

## **The Real Drug War: Pharmaceutical Drug Abuse & Who to Blame**

When a television news anchor discusses *The Drug War in America* over prime time television, the first thought that comes to mind is the DEA enforcing the age old “Controlled Substances Act” of the 1970’s with the most common drugs listed as marijuana, cocaine, and heroine on the Justice.gov website. However, there is a much larger war amid families, students, addicts, and corporations - the abuse of the pharmaceutical drug system. The popular documentary “Oxycontin Express” opened the eyes of the mainstream market that 85% of pain pill medication prescriptions in the entire country come from the state of Florida. To reiterate, 6% of the entire United States’ population accounts for 85% of the country’s total oxycontin prescriptions. These startling facts prompted research from a variety of new sources on a number of other states. For example in 2012, New York State filled 13 million prescriptions of oxycodone - with a population of 19.4 million people. Did more than 65% of the entire population of New York have serious surgeries or traumatic events in 2012? Was more than half the population of New York prescribed oxycodone by the doctors, medical system, and corporations in New York State?<sup>i</sup>

Jarek Camac, a decorated veteran of the war in Afghanistan, was an artilleryman for the US Army. He spent more than two and a half years in the Middle East and was injured by an ambush on his final deployment.<sup>ii</sup> Jarek was prescribed painkillers to ease the pain and antidepressants for PTSD by the Veteran Affairs doctors. After becoming dependent upon the narcotics to maintain adequate dopamine levels,<sup>iii</sup> Jarek was able to attain multiple prescriptions for some time from multiple doctors.<sup>iv</sup> After additional tolerance was built to the drugs and higher concentrations were needed, he switched to something much more powerful – heroine. How can each of us allow this addiction to go unnoticed and not cared about? Devastatingly for the first time ever, pharmaceutical drug deaths in the US have outnumbered heroine and cocaine fatalities combined.<sup>v</sup> Literally, deaths caused by pharmaceutical drug abuse have officially surpassed the number of casualties caused by illegal, hard-core drugs. Prescription painkillers, like oxycontin, are just one of many legal controlled substances that have increasingly become dangerously abused over the last decade.<sup>vi</sup> From fathers recovering of back surgery to veterans or those involved in a serious car accident, painkillers are a serious problem to real-life

working people because of their availability and addictive potential. ADHD medication, like Adderall, has become the norm for a struggling undergraduate college student who needs to stay up late cramming for a final exam, and the drug is easily available through friends. Meanwhile anti-depressants like Xanax, most commonly prescribed for anxiety, are handed out to people with supposed anxiety disorders – which can easily be fabricated with a few, carefully planned stories. That in itself is the problem, the ability to obtain these drugs legally because of a doctor's relaxed restrictions or a patient's fictitious statements.

Taking an anti-depressant increases serotonin levels in the brain by affecting the natural amount of gamma amino butyric acids, GABA, produced and accepted. Alprazolam, the main ingredient in Xanax, is an artificial chemical that behaves very similar to GABA, in that it decreases stress and lowers inhibitions.<sup>vii</sup> The natural production of GABA directly affects the levels of tryptophan hydroxylase, the chemical that produces serotonin in the brain.<sup>viii</sup> Once Xanax is no longer taken, many individuals are unable to re-produce these chemicals naturally in the brain at sufficient levels – taking longer than a week for the body to readjust, depending on how long Xanax was taken to begin with. These natural withdrawals cause the body to go through depression, mood swings, anxiety, violence, dry mouth, constipation, countless other psychological and physical symptoms like social isolation and migraines.

### **Big Companies**

The global pharmaceutical drug market is estimated to be worth over \$400 billion dollars per year, and the US market at \$10 billion.<sup>ix</sup> Large corporations such as Merck, Lilly, and GlaxoSmithKline have a wealth of opportunity in this gigantic market, often forcing themselves to put short-term revenues and profits before ethical standards. For example, life science giant Johnson & Johnson was forced to pay out a settlement \$2.2 billion dollars in a federal court settlement in November 2013 over allegations that included off label usage recommended to doctors, financial payments to doctors to increase prescription levels, drug misbranding, and the recommendation of prescribing medication to children under 18 years of age - all of which had serious side effects in patients and even resulted in an unknown number of deaths.<sup>x</sup> While none of the executives knowingly signed off on these issues, the fact of the matter is that the

company did commit these acts with a clear line of diluted responsibility. The larger issue is that the settlement was issued with a mandatory statement that Johnson & Johnson “did not commit any wrong-doing” and no one in the company was held responsible. Another startling example of a large corporation ignoring laws while taking advantage of the current pharmaceutical legal system is GlaxoSmithKline paying a \$3 billion settlement over their most common antidepressant drug.<sup>xi</sup> The medicine known as Paxil, which happens to be their best selling drug of all time at \$11.3 billion, was illegally prescribed to children less than 18 years of age, scientific evidence was hidden from medical journals, and gifts were given to doctors who prescribed significant amounts of the drug - causing “an uncountable number of deaths.” Additionally, none of the executives at GSK went to jail or had their bonuses taken away after the settlement.<sup>xii</sup> To re-cap, \$11.3 billion of Paxil was sold and the settlement was for only \$3 billion - leaving not a single individual in jail, and an approximate \$8.3 billion of profit for GSK after the corporation knowingly withheld information that killed an undisclosed number of patients. Apparently this is American Justice - companies committing atrociously illegal activities, and making so much money off of the injustice that they can simply “tip” the government 26.5% of the earnings and continue with their daily agendas.

One underlying legal precedent that large companies are forced to align their profits and business models with are that natural substances are not patentable - therefore there is no monetary incentive to pursue natural substances, many of which are often more healthy. For example, did you know that a leading brand of honey works just as well on cuts and scrapes as Neosporin?<sup>xiii</sup> This is because individual chemicals and polymers, which can be isolated, are patentable, but *natural substances that occur in nature* are not. In a recent supreme court ruling Molecular Pathology vs. Myriad Genetics, the United States government ruled that the human genome is not patentable, even if isolated, and natural substances are not patentable unless they are significantly different than what is produced in nature – good news news for cancer research and the progression of drug treatment worldwide but bad news for profits and bottom line developmental research.<sup>xiv</sup>

However, I am not claiming that all prescription drugs are harmful or abused. Many opioids and amphetamines are entirely necessary for the advancement of scientific

research, to promote normal everyday function of patient life, or both combined. Less than one year ago, I was involved in a life threatening car accident and was hospitalized for nearly two months. During this endeavor I have seen the direct benefits of these medications, because without certain seizure, pain, or brain hemorrhage medications I, literally, would not have survived. But statistically, how many people need these drugs versus those who want them? Over prescription has become a clear problem in modern society, and it is in the best financial interest of large pharmaceutical companies to prescribe increased amounts year over year. The United States is one of, if not the most, technologically developed nation in the world, so it does make sense that the US would have better access to pharmaceutical drugs via “Obamacare.” But despite only being 4% of the world’s population, the United States accounts for over 35% of the global pharmaceutical drug market.<sup>xv</sup> These startling numbers, and other facts such as prescription overdoses have increased more than 400% since 2010,<sup>xvi</sup> have lead academia to believe there is considerable drug abuse in the US pharmaceutical drug system on many different levels.

### **Lenient Laws & The Government**

In the past few years there has been an unfortunate authorization of lenient laws by the federal government that allow for enhanced profits by multinational pharmaceutical corporations. PhRMA, Pharmaceutical Research and Manufacturers of America, is the largest lobbying group in the United States. PhRMA has spent over \$2 billion lobbying the government over the past decade, more than any other industry in history.<sup>xvii</sup> Spending this insurmountable amount of money has directly impacted legislation, such as the Medicare Prescription Drug Improvement and Modernization Act of 2003, more commonly known as the MMA. This controversial bill allows for individuals to have tax breaks from specific prescription drugs under Medicare, but it prevents the government from negotiating the prices of those drugs – essentially allowing the parent company to charge a premium for medicine while taxpayers foot the bill.<sup>xviii</sup> As a result of lobbying the MMA, an estimated 61% of Medicare’s dollars spent on prescription drugs go to the hands of the top pharmaceutical companies as pure profit, and estimated \$139 billion from 2003 - 2013.<sup>xix</sup> Drug makers defend this profit by showing their pricey research and development programs, while others tout against it - as the additional production cost of a

single drug is virtually zero. Whether or not Medicare prescription prices should be negotiated may be up for debate, as I can supply numerous facts supporting both sides of the argument and there is no right answer - but the fact of the matter is that pharmaceutical drug companies would rather keep prices inflated for increased profit, supposedly leading to further research, rather than reduce prices to reach more patients.

Pharmaceutical drugs have a twenty-year patent life, with an optional five-year additional term granted by the government, in the United States.<sup>xx</sup> It is this patent duration that protects pharmaceutical companies from other competitors entering the market with the same compound,<sup>xxi</sup> and it is this law in the US that sets the tone for international law.<sup>xxii</sup> However drug companies have successfully found a loophole by filing patents at the correct time with only changing a few molecules to the medicine – a process known as “ever greening.” As long as the effects of the medicine are not removed, the new patent could hereby extend the life of a medicine to a single company rather than multiple companies with generic manufacturing plans. It is these generics that allow for market saturation to make treating new disease affordable and available to everyone – and it is this loophole that is currently being challenged in the Republic of India. This country with the second largest population in the world, losing to only China, has ruled a Novartis drug that treats leukemia too similar after its second application for patent.<sup>xxiii</sup> The price differences are astonishing at \$2600 per month for Novartis’ Gilvec compared to about \$175 per month for the generic version. This dramatic price difference severely impacts the amount of people that are able to be treated with the medicine because 80% of the population makes less than a few dollars per day.<sup>xxiv</sup> Yet these emerging markets are of vital importance to the financial growth and stability of big pharma.

With more than 8 million people on the Obamare roster, pharmaceutical companies are expected to rake in over \$35 billion in potential profit in the next ten years – proving a new area of growth is right here at home.<sup>xxv</sup> As patent life comes to a close for the new best selling drugs produced by big pharma within the last year, price for the medicine has more than doubled causing the fastest drug price inflation in history.<sup>xxvi</sup> However with the medical device tax of 2.3% and the challenges of biosimilar patentability, profit margins may be eaten away at the bottom line. Indisputably how Obamacare impacts the

pharmaceutical drug sector is uncertain, and the only clear fact is that continual innovation will be necessary in order for premiums to be continually charged in the future.

### **The Current Medical System & Doctors**

The amount of influence big pharma has over the current medical system is astonishing. From the lobbying group PhRMA hiring more than 15 senators, who approved the previously mentioned Medicare Prescription and Drug Improvement Act,<sup>xxvii</sup> to companies publishing academic articles in medical journals that only bolster positive reviews, large pharmaceutical companies have promoted their interests in politics and academia alike.<sup>xxviii</sup> Pharmaceutical fund specialists conduct continuing educational courses, necessary each year for all practicing doctors, in exotic and remote areas like the Caribbean with most expenses covered - all in exchange for preferential prescription writing towards a company's specific brand of drugs to increase sales. These types of marketing campaigns, aimed at doctors and senators in search of the fastest and least expensive solution, have helped fuel the over-diagnosis and over-prescription of pharmaceutical drugs in the US.<sup>xxix</sup> In an academic paper released by Chris Parsons and Joseph Engelberg, *Rady's finest*, it was found that in simple random sample of doctors, there was a 13% chance of prescribing drugs from twelve prominent pharmaceutical companies.<sup>xxx</sup> Of those doctors, almost 60% received consulting or other fees from the leading pharmaceutical companies – and their probability of writing prescriptions increased nearly 30%.

So is it too easy to get a prescription for certain “feel good” medications in the US? Is there a better way to diagnose anxiety or ADHD than asking patients “how they feel” or taking subjective tests that are not 100% accurate? Scientists all over the world, including our native UC San Diego, are at the forefront of testing specific biomarkers and how those relate to depression.<sup>xxxi</sup> It is believed that if chronic depression runs in the family, ordinary doctors would be able to run a blood test to know if a patient is more prone to depressive behavior. San Diego's own Ridge Diagnostics believes they are the company to be furthest in developing a real blood test that will know the likelihood of a patient suffering from a real depressive disorder.<sup>xxxii</sup> A product like this, with the ability to curb abusive drug behavior, combined with our current testing standards, would have

an unparalleled impact on the abuse of depressive medications in the United States. However tests like these are not yet mandatory by the government or insurance companies. Therefore there is no guarantee in changing the status quo until new policies are put into place changing how these anti-depressive medications are sold - another unlikely scenario as Drug Company's profit every minute from the sale of these pills.

### **Ourselves**

In a study conducted on campus undergraduates at UC San Diego with an approximate population of 22,000 at a confidence interval of 95%, nearly half of the students admitted to "taking prescription drugs for non-prescribed reasons"! Why would nearly half of UCSD undergraduates, who are presumably good moraled and high quality students because I am one of them myself, take prescription drugs that were not for them? Further analysis displayed the highest ranked motivations to be that of Recreational Purposes, Educational Advantage, or Personal Experimentation. Unfortunately, the only individual we have to blame in the creation of the gigantic pharmaceutical drug market for non-prescribed purposes is ourselves. If we could not produce the *market pull* and chose to not take unnecessary prescription pills out of reliance or recreation, large pharma would pursue other *diseases* of higher anticipated revenue.

*Brett Blazys is CEO, founder and motivator behind Econometrics Evidence. He started his consulting career as a peer-to-peer consultant and his outstanding, global success within the biotech area launched him into corporate consulting. Prior to starting the Econometrics Evidence, Brett was a Senior Analyst for a Fortune 500 Clinical Research Organization and later received his MBA from the Rady School of Management. With years of international clinical consulting experience, in various countries across Europe and Asia, performing complex financial planning and optimization, he is an ideal leader.*

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<sup>ii</sup> <http://www.businessinsider.com/problems-at-the-va-have-contributed-to-a-growing-drug-problem-2014-5>

<sup>iii</sup> <http://www.opiate-freedom-center.com/opioid-addiction-naturally-increase-your-bodies-endorphins-serotonin/>

<sup>iv</sup> <https://news.vice.com/article/im-ptsd-paid-till-suicide-or-death>

<sup>v</sup> <http://www.cdc.gov/mmwr/preview/mmwrhtml/mm6101a3.htm>

<sup>vi</sup> <http://motherboard.vice.com/read/how-big-pharma-hooked-america-on-legal-heroin>

<sup>vii</sup> [http://www.ehow.com/how-does\\_4739921\\_xanax-work.html](http://www.ehow.com/how-does_4739921_xanax-work.html)

<sup>viii</sup> <http://www.webmd.com/depression/features/serotonin>

<sup>ix</sup> <http://www.who.int/trade/glossary/story073/en/>

<sup>x</sup> <http://www.mmm-online.com/jj-marketing-triggers-22b-payout/article/319426/>

<sup>xi</sup> <http://www.independent.co.uk/news/business/news/glaxosmithkline-pays-3bn-for-illegally-marketing-depression-drug-7904555.html>

<sup>xii</sup> <http://en.wikipedia.org/wiki/GlaxoSmithKline>

<sup>xiii</sup> <http://www.mommyweek.com/5-little-known-uses-for-raw-honey/>

<sup>xiv</sup> [http://www.supremecourt.gov/opinions/12pdf/12-398\\_1b7d.pdf](http://www.supremecourt.gov/opinions/12pdf/12-398_1b7d.pdf)

<sup>xv</sup> <http://www.abpi.org.uk/industry-info/knowledge-hub/global-industry/Pages/industry-market.aspx>

<sup>xvi</sup> <http://www.cdc.gov/homeandrecreationalsafety/overdose/facts.html>

<sup>xvii</sup> <http://www.drugwatch.com/manufacturer/>

<sup>xviii</sup> [http://en.wikipedia.org/wiki/Pharmaceutical\\_lobby#cite\\_note-4](http://en.wikipedia.org/wiki/Pharmaceutical_lobby#cite_note-4)

<sup>xix</sup> [http://dcc2.bumc.bu.edu/hs/Medicare\\_Rx\\_bill\\_windfallprofit.pdf](http://dcc2.bumc.bu.edu/hs/Medicare_Rx_bill_windfallprofit.pdf)

<sup>xx</sup> [http://en.wikipedia.org/wiki/Generic\\_drug](http://en.wikipedia.org/wiki/Generic_drug)

<sup>xxi</sup> [http://en.wikipedia.org/wiki/Term\\_of\\_patent\\_in\\_the\\_United\\_States](http://en.wikipedia.org/wiki/Term_of_patent_in_the_United_States)

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<sup>xxiii</sup> <http://www.bbc.com/news/business-21991179>

<sup>xxiv</sup> [http://en.wikipedia.org/wiki/Income\\_in\\_India](http://en.wikipedia.org/wiki/Income_in_India)

<sup>xxv</sup> <http://www.thestreet.com/story/12678184/2/how-obamacare-will-play-out-for-big-pharma.html>

<sup>xxvi</sup> <http://www.businessweek.com/articles/2014-05-08/why-prescription-drug-prices-keep-rising-higher#p2>



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<sup>xxviii</sup> <http://www.alternet.org/personal-health/5-shady-ways-big-pharma-may-be-influencing-your-doctor?page=0%2C1>

<sup>xxix</sup> <http://www.forbes.com/sites/dalearcher/2013/12/26/the-dark-side-of-big-pharma-2/>

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<sup>xxxii</sup> <http://www.kpbs.org/news/2014/jan/08/blood-test-could-help-doctors-diagnose-depression/>