Heathcare In A Parking Garage

Dani Babbel, 2nd-Year Medical Student

Somehow the gravity of the words was diminished when translated into a second language. “Tienes diabetes” (You have diabetes). It wasn’t until after I had said those words, and after I saw the recipient’s empty stare, that I realized the weight of the information I had just relayed. The makeshift office of felt walls and PVC pipes in the underground parking garage felt like an odd place to give someone a diagnosis of a potentially chronic illness. In that moment, the reality of health inequity was made clear to me. Though an organizer for this year’s Health Care Equality Week (HCEW) screening fair, I had a bit of patient interaction on the day of the event when I stepped in to interpret for Spanish speakers a few times. The annual event, held in downtown Portland, brought in nearly 300 patrons from the surrounding area. When I arrived for set-up at 7:30 that morning, many had already started forming a line, waiting for the gates to open at 9:00 am. As a multi-disciplinary and multi-university event, the screening fair featured a variety of services including oral exams, visual acuity screenings, diabetic foot care, immunizations, veterinary care, medical consult, blood glucose checks...

One Cell At A Time

Josh Kaplan, 4th-Year Graduate Student

We’re all familiar with success. A résumé composed entirely of failures doesn’t get you into a graduate degree program. We’ve been on honor rolls, dean’s lists, members of academic honor societies, and won our fair share of awards. Let’s face it, that’s the only way you get accepted to a place like OHSU. If your parents’ refrigerator had arms, it would reach out and pat you on the back. But is that still the case? Mostly, our lives are no longer dominated by consistent graded feedback. Yet, even when they are, the academic rigor has escalated exponentially. No longer does merely “showing up” guarantee a B. Instead, the quality of competition is enhanced and fewer recognitions are available. The form and frequency of performance feedback has shifted during graduate school, and how we handle this change greatly impacts our long-term motivation and thus, success...
Love Your Teeth Day at Cornelius Elementary

Farielle Houran, 2nd-Year Dental Student

The second year of dental school has a reputation for being the most time-intensive, skill-refining, stress-provoking period of our dental education. With this in mind, an opportunity to keep my mind at ease during our never-ending workload was presented to me through community outreach with the Hispanic Student Dental Association (HSDA). As members of the HSDA, dental students are able to learn and improve their Spanish-speaking skills through bi-monthly meetings. We also work with a local elementary school that is predominately Hispanic populated, with more than 80% of its students living in a household at or below the poverty level.

At Cornelius Elementary, located just east of Hillsboro, we provide oral hygiene instructions through fun activities such as having the students chew a pink tablet that shows where all the bad germs reside on their teeth followed by a demonstration on how to remove those germs on a dinosaur puppet with an oversized smile. Some of the children we saw this year mentioned they had a tooth that was painful. It was evident that all students would benefit from fluoride varnish treatment, which is known to reduce cavities in high-risk populations. Knowing this, I jumped at the opportunity to organize an event, called Love Your Teeth Day, that allows dental students to apply the information and skills we learn in class out in the community. Months of planning, meetings, and preparation were essential in keeping my spirit alive when I was feeling overwhelmed on those Friday nights, attempting to trim a clinically acceptable provisional crown.

The most encouraging aspect of coordinating the event was the amount of interest other dental students shared in volunteering. Forty dental students served together to provide dental screenings, fluoride varnishes, and oral hygiene instructions to over 200 students at Cornelius Elementary. All the children were sent home with a copy of their screening results, and equally important, the school was notified of which students had urgent dental care needs. Almost half of the students seen were in need of early care or urgent care. For those students in need of urgent care, we are working with a local Virginia Garcia clinic and our pediatric clinic at OHSU to make sure these children have the means to receive it. Together with Eli Schwarz, DMD, MPH, PhD, and Karen Hall, RDH, LAP, we are working to create a universal screening form that can be used in schools to assess the oral health of the students. Events like the Love Your Teeth Day at Cornelius Elementary, rather than adding to my stress level, keep me grounded, with the big picture of the work I’m learning and practicing.

School of Nursing: Diabetic Health Fair

Crystal LeBoeuf, 2nd-Year Nursing Student

On March 8th, our clinical group at OHSU-Monmouth held a Diabetic Health Fair. This idea came about by our instructor’s dynamic approach to education through autonomy. As nursing students, we wanted to cultivate basic information regarding diabetes including: Pathophysiology, Nutrition, Exercise, and Foot Care. At each poster, participants were greeted by an OHSU Nursing student from our clinical group who was able to chat about this chronic illness. Furthermore, we incorporated health fair participants from Salem, who provided our participants with diabetic foot wear, free supplies, and support groups. Most importantly, we wanted our efforts to become sustainable by establishing a presence each term focusing on other chronic conditions set by other clinical groups, i.e. arthritis, COPD, etc. The event succeeded by providing hope and foundational information while giving individuals a self-care approach to their or their family member’s disease trajectory.
Pharmacy students taking blood glucose readings. Story on page 4.

Jasmine Cheyne at the diabetic health fair. Story on page 2.

Dental students at the Quiz Bowl. Story on page 9.

OHSU-Monmouth nursing students. Story on page 2.

Dental students at Cornelius Elementary School (L to R: Andrew Sloan, Michelle Nguyen, Quinn Martin). Story on page 2.
Pharmacy Student Updates

Dennis Choi (co-authors Michelle Pfeifer and Arrash Vahidi), 3rd-Year Pharmacy Students

The OSU/OHSU College of Pharmacy has been busy setting up events and holding clinical service outreaches for our community in the state of Oregon. We pride ourselves in giving back to the community. At the regional American Pharmacist Association-Academy of Student Pharmacists meeting held in Spokane, WA, the students’ hard work was recognized with the Operation Diabetes and Operation Heartburn awards.

Each November during the ‘Get Smart About Antibiotics Week,’ students spend their day from sunrise till sunset at Pioneer Square in downtown Portland for the AWARE In The Square event. Working alongside the Oregon Alliance Working for Antibiotic Resistance Education (AWARE), P3 and P4 students provided education regarding proper antibiotic use. In collaboration with the Oregon Adult Immunization Coalition, students provided 70 influenza vaccinations for the uninsured community. Throughout the day, over 900 community members were provided education. The story was featured on the local news network KGW: [http://tinyurl.com/KGWOHSU](http://tinyurl.com/KGWOHSU)

In January, the hot topic in the news was the unexpected higher rates of flu throughout the nation. In response, students held a one-day free flu clinic in Salem at the Kroc Center which was sponsored by Walgreens who provided influenza flu shots. With the help of 4 P1 students and 6 P2 students… (cont. on page 13)

April is Sexual Assault Awareness Month

Sarah Lemley, MPH, HA, Practice Manager at the OHSU Joseph B. Trainer Health & Wellness Center (formerly Student Health Service), and Campus Committee Member for the State of Oregon Attorney General's Sexual Assault Task Force

Every 2 minutes, someone in the U. S. is sexually assaulted. 1 out of every 6 American women has been the victim of an attempted or completed rape in her lifetime. About 1 in 33 American men have experienced an attempted or completed rape in their lifetime. The numbers above mask the problem as 54% of sexual assaults still go unreported. The sexual assault perpetrator is most likely known by the victim at least 2/3rds of the time ([www.rainn.org](http://www.rainn.org)).

The ramifications of sexual assault are far reaching. Those who are the victims of sexual assault are 3 times more likely to suffer from depression, 6 times more likely to suffer from post-traumatic stress disorder, 13 times more likely to abuse alcohol, 26 more times likely to abuse drugs, and 4 times more likely to contemplate suicide ([www.rainn.org](http://www.rainn.org)). If you have been the victim of sexual assault it is vital to remember that IT IS NOT YOUR FAULT and you are not alone. There are no excuses for sexual violence. The Portland Women’s Crisis Line has a 24/7 crisis line and can be reached at (503) 235-5333. The Sexual Assault Resource Center also has a 24-hour crisis line and can assist with the aftermath of being assaulted ranging from filing for Crime Victim’s Compensation to a 12 week long support group for adult female survivors (503) 640-5311. Lastly, the JBT Health & Wellness Center remains committed and available for all students and offers primary care and counseling services. We have several clinicians with specialized training in sexual assault and violence. JBT Health & Wellness Center can be reached at (503) 494-8665.

The JBT Health & Wellness Center will be highlighting Sexual Assault Awareness month with the campaign ‘Don’t Be That Guy.’ Please join us on Friday, April 26th to hear a special presentation entitled, ‘5 Tips For Medical Professionals Working With Sexual Assault Victims’ given by Assistant Dean of Students, Jyl Schaeffer, from Reed College. Ms. Shaffer is responsible for Sexual Assault Prevention and Response at Reed College and holds an MA in conflict management and is a NACP credentialed advocate. For further details please view our website at: [www.ohsu.edu/jbt-health](http://www.ohsu.edu/jbt-health).
Future OHSU
Karen Thiebes, 4th-Year Graduate Student

OHSU is celebrating its 125th year of medical education and service, but rather than simply applaud their past achievements, OHSU administrators are looking to discuss the challenges ahead. A 125th anniversary lecture series titled Imagine the Future is a platform for a provocative question: how will medicine and research evolve at OHSU?

Predicting the future of medicine, education and research is a tall order, but one that the presenters in the Imagine the Future series have tackled with insight and creativity. Entrepreneur and author Juan Enriquez kicked off the first lecture with an eye-opening reminder that humankind is a relatively recent addition to the Universe – noting that it would be a shame if our evolutionary journey ended with Paris Hilton.

The presentation gave way to a panel discussion, featuring distinguished OHSU faculty Brian Druker, M.D., Joe Gray, Ph.D., Robert Hitzemann, Ph.D. and Mary Stenzel-Poore, Ph.D. The panel questions addressed the ethical challenges the scientific community will face as patient care begins to include individual genome sequencing. Not surprisingly, the discussion ended with more questions than answers, but it was refreshing to see a variety of leaders in the OHSU community comment on the complex issues involved in the interpretation and protection of patients' genomic information.

The second lecture was a harbinger of doom – that is, doom for our current education structure. OHSU's School of Medicine Senior Associate Dean for Education, George Mejicano, M.D., warned that surging interest in online courses is akin to a comet that will impact our higher education system and cause dramatic changes. He challenged the notion that a standard college education will be the future... (cont. on page 13)

The Obligation to Communicate
David Edwards, 1st-Year Graduate Student

One of the greatest things about science, in my opinion, is its almost neurotic obsession with exactness. (Please excuse me for anthropomorphizing the entire discipline, but because science is impartial and, you know, not alive, it probably won’t mind).

Science—or scientists, rather—aren’t satisfied with vague approximations or educated guesses: they want the truth (and yes, Tom Cruise, they can handle the truth). They want to unwind everything, to shine flashlights around corners, to behave like mechanics and dismantle and rebuild the engines of nature until they can better understand how they work.

While the metaphors are somewhat muddled, the point still stands: science is a precise discipline. And often, when communicating science to non-scientists, that precision can become an obstacle.

As scientists, we must compete for the attention of an increasingly distracted audience who can only stomach small, preferably cat-video-based chunks of information. Science is difficult, confusing, and intricate, and laying everything out clearly for people to understand is an almost herculean task.

But that’s part of our responsibility as scientists. We are practitioners of a specialized craft, and this craft has profound implications in the lives of everyone around us; therefore, we must speak eloquently and passionately about it. This communication, I believe, is instrumental to our profession. It’s our obligation, and our privilege, to our fellow men and women.

For me, the fundamental part of communicating is knowing how to express yourself comfortably. This doesn’t mean talking to people with politician-like smoothness. Many scientists I know have crippling social awkwardness, and politicians themselves aren’t the greatest models of credibility. Nor does this mean understanding all the basic rules of speech and grammar, although surely a refresher course couldn’t hurt.

No, this means having confidence, confidence that you know your research and you know your audience. It’s something I’m working on myself. Recently, all 1st-year graduate students from the Program in Molecular and Cellular Biosciences were required to give brief... (cont. on page 14)
Why Does Healthcare Cost So Much?
Phil Han, 4th-Year Dental Student

Steven Brill’s Time magazine article (36 pages makes it the longest ever in the history of Time) should be required reading for anyone with an OHSU badge. Brill asks the following question: “why does healthcare cost so much?” This expose shows the gross profits generated from mark-ups in OTC medications and routine exams, and should infuriate consumers and providers alike. So-called “nonprofit” hospitals have seven figure salaries for executives, which curiously never stagnates. Pharmaceutical companies operate with enormous profits and defend such margins on the costs of research and development. But Brill points out that R&D is only about 12% of their operation, and can easily reduce costs to the consumer without affecting their bottom line.

Healthcare reform couldn’t even address costs simply because there is such a political and economic monopoly by medical device companies, pharmaceutical firms, and hospitals themselves. The ambulance industry earns more money than Hollywood. Insurance companies were on board with the Affordable Care Act simply because they would become more profitable from millions of new customers.

I cannot succinctly summarize Brill’s article. But the biggest fact that stuck with me is that Medicare is actually the most...(cont. on page 14)
Bridging the Cultural Divide
Creating Enrichment Opportunities for Future Bilingual Physicians

On January 5, 2013, twenty-one medical students attended a Future Bilingual Physician Training at OHSU. The half-day session was part of a year-long student initiative to provide future bilingual physicians with the skills to better serve patients with limited English proficiency.

Kalen Beck, Manager of Interpreter Services at OHSU, discusses the role of bilingual physicians.

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The project was started by Jason Bahk (MS4) with the support of Bianca Argueza (MS2), Shu Feng (MS2), and Dr. Jessica Flynn. They hope to make the training session part of a new medical student elective, in collaboration with Southwest Community Health Center, to match limited English speakers with bilingual medical student advocates, with the goal of improving longitudinal patient health. Six students are currently piloting the concept with Spanish, Korean, Farsi, and Russian speaking patients under Dr. Flynn’s guidance, with the hope of officially offering the elective next year.
Clippy, the unhelpful Microsoft Office “assistant.”
Comic by Kyle Ambert, PhD, recent graduate from the OHSU Department of Biomedical Informatics and Clinical Epidemiology.

Caption contest: send your best ideas for the explanation of this statue (found in the OHSU Kohler Pavilion sculpture garden) to giardino@ohsu.edu.
Photo: Jeannie Hunnicutt, 3rd-Year Graduate Student

On pop culture references
Prof: You should always start your research presentations with, “To infinity and beyond!”
Student: Wait, are you quoting Star Trek?
Prof: No, I’m quoting Toy Story!

On self-discipline
“Oh, you woke up today - that’s great!”

On neuroanatomy
“The medulla oblangata? I know – that’s from (1998 Adam Sandler comedy) Water Boy!”

On your manuscript
“This is not an actual sentence... and I’m not sure what the point is.”

On not being a jerk
“What does the ‘D’ in your middle name stand for... Dick?”

On administrative duties
(before a boring meeting): “fearful shudder”

On acquiring research funding
“Writing a grant is like dropping acid...”
Highlights from the 4th Annual Rho Chi Quiz Bowl

Jing Chen, 3rd-Year Pharmacy Student

The 4th Annual Quiz Bowl at OHSU, organized by the Beta Chapter of Rho Chi Honor Society at the OSU/OHSU College of Pharmacy, was held on April 4th, 2013. The vision of Rho Chi Honor Society is to achieve universal recognition of its members as intellectual leaders in pharmacy. Invitation to the Rho Chi Beta Chapter is based strictly on GPA.

Eight teams of three or four students from the pharmacy, nursing, and dental programs gathered in the Student Media Room at the Student Center to compete in a Jeopardy-style game with questions submitted by professors across the OHSU campus in various disciplines. Dr. Jodi McBride from the Department of Behavioral Neuroscience at OHSU and Dr. Theresa Filtz from the Department of Pharmaceutical Sciences at OSU read questions and judged the event. Categories such as anatomy & physiology, teeth & smiles, grab bag, general medicine, OHSU/history, medical abbreviations, nutrition, claim to fame, diseases & conditions, and pharmacology were included. Members of the first place team received $25 Starbucks gift cards, 2nd place team members received $20 Target gift cards, and the 3rd place team members each received $15 Subway gift cards.

After two exciting rounds of Jeopardy, and a final Jeopardy question where teams stayed conservative or risked their hard-earned points, winners were determined!

This was a great opportunity to meet students from other programs on campus, challenge each other, eat food from Chipotle and snacks, and to recognize that different members of the healthcare team bring valuable knowledge in caring for a patient. The Rho Chi Beta Chapter officers Jing Chen (President), Jana Pimentel (Vice President), and Leslie Minner (Historian) would like to give a special thanks to Dr. Jodi McBride and Dr. Theresa Filtz, the staff at the Student Center, including Karen Seresun and Heather Ennis, and professors who submitted questions to us for Jeopardy. Thank you to all of those that participated, and I hope you all had fun and learned something new!

First Place: 3rd-Year Dental Students
Brian Bollwitt, Courtney Hays, Jessica Henderson, JJ Ooi

Second Place: Accelerated Bachelor's Nursing/Nurse Midwifery Students
Coco Corbett, Priya Keane, Gwenivere Olsen, Abby Wagner

Third Place: 3rd-Year Pharmacy Students
Victor Armendariz, Kala Berkey, Ryan Kirkpatrick, Petrus Oliphant

A (Short) Story About the Portland Biotech Industry

David Edwards, 1st-Year Graduate Student

While applying to graduate school, during the nail-biting period after my interviews, I was cautioned against falling in love with the first school that accepted me. I was told to treat the application process like ABC's The Bachelor: Go on a whirlwind weekend adventure, meditate on the strengths and weaknesses of each candidate, then make the final decision. Well, I happily presented my rose to OHSU, and our relationship has never been stronger. But in learning more about this institution, I discovered a complex, contentious and fascinating story about biotechnology in Portland, one which I will only briefly outline here.

Portland, and Oregon in general, has a surprisingly small number of biotech companies and research institutions. In 2002, to address this problem, OHSU was approved for $200 million in state bonds (the Oregon Opportunity Act). Along with $300 million expected in private capital, they would use that money to construct new research buildings and recruit top scientists.

Part of the original plan included building the Collaborative Life Science Building (CLSB), a combination of classrooms and labs with an incubator of biotech start-up companies. But part of that vision never materialized. (cont. on pg. 14)
Lions, Tigers and Bears – Oh My! Model Organism Databases at OHSU

Jackie Wirz, PhD, Biomedical Research Specialist and Assistant Professor, OHSU Library

OHSU is home to many model organisms, ranging from the ubiquitous C57BL/6 mouse to zebrafish, moths, sheep and prairie voles. With so many options, sometimes it is difficult to locate the ideal transgenic model organism for your research. Luckily, the Ontology Development Group (ODG) at the OHSU Library is working to develop databases that facilitate discovery of model organisms both here at OHSU and across the nation. ODG needs your help to make these databases the most effective and efficient discovery tools!

What exactly is an ontology, and how does it help us find information? An ontology is a formalized framework of defined terms and relationships. Although identification of a single piece of data and describing how it is related to other information seems simplistic, the reality is that such nomenclature quickly becomes complex and overwhelming as the amount of data, relationships, and information grows. Ontologies help classify and organize the information in a manner that is easy to query, easy to discover and easy to share.

Ontologies are the driving force behind the eagle-i Network, an online resource of nearly 75,000 research resources from 25 different institutions across the nation (eagle-i.net). With listings about reagents, instruments, databases, core laboratories and more, when you use the database you can find all sorts of unique resources like the Pisces IV submarine at the Hawaii Undersea Research Laboratory or the tentacle snake animal model (erpeton tentaculatus) from the Catania Lab at Vanderbilt University. Speaking of animal models, the eagle-i database currently holds nearly 30,000 entries on model organisms – and they’d like you to contribute more. Researchers from ODG are looking to add OHSU model organisms, in order to add depth and breadth to the database. If you would like your animal models listed, send an e-mail to eaglei@ohsu.edu to get the process started. It only takes a few minutes of your time, and your contribution will potentially help another researcher find the perfect model organism for their research.

The Monarch Initiative, a new project from ODG, aims to link model organism systems to phenotypes, gene expression, genomics and other aspects of biomedical research. The goal is to provide easy-to-use tools to navigate the data landscape, and allow users to discover links between existing model systems and emerging research. This project is being led by OHSU in conjunction with the...

(continued on pg. 14)

Refuel at Noon

Lisa Schimmel, PhD, Clinical Psychologist, Joseph B. Trainer Health & Wellness Center

During the past two years, about 200 OHSU students have come to “Refuel at Noon” to experience mindful awareness at Student Health Service. Mindful awareness is paying attention to present moment experiences with openness, curiosity, and willingness to simply observe our own awareness. It is an excellent antidote to the stresses of modern times. It invites us to stop, breathe, observe, and connect with our inner experience. In mindful awareness we observe our experience in any given moment in a non-judgmental way apart from the pressures we feel from ourselves and others. Guided mindfulness at “Refuel at Noon” has taken the form of exercises like gentle breathing, mindful eating, autogenic relaxation, special place imagery, loving kindness meditation, and forgiveness meditation.

In our incredibly busy lives it can feel impossible to make time to both relax and energize. “Refuel at Noon” offers a calm space to take that much-needed break away from stress. All you need to bring with you is you. We will walk you through simple and easy steps to relax through meditation and other mindfulness experiences to enhance your self-care. “Refuel at Noon” meets on Mondays in Baird Hall Room 6 from 12:15 p.m. – 12:45 p.m. and is led by Jack Crossen, PhD, or Lisa Schimmel, PhD.
fMRI at OHSU (cont. from page 6)

...As part of the Methamphetamine Abuse Research Center (MARC), the Hoffman Laboratory is applying this to the brains of volunteers who have struggled with addiction, specifically to methamphetamine. As the MRI runs, the subjects are shown a series of “discounting tasks” where the individual is essentially offered choices between the odds of receiving varying amounts of money at varying delays. The group is collecting data about regions of the brain associated with risk and reward, with the theory that these individuals are likely to be more sensitive to amounts and delays and less sensitive to risk. You might stimulate these same regions by asking yourself which is better: a 50% chance of $20 now, or a 100% chance of 100$ in 6 months?

In my experience, relying to the clinical medicine is an identifying goal of the OHSU community effort. In keeping with this fundamental underpinning, one of the ultimate goals is to apply fMRI as a diagnostic modality, especially in psychiatric conditions. It is already used clinically by neurosurgeons to attempt to ascertain functional areas of the brain prior to some procedures. There is a bevy of interesting work involving MRI going on at OHSU right now at the AIRC (Advanced Imaging Research Center) that houses the MRI machines.

Dr. Aaron Janowsky is collaborating with Dr. Hoffman to study a molecule that can enhance dopamine transporter imaging using Magnetic Resonance Spectroscopy. The idea is to produce a molecule that can be detected with spectroscopy, allowing imaging that is normally done with PET to be performed with fMRI. What is the utility? Such imaging would avoid the radiation inherent to PET, not only allowing subjects to avoid the caveats of PET, but also allowing researchers to avoid worries over approval of radiation in studies. This kind of innovation can considerably broaden and hasten work in the field.

Likewise, Dr. Bill Rooney’s lab is using subjects from Dr. Hoffman’s neuroimaging studies to explore the accumulation of iron in the caudate (this process is part of aging, and the theory is that it is accelerated by methamphetamine abuse). This is being imaged with MRI again using a T2 effect due to field inhomogeneity caused by non-heme iron that accumulates in neurons due to free intracellular dopamine that is blocked from entering vesicles by methamphetamine’s occupancy.

MRI is a fascinating expression of the mind’s desire to see itself, and fMRI an even more ambitious desire to see itself in action. The elective in fMRI proved to be an excellent gateway to learning more about the MRI we use every day.
One Cell At A Time (cont. from page 1)*

...In high school, I supplemented graded feedback with weekly successes on the ice rink, the soccer field, or the volleyball court. In college, I stoked the competitive fire by competing on our college hockey team and in weekly intramurals. This meant that a poor test performance, or a competitive loss could be volleyed by a decent grade in another class or a win on the ice. These multiple pathways to success were important for preventing the negative feedback loop by which a series of failures seemed to always beget another. But the greater independence inherent in obtaining a graduate degree is accompanied by infrequent and inconsistent feedback, now limited to grant and manuscript submissions, each taking months before feedback is received. While many find the greater independence refreshing, we also sacrifice the opportunity to experience those mini victories to which we had become conditioned.

So, to maintain motivation, happiness, and sanity, an adjustment to our approach must be made. Part of my strategy was to pursue minor victories elsewhere. In anticipation of this impending transition to a graduate student lifestyle three and half years ago, I picked up running as a hobby (when in Rome, right?). Initially, I was motivated by the same things that dominated so much of my life: a solid performance on race day. Wins were motivated by the same things that dominated so much of my life: a solid performance on race day. Wins to which we had become conditioned. But one morning, my thinking shifted that would impact my approach to science and my ability to endure the challenges inherent in graduate school.

It was a standard Thursday morning in late summer: out the door by 5:20am for a moderate 14-mile loop from NW to SE. A few stars were still visible despite a moon bright enough to expose the boundaries of the Springwater Corridor. With a couple of warm-up miles behind me, I dropped down closer to marathon race pace. Fresh air filled my lungs and my legs felt fresh and springy. The sky began to turn pink, then glow orange. My pace quickened to a marathon tempo as I entered the long flat stretch just south of OMSI. Soon I embraced a half-marathon race pace and approached threshold. I knew I shouldn’t be able to maintain it too long; I welcomed the battle. Miles 7 and 8 flew by but by 9, my lungs felt deprived and my stride became labored. By mile 10, the residual effects of not eating or drinking before setting off became apparent. I stopped noticing detail in my surroundings. The bitter taste of a dry mouth was trumped by the sweat that stung my eyes in the 50 degree heat. At 11.5 miles, a new strategy took hold: no longer was it about completing the workout, or even the next mile, but instead, simply about making it to the next streetlight. I passed the streetlight. Then, it became about making it to the mailbox 200 yards ahead. I passed the mailbox. My brain reminded me that I was dehydrated and glycogen stores were running extremely thin. I kept thinking, “make it to the next bench, to the tree in the distance, up the hill, down the hill…” Einstein was right, time is relative. What felt like 30 minutes took no longer than 8. My pace quickened despite the pain. There’s always more.

I pulled my foot off the gas as I crossed the far end of 14th avenue and coasted through the cool-down, reflecting on the past 13 miles and the strategies involved to get through the difficult tempo portion. I did not succeed by ruminating on a broad goal. Instead, success came from the creation and fulfillment of minor challenges that on their own meant nothing, but when strung together, enabled the completion of a much larger and demanding goal. This was to become my approach to science and surviving the metaphorical sh*t storm of failures or stagnant success that had been defining this stage of my graduate career. Not all grants are going to be funded, not all manuscripts accepted. Instead of dwelling solely on the failures, the trick for me is to gain excitement and motivation from completing the next experiment or creating a useful figure. Of course, small goals are only engendered by clearly formulated larger ones. But when evaluating our own progress, the fulfillment of more immediate checkpoints has been motivating and refreshing.

There are many lessons I have learned on the pavement or the trails that have influenced my approach to science. Likewise, science has instilled a dedication to effort and the development of a strong final product that dictates my approach to running. In both cases, it always comes down to advice a buddy once told me when my motivation was depleted: true champions battle alone. Whether it’s in science or on the road, if our pleasure is solely driven by feedback from others, it’s going to be a long and possibly unsatisfying haul. We must be prepared to put in the effort, even if it means no one else is there to pat us on the back, so that when our final product is ready, we have no regrets and we can press on with vigor, regardless of the outcome.

I arrived to the lab by 8:15 with renewed motivation. Another day of a seemingly endless succession of experiments that would form one of many figures for a pending manuscript submission. I cracked my neck, loosened my shoulders and got to work, focusing on one cell at a time.

*This piece originally appeared on OHSU StudentSpeak. The StudentSpeak blog, which features written perspectives from OHSU students across several diverse programs, can be accessed at www.ohsu.edu/blogs/studentspeak/.
Future OHSU (cont. from page 5)

…measure of academic aptitude. Why pay for a degree when the world’s best professors can educate and evaluate thousands of students in a virtual classroom at minimal cost? Dr. Mejicano’s suggestion that OHSU will need to adapt to include online accreditation is provocative, but timely. Online education companies such as EdX, Udacity and Coursea are experiencing a steady rise in acceptance and acclaim.

In February, Pulitzer Prize winner Amanda Bennett turned the Imagine Future discussion to patient care. Bennett shared insights from her recent book, “The Cost of Hope,” which details her journey navigating the U.S. health care system through the lens of her husband’s battle with cancer. By combining her personal experiences with journalistic insight, Bennett effectively highlighted areas in which our current health care system obscures the cost and logic in patient treatment. Time will tell whether OHSU and other providers will evolve to alleviate costs and excess medical testing.

In the fourth lecture, Alan E. Guttmacher, M.D., a prominent pediatric physician and geneticist, explored how advances in understanding the human genome, the human microbiome, epigenetics and chemical genomics will affect a physician’s ability to care for a patient. He detailed the treatment of an imaginary future patient, “Sue,” whose prenatal genetic screening paves the way for her doctor to effectively diagnose and prevent ailments from asthma to Crohn’s disease. In Dr. Guttmacher’s opinion, the impact of today’s research on future treatment will be transformative.

However, as basic research continues to improve medicine, technological innovation is changing the structure of patient care. Presenter Eric Dishman, an Intel fellow and general manager, made a compelling case for shifting patient treatment from an institutionalized mainframe to technology-supported home care. The truth is that our current health care system is unaffordable and unsustainable and radical changes will be needed to maintain and improve patient care. Dishman reasoned that as the population ages and medical costs soar, innovations that focus on patient convenience and customization will be the future of basic medicine.

The Imagine Future series has proven to be an effective format for discussing the future of medicine, research and education. As busy students, we often find it hard to squeeze in another activity, but I encourage student attendance for the remaining five lectures (www.ohsu.edu/125/lectures). Remarkable leaders in medicine and research will take the stage with innovative ideas that will challenge and inspire you to contemplate the future of OHSU.

Pharmacy Student Updates (cont. from page 4)

…169 community members were vaccinated by students. It was a great opportunity for students to hone their immunization skills and bring awareness to the seriousness of the flu. Their great work was featured in the Statesman Journal: http://tinyurl.com/SalemOHSU

For the second year, pharmacy students of the Entrepreneurial Academy and National Community Pharmacist Association (NCPA) organized the “Breakin’ Down the MU 2 – Dancing Towards Personal Health” on the Corvallis Campus. This event included a health fair open to the public followed by a breakdance competition. Immunizations, blood pressures, blood glucose readings and Medication Therapy Management (MTM) were provided to the public. In all, over 400 guests attended this fun and exciting event.

In 2006, the PVAMC cardiology department established a referral-based multidisciplinary heart failure (HF) clinic that is scheduled for one afternoon per week and is supervised by a cardiologist. This clinic offers a unique opportunity for PharmD students in understanding the intricacies of managing HF patients with multiple comorbidities. Currently, a team of third-year pharmacy students, Amy Higginson, Michelle Pfeifer, Angela Roberti, and Stellar Yi volunteer in the clinic and provide direct patient care under the supervision of Dr. Harleen Singh, PharmD. The students assist with patient interviews, physical assessment and drug reconciliation. Students help to identify gaps in HF care and recommend evidence-based therapies. All students document their interventions in a chart note and monitor patient outcomes. These students are also involved in quality assurance and improvement projects in HF management, which are presented at national meetings. This early exposure to managing patients in a multidisciplinary setting prepares the students for their fourth-year experiential rotations by strengthening their communication and critical thinking skills.

Dr. Jessina McGregor’s, PhD research group is currently researching hospital-associated urinary tract infections (UTIs). Interest in hospital-associated UTIs has grown since the passage of the Affordable Care Act, which will stop reimbursements by Medicare and Medicaid for Health Care-Acquired Conditions like catheter-associated UTI. Currently, third-year pharmacy students Arrash Vahidi and Amanda Trieu are assessing the OHSU inpatient population, and Kylee Kastelic and Andrea Stewart are assessing the Portland VA inpatient population. Both groups are currently in the early stages of data collection by chart reviews, and plan to present their findings at upcoming regional and national meetings.
The Obligation to Communicate (cont. from page 5)*

...ten-minute presentations to one another about our rotation projects. Nothing fancy, I thought: Just a short summary of your research in front of your friends.

Even though I had practiced my talk many times, I still got flustered, waving my hands like airplane propellers and saying “so” like some gossipy seamstress. I might be relatively comfortable behind the keyboard, but I’m still deeply uncomfortable in front of other people.

This presentation crystallized for me the idea that being good at communicating science—in writing, presenting, or even just chatting—is an unfinished process. We should take the concept of science communication as seriously as our research itself, unwinding it, shining a light on our weaknesses, and building and rebuilding on our strengths.

One of my favorite quotes is from an old Chinese proverb: “A book is like a garden carried in the pocket.” What a wonderful analogy to molecular biology, I like to think, that all the complexity and fascination and beauty in our world can be captured and preserved in something so small.

* A version of this piece originally appeared on OHSU StudentSpeak. The StudentSpeak blog, which features written perspectives from OHSU students across several diverse programs, can be accessed at www.ohsu.edu/blogs/studentspeak.

Why Does Healthcare Cost So Much? (cont. from page 6)

...efficient entity in delivering healthcare. It controls costs by leveraging for cheaper drugs and the most cost effective way to deliver services. Providers rightly complain about relatively low compensation from Medicare. However, hospitals are still profitable and somehow administrators keep getting pay raises that aren’t commensurate with the rate at which doctors get promotions. I would be curious what the profits of companies like Medpro or Zimmer are.

The media can keep throwing fire to debate healthcare reform and whether to repeal it because it’s unfair to impose these new taxes. But at some point we have to ask how is it ethical to charge 300 dollars for a titanium screw that you can buy for 2 bucks at the local hardware store? Currently, customers don’t have any choice in the product they buy and they have only one major insurance that can advocate for lower prices and more efficient delivery of care.

Simply put, there is no incentive and competition to change it, because so much money can be lost if we changed it.

I am obviously biased. Healthcare providers in training are being squeezed by rapidly rising tuition and a weak economy. Attempts to rein in costs get passed onto the consumer because no one is willing to take a pinch. There are no easy solutions to this enormous problem. But if everyone will not sacrifice anything at all, nothing will change.

A (Short) Story About Portland Biotech (cont. from page 9)

...OHSU received less funding than expected (both from the state legislature and from nervous investors), so they eliminated space for the biotech incubator.

There is a debate whether Portland’s biotech industry could ever become as successful as that of San Diego or Seattle. On one hand, Portland economist Joe Cortright believes that biotech companies, even if created locally, will cluster with other successful biotech companies, meaning that Portland is already too late in establishing itself.

On the other hand, executive director of the Oregon Bioscience Association Dennis McNannay points toward the growth of bioscience jobs in Oregon and believes that their resilience despite the recession will propel the local industry forward.

Even if you’re not planning on going into industry, it still behooves you, the prototypical grad student, to learn about this business. After all, you’re now committed to this institution (pardon the asylum reference), and you should know intimately about its history, its trajectory, and everything in between.

I’m not saying you should be able to finish each other’s sentences, but finished sentences would certainly help the dissertation-writing process.

The author recommends reading two articles in the Portland Tribune: “Biotech’s broken promise” and “Bioscience still producing new jobs.” These present both sides of the Portland biotech industry debate. Two other articles, “The biotech contrarian” in The Scientist and “Banking on Biotech” from Jim Pasero in Brainstorm NW, provide essential historical context.

Model Organisms Databases at OHSU (cont. from page 10)

...the Lawrence Berkeley National Laboratory, the University of California San Diego and the University of Pittsburgh. Stay tuned to see how this innovative database develops!

With so much groundbreaking work being developed right here, ODG hopes to make OHSU a leader in structured databases that facilitate biomedical discovery. For more information on these or other projects being led by our ontologists, check out the Library Blog at www.ohsu.edu/library/librarynotes.