Recession Proof Pills

An Examination of the Relationship Between Recession Economics and Pharmaceutical Expenditures

Kevin J. Gray
March 31, 2012
Undergraduate Conference on Health and Society
Dr. Todd Olszewski

The time period between 2000 and 2010 proved to be a decade of turbulence and volatility in the worldwide economy. The American health care sector was not immune to the financial setbacks that impeded growth in many industries. Oddly enough though, even as Americans' disposable income decreased, spending on health care steadily increased. The United States spent $249.9 billion on prescription drugs in 2009 contrasted against $120.9 billion in 2000—a 105% increase.[i] We may question the overall ramifications of such increases in pharmaceutical sales and their correlation to other economic factors. That is, how was the pharmaceutical sector able to boast gains when the housing market collapsed? One answer is that people place a priority on their health, even with limited resources. A report sanctioned by the World Health Organization brings to life the seeming problem, when it states that, "It is hard to gauge the implications of the recession on people's health".[ii] In this paper, I examine pharmaceutical sales figures to develop a better understanding of how the Great Recession (2009) affected health care and pharmaceutical expenditures in the United States

A January 2011 *Health Affairs* article argues that, "In 2009, despite the economic downturn, the number of prescription drugs dispensed rebounded to prerecession rates of growth".[iii] While the recession stifled the overall rate of spending on prescription drugs, Americans allocated a greater amount of GDP to pharmaceuticals—$249.9 billion in 2009 contrasted against $237.2 billion in 2008.[iv] The pharmaceutical industry, then, really dispenses recession-proof pills. Understanding the complexities of recession economics will ultimately illustrate the need for restructuring how pharmaceutical companies produce and government agencies regulate prescription drugs in the United States.

To better understand how the recession affected the health care industry, we must first establish what, exactly, caused this recessionary period in our economy. While an economy with

the breadth and size of the United States has many contributing factors to consider, by far the greatest influence that sparked the economic downturn in 2008 and 2009 occurred from the housing market fallout. In his work *The Return of Depression Economics and the Crisis of 2008*, Paul Krugman analyzes the situation when he notes that, "As prices rose to the point where purchasing a home became out of reach for many Americans—even with no down-payment, teaser-rate loans—sales began to slack off".[v] Banks began to realize the potential profits that could be made out of mortgages. The banks began to issue mortgages not only to those who would typically qualify, but also, to those who were never before eligible to qualify for a mortgage. The idea of every family owning a home resonated with the "American Dream" and was utilized by the banks.

Upon issuing mortgages to unqualified lenders, the banks would then combine the mortgages that they held and assess each mortgage as safe, moderately safe, and risky. The banks would package these mortgages and sell them to institutional investors as Collateralized Debt Obligations (CDOs). Some high-risk investors, typically hedge funds, were the purchasers of these risky mortgages. Normally when a bank issues a mortgage to a homeowner the investment is evaluated by a credit rating agency (Moody's, Fitch, and S&P). The minimum grade an investment must posses to be considered investment grade is BBB or Baa (Moody's).[vi] Let us add another factor to the situation: the banks are paying the credit rating agencies to evaluate the quality of the investments. If the credit rating agencies are devaluing the banks' investments, then that is bad for both parties. The banks' overall assets decline in value, and, in turn, the credit rating agencies lose important customers. The unfortunate reality in 2008 was that the credit rating agencies and banks were wedded as far as CDO rating was concerned.

After the CDOs were rated, packaged, and sold to investors, the investors would collect on the mortgage payments. Due to the fact that the investors were making serious profit from these investments, they desired more. However, homeowners who qualified for mortgages already had one. The bank had a solution to this problem, though: expand the qualifications for mortgage eligibility. This "solution" pared with the credit rating agencies' leniency in evaluation of mortgages led to banks issue sub-prime mortgages, which, in turn, were sold to these investors. The investors, though, still saw value in these unstable holdings. The investors would take the riskiest mortgages (or ones already defaulted upon) and sell them to other investors as Credit Default Swaps. At this point, the adjustable rate mortgages typically increased. The payors of the mortgages could either no longer afford the rising interest rates, or found foreclosure to be cheaper than making payments on an overinflated mortgage. With so many homeowners defaulting, the banks were then faced with insurmountable losses. When the large banks that held so many American investments began to crumble, the economy, too, went along for the ride.

We may now ask what mortgage devaluation and foreclosures have to do with the American health care system. The answer lies in the concept of disposable income. Disposable income may be defined as, "personal income less personal taxes. Personal taxes include personal income taxes, personal property taxes, and inheritance taxes. Disposable income is the amount of income that households have left over after paying their personal taxes".[vii] Disposable income is spent on goods and services purchased or used by consumers. If a person's disposable income is decreased, either due to an increase in taxes or a decrease in salary or wages, a person must adjust his or her spending habits.

Once again, we may ask how this relates to health care. Quite simply, in fact. A person,

if lacking sufficient insurance, may not find the value in using a significant share of his or her disposable income on health care expenditures. Charles R. Morris, in his work, *Too Much of A Good Thing: Why Health Care Spending Won't Make us Sick*, argues that over the past half century, personal consumption on goods and services has actually declined.[viii] In order to further evaluate this claim, we must look at overall gross domestic product (GDP) and its relation to health care expenditures. First, though, we must define the gross domestic product as the, "aggregate output as the dollar value of all final goods and services produced within the borders of a country during a specific period of time, typically a year".[ix] Since 1964, the United States Department of Health and Human Services has published statistics showing costs related to health care expenditures. The goal of the National Health Expenditure Accounts Team (NHEA) is to find the total dollar value of health care consumption in the United States. The NHEA explains the relationship between health expenditures and GDP by noting that, "The amount of health care goods and services produced relative to the amount of all goods and services produced represents the share of the nation's total production that is devoted to health care".[x] Over the past decade, national health expenditures have rapidly grown in relation to the United States' overall GDP. In 2000, NHE stood at 13.8% of GDP. By 2005, NHE rose to 16.0% of GDP. In one year alone, between 2008 and 2009 (the height of the Great Recession), NHE went from 16.6% of GDP to 17.6% of GDP.[xi] According to an article published in *Health Affairs* by the National Health Expenditure Accounts Team, "In 2009, US health care spending grew 4.0 percent—a historically low rate of annual increase—to $2.5 trillion, or $8,086 per person".[xii] While individual consumption of health care grew at a low pace in 2009 (reflecting the view of health care as a smaller portion of disposable income), the report also reveals that the increase in national health expenditures as a portion of GDP was a sharp one. What this means, then, is that,

"The growth rate of health spending continued to outpace the growth of the overall economy, which experienced its largest drop since 1938. The recession contributed to slower growth in private health insurance spending and out-of-pocket spending by consumers, as well as a reduction in capital investments by heath care providers".[xiii] Clearly, then, there is a sharper correlation between the housing bust, which caused the recession, and the overall increase in health care prices than people realize.

Let us now turn our attention to one of the greatest areas of health care spending: pharmaceuticals. In the year 2000, Americans spent $120.9 billion on prescription drugs. That was a sharp increase from 1990, when prescription drug sales were only $40.3 billion. There was, however, an even steeper gain in the ten-year period following 2000. In 2009, prescription drug sales in the United States totaled $249.9 billion. While these figures may be worrisome to some economists, banker and author Charles Morris argues that there is an inevitable position whereby an increase in one area of GDP necessarily leads to a decrease in another area of GDP.[xiv] Moreover, a report by the finance reference collaboration QFinance argues that healthcare and pharmaceuticals are deemed "defensive stocks," because they are, "relatively immune to the vagaries of the economic cycle. While consumers may cut back on purchases of many discretionary items during a recession, most people regard their health as a priority".[xv] To view health as a priority, a person would increase the dollar value that he or she has available in order to purchase health care and pharmaceuticals. Knowing this fact, pharmaceutical companies and providers may be able to take advantage of the nature of their goods and services.

The current position of the American health care system has led to talks of a crisis and needs for reform. We must examine, what exactly, a crisis is, though. In his work, *Cries of Crisis: Rethinking the Rhetoric of Health Care Reform*, Dr. Robert Hackey notes that the phrase

"health care crisis" has become part of the vernacular.[xvi] To wit, Hackey also argues that, "a forty year crisis is an oxymoron".[xvii] Indeed, the word crisis implies a sense of urgency. While corrective action may need to take place with regard to how pharmaceuticals are produced and consumed, the fact of the matter remains that there is not significant regulation taking place to slow the costs—as is evident from the numbers we have discussed regarding the increase in pharmaceutical sales. If actions are to be taken to change the pharmaceutical sales industry, given the direction of the United States economy, there must be unilateral understanding of the terms in play. Hackey makes reference to twentieth-century analytical philosopher Ludwig Wittgenstein. Wittgenstein's concept of the "language game" gives rise to our understanding, or lack thereof when speaking of particulars. In fact, Wittgenstein argues that, "philosophical difficulties are produced by our unwitting abuse of existing concepts".[xviii] Due to rational self-interests of all parties involved in the American health care system, there is no doubt that misunderstanding in meanings result in differences of opinion. What must be done, though, is to bring the discussion of rising health care costs to all parties (economists, health care providers, pharmaceutical companies, patients, and academics) under common terms. If that situation can be accomplished, we will see a more streamlined approach to health care participation in the United States.

One of the greatest failures in American society occurs when patients fail to realize that health care is, indeed, a business. While there is an altruistic spirit involved in the nature of health care and pharmaceuticals, it comes at a cost. There is an opportunity cost involved in health care, much like in other goods and services to be consumed. As defined by economist Campbell McConnell, an opportunity cost is, "the amount of other products that must be forgone or sacrificed to produce a unit of a product".[xix] Using health care expenditures as our example,

the patient must decide what he or she values more: disposable income or health care services. Every time a patient fills a prescription at the pharmacy, he or she makes a value judgment that the prescription is more valuable than the amount of dollars needed to purchase that particular drug. Although some patients pay for their drugs begrudgingly, their attitude plays no role in opportunity costs. Regardless of how he or she feels when walking out of the pharmacy, the patient still values the prescription drug more than the extra income, or else he or she would not have purchased it. This leads us to an interesting question: how much is a person willing to spend on health care, or, at how much money does a person value his or her life?

In his work, *Your Money or Your Life: Strong Medicine for America's Healthcare System*, economist David Cutler explains that when discussing the price of health, multiple factors must be taken into consideration. For example, when valuing health, Cutler believes that ethical, legal, religious, political, and economic values all play an important role in the process.[xx] Complicating the matter further is the differing importance given to these values by individuals. While Cutler's point is true—that there is not one universal value on the price of a human life—in order to run an efficient health care system, the major players in the American health care system must come together to adapt as universal of a plan as possible. We see the relation back to Wittgenstein's language game. If such a universal plan is not enacted, we shall continue to see disparities between the amount Americans pay for health care and the amount Americans pay for other goods and services.

Let us return to the pharmaceutical industry's economic position over the last decade. While you or I may not be able to price our own health, the pharmaceutical industry is able to do so. When setting prescription drug prices, there is the obvious component of profit-making involved. Aside of profit on these drugs, though, is the fair market price of these drugs. The

market dictates what a certain drug is worth. If a person needs a particular prescription drug in order to keep functioning properly, more likely than not a person will pay the price for that drug. Patent rights to drugs and a lack of price controls, coupled with high demand, allow pharmaceutical companies to have relative control in price-setting. For example, Genentech's breast cancer drug Avastin may cost as much as $88,000 per year for a course of treatment.[xxi] When a patient is diagnosed with breast cancer, the typical course of action is to do as much as possible to preserve the patient's life. At $88,000 per year, though, the price of the drug is exceedingly beyond what most Americans can pay.

Health care is a scarce resource, much like other goods and services. And yes, the economic problem of scarcity that states that a person has unlimited needs and wants but limited resources to satisfy those wants applies to the health care sector. In fact, health care becomes even more of a scarce resource when disposable income is lessened and the price of prescription drugs rises. As the data suggest, though, Americans are still paying the rising prices of pharmaceuticals. In a February 2009 article from the Journal of the *American Medical Association*, Mike Mitka refers to Princeton economist Uwe Reinhardt's belief that, "The supply side of health care completely dominates the demand side in the United States because the demand side is fragmented, so there is nothing in place like in other nations to establish national budgets or negotiate fees".[xxii] Reinhardt's idea of the fragmented demand side makes perfect sense—there is a veritable plethora of health care needs that consumers would like to have pharmaceutical products available to treat. There is not one universally needed pharmaceutical product. The pharmaceutical companies have the possibility of creating a myriad of drugs to accommodate many needs, but do not always create drugs. Unfortunately for patients who

would like some drugs produced, the market demand is not at a point whereby the benefits outweigh the costs of production.

According to the report by the National Health Expenditure Accounts Team, there were several factors that partially offset the slowdown in health spending during the Great Recession. The report states that, "Spending growth increased more rapidly in 2009 than 2008, as a result of more rapid growth in the prices of drugs and in the number of prescriptions dispensed".[xxiii] There was a steep increase in the annual growth of prescription drugs between 2008 and 2009. From 2007 to 2008, prescription drugs grew by 3.1%, whereas between 2008 and 2009, prescription drugs grew by 5.3%. This also comes at a time where out of pocket spending on non-pharmaceutical national health expenditures increased by 0.4% in 2009 to $299.3 billion, from $298.2 billion in 2008.[xxiv]

The results from the data suggest that not only are people consuming more prescriptions in 2009 than in 2008, but also that the amount of coverage by government-sponsored insurers has increased. If prescription drug purchases grew by 5.3%, and patients' disposable incomes were steadily decreasing, more patients were eligible for government-sponsored insurance.[xxv] The QFinance report notes that this increase may be attributable to the United States' aging population. The report cites the *CIA World Factbook* statistic that the percentage of Americans over 65 in 2009 was 12.8% of the total population.[xxvi] We must also keep in mind that an older population requires even more pharmaceuticals. Morris believes that by the age of fifty-five, people become more intensive consumers of health care services.[xxvii] According to economist Victor Fuchs, between 1987 and 1995, elderly persons increased their consumption of health care services by 4 to 5 percent a year. Additionally, Fuchs predicts that elderly health care expenditures will total 10 percent of total GDP by 2020.[xxviii]

The increase in the elderly population in the United States, along with the increase in the elderly's consumption of prescription drugs brings us to another predicament: the potential overreliance on and over dispensing of pharmaceutical products. Before delving completely into that topic, a return to the business of health care and pharmaceuticals is essential. As Kenman Wong argues in his work *Medicine and the Marketplace*, "Simply put, the traditional "good" for business has been and continues to be profit, while the "good" for medicine is the well-being of patients. As a result, these organizations cannot simultaneously serve their business interests without defaulting upon their obligations as health care providers".[xxix] Wong also raises the concern that corporations involved in health care services may cause harm to the greater society. Namely, he argues that critics, "question whether the pursuit of profit by corporations in the industry will lead them to exclusively engage in health care practices that contribute to their bottom line".[xxx] To say that pharmaceutical companies have weathered the economic storm of the Great Recession may be a truthful statement. What cannot be ignored, though, is the cost at which this position comes.

The United States was not alone in the struggle for affordable pharmaceuticals during the recession. In fact, so many countries were feeling penny-pinched by pharmaceutical companies that the World Health Organization commissioned a report to evaluate the impact of the recession on the pharmaceutical sector. The conclusion of the report was rather vague, though. Instead of pinpointing a particular cause of the rise in prescription drug pricing, the WHO report concludes that, "The economic recession which began in 2008 has had a mixed effect on pharmaceutical consumption, expenditures, and prices".[xxxi] Indeed that finding is rather disappointing from such a thorough examination of the industry. In fairness to the WHO report, the initiative was to focus on worldwide trends in the pharmaceutical industry. Although

pharmaceutical companies are quite global, the fact remains that a great deal of medicalization occurs in the United States. The report did state, though, that, "the largest changes have occurred in high income countries and in Europe".[xxxii] While the focus of this paper is how the American housing market collapse influenced the health care sector, I would be remiss if I did not address worldwide trends in the pharmaceutical industry.

Economic recessions have strong impacts on public health. The WHO report notes that suicide and homicide rates rise, the number of underweight children and low-birth weight babies increases, and mortality among elderly and children occurs more frequently during recessionary periods.[xxxiii] While these trends are worldwide, that is not so say the United States is exempt from such unfortunate circumstances. The WHO report created a flow chart that ties together the links between economic crisis, household income, governmental tax revenue, and health status. According to the chart, an economic crisis, "implies an increase in unemployment and inflation. It also leads to bankruptcies. This causes a decrease in household income and tax revenues".[xxxiv] As a result, people's disposable income decreases and people spend less money on food, education, and health. A decrease in tax revenue also forces governments to make budget cuts. Budget cuts may be necessary in health care and education spending, which can trigger a lack of funding for proper immunizations, decreased coverage by government sponsored insurance, and a lack of incentivzation for technological advances. These detriments can, and typically do, "lead to a decreased health status of the population. Mortality rates will increase and life expectancy will decrease".[xxxv] Due to the global reach of the Great Recession, the WHO set out to determine why health care was adversely affected, and as a result, how to best alleviate the public health problems.

The WHO hypothesized that a decrease in GDP would necessitate a decrease in pharmaceutical consumption, and to such an extent that a greater decrease in GDP would lead to a greater decrease in pharmaceutical consumption. The WHO also thought that due to a decrease in people's disposable income, there would be a surge in the consumption of generic medicine, and a decline in the amount of name brand drugs used. Finally, the report also assumed that the pharmaceutical consumption expenditures would remain the same or decrease while other public expenditures will increase and private sector expenditures will decrease. Let me elaborate on the last hypothesis. Pharmaceutical companies are in the private sector of the United States' economy. A decrease in pharmaceutical consumption necessarily leads to a decrease in private sector expenditures and revenues. If companies are not witnessing the potential for economic gains, they will cut back their spending and innovation. Public sector expenditures would be forced to shoulder a heavier burden if such decreases in the private sector were to take effect. In that case, the government would have to supplement private sector industries to keep the overall economy afloat. Additionally, and more importantly, when this process occurs on a large scale, the worldwide economy will suffer.

To assess these proposed hypotheses, the WHO collected data from Intercontinental Medical Statistics (IMS Health), a company that provides intelligence and analysis to both health care providers and pharmaceutical companies. IMS data regarding pharmaceutical consumption is collected from wholesalers, hospitals, pharmacies, and drug stores. While IMS collects data from over 100 countries worldwide, the WHO report analyzed data from 84 countries to finalize their results. Of these 84 countries, 81% of the world's population was represented. The data collected from IMS comes from the public and private sectors. Additionally, the volume of pharmaceutical consumption is expressed as standard units (SU). IMS defines one SU as, "one

capsule, one tablet, one prefilled syringe, one does of inhaled medicine, or 5 ml or an oral suspension".[xxxvi] The WHO report also made distinctions between medicines whereby there are two categories: original and licensed brands and other brands and unbranded medicines. This separation allowed the WHO to more easily analyze the consumption and expenditures of particular drugs. IMS defines an original brand as a brand, "with a molecule in the product which has or has had a molecule patent and is marketed by the patent holder (originator) of that product". Licensed brands are, "brands with a license which are sold by a different company than the originator".[xxxvii] Finally, "products which are being marketed by companies which are neither the originator nor hold a license from the originator belong to the category other brands and unbranded medicines".[xxxviii] This final category does not include generic pharmaceuticals, though, because generics hold very similar molecular compounds to the original and name brand drugs in the first category. One final stipulation must be made before we can properly analyze the data: pharmaceutical expenditures are tracked based upon the volume of consumption and the prices of medicines. Pharmaceutical expenditure changes can be related to either changes in volume consumption or pricing. Audits of pharmaceutical expenditures on a worldwide basis by IMS have been converted to American dollars, at the exchange rate of that time.

Keeping the methods and procedures in mind, we may now begin to understand the data collected by IMS for the WHO report. The first area of consideration is the consumption of original and licensed brand pharmaceuticals versus other brands and unbranded medicines. The WHO concludes that there was no worldwide shift from original and licensed brands to other brands and unbranded medicines, except for in the United States.[xxxix] Between the first quarter of 2008 and the fourth fiscal quarter of 2009, the consumption of original and licensed brand drugs decreased by 5% while the consumption of other branded drugs increased by 13% between

the first quarter of 2007 to the fourth quarter of 2009.[xl] Additionally, the average price per IMS Standard Unit index in the United States rose from $0.97 per SU to $1.11 per SU.[xli] While these figures do not seem staggering, let us keep the definition of a standard unit in mind: one pill, one tablet, one capsule, or 5ml of a suspended liquid. Seeing as a most prescription drugs are dispensed in 30-day supplies in the United States, the average price (assuming the prescription is set for one SU per day) goes from $29.10 per month to $33.30 per month—roughly a 12% increase in the span of three years (Q1 2007 to Q4 2009). This 12% is also an average between the drugs in both categories—original and other branded drugs. Suffice it to say, a 12% increase in the price of Avastin at $88,000 per year ($7,333.33 per month) now, would lead to a cost of $99,559.96 per year ($8,213.32 per month) in three years, ceteris paribus.

Although Avastin has now been pulled from the market, if the drug's price were to increase so exponentially, then Avastin would become even more unaffordable for very sick patients. Another factor that must be taken into consideration is the percentage of the cost of drugs that insurance policies will cover. If a patient lacks coverage and is faced with the choice between life at the cost of $99,559.96 per year or death at $0, death is the much cheaper option—a similar situation to a homeowner paying on an overinflated mortgage, or intentionally foreclosing on his or her home. Both situations are quite terrible.

Due to the precarious position that health care consumers are placed in, there must be some form of regulation enacted with regard to pharmaceuticals. The evidence tells us that regardless of worldwide economic problems and personal financial setbacks; Americans have a strong propensity to consume pharmaceuticals. Irrespective of the fact that over medicalization may be occurring in today's society, the patients do not always have control of their fate. American physicians are the ones with the prescription pads—the power to prescribe drugs gives

them influence over the pharmaceutical industry. Physicians can continue to prescribe just the original or name brand pharmaceutical, or a generic form of the drug once the original drug's patent protection expires. This simple box at the bottom of the prescription pad hangs tremendously over the financials of large pharmaceutical companies. To that end, an emphasis should be placed on reducing the gap between the price of an original, name brand drug and the generic form of that drug. If the prices were more closely set, the marketplace would become more competitive. Consumers (patients) would thrive on the fact that a name brand prescription that they have been successfully taking for years is now in the same affordability range as the generic drug that they are financially forced to take. Patient comfortability with the American health care system will increase tremendously if they know that their dollar will allow them to purchase more of a drug that has given them increased health benefits.

While this one idea will help the ailing pharmaceutical consumers, there must be action taken to help control the cost of drugs before the expiration of patent protection. To help control this situation, I suggest that government involvement should be undertaken. In the same manner that the government sets price ceilings for rent control purposes, arrangements might be made for pharmaceuticals prices to be under the purview of the federal government. Looking at the established governmental oversight of the pharmaceutical industry, we see that approval status for prescription drugs falls under the Food and Drug Administration (FDA) and approval status for sales falls under the Federal Trade Commission (FTC)—after all, pharmaceuticals are manufactured and sold on an interstate basis. If the pharmaceutical industry is already so heavily regulated on multiple fronts, establishing pricing guidelines is not a preposterous extrapolation. In fact, pricing guidelines may help to improve the state of pharmaceutical sales. McConnell defines a price ceiling as, "a legally established maximum price for a good or service".[xlii] He

defines the equilibrium price as, “the price in a competitive market at which the quantity demanded and the quantity supplied are equal there is neither a shortage nor a surplus, and there is no tendency for price to rise or fall”.[xliii] The problem remains that finding the equilibrium price for pharmaceuticals grows increasingly difficult with the constant advent of new technology and scientific innovation making obsolete what was once a thoroughly innovative pharmaceutical.

In order to help to stabilize the prescription market for the consumers, government influence on the price of pharmaceuticals should help to correct for the unfairly high price for patients. The ultimate effect of a price ceiling on the marketplace are that the ceiling, “prevents the usual market adjustment in which competition among buyers bids up price, inducing more production and rationing some buyers out of the market”.[xliv] In the case of the pharmaceutical industry, a price ceiling should help to eliminate drugs that do not efficiently treat patients and it will keep most patients in the realm of pharmaceutical consumers—if the price is not overinflated due to market forces, more people will be able to benefit from prescription drugs.

Although the argument may be made that there are potential negatives with a proposed price ceiling and price floor model, that is, a lack of incentives for the producers, government intervention is not intended to overtake the free market nature of the health care industry.[xlv] Rather the government would have the authority to step-in when needed. In order to really illustrate the current state of the American health care system, particularly the pharmaceutical marketplace, let us look at the two extremes—the profiting pharmaceutical companies, and the recession-strapped pharmaceutical consumers (patients). Government action, if taken, must strike at the middle ground so as to help both sides of the spectrum. In fact, Aristotle’s famous argument from the *Nicomachean Ethics* perfectly describes this situation. Aristotle argues that,

"First, then, we should observe that these sorts of states naturally tend to be ruined by excess and deficiency".[xlvi] Striking a balance in pharmaceutical sales will truly help both parties. One interesting aspect of the health care system, especially the pharmaceutical industry, is that consumers will always require health care services. On the one hand, people will always seek improved health care. To satisfy that need, the market will empower the pharmaceutical companies to produce the demanded health care products. On the other hand, pharmaceutical companies will always need a customer base to support research and future development. There is a circular flow of dependency when we look at the structure of the health care industry. Due to such dependency, and the emotional nature of the product (health care for prolonged and enhanced life), neither side should unfairly exploit the other. Pharmaceutical companies should not price gouge, and patients should not expect these services to come cheaply. What should be the case, though, is for the market to be as fair as possible. Potential government involvement would even the playing field for both sides. To have an overwhelming portion of GDP spent on pharmaceuticals during a recession (17.6%) does not mean that society is being cured of its ailments.[xlvii] What it does show, though, is that pharmaceuticals really are recession proof pills.

Notes

[i] Anne Martin, et al., "Recession Contributes to Slowest Annual Rate of Increase in Health Spending in Five Decades" (*Health Affairs*: Volume 30, Issue 1, January 2011), p.11.
[ii] World Health Organization, "Impact of the Economic Recession on the Pharmaceutical Sector," apps.who.int/medicinedocs/documents/s17419e/s17419e.pdf, p.6.
[iii] Martin, et al., "Recession Contributes to Slowest Annual Rate of Increase in Health Spending in Five Decades", p.18.
[iv] Martin, et al., "Recession Contributes to Slowest Annual Rate of Increase in Health Spending in Five Decades", p.12.
[v] Paul Krugman, *The Return of Depression Economics and the Crisis of 2008* (New York: W.W. Norton & Company, Inc., 2009), p.166.
[vi] William Zelman, et.al., *Financial Management of Health Care Organizations: An Introduction to Fundamental Tools, Concepts, and Applications* (San Francisco: Jossey-Bass, 2009), p.347.
[vii] Campbell R. McConnell, et.al., *Macroeconomics: Principles, Problems, and Policies* (New York: McGraw Hill Irwin, 2009), p.139.
[viii] Charles R. Morris, T*oo Much of a Good Thing? Why Health Care Spending Won't Make Us Sick* (New York: The Century Foundation, 200), p.23.
[ix] McConnell, *Macroeconomics*, p.130.
[x] Centers for Medicare and Medicaid Services, National Health Expenditures Accounts: Definitions, Sources, and Methods 2009, https://www.cms.gov/nationalhealthexpenddata/downloads/dsm-09.pdf, p.3.
[xi] Anne Martin, et.al., "Recession Contributes to Slowest Annual Rate of Increase in Health Spending in Five Decades" (*Health Affairs*: Volume 30, Issue 1, January 2011), p.11.
[xii] *Ibid.*
[xiii] *Ibid.*
[xiv] Morris, *Too Much of a Good Thing*, p.23.
[xv] QFinance, Healthcare and Pharmaceuticals Industry, Market Analysis and Trends, http://www.qfinance.com/sector-profiles/healthcare-and-pharmaceuticals, p.1.
[xvi] Robert Hackey, *Cries of Crisis: Rethinking the Rhetoric of Health Care Reform*, p.5.
[xvii] Hackey, *Cries of Crisis*, p.6.
[xviii] P.M.S. Hacker, *Wittgenstein* (New York: Routledge, 1999), p.9.
[xix] McConnell, *Macroeconomics*, p. G-14.
[xx] David M. Cutler, *Your Money or Your Life: Strong Medicine for America's Healthcare System* (New York: Oxford University Press, 2004), p.11.
[xxi] New York Times Staff, "Extremely Expensive Cancer Drugs" (New York Times, July 6, 2011), http://www.nytimes.com/2011/07/07/opinion/07thu2.html, p.1.
[xxii] Mike Mitka, "Growth in Health Care Spending Slows, But Still Outpaces Rate of Inflation" (*Journal of the American Medical Association*: February 25, 2009), p.816.
[xxiii] Martin, et.al., "Recession Contributes to Slowest Annual Rate of Increase in Health Spending in Five Decades," p.12.
[xxiv] *Ibid.* 12-13
[xxv] Kaiser Family Foundation, "Distribution of National Prescription Drug Expenditures by Source of Payment, 1999-2009", http://facts.kff.org/chart.aspx?ch=184
[xxvi] QFinance, Healthcare and Pharmaceuticals Industry, Market Analysis and Trends, http://www.qfinance.com/sector-profiles/healthcare-and-pharmaceuticals, p.1.
[xxvii] Morris, *Too Much of a Good Thing*, p.25.
[xxviii] Victor R. Fuchs, "Provide, Provide: The Economics of Aging," *NBER Working Paper Series* No. 6642, July 1998.
[xxix] Kenman Wong, *Medicine and the Marketplace: The Moral Dimensions of Managed Care* (Notre Dame: University of Notre Dame Press, 1998), p.20.
[xxx] *Ibid.* 19

[xxxi] World Health Organization, “Impact of the Economic Recession on the Pharmaceutical Sector,” apps.who.int/medicinedocs/documents/s17419e/s17419e.pdf, p.5.
[xxxii] *Ibid.*
[xxxiii] *Ibid.* 6
[xxxiv] *Ibid.*14
[xxxv] *Ibid.*
[xxxvi] *Ibid.*16
[xxxvii] *Ibid.*17
[xxxviii] *Ibid.*
[xxxix] *Ibid.* 29
[xl] *Ibid.*
[xli] *Ibid.* 32
[xlii] McConnell, *Macroeconomics*, p. G-16.
[xliii] *Ibid.* G-6.
[xliv] *Ibid.* 61
[xlv] *Ibid.* 62
[xlvi] Aristotle. "Nicomachean Ethics." *Aristotle: Introductory Readings*. Trans. Terence Irwin and Gail Fine. Indianapolis, IN: Hackett Pub., 1996, p.196-287.
[xlvii] Martin, et.al., “Recession Contributes to Slowest Annual Rate of Increase in Health Spending in Five Decades,” p.12.

Works Cited

Aristotle. “Nicomachean Ethics.” Aristotle: Introductory Readings. Trans. Terence Irwin and Gail Fine. Indianapolis, IN: Hackett Pub., 1996, pp. 196-287.

Centers for Medicare and Medicaid Services, National Health Expenditures Accounts: Definitions, Sources, and Methods 2009. https://www.cms.gov/nationalhealthexpenddata/downloads/dsm-09.pdf

Cutler, David M.. *Your Money or Your Life: Strong Medicine for America's Health Care System*. London: Oxford University Press, 2004.

Hacker, P.M.S. *Wittgenstein.* New York: Routledge, 1999.

Hackey, Robert. *Cries of Crisis: Rethinking the Rhetoric of Health Care Reform*. Unpublished.

Hartman, Micah, Anne Martin, Olivia Nuccio, Aaron Caitlin, and National Health Expenditure Accounts Team .. "Health Spending Growth At A Historic Low in 2008." *Health Affairs* 29, no. 1 (2009). http://content.healthaffairs.org/content/29/1/147.full.html (accessed October 18, 2011).

"Healthcare and Pharmaceuticals Industry | Market Analysis and Trends - QFINANCE." Financial resources, articles, concepts and opinions from QFINANCE - QFINANCE. http://www.qfinance.com/sector-profiles/healthcare-and-pharmaceuticals (accessed October 18, 2011).

"Impact of the Economic Recession on the Pharmaceutical Sector." World Health Organization. apps.who.int/medicinedocs/documents/s17419e/s17419e.pdf (accessed October 16, 2011).

Kaiser Family Foundation, “Distribution of National Prescription Drug Expenditures by Source of Payment, 1999-2009”, http://facts.kff.org/chart.aspx?ch=184 (accessed March 27, 2012).

Krugman, Paul Robin. *The Return of Depression Economics and The Crisis of 2008*. New York: W.W. Norton & Company Ltd., 2009.

Martin, Anne, David Lassman, Lekha Whittle, Aaron Caitlin, and National Health Expenditure Accounts Team .. "Recession Contributes to Slowest Annual Rate of Increase in Health Spending in Five Decades." *Health Affairs* 30, no. 1 (2011). http://content.healthaffairs.org/content/30/1/11.full.html (accessed October 18, 2011).

Mitka, Mike. “Growth in Health Care Spending Slows, But Still Outpaces Rate of Inflation,” *Journal of the American Medical Association*, February 25, 2009, p.816.

McConnell, Campbell R., et.al., *Macroeconomics: Principles, Problems, and Policies* (New York: McGraw Hill Irwin, 2009),

Morris, Charles R.. *Too Much of a Good Thing?: Why Health Care Spending Won't Make Us Sick*. Berkeley, CA and New York: Century Foundation, 2000.

New York Times Staff, “Extremely Expensive Cancer Drugs,” *New York Times*, July 6, 2011. http://www.nytimes.com/2011/07/07/opinion/07thu2.html

Wong, Kenman L.. *Medicine and the Marketplace: The Moral Dimensions of Managed Care*. Notre Dame: University of Notre Dame Press, 1998.

Zelman, William, et.al., *Financial Management of Health Care Organizations: An Introduction to Fundamental Tools, Concepts, and Applications.* San Francisco: Jossey-Bass, 2009.

Bibliography

Amara, Roy. *Health and Health Care 2010: The Forecast, The Challenge*. San Francisco: Jossey-Bass, 2000.

Aristotle. "Nicomachean Ethics." Aristotle: Introductory Readings. Trans. Terence Irwin and Gail Fine. Indianapolis, IN: Hackett Pub., 1996, pp. 196-287.

Bennett, Sara, Lucy Gilson, and Anne Mills. *Health, Economic Development and Household Poverty: From Understanding to Action*. New York: Routledge, 2008.

Centers for Medicare and Medicaid Services, National Health Expenditures Accounts: Definitions, Sources, and Methods 2009. https://www.cms.gov/nationalhealthexpenddata/downloads/dsm-09.pdf

Cutler, David M.. *Your Money or Your Life: Strong Medicine for America's Health Care System*. London: Oxford University Press, 2004.

Dranove, David. *Code Red: An Economist Explains How to Revive the Healthcare System Without Destroying It*. Princeton: Princeton University Press, 2008.

Dranove, David. *The Economic Evolution of American Health Care*. Princeton: Princeton University Press, 2000.

Fuchs, Victor R. "Provide, Provide: The Economics of Aging," *NBER Working Paper Series*, No. 6642, July 1998.

Hacker, P.M.S. *Wittgenstein*. New York: Routledge, 1999.

Hackey, Robert. *Cries of Crisis: Rethinking the Rhetoric of Health Care Reform*. Unpublished.

Hartman, Micah, Anne Martin, Olivia Nuccio, Aaron Caitlin, and National Health Expenditure Accounts Team .. "Health Spending Growth At A Historic Low in 2008." *Health Affairs* 29, no. 1 (2009). http://content.healthaffairs.org/content/29/1/147.full.html (accessed October 18, 2011).

"Healthcare and Pharmaceuticals Industry | Market Analysis and Trends - QFINANCE." Financial resources, articles, concepts and opinions from QFINANCE - QFINANCE. http://www.qfinance.com/sector-profiles/healthcare-and-pharmaceuticals (accessed October 18, 2011).

"Impact of the Economic Recession on the Pharmaceutical Sector." World Health Organization. apps.who.int/medicinedocs/documents/s17419e/s17419e.pdf (accessed October 16, 2011).

Kaiser Family Foundation, "Distribution of National Prescription Drug Expenditures by Source of Payment, 1999-2009", http://facts.kff.org/chart.aspx?ch=184 (accessed March 27, 2012).

Krugman, Paul Robin. *The Return of Depression Economics and The Crisis of 2008*. New York: W.W. Norton & Company Ltd., 2009.

Martin, Anne, David Lassman, Lekha Whittle, Aaron Caitlin, and National Health Expenditure Accounts Team .. "Recession Contributes to Slowest Annual Rate of Increase in Health Spending in Five Decades." *Health Affairs* 30, no. 1 (2011). http://content.healthaffairs.org/content/30/1/11.full.html (accessed October 18, 2011).

Mitka, Mike. "Growth in Health Care Spending Slows, But Still Outpaces Rate of Inflation," *Journal of the American Medical Association*, February 25, 2009, p.816.

McConnell, Campbell R., et.al., *Macroeconomics: Principles, Problems, and Policies* (New York: McGraw Hill Irwin, 2009),

Morris, Charles R.. *Too Much of a Good Thing?: Why Health Care Spending Won't Make Us Sick*. Berkeley, CA and New York: Century Foundation, 2000.

New York Times Staff, "Extremely Expensive Cancer Drugs," *New York Times*, July 6, 2011. http://www.nytimes.com/2011/07/07/opinion/07thu2.html

Power to the Patient: Selected Health Care Issues and Policy Solutions. Palo Alto: Hoover Institution Press, 2005.

Rivlin, Alice M., and Joseph R. Antos. *Restoring Fiscal Sanity 2007: The Health Spending Challenge*. Washington, D.C.: Brookings Institution Press, 2007.

Sorkin, Alan L.. *Health Care and the Changing Economic Environment*. New York: Lexington Books, 1986.

Wong, Kenman L.. *Medicine and the Marketplace: The Moral Dimensions of Managed Care*. Notre Dame: University of Notre Dame Press, 1998.

Zelman, William, et.al., *Financial Management of Health Care Organizations: An Introduction to Fundamental Tools, Concepts, and Applications.* San Francisco: Jossey-Bass, 2009.