

# The Cornell Healthcare Review

*Sharing Innovations in Medicine*



SUMMER 2020



Dear readers,

We are pleased to share with you our Summer 2020 “mini-edition,” a short collection of articles showcasing students’ summer experiences during the COVID-19 pandemic. While the past few months have consisted of new experiences and emotions for many of us, we hope that these articles will reveal the resiliency, optimism, and determination that characterizes our Cornell community.

This semester, we will continue expanding our repertoire by providing new opportunities to showcase student artwork, as well as a more diverse array of writing styles and forms. We hope to grow our publication as an accessible source of relevant and timely information on healthcare and innovation, all while fostering an appreciation for the importance of reputable scientific communication.

We are excited to work alongside our largest cohort of writers and editors to date, and look forward to all that this semester has to offer.

Sincerely,

**Journey Wise**  
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Vice President of Editing

**Priya Mukhi**  
Vice President of Publishing

**Candice Mahadeo**  
Treasurer

**Caroline Lee**  
Publicity Chair

**Lauren Rivera**  
Social Chair

**Angella Lee**  
Health Officer Liaison



In honor of  
Breast Cancer Awareness Month

# STAFF

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<b>VP of Publishing</b>	Priya Mukhi
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## Contributing Artist

Carina Garcia



# MEET OUR EXECUTIVE BOARD

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## **Journey Wise**

### *President*

Journey is a senior studying Science & Technology Studies in the College of Arts and Sciences. She is passionate about the intersection of emerging technology and medical humanities, and hopes to combine these interests in a career as a clinician-researcher. On campus, Journey is involved in metabolic disease research with the Cummings Lab, the Students Helping Students tutoring project, and the Cornell Outing Club. In her free time, she enjoys spending time with friends and partaking in outdoor adventures that occasionally end up in disaster. Journey is excited to be working alongside such a talented and driven team, and hopes to foster an accepting and supportive working environment for all CHR members.

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## **Grace Wang**

### *Vice President of Editing*

Grace is a junior studying Policy, Analysis and Management in the College of Human Ecology. On campus, Grace is involved in the Young Researchers Program and Women in Healthcare Leadership. Outside of school, she is an avid runner and fan-favorite of local eateries! As someone who enjoys reading and writing about healthcare literature, Grace is fascinated by the ever-changing landscape of healthcare innovation, which is what prompted her to join CHR. Specifically, Grace is interested in developing an equitable healthcare system and increasing access to healthcare in rural areas. In the future, she sees herself pursuing a career in healthcare and pharmaceutical consulting. This semester, Grace is excited to grow CHR's digital platform, beginning with the launch of a new website and Instagram!

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## **Priya Mukhi**

### *Vice President of Publishing*

Priya is a sophomore studying Human Biology, Health, and Society in the College of Human Ecology. She is passionate about public health, community nutrition, health-environment interactions, and health communication. On campus, Priya is also involved with the Society for India, Creme de Cornell, APO Service Fraternity, her sorority, and the Cornell Tradition Fellowship. She loves to cook, bake, read, and watch sitcoms & Bollywood movies in her free time. In the future, Priya hopes to combine her interests in public health research and communication with medicine and earn her MD-MPH. As the VP of Publishing, Priya is looking forward to highlighting student art in our publications this semester, and collaborating with writers to help them publish meaningful and engaging articles.

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## **Candice Mahadeo**

### *Treasurer*

Candice is a junior studying Applied Economics and Management at the Dyson School within the Cornell SC Johnson College of Business. She is a non-traditional student who took time off from Cornell to work in various fields, including healthcare administration. Candice would like to continue working in healthcare or the health food industry doing strategy and marketing. Outside of CHR, she writes for Creme de Cornell, leads the D&I Certification Program for the Cornell D&I Business Advisory Council, and co-founded the Non-Traditional Student Organization at Cornell. While she works on CHR's finances as the Treasurer, she loves being able to work with our writers on their articles as an editor.

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# MEET OUR EXECUTIVE BOARD

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## **Caroline Lee**

### *Publicity Chair*

Caroline is a junior studying Biology & Society in the College of Arts and Sciences. She hopes to pursue a minor in Nutritional Sciences. Outside of CHR, Caroline enjoys competing with Cornell's Division I Fencing Team and exploring genetics research in the Wolfner Lab.

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## **Lauren Rivera**

### *Social Chair*

Lauren is a junior studying Human Biology, Health, and Society in the College of Human Ecology. She is passionate about helping those in need and aspires to be a strong advocate for patients as a clinician in the future. Outside of CHR, Lauren is involved in Operation D.E.E.P, research in the Levitsky Obesity Lab, Cornell Taekwondo, and her sorority. Lauren has been involved in CHR since her freshman year and is excited to expand our online presence this semester!

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## **Angella Lee**

### *Health Officer Liaison*

Angella is a sophomore studying Human Biology, Health and Society in the College of Human Ecology. Currently, she is thinking of pursuing an MD-PhD and becoming a psychiatrist who studies the same conditions she is treating. In particular, she is interested in understanding the influence of nutrition on neurological diseases. With the University of British Columbia, Angella is a member of the Human Nutrition and Vitamin Metabolism Research Group where she is part of a study looking at toddler and maternal nutrition and its impact on several markers for health. In her free time, Angella can be found reading psychology books, editing photos, bullet journaling, writing cookbooks (feel free to ask her how this happened) and watering her 16 pots of plants. She is so excited to meet as many writers as she can this year! Her goal is to work collaboratively alongside writers as a second pair of eyes, and ensure that there is clear communication throughout the process. She is looking forward to seeing CHR grow.

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## **Carina Garcia**

### *Contributing Artist*

Carina is sophomore studying Biological Sciences in the College of Arts and Sciences. She is pursuing a pre-health track and aspires to become a physician. She is both a writer and artist for CHR. The E-Board is immensely appreciative of her contributions to our Summer 2020 publication.

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# Telemedicine: The Next Frontier in Healthcare

by Amrit Hingorani, Biological & Nutritional Sciences '20

This past May, similar to other recent graduates who found themselves thrust into a pandemic-stricken world and unsure of what their next move would be, I looked to virtual opportunities that offered both flexibility and the chance to try something new. After stumbling upon a few internship offers at telemedicine startups, I chose to work for two different companies this summer. The first company, Physician Promise, provides physician consultations and prescriptions for necessary medications related to men's and women's health issues. The second company, AltereCares, focuses on creating a community to aid families who take care of elderly parents with a wide range of conditions including diabetes, strokes, and heart attacks.

To provide a brief background, telemedicine originated in the late 1960s when NASA and the Nebraska Psychiatric Institute used closed-circuit television links to provide psychiatric consultations for patients [1]. With the dramatic improvement of technology in recent decades, the telehealth arena has attracted significant financial investment and policy focus. Already a multi-billion dollar industry prior to COVID-19, the pandemic has only served to accelerate the transition to telehealth. With telemedicine platforms, providers can use remote visits to simultaneously provide patient care and adhere to public health guidelines. By 2025, the telemedicine industry is projected to increase sevenfold, what some refer to as “a tsunami of growth” [2].

Throughout my summer, I became aware of many of the unique elements of the startup industry and the particular challenges of working in the digital healthcare space. As companies must not only protect themselves, but also their physicians, awareness of privacy concerns and liability protection issues prove integral to supporting a functioning telemedicine business. To complicate matters further, regulation of telemedicine companies varies state-by-state and thus requires state-specific plans to roll-out provision of care. As in any industry, advertising also plays a large role in a companies' ability to breakthrough in the digital healthcare realm. Both Physician Promise and AltereCares partook in crowdfunding and advertising with multiple platforms. Most of their marketing focused on educating the general public on the benefits of digital healthcare as only a small portion of individuals have had prior exposure to digital consultations and medical forum-based communities.

The major appeal of telemedicine is its ability to offer care from the comfort of the patient's own home, reduce waiting times, and allow for increased access to the medical provider due to ease of appointment scheduling. That being said, I personally believe that telehealth remains best in a supporting role rather than as an alternative for in-person consultations, as it eliminates what many refer to as the “personal touch,” or the face-to-face physician-patient interaction. Even on video consultations,



physicians lose out on the personal aspect of patient care and are unable to facilitate close-up examination of medical issues that may be challenging to fully assess through a screen. In my eyes, even though telemedicine will not completely replace in-person healthcare models, the field is full of promise and I expect the opportunities, as well as the competition, in the sphere to increase exponentially in the next few years. No one knows what medicine will look like in the future, but surely it will include some aspects of telemedicine.

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# Toddler and Maternal Nutrition Research Experience

by Angella Lee, Human Biology, Health, and Society '23

GUM, UBC, FFQs, SOPs, ESHA, BCCHRISRP— I think I have learned more acronyms in the past three months than I have in the rest of my life combined.

This past summer, I worked as an undergraduate research assistant with the Human Nutrition and Vitamin Metabolism Research Group at the University of British Columbia (UBC). At the start, I was afraid; my experience would be almost entirely remote and I would be joining a research group consisting solely of older, smarter, and more experienced researchers. The first time I signed onto the Zoom meeting, my hands were clammy. I took a deep breath and clicked “Join,” not realizing that I would soon be interacting with some of the kindest people I would ever meet. I was excitedly welcomed and introduced to the study.

The GUM Study turned out to be very complex, with many moving parts. It involved toddlers and their mothers who were separated into experimental groups depending on their source of milk—cow, formula, or the experimental nutrient-enriched Growing Up Milk (GUM). The study involved a treasure trove of data, collecting information on everything from maternal and toddlers’ diets to sleep and maternal stress levels.

I was specifically responsible for reading through the toddler food frequency questionnaires (FFQs) and entering them into a processing software called ESHA. In brief, food frequency questionnaires are week-long food records, which initially sounded simple enough. However, I often ran into little hiccups

when interpreting what had been filled out on the form. Mom sometimes forgot to indicate how much food her toddler had consumed, or she would indicate the consumption of foods we did not yet have in our system. Thus, I had to consult a fifty-page document which recorded all of the questions and oddities other research assistants had already run into. Even then, many of the entries felt approximated. Though challenging, it served as a great lesson in that it allowed me to recognize not only how young the field of nutrition is, but also how many improvements and discoveries have yet to be made.

On top of my contributions to data collection, I also participated in the BC Children’s Hospital Research Institute Summer Student Research Program (BCCHRISRP), which provided funding and support for an individualized research project. This was my first time running an independent study and everything, from extracting the dataset to designing the poster, took longer than I imagined. I definitely had more than one late night and several panic calls with my principal investigator (PI), but it was very satisfying to complete and present my poster.

The countless acronyms involved in the field of research are just the tip of the iceberg, representative of how research is much more than just analyzing data for an eventual publication. It is so far from a linear process; if anything, more like the walking of a toddler: unpredictable and prone to sudden falls. However, also like a toddler, it is totally okay to cry a little, get up, and keep going. To lab work, I’d say, TTYL! I’ll be back, but I need some time to think and reflect.



# *Infant Health via Breastfeeding during the COVID-19 Pandemic*

by Consuelo (Connie) Le, Global and Public Health Sciences '22

As SARS-CoV-2 continues to sweep the world, national governments and local communities have promoted social distancing and mask-wearing to prevent direct deaths from the virus. Although this mindset is important for slowing the initial spread of SARS-CoV-2, not many people have considered the pandemic's long-term impact on the health of our youngest generation: infants born throughout 2020. Many new mothers are worried about transmitting the disease to their children through their breast milk, as is the case for illnesses such as HIV [1]. Although current research shows that this route of transmission does not exist for SARS-CoV-2 [2], continued anxieties and concerns cause them to seek alternative options for nourishing their newborns [3]. This presents a tremendous challenge in ensuring successful infant health outcomes, as breast milk provides babies with key nutrients and decreases their risk of suffering from diarrhea, infectious diseases, and diabetes [4]. Thus, the potential health effects for infants without breastfeeding could be devastating. Since a surprisingly little amount of research has been conducted on the population-level changes in breastfeeding practices due to COVID-19, I decided to explore the possible impacts on infant nutrition.

This summer, I worked with DataDent, an organization funded by the Bill and Melinda Gates Foundation in partnership with the Johns Hopkins Bloomberg School of Public Health. DataDent strengthens the availability and use of nutritional data in low and middle-income countries. During my internship, I conducted extensive literature reviews and found that rates of early initiation of breastfeeding (EIBF: breastfeeding within one hour of birth), exclusive breastfeeding (EBF: feeding a child only breast milk for the first six months of life), and continued breastfeeding with complementary feeding practices for the first two years of life would almost certainly decline. Women across the world are struggling to access breastfeeding support, limiting their abilities to properly breastfeed their child [5]. Additionally, stress from concerns over transmitting the virus to their child, food insecurity issues, and other anxiety-inducing factors can limit a mother's biological ability to produce milk, depriving their child of a free and vital nutrition source [6, 7]. Even birth location can impact breastfeeding decisions, as women who give birth in health facilities are more likely to practice EIBF due to the advice and teachings from skilled birth attendants and OBGYNs. However, due to fears about catching SARS-CoV-2 in a hospital setting, women are now switching their plans from hospitals to home births [8].

It is easy to get swept up in the immediate concerns of SARS-CoV-2, but we must remember that COVID-19 has long-term effects, too. It is unacceptable to ignore the adverse effects of COVID-19 on infant nutrition, as such consequences will affect multiple future generations. The short-term morbidity rates of COVID-19 are staggering and should not be forgotten, but the prospective long-term effects should not be lightly brushed aside either.



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# A Summer with Aetna

by Jake Derderian, Nutritional Sciences '21

After getting rejected from the only internship that I applied to in late 2019, I turned to Google in a panic looking for something to do this summer. Eventually, I came across an application for an internship with CVS Health. After reading more about the program, I learned that I would be placed in a business unit within Aetna, a managed care health insurance company within CVS. Managed care is a type of health insurance in which provider networks are formed to decrease costs for consumers. Upon my acceptance, CVS informed me that I would be working alongside the Commercial Product team. While I was not entirely sure what this meant, I was promptly told that this team “is responsible for building the products that eventually get sold to commercial employers . . . probably some big names you’ll recognize!” While this gave me a vague idea of what my (virtual) summer would look like, many aspects of the internship would remain a surprise until I began work.

After joining the team, I was tasked with evaluating Aetna’s nutrition and fitness offerings to see how they stacked up against those of their competitors. I was particularly pleased to be working on this project, as it aligned perfectly with my background as a nutrition major and a student-athlete. While collecting information on Aetna’s current offerings, I was even able to conduct a roundtable discussion with over 20 wellness consultants. As the wellness consultants are the people that directly communicate with employers, they have the best sense of what specific nutrition and fitness products consumers are looking for.

I was also responsible for assessing various nutrition and fitness vendors that Aetna could potentially partner with. This involved comparing the vendors’ different offerings and prices, as well as considering how Aetna would integrate a new product into their current product mix.

Though I evaluated many vendors, Zipongo stood out to me as particularly innovative. Zipongo is a company that offers customized meal plans and even allows users to order groceries directly from their phone. My work allowed me the opportunity to speak with the COO of Zipongo and learn more about the mission of the company.

On top of my daily project work, I also participated in high-level meetings to learn about the product development process and Aetna’s overall commercial strategy.

One unique facet of the internship involved a weekly Think Tank in which interns across various departments, such as underwriting, marketing, and actuarial services, were put on teams to work together on business cases. The cases ranged from figuring out how CVS can effectively recruit talent in a virtual environment to brainstorming ways to market the CVS Health Hubs, which offer a broad range of health services in-store. The Think Tanks also made it easy to socialize with other interns in a more relaxed setting, which was somewhat difficult to do given our virtual work environment.

I also had the opportunity to network with various colleagues across different areas of interest, such as underwriting and Medicare. While connecting over Zoom calls does not quite compare to grabbing a cup of coffee with a colleague, these networking experiences proved just as valuable. I walked away from the internship with not only a solid understanding of Aetna’s Commercial Product strategy, but also a much better understanding of the healthcare industry as a whole. For anyone interested in healthcare management, I highly recommend looking into the General Management Corporate Internship at Aetna!





# The Importance of a Global Mindset

by Jennifer Long, Human Biology, Health, and Society '22

The summer of 2020 has been a challenging one. Every country has needed to, in essence, remodel their healthcare system as COVID-19 continues to reveal structural inadequacies. The most prevalent and destructive weakness this pandemic has arguably uncovered, both within the healthcare system and society in general, is inequality.

Like most college students this summer, I found myself stuck in my house with a limited amount of in-person social interaction. Despite this, I was fortunate enough to participate in an internship that enhanced my understanding of global inequality. Founded in 2003, The Borgen Project is a non-profit organization and a “national campaign that is working to make poverty a focus of U.S. foreign policy” [1]. As a content writer intern at The Borgen Project, I became inspired by the campaign and its connection to international health.

Powered by volunteers in the U.S., The Borgen Project works to raise awareness and money that will support the creation of legislation focusing on increasing international aid. These volunteers primarily help the organization by emailing and calling their local representatives in support of this legislation. These interactions are widespread, with 931 cities utilizing Borgen volunteers and 97 percent of Congress having met with a Borgen volunteer [2]. The legislation they are advocating for, if passed, could save millions of lives.

Many of these pieces of legislation will ultimately help increase accessibility to healthcare in low-income countries. For example, The Borgen Project played a significant role in advocating for the *Global Health Innovation Act*, which supported the continued growth of USAID, and the *PEPFAR Extension Act*, which oversaw investment into prevention and treatment of AIDS [3].

Currently, The Borgen Project focuses on fighting for increased funding as part of a global response to COVID-19. The proposed international affairs budget of 20 billion dollars would provide relief to the constant and devastating pressure healthcare systems face worldwide, as well as support for the prevention of pandemic-induced starvation and poverty [4].

My 12-week experience in advocating for this legislation and writing about global health was barely an introduction to the power that a citizen can have in changing the lives of people across the planet. The small act of emailing or calling a representative about something important, whether that be COVID-19 relief or education for women, is significant.

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Photo Credit: Jenny Lon.

# Scrubs and Sacrifice

by Suri Gime, Human Biology, Health, and Society '21

I could only describe clocking into the office without scrubs with one word: surreal. This was my sixth summer working for a local dentist office in Chantilly, VA. Dr. Yeo, D.D.S (Doctor of Dental Surgery) has served our neighborhood for over a quarter of a century and has never taken more than a week off each year. When asked why, he always shrugs and says that it is so easy to break a tooth. He is an integral member of our community and his office always welcomes patients with open arms. This summer, for the first time in 25 years, the office closed for over seven weeks.

Our office received the Order of the Governor and State Health Commissioner's letter in April. Due to COVID-19 and critical shortages of disposable medical equipment for health care workers, all inpatient and outpatient surgical hospitals, free-standing endoscopy centers, physicians' offices, and dental, orthodontic, and endodontic offices in VA were prohibited to open for non-emergency appointments.

During the first week of emergency-only visits, we only received three patients. The following week, a whopping four. As our office remained open for all potential emergencies, we still had to order supplies and keep our machinery running. That being said, fewer patients did not necessarily equate to lower expenses. It was evident that the office was starting to struggle financially and I began volunteering until reopening.



Photo Credit: Suri Gime

As COVID-19 can be spread through droplet transmission and even by asymptomatic individuals, we began taking drastic measures to sanitize the office. On top of our regular orders of medical supplies, we had to add SD-90, a long-lasting antimicrobial treatment, and protective equipment to our supply list. Changes were also made to our protocols for patient visits, such as wearing masks and eye protection. Our waiting room became obsolete due to the need for social distancing and our policy of only taking one appointment in at a time. Everything that the patient walked by had to be disinfected. Our noses stung through our masks from highly concentrated cleaning solutions that evaporated quickly.

While the office has now fully re-opened, heightened safety measures will be in place for the foreseeable future.

This summer, I witnessed the extreme commitment and dedication of my local healthcare providers as they courageously remained open to serve patients despite financial burdens, limited access to personal protective equipment, and unusually arduous measures to ensure patient safety. I gained an appreciation for the true responsibility of a physician and the critical role they play in maintaining the well-being of neighborhoods worldwide. These essential members of our community are indeed heroic and anchor my hope that we will soon overcome the challenges that come with COVID-19.



