Spring 2016

PENN HEALTHCARE REVIEW

PRODUCED BY WHARTON UNDERGRADUATE HEALTHCARE CLUB

WHERE BUSINESS MEETS HEALTHCARE

POST-ACUTE CARE:
Cost, Quality, and the IMPACT Act

ALL INCLUSIVE:
Medicare's Nationwide Bundled Payments Program

PENN HEALTHCARE REVIEW

Special thanks to our Spring 2016 Featured Speaker: **Shivan Mehta, MD, MBA, MSHP**, Director of Operations at the Penn Medicine Center for Health Care Innovation.

Interested in writing for *Penn Healthcare Review*? Email **wuhcpublications@gmail.com** for more information.

UHC

Where *Business* Meets *Healthcare*

Dear readers,

With great pleasure, I welcome you to the inaugural issue of *Penn Healthcare Review*. This newest initiative of Wharton Undergraduate Healthcare Club creates a tangible outlet for facilitating conversation on issues surrounding healthcare and business.

The broad array of topics comprising the intersection of healthcare and business is visibly manifest in our articles ranging from the pharmaceutical industry to public policy to healthcare provision. Our written work draws on the knowledge and opinions of students from the Wharton School, the School of Engineering and Applied Sciences, the School of Nursing, and the College of Arts & Sciences, including a recent Penn graduate, whose work has appeared in *The Atlantic*.

Anticipate the impact of new legislation with us in our feature stories as we explore the buzzwords of 2016: **bundled payments** and **post-acute care**. Learn about **biosimilars** and **health coaching**, two exciting approaches to the ongoing quest for lower cost and higher quality of care in the realm of drug development and preventative care, respectively. Enter into personal reflection on what **care** really means from the related, but at times conflicting worlds, experienced by a nursing and business student. Engage in points of contention and potential solutions regarding **medical malpractice law**, **neglected diseases**, and more on the following pages.

The creation of *Penn Healthcare Review* is in itself a display of the entrepreneurial spirit motivated by the desire to make a beneficial impact in any of the countless facets surrounding the delivery of healthcare, which the entire PHR team shares. I would like to thank my team for being so innovative, patient, and thoughtful at every step along the way.

Sincerely,
Nirupa Galagedera
Editor-in-Chief

Front: Trudel Pare, Puja Upadhyay, Sapna Nath, Nirupa Galagedera, Sophia Busacca, Julia Palecki
Back: Edward Jing, Thomas Buckingham, Sanjana Roy, Mayher Uppal, Chloe Le, Alisa Feldman

Contents

BIOSIMILIARS: PAST, PRESENT, AND FUTURE

BY THOMAS BUCKINGHAM

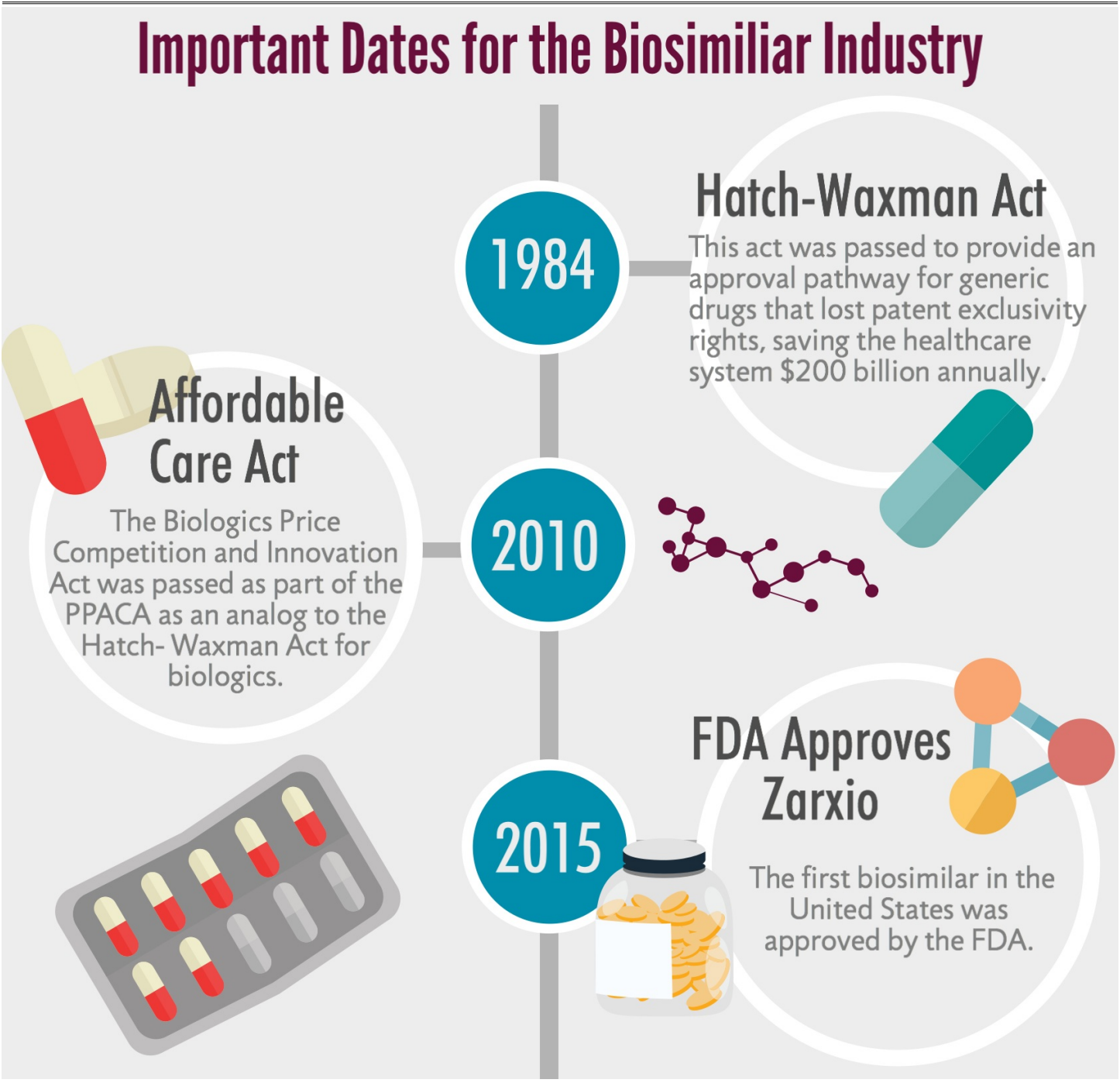
Biologics are broadly defined as medicines extracted from or synthesized by biological sources. Today, this definition encompasses vaccines, blood, gene therapy, and many other treatments. The use of biologics began with many common drugs like antibiotics, vaccines, and insulin. Biologics have had a long and influential history in medicine, from harvesting porcine insulin, beginning in the 1920's, to today's advances in gene therapy.[1]

Biologics are different from other medicines because they are biological in nature, whereas other drugs and treatments are synthesized chemicals and small molecules. Biologics are much larger and more complex due to how they are produced and in the purpose they serve. They are more targeted therapies due to their complexity, which also makes them difficult to copy. Biologics are a growing portion of the drugs sold in the United States. Currently eight of the top twenty most prescribed drugs in the United States are biologics, and the sales of biologics are growing 6.5% annually, while small molecules are growing at 2.3% annually.[2] Some of these drugs include famous drugs, such as Humira and Enbrel. In the past, there has been a concern about biologics because they do not face the same generic competition after patent expiration that small molecule drugs face, which keeps prices for biologics high. This will be combatted with the future of follow-on-biologics or biosimilars explored here.

Prior to the Patient Protection and Affordable Care Act (PPACA), enacted in 2010, there was no legal pathway for biopharmaceutical companies to attempt to "genericize" biologics. For small molecules and synthetic chemicals, the Food and Drug Administration (FDA) has enabled other companies to produce drugs and sell them as equivalents at a lower price once the patent expired. Since the passage of the Drug Price Competition and Patient Term Restoration Act of 1984 or Hatch-Waxman Act, the approval process has been expedited, ultimately saving the United States healthcare system nearly $1.5 trillion over the last ten years, with annual savings surpassing $200 billion.[3] Under the PPACA, the Biologics Price Competition and Innovation Act of 2009 (BPCI) was passed, which is essentially an analog to the Hatch-Waxman Act.

The BPCI Act established a regulatory pathway for "biosimilars" or the generics of biologics. It is important to distinguish biosimilars from generics here, as generic drugs are small molecules that are identical to their brand name counterparts. Biologics are hundreds of times larger than small molecule drugs and are a product of their environment. Thus biosimilars will never be exactly the same as the reference product biologic.[4] The pathway established under the BPCI requires proof of biosimilarity, requiring animal studies of toxicity, clinical studies of safety and purity, as well as an analytical study of similarity to the reference product. Additionally, the FDA requires Interchangeability, in that it must produce the same effect as the reference product and that switching has the same safety and efficacy. Similar regulation has been in place in the European Union since the early 2000's, and 14 biosimilars are available there. The production and approval of biosimilars in the United States stands to have a significant impact on overall healthcare spending growth and on the pharmaceutical industry.

In March of 2015, the FDA approved the first biosimilar product in the United States, Zarxio or filgrastimsndz. Zarxio is produced by Sandoz Inc. (of Novartis), and its reference product is Amgen's Neupogen.[5] It was approved for five indications, including Acute Myeloid Leukemia and Severe Chronic Neutropenia. Zarxio has been approved and sold in Europe since 2006. The drug was launched in the United States in September of 2015 with pricing at approximately 85% of what similar doses of Neupogen are available for. According to Express Scripts, a large pharmacy benefit manager, Zarxio stands to save the healthcare system $5.7 billion over ten years. The same report estimated savings on



$250 billion if other biosimilars were produced.[6]

While biosimilar drugs do have the potential to save the healthcare system billions, the number of billions is debated. Most other studies of biosimilar cost savings estimates are not nearly as optimistic as Express Scripts. The estimates range from $1 billion to $108 billion over ten years. In estimating the cost savings, it is important to remember the differences between generics and biosimilars. Biosimilars are not exact copies of their reference products, so making comparisons to the effect of the Hatch-Waxman Act requires refinement. Additionally, the effect of biosimilars will not mirror the same impact in the European Union, as the regulations surrounding pharmaceutical prices are very different in the two markets. Careful consideration must be made for how the drugs will be adopted in the United States when estimating cost savings.

1. White Junod, Suzanne. "Celebrating a Milestone: FDA's Approval of First Genetically-Engineered Product." Celebrating a Milestone: FDA's Approval of First Genetically-Engineered Product. U.S. Food and Drug Administration, Sept.-Oct. 2007. Web. 19 Nov. 2015.
2. Mulcahy, Andrew W., Zachary Predmore and Soeren Mattke. The Cost Savings Potential of Biosimilar Drugs in the United States. Santa Monica, CA: RAND Corporation, 2014. http://www.rand.org/pubs/perspectives/PE127.html.
3. "Generic Medicines Continue to Provide Critical Savings to the U.S. Healthcare System." Generic Pharmaceutical Association (n.d.): n. pag. Web. 24 Nov. 2015. <http://www.gphaonline.org/media/cms/Generic_Cost_Fact_Sheet.pdf>.
4. "Biosimilars Versus Generics." Biosimilars Versus Generics. Amgen, n.d. Web. 19 Nov. 2015.
5. "FDA Approves First Biosimilar Product Zarxio." U.S. Food and Drug Administration. U.S. Food and Drug Administration, 6 Mar. 2015. Web. 19 Nov. 2015.
6. Johnson, Steven Ross. "Sandoz Biosimilar Zarxio Hits the Market." Modern Healthcare. Crain Communications, Inc., 3 Sept. 2015. Web. 19 Nov. 2015.

Thomas Buckingham is a sophomore studying Biology and Business as part of the Vagelos LSM program at the University of Pennsylvania.

Big pharma, the FDA, and EMA

An Overview of the Drug Discovery & Approval Process

BY YASH SHAH

Following the story of how Martin Shkreli increased the price of Daraprim, a drug that effectively treats Toxoplasma gondii infections, from $13.50 to $750 (a 5,455 percent increase), the pharmaceutical industry has been under much scrutiny. The media has specifically targeted Valeant, an international pharmaceutical company, for its controversial strategy. However, in order to analyze whether Valeant's strategy is acceptable, one must analyze the entire pharmaceutical system and the reasons that drug prices have drastically increased.

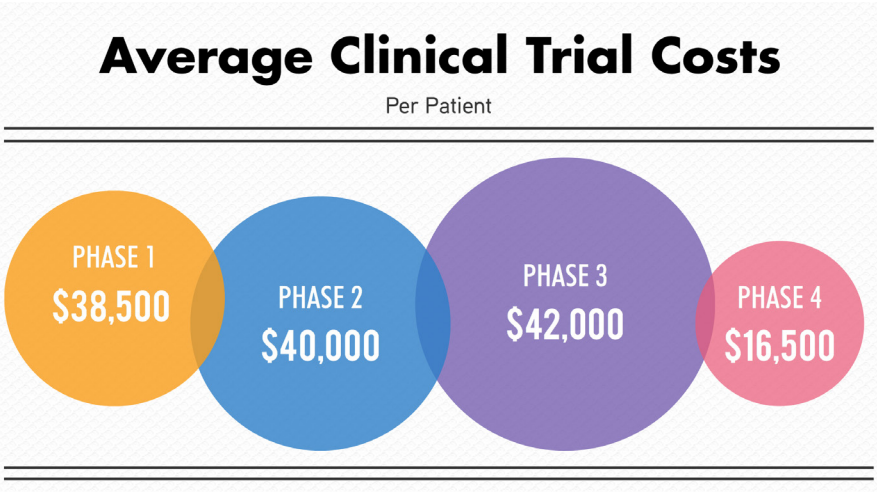
In the United States, it takes an average of 12 years[1,2] and costs upwards of $1.2 to 2.6 billion dollars to fully develop and market a drug.[3,8] It is estimated that only 1 in 5,000 drugs makes it to the market from their initial discovery.[1] As outlined by the FDA, there are five major stages that drugs must go through from discovery to the market: 1) Discovery and Development, 2) Preclinical Research, 3) Clinical Research, 4) FDA Review, 5) FDA Post-Market Safety Monitoring.[4]

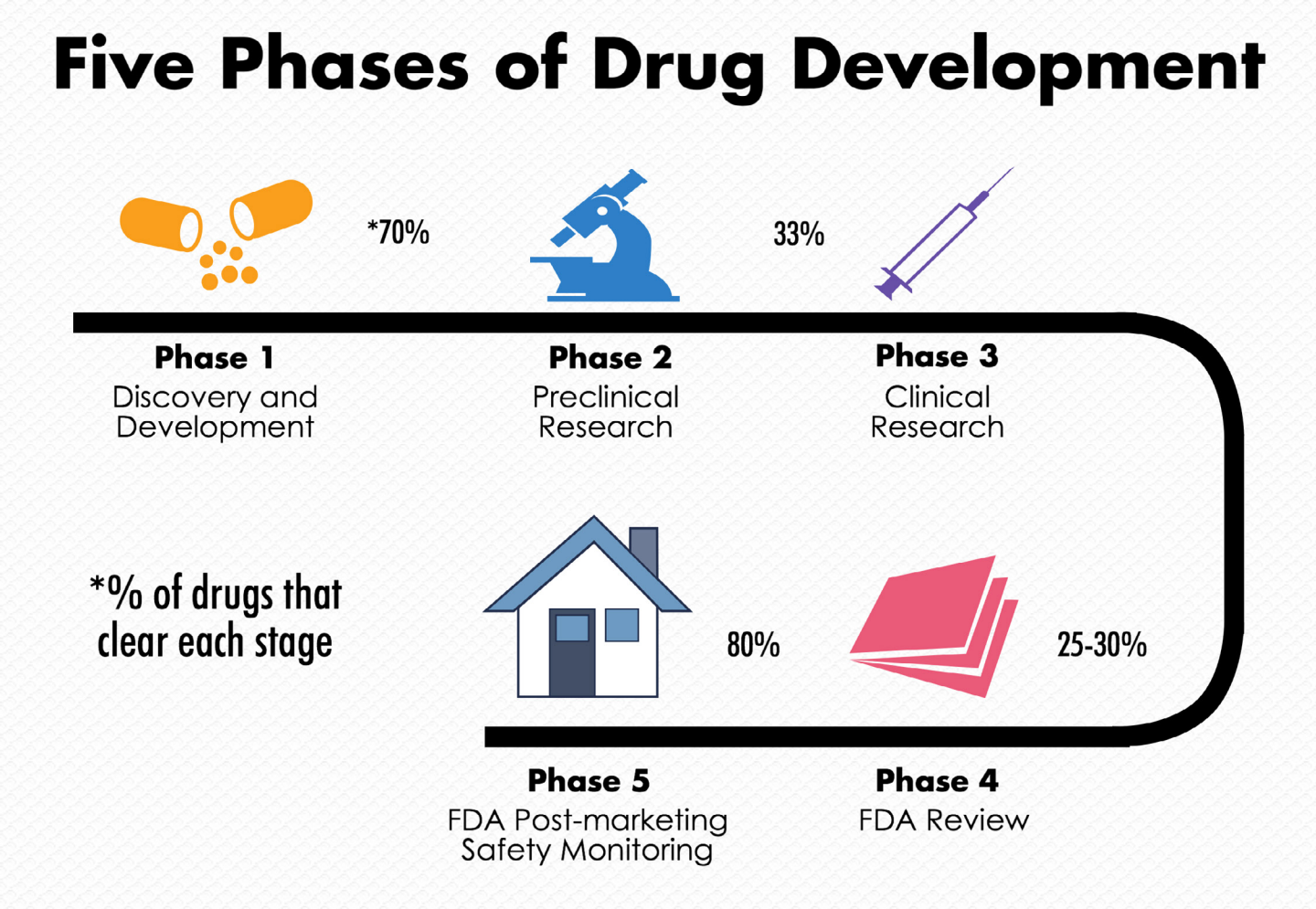
The first stage, Discovery and Development, is often a five-year process and the most difficult for pharmaceutical companies. This whole process begins with the identification of a molecular target with which a potential drug could interact with and could further possibly affect the course of the disease.[2,5] The second stage, Preclinical Research, involves drugs undergoing laboratory and animal testing to answer basic questions about safety, which can take up to three years.[1,2,6]

The third stage, clinical research, consists of three substages: Phase 1, Phase 2, and Phase 3 clinical trials; respectively, they take approximately one, two and three years to complete. They are the most publicized and expensive of the stages in the drug development process – Pfizer states that these phases account for 45 to 75% of the $1.2 to $2.6 billion dollar expense.[8] Phase 1 is the first point at which the drug is administered in humans. Phase 2 focuses on further evaluating the minimum and maximum dosages of the drug and gathering preliminary information on its efficacy. Phase 3 is arguably the most crucial and costly phase of the drug development process; the main objective is to determine how effective the drug is in patients and whether any major adverse events occur.[7,9]

The fourth stage, FDA Review, takes about 6 to 10 months and analyzes all of the evidence from the previous stages to ensure that the drug is safe enough to be marketed. If approved, the drug is able to be marketed out to patients.[10] The fifth stage, FDA Post-Market Safety Monitoring, allows researchers to collect additional information about longer-term risks, benefits, and optimal use. These trials often involve tens of thousands of participants and continue for many years to further inform current therapeutic uses of the drug.[9,11]

The traditional pharmaceutical company typically invests 15 to 20% of its sales in the aforementioned drug development process, but Valeant only spends about 3%.[12] Valeant states on their website that their strategy revolves around product and company acquisition.[13] Their stock has dropped from $230 to $70 in the past two months due to reports of insider trading lawsuits and subpoenas for documents discussing their price hikes of its drugs Isuprel and Nitropress.[14,15]





Most pharmaceutical companies don't rely as heavily on a merger and acquisitions model like Valeant, but 9 out of 10 "big pharma" companies, such as Johnson & Johnson, Novartis, and Pfizer, spend more on sales and marketing than on research and development.[16] In addition, these companies have also increased prices of their old drugs. For example, over the past three years, Pfizer has increased the price of Viagra by 57%, of Lyrica by 51%.[17] Sovaldi, a drug developed by Gilead to treat Hepatitis C, was priced at $84,000 for a 12-week treatment, which averages to $1,000 per pill.[18] Gilead was heavily criticized for this pricing. However, a study performed by CVS Health shows that Sovaldi is actually cost-effective when analyzing the quality-adjusted life years gained.[18] Drugs like Sovaldi are rare, but show that high pricing of drugs to the public might actually be reasonable considering the amount of money that was initially invested.

Although pharmaceutical companies often provide the reasonable rationale that the price hikes are to fund current and future research and development, more of that money goes toward sales and marketing than R&D. The pharmaceutical industry has been focusing more on profits for themselves and their investors, as evidenced by their large profit margins.[24] Regardless of whether the motivation is money or bettering the lives of patients, new drugs are still being developed and will continue to be.

However, one must take into consideration the fact that the U.S. government doesn't regulate drug prices, whereas many other advanced countries do. In fact, "Prices in the U.S. for brand-name patented drugs are 50 to 60 percent higher than in France and twice as high as in the United Kingdom or Australia." U.S. insurers typically accept the price set by the makers for each drug, whereas the UK, Australian, and French insurers and governments may only agree to pay for a drug if they feel that the price is justified by the medical benefits.[19]

A counterargument that is often brought up is that increased drug prices directly lead to innovation, but a study conducted by Donald W. Light demonstrates that Europe is ahead of the U.S. in terms of drug discovery, even though their prices are significantly lower.[20] Furthermore, this is not due to the EMA (European Medicines Agency) having a higher number of drug approvals (38 vs the FDA's 27) because the EMA took approximately 170 more days to approve the drugs.[21] It seems as though drug innovation is arriving faster at a lower cost in Europe.

On the other hand, the decreased time it takes for the FDA to approve a drug also means that it takes less

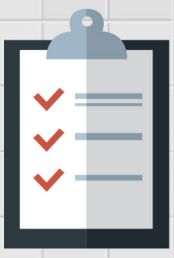
time for those drugs to reach the patients that truly need it. One may speculate that this decreased time might correlate with drug safety concerns. However, most of the drugs approved by more than one agency were approved first in the US which counters the criticism of the speed of the FDA.[22] In order to approve these drugs with such speed and accuracy, more money needs to be spent by both the FDA and the pharmaceutical companies to provide the plethora of necessary information required.

The U.S. should follow in the footsteps of the aforementioned European countries and require some form of cost-effectiveness analysis for the prices of the drugs that are approved by the FDA. One would believe that a mandatory cost-effectiveness analysis would force pharmaceutical companies to lower their initial pricing of the drugs, but it would only affect the price hikes after the drug has been marketed. In fact, the price of $84,000 set by Gilead is actually cost-effective compared to the other treatments,[23] as the higher price tag was less than the hospitalization and liver transplant costs incurred by Hepatitis C patients. Overall, cost-effectiveness studies will prevent huge price hikes like that of drugs such as Daraprim, but I believe that it will only strengthen the reasoning behind the initial pricings of extremely efficacious drugs.

1. http://www.medicinenet.com/script/main/art.asp?articlekey=9877
2. http://www.boehringer-ingelheim.com/content/dam/internet/opu/com_EN/flash/animation_R_D/pdf/BI_drugdiscovery_process.pdf
3. http://www.phrma.org/sites/default/files/pdf/rd_brochure_022307.pdf
4, 5, 6. http://www.fda.gov/ForPatients/Approvals/Drugs/default.htm
7. http://www.pfizer.com/research/clinical_trials/phases_of_development
8. Lewis, James. Powerpoints from Intro to Clinical Epidemiology Lecture at Perelman School Of Medicine
9. http://www.fda.gov/ForPatients/Approvals/Drugs/ucm405570.htm
10. http://www.fda.gov/ForPatients/Approvals/Drugs/ucm405579.htm
11. http://www.nytimes.com/2015/10/05/business/valeants-drug-price-strategy-enriches-it-but-infuriates-patients-and-lawmakers.html?_r=0
12. http://www.valeant.com/
13. http://www.businessinsider.com/why-have-valeant-pharmaceuticals-shares-collapsed-2015-11
14. http://www.nytimes.com/2015/10/04/business/valeants-high-price-drug-strategy.html
15. http://knowmore.washingtonpost.com/2015/02/11/9-out-of-10-big-pharma-companies-spend-more-on-marketing-than-research/
16. http://www.forbes.com/sites/matthewherper/2015/10/13/why-viagra-keeps-going-up-pfizers-ceo-on-the-drug-pricing-controversy/
17. http://annals.org/article.aspx?articleid=2197177
18. http://www.pbs.org/newshour/updates/americans-spend-much-pharmaceuticals/
19. http://content.healthaffairs.org/content/early/2009/08/25/hlthaff.28.5.w969.full.pdf
20. http://www.bioprocessonline.com/doc/fda-ema-approval-stats-are-we-measuring-pharma-success-the-wrong-way-0001
21. http://www.pdf.org/en/science_news/release/pr_1338930014
22. http://www.medicaldaily.com/pricey-sovaldi-ends-being-cost-effective-hep-c-treatment-prisoners-bitter-pill-swallow-307540
23. http://www.forbes.com/sites/johnlamattina/2014/07/29/do-drug-companies-make-drugs-or-money/#2715e4857a0b7dca86287fcf

Yash Shah is a sophomore at the University of Pennsylvania studying Cogntive Science from New Jersey. He is aiming to go to medical school and is a transfer student from New York University.

THE AUTISM WAITLIST ISSUE



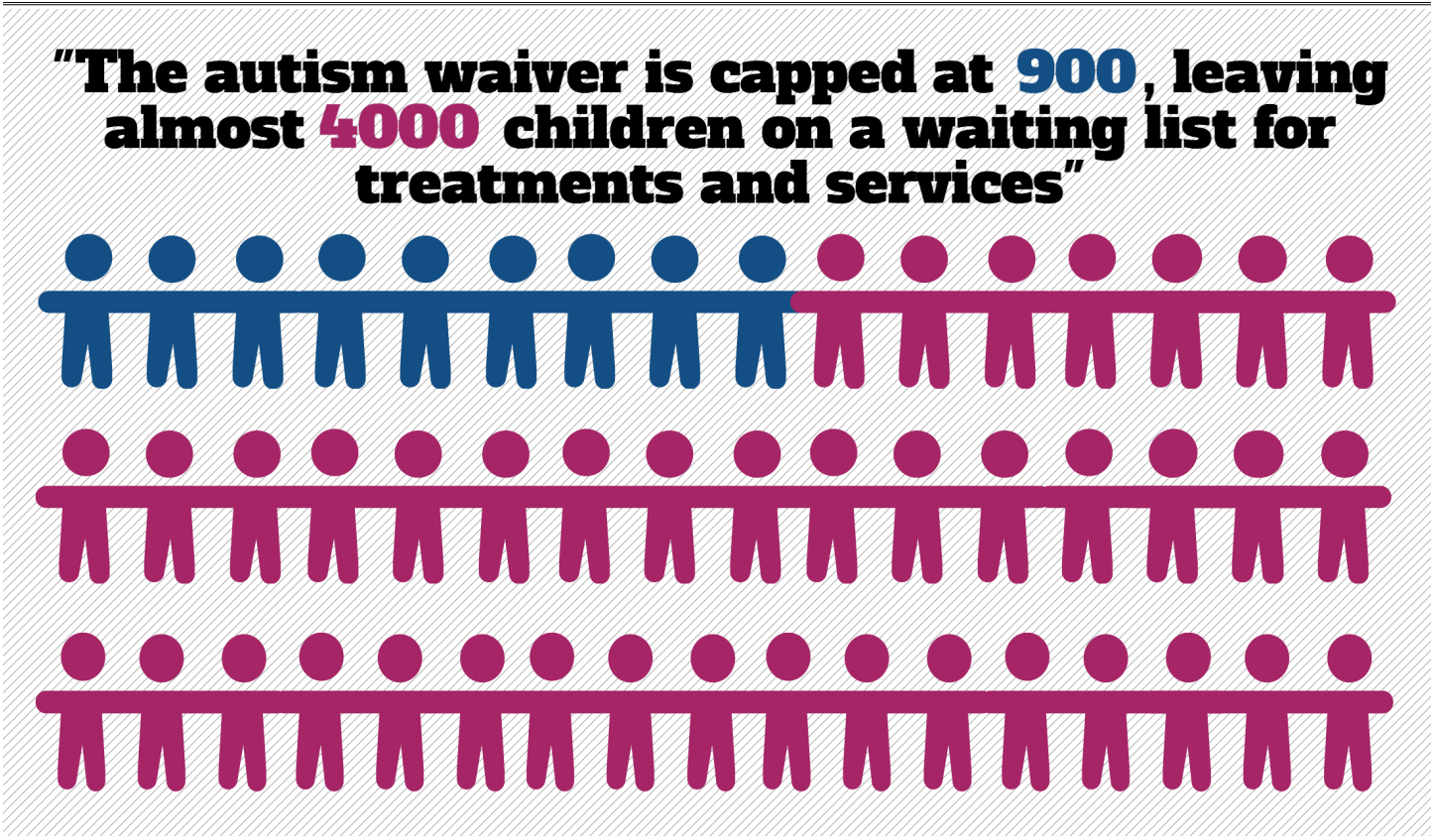
BY ALISA FELDMAN

Current research from the Center for Disease Control and Prevention indicates that approximately 1 in 68 children falls on the spectrum of autism disorders.

According to the Centers for Medicare & Medicaid Services, "Autism spectrum disorder [ASD] is a developmental disability that can cause significant social, communication and behavioral challenges."[1] Autism spectrum disorders include autistic disorder, pervasive developmental disorder, and Asperger syndrome. Several modalities of recognized and emerging treatments have been shown to dramatically improve the physical and mental development of children with ASD. Yet, these treatments and behavioral services come at a large financial cost to the families of children with ASD. Harvard researchers estimate that the additional cost of autism-related healthcare services, in conjunction with the cost of educational services, average more than $17,000 per child per year in the United States.[2]

Under section 1905(a) of the Social Security Act, services to address ASD are eligible for federal Medicaid reimbursement. Moreover, under section 1915(c) of the Social Security Act, states can provide a combination of medical services and long-term services and supports. Such long-term services might include adult day health services, habilitation, and respite care.[3] According to Autism Speaks, "half of all children with autism are insured by Medicaid. Some states insure children with autism through Home and Community-Based Services Waivers—special programs that waive certain Medicaid rules so that people with great needs can be served in their communities rather than in institutions."[4] Yet, what accounts for the dearth of funding for services for the other half of autistic children?

While these funding efforts through the Social Security Act have been made in order for states to fund services for children with ASD, there are still a significant number of children and families who cannot obtain coverage for these services, and extensive waitlists for such funding remain. The



Maryland Medical Assistance Autism Waiver Program, for example, has been in existence since July 2001, and offers many financial benefits for families who qualify for service coverage. This Medicaid waiver covers costs of respite care, environmental accessibility adaptations, family training, as well as other unique services.[5]

Despite Maryland's efforts to relieve the monetary burden of having a child with ASD, the autism waiver is capped at 900, leaving almost 4,000 children on a waiting list for treatments and services.[6] This lack of coverage for 4,000 children raises the question of how children are assessed for placement on the waiting list and what qualifies a child to be granted coverage. A multidisciplinary team assesses children's applications in order to determine the extent to which their autistic behaviors influence their daily lives: "There are particular qualifications that focus on daily functioning and whether an individual needs intensive support [which] are necessary for individuals to become participants of any Home and Community-Based Waiver Services." [7]

Some states that face this autism waiver waitlist enigma have adapted policies in order to minimize the length of the waitlists. In June 2015, Governor of Colorado John Hickenlooper signed a bill that attempted to eliminate the waitlist for children with ASD. This law raises the age limit for waiver eligibility from six to eight years old, guarantees a three-year stay on the waiver for any children who enroll prior to their eighth birthday, and requires an annual evaluation of the provided services to measure the overall effectiveness of waiver services, among other changes. Once the federal Centers for Medicare and Medicaid Services approve this plan to eliminate the waitlist, children in Colorado can be moved from the waitlist and begin to receive coverage for ASD services.[8]

For many families, "what [an] autism waiver means… is hope. Therapy services means teaching…children how to function, how to live…Respite services means that…parents can get a break as needed without worrying if [a] child is being watched by someone unqualified to care for them."[9] In most cases, families who do not meet the standards for an ASD service waiver or who remain on waiting lists for lengthy periods of time will incur a large amount of medical debt and their child may go untreated. As exemplified by Colorado's attempts to eradicate waiting lists for autism service waivers, further measures to reduce the length of ASD service waitlists must be taken in order to alleviate families of the financial burden of medical services for children with autism spectrum disorders.

1, 3. https://www.medicaid.gov/medicaid-chip-program-information/by-population/autism-services.html
2. https://www.autismspeaks.org/science/science-news/costs-autism-study-tallies-kids%E2%80%99-higher-health-and-education-needs
4, 5, 6, 9.https://www.autismspeaks.org/blog/2013/03/21/medicaid-waiting-game-parents-tell-their-stories
7. http://www.wholeselfcenter.com/autism-wavier.php
8. https://www.colorado.gov/pacific/hcpf/eliminating-medicaid-waitlist-children-autism-bill-signed

Alisa Feldman is a sophomore at the University of Pennsylvania studying Health and Societies. Alisa trained in classical ballet and pointe for thirteen years and was formerly an American Girl Doll model. When Alisa is not dancing, she enjoys hiking, painting, and singing awkwardly in public.

Medical Malpractice Law: Eroding the Healthcare System

BY MATT GOODMAN

It's no secret that the American healthcare system is in a dire situation. We have seen skyrocketing insurance premiums and a looming doctor shortage that could further threaten the system in the future. While there are many causes of this healthcare crisis, one is often overlooked: medical malpractice law. While it may seem like a minor, somewhat unrelated factor, medical malpractice law actually poses an immense threat to our healthcare system.

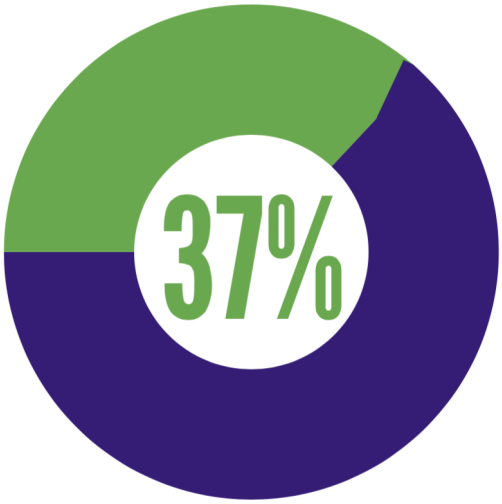
In the context of medicine, malpractice refers to negligent or illegal actions taken by a doctor that causes harm to a patient. To caveat, this is not arguing that medical malpractice law is inherently bad. In fact, malpractice law is necessary to keep doctors in check and ensure they are adequately performing their professional duties. However, malpractice law has expanded too broadly and, as the National Federation for Independent Businesses puts it, "penalizes good doctors who are practicing good medicine, simply because their patients happen to experience bad outcomes."[1] One study even found that only 37% of medical episodes that led to malpractice payouts actually involved improper medical procedure by the doctors.[2] In these cases, the doctors are being arbitrarily punished for negative outcomes that were essentially out of their control, as they occurred despite good medical procedure.

When a doctor is found guilty of malpractice, he or she not only has to pay a significant payout, but also takes an immense hit to his or her reputation. Sometimes, a malpractice suit can even force a doctor to give up practicing medicine altogether. This has led to the rise of what is known as "defensive medicine". Doctors are now pressured to run a plethora of tests, many of which are unnecessary, rather than testing for more likely illnesses because they know that if they miss a diagnosis, their careers are essentially over.

This practice of overly conservative medicine has a number of major harms to the health care system. First, the tests these doctors run are extremely expensive. A study by several Harvard Medical professors published in Health Affairs conservatively estimates the annual cost of medical malpractice liability to be $55.6 billion,[3] though other sources such as a 2006 PwC study put the figure as high as 10% of total healthcare expenditures.[4] These costs are passed onto the insurance companies and, consequently, passed onto consumers.

The second problem this practice of defensive medicine causes is iatrogenesis, or doctor-caused illnesses. The problem occurs when doctors receive a patient exhibiting various symptoms. The doctor then feels pressured to put together the symptoms into a diagnosis, as not diagnosing the patient would leave the doctor vulnerable to a malpractice suit were the patient actually sick. The doctor then prescribes some sort of treatment for that diagnosis, even if the diagnosis is incorrect. A study in the *Journal of the American Medical Association* (*JAMA*) found that adverse reactions from these treatments cause an estimated 106,000 deaths each year.[5]

Iatrogenic illness is a huge problem in healthcare, costing the system almost $80 billion per year, according to a study by Dr. Barbara Starfield in *JAMA*.[6] However, this is the least of our worries. The study estimates that almost 225,000 people die every year from iatrogenic illnesses, making medical care the third leading cause of death in the United States. Were the



"Only 37% of medical episodes that led to malpractice payouts actually involved improper medical procedure by the doctors."

DEFINITIONS OF KEY TERMS

Defensive Medicine

Diagnostic or therapeutic measures conducted primarily as a safeguard against possible subsequent malpractice liability

Medical Malpractice

Improper, unskilled, or negligent treatment by a physician or healthcare professional that may result in harm to the patient

Iatrogenesis

Inadvertent and preventable induction of disease caused by medical treatment administered by a physician

doctors not fearful of lawsuit, they likely would not have made these incorrect diagnoses and treatment numbers would be dramatically lower.

On the surface, this may seem counterintuitive. Logically, malpractice law is intended to reduce illnesses caused by negligent physicians. And at its core, malpractice law does prevent this type of iatrogenesis. However, the larger issue arises when competent doctors are pressured into diagnosing and treating patients' symptoms even if the doctor isn't certain of the diagnosis. Fear of malpractice lawsuit creates this pressure and thus increases misdiagnosis and iatrogenic illness. Furthermore, the overall culture of defensive medicine this fear creates leads to large costs on the healthcare system as a whole. Effective reform of the malpractice law could alleviate this pressure, leading to less iatrogenic illness while still preventing basic negligence.

This brings up the question: what kind of reforms can effectively remove the threat posed by malpractice law? While this is certainly a complex issue, there are many systematic changes that can help alleviate the problem. First, laws can limit the amount of non-economic damages a court can order. Similar reform was passed in Texas in 2003, limiting the cap on non-economic damages to $250,000. Doctors in Texas reported feeling less worried about being sued and saw their malpractice insurance premiums fall.[8] The Texas Medical Association reports that since the law has been passed, Texas has licensed about 3,135 new physicians every year, 770 more per year than the average for the nine years prior to the law.[9]

Additionally, creating more specialized malpractice arbitration courts could make malpractice suits more effective. For example, medical professionals could sit on the court as a jury. This would allow competent professionals to decide whether a doctor's action was truly malpractice rather than a less qualified jury made up of average citizens. Finally, raising the standards of proof for medical malpractice could eliminate the potential for outcome bias. Ultimately, while these reforms may not solve all of the complex issues at play, they undoubtedly represent good starts to preventing the deterioration of modern health care by malpractice law.

1. http://www.nfib.com/Portals/0/PDF/AllUsers/research/cribsheets/malpractice-reform-nfib-cribsheet.pdf
2. http://www.rand.org/content/dam/rand/pubs/research_briefs/2007/RAND_RB9280.pdf
3. Mello, M. M., A. Chandra, A. A. Gawande, and D. M. Studdert. "National Costs Of The Medical Liability System." Health Affairs 29.9 (2010): 1569-577.
4. http://www.liberatehealthcare.com/trends_costs/The%20Factors%20Fueling%20Rising%20Healthcare%20Costs.pdf
5. Lazarou, Jason, Bruce H. Pomeranz, and Paul N. Corey. "Incidence of Adverse Drug Reactions in Hospitalized Patients." JAMA 279.15 (1998): 1200.
6-7. Starfield, Barbara. "Is US Health Really the Best in the World?" JAMA 284.4 (2000): 483.
8-9. http://www.insurancejournal.com/news/southcentral/2013/09/03/303718.htm

Matt Goodman is a sophomore at the Wharton School concentrating in finance and healthcare management.

"Right to Die" Now Legal in California

BY ARSHIA FAGHRI

Physician-assisted suicide legislation has existed in America since 1997. This article explores the recently enacted "End of Life Option Act" passed in the state of California, legalizing physician-assisted suicide. The author explores Governor Jerry Brown's decision making process, history surrounding this often controversial topic, and the specific details of the California bill.

A person's right to die has been a contested issue for centuries, originating in ancient Greece and Rome.[1] Movements advocating for assisted suicide gained momentum in the twentieth century, with the creation of special interest groups and "Right to Die" legislation.[1] Australia legalized physician-assisted suicide in 1995, but shortly thereafter criminalized it in 1997, illustrating the dissension associated with assisted suicide.[4] Some countries in Europe, such the Netherlands and Belgium, decriminalized euthanasia in the early 2000s.

It is important to note that euthanasia involves the physician administering the means of death, different from physician-assisted suicide in which the patient self-administers the drugs. Both physician-assisted suicide and euthanasia are considered forms of "assisted dying," but both are distinctly different.

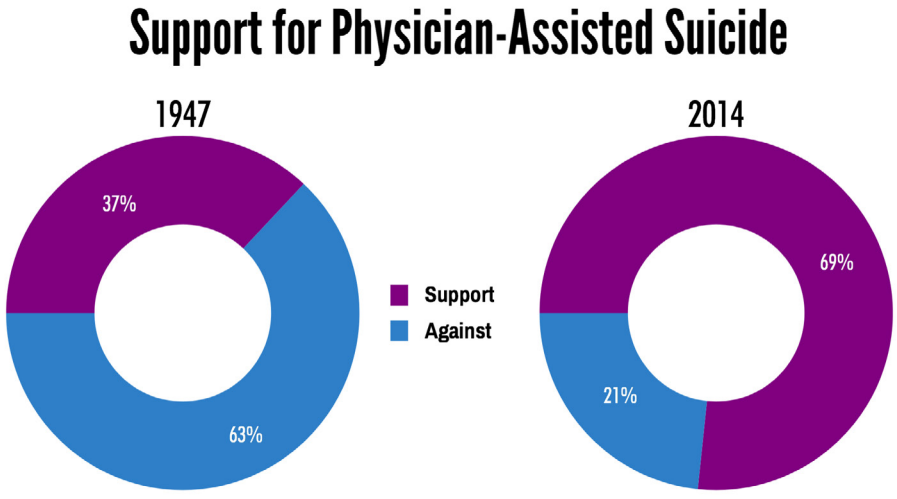
In 1997 the United States Supreme Court ruled that Americans do not have a constitutional right to physician-assisted suicide. This decision was later modified in 2006, when the Court devolved power over the issue to the states. One notable advocate in the euthanasia movement was Dr. Jack Kevorkian, a pathologist in California who performed several euthanasia procedures during the 1990s. He was later tried and convicted of second-degree murder in 1999, serving eight years in prison.[4]

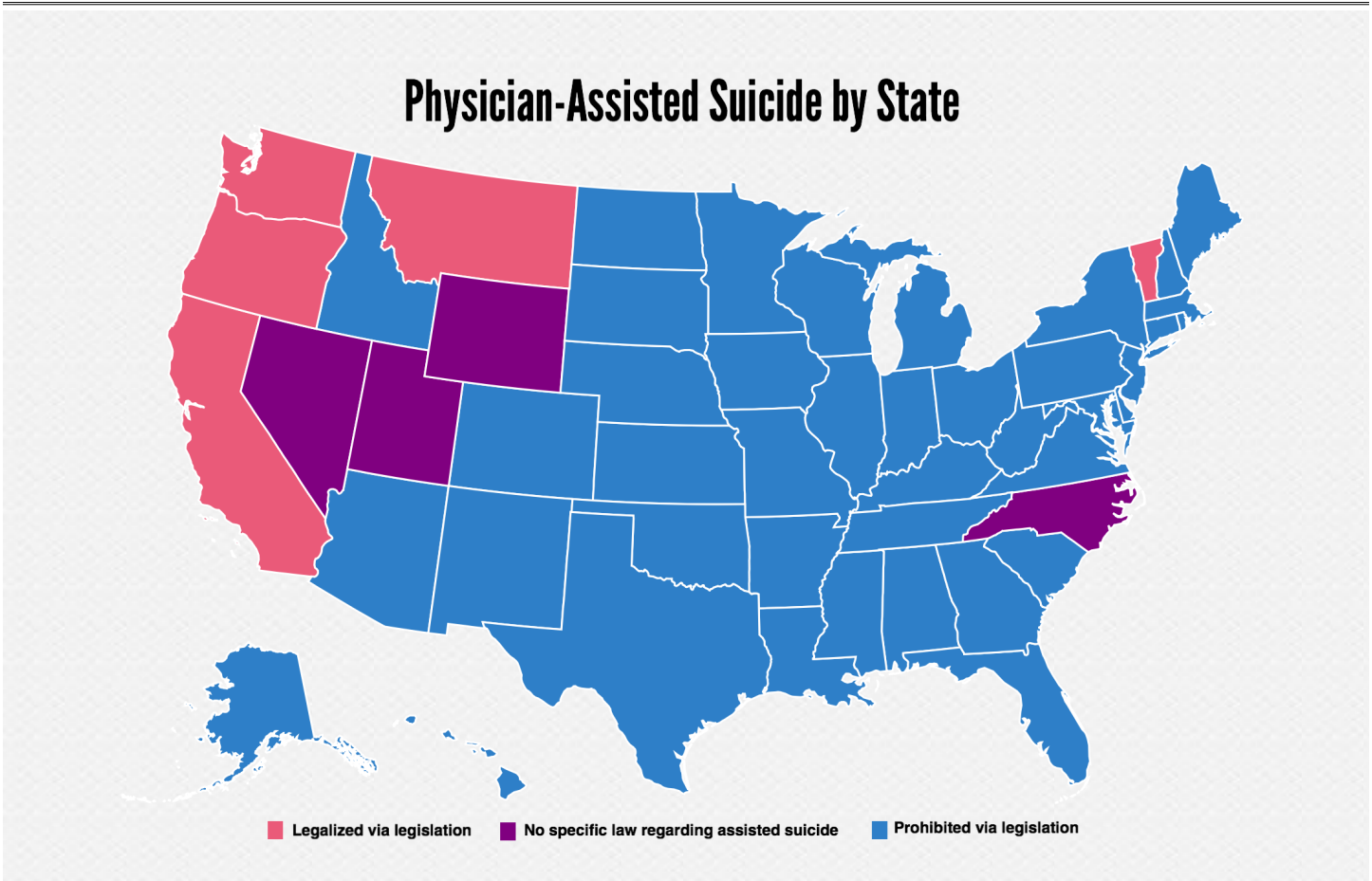
Physician-assisted suicide is now legal in California. On October 5th Governor Jerry Brown of California signed the "End of Life Option Act," permitting doctors to prescribe medications that terminally ill patients can use to end their own lives.

The approval in California was a surprising verdict by Mr. Brown, a pious Catholic and former Jesuit seminarian, who many believed would veto the bill immediately. But Mr. Brown had considered his options very closely. He reviewed pleas from both sides of the argument, including one from Brittany Maynard, a native of California whose diagnosis of terminal brain cancer turned her into a strong supporter of physician-assisted suicide.[3] She later moved to Oregon, the first state to legalize physician-assisted suicide in 1997, and took her own life, sparking national attention. Archbishop Desmond Tutu, another Catholic bishop, two personal physicians, and relatives with different beliefs concerning the matter were also consulted, according to Mr. Brown.[3]

The governor explained his decision in a letter addressed to the members of the California State Assembly. Choosing to reflect on his own death in this circumstance, Mr. Brown noted, "I am certain, however, that it would be a comfort to be able to consider the options afforded by this bill. And I wouldn't deny that right to others."[3]

California joins Oregon, Washington, Vermont, New Mexico, and Montana as the sixth state to implement a





"death with dignity" law, all of which are modeled closely on Oregon's first legislation.[1]

Safeguards ensure that patients must obtain approval from two California doctors, both of which are required to declare that the patient has no more than six months to live, before the medications can be given. Then it is up to the patient to decide whether or not to take the drugs. Those self-administering the medications must declare their intention of doing so at least forty-eight hours in advance.[2]

Advocates hope that adoption of the law in the nation's most populous state will motivate other states to do the same. At the same time, opponents were quick to criticize the legislation, disappointed that Mr. Brown had relied heavily on personal experiences in his final decision. A group known as the Californians Against Assisted Suicide released in a statement, "the governor's background is very different than that of millions of Californians living in health care poverty without that same access."[6]

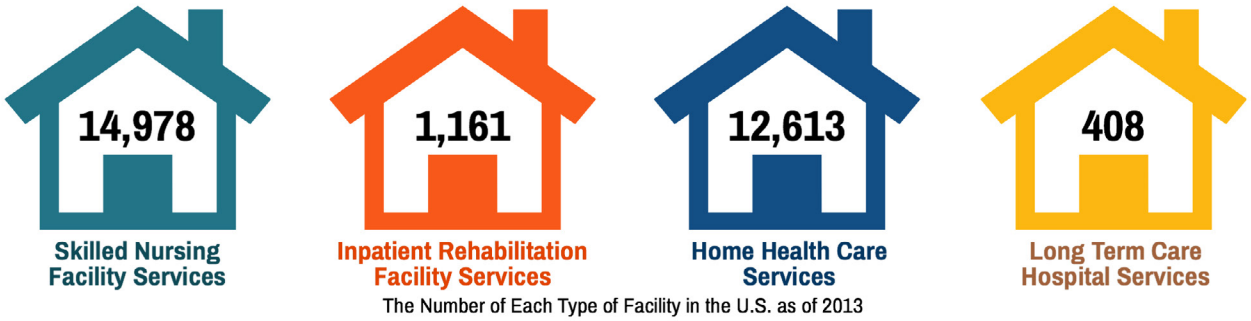
The "End of Life Option Act" was the fifth and final physician-assisted suicide legislation to pass through California's legislature. The bill passed on the Assembly floor with a vote of 43-34 in September.[4] Although the bill has Governor Jerry's stamp of approval, it cannot go into effect until the session formally ends, predicted some time around mid-2016.[6]

Physician-assisted suicide, euthanasia, and other forms of assisted dying are notable bioethical dilemmas in modern society. Some argue that with rising healthcare costs in many countries, assisted dying will become an accepted practice among the terminally ill patient population. Another ethical issue central to the discussion involves the person making the final decision. Opponents of euthanasia believe physicians and other healthcare authorities will wield significantly more power when given the right to end a person's life.

Ultimately, the question of assisted dying remains highly controversial in healthcare systems around the world. Perhaps more dialogue and collaboration among opposing discourses can achieve a meaningful solution.

1. Barone, Emily. "See Which States Allow Assisted Suicide." Time. November 3, 2014. http://time.com/3551560/brittany-maynard-right-to-die-laws/.
2. Booker, Brakkton. "California Governor Signs Physician-Assisted-Suicide Bill into Law." NPR. October 5, 2015. http://www.npr.org/sections/thetwo-way/2015/10/05/446115171/california-governor-signs-physician-assisted-suicide-bill-into-law
3. Brown Jr., Edmund. Signing Message. Letter. From California Office of the Governor, October 5, 2015. https://www.gov.ca.gov/docs/ABX2_15_Signing_Message.pdf (accessed October 23, 2015).
4. Calefati, Jessica, and Tracy Seipel. "Right-to-die Measure Clears California Assembly on 43-34 Vote." San Jose Mercury News. September 9, 2015. http://www.mercurynews.com/health/ci_28783496/right-die-measure-clears-california-assembly-42-33
5. Pickert, Kate. "Assisted Suicide." Time. March 3, 2009. http://content.time.com/time/nation/article/0,8599,1882684,00.html
6. Williams, Juliet. "Gov. Brown Signs California Right-to-Die Measure." The Big Story. October 6, 2015. http://bigstory.ap.org/article/a580f42e5ffe48f0b71991272f0e972e/california-governor-signs-hard-won-right-die-legislation

Arshia Faghri is a freshman at the University of Pennsylvania planning to study Health and Societies. A native of Kennett Square, Pennsylvania, he enjoys running along the Schuylkill River and reading interesting articles.



The Number of Each Type of Facility in the U.S. as of 2013

POST-ACUTE CARE:

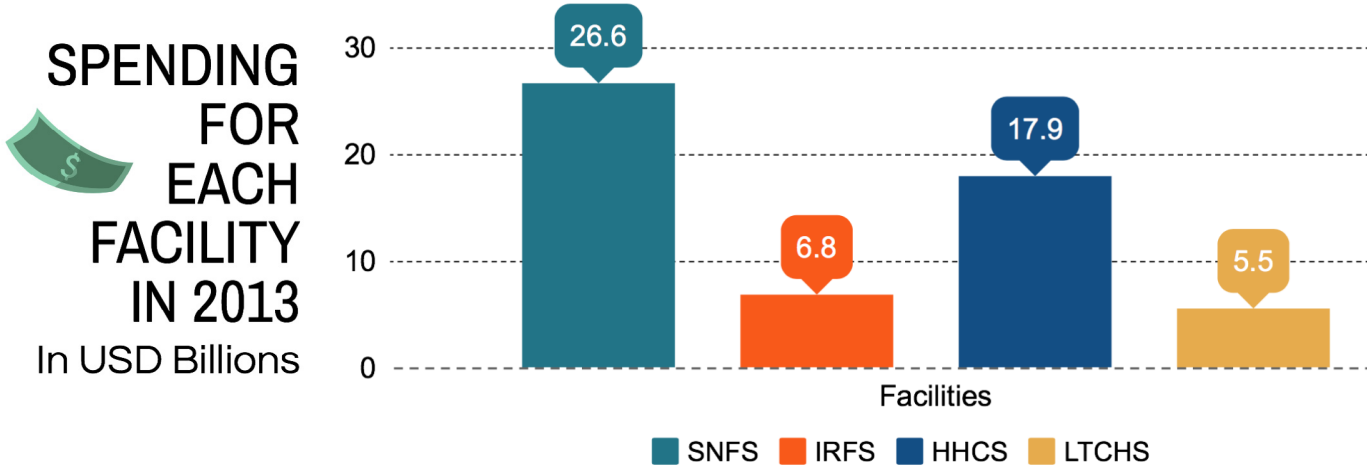
BY TRUDEL PARE

Hospitals account for over a third of the spending in the larger healthcare system.[1] Understandably, a great deal of attention within the healthcare system is paid to hospitals–how they treat patients, how much money they spend, and how they pay providers, just to name several examples. Hospitals are undeniably important, but equally important is what happens after a patient leaves the hospital, which can have ramifications for hospital readmissions and spending in the broader healthcare system. For Medicare beneficiaries (and ideally for all patients in the healthcare system), a stay at the hospital is typically followed by some type of follow-up care. This care ranges from appointments with a primary care provider to a stay at an inpatient rehabilitation facility.

Specific types of follow-up care that include home health care, skilled nursing facilities, inpatient rehabilitation facilities, and long-term acute care hospitals are described as post-acute care.[2] Post-acute care is rarely the focus of the healthcare community at large, because it does not account for as much spending as other healthcare providers (most notably, hospitals and physician care).[3] However, an analysis in Health Affairs examining episodic care data from Medicare between 1994 and 2009 found that post-acute care had the fastest rate of spending growth and accounted for much of the spending growth for episodes of care.[4] Post-acute care spending has also been shown to vary even more widely than spending in other areas of health care, which suggests that it may be largely unnecessary spending.

It is important to note that post-acute care is not a monolith– some areas of PAC spend much more than others (for example, typically home health care is not as expensive as several weeks in a skilled nursing facility).[6] Most of these different PAC settings report some kind of quality data to the Centers for Medicare and Medicaid Services, but the data is not consistent or comparable across settings. In theory, PAC providers are offering different types of care (for example, home health care providers might treat less severe patient cases, IRFs might include more rehabilitation patients) and so the data on quality outcomes does not need to be comparable across settings because they essentially aim to provide different services to different types of patients.[7] However, analyses by the Medicare Payment and Access Commission (MedPAC) have consistently shown that there is not much of a difference in risk-adjusted outcomes across different PAC settings, although IRFs are held to a higher regulatory standard and are paid up to 40% more for select conditions.[8] MedPAC's analysis focused specifically on joint procedures, although they also have studied stroke outcomes. While there is some difference in the severity of patients that the two settings take, the fact that they often produce similar outcomes for similar patients suggests that data on quality of care across the settings could be very useful in comparing them more fully based upon the care they provide, and possibly creating a site-neutral payment system that would save Medicare significant amounts of money and cut the unnecessary cost growth in the PAC sector.[9] IRF payments for the selected conditions in MedPAC analyses were made over a total of over 100,000 stays, meaning that a savings of even a thousand dollars over those patients could amount to hundreds of millions of dollars, and help to prevent future spending by limiting unequal and constant rising costs in the PAC sector.

On September 18th, 2014, Congress passed the IMPACT Act (the Improving Medicare Post-Acute Transformation Act), which requires that post-acute care providers start sending CMS data on a common set of quality of care indicators. The act will affect home health agencies, skilled nursing facilities, inpatient rehabilitation facilities, and long-



COST, QUALITY, & THE IMPACT ACT

term care hospitals. These providers will continue to provide CMS with the quality data sets they had been previously collecting, but with new measures on common indicators that can be compared between settings. New indicators include the incidence of major falls, medication reconciliation, resource-use measures, and transfer of information data. The first data sets (from skilled nursing facilities, long-term care hospitals, and inpatient rehab facilities) will be reported by October 1st, 2016, with data from home health agencies to follow on January 1st, 2017. Various measures will be phased in over time after those dates, and the data will eventually become public after a risk-adjustment phase and feedback from the individual PAC providers.[10] The act also includes some measures for hospice providers, mandating that providers receive more regular reviews of their services (currently a hospice provider can go about 8 years without any oversight, which creates some concerns about quality).[11]

The IMPACT Act was not very controversial. It addresses some important issues within Medicare's rising costs, but managed to pass easily and fairly quietly. Given the general publicity and constant discussion of the Affordable Care Act, the IMPACT Act's lack of an impact may seem unusual. However, it was cosponsored by several different Republican and Democratic senators from all areas of the country, and was passed fairly quickly (over a time period of about four months total) meaning that it was not politically contentious.[12] It makes changes to Medicare, which is generally an unpopular proposition, but makes changes to reporting systems and implements them slowly over time, which prevents both provider and industry groups from having a real reason to complain about the law.

While this piece of legislation got very little attention from the media, it has the potential to be incredibly important for the entire post-acute care industry, if only to confirm the MedPAC findings in such a way that their recommendations can become more convincing for a skeptical Congress. Post-acute care providers will either need to find a way to provide the best care for the lowest price, or will need to specialize in such a way that their prices can be justified through added value for specific patients (e.g. an inpatient rehabilitation facility could begin to focus on providing a very specific type of services, or offer care to patients in need of long-term, serious services). Due to its potential to inform site-neutral payments for post-acute care, the IMPACT Act and its implementation will be important not only for the post-acute care industry, but the healthcare sector at large by cutting costs in an area that has seen historic high growth rates.

1. "National Health Expenditure Data: Historical", Centers for Medicare and Medicaid Services, December 9th, 2014, https://www.cms.gov/research-statistics-data-and-systems/statistics-trends-and-reports/nationalhealthexpenddata/nationalhealthaccountshistorical.html.
2. "Text of the IMPACT Act of 2014", Govtrack.us, September 23rd, 2014, https://www.govtrack.us/congress/bills/113/hr4994/text/enr.
3. "National Health Expenditure Data: Historical", Centers for Medicare and Medicaid Services, December 9th, 2014, https://www.cms.gov/research-statistics-data-and-systems/statistics-trends-and-reports/nationalhealthexpenddata/nationalhealthaccountshistorical.html.
4. Amitabh Chandra et al., "Large Increases In Spending On Postacute Care In Medicare Point To The Potential For Cost Savings In These Settings", Health Affairs, May 2013, http://content.healthaffairs.org/content/32/5/864.abstract.
5. Peter Ubel, "Variation In Medicare Costs Is Mainly Due To Post-Acute Care", Forbes, May 30, 2013, http://www.forbes.com/sites/peterubel/2013/05/30/variation-in-medicare-costs-is-mainly-due-to-post-acute-care/.
6. "Site-neutral payments for select conditions treated in inpatient rehabilitation facilities and skilled nursing facilities," Medicare Payment and Access Commission, June 2014, http://medpac.gov/documents/reports/chapter-6-site-neutral-payments-for-select-conditions-treated-in-inpatient-rehabilitation-facilities-and-skilled-nursing-facilities-(6-2014-report).pdf.
7, 8, 9. Ibid.
10. "Text of the IMPACT Act of 2014", Govtrack.us, September 23rd, 2014, https://www.govtrack.us/congress/bills/113/hr4994/text/enr.
11. Anita Brikman, "NHPCO Applauds Passage of the IMPACT Act", National Hospice and Palliative Care Organization September 2014, http://www.nhpco.org/press-room/press-releases/impact-legislation-passed-congress.
12. "Text of the IMPACT Act of 2014", Govtrack.us, September 23rd, 2014, https://www.govtrack.us/congress/bills/113/hr4994/text/enr.

Trudel Pare is a junior studying political science and bioethics. She is from Columbia, Maryland and has worked in DC for three summers studying public healthcare programs and social policy.

ALL INCLUSIVE:

Medicare's Nationwide Bundled

Imagine going into a restaurant and paying $12 for chicken linguine one night, then going into a restaurant of similar quality and paying $24 for the same dish. Most people would question how the expensive restaurant justifies charging so much, especially when there is no significant difference in the taste of its food or the quality of its service. The tables and silverware might be newer at the second restaurant, and the chef might be more famous, but chicken linguine is still chicken linguine. The same phenomenon is common throughout healthcare.

In November, the Centers for Medicare and Medicaid Services (CMS) finalized rules for a program that will transform how hospitals across the country perform orthopedic surgeries for Medicare patients. Known as the Comprehensive Care for Joint Replacement payment model,[1] the program will require hundreds of hospitals in 67 geographic areas to accepted a standard payment for the entire episode of care associated with a knee or hip replacement surgery. These standardized fees are known as "bundled payments" because they are designed to cover the cost of hospitalization, surgery and post-acute recovery. Under the current fee-for-service and code-based Diagnosis-Related Group (DRG) system, which separately reimburses for each provider involved in the episode of care, the amount that Medicare pays for a knee or hip replacement varies between $16,500 and $33,000.[2] The hope is that hospitals and surgeons will coordinate their care with other facilities, such as post-acute care providers, to avoid costly readmissions, medical errors, or wasteful treatment.

The model incentivizes hospitals that are not as good at managing their costs to become more efficient at delivering the same high-quality care. Hospitals that are already delivering high quality care at a competitive price will make higher margins. Medicare projects that the program will save $343 million over the five-year demonstration because the higher-cost hospitals will be paid at a standard rate closer to the middle of that $16,500 to $33,000 range mentioned above. The program, which will launch in April 2016, also includes standards for quality to ensure that hospitals and other providers are not skimping on appropriate care.

This dramatic shift toward bundled payments is the latest phase of a transformation that has swept the healthcare payment landscape in the last few years. CMS has a goal to drive 30% of its spending through alternative payment models by the end of 2016 and 90% of its payments to quality or value by the end of 2018.[3] Besides bundled payments, CMS is running experiments with models such as ACOs (accountable care organizations), where a group of doctors works to control costs and improve quality for a defined population of patients; PCMH (patient-centered medical homes), which provides bonus payments for more supportive and holistic primary care; and more than 30 other initiatives for Medicare and Medicaid beneficiaries.[4]

Bundled payments aim to keep hospitals accountable for both the cost and quality of care. It's a good idea, but do we have evidence that bundled payments work? Bundled payments were first introduced in the United States in 2012 through a CMS program called Bundled Payments for Care Improvement (BPCI), in which several hundred providers participated on a volunteer basis. The Lewin Group issued a 174-page report in February 2015 that examined the results of the first year of the demonstration, but the results were inconclusive.[5] Since the program is new and involves a relatively small group of providers who are participating on a volunteer basis, the program's findings might not generalize to all hospitals. However, that is precisely why the new mandatory program starting in 2016 is so exciting: we are about to find out, on a large scale, if bundled payments can deliver on their promise.

For a more detailed picture of what bundled payments might bring in the future, it might help to consider what has happened in other countries that have had bundled payments for longer than we have. Sweden and the Netherlands are two often-cited examples. While these countries' healthcare systems are different from the United States' system, cross-national experiences are indicative of what the U.S. might expect when implementing similar programs.

In January 2012, Michael E. Porter from Harvard Business School made a presentation about the healthcare system's transition from volume- to value-based healthcare delivery.[6] He is optimistic about the potential of bundled payments and similar arrangements

Payments Program

BY IMRAN CRONK

to reduce costs and improve quality. Porter uses Sweden as a case study, where in 2009 the Stockholm region started using bundled payments. The region has nearly 2 million people, or about 21 percent of Sweden's population, and performs many of the 30,000 knee or hip replacement operations in Sweden each year. The bundles for hip and knee replacements were set at about $8,000 and included "pre-op evaluation, lab tests, radiology, surgery and related admissions, prosthesis, drugs, inpatient rehab up to 6 days, all physician and staff fees and costs, 1 follow-up visit within 3 months, any additional surgery to the joint within 2 years, [and] if post-op infection requiring antibiotics occurs, guarantee extends to 5 years." That is a fairly comprehensive bundle, in keeping with the idea that bundled payments should compel different providers, who see the patient at different stages of their care experience, to coordinate with each other.

In the presentation, Porter describes how the introduction of bundled payments prompted providers to develop "care pathways, standardized treatment processes, checklists, new post-discharge visits to check wound healing, more patient education, more training and specialization of staff, increased procedures per day, [and] decreased length of stay." Those last two effects, researchers found, reduced wait times for patients seeking replacements. Porter also noted that "volumes under bundled payment shifted from full-service public hospitals to specialized orthopedic hospitals." This shift is significant because specialized surgical clinics, known as ambulatory surgical centers (ASC) in the U.S., can often perform procedures at a much lower cost than large medical centers can. Shifting surgical procedures from the inpatient setting to the outpatient setting, when possible, is an important strategy for reducing overall healthcare costs.

In October 2015, Harvard Business Review published a report on the Dutch model of bundled payments.[7] Their bundled payment program focuses on chronic diseases like diabetes and COPD, rather than acute episodes of care, and the participating providers are primary care physicians rather than hospitals. The author of the report, Jeroen N. Struijs, writes, "In the four years since the Dutch bundled-payment model for type 2 diabetes was introduced, patient mortality rates and costs have dropped significantly." He points to three factors of success: the bundle of diabetes services was designed according to nationally agreed-upon standards, the program ensured transparency through the use of electronic medical records, and the program gave providers autonomy to use their clinical expertise to make the best decisions for patients. Even with this success, the Dutch are looking toward models beyond primary care and quality measures that focus on outcomes instead of just process.

There are a number of obstacles that stand in the way of introducing bundled payments in the U.S. First, there is a significant administrative burden for both providers and the government in calculating how payments should be divided among all of the providers involved in a patient's care. Second, providers and the government disagree about whether and how payments should be adjusted to account for patients' risk and socioeconomic factors. Furthermore, other critics have pointed out that CMS is chasing the wrong problem with bundled payments: the answer is not to encourage more surgeries, but rather to encourage doctors to prevent patients from needing these surgeries in the first place. Harold D. Miller of the Center for Healthcare Quality and Payment Reform comments that the focus on surgeries could discourage "truly innovative approaches to managing hip and knee problems and encouraging unnecessary surgeries" because "there is no reward under CCJR for helping a patient address their knee or hip problem without surgery."[8]

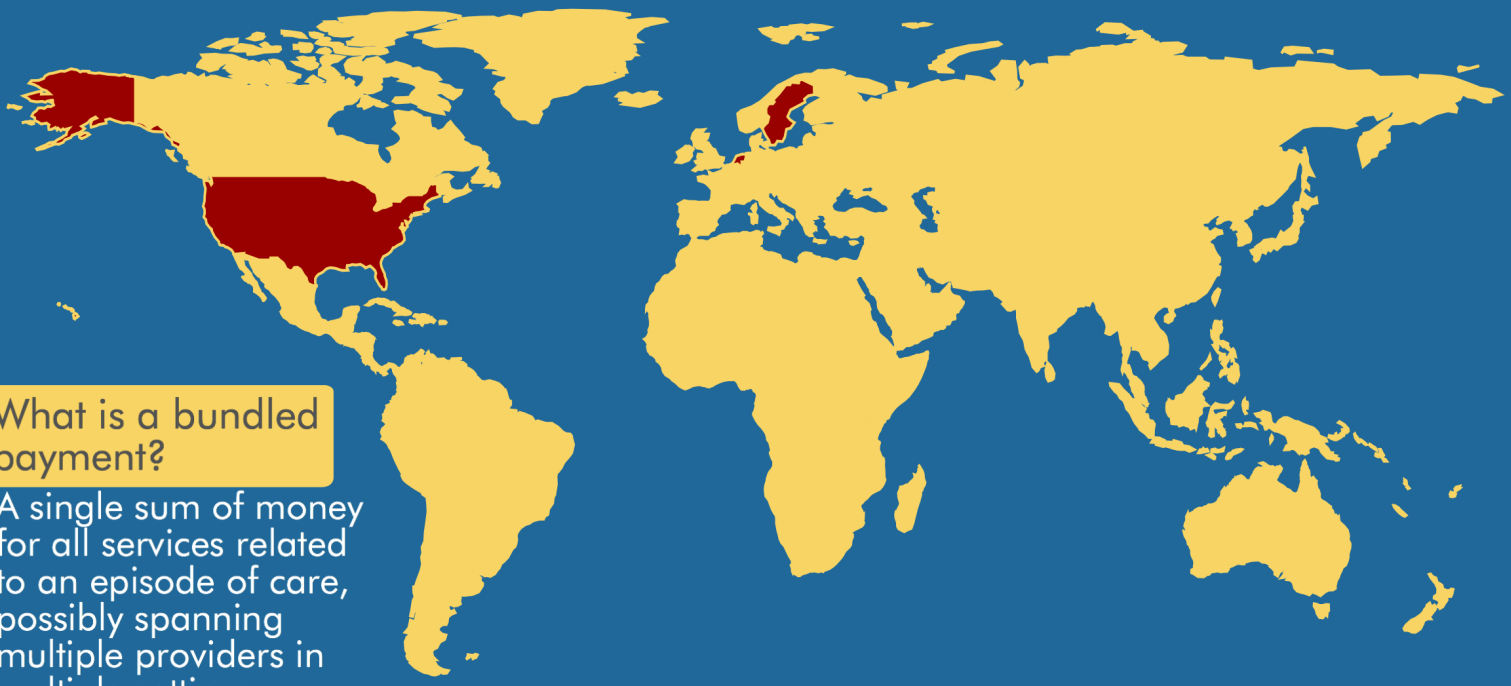
While all bundled payment programs will have successes, failures and agendas for further improvement, the CMS is taking a step in the right direction. With due attention to evaluating the program and accounting for appropriate socioeconomic and biomedical factors of patients' care, this upcoming nationwide experiment to change the way surgeries are financed should provide deeper insight on how to deliver high-quality care at a reasonable cost to people who need it.

1, 2."Medicare Program; Comprehensive Care for Joint Replacement Payment Model for Acute Care Hospitals Furnishing Lower Extremity Joint Replacement Services." Federal Register. Office of the Federal Register, 24 Nov. 2015. Web. 1 Dec. 2015.
3. U.S. Federal Government. U.S. Department of Health and Human Services. Better, Smarter, Healthier: In Historic Announcement, HHS Sets Clear Goals and Timeline for Shifting Medicare Reimbursements from Volume to Value. HHS.gov. 26 Jan. 2015. Web. 1 Dec. 2015.
4. "Innovation Models." Center for Medicare and Medicaid Innovation. Center for Medicare and Medicaid Services. Web. <https://innovation.cms.gov/initiatives/index.html>.
5. CMS Bundled Payments for Care Improvement (BPCI) Initiative Models 2-4: Year 1 Evaluation & Monitoring Annual Report. Rep. The Lewin Group, Feb. 2015. Web. <https://innovation.cms.gov/Files/reports/BPCI-EvalRpt1.pdf>.
6. Porter, Michael E. "Value-Based Healthcare Delivery." Harvard Business School. Institute for Strategy and Competitiveness, 11 Jan. 2012. Web. <http://hbs.me/1ZHbPam>.
7. Struijs, Jeroen N. "How Bundled Health Care Payments Are Working in the Netherlands." Harvard Business Review, 12 Oct. 2015. Web. 1 Dec. 2015. <https://hbr.org/2015/10/how-bundled-health-care-payments-are-working-in-the-netherlands>
8. Miller, Harold D. Bundling Badly: The Problems With Medicare's Proposal for Comprehensive Care for Joint Replacement. Rep. Center for Healthcare Quality & Payment Reform, 9 July 2015. Web. <http://www.chqpr.org/downloads/BundlingBadly.pdf>.

Imran Cronk is a recent graduate (December '15) of the University of Pennsylvania, where he studied Health & Societies. He enjoys hiking, running and writing.

Comparing BUNDLED PAYMENTS

Around the World



What is a bundled payment?

A single sum of money for all services related to an episode of care, possibly spanning multiple providers in multiple settings.

SWEDEN

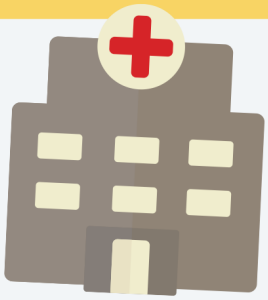
The Stockholm region started using bundled payments in 2009

Bundles for hip and knee replacements are set at $8,000

Introduction of bundled payments increased procedures per day and decreased length of stay, which reduced wait times for patients seeking replacements.

UNITED STATES

There are a number of obstacles that stand in the way of introducing bundled payments in the U.S.

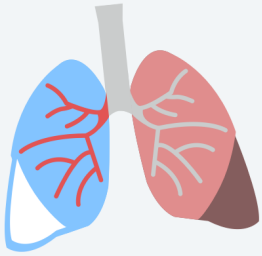


Bundled payments impose a high administrative burden for both providers and the government

Should bundled payments adjust for patient risk and socioeconomic status?

Some argue that we should instead focus on preventing patients from needing surgeries in the first place

THE NETHERLANDS



Bundled payment program focuse on chronic diseases like diabetes and COPD, rather than acute episodes of care

Four years since the Dutch bundled-payment model for type 2 diabetes was introduced, patient mortality rates and costs have dropped significantly

Three factors of success for bundled payments: national standards, transparency through electronic medical records, and provider autonomy

"While these countries' healthcare systems are different from the United States' system, cross-national experiences are indicative of what the U.S. might expect when implementing similar programs." - Imran Cronk

UNITED STATES PHYSICIAN SHORTAGE

BY DELANEY TAYLOR

The American population is growing and aging everyday. With this comes the need for more physicians, but there just are not enough in practice. According to a 2015 study done by the AAMC the demand for physicians is growing faster than the supply is increasing. This demand is projected to grow by 17% by 2025 leading to a growing shortage in many specialties especially those involving surgery. The physician supply is likely only to increase by 9%, which is not enough to meet the growing demand of patients. Also, it is estimated that about one third of all physicians will retire in the next ten years. This is due to a high number of physicians being between the ages of 55 and 75. By 2025, it is projected that the shortage of physicians will reach about 46,000 to 90,000.[1]

The shortage is not equal across all specialties. The greatest shortages are among primary care and surgical specialists. The full implementation of the Affordable Care Act is projected to increase the demand by approximately 16,000 to 17,000 physicians.[2] This is due to a greater proportion of the population being insured and thus more likely to seek treatment.[3] People are more likely to go to the doctor when they know they will not have to pay the entire bill. This also causes more preventative care, which means that patients are less likely to be hospitalized for avoidable situations. This means overall costs medical costs could go down, because conditions could be caught earlier, and are thus, much easier to treat.

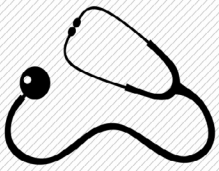
Another problem is the short supply of residencies. The number of medical graduates is higher than the number of residencies that are available to them. According to the Main Residency Match Data there were 30,212 positions and 34,905 applicants in the 2015 match cycle.[4] This leads to a group of qualified students who cannot become physicians because they need residency to become clinical physicians. Medicare funds a substantial amount of residency programs, which cost about $10 billion a year.[5] In 1997 a cap was set on how many residents would be funded, which has led to less availability for the expansion of residency programs.[6] This cap is still in place today.[7] A lift of this cap could drastically help to fund more residency programs in the Unites States.

An increase in government funding could help to combat the physician shortage. There has been an increase in class size at medical schools, but this cannot help to fix the problem of a shortage if there are not residency programs for the extra graduates thereafter. Some of the nation's medical schools and teaching hospitals have expanded their enrollment, but it has cost an estimated $1 billion per year over the last decade.[8] Additional federal budget cuts to teaching hospitals makes further expansion highly unlikely. Federal support is also needed to increase the number of federally funded residency training programs.

Addressing the shortage will require a multi-pronged approach. This includes better use of team-based care and technology to make care more efficient and also effective. Working in teams of other health professions such as pharmacists, nurses, dentists and public health officials can help to alleviate the pressure on individual physicians. They can try to work together to spread the work out. These teams would work well with standing orders from those above them.[9] This way the whole team knows what is supposed to be accomplished and what has already been done. The physician is still leading informed decisions, but they are not completing each task that must be accomplished.

Many well-trained professionals such as, nurse practitioners, clinical social workers, health educators and physical and occupational therapists are underused. Clinicians often perform roles that these professionals could also be doing.[10] Allowing them to step in and help more would allow the physician to see more

ADDRESSING THE SHORTAGE:



» Team-based care

Use of technology «

» More government funding

Lift resident cap «

patients and focus more directly on care of the patient. This would be especially useful for primary care physicians given that one-fifth of primary care visits involve preventative care and screenings. Many of the screenings that they do could be done by a member of the nonclinical team, and would therefore save physician time and lead to more patients being helped even if the number of physicians did not increase.

Changes need to start occurring as soon as possible given that it takes almost a decade to train new doctors to enter the workforce. The solution is not as simple as recruiting more people to be doctors. There are many people who want to become clinical physicians but cannot because of a lack of residency programs. The efficiency of patient care needs to increase, but without forgetting that patients still need to be treated with care. The use of teams can help with this issue. If nothing is done in the near future, the large shortage will remain and even grow.

1, 2. "Physician Supply and Demand Through 2025: Key Findings" 2015. Accessed November 12, 2015.
3. "The Uninsured and The Difference Health Insurance Makes." Kaiser Family Foundation. September 12, 2012. Accessed January 16, 2016.
4. "Main Residency Match Data |." The Match National Resident Matching Program Main Residency Match Data Comments. May 25, 2015. Accessed January 16, 2016.
5. "AAMC Remains Concerned About Shortage of Residency Positions Despite Successful Match Day." - News Releases. March 21, 2014. Accessed November 15, 2015.
6. Salsberg E, Rockey PH, Rivers KL, Brotherton SE, Jackson GR. US Residency Training Before and After the 1997 Balanced Budget Act. JAMA. 2008;300(10):1174-1180. doi:10.1001/jama.300.10.1174.
7, 8. "AAMC Remains Concerned About Shortage of Residency Positions."
9, 10. Bodenheimer, Dr. Thomas S. "Proposed Solutions to the Physician Shortage." Proposed Solutions to the Physician Shortage. November 1, 2013. Accessed December 1, 2015.

Delaney Taylor is a sophomore at the University of Pennsylvania. She is studying Health and Societies and is also pre-med.

HEALTH COACHING

A New Approach to a Healthier You

BY JACQUELYN HE

Doctors are very knowledgeable and influential—there's no doubt about that. But as it turns out, their influence might only be limited to the confines of their office. Studies show that even people with chronic illnesses only spend a few hours each year with their doctor or nurse, whereas they spend close to 5000 hours each year engaged in everything else.[1]

With much of healthcare still in a reactive rather than proactive mindset, the question remains as to what happens when patients leave the doctor's office. Will they remember that their doctor recommended them to avoid foods high in sodium and fat when they are waiting in line at KFC? Or that he suggested that they try adding an hour of exercise into each day?

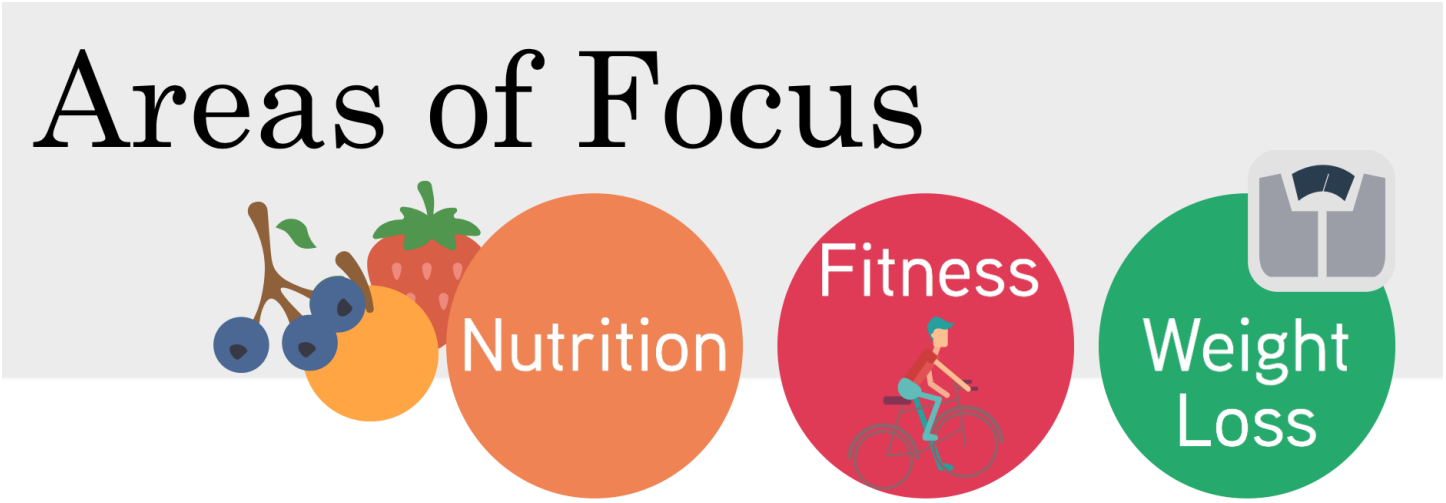
As you can see, there is a lack of accountability in the traditional patient-doctor relationship. For many chronic, lifestyle-related diseases, such as diabetes, obesity, and hypertension, it is easy for the doctor to tell a patient that he needs to make some changes and give him suggestions as to how. However, when it comes to monitoring whether the patient is actually carrying through, it is more difficult.

This is where health coaching comes in. A health coach is someone who provides services that fill the gaps that doctors, nutritionists and dieticians might not have the time or resources to fill. They do not provide medical advice or diagnoses or prescribe medicine. As a result, they tend to focus on chronic health conditions that can be remediated or prevented through behavioral modifications. Areas of focus include nutrition, fitness and weight loss. The main role of the health coach is to build a trusting relationship with the client in order to help them discover their own goals and inner strengths, build action plans towards improved health and well-being, and monitor progress.[2] By doing so, health coaches also act as an accountability partner for the client. They help increase the likelihood that a person will start making healthy changes and turn them into sustainable habits.

While this may seem like an extraneous service, it actually holds a lot of promise. The advantage of health coaching is that it can be done virtually. Most health coaching services are provided via video chat, phone, text or in-app messages. This removes the need for a patient to physically visit his doctor. It also offers cost savings. This is especially true for employers. Research shows that employees who have chronic diseases, such as diabetes, heart disease, and arthritis—many of which are a result of certain lifestyle behaviors—have higher medical costs.[3] This thereby increases the employer's expenditures on health care and ultimately has a negative effect on their bottom line. The American Hospital Association reported in 2007 that the chronic conditions asthma, diabetes, and hypertension "cause working Americans to miss an estimated 164 million working days each year at a cost of $30 billion to employers."[4] Due to the increasing evidence that points to the high correlation between a healthier, happier workforce to higher employee productivity, engagement, and performance, companies are increasingly starting to enhance

their corporate wellness programs. Some of the leaders in the health coaching space have partnered with these employer wellness programs. Omada Health and WebMD, two leaders in particular, have reported that employees who use their health coaching services have $507 less health care costs per year.

With the Affordable Care Act's creation of the Prevention and Public Health Fund and its increased emphasis on preventative health, several companies have capitalized on this new need and started to make a name for themselves in the "health coaching" market. As mentioned previously, there's Omada Health and WebMD. But there's also Noom, Rise, Vida and even Kurbo Health for kids and teens, just to



a name a few. Each of these health coaching start-ups offer mobile platforms that allow a patient to track their food and exercise and share it with their coach. Patients are matched with coaches based on their initial goal for signing up for the health coaching service and personality traits that they may have in common. Health coaches typically "meet" with their coachees once a week to keep them on track, discuss their progress and suggest new recommendations. These platforms also tend to incorporate games to reinforce learning and a wealth of online support to push them through their health journey. As health care spending continues to rise and uncertainty as to whether those dollars are actually enabling better health outcomes, people are realizing that there is a need to look for more cost effective and innovative ways to get healthy. Perhaps health coaching is one of those solutions.[5]

While these start-ups' efforts to promote healthy behavioral changes should be applauded, it is also important to recognize that their services may not be able to serve those who need it most. One of the most difficult barriers that these companies face is their ability to scale. Increasing their customer base means that they also need more coaches. While it might not be hard to find people who want to be a coach, it is more challenging to ensure that the coaches they hire are qualified. They must always keep in mind quality and quantity.

In addition, another limiting factor for health coaching services is the fact that the environments that people live in are so different. This makes it difficult for the coaches to recommend the "right" solution. A recommendation for someone who lives in a wealthy, suburban neighborhood might not work for someone who lives in a lower-income urban area. However, this does not mean that the efforts of health coaches in those scenarios are futile. It simply re-emphasizes the fact that good or poor health is not just a product of our own doing, but also of the environment around us. To truly improve the health of populations on a wide scale, the social determinants of health and root causes of health disparities must be addressed.

Nevertheless, despite the challenges that impede health coaching from having as big of an impact, the strides that health coaches and health coaching companies have made are commendable. For the people they have helped, they are enabling them to take control of their health, make changes, and start to reach their health goals whatever they may be. If you consider your doctor to be the starter in your race to better health—the person who makes you realize you need to act—then your health coach is your personal cheerleader, trainer and accountability partner who guides you to the finish line.

1. Asch, D. A., Muller, R. W., & Volpp, K. G. (2012). Automated hovering in health care–watching over the 5000 hours. New England Journal of Medicine,367(1), 1-3.
2. Jordan, M. (2013). Health coaching for the underserved. Global Advances in Health and Medicine, 2(3), 75-82.
3. Schwartz, Steven. (2014). Increasing Chronic Disease Costs Lowered with Digital Health Coaching. Corporate Wellness Magazine.
4. Fenwick, M., Mitchell, A. Study Highlights Impact of Chronic Conditions on Working America. American Hospital Association.
5. Healthcare Trend Institute. (2014) Wellness Program Trends: A Closer Look at Healthcare.

Jacquelyn He is a junior studying Nursing and Health Care Management at the University of Pennsylvania.

THE NURSING SHORTAGE

& What It Means for Floor Nurses

BY SOPHIA BUSACCA

"Why would you want to be a nurse if you could be a doctor?" This is a question most of my nursing friends and I at Penn are usually asked at some point in time. Society has fostered a negative image of nursing. Every nursing student and nurse has battled to prove that our profession is not defined as a "physician's handmaiden."

Historically nursing has been a "woman's career" because nurses were needed during the great wars. Additionally, in the 1960s and 1970s there were not as many career opportunities for women, so a large number of women entered the nursing profession. As more career choices became available for women in the 1980s and 1990s fewer women began entering the nursing profession. Despite fewer people taking this career path, the demand for nursing is high. Currently the United States is facing a nursing shortage because of an aging RN workface, fewer people choosing the profession, the environment, and the poor image of nursing.[1]

"Nurses are the **backbone** of the healthcare system"

Nurses are the backbone of the healthcare system. They are the ones who are constantly monitoring patient's vital signs, physical and mental health, and family's health.

In a study done by the *Journal of the American Medical Association* the projected age of the average RN in the United States is around 44 to 45 years old. One of the major concerns about having an older nursing workforce is that less nurses means a nurse has more patients to care for.[2]

In order to inspire students to pursue a nursing career, it is critical to enhance the image of nursing. Many efforts from companies such as Johnson and Johnson and 'Nurses For a Healthier Tomorrow' have begun the campaign to communicate the role and importance of the nurse. In addition, advocating for minority groups and men to become nurses is critical to solve the shortage issue.

Communicating the role of the nurse is necessary because it will portray nursing positively. There is a great need for a young population of nurses. The Nurse Reinvestment Act (NRA) was passed on July 22, 2002 to focus on nurse recruitment and retention. It concentrated on the education of nurses, scholarships, grants, and supportive career programs.

The American Hospital Association, with the NRA, did a study on magnet hospitals. Magnet hospitals are rated on how many patients a nurse have to care for. Magnetism is based on variables in the hospital organization, the retention of a nursing staff, and quality of care. Magnet hospitals are the leaders in the industry for quality in-patient care. Nurses in these hospitals are happy with management style and quality of leadership. The environment and setting set by the physical, social, and emotional scene are critical to the happiness of the nurses and patients.

The nursing shortage is due to a wide variety of factors. It is important for healthcare providers and educators to be aware of the nursing shortage. Because patients see nurses for 95 percent of their hospital visit, whether it is inpatient or outpatient, the nursing shortage can have detrimental effects if it is not addressed.[3]

I believe the single best solution to help curb the nursing shortage is for nurses to be their own advocates. They should be involved in coalition groups, professional groups, and advocate for various health policy reforms. Nurses have a patient-centered education and have a voice in the healthcare field different from others in the healthcare profession. Although the demand for nursing is currently greater the supply, it can be solved with advocacy and a positive image.

1. Madsen, W. (2008). Teaching History to Nurses: Will this make me a better nurse? Nurse Education Today, 28 (5), 524-529.
2. Aiken, L., Clarke, S., Cheung, R., Sloane, D., & Silber, J. (2003). Educational Levels of Hospital Nurses and Surgical Patient Mortality. The Journal of the American Medical Association, 290 (12), 1617-1623.
3. McClure, M. Poulin, M., Sovie, M., & Wandelt, M. (1983). Magnet Hospitals: Attraction and Retention of Professional Nurses. American Academy of Nursing.

Sophia Busacca is a sophomore at the University of Pennsylvania studying Nursing from California. She is a triplet and likes to cook.

REMEMBERING THE CARE IN HEALTHCARE

BY LAURA NG

Sometimes I feel like an impostor in my coursework - I am a nursing student whose favorite classes this semester are technically in business. I am enrolled in two healthcare management courses, and I love them. I find it fascinating to learn how the United States healthcare system is evolving, and I think it is even more intriguing to postulate how we might adapt models from international health systems into our own.

In each of my management and policy classes, I am inundated with a (well-founded) idea that the healthcare system in the United States is in need of reform. Our system has the highest per capita health spending of any Organization for Economic Co-Operation and Development (OECD) nation, yet some studies show the U.S. exhibits rates of heart disease, infant mortality and teen pregnancy amongst the highest. How are we to improve health outcomes and access without increasing costs in a system where spending has been increasing at unprecedented rates? My classes analyze a variety of provider and payer models designed to ameliorate the issues of quality and cost.

These discussions make it abundantly clear that health policy is economic policy; the two are inseparable. Healthcare is a business, and it is incredibly important that those in the field understand it as such, if the system and its outcomes are to improve. It is not enough to simply treat patients – we must also be informed on how to make the system that cares for them better.

However, here I would like to pause and highlight a word critical to the aforementioned discussions: system. To expand, each of my healthcare management courses this semester focuses largely on quality and efficiency measures in the healthcare system. We talk about statistics, theories and models. While I do believe these classes can greatly inform my future practice as a nurse, their theoretical discussions all but leave my mind on Wednesday and Saturday mornings. These are the mornings of my shifts as a personal care assistant, and these are the mornings when I am reminded that I do not, and cannot operate on a system level.

When I am working, I operate on an individual level. My client is not a number; the care I provide is not informed by measures of cost-effectiveness. A whole new set of interests dominates while I perform my job: attentiveness, respect, adaptability and a healthy sense of humor. My position in home care puts me in a unique locus to witness how the key to truly patient-centered care lies in a phrase the School of Nursing likes to call the 'essential ordinary'. In my job I do not just provide clinical assistance. Sometimes I vacuum, do laundry or wash dishes – mundane tasks to ease my client's day. Indeed, it is not only the clinical care provided that dictates the quality of the patient experience. Quality could be determined by something simple, like putting ice chips in a glass of juice if a patient prefers cold drinks. Providing health care is a matter of recognizing each patient as an individual and treating them with the dignity that recognition entails.

> "There is no room to discount the patients in practice. There is no room to forget that we care for **people** and not **statistics**."

Don't mistake me - I do appreciate the value and necessity of approaching health provision systematically as a business. However, my experiences practicing outside the realm of theory thus far lead me to implore those considering a profession in health care to remember why health systems are in place. We do not work solely to make profits– we work to improve the lives of our patients first and foremost, and a business approach can help us to do this better.

Recently, I listened to a peer in class comment "Maybe if people didn't have to be so emotional, healthcare would be less inefficient." As appalling as it was to realize how this student omitted the human aspect of health, I recognize how easy it can be to slip into statistical analysis and dollar signs in discussion. In practice, though, we must realize health care is a business unique in that it deals with the most emotional and human experience of them all.

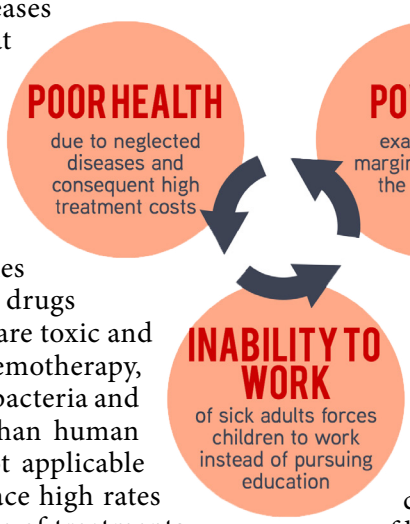
We will have to know much more than what we learn in the classroom in order to handle what we will encounter in the clinic. We will need to understand compassion and grit in addition to the mechanisms of supply and demand or physical assessment. There is no room to discount the patients in practice. There is no room to forget that we care for people and not statistics. In order to best improve efficiency and quality in health care, we must remember that the data informs how to best serve our patients. We must remember the care in health care.

Laura Ng is a sophomore in the University of Pennsylvania School of Nursing. She is pursuing a minor in health care management and enjoys skiing, hiking and sleeping in her spare time.

Ending the Neglect

BY SANTOSH NORI

More than one seventh of the world's population, across 149 different countries, is affected by a group of illnesses called "neglected diseases."[1] The 17 neglected diseases, including schistosomiasis, guinea worm, and leishmaniasis, are diseases that are defined by their lack of effective and affordable treatments, even in the face of high prevalence.[2] It is estimated that more than 500,000 individuals die from neglected diseases annually, with many more that are incapacitated and kept from engaging in daily activities due to complications and symptoms. Currently, no vaccines exist for neglected diseases because as their name suggests, they are relatively ignored by pharmaceutical companies and research institutions. The few drugs that do exist for neglected diseases are toxic and function in a manner similar to chemotherapy, with medical experts hoping to kill bacteria and foreign microbes at a faster rate than human cells.[3] They are also sometimes not applicable to the type of disease at hand, or face high rates of resistance.[4] For example, a couple of treatments exist for leishmaniasis, which is a neglected disease involving a parasite that destroys skin and organ tissue.[5] However, the three main drugs used to treat this disease, antiparasitic pentavalent antimonial agents, anti-fungals, and xanthine oxidase inhibitors, are extremely toxic to the body and face high rates of resistance by the disease in developing countries, namely India.[6]



These immense effects immediately beg the question, why aren't there adequate treatments for neglected diseases? The answer lies within the financial motives of the pharmaceutical industry. Pharmaceutical drug development initiatives for neglected diseases are very minimal because these diseases represent the "least profitable market" for these companies. Rather, the pharmaceutical industry prefers to focus on the "big three" diseases, tuberculosis, malaria, and HIV/AIDS, because of a large commercial market and heavy funding schemes. As such, diverting funds to R&D of neglected diseases would create a significant opportunity cost for these companies.[7]

The implications of lack of drug research are immense. Insofar as these diseases primarily affect the impoverished demographic of the developing world, the regions that are affected by these conditions are debilitated from both an economic and medical standpoint. Recent findings from the World Bank explain that poor health and out of pocket expenses to cope with these diseases are the leading causes of poverty.[8] Constant poor health impedes adults from working, and children from getting the most out of an already poor education system, funneling a cycle of perpetual poverty and marginalization. A report released by the University of Ottawa reveals stunning empirics, showing that lymphatic filariasis causes an estimated economic loss in India of $1 billion annually, and blinding trachoma causes an estimated economic loss of $5.3 billion annually.[9] Research for the development of more accessible and affordable drugs for these people would significantly mitigate all of these harms.

This complex medical and economic situation highlights some major ethical implications. One aspect of the social responsibility of a firm is to produce goods and services in an equitable manner, meaning that firms should adhere to the combination of goods and services that is demanded by society. Insofar as a large demand exists for drugs that combat neglected diseases, which do not have very many treatments on the market, pharmaceutical companies engage in inequitable production by not developing these drugs and matching demand with an increase in supply. This can be considered a violation of corporate ethics, because the demand stems from the lives of a certain group of consumers being threatened: those suffering from neglected diseases. As such, pharmaceutical companies are contributing indirectly to the loss of lives and perpetual economic destruction of these disease stricken areas, simply because of their refusal to address one whole segment of the market. Despite their refusal, however, recent awareness campaigns and non-governmental initiatives have pushed pharmaceutical companies to slowly make progress regarding this issue. NGOs and pharmaceutical companies are engaging in Private Public Partnerships (PD-PPPs), through which NGOs make use of private sector collaboration and industry practices to develop products for neglected disease treatment.[10] Although this is a great first step, the government, pharmaceutical companies, and non-profits still have a long way to go before neglected diseases and the people affected by them receive the attention that they fully deserve.

1. "Neglected Tropical Diseases." World Health Organization. n.p., n.d. Web. 29 Oct. 2015.
2. Yamey, Gavin. "The world's most neglected diseases: Ignored by the pharmaceutical industry and by public private partnerships." Editorial. BMJ. 325.7357 (2002): 176-7. Print.
3, 7, 9, 10. Hotez, et. al. "The Neglected Tropical Diseases: The Ancient Afflictions of Stigma and Poverty and the Prospects for their Control and Elimination." University of Ottawa. n.p. n.d. Web. 15 Nov 2015.
4. Stark, Craig G. "Leishmaniasis Medication." Medscape. n.p. 5 May 2014. Web. 3 Dec 2013.
5. "Parasites-Leishmaniasis." CDC. n.p. 10 Jan 2013. Web. 4 Dec 2015.
8. "The World Bank and Neglected Tropical Diseases: Building on a History of Helping Countries Address Diseases of the Poor." World Bank. n.p. 27 March 2014. Web. 16 Nov 2015.

Santosh Nori is a freshman from New Jersey at the University of Pennsylvania planning to study Biology. He enjoys reading, playing badminton, and he loves trying new foods from around the world.

THE SHIFTING EPIDEMIC OF HIV IN THE UNITED STATES

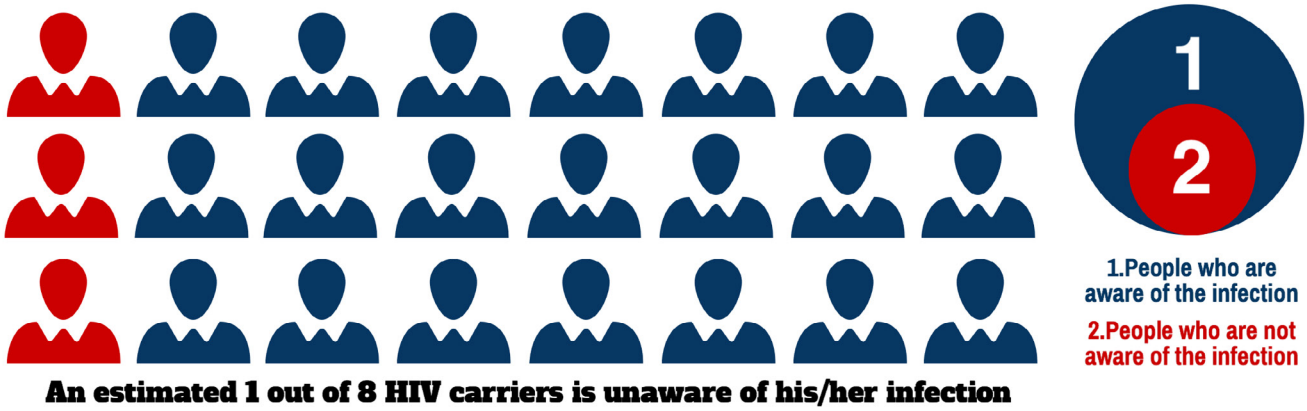
BY EVAN ZOU

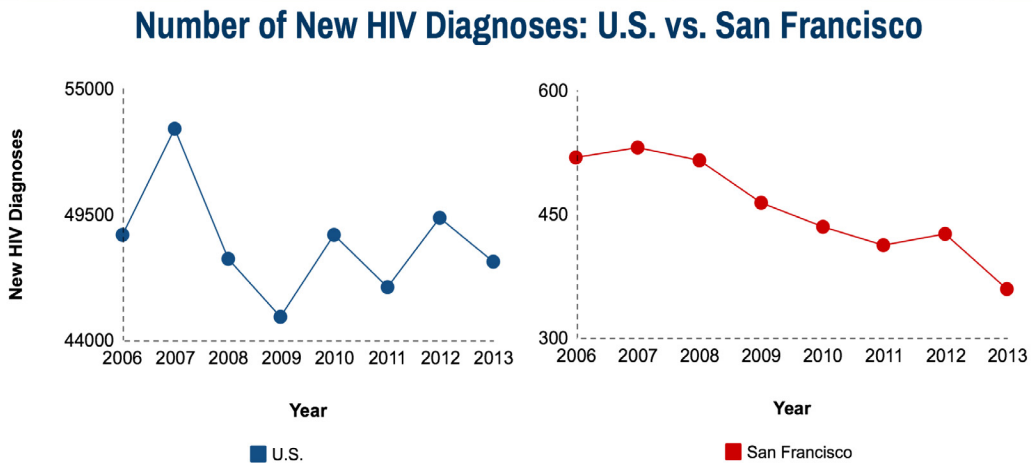
Forty-six years after the first incidence of HIV in the United States, streamlined medications and treatments have reduced the risk of contracting AIDS. They also provide a manageable lifestyle for those infected with HIV. Yet, the prevalence of HIV has not decreased, seeing as 50,000 Americans have become newly infected by the virus each year since 2012.[4] One million Americans currently live with the disease, and 13,000 patients diagnosed with HIV died in 2012, a nearly constant mortality rate in the past decade.[4] Despite innovations in technology and medicine, HIV remains epidemic in the United States. One culprit is poor public policy, a loose collection of local laws and programs that fail to address the underlying behavioral and technical problems behind HIV. Instead, these policies de-incentivize at-risk HIV candidates from receiving testing and sever the link between testing and treatment. In order to improve the state of HIV in the United States, a shift toward immediate and accessible treatment must be achieved.

Previously, the city of San Francisco, with 16,000 of its population of 800,000 infected with HIV and 300 new carriers each year, was considered one of the most devastating examples of the HIV epidemic.[5] However, new policy has significantly transformed the city into a model community for HIV management. In 2010, the city implemented the "test-and-treat" policy in which those who test positive are immediately given treatment.[3] This not only encourages those who suspect an infection from getting tested, but also deletes the possibility of an HIV positive patient from spreading the disease in the interim period before treatment.

As HIV is known to proliferate in the poorer communities, many infected do not have the adequate health insurance to afford treatment. The 2013 federal prevention program "PrEP," or pre-exposure prophylaxis, changed that by providing uninsured carriers with Truvada. Truvada is a combination drug that not only treats HIV but reduces the risk of infection.[3] By prioritizing community health rather than profits, PrEP has led to a psychological shift among poorer communities such that receiving care for HIV and other health problems has become an option.

Since Truvada comes as a pill, PrEP has unfortunately discouraged condom usage, resulting in increased rates of transmission of other sexually transmitted diseases (STDs).[3] The program has also attracted aggressive opposition. Medical professionals claim that restricting HIV medication will not only reduce the possibility of harmful side effects to patients, but will more importantly prevent HIV strains from developing resistance.[3] But imperfections in the San Francisco model simply represent small hiccups that can be fixed in future adaptations. More importantly, PrEP and "test-and-treat" have led to a decrease in the rate of HIV infections by 30% since 2010, along with a significant decrease in mortality rates among





The two graphs above demonstrate the trends of number of new cases of HIV in the U.S. and San Francisco, respectively.
* note that scales for the number of new HIV diagnoses are different for the two graphs.

HIV patients.[6]

In direct contrast to San Francisco, cities that fundamentally do not embrace community based health initiatives suffer more harrowing consequences. Known as the HIV epicenter, Atlanta took the unfavorable moniker when the city had the highest rate of new HIV diagnoses in 2012.[2] Unsurprisingly, the city's HIV policy reflects a systematic ignorance of public incentives.

In Atlanta, only one medical center, namely Grady Hospital, recommends patients to receive routine testing for HIV. Even if the patients' symptoms do not fit warning signs of HIV, doctors at Grady are required to ask patients whether they would like to be tested. Launched in 2013, this method greatly increased the amount of HIV testing in Atlanta. However, just this one program has not been enough. Due to the limited availability of routine testing, the hospital found that roughly half of patients diagnosed with HIV already had contracted AIDS.[1]

Considering that the average untreated patient will only contract AIDS after 8 years of HIV infection, the statistic exposes a profound problem in which at-risk patients are simply not incentivized to get testing.[2] This issue is especially prevalent among men who have sex with other men, known as MSM. With 18% of MSM living with HIV, they represent the highest proportion of HIV carriers.[7] However, these statistics do not affirm the stereotype of HIV being the "homosexual disease," but rather may be a result of the stereotype.

In Atlanta, the stigma precludes many MSM from getting tested for HIV, fearing an acknowledgement of infection would lead to societal exclusion.[8] Accessible treatments would remedy the problem, as greater assurance of obtaining treatment can outweigh the societal negatives of getting tested. This test first, worry later atmosphere would eventually undermine the backwards idea that HIV is a "homosexual disease" so that at-risk minorities do not have to live in fear but can rather embrace the seriousness of HIV, reducing the rates of HIV infection in Atlanta.

If the United States truly wants to erase the deleterious impact of HIV from its communities, policies need to be implemented that look at the HIV problem from the perspective of promoting community health, ahead of all other objectives. Giving HIV carriers more options is the only way to shift psychological incentives towards receiving treatment. The continued use of this approach may ultimately curtail HIV infections so that HIV can finally become a problem of the past.

1. http://clatl.com/atlanta/hiv-crisis-needs-a-solution/Content?oid=1635376
2. http://news.wabe.org/post/half-atlantas-newly-diagnosed-hiv-patients-have-aids-grady-testing-finds
3. http://www.nytimes.com/2015/10/06/health/san-francisco-hiv-aids-treatment.html
4. http://www.cdc.gov/hiv/statistics/overview/ataglance.html
5. http://sfaf.org/hiv-info/statistics/?referrer=https://www.google.com/
6. http://www.sfexaminer.com/sf-records-all-time-low-in-hiv-infections-deaths/
7. http://kff.org/hivaids/fact-sheet/the-hivaids-epidemic-in-the-united-states/
8. http://www.georgiahealthnews.com/2015/06/metro-atlanta-center-burgeoning-hiv-crisis/4

Evan Zou is a freshman in the Vagelos Program for Molecular Life Sciences studying Biochemistry and Biophysics. He is from New Jersey and enjoys watching Netflix.

PENN HEALTHCARE REVIEW

WHARTON UNDERGRADUATE HEALTHCARE CLUB