



Vol. IV Issue I

HSA TIMES

Editor-in-Chief: Nishtha Mistry

Advisor: Michael Wiechert

Contact: hsatimes@gmail.com

what's inside

- ————— □
01 - 02 *"Treating Taboos"*
 Pizza Party Pictures
- ————— □
03 **Perspectives:**
 "The Problem with Healthcare Security"
- ————— □
04 - 05 **Student Journals:**
 "Camp Cardiac"
 and *"A 168-Hour Journey in Medicine"*
- ————— □
05 - 06 **HSA Experiences:**
 Chino Valley Medical Center:
 "Where Opportunities are Born"
 Banquet Pictures
- ————— □
07 Crossword



Dr. Samira's medical office in Karachi, Pakistan | Photographed by Najia Saleem

Treating Taboos

The Islamic Republic of Pakistan is a developing nation that borders India and Afghanistan with an overwhelmingly conservative Muslim population. Last summer, I had the opportunity to visit Pakistan and observe Dr. Samira Tariq's clinic in the bustling city of Karachi. Her clinic deserves our special attention because she provides basic maternal and reproductive healthcare in a society where sex and menstruation are taboos.

When I arrived at her clinic, I witnessed a concrete building with curtains, not doors, and people lined up down the street. However, the real spectacle was inside where there were people of all ages from infants to the elderly alongside a few beds, benches and a dispensary for prescription drugs. Dr. Tariq Sabir, Dr. Samira's husband and co-owner of the clinic, was surrounded by staff and patients, speaking rapidly in Urdu. In the very back of the clinic, there was a separate office where Dr. Samira serviced her female patients.

When Dr. Samira arrived to begin her shift, there was already a line of four women in black burkas, an outer garment that covers Muslim women's face and body. Typically, she would call in one patient at a time, ask for her name and her husband's name, listen to their complaint and provide a diagnosis and treatment promptly. Much of the time, the only equipment she would utilize would be her stethoscope and a blood pressure pump as she runs an outpatient clinic, meaning she does not service patients who require overnight care or a bed. However, the services she provides are rare in Pakistan. Many women come to Dr. Samira to discuss their infertility because they feel comfortable talking to a female physician, and she transforms their life by suggesting and referring to treatments they can undergo. Then, throughout their pregnancy until the 28th week, Dr. Samira offers prenatal care, and she typically charges them 100 rupees, or \$1, for her consultation!

Treating Taboos *continued*

The price does not indicate the lack of disease in her patients as most of her patients suffered from nutritional deficiencies during their pregnancy as the area which Dr. Samira serves is extremely poor. Nutritional deficiencies not only pose harm to the mother but can affect the development of the baby.

However, nutritional deficiencies were the least of one patient's problem who sought help from Dr. Samira. A pregnant woman came into the clinic asking for sleep medication as she had been unable to sleep for the past few days as her husband had died in a motorcycle accident recently. Dr. Samira treated the woman with compassion and offered her a prescription for sleep medication. In my opinion, the patient was only able to be treated in such a fashion because of Dr. Samira's gender as the patient felt Dr. Samira could empathize with her being a mother and wife as well. In Pakistan, a conservative society where there are few practicing female physicians, Dr. Samira makes a difference by treating taboos.

Najia Saleem | Grade 11



HSA Pizza Party

September 5, 2018



For more pictures,
visit the Gallery on
the website!



Photographed by
Ayesha Karim

The Problem with Healthcare Security

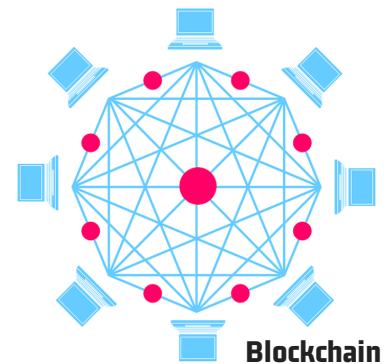
A man sits in a dark room, the glow of a computer screen reflects off his glasses, giving minimal illumination to the dark room. He rubs his eyes and blinks several times, trying to fight the fatigue of being glued to the screen for hours on end. All his attention was focused on a black box in the center of his desktop; he was carefully eyeing the hundreds of lines of code vomiting onto the terminal. Among the program running were thousands of folders of data. To an untrained eye, deciphering the mess of letters and numbers was an impossible enigma, but not for him. He typed out lines of code and then hit enter. The security dam had broken, and thousands of gigabytes of data poured in, almost crashing the program. The login screen loaded, spelling out the blue interface of Kaiser Permanente's patient information directory. He sat back, kicking his feet up on his desk and interlocking his hands behind his head.

Welcome to the 21st century, where the world as we know it is connected by a virtual enigma known as the internet. One click can connect you anywhere from Alaska to Australia, and this has forever changed our lives and the lives of future generations. However, the magnificence of the internet comes at a price with the risk of digital theft by anonymous individuals. We must learn to balance the risks posed by the technology and the wonderous accomplishments it can allow us to achieve.

In the field of healthcare, a wonderous accomplishment that technology can help us realize is organized patient medical information through a shared network. This would replace the disharmonious system used by many healthcare organizations today. For instance, in Boston, over two dozen computer systems keep track of patient information. This unsynchronized gaggle of computers poses a serious efficacy issue for physicians trying to obtain patient histories for new patients that can be the matter between life and death. In addition to being inefficient, it is woefully undefended. According to the *HIPAA Journal*, 2015 was a record year for healthcare breaches with more than 113 million records compromised, suggesting that healthcare organizations struggle to keep their databases safe.

Fear naught, technology always finds a way. Enter Bitcoin, the world's first virtual, de-centralized currency. Unlike traditional legal tenders issued by governments, which are monitored by a central authority, Bitcoin's transactions are overseen by a network of volunteers. To make sure Bitcoin stays stable, reliable and free of foul play, it utilizes a technology called blockchain. A blockchain is an ever-growing list of Bitcoin transactions. Whenever a transaction is made, the list is updated and verified by the network of volunteers. This method is safe and secure thanks to comprehensive encryption.

Recently, health organizations have been toying with the idea of using blockchain-like systems to protect health information. A blockchain system's security and pragmatic design could greatly benefit healthcare providers. It would create a shared network that multiple health organizations could access quickly, and it's already come into play. The Centers for Disease Control and Prevention (CDC) has used a blockchain to track the opioid epidemic while the pharmaceutical industry has used it to track drug effectiveness. Right now, several companies, including MediLedger and CareChain, have begun researching and testing blockchain systems for the healthcare industry. With a little work, a safe, fast and secure blockchain information system could become a reality in the near future.



Ryan Lo | Grade 10

Camp Cardiac

The heart is one of the most fascinating organs in the body. Every day your heart pumps 2,000 gallons of blood through a system of blood vessels over 60,000 miles long. I had the opportunity to dive deeper into this masterpiece for a week at UCI's Medical Center from July 30 – August 3. Camp Cardiac, run by medical students on the campus, was made in order to expose high school students into the world of cardiology.

We were handed surgical instruments on the first day, cutting into the heart of a sheep and being able to see firsthand how our blood flows through our heart in order to provide our bodies with the oxygen and nutrients it needs. The sensation of holding the very object that determines your life was an eye-opener for all of us, sparking our interest into learning more the next four days. We were heavily exposed to many different medical professionals throughout the week, ranging from Interventional Cardiologists to Vascular Surgeons. In addition to explaining numerous aspects about their career, they tried to relate everything back to us and how we could start working up towards our goals. As Madison Teets, a 16-year old attendee stated, "What stood out to me was the people who talked about themselves and answered questions related to their daily life and path. It helped me understand that people get to where they are through different paths and reassured me in how I'm living my life right now."

The camp counselors, who were first year medical students, not only educated us about basic human anatomy but also opened up about their own experiences in high school and college. Providing us with a comfortable and open learning environment, we were able to retrieve all the answers to any questions that have been at the back of our minds since we first entered high school. As Anh Pham, a 16-year old attendee, stated, "Everything felt right and I felt so comfortable around everyone...I learned a lot." They emphasized the fact that school isn't easy, and it doesn't get easier. However, with the right mindset, you can achieve anything.

My personal experience at camp was something I'll never forget. The memories formed and the new connections I have with people will benefit me for the rest of my life. Receiving that reassurance about the path I was on alleviated so much pressure I had put on myself and made me a genuinely happier and goal-oriented person. In addition to becoming CPR certified and knowing how to do proper cardiac and pulmonary exams, I grew as a student, a future medical student to be exact. As one of the medical students said themselves, "If you want to achieve your goals bad enough, no matter what, it's going to happen one way or another." You just have to have your mind, and heart, set on it.



Blood Pressure | Photographed by Camp Counselor



Sheep Heart | Photographed by Amy Do

Nishtha Mistry | Grade 11



"Block" Chain

Submitted by Aaron Choi | Grade 9

A 168-Hour Journey in Medicine

On July 21st, in the middle of the heart of Summer 2018, I embarked on a 168-hour journey that would define my view of the future. I was fortunate enough to be nominated by my biomedical sciences teacher to go to the National Youth Leadership Forum: Medicine, a national nine-day conference about all things medicine. Held in the epicenter of the UCLA campus, NYLF was life-changing experience I will cherish forever.

Along with 200 other students, I collected knowledge from med students, instructors and doctors from all levels of training. From the intricate inner-workings of surgery to mastering clinical skills, the program guided me through the fabric of healthcare. Some days I spent walking around awestruck while visiting prestigious medical schools. Others were spent with my sleeves rolled up in medical skills sessions. In between the astonishment of being so close with my passion, I enjoyed hanging with like-minded peers also interested in medicine.

I was blessed with the opportunity to close out the session with a quick three-minute speech about my time there. The applause was dizzying. I miss that week with all my heart.



Ryan Lo | Grade 10



Chino Valley Medical Center: Where Opportunities are Born



The Interns | Photographed by Hospital Employee

An amputated finger, a woman having constant seizures, a girl forgetting her own name. These are the types of realities that I experienced at Chino Valley Medical Center. When I first started interning, I had no idea what a life-changing experience this summer would be. As a prospective nurse, taking care of patients was and is the most exciting opportunity.

One of our designated tasks was to change batteries on patients' heart monitors. At the end of my shift one day, I went into a room to change the batteries. The patient I was helping started tearing up as soon as I entered. I immediately sat next to her and held her hand, asking her what was wrong. I sat with her until she calmed down, then proceeded to bring her a blanket and water. As I was leaving the room, an overwhelming sense of accomplishment hit me. I had just taken care of my first patient, and I couldn't wait to do it for the rest of my life! However, I wasn't the only one who experienced a life-changing event.

Chino Valley Medical Center: Where Opportunities are Born *continued*

Jia Albaran (11th grade) was working in the ICU when a patient who suffered from lung and throat cancer died on his bed. Jia assisted in cleaning the room and bagging the patient's body. She described it as a "truly amazing and generally life-altering experience." Chino Valley Medical Center provided all of us interns an incredible hands-on training for the field that we all look forward to entering. Mitwa Joshi (11th grade) performed an ultrasound on a patient, Ryan Lo (10th grade) assisted a mentally ill patient in calming down, and I cleaned a man's deep and bloody wounds with ointment and gauze. We all observed and participated in events that truly exposed us to the medical field, and I can honestly say that we finished this summer as changed people.

Ayesha Karim | Grade 11



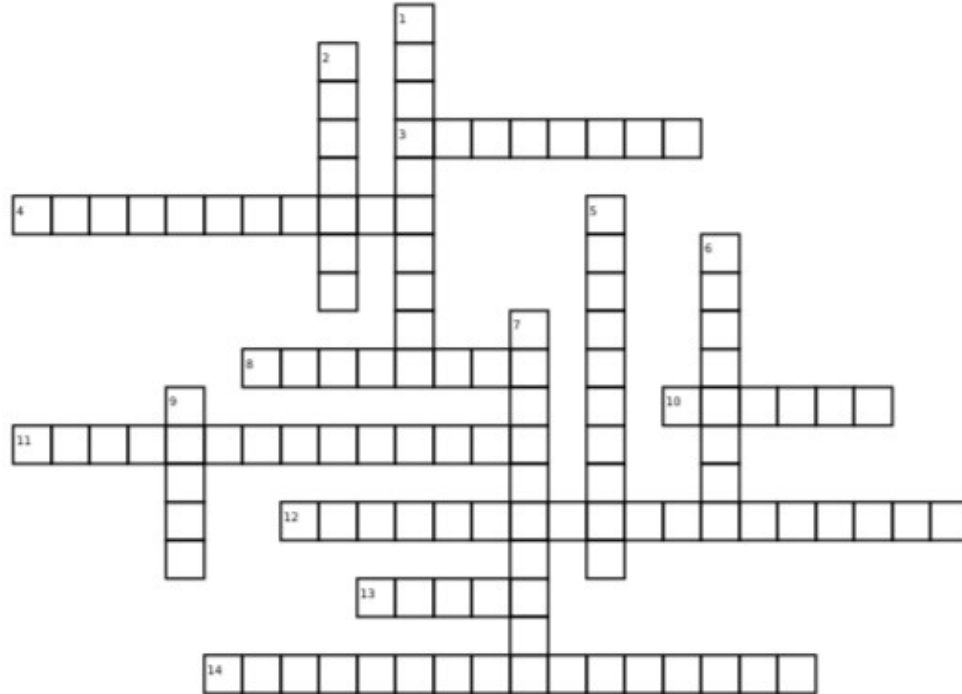
HSA Banquet May 18, 2018

Photographed
by Ayesha
Karim

More Pictures
located in the
Gallery on the
website!



“Blockchain” and “Treating Taboos” Crossword Puzzle



Down:

1. Starts with "m"; company that is experimenting to use blockchain systems in healthcare
2. First virtual currency
5. The transaction of Bitcoin is managed by _____
6. Having _____ systems keep track of patient information is inefficient and unsafe
7. Bitcoin transactions
9. An act that protects patients' privacy in the medical world

Across:

3. Starts with "I"; Connects the world through information and communication
4. One of the only pieces of equipment Dr. Samira uses to treat her patients
8. Dr. Samira Tariq provides _____ and reproductive healthcare
10. 100 _____ was the cost of visiting Dr. Samira's clinic
11. The CDC used a blockchain system to track this; (two words)
12. Caused 113 million records to be negatively impacted in 2015 (two words)
13. Piece of clothing that covers Muslim women's face and body
14. A clinic that doesn't service patients who need to stay overnight; (two words)

Stay Connected

<https://sites.google.com/view/hsatimes>