice physicians successfully providing high quality care at affordable costs.

Chapter 6 focuses on the Affordable Care Act. I explain the Electronic Health Records mandate and the Accountable Care Organizations provision. I draw conclusions about whether the act will succeed in addressing reimbursement and care delivery issues will be drawn.

Health Care is a vital part of any nation. It cannot be permitted to fail. In many ways, the United States is on a dangerous health care path. It is time to confront the issues inherent in this system head on, starting with the perverse incentives created by the reimbursement structure.

Provider Reimbursement Makes A Difference

Reimbursement Methods Create Incentives

How doctors are paid and what they are paid to do can make a huge difference to how they deliver medical services.

In the United States, the reimbursement system creates perverse incentives for health care providers. This drives health care costs through the roof. Understanding how and why the incentives are created is the first step to changing them and ending the cycle of overprescribing and over-treating present in the U.S.

More Service, More Money

A study performed by Dr. Wendy Everett, president of the New England Healthcare Institute, and Dr. Jules Delaune estimate the cost of unnecessary medical treatment in the United States was between $158 and $226 billion in 2011 alone[34]. This is roughly 10% of the total national healthcare expenditures. One of the largest contributors to these unnecessary treatments is the fee-for-service reimbursement system. Doctors are paid for every procedure. The more tests and treatments, the more money the provider receives. The reimbursement system creates overutilization of procedures and tests that are not medically necessary. These services are usually minor procedures, such as a high volume of tests[35]. Excessive use of antibiotics is often prescribed in lieu of an over-the-counter cold medicine.

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[34] Jules Delaune and Wendy Everett. *Waste and Inefficiency in the U.S. Healthcare System.* Cambridge, MA: New England Healthcare Institute; 2008.

[35] "What is Driving U.S. Health Care Spending?: America's Unsustainable Health Care Cost Growth." Bipartisan Policy Center, 2012: 8. http://bipartisanpolicy.org/library/staff-paper/what-driving-us-health-care-spending

However, in some cases more lucrative treatments such as heart surgery are performed.[36] Dr. David Jones received his medical degree and History of Science degree from Harvard University. He currently is a member of the Department of Global Health and Social Medicine. In his recent book, *Broken Hearts: The tangled History of Cardiac Care*, Dr. Jones explains the heart surgery phenomenon. Specifically, he mentions that angioplasty, a very invasive heart surgery, does not extend life for anyone with stable coronary disease, and it is those patients who make up a large portion of angioplasty patients. Dr. Jones said, "It has not been shown to extend life expectancy by a day, let alone 10 years—and it's done a million times a year in this country."[37]

Fee-for-service (FFS) exacerbates the cost impact of other drivers[38]. For instance, "FFS encourages the application of new medical technologies to all patients regardless of whether they are likely to benefit significantly or marginally from that technology."[39] This provides incentive to advance medical technology, despite the accompanying exorbitant prices.[40]

Overusing Technology Yields High Returns for Doctors

The high fixed costs that accompany medical equipment, such as imaging devices, create especially strong incentives to overuse this technology.[41] U.S. private

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[36] Ronen Avraham. "Clinical Practice Guidelines: The Warped Incentives in the U.S. Healthcare System." *American Journal of Law and Medicine* 37(2911): 7-40
[37] Alice Park. "A Cardiac Conundrum." *Harvard Magazine* (March-April 2013). http://harvardmagazine.com/2013/03/a-cardiac-conundrum
[38] "What is Driving U.S. Spending?" op. cit., p. 8.
[39] "What is Driving U.S. Spending?" op. cit., p. 8.
[40] "What is Driving U.S. Spending?" op cit.., p. 9.
[41] ibid.

practice physicians initially offered simple services. Many of these providers now also offer expensive and high-end services, such as MRI's, CT scans, and cardiac stress imaging.[42] Almost one in five physician practicing in the U.S. today reported owning or leasing equipment for advanced imaging.[43] The strong financial incentive for doctors to personally provide such medical technologies is reflected in these growing numbers.

As a result of this trend, imaging use has increased 70% during the last decade.[44] One study found that, in the case of cardiac stress imaging, the use of such technology was "more common among patients evaluated by physicians who billed for this service. This was especially true in cases where the physicians billing included technical fees in addition to professional fees."[45] The study stated that the normal recommended time for a routine stress test is within two years of revascularization. The authors discovered that most patients were seen twice within this two-year period. The six-month mark and the 12-month mark were the most frequent visit times, and stress tests were often performed at one of these two visits. These numbers suggest an association with elective follow-up visits.[46] While these

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[42] B.K. Hollenbeck and B.K. Nallamothu. "Financial Incentives and the Art of Payment Reform." *Journal of the American Medical Association*. 2011; 306(18):2028.

[43] J. Reschovksy, A. Cassil, and H.H. Pham. *Physician Ownership of Medical Equipment*. Washington, DC: Center for Studying Health System Change; 2010. http://hschange.org/CONTENT/1172/1172.pdf. Accessed January 4, 2013.

[44] MedPAC. A Data Book: Healthcare Spending and the Medicare Program. http://www.medpac.gov/documents/Jun11DataBookEntireReport.pdf. Accessed November 25, 2012.

[45] Hollenbeck and Nallamothu, op. cit., p. 2028.

[46] Bimal R. Shah, et al., "Patterns of Cardiac Stress Testing After Revascularization in Community Practice." *Journal of the American College of Cardiology* 56, no. 16(October 2010):1328-1334. http://www.sciencedirect.com/science/article/pii/S0735109710028020

stress tests were not yet necessary, nor even recommended by the American College of Cardiology Foundation, they were performed anyways. A second study compared the use of radionuclide myocardial perfusion imaging, or MPI, among radiologists and cardiologists serving Medicare patients between 1998 and 2006.[47] The study concluded that in recent years, there has been a sharp increase in the use of MPI among cardiologists compared with radiologists. Cardiologist utilization of MPI increased by 215%. Radiologist MPI use increased by only 32%.[48] Most of this growth occurred in private cardiologist offices. In hospitals, where private reimbursement does not occur, radiologists still utilize MPI more than cardiologists. The authors concluded that "Because MPI is a highly reimbursed procedure and there is no evidence that coronary disease is increasing among the Medicare population, this trend raises concerns about inappropriate self-referral."[49]

The Medicare Payment Advisory Commission (MedPAC) studied whether physician self-referral affected the use of imaging. Physician self-referral occurs when a physician orders tests on a patient that will be performed either by the referring physician himself or a colleague who reimburses for the referral. MedPAC is an independent Congressional agency established by the Balanced Budget Act of 1997 (P.L. 105-33). Their primary purpose is to advise the U.S. Congress on issues affecting the Medicare program. They found that compared with non self-referring physicians, up to 22% more of self-referring physicians' patients received at least

[47] D.C. Levin, et al. "Recent payment and utilization trends in radio- nuclide myocardial perfusion imaging: comparison between self-referral and referral to radiologists." *Journal of the American College of Radiology* 6, no. 6(2009):437-441.

[48] ibid.

[49] ibid.

one imaging service.[50] MedPAC reported, "physicians who furnish imaging services in their offices order more imaging than other physicians."[51] They cited a study that found after orthopedics in his study began billing for MRIs, the number of scans ordered within 30 days of the patient's visit increased by 38%.[52]

Resources are Meant to be Used, NOT Overused

The current payment environment in the United States incentivizes overutilization of medical resources. A study involving Medicare patients and treatment quantity received found that residents in the highest spending regions "received about 60% more care than residents of the lowest spending [regions]."[53] Higher spending regions are not necessarily wealthier areas. In this context, it refers to areas that have higher health expenditures than the national average. In these higher spending regions with more hospital beds per capita, patients are more likely to be admitted to a hospital. Dr. Elliot Fisher, Harvard Medical School alumni and member of The Dartmouth Institute for Health Policy and Clinical Practice, states "it has been shown that physicians adapt their admission and discharge decisions to the availability of ICU beds, admitting more patients with less severe illness… when more beds are available."[54] If more hospital beds are filled, Medicare spends more

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[50] MedPAC. A Report to the Congress: Medicare and the Health Care Delivery System. http://www.medpac.gov/documents/Jun11_EntireReport.pdf. Accessed November 25, 2012.

[51] MedPAC, op. cit.

[52] L.C. Baker. "Acquisition of MRI equipment by doctors drives up imaging use and spending." *Health Affairs* 29, no. 12 (December 2010): 2252–2259.

[53] Elliott Fisher, et al. "The implications of regional variations in Medicare spending. Part 2: health outcomes and satisfaction with care." *Annals of Internal Medicine* 138 (2003): 288-298.

[54] ibid.

on hospital care. This trend was the same for intensive care unit beds and CT scans performed.[55] Higher spending regions utilized between 52% and 77% higher quantity of medical services than the lower spending regions.[56] There was no difference in health outcomes among the higher spending regions and the lower spending regions. They established this by projecting each regions patient's risk of death. It was determined that despite higher health expenditures in some regions, the risk of death differed little across spending levels.[57] Dr. Fisher and his partners "found no evidence to suggest the pattern of practice observed in higher spending regions led to improved survival, slower decline in functional status, or improved satisfaction with care."[58] Doctors do not only allot medical services based on actual patient need. Medical services are often provided based on resource availability.

Some areas reward hospitals and physicians for expanding capacity and recruiting additional procedure-oriented specialists.[59] This is due to due to local capacity, social norms, and the fee-for-service environment. Physicians in both high and low spending regions make similar decisions in cases where there is strong evidence for a specific treatment. However, physicians in high-spending regions are much more likely to intervene in cases where there is no clear choice of medical treatment.[60] The author found that "in high-spending regions, 47% of physicians schedule hypertensive patients every three months or more often, while only 19%

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[55] Elliott Fisher, et al. "Health Care Spending, Quality, and Outcomes: More Isn't Always Better." *Dartmouth Atlas of Health Care*. February 2009.
[56] Elliott Fisher, et al. "The implications of regional variations," op. cit.
[57] Elliott Fisher, et al. "The implications of regional variations," op. cit.
[58] Elliott Fisher, et al. "The implications of regional variations." op. cit.
[59] Elliott Fisher, et al. "Health Care Spending, Quality, and Outcomes," op. cit.
[60] Elliott Fisher, et al. "Health Care Spending, Quality, and Outcomes," op. cit.

of physicians in low-spending regions do so."[61] The study also concluded that compared with physicians in the lowest-spending quintile, doctors in the highest-spending quintile recommended an additional, "80 hypertension follow-up visits per year, 14 spiral CT scans, 25 echo-cardiograms, 24 cardiac care unit admissions, and 29 gastroenterology referrals (per 100 patients in each clinical category)."[62] There is a perverse correlation between the income of healthcare providers and the number of hospital beds filled, CT scans performed, and tests executed. To squeeze out the apparent waste, someone will have to make less money.

The United States Culture of Money

New York Times Journalist Atul Gawande studied two towns in Texas, one that had high costs and one that had low costs. He concluded that the town with higher costs did not have better health outcomes than the other town. Medicare ranks hospitals on twenty-five metrics of care. On all but two of these, the higher spending town's five largest hospitals performed worse, on average, than those of the lower spending town. The higher spending town cost Medicare $7,000 more per person each year than the average city in America. Gawande attributed this to the "American culture of money." According to Gawande, many doctors have an "entrepreneurial spirit." These doctors are innovative and aggressive in finding ways to increase revenues from patient care. Many physicians "see their practice

[61] B. Sirovich, et al. "Discretionary decision making by primary care physicians and the cost of U.S. Health care." *Health Affairs* 27(2008): 813-823.
[62] ibid.

primarily as a revenue stream."[63] Some doctors are either oblivious to the financial implications of their decisions, believe that money improves their outcomes, or see their practice primarily as a revenue stream, not a health care provider.[64] Gawande said, "The most expensive piece of medical equipment, as the saying goes, is the doctor's pen."[65] Doctors have the power to make medical treatment very costly for patients and very rewarding for themselves.

This power is the heart of the American reimbursement problem. In the United States, doctors are paid for quantity, not quality. They are paid as individuals, rather than as members of a team working together for their patients. But not all providers engage in this practice. Why not? This, according to Gawande, is the "$2.4 trillion question." To change the perverse incentives of the fee-for-service system we must answer it.

Not all nations struggle with perverse incentives. Understanding why could help America solve our reimbursement problems.

The French Model

In contrast to the United States, the French system of health care reimbursement does not create perverse incentives. The national government ensures that the entire population has access to care. It dictates the types of care reimbursed, and amounts of reimbursement. The government decides the role of

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[63] Atul Gawande. "The Cost Conundrum: What a Texas Town can Teach Us about Health Care." *The New Yorker*. (June 1, 2009). http://www.newyorker.com/reporting/2009/06/01/090601fa_fact_gawande
[64] ibid.
[65] ibid.

the various participating entities.[66] Health care is much more centralized in this nation. And by objective measures, it is more efficient and less costly.

In France the government establishes national reimbursement rates that apply to all health care providers. Details of coverage and reimbursement are the result of contracts between the government, representing the big government-run sickness funds, and provider unions.[67] Examples of these represented providers include hospitals and private physicians. This relationship is akin to Aetna and UnitedHealth negotiating with doctors, hospitals, and drug companies to set fees in the United States.[68] The difference is that in France, only the providers are profit-making entities. Instead of both parties attempting to reach the most profitable compromise, only one party is worried about profit. This keeps the negotiated prices lower.

Prior to any negotiations, the National Health Ministry sets the provisional price of procedures. This includes the price providers may charge for most types of treatment and the price of each prescription drug.[69] After the prices are tentatively set, the physicians' unions and public health insurance funds representatives meet to negotiate a final agreement.[70] The final fixed rates to be used by all doctors for all health services are known as the *Tarif de convention*, or tariff references. The vast majority of practitioners, about 97%, conform to these prices. Those medical practitioners and clinics/hospitals who do not comply are required to display their

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[66] Stephanie Brunner. "The French Health Care System." *Medical News Today* (2009).
[67] Paul Clay Sorum. "France Tries to Save its Ailing National Health Insurance System." *Journal of Public Health Policy* 26 no. 2 (2005): 231-245.
[68] T.R. Reid, op. cit., p. 54.
[69] T.R. Reid, op. cit., p. 54.
[70] Stephanie Brunner, op. cit.

prices to potential customers.[71] The insurance funds will not cover any charges over the official fixed price, so patients must pay for the difference entirely out of pocket.

There are two "sectors" of physicians in France, each with different rules concerning *Tarif de convention*. Sector one, comprised mostly of private physicians and other providers, is subject to the fixed schedule of charges. The prices established by the government are non-negotiable. Sector two encompasses a minority of physicians (15% of generalists and 35% of specialists). These providers are permitted by the public health insurance funds to charge more for services in return for giving up some social security benefits. The extra fee is called a *dépassement.*[72]

The system of fixed charges has produced a considerable saving in the composition of physicians. The average French doctor makes about a quarter of the income of his counterpart in the United States.[73] Most of the fixed prices set by the Health Ministry amount to one-third, or sometimes one-quarter, of what the same treatment would cost in the United States. [74]

Americans may wonder how the French attract sufficient numbers of people into medicine at these low compensation rates. One answer is that the system has built in other financial incentives to make medical practice attractive. No French doctor pays a penny to go to college or medical school.[75] Since doctors graduate with no debt, they are under less pressure to earn a high income. Additionally,

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[71] ibid.
[72] ibid.
[73] T.R. Reid, op. cit., p. 61.
[74] ibid.
[75] ibid., p. 62.

malpractice lawsuits are rare in the French health care system. Because doctors are seldom sued, they pay far less for malpractice insurance. Typical premiums for French doctors cost less in a year than their American counterparts pay in a week.[76]

How the French Transformed Reimbursement

Numerous revisions of French health care policies have resulted in the WHO ranking their health care system number one in the world.

In 1995, the general fund, advised by health care experts, began to issue short lists of practices considered inappropriate. They also developed a handful of more detailed evidence-based recommendations.[77] If the Health Ministry did not endorse procedures, they did not qualify for reimbursement. Unlike the current reimbursement structure, most physicians outside hospitals were private and paid under a fee-for-service reimbursement system.[78]

In 2005, the Douste-Blazy law restructured the reimbursement system to reduced waste. The Union nationale de caisses d'assurance maladie (National Union of Health Insurance Funds), or Uncam, was created when this law combined all health insurance funds into a single organization.[79] It negotiates agreements with medical and paramedical professions about modes of practice. Under this law, the government continues to set a yearly target for reimbursable health care expenses and contract with the health insurance funds to manage the system.[80] Uncam is also responsible, with the assistance of the medical unions and supplementary insurers,

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[76] ibid.
[77] Paul Clay Sorum, op. cit.
[78] ibid.
[79] ibid.
[80] ibid.

for proposing changes in what products and services are reimbursed.[81] This particular provision permits efficiency to be taken into account in decisions about what services are medically necessary and economically feasible. The law established an independent High Health Authority, who is the technical consultant to Uncam and the government. Uncam's general director was put in charge of setting specific priorities and budgets, naming regional and local administrators of the funds, and negotiating with the various providers.[82]

In 2006, the new general director of Uncam, Frédéric van Roekghem, achieved the laws first major success. He signed a new contract with the heads of three of France's five physicians' unions. Physicians' remunerations were increased. In return, the contract committed physicians to voluntarily changing their prescribing practices to reduce expenditures.[83] Under this agreement, doctors are responsible for using medical services only when they believe the services are truly necessary. Providers have an incentive to underutilize and use their judgment for the good of the patient, instead of overutilizing to increase their payments. While this could create an adverse incentive to severely underutilize services to the detriment of the patient, France has not experienced this effect. Their high health outcomes and number one ranking by the WHO prove this compromise has been effective, at least for the time being.

Under the French health care system, patients pay some fee for virtually every medical service. The fee is reimbursed by the insurance system in whole or in

[81] ibid.
[82] ibid.
[83] ibid.

part in a matter of days.[84] This system shows each patient exactly how much money the government is paying on his or her behalf. Just as with personal bills that the government does not pay, the people understand better just how quickly each individual medical treatment can lead to huge costs for the nation. The reimbursement system makes the public feel more accountable for their medical services.

Japan: Same System, Different Results

Like the United States, the Japanese rely on a fee-for-service payment approach. The difference is that, unlike the United States, Japan controls health costs and keeps them low through strict government regulation.

Providers are bound by a fee schedule that sets the price and conditions for all insurance plans.[85] This creates a single payment system that is applied across the board, despite the multiplicity of payers in the Japanese health care system.[86] The reimbursement structure provides equity to Japanese citizens, because the benefit package is essentially the same for all social health insurance plans. This system also reduced administrative costs and improves efficiency.

Doctors originally agreed to the fee schedule because they could charge higher prices for patients not covered by insurance. They also understood that patients enrolled in social health insurance would no longer default on payments.[87]

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[84] T.R. Reid, op. cit., p. 16.
[85] Akira Babazono, et al. "Japanese universal health coverage: evolution, achievements, and challenges." *Lancet* 378 (2011): 1107.
[86] T.R. Reid, op. cit., p. 90.
[87] Akira Babazono, et al., op. cit., p. 1107.

The fee schedule controls the costs created by physician proscribing practices. It controls the money transfers from all insurance plans to almost all providers. Japan uses a three staged fee-revision process when modifying the fee schedule. This processes also helps to control costs and minimize conflict among various participants.[88]

Peer review panels inspect provider claims to ensure providers adhere to the regulations for billing set by the fee schedule. About 1.4% of bills are denied payment.[89] In addition to inspection of provider claims, peer review panels also perform on-site audits of medical records. The frequency of the audits depends on the providers past record of complying with the fee schedule. If the audit reveals a pattern of noncompliance to the fee schedule, the provider is required to pay back the amount inappropriately billed for the last 6-12 months.[90] This system ensures that providers are not overcharging patients or over-utilizing medical services. And audits control quality by standardizing physicians' practice in line with the regulations.[91]

The result is that Japan has among the highest rates of medical care provided in the world. For instance, Japan performs 13.2 physician consultations per head per year. The United States performs only 3.9 physician consultations per head per year. In the United States, there is financial incentive to cheat the reimbursement system. In Japan, there is financial incentive to adhere to the reimbursement system.

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[88] Gyu-Jin Hwang. "Going separate ways? The reform of health insurance funds in Germany, Japan and South Korea." *Policy Studies* 29 no. 4 (2009): 421-435.

[89] Hideki Hashimoto, et al. "Cost containment and quality of care in Japan: is there a trade-off?" *The Lancet* 378 (2011): 1174-1182.

[90] ibid.

[91] ibid.

The Japanese reimbursement system also prohibits extra billing, or billing of services and drugs that are not listed in the fee schedule. These extra-charge restrictions mainly focus on new technology's that are still being assessed for efficacy. They also prohibit balance billing, or charging more than the prescribed price for a service.[92]

Revising the Fee Schedule

Every two years, the prices for services that Japanese insurers must pay to doctors and hospitals are set in national negotiation between the Japanese Medical Association and the national government's health ministry.[93] During this lengthy process, the Ministry of Finance seeks to reduce reimbursement rates. The provider groups lobby for increased reimbursement rates. The Ministry of Health, Labor, and Welfare provide technical expertise.[94] The next step is actually setting the prices of drugs, devices, and services.

Japan uses this revision process to promote or discourage the use of certain medical services. For instance, the reimbursement rates of physician home visits have been increased to motivate doctors to increase this service.[95]

The reimbursement rate for imaging services in Japan is far less than the payment received in the United States. American doctors charge between $1,000 and $1,400 for an MRI. In Japan, the price of a MRI is set at $105.[96] This is the total price of the MRI. The price is not this low because of a government subsidy. The fee

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[92] ibid.
[93] T.R. Reid, op. cit., p. 92.
[94] Hideki Hashimoto, et al., op. cit.
[95] ibid.
[96] T.R. Reid, op. cit., p. 94.

schedule sets prices that are not much higher than the basic cost of the treatment. Many revisions of the fee schedule system are based more on policy decisions than objective evidence.

Most doctors in Japan graduate from medical school with no debt**.** The government subsidizes medical school costs. For example one doctor had a tuition that amounted to $1,500 in U.S. dollars a year, and the local government helped him pay it.[97] As is the case in France, leaving medical school with no debt frees doctors from the financial burden of repaying the bill. Making a high income and receiving the highest payments possible is not as important. Like in France, Japan has lower medical malpractice insurance premiums. This is a result of far fewer malpractice suits. In the United States, there are 50,000-60,000 malpractice suits per one million people. In Japan, there are between 40-80 malpractice suits per one million.[98]

Conclusion

The reimbursement system in the United States costs the nation billions of dollars every year. Some doctors exploit the fee-for-service system as a moneymaking machine. To rein in costs we must fix the reimbursement system. France and Japan show how it can be done.

The experience of France shows that fixed prices can lead to far lower health care expenditures. However, the French reimbursement system results in doctors

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[97] ibid., p. 96.

[98] Robert B. Leflar. "The Regulation of Medical Malpractice in Japan." *Clinical Orthopedics and Related Research* 467, no. 2 (February 2009): 443-449.

receiving a far lower income. Currently in the United States there are no alternative fiscal incentives to offset the reduced income.

Japan uses a fee-for-service system similar to that in the United States, but the Japanese system uses tight government controls to keep costs low and has adopted a review process that provides financial disincentives for cheating the system. Such a system might serve as a model for the United States.

The bottom line is that something must change. It is clear that it will take tight government regulation to ensure that providers utilize only necessary medical services. Whatever model the United States adopts, the experience of France and Japan suggest that more stringent regulation of the private healthcare sector will be indispensable if we are to curb rising healthcare costs.

Possible Reimbursement Structures

The Main Three: Fee-for-service, Capitation, Salary

Fee-for-service is the most common for of provider reimbursement in the United States. In terms of office visits, this structure represents over 90% of primary care practice revenue.[99] But there are two other main systems of reimbursement: capitation and salary. Capitation pays the doctor based on the number of registered patients. The more patients registered and seen, the more money the provider receives. Under salary reimbursement, medical providers and other staff members are paid based on a fixed salary that does not vary with the number of patients seen or services provided.

The payment structure must enable the health care provider to receive the highest payment possible while at the same time costing the payer the lowest amount possible.[100] In this chapter I show that no single reimbursement structure will achieve all the objectives of physician remuneration.

A reimbursement structure that blends all three of these systems will enable us to produce a significantly better system than the one currently in place. It will blend elements of prospective and retrospective payment, or capitation and fee-for-service, by mixing base salaries, commissions, bonuses, profit sharing, and innumerable complex and creative devices.[101]

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[99] Robert A. Berenson and Eugene C. Rich. "US Approaches to Physician Payment: The Deconstruction of Primary Care." *Journal of General Internal Medicine* 25, no. 6 (2010): 613.

[100] James C. Robinson. "Theory and Practice in the Design of Physician Payment Incentives." *The Millbank Quarterly* 79, no. 2 (2001): 150.

[101] ibid., p. 152.

Restructuring the reimbursement system is one of the most vital steps to fixing American health care. The relationship between doctors, patients, and insurance companies are based in part upon the payment method used.[102] As seen in the previous chapter, reimbursement induces and rewards the doctor's behavior. Remuneration directly effects how the physician behaves, which directly affects the health of the patient and the cost of treatment. It also affects doctor's willingness to work with others in their profession and put the patients needs first.

Capitation Reimbursement

"The major difference between fee-for-service and capitation insurance systems is the assumption of financial risk."[103] Providers who care for patients under capitation insurance are completely at risk for resource over-utilization. Capitation discourages the use of resources. Because financial rewards are not based on the number of services provided, physicians are far more likely to only provide necessary treatment.

Under a capitation system the payer permits the practitioner to determine how to allocate his or her own time and efforts between patients.[104] Additionally, primary care physicians are not reimbursed for services provided to their patients by specialists or hospitals.

Risk adjustment creates a huge issue in the world of capitation insurance. Historically only age and gender affected the setting of capitation rates. Health

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[102] ibid., p. 150.
[103] Joe W. Ramsdell. "Physician Reimbursement for Services to HMO-Sponsored Patients: An Academic Model." *Medical Care* 23, no. 12 (December 1985): 1315.
[104] Robert A. Berenson and Eugene C. Rich, ibid., p. 615.

status was not considered. As a result, physicians were reimbursed too highly for simple patients and received much lower patients than they should have for complex patients.[105] Many primary care physicians with sicker populations received payment shortfalls. This provided incentive to offload their professional obligations to others, such as specialists. Capitation often had the perverse effect of "ping-ponging patients."[106]

Capitation gives physicians no incentive to work long hours or to perform any and all procedures. The lack of focus on services provided creates incentive to provide patients with minimal care. There is also an incentive to only see patients requiring minimal care in the first place. Patients that might have higher health care demands are often neglected. "Capitation creates incentives for under-treatment."[107]

One study researched the accessibility to office-based physicians under capitation reimbursement of children in the Medicaid program. Called the Children's Medicaid Program, it operated between July 1983 and December 1985 in Suffolk County, New York. The 88 physicians that participated were randomly assigned to an augmented fee-for-service group, a capitation group with a risk-sharing component for referred services, or a control group.

Physicians in the capitation payment group were paid a fixed monthly fee to care for each CMP.[108] They were also financially at risk for other services the

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[105] ibid.
[106] ibid.
[107] James C. Robinson, op. cit., p. 167.
[108] Mina M. Hohlen, et al. "Access to Office-Based Physicians under Capitation Reimbursement and Medicaid Case Management: Findings from the Children's

children used. A separate fund was established to pay for the use of services provided by specialists and hospitals. The capitation physician shared in the surplus or deficit of this referral account. If a surplus remained, the physician received 40% as a bonus for having controlled utilization. If there was no surplus, the physician was responsible for part of the deficit.[109]

The authors found that providers in the augmented fee-for-service system saw their children more frequently than doctors in the capitation group.[110] Although there is no data concerning the quality of the care received, the authors concluded that more generous reimbursement improved access.[111]

While capitation addresses many of the problems inherent in the FFS system, it also creates some massive problems of its own.

Salary Reimbursement

Studies show that doctors on fixed salaries use fewer medical resources. T. Godsen, L. Pedersen, and D. Torgerson performed a study on behalf of the National Primary Care Research and Development Centre.[112] They compared nineteen studies and concluded salaried doctors perform fewer medical services than those remunerated under a fee-for-service system. "Nine of these studies showed that salaried doctors had lower volumes of consultation than FFS doctors. Five out of the

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Medicaid Program." *Medical Care* 28, no. 1 (January 1990): 60.

[109] ibid.

[110] ibid., p. 63.

[111] ibid., p. 65.

[112] T. Godson, L. Pedersen, and D. Torgerson. "How should we pay doctors? A systematic review of salary payments and their effect on doctor behavior." *National Primary Care Research and Development Centre*. Accessed April 2, 2012. http://qjmed.oxfordjournals.org/

nine studies that looked at the volume of tests and X-rays requested found that salaried doctors ordered fewer tests than FFS doctors."[113] The results continued in this manner, all proving that salary reimbursement results in a lower quantity of medical services provided.

Of course, salary reimbursement is only feasible if the physician is an employee accountable to an employer. In 2005, over two-thirds of medical practices in the United States were physician owned. By 2008 that share had dropped to below 50% of medical practices, and analysts say the slide has continued.[114] Despite this substantial increase in the number of employed physicians, it is generally agreed that salary reimbursement will very rarely be successful on its own.[115]

Critics contend that salary reimbursement is not "incentive neutral." They argue that salaries dissuade doctors from seeing patients with complex health problems. Treating such patients would require the physician to either increase their total hours worked or reduce the time available to serve other patients.[116] Since such physicians are not paid for overtime they have little incentive to work longer hours. And because they receive their pay regardless of how many patients they actually attend to, making sure every patient is seen is not as vital.

Salary-based models may lack the element of a "social contract" between the personal physician and the patient. Salaried physicians often believe themselves

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[113] ibid.

[114] Gardiner Harris. "More Doctors Giving Up Private Practice." *The New York Times* (March 25, 2010). http://www.nytimes.com/2010/03/26/health/policy/26docs.html?pagewanted=all&_r=0

[115] Robert A. Berenson and Eugene C. Rich, op. cit., p. 616.

[116] ibid.

accountable to the organization employing them, and not the patient. Dr. Robert Berenson and Dr. Eugene Rich from The Urban Institute believe this can lead to lower care quality and a loss of trust between the patient and physician.[117]

Mixed Payment Structures

Each of the three main reimbursement alternatives create incentives that are damaging to the patient and the practice of medicine. They also create incentives that cost the American health care system millions of dollars every year. This is money our nation cannot afford to waste. Luckily, all of these reimbursement structures also create positive incentives that can lead to better health care at lower costs. The best way to structure health care reimbursement is to combine these three systems, utilizing the best aspects of all three and minimizing the potential adverse effects, to create a structure that rewards providers for producing high quality care at low costs.

The most common blended payment form used by American payers combines capitation payment and fee-for-service payment. Primary care doctors are paid a flat monthly rate per enrolled patient. This payment is adjusted for age and sex and limited by stop-loss provisions. The capitation is supplemented with fees for specified carved-out services. The fee-for-service supplements ensure that sicker patients won't be neglected and "encourage a broader scope of practice."[118] This reimbursement structure is similar to what is used in Japan, where remuneration is used to change service quantity in certain areas of medicine. Office procedures

[117] ibid.
[118] James C. Robinson, op. cit., p. 159.

using costly supplies the physician must pay for are often paid fee-for-service in order to offset the their high costs.[119] If it were decided that doctors were abusing these services to generate higher income, the FFS reimbursement would end.

A second mixed payment method used in America involves complementing the "Base Pay," or pay for performance. Marginal financial incentives reward or penalize clinicians based on "predetermined performance goals as reflected in specific performance measures."[120] These performance measures attempt to measure quality, spending, and/or patient experience. This reimbursement structure is best used to supplement other payment methods. For example, including a pay-for-performance reward system in a capitation plan could reduce the tendency to underutilize necessary services.[121]

Specialty budgets with fee-for-service or "contact" capitation are utilized solely with specialists. Specialty groups are paid on a capitation basis to provide specialty services to a defined population of controlled patients.[122] These groups subcontract under the more general umbrella of a multispecialty Independent Practice Association or health plan. Virtual specialty departments are formed and are assigned a predetermined budget. This budget covers all visits and procedures performed by member specialists.[123] The total amount of money available is divided first between primary and specialty care, and then among the various specialty departments. Physicians with more experience often receive a larger share.

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[119] ibid., p. 160.
[120] Robert A. Berenson and Eugene C. Rich, op. cit., p. 616.
[121] Robert A. Berenson and Eugene C. Rich., op. cit., p. 617.
[122] James C. Robinson, op. cit., p. 160.
[123] ibid., p. 161.

Individual specialists continue to submit claims for payment on a fee-for-service basis to the health plan or IPA. However, the amount of money actually paid for any given claim is adjusted to ensure each specialty department stays within its budget.[124] In an ideal situation, cost-effectiveness is created since peer monitoring and disciplining of inappropriate behavior is easier to spot within specialty lines than across them.

While this type of specialty department capitation minimizes "overgrazing" of the clinical commons, it does not eliminate it. For example, a physician might still over-utilize medical resources, knowing the consequent reduction in unit prices will be spread over the entire department and not just subtracted from that individual physician's reimbursement.[125] The peer overview ensures that physicians who do practice in this way are punished. The overall savings generated by this mixed payment system outweigh the possible negatives.

Case rates for episodes of illness are another example of mixed reimbursement structure specifically for specialists. This reimbursement structure allocates probability risk to the insurer (who pays the physician only if the patient needs care, and only enough to cover the costs of efficient care). It also allocates technical risk to the physician, since the case rate is determined based on the average cost to treat the episode.[126] For example, "the case rate can cover cardiology services for six months, but allow for recalibration of the episode time period if a predefined important event occurs, such as a major complication or a patient-

[124] ibid.
[125] ibid., p. 162.
[126] ibid., p. 163.

initiated switch of physician."[127] Under this structure, payment is made on a monthly basis. It is also front-loaded to take account of the fact that most resource-intensive tests and procedures occur early in an episode of care.

Conclusions

No single reimbursement structure can be implemented across all health care providers to solve the problems created by fee-for-service. However, creating different structures for different providers is the first step.

Organizations employing physicians, such as hospitals, should embrace salary reimbursement. Most institutions will need to provide additional incentives for their employees to ensure their time is spent in an efficient and productive manner. Including fee-for-service options with certain procedures or rewards based on capitation and high health quality outcomes will address the issues created by the salary system.

For physicians in private practice, salary is not an option. Instead, capitation should be the main reimbursement method. Again, fee-for-service can be used to ensure that specific health procedures found to be highly useful, such as vaccines, are performed. Performance indicators can also be used to increase or decrease the remuneration each physician receives.

[127] ibid.

Fragmentation of Health Care Delivery

Health Care Fragmentation Costs Money

The fragmented health care delivery system in the United States costs the nation billions of dollars each year. It has been estimated that the waste associated with this fragmentation totaled between $127 and $199 billion in 2011.[128] This equals about 7% of the national health expenditure.

In addition to these huge sums, fragmented care delivery results in the additional, non-quantifiable costs incurred by patients falling through the cracks. Patients experience complications, hospital readmissions, declines in functional status, and increased dependency. The United States health care system has created a "too many cooks in the kitchen" scenario. The more physicians individually involved with each patient, the greater the likelihood of mistakes.[129] Fragmented care contributes to preventable medical errors.

One study found that, in Medicare patients, "areas with one more medical specialist per 100,000 population have $90 higher Medicare spending per beneficiary, while areas with one or more family practitioner have spending that is $30 lower."[130] In other words, areas with eight fewer medical specialists per 100,000 people and eight more family practitioners spend $1,000 less per

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[128] D. Berwick and A. Hackbarth. "Eliminating Waste in U.S. Health Care." *Journal of the American Medical Association* 307, no. 14 (2012):1513-1514.

[129] Elliot Fisher. "Health Care Spending, Quality, and Outcomes," op. cit., p. 3.

[130] Katherine Baicker and Amitabh Chandra. "The Productivity of Physician Specialization: Evidence from the Medicare Program." *The American Economic Review* 94, no. 2 (May 2004): 360.

beneficiary. This is almost a 20% decrease in spending.[131] The same study found patients in areas with more primary care physicians experience 3.7% higher overall satisfaction with the medical care received.[132]

Fragmented delivery often results in overtreatment. The unnecessary duplicate or unhelpful procedures cost the nation a lot of money. And overtreatment can harm patients. Shannon Brownlee is the acting director of the health policy program at the New American Foundation and is the author of "Overtreated: Why too much medicine is making us sicker and poorer." She concludes that tests sometimes "lead [patients] down a path, a therapeutic cascade, where [they] start to tumble downstream to more and more testing, more and more invasive testing, and possibly even treatment for things that should be left well enough alone."[133]

The fee-for-service reimbursement system provides incentives for physicians to shun cooperation and work alone.[134] The subsequent overtreatment costs the United States between $158 and $226 billion annually.[135] As Atul Gawande observes, the U.S must "wean [health care institutions] away from their untenably fragmented, quantity-driven systems of health care, step by step." To improve the health care system, Gawande argues that doctors must "collaborate to increase

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[131] ibid., p. 359.
[132] ibid.
[133] Tara Parker-Pope. "Overtreatment is Taking a Harmful Toll." *The New York Times* (August 27, 2012). Accessed April 22, 2013. http://well.blogs.nytimes.com/2012/08/27/overtreatment-is-taking-a-harmful-toll/
[134] "What is Driving U.S. Health Care Spending?" op. cit., p. 9.
[135] ibid.

prevention and quality care, while discouraging overtreatment, under-treatment, and sheer profiting."[136]

Unified Care Achieved in France

For years France has provided integrated care delivery. They ended fragmentation within their health care system and are reaping the benefits. In addition to excellent outputs and low health cost expenditures, the French health care system offers free choice among skillful doctors and well-equipped hospitals.[137]

In 1998, France instituted *médecin traitants*, or family doctors, who act as gatekeepers to limit inappropriate access to specialists.[138] The *médecin traitants* did not immediately limit free choice or direct access to all doctors. Though French citizens could choose not to register with a family doctor and seek health care without a referral, there was a financial incentive to use these gatekeepers. Patients who saw a specialist without a referral would be reimbursed for only 60% of the cost. However, insurance reimbursed the patient 70% of the cost if the patient sought a referral from their *médecin traitants* first.[139]

This process was revamped in 2005 under the Douste-Blazy law, which used the structure of Union nationale des caisses d'assurane maladie (National Union of Health Insurance Funds, Uncam) to achieve better coordination of care, with less duplication of services. Uncam was created when the Douste-Blazy law combined all

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[136] Atul Gawande, op. cit.
[137] T.R. Reid, op. cit., p. 63.
[138] Frederico Toth. "Healthcare policies over the last 20 years: Reforms and counter-reforms." *Health Policy* 95 (2010): 84.
[139] T.R. Reid, op. cit., p. 55.

health insurance funds into a single organization.[140] The law focused on developing a shared, computerized medical record for each patient and giving financial incentives to patients over 16 to choose a primary physician.[141] Three of France's five physicians' unions signed a contract with the new general director of Uncam, Frédéric Van Roekeghem, shortly after this law passed. The contract required patients to select a "treating" physician, without whose referral it is more expensive to see other physicians.[142]

Each patient over the age of 16 is invited to choose a primary care doctor (*médecin traitant)*, with whom he/she signs a contract. [143]This doctor becomes that patient's first point of contact with the health care system. If the physician or his substitute in unavailable, the patient can consult another physician and inform his/her *caisse d'assurance* (the organization where the patient registered their *médecin traitant* as their primary care doctor).[144]

The reform produced promising results. By March 2006, one year after the law went into action, 76.8% of patients had nominated a preferred doctor. 99.6% of these preferred doctors were General Practitioners.[145]

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[140] Paul Clay Sorum, op. cit., p. 238.
[141] Paul Clay Sorum, op. cit., p. 238-239.
[142] Paul Clay Sorum, op. cit., p. 240.
[143] Laure Com-Ruelle, Paul Dourgnon, and Valérie Paris. "Can physician gatekeeping and patient choice be reconciled in France? Analysis of recent reform." *Eurohealth*, 12 no.1. (2006):17.
[144] Stephanie Brunner, op. cit.
[145] Laure Com-Ruelle, Paul Dourgnon, and Valérie Paris, op. cit., p. 17.

Dossier Médical Personnel (DMP)

France has successfully implemented a Nationwide Health Information Network, known as the *dossier médical personnel* (DMP). This is an electronic personal medical file that was authorized for use by clinicians in 2011.

Introduced as part of the Health Insurance Reform Act in August 2004, the government was the driving force behind DMP adoption. Like all Electronic Health Records, the DMP contains all information and data deemed necessary for the coordination of a patient's care between providers.[146] The data is organized by category in chronological order. Health care professionals who were approved for access by the patient enter information into the DMP. All information is dated and signed so the author may be identified. Providers are required to use health record software that is interoperable with the DMP.[147]

One of the most popular aspects of the *dossier médical personnel* is that it allows patients to take responsibility for their own care.[148] They must consent to the creation of their record, and each individual patient controls the conditions for accessing it. European Union privacy laws and the French Public Health Code give a patient the right to object to the exchange of the patient's health information.[149] The ability to access these files by any and all providers does not equal permission for any provider to open patient's files.

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[146] Amanda Grady. "Electronic Health Records: How the United States can learn from the French dossier medical personnel." *Wisconsin International Law Journal* 30 no.2 (2007): 387.
[147] ibid.
[148] ibid.
[149] ibid.

Organizations representing patient's interests are working closely with organizations of health care professionals to ensure patient's rights are protected. France has had to grapple the issue of privacy rights just as the United States must. The nation successfully implemented the DMP while adhering to the privacy laws of their own legislature, plus those of the European Union.

Carte Vitale is Insurance Made Easy

After the successful implementation of a nationwide health information network, France created a simple process for insurance company billing and claims filing. The *carte vitale* is a green plastic credit card with a small gold memory chip embedded in the middle.[150] It is the central administrative tool of French medicine.

The *carte vitale* acts as an electronic health insurance card. It contains demographic and insurance information about the cardholder.[151] The card shows how much providers have charged for each visit and what was paid, both by the insurance funds and by the patient.[152] The card contains no medical information. Every French citizen over the age of 15 has their own *carte vitale*. For children younger than 15, insurance information is kept on his/her mother's card.[153]

The card has made the payment of medical bills easy and efficient. Each patient's green card records which sickness fund and which private *mutuelle* (health insurance plan) covers that patient.[154] After the doctor enters the day's treatment on the patient's card, he hits a single button on the keyboard to send all billing

[150] T.R. Reid, op. cit., p. 49.
[151] Amanda Grady, op. cit., p. 385.
[152] T.R. Reid, op. cit., p. 58.
[153] ibid.
[154] T.R. Reid, op. cit., p. 58-59.

information to the relevant insurance plan. There is no middleman involvement and administrative costs are extremely low.[155]

Automatic payment also makes the French hospitals dramatically cheaper than any U.S. hospital. Despite a greater number of doctors and nurses per patient, French hospitals have 67% fewer administrative personnel to keep track of paperwork and billing.[156] Administrative costs are kept below 5%.

The French Health Ministry insists there have been no breeches of privacy. The gold chip is encrypted, affording the utmost protection to each patient.. There are 50 million of these cards circulating in France. 1,000 or so get lost every week. A lost *carte vitale* found can be dropped in any mailbox, from which it will be forwarded to the national *Centre des Cartes Vitale Perdues*. About 80% of lost cards eventually get back to the owner.[157] Even those cards that are not returned to the owner cannot be used to retrieve any personal information about the patient who owns the card.

France has successfully implemented a system of coordinated care delivery that keeps costs low and outcomes high. The nation was able to solve similar problems the U.S. faces such as privacy and technology. The U.S. could learn many things from this implementation.

Japanese Attempts at Care Coordination

Japan is in the middle of attempting to coordinate health care delivery. Although not yet as sophisticated as France, they are further along in their attempts

[155] ibid.
[156] ibid.
[157] ibid.

to end delivery fragmentation than the United States. The Japanese health care system incorporates values that are highly prized in the United States. These include employment-based health insurance and freedom of physician choice.[158]

Although some Japanese have a consistent primary care doctor, many do not. Not all patients must go through a gatekeeper physician before seeing a specialist. Patients may choose their medical facilities. They also may switch medical facilities at any point during treatment[159] These patient freedoms make it difficult for health care workers to ensure each patient is getting the proper treatment.[160]

Financial incentives motivate patients to visit primary care doctors prior to seeing a specialist. Patients who go straight to a specialist without a referral are often charged a higher price for the service than insurance will reimburse. This is known as extra-billing.[161] But these financial incentives are not substantial enough to persuade all patients to seek referrals from general practitioners.

Moving Towards Electronic Health Records

Japan has created an electronic records system to store and permit the sharing of a patient's records. Electronic health records will improve health delivery by linking prevention and treatment and improving cost management.[162]

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[158] N. Ikegami. "Japanese Health Care: low costs through regulated fees." *Health Affairs,* 10 no. 3. (1991): 88.

[159] World Health Organization and Ministry of Health, Labor, and Welfare, Japan. *Health Service Delivery Profile: Japan, 2012*. Accessed January 15, 2013. http://www.wpro.who.int/health_services/service_delivery_profile_japan.pdf

[160] World Health Organization and Ministry. *Health Service Delivery Profile*, op. cit.

[161] Hideki Hashimoto et al., op. cit., p. 1175.

[162] World Health Organization and Ministry. *Health Service Delivery Profile,* op. cit.

The Ministry of Health, Labor and Welfare formulated the "Grand Design for the Development of Information Systems in the Healthcare and Medical Fields" in 2001. The Ministry's goal was to establish electronic health records in 60% of the nations hospitals with 400+ beds by 2006.[163]

These goals have not yet been achieved. By 2005, only 17.9% of hospitals with 400+ beds and only 6.3% of general clinics had introduced Electronic Health Records.[164] The government introduced incentives to stimulate adoption of record-keeping systems. However, these incentive payments are considered too low and there is resistance from medical professionals.

Hospital executives complained that the system would be costly to introduce and would increase work for doctors as they struggle to learn how it works. For smaller hospitals, the costs do not outweigh the benefits. The cost of introducing electronic health records is $10,000-$20,000 per bed, and the annual upkeep is 10% of the initial introductory cost.[165] Small hospitals with fewer than 400 beds have annual revenue of $110,000-130,000 per bed. Hospital management clearly lacks the incentive to incur the costs of EHR with this low level of revenue.

Although Japan has not had the same universal success as France, they have identified where their policies are lacking. The next step for this nation is figuring out how to improve upon the structure they have created.

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[163] Hideo Yasunaga, et al. "Computerizing medical records in Japan." *International Journal of Medical Informatics* 77 (2008): 709.
[164] World Health Organization and Ministry. *Health Service Delivery Profile,* op. cit.
[165] Hideo Yasunaga, et al., op. cit., p. 711.

U.S. Nationwide Health Information Network (NHIN) Attempts

Over the past decade, the United States has followed the example of several European countries and attempted to create a national health information exchange (HIE). The Center for Information Technology Leadership estimated such a system could save $77.8 billion annually or about 5% of total healthcare expenditures.[166] The two main components of the national health information exchange are nationally uniform software and the Electronic Health Record (EHR).

The electronic health record contains all information traditionally in a patient's health record,[167] including demographic information, progress notes, medications, past medical history, immunization history, laboratory results, and radiology reports. All a patient's information from all providers would be available as needed in a single file and accessible to all physicians with clearance from any certified location. Providers could check for possible drug interactions between a patient's existing medications and a new prescription. Advocates of such a system argue that it would reduce duplication of care.[168]

United States Attempts to Create the NHIN

In 2009, Congress enacted the Health Information Technology for Economic and Clinical Health Act as a part of the American Recovery and Reinvestment Act. This legislation encourages a greater number of physicians and physician organizations to adopt electronic health records as a first step toward establishing a

[166] ibid., p. 709.
[167] Amanda Grady, op. cit.
[168] ibid.

national health information network.[169] The American Recovery and Reinvestment Act allocated $19 billion to develop a health information software infrastructure. Medicare and Medicaid incentives encourage doctors, hospitals, and other providers to achieve "meaningful use" of electronic health records by 2015.[170] For instance, in 2011 eligible professionals were able to receive up to $44,000 additional income over five years by implementing the EHR.[171]

Despite the investment of $19 billion and the real prospect of meaningful cost savings, the United States has not yet implemented a comprehensive electronic records system. Currently, there are no uniform national technology standards to which all physicians must adhere. Without these standards, there is no way to ensure that all physicians' databases will be integrated into the national health information network. In 2009 fewer than 2% of surveyed hospitals have implemented comprehensive EHR databases.[172]

In all three of the countries discussed, implementing a Nationwide Health Information Exchange will help end fragmented health care. The success of such a network can be seen by the successes of France. Japan has made strides, but teaches other countries that incentives must be high for hospitals and providers to face the

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[169] ibid.

[170] ibid.

[171] CMS Office of Public Affairs. "Fact Sheet: CMS Finalizes Definition of Meaningful Use of Certified Electronic Health Records (EHR) Technology." 1 (July 16, 2010). Accessed April 22, 2013. https://www.cms.gov/apps/media/press/factsheet.asp?Counter=3792&intNumPerPage=10&checkDate=&checkKey=&srchType=1&numDays=3500&srchOpt=0&srchData=&keywordType=All&chkNewsType=6&intPage=&showAll=&pYear=&year=&desc=&cboOrder=date.

[172] Ashish K. Jha, et al. "Use of Electronic Health Records in U.S. Hospitals." New England Journal of Medicine." 360(April 2009): 1628.

cost of EHR implementation. The United States must focus upon creating the National Health Information Network in order to fully solve the issue of delivery fragmentation.

The Mayo Clinic: How Do They Do It?

Introduction to Mayo

In a nation of rising health care costs, the Mayo Clinic keeps expenditures low. How do they do it? The answer could be the solution to our health care enigma.

Mayo's costs are 32% lower than the U.S. average, while 95% of Mayo Clinic patients speak highly of their treatment. Evidence proves these low costs are achieved without sacrificing quality. The satisfaction ranking of the Clinic is three times greater than that of the second-ranked institution.[173] If every patient in America received the level of care at the cost of the Mayo Clinic, we would save a trillion dollars per year.[174]

Replicating the Mayo Clinic's recipe for success would change the face of American health care. Other nations have achieved quality with low costs; but so has this American institution.

The key to Mayo's success is its management structure.

The Management Structure Keeps Costs Low

The Mayo management system delivers quality care at a reasonable cost by teaming physician practice leaders and senior administrators. These partnership address both medical and economic concerns. Mayo is a physician-led institution. Physicians head each of Mayo's three spheres of activity—clinical practice,

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[173] Leonard L. Berry and Kent D. Seltman. *Management Lessons from Mayo Clinic*. New York: McGraw-Hill, 2008: 199-200.

[174] Jim Buckman and Mary Beth Buckman. "Improving on Excellence: Mayo Clinic and the path to quality." *Quality Progress* 45 no. 7(Jul 2012): 41.

education, and research.[175] A balance between business-versus-caregiving is achieved, while simultaneously supporting the Mayo Clinic's core value of teamwork.[176] Dr. Marc Patterson, a physician at Mayo for over 9 years said, "Mayo has been, from the beginning, a group practice. You really have to be a team player. People in administrative positions understand that everyone is an important member of the team."[177] The doctors are able to focus on doing what is best for the patient, while the administrative leader ensures economic concerns are also addressed.

The physician leaders continue to practice medicine during their 8 to 10 year leader terms. They return to full-time practice in their specialty after the term has expired. This system reduces the risk that the Clinic leaders will focus on administrative concerns and forget human lives are at stake.[178]

The administrative partner ensures that the physician leader's vision is implemented in an efficient, fiscally sensible manner.[179] While the administrative leader does not have the same authority as the physician leader, he or she is vital to the success of the Clinic. The administrative leaders help keep their associates on the right track.

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[175] Leonard L. Berry. "The Collaborative Organization: Leadership Lessons from Mayo Clinic." *Organizational Dynamics* 33 no. 3(2004): 236.
[176] Leonard L. Berry, op. cit., p. 236.
[177] Mahar, Maggie. *Health Beat: Commentary on Health Care, the Economy, Politics, and Public Health* (blog). http://www.healthbeatblog.com/2008/10/what-makes-minn/
[178] Leonard L. Berry, op. cit., p. 236.
[179] ibid.

The two leaders are on equal footing. Both leaders report up the chain of command to those higher in the management structure. They are reassured of their statuses as colleagues and partners.[180]

It is not only the physician leaders that are expected to make frequent rounds in the clinic hospitals. Upper level management also reinforce the importance of the patient by making rounds to observe what in the clinic needs attention.[181] The senior managers see for themselves what is working and what is not working. Senior management and the staff are on the same page. Efficiency remains high.

Integration of Information

Dr. Patterson believes that the high level of information integration at Mayo Clinic is a key to their success. He said, "Here at Mayo we can do things in a week that elsewhere take several weeks to organize."[182] This is because Mayo is an integrated health center.

Mayo integrates both professional and patient information. The integrated Electronic Medical Record is the Clinic's mechanism for knowledge sharing and team medicine. It provides a complete medical history of each patient seen at the Clinic.[183] Both inpatient and outpatient information is included. Any health caregiver attending a patient can easily pull up information about past medical services for.[184] This recordkeeping system is comparable to the French *dossier médical personnel*

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[180] ibid., p. 237.
[181] Leonard L. Berry, interview by Healthcare Financial Management 63 no. 1, January 2009.
[182] Maggie Mahar, op. cit.
[183] Leonard L. Berry, op. cit., p. 234.
[184] ibid.

(DMP) discussed earlier in this paper. Like the DMP, the Mayo record system permits doctors to retrieve any and all relevant patient information. The integration of information saves money for the clinic in multiple areas. The Clinic avoids waste in the form of repetitive or unnecessary tests or treatments. Information sharing also reduces the risk that patients will be subjected to unnecessary risk. For instance, a patient's allergy to penicillin would be recorded in the medical records, and any Mayo staff member would be able to discover this and use alternative medications.

Integration of Physician Knowledge

Every doctor at the Clinic has a wealth of knowledge accumulated over the years. By combining all this information together via physician teams, doctors are able to best help the patient. The Clinic encourages health care professionals working together to provide optimum care. Even the physical design of the building encourages doctors' and other staff members' to form teams. Hallways outside patient rooms were built extra wide to accommodate conferences between medical caregivers.[185]

A sophisticated internal priority paging, telephone, and videoconferencing system connects all three Mayo Clinic locations. Doctor-teams include all staff members employed by Mayo. Geography is no longer a limiting factor for groups of physicians and specialists to work together for the good of the patient.[186] Mistakes have a higher chance of being caught early on. Involving a wider variety of opinions

[185] ibid.
[186] ibid.

and knowledge permits the best treatment to be quickly decided upon and implemented.

Reimbursement Structure

> One Mayo Clinic surgeon said, "By not having our economics tied to our cases, we are free to do what comes naturally, and that is to help one another out."[187]

The salary pay system releases doctors from the perverse incentives of the fee-for-service system and keeps costs low.[188]

And doctors support it. The salary system eliminates incentives to work alone and over-proscribe tests and procedures. Doctors are not rewarded for attending to high volumes of patients. Without the risk of losing income, physicians are more willing to collaborate with colleagues.[189]

To end perverse incentives William Mayo, the son of the Clinic's founder, put himself and all employees on fixed salaries so that they are free to focus on patients, rather than compensation.

New York Times Journalist Atul Gawande explained that the salary system works by pooling all the money received by physicians and the hospital. Everyone is then paid his or her salary. Any money left over at the end of the year is funneled back into the practice, rather than into the pockets of the partners.[190] This process creates a potential surplus of funds to be used to improve medical care. If more

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[187] ibid., p. 230.
[188] Leonard L. Berry and Kent Seltman. "Building a strong services brand," op. cit., p. 202.
[189] Gary Jacobson. "The Healthcare Biz: Alive and Kicking at the Mayo Clinic." *Management Review* 78 no. 9(Sep 1989): 10.
[190] ibid.

institutions in the United States adopted this model, it would reduce costs and increase the quality of care.

A Culture of Patient- Centered Care

Though the Mayo Clinic has changed since its founding, a focus on patient-centered care has been a hallmark from the start of the clinic over 100 years ago.[191] All employees look beyond purely medical needs to consider the overall experience of care for patients.[192] Dr. Patterson believes that the patient-centered culture of Mayo is one reason the Clinic is so successful. He said, "At Mayo, the focus is on the patient. The needs of the patient come first."[193]

The Clinic seeks talented doctors who share its values.[194] The success of this approach is proven by the low voluntary physician turnover rates. Those for the Rochester campus were less than 4% in 2003.[195] The national average for all hospitals in 2003 was 32%.

All staff members are expected to continually adapt their current practice routine to better achieve the level of standardization and "best practice" required by Mayo's high standards.[196] Everyone assists with quality improvement.[197] For example, if someone inside or outside the clinic makes a breakthrough and is

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[191] Leonard L. Berry, Richard J. Caselli, and Denise M. Kennedy. "Healthy Returns." *Quality Progress* 45 no. 10(Oct 2012): 36.
[192] Alan K. Duncan and Margaret A. Breslin. "Innovating health care delivery: the design of health services." *Journal of Business Strategy* 30 no. 2/3(2009): 13-20
[193] Maggie Mahar, op. cit.
[194] Leonard L. Berry, interview by Healthcare Financial Management, op. cit.
[195] John Foley and Julie Kendrick. *Balanced Brand: How to Balance the Stakeholder Forces that can Make or Break Your Business.* California: Jossey-Bass, 2006.
[196] ibid.
[197] Jim Buckman and Mary Beth Buckman, op. cit., p. 41.

routinely achieving better patient outcomes and reducing waste, other staff members attempt to replicate that success.

The Clinic emphasizes teaching and mentoring. Dr. Leonard Berry, a practicing physician at Mayo, stated, "The culture of Mayo is to teach one another the Mayo way of doing things."[198] Unlike many other health care institutions, Mayo's employees spend a majority of their career with the clinic. This level of loyalty and unity makes Clinic veterans more willing to make a personal investment to mentor new staff members.[199]

Leaders at the Clinic are constantly introducing new programs to further develop high quality care and maintain low costs. Onsite physician-patient workshops improve communication and understanding between the two groups. All members of the medical staff are required to participate annually in learning modules. The focus is workplace diversity and mutual respect.[200]

The First Impressions: Service Excellence Program reminds the employees that engaging the patient in a prompt, courteous, and competent manner is essential.[201] The program includes training classes and reminds the staff that perceived high quality does not rely solely on the treatments and procedures received.

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[198] Leonard L. Berry, interview by Healthcare Financial Management, op. cit.
[199] Leonard L. Berry, interview by Healthcare Financial Management, op. cit.
[200] Keith A. Frey, Katherine K. Cecala, and Jonathan A. Leighton. "Building a Culture of Service Excellence." *Physician Executive* 31 no. 6(Nov/Dec 2005): 40.
[201] Keith A Frey, Katherine K. Cecala, and Jonathan A. Leighton, op. cit., p. 42.

In 2010 the Clinic held a banquet to thank and recognize employees for regularly striving for excellence.[202] These recognition ceremonies provide employees incentive for continued hard work, despite the lack of financial rewards.

Mayo recently implemented the balanced scorecard to improve quality of care and lower the costs incurred. The card is color coded so that leaders can quickly assess whether goals have been reached and it allows for quick adjustments to be made.[203]

Conclusions

The Mayo Clinic is the largest multi-specialty group practice in the world. The Clinic's staff of nearly 55,000 cares for 520,000 ambulatory patients, and 135,000 inpatients a year.[204] The Mayo Institution includes the Mayo Medical Laboratories, which employs over 800 individuals in addition to the traditional Clinic staff.[205] The institution has served more than four million patients over the years, including presidents and royalty.[206] Clearly this institution is providing high health quality. The size of the hospital, number of staff members eager to work there, and willingness of patients to travel from across the world for treatment prove its success. Even with the difficulties added by its size and reputation as a "destination

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[202] Francesca Dickson. "The Mayo Mystique; how word of mouth has ensured the leading patient-centered health care brand's relevancy from 1863 to tomorrow." *Marketing Health Services* (Spring 2012): 22-25.

[203] Jonathan W. Curtright, Eric S. Edell, and Steven C. Stolp-Smith. "Strategic Performance Management: Development of a Performance Measurement System at the Mayo Clinic." *Journal of Healthcare Management* 45 no. 1 (Jan/Feb 2000): 58-68.

[204] Alan K. Duncan and Margaret A. Breslin, op. cit., p. 14.

[205] Leonard L. Berry and Kent D. Seltman. "Building a strong services brand," op. cit., p. 204.

[206] Gary Jacobson, op. cit., p. 10.

hospital," where patients expect to stay only a few days and receive high quality treatment, Mayo succeeds across the board as a health care institution. If Mayo is able to create such high quality at such low costs other hospitals in America can do the same.

Implementing the Clinic's management structure, integrating information, and adopting a form of salaried reimbursement would be steps in the right direction towards solving the problem of American health care.

GRAND JUNCTION, COLORADO: SUCCESSFUL PRIVATE PRACTICE

The Health Care System in Grand Junction

Although America's health care system is not efficient, pockets of success give hope the system can be fixed. One of these areas is Grand Junction, Colorado. Located in the western part of the state, health care providers in Grand Junction, also referred to as Mesa County, have created a health care system that provides high quality care at low cost.

The Dartmouth Atlas of Health Care documents the use of medical resources paid for by Medicare in geographically defined hospital markets. In 1996, this Atlas identified the Mesa County Hospital Referral Region (HRR) as an efficient health care market.[207] It is the only region to remain among the five lowest-cost Hospital Referral Regions since the atlas's reporting started.[208]

Studies show that costs in Mesa County are one-third of those in other areas of the United States.[209] The Colorado Department of Health Care Policy and Financing determined that Rocky Mountain Health Plans (RMHP), which is an independent not-for-profit health benefits provider, and the county's physician-directed Medicaid program saved the state $2 million annually between 2003-

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[207] Marsha Thorson, et al. "Grand Junction, Colorado: How a community drew on its values to shape a superior health system." *Health Affairs* 29, no. 9 (September 2010): 1678-1686.

[208] Marsha Thorson, et al., op. cit.

[209] D. West. "Mesa County, Colorado, health care: the best health care in the United States." *Aurora: Colorado Academy of Family Physicians*, August 2009. http://www.coloradoafp.org

2006.[210] In 2006 the Chatfield Consulting Group found that RMHP's Medicare program in Mesa County saved the federal government more than $13.7 million between 2000-2002.[211]

According to the Dartmouth Atlas of Health Care, the average per capita Medicare spending in Grand Junction was $6,599 in 2007. This is 24% lower than the national average, and 60% lower than that of high-cost Miami.[212] The Dartmouth Atlas also found that in 2005, Grand Junction had only 60% as many coronary-artery bypass surgeries in its Medicare population as the national average.[213] Mesa County had 55% as many inpatient coronary angiography procedures as the national average.[214] The Dartmouth Atlas stated Grand Junction scored above the national average on a number of measurements of preventive care, diabetes, asthma, and other quality measures. The Atlas did a comprehensive study of the treatment of 12 chronic diseases. The authors determined that Mesa County was the most cost-effective delivery of Medicare services in the country. Medicare spending over a two-year period in Mesa County was less than $21,000 per person, versus $60,000 in other areas. The average number of hospital days in Mesa County over a six-month period was 6.5 days, versus 19.4 days in other areas.[215]

A 2009 analysis by the Medicare Payment Advisory Commission of regional variation in use of Medicare services found Grand Junction had 81% of the average

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[210] ibid.
[211] ibid.
[212] Thomas Bodenheimer and David West. "Low-Cost Lessons from Grand Junction, Colorado." *The New England Journal of Medicine* 363 (October 2010): 1391.
[213] ibid.
[214] ibid.
[215] D. West, op. cit.

use nationwide and was the ninth-lowest service user among 404 U.S. geographic areas.[216] Between 2008-2009, Mesa County's per-enrollee expenditures for acute care for Medicaid beneficiaries were 37% the Colorado average.[217] Grand Junction's doctors perform slightly fewer procedures than their peers elsewhere. For instance, their rate of surgical discharges is 92% the national average.[218]

This region has many valuable lessons to teach those in charge of health care reform how to create a successful health care system that links together private providers.

How this System Began

The Mesa County Medical Society was established in the late 1800s. It was the first medical group created in this area. Community Hospital, a not-for-profit hospital still very active in the area, was founded in 1946. Early on during the building of this medical community, the independent providers of Grand Junction established a pattern of working together for the betterment of the community.[219]

In 1974, the Rocky Mountain Health Maintenance Organization, now Rocky Mountain Health Plans (RMHP), was established. RMHP now offers Medicaid, Medicare, and commercial plans. It is the largest single private payer in the region

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[216] MedPAC. A Report to the Congress: Measuring Regional Variation in Service Use. http://www.medpac.gov/documents/Dec09_RegionalVariation_report.pdf Accessed April 23, 3013.

[217] Thomas Bodenheimer and David West, op. cit., p. 1391.

[218] Len M. Nichols, Micah Weinberg, and Julie Barnes. *Grand Junction, Colorado: A Health Community that Works*. Washington D.C. and New York: New American Foundation, Health Policy Program, 2009. http://newamerica.net/files/GrandJunctionCOHealthCommunityWorks.pdf.

[219] Marsha Thorson et al., op. cit.

today and covers about 40% of the local population.[220] It is a non-profit managed care organization, and its commercial health insurance rates are competitive with other parts of Colorado.

Also in the '70's, the county medical society created a practice network. Known as the Mesa County Physicians Independent Practice Association (MCPIPA), its purpose is to address shared issues for area physicians. It represents approximately 218 doctors, or 85% of the regions physicians.[221]

St. Mary's hospital is the dominant provider in the region. It performs above the national average on all but two of the 24 Medicare clinical quality indicators.[222] A study discovered the average length of stay at St. Mary's was 4.17 days, while the average length of stay at other hospitals was 6.24 days. 66.1% of patients were discharged directly to home from St. Mary's versus other sampled hospitals, which averaged 43.8%.[223] In 1977, St. Mary's established a family practice training program to supply more primary care physicians.

The physicians of the region realized the necessity of an online medical database. "Together, MCPIPA and RMHP voluntarily provided $2.5 million to develop an electronic information sharing platform."[224] They relinquished control of the platform to an independent local quality improvement organization called Quality Health Network. Over 1,500 medical care staff members, including more than 90% of Mesa County physicians, use this database. "The network routinely

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[220] Len M. Nichols, Micah Weinberg, and Julie Barnes, op. cit.
[221] Marsha Thorson, et al., op. cit.
[222] ibid.
[223] ibid.
[224] ibid.

analyzes local data, sponsors cooperative improvement activities, and supports the physician association by publishing information on physicians' care patterns."[225]

The success of Grand Junction is even more impressive because it is not an integrated system. Most of the health care payers and providers are unaffiliated, just like the majority of the country.[226] Emulating at least parts of this area's successful system could lead to great results in other parts of the country.

The Reimbursement Structure of Grand Junction

Grand Junction's physicians are paid as much for a given service to a Medicaid patient as they would have been paid for the same service to a Medicare or privately insured patient. As a result, Medicaid patients gained access to private primary and specialty care. The increased primary care access decreased their utilization of expensive emergency room care.[227] Dr. Michael Pramenko, a family physician and a local medical leader in Grand Junction, stated that these flat rates have resulted in little incentive to cherry-pick patients.[228]

Physicians are reimbursed based on a blended fee-for-service payment structured for all patients regardless of insurance source.[229] RMHP and MCPIPA withhold 15% of fees from physicians. So instead of receiving $20 for a visit the physician is paid $17, with the extra $3 entering a risk pool held by MCPIPA. If health care costs are high, the risk pool is depleted. If costs are kept low, physicians receive at least a portion of their withheld payments at the end of the year. This

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[225] ibid.
[226] Len M. Nichols, Micah Weinberg, and Julie Barnes, op. cit.
[227] Thomas Bodenheimer and David West, op. cit., p. 1392.
[228] Atul Gawande, op. cit.
[229] Len M. Nichols, Micah Weinberg, and Julie Barnes, op. cit.

creates an incentive to keep costs low.[230] Also, physicians who perform well on quality metrics are rewarded, and the reward is greater if overall resource use was prudent.[231]

Grand Junction specialists receive reimbursement rates that are closer to those for primary care, unlike traditionally high specialist incomes.[232] The specialists of the area agreed to lower reimbursement, believing the overall health of the region to be more important.

Finally, physicians are reimbursed for serving on various committees and boards. This succeeded, "in getting prepared, effective participation and physician leadership."[233]

Cost Transparency

Family physicians gained substantial control of RMHP and MCPIPA early on and created a system of cost transparency. Physicians are usually aware only of the fees for the services they themselves provide. At Grand Junction information about the cost of each treatment by each individual physician are available to everyone. By making this information available, the Grand Junction system enables physicians to take cost into account in deciding if a test of only marginal value is needed.[234]

Specialists and primary care doctors receive detailed bills from hospitals, emergency rooms, and ambulatory care sites for patients they serve and the

[230] Thomas Bodenheimer and David West, op. cit., p. 1392.
[231] Len M. Nichols, Micah Weinberg, and Julie Barnes, op. cit.
[232] D. West, op. cit.
[233] ibid.
[234] ibid.

services the doctors order.[235] The MCPIPA works with the RMHP to prepare lists based on relative costs and the expenses of staying in the hospital. They then provide price comparisons with the cost of specialists doing the procedures themselves.[236] The physicians are made very aware of the cost difference and change to more cost effective practices.

The RMHP and MCPIPA worked together to create cost profiles of each physician, which are available to all other physicians. These lists place peer pressure on physicians to work hard to keep costs low and quality high. For example, if a cardiologist performed twice as many catheterizations as his or her peers the list would show this overtreatment. That physician would be publicly embarrassed and "educated" about community norms. If there was no self-correction and practices did not change, primary care doctors would stop referring patients to that specialist.[237]

Strong Focus on Primary Care

Since its inception in 1973, primary care gatekeepers have been required by RMHP.[238] A signed referral from a primary care physician is necessary to see a specialist.[239] This ensures that the patient is in true need of their specific services.

Grand Junction primary care doctors are expected to be involved in their patient's medical treatment from start to finish. Rocky Mountain Health Plans reimburses primary care physicians for visiting all their hospitalized patients under

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[235] Len M. Nichols, Micah Weinberg, and Julie Barnes, op. cit.
[236] D. West, op. cit.
[237] Thomas Bodenheimer and David West, op. cit., p. 1392.
[238] D. West, op. cit.
[239] ibid.

the care of specialists.[240] Studies have proven readmission rates decrease, lengths of stay are shortened, and follow-up and home health care services are improved if PC's participate in the care of their hospitalized patients.[241]

RMHP also uses financial incentives to encourage primary care physicians to provide total care to their acute care patients. After-hours clinics and urgent visits to primary care offices are subsidized and physicians are reimbursed.[242]

The measures taken by RMHP and MCPIPA have been successful in keeping primary care physicians abundant in the Mesa County area. In 2006, Grand Junction had 85% more family doctors per capita than the national average.[243]

The Specialists Do More

In Mesa County, specialists provide consultative services to primary care physicians free of charge.[244] The pathologist or radiologist will give over the phone advice on what diagnostic tests would be most helpful and most cost-effective. By contrast, many specialists across the country are unwilling to provide this service, because without a patient visit, they will not be reimbursed.

The specialists in Grand Junction have given up a little income for the benefit of their patients, their community, and the primary care physicians.[245] This not-so-small act of selflessness has saved the County money, while simultaneously increasing the health of the patients.

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[240] Thomas Bodenheimer and David West, op. cit., p. 1392.
[241] D. West, op. cit.
[242] ibid.
[243] Thomas Bodenheimer and David West, op. cit., p. 1392.
[244] D. West, op. cit.
[245] ibid.

The Quality Health Network (QHN) and Data Sharing

In 2004, MCPIPA and RMHP voluntarily created an electronic health record to reduce cost and increase health outcomes. It was created as a repository of patient data for the entire medical community. The QHN enables providers to coordinate and improve the quality of care while keeping costs low.[246]

The database also facilitates referrals to specialists. Because specialists can access the electronic medical record on QHN, they no longer need to depend on patient's account of their condition.[247] This reduces the chance of misdiagnosis or wasteful treatment.

The QHN's is also a messaging center among doctors and other offices.[248] Good communication is achieved, which leads to better and more appropriate care for patients.

The QHN is run by a board of directors and is assisted by several subcommittees of leaders from all areas of the health care community. Around three-fourths of its funding comes from Community and St. Mary's Hospitals, RMHP, and MCPIPA.[249]

In 2009, 1,569 licensed practitioners from 84 different organizations used of this database.[250] Network users include physicians and hospitals, clinics, hospice, long-term care facilities, home care agencies, physical therapy, and many other health care providers.

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[246] Len M. Nichols, Micah Weinberg, and Julie Barnes, op. cit.
[247] ibid.
[248] D. West, op. cit.
[249] Len M. Nichols, Micah Weinberg, and Julie Barnes, op. cit.
[250] ibid.

In 2009 the State of Colorado gave Grand Junction a $4 million dollar grant to install a QHN system to connect outlying areas such as Gunnison and Montrose. The grant covers the start-up costs of building the network.[251] QHN's next phase will establish greater compatibility with physicians' current electronic medical records to allow information to flow more easily in and out of the QHN repository.

The QHN helps Grand Junction significantly reduce unnecessary hospital readmissions. This is achieved in part by better coordinating and better management of the chronic care patients. Additionally, information sharing allows clinicians to see how their own performance on quality metrics compares to their peers.[252]

The Electronic Medical Record is not the sole type of data sharing that occurs in Grand Junction. RMHP shares relative performance data on diagnosis-related resource use by each physician. This information is distributed to all physicians in Mesa County, and it provides a clear indicator of where each physician falls in terms of health care outcomes.[253] Health quality outcomes and cost-effectiveness are both taken into account. While this data occasionally provokes tension, the vast majority of physicians approve. They feel it facilitates open and honest communication about many aspects of medical quality and has led to improvement in outcomes over the years.[254]

RMHP also provides doctors with Epocrates. This is medical software for a hand-held device that physicians may use to check information about drugs.

[251] ibid.
[252] ibid.
[253] ibid.
[254] ibid.

Included are drug interaction, drug prices, dosing, disease, and a medical dictionary.[255]

CONCLUSION

While Grand Junction is an efficient health care system, it is not by any means a perfect one. An anonymous physician working in Grand Junction stated, "It isn't like we all get along all of the time; we argue and disagree."[256] Although physicians have their ups and downs, the Mesa County is succeeding better than almost anywhere else in the nation. Clearly Grand Junction has much to teach America. If a county in western Colorado can establish an efficient health care system, it can be done anywhere.

[255] ibid.
[256] Marsha Thorson, et al., op. cit.

Can Obamacare Fix the Problem?

The Realistic Effects of the Affordable Care Act

The comprehensive overhaul of health care known as Obamacare includes provisions intended to increase access to care and lower the costs. Officially titled the Affordable Care Act, it is the largest government overhaul of the health care system since the establishment of Medicare and Medicaid in 1965. An individual mandate requires every American citizen to obtain insurance. The ACA includes two provisions intended to change the waste of the reimbursement system and fragmented care delivery. The first is an Electric Health Record mandate. The second establishes the framework for Accountable Care Organizations.

Electronic Medical Record Mandate

As I have argued above, electronic medical records have proven very effective in reducing health care delivery fragmentation. Section 1561 of the ACA gives providers incentive to bring health records online. It does not require that providers begin the framework for a national database.[257]

The growth of electronic medical records started under a Republican and was continued by a Democratic administration. George W. Bush began the push for a national electronic health record system. Barack Obama continued the work Bush had started. In 2009, President Obama signed a stimulus bill called the American Reinvestment and Recovery Act (ARRA), which included the Health Information

[257] Vivek Wadhwa. "The real path to affordable health care for all." *The Washington Post*. (June 28, 2012). http://www.washingtonpost.com/national/on-innovations/forget-the-supreme-courts-health-care-decision-we-need-a-health-care-revolution/2012/06/28/gJQAmCE98V_story.html

Technology for Economic and Clinical Health (HITECH) Act. The Act dedicated $27 billion to the promotion of health information technology.[258] To offset the enormous start-up costs of an electronic health records system, Medicare physicians using such a system can receive up to $44,000 of additional income over 5 years. The Medicaid incentive program, created to support the growth of electronic medical records, permits clinicians to receive up to $63,750 of additional income for those who qualify.[259] Hospitals can receive between $2 million and $10 million of additional income over 5 years to offset the cost of setting up the records system.[260] Unfortunately, the additional income barely covers the initial cost of these systems and in some cases does not even cover the full cost. The average initial cost of an electronic medical record is $44,000 per physician, and an additional $8,500 per provider per year.[261] While the money saved by these records is projected to be greater than the costs, many physicians struggle to value long-term savings when the short-term costs are so high.

A "meaningful use" standard was included to ensure providers were actually implementing EHRs in ways that affect day-to-day business transactions. To pass this standard, providers must be using electronic health records for the following: electronic prescribing, health information exchange, automated reporting of quality performance, electronically recording key parts of a patient's history, creating care-

[258] Sharona Hoffman and Andy Podgurski. "Improving Health Care Outcomes through Personalized Comparisons of Treatment Effectiveness Based on Electronic Health Records." *Journal of Law, Medicine, & Ethics* 39 no. 3 (2011): 427.

[259] ibid.

[260] Ashish Jha. "Meaningful Use of Electronic Health Records: The Road Ahead." *The Journal of the American Medical Association* 304 no. 15 (2010).

[261] Robert H. Miller, et al. "The Value of Electronic Health Records in Solo or Small Group Practices." *Health Affairs* 24, no. 5 (2005): 1127-1137.

summary documents, and implementing at least one clinical decision support tool.[262] In addition to these requirements, Congress created a list of functions that physicians should attempt to also achieve. These include submitting key data electronically to public health entities.[263]

The HITECH Act allocates extra funding for clinicians and hospitals that care for more poor patients than the typical provider. This is to ensure these providers do not fall behind with EHR adoption.[264] Typically, these providers have fewer resources to spend on expensive electronic health record systems.

Accountable Care Organizations

The Affordable Care Act creates Accountable Care Organizations, or ACOs, as a way to restrict reimbursement costs. Modled on delivery systems such as the Mayo Clinic,[265] ACOs will seek to reduce costs and improve quality by putting primary care physicians at the core of the delivery system.[266] By emphasizing the role of physicians rather than insurers or hospitals, this structure will permit physicians to influence almost 90% of all personal health spending.[267]

The ACO will contract with insurance companies and account for the entirety of care provided to a defined population. If the costs of care are less than the

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[262] Ashish Jha. "Meaningful Use of Electronic Health Records," op. cit.
[263] ibid.
[264] ibid.
[265] U.S. Library of Congress, Congressional Research Service. Accountable Care Organizations and the Medicare Shared Savings Program, by David Newman. CRS Report R41474. Washington, DC: Office of Congressional Information and Publishing, Nov. 4, 2010.
[266] ibid.
[267] ibid.

targeted amounts and certain quality measures are achieved, the ACO and the payer will share in the savings.[268]

Mark McClellan is the current director of the Engleberg Center for Health Care Reform. He is the former director of the Centers for Medicare and Medicaid Services, as well as the former director of the Food and Drug Administration. He assisted in the push for the Medicare Shared Savings Program, and focused on the potential of ACOs to bring down health care costs. In an article he co-authored with Elliot Fisher, another health care veteran, McClellan stated that the approach ACOs take to improve health care "focuses on helping physicians, hospitals, and other health care providers achieve this goal by providing more financial support when they work together to improve quality while lowering costs."[269] Proponents of Accountable Care Organizations, such as McClellan and Fisher, argue ACOs will change both the culture and practice patterns of providers. They maintain that as these changes are institutionalized, all payers and patients will benefit from the delivery of higher-quality, lower-cost, and better-integrated services.[270] ACOs will be held accountable for performance through changes in traditional Medicare provider payment.[271] These include financial rewards for good performance based on comprehensive quality and spending measurement, along with monitoring.

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[268] ibid.

[269] Mark McClellan and Elliot Fisher. *Acccountable Care Organizations: Framework for Evaluating Proposed Rules*(blog). http://healthaffairs.org/blog/2011/03/31/accountable-care-organizations-a-framework-for-evaluating-proposed-rules/

[270] U.S. Library of Congress Congressional Research Service. "Accountable Care Organizations." By David Newman, op. cit.

[271] Kelly Devers and Robert Berenson. "Can Accountable Care Organizations Improve the Value of Health Care by Solving the Cost and Quality Quandaries?" *Urban*

Provider composition of ACOs may vary geographically to reflect local market conditions. Diverse entities could serve as an ACO, alone or in combination with each other.[272] The collective will serve as a local provider umbrella organization, system, or network.

Despite their similarities, ACOs are different from HMOs. Although both kinds of organizations are intended to emphasize accountability, modern HMOs tend to focus on insurers. ACOs focus directly on health care providers and the delivery system.[273]

Affordable Care Act and ACOs

Section 3022 of the Affordable Care Act creates the Medicare Shared Saving Program (MSSP). Under the MSSP, the Centers for Medicare and Medicaid Services will contract with ACOs.[274] These groups then assume responsibility for improving quality of care, coordinating care across providers, and reducing the cost of care Medicare beneficiaries receive. It is estimated that within two years of implementation, 20% of fee-for-service Medicare beneficiaries would be assigned to participating primary care physicians. 40% assigned by 2019 is the program's goal.[275]

Under the MSSP, the fee-for-service system remains intact. Medicare calculates and sets the expected total expenditures for patients cared for by the ACO.

Institute. (October 2009). http://www.urban.org/publications/411975.html
[272] ibid.
[273] ibid.
[274] U.S. Library of Congress Congressional Research Service. "Accountable Care Organizations." By David Newman, op. cit.
[275] ibid.

The ACO is then assessed and measured for the quality of care provided. If the ACO delivers high quality care at a lower cost, portions of the savings are given to all providers within the ACO as a bonus.[276] While currently there is only ACO framework for Medicare and Medicaid beneficiaries, the Obama Administration is hopeful ACOs will spread to the private market.

Probable Effects of ACOs and EHR Incentives

The Affordable Care Act is a step in the right direction for the American health care system. Change is needed, and many of the provisions in the ACA will have profound effects on issues plaguing the U.S. However, the effect of the provisions dealing with reimbursement and fragmentation of care delivery is uncertain.

The Electronic Health Record provision is not a mandate. There are no requirements that physicians install the necessary technology. Instead, providers who do not will merely be ineligible for the financial incentives. In a study by the Center For Disease Control's National Center for Health Statistics, the authors found that nearly one-half of all physicians currently without an electronic health record system plan to purchase or use one already purchased within the next year.[277] Despite this optimistic outlook, the challenge of creating and maintaining an electronic health records system will deter many physicians. Gary Anthony, a principle with KPMG Healthcare, has written that, "There is a level of uneasiness as

[276] Kelly Devers and Robert Berenson, op. cit.

[277] E. Jamoom, et al. Physician adoption of electronic health record systems: United States, 2011. NCHS data brief, no 98. Hyattsville, MD: National Center for Health Statistics. 2012.

to whether there is adequate funding to complete [adoption of electronic health records]."[278]

The current incentives are too small to push providers towards undertaking these high cost systems. As in Japan, most American physicians are part of small practices. Their income is too low for them to pay for EHRs, and the financial incentives are not enough to make implementation worth their time. Even hospitals, which generally have more capital and greater ability to implement such record systems struggle with the cost burden. A KPMG poll released in May of 2012 surveyed 220 hospitals and health system administrators that were attempting to implement electronic health records. 48% of those polled said they were only somewhat comfortable with the level of budgeting their organization planned for electronic heal record implementation.[279] 9% were uncomfortable with the level of budgeting, and another 18% said they were unsure. Only 25% responded saying they were very comfortable with their organization's level of budgeting.[280]

Accountable Care Organizations are the future of American medicine. They provide an integrated system that focuses on provider-patient relationships and removes the payer as a middleman. Unfortunately, the fee-for-service reimbursement system was left largely untouched. There are quality measures in place that are intended to counteract some of the negative incentives inherent in fee-for-service payment models. Mark McClellan states that, in the most basic form

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[278] Arundhati Parmar. "KPMG Survey finds hospitals deploying EHR but there may not be funding for it." *MedCity News* (June 20, 2012). http://medcitynews.com/2012/06/kpmg-survey-finds-hospitals-deploying-ehr-but-there-may-not-be-funding-for-it/

[279] ibid.

[280] ibid.

of an ACO, fee-for-service reimbursement depends upon more factors than just the volume and intensity of services provided. "The organization and its payers will also track some meaningful results for the population of patients being served and per-capita spending."[281] Any savings generated compared with the fee-for-service cost provide an additional source of reimbursement for the physicians. McClellan admits that the traditional fee-for-service and its "cost-creating tendencies" may persist in ACOs. He conceded that, despite some evidence that early ACO adopters experienced movement away from fee-for-service dependence, "that is not necessarily going to be the outcome."[282] If ACOs do not follow the early adopter's path and FFS persists, the savings generated by this model will be minimal.

[281] Mark McClellan, interview by Kip Piper, *American Health and Drug Benefits*. Accessed April 15, 2013. http://www.ahdbonline.com/feature/accountable-care-organizations-era-healthcare-reform

[282] ibid.

Where Do We Go From Here?

The United States health care system is not beyond all hope. While there are clear inefficiencies plaguing the system, institutions like the Mayo Clinic and systems such as those in Grand Junction prove that America CAN PROVIDE EFFICIENT HEALTH CARE!!!

France and Japan teach valuable lessons as we now strive to change the problems within health care. The Affordable Care Act will also undoubtedly change the face of health care. Its reach goes far beyond what has been discussed here, and many sections of the legislation will have a significant impact on healthcare as we know it.

America did not become the most powerful nation in the world based on luck. We shall be able to overcome the health care crisis, as long as we stop focusing on the politics and begin to truly look at the heart of the problem. Addressing the reimbursement and care delivery failures will be a single step on the health care road to recovery.

References

Avraham, Ronen. "Clinical Practice Guidelines: The Warped Incentives in the U.S. Healthcare System." *American Journal of Law and Medicine* 37(2911): 7-40.

Babazono, Akira, et al. "Japanese universal health coverage: evolution, achievements, and challenges." *Lancet* 378 (2011): 1106-12.

Baicker, Katherine and Amitabh Chandra. "The Productivity of Physician Specialization: Evidence from the Medicare Program." *The American Economic Review* 94, no. 2 (May 2004): 357-361.

Baker, L. C. "Acquisition of MRI equipment by doctors drives up imaging use and spending." *Health Affairs* 29, no. 12 (December 2010): 2252–2259.

Berenson, Robert A. and Eugene C. Rich. "US Approaches to Physician Payment: The Deconstruction of Primary Care." *Journal of General Internal Medicine* 25, no. 6 (2010): 613-618.

Berry, Leonard L. "The Collaborative Organization: Leadership Lessons from Mayo Clinic." *Organizational Dynamics* 33 no. 3(2004): 228-242.

Berry, Leonard L. and Kent D. Seltman. "Building a strong services brand: Lessons from Mayo Clinic." *Business Horizons* 50(2007): 199-209 .

Berry, Leonard L. and Kent D. Seltman. *Management Lessons from Mayo Clinic.* New York: McGraw-Hill, 2008.

Berry, Leonard L., Richard J. Caselli, and Denise M. Kennedy. "Healthy Returns." *Quality Progress* 45 no. 10(Oct 2012): 32-39.

Berwick, D., and A. Hackbarth. "Eliminating Waste in U.S. Health Care." *Journal of the American Medical Association* 307, no. 14 (2012).

Bodenheimer, Thomas and David West. "Low-Cost Lessons from Grand Junction, Colorado." *The New England Journal of Medicine* 363 (October 2010): 1391-1392.

Bodenheimer, Thomas and Kevin Grumbach. *Understanding Health Policy: A Clinical Approach* (Lange Medical Books, 2005): 3.

Breslin, Margaret A. and Alan K. Duncan. "Innovating health care delivery: the design of health services." *Journal of Business Strategy* 30 no. 2/3(2009): 13-20.

Brunner, Stephanie. "The French Health Care System." *Medical News Today* (2009).

Buckman, Jim and Buckman Mary Beth. "Improving on Excellence: Mayo Clinic and the

path to quality." *Quality Progress* 45 no. 7(Jul 2012): 34-41.

CMS Office of Public Affairs. "Fact Sheet: CMS Finalizes Definition of Meaningful Use of Certified Electronic Health Records (EHR) Technology." 1 (July 16, 2010). Accessed April 22, 2013. https://www.cms.gov/apps/media/press/factsheet.asp?Counter=3792&intNumPerPage=10&checkDate=&checkKey=&srchType=1&numDays=3500&srchOpt=0&srchData=&keywordType=All&chkNewsType=6&intPage=&showAll=&pYear=&year=&desc=&cboOrder=date.

Com-Ruelle, Laure, Paul Dourgnon, and Valerie Paris. "Can physician gatekeeping and patient choice be reconciled in France? Analysis of recent reform." *Eurohealth*, 12 no.1. (2006):17-19.

Curtright, Jonathan W., Eric S. Edell, and Steven C. Stolp-Smith. "Strategic Performance Management: Development of a Performance Measurement System at the Mayo Clinic." *Journal of Healthcare Management* 45 no. 1 (Jan/Feb 2000): 58-68.

Delaune, Jules and Wendy Everett. *Waste and Inefficiency in the U.S. Healthcare System.* Cambridge, MA: New England Healthcare Institute; 2008.

Devers, Kelly and Robert Berenson. "Can Accountable Care Organizations Improve the Value of Health Care by Solving the Cost and Quality Quandaries?" *Urban Institute*. (October 2009). http://www.urban.org/publications/411975.html

Dickson, Francesca. "The Mayo Mystique; how word of mouth has ensured the leading patient-centered health care brand's relevancy from 1863 to tomorrow." *Marketing Health Services* (Spring 2012): 22-25.

Fisher, E., et al. "Health Care Spending, Quality, and Outcomes: More Isn't Always Better." *Dartmouth Atlas of Health Care*. February 2009.

Fisher, Elliot et al. "The implications of regional variations in Medicare spending. Part 2: health outcomes and satisfaction with care." *Annals of Internal Medicine* 138 (2003): 288-298.

Foley, John and Julie Kendrick. *Balanced Brand: How to Balance the Stakeholder Forces that can Make or Break Your Business.* California: Jossey-Bass, 2006.

Frey, Keith A.,Katherine K. Cecala, and Jonathan A. Leighton. "Building a Culture of Service Excellence." *Physician Executive* 31 no. 6(Nov/Dec 2005): 40-44.

Gawande, Atul. "The Cost Conundrum: What a Texas Town can Teach Us about Health Care." *The New Yorker.* (June 1, 2009). http://www.newyorker.com/reporting/2009/06/01/090601fa_fact_gawande

Gosdon, T., L. Pedersen, and D. Torgerson. "How should we pay doctors? A systematic review of salary payments and their effect on doctor behavior." *National Primary Care Research and Development Centre.* Accessed April 2, 2012. http://qjmed.oxfordjournals.org/

Grady, Amanda. "Electronic Health Records: How the United States can learn from the French dossier medical personnel." *Wisconsin International Law Journal* 30 no.2 (2007): 374-400.

Gyu-Jin Hwang. "Going Separate Ways? The reform of health insurance funds in Germany, Japan, and South Korea." *Policy Studies* 29, no. 4 (Oct. 1, 2012): 421-435.

Harris, Gardiner. "More Doctors Giving Up Private Practice." *The New York Times* (March 25, 2010). http://www.nytimes.com/2010/03/26/health/policy/26docs.html?pagewanted=all&_r=0

Hashimoto, Hideki, et al. "Cost containment and quality of care in Japan: is there a trade-off?" *The Lancet* 378 (2011): 1174-1182.

Hoffman, Sharona and Andy Podgurski. "Improving Health Care Outcomes through Personalized Comparisons of Treatment Effectiveness Based on Electronic Health Records." *Journal of Law, Medicine, & Ethics* 39 no. 3 (2011): 425-436.

Hohlen, Mina M., et al. "Access to Office-Based Physicians under Capitation Reimbursement and Medicaid Case Management: Findings from the Children's Medicaid Program." *Medical Care* 28, no. 1 (January 1990): 59-68.

Hollenbeck, B.K., and B.K. Nallamothu. "Financial Incentives and the Art of Payment Reform." *Journal of the American Medical Association*. 2011;306(18):2028-2030.

Hwang, Gyu-Jin. "Going separate ways? The reform of health insurance funds in Germany, Japan and South Korea." *Policy Studies* 29 no. 4 (2009): 421-435.

Ikegami, N. "Japanese Health Care: low costs through regulated fees." *Health Affairs,* 10 no. 3. (1991): 87-109.

Jacobson, Gary. "The Healthcare Biz: Alive and Kicking at the Mayo Clinic." *Management Review* 78 no. 9(Sep 1989): 10-12.

Jamoom, E., P. Beatty, and A. Bercovitz, et al. Physician adoption of electronic health record systems: United States, 2011. NCHS data brief, no 98. Hyattsville, MD: National Center for Health Statistics. 2012.

Jha, Ashish K. et al. "Use of Electronic Health Records in U.S. Hospitals." New England Journal of Medicine." 360(April 2009): 1628-1638.

Jha, Ashish. "Meaningful Use of Electronic Health Records: The Road Ahead." *The Journal of the American Medical Association* 304 no. 15 (2010).

Jiaquan Fan et al. "Mayo Clinic Employees Responded to New Requirements for Cost Sharing by Reducing Possibly Unneeded Health Services Use." *Health Affairs* 30 no. 11(2011): 2134-2141.

Leflar, Robert B. "The Regulation of Medical Malpractice in Japan." *Clinical Orthopedics and Related Research* 467, no. 2 (February 2009): 443-449.

Leonard L. Berry, interview by Healthcare Financial Management 63 no. 1, January 2009.

Levin, D.C., et al. "Recent payment and utilization trends in radio- nuclide myocardial perfusion imaging: comparison between self-referral and referral to radiologists." *Journal of the American College of Radiology* 6, no. 6(2009):437-441.

Mahar, Maggie. *Health Beat: Commentary on Health Care, the Economy, Politics, and Public Health* (blog). http://www.healthbeatblog.com/2008/10/what-makes-minn/

Mark McClellan, interview by Kip Piper, *American Health and Drug Benefits*. Accessed April 15, 2013. http://www.ahdbonline.com/feature/accountable-care-organizations-era-healthcare-reform

McClellan, Mark and Elliot Fisher. *Acccountable Care Organizations: Framework for Evaluating Proposed Rules*(blog). http://healthaffairs.org/blog/2011/03/31/accountable-care-organizations-a-framework-for-evaluating-proposed-rules/

MedPAC. A Data Book: Healthcare Spending and the Medicare Program. http://www.medpac.gov/documents/Jun11DataBookEntireReport.pdf. Accessed November 25, 2012.

MedPAC. A Report to the Congress: Measuring Regional Variation in Service Use. http://www.medpac.gov/documents/Dec09_RegionalVariation_report.pdf Accessed April 23, 3013.

MedPAC. A Report to the Congress: Medicare and the Health Care Delivery System. http://www.medpac.gov/documents/Jun11_EntireReport.pdf. Accessed November 25, 2012.

Miller, Robert H., et al. "The Value of Electronic Health Records in Solo or Small Group Practices." *Health Affairs* 24, no. 5 (2005): 1127-1137.

Nichols, Len M., Micah Weinberg, and Julie Barnes. *Grand Junction, Colorado: A*

Health Community that Works. Washington D.C. and New York: New American Foundation, Health Policy Program, 2009. http://newamerica.net/files/GrandJunctionCOHealthCommunityWorks.pdf.

Nolte, Ellen et al. "Measuring the Health of Nations: Updating an Earlier Analysis," *Health Affairs* (2008): 71.

Park, Alice. "A Cardiac Conundrum." *Harvard Magazine* (March-April 2013). http://harvardmagazine.com/2013/03/a-cardiac-conundrum

Parker-Pope, Tara. "Overtreatment is Taking a Harmful Toll." *The New York Times* (August 27, 2012). Accessed April 22, 2013. http://well.blogs.nytimes.com/2012/08/27/overtreatment-is-taking-a-harmful-toll/

Parmar, Arundhati. "KPMG Survey finds hospitals deploying EHR but there may not be funding for it." *MedCity News* (June 20, 2012). http://medcitynews.com/2012/06/kpmg-survey-finds-hospitals-deploying-ehr-but-there-may-not-be-funding-for-it/

Ramsdell, Joe W. "Physician Reimbursement for Services to HMO-Sponsored Patients: An Academic Model." *Medical Care* 23, no. 12 (December 1985): 1315-1321.

Reid, T.R. *The Healing of America: A Global Quest for Better, Cheaper, and Fairer Health Care.* New York: The Penguin Press, 2009.

Reschovsky J, Cassil A, Pham HH. *Physician Ownership of Medical Equipment*. Washington, DC: Center for Studying Health System Change; 2010. http://hschange.org/CONTENT/1172/1172.pdf. Accessed January 4, 2013.

Robinson, James C. "Theory and Practice in the Design of Physician Payment Incentives." *The Millbank Quarterly* 79, no. 2 (2001): 149-177.

Schoen, Cathy et al. "U.S. Health System Performance: A National Scorecard." *Health Affairs* Web Exclusive, September 20, 2006, p. W457.

Shah, Bimal R., et al. "Patterns of Cardiac Stress Testing After Revascularization in Community Practice." *Journal of the American College of Cardiology* 56, no. 16(October 2010):1328-1334. http://www.sciencedirect.com/science/article/pii/S0735109710028020

Sirovich, B. et al. "Discretionary decision making by primary care physicians and the cost of U.S. Health care." *Health Affairs* 27(2008): 813-823.

Sorum, Paul Clay. "France Tries to Save its Ailing National Health Insurance System." *Journal of Public Health Policy* 26 no. 2 (2005): 231-245.

The Commonwealth Fund, *Multinational Comparisons of Health Systems Data*, November 2006.

Thorson, Marsha, et al. "Grand Junction, Colorado: How a community drew on its values to shape a superior health system." *Health Affairs* 29, no. 9 (September 2010): 1678-1686.

Toth, Frederico. "Healthcare policies over the last 20 years: Reforms and counter-reforms." *Health Policy* 95 (2010): 82-89.

U.S. Library of Congress, Congressional Research Service. Accountable Care Organizations and the Medicare Shared Savings Program, by David Newman. CRS Report R41474. Washington, DC: Office of Congressional Information and Publishing, Nov. 4, 2010.

Wadhwa, Vivek. "The real path to affordable health care for all." *The Washington Post*. (June 28, 2012). http://www.washingtonpost.com/national/on-innovations/forget-the-supreme-courts-health-care-decision-we-need-a-health-care-revolution/2012/06/28/gJQAmCE98V_story.html

Wall Street Journal, January 25, 2007, p. C1.

West, D. "Mesa County, Colorado, health care: the best health care in the United States." *Aurora: Colorado Academy of Family Physicians*, August 2009. (http://www.coloradoafp.org)

"What is Driving U.S. Health Care Spending?: America's Unsustainable Health Care Cost Growth." Bipartisan Policy Center, 2012. http://bipartisanpolicy.org/library/staff-paper/what-driving-us-health-care-spending

World Health Organization and Ministry of Health, Labor, and Welfare, Japan. *Health Service Delivery Profile: Japan, 2012*. Accessed January 15, 2013. http://www.wpro.who.int/health_services/service_delivery_profile_japan.pdf

World Health Organization. *Measuring Overall Health System Performance For 191 Countries*. By A.J. Tandon, et al. GPE Discussion Paper Series: No. 30. http://www.who.int/healthinfo/paper30.pdf.

Yasunaga, Hideo, et al. "Computerizing medical records in Japan." *International Journal of Medical Informatics* 77 (2008): 708-713.