A doctor once told me, “as long as you’re not smoking and exercising, I’m happy.” Exercise is universally regarded as one of the most powerful tools against disease prevention, and community interventions nationwide focus on how to motivate people of all ages to stay active. Massachusetts has the third-lowest rate of obesity in the United States at 23.6%. In Somerville, 10.6% of individuals aged 18 to 25 are obese with 20.2% of residents saying that they engage in no leisure time physical activity. Given the critical role of exercise in the past, present, and future of public health, it is worth revisiting how the fitness industry began and how fitness functions on a community level.

The fitness industry as it is known today began in earnest in 1968 with Kenneth Cooper’s book *Aerobics*. He is the reason many of us - myself included - check the “Health” apps on our phones no less than five times a day to see if we’ve reached our 10,000-step goal. Cooper’s book sparked the “workout” movement, popularized by Jane Fonda and others, which emphasized strengthening the cardiovascular system through choreographed movements that could be done at home. The “workout” movement became popularized in parallel to its perceived masculine counterpart, bodybuilding, which originated in the early 20th century. Health clubs began popping up all over the United States in the 1970s and began assuming the status of “third places.” Ray Oldenberg created this concept as the primary social sphere aside from workplaces and homes. Currently, over 54 million Americans have memberships to a health club, and the health and fitness industry generated $75.7 billion dollars in revenue in 2012.

The relationship between community health and fitness has been a long and winding path. The American Association for the Advancement of Physical Education was founded in 1885 and not long after, in 1889, the first convention, the Conference in the Interest of Physical Training, was held in Boston. Research into the specific health benefits of physical activity through the first half of the 20th century focused on cardiovascular outcomes, such as the prevalence of high blood pressure, congestive heart failure, and cardiac arrest. The 1949 London Transit Service study was the largest undertaking in this category, and examined exercise habits and health in 31,000 male employees. The study found that drivers had much higher rates of coronary heart disease than conductors of red buses, trams, and trolleybuses, indicative that working in the

On March 12, 2018, Community Health had the pleasure of sponsoring this film screening along with Tufts Health and Wellness, The Welcome Project, Tufts Office for Student Success and Advising, Tufts Premedical Society and Tufts United for Immigrant Justice. It is a must see!!

Clinica de Migrantes is a documentary that follows the work and the patients of Puentes de Salud, a clinic that helps underserved, undocumented immigrants. Often the undocumented experience is shrouded in misconceptions and stereotypes. Seeing the struggle unfold through this film, helps to humanize the undocumented narrative. I was very fortunate to be apart of a panel that discussed the film. As an undocumented immigrant, I related to many of the various hardships portrayed in the film and remembered my own instances dealing with healthcare. The work done by Puentes de Salud brings much needed compassion to a community often at the forefront of much adversity and ultimately instills hope in us.

-Alejandro Baez ’21, Member of Tufts United for Immigrants Justice and Member of the Tufts Student Senate
Update from the Community Health Dept.

Community Health Chair, Jennifer Allen recently responded to questions about the Community Health Major at Tufts.

**What was the nature of student demand for community health as a major?**

The number of students majoring in community health has skyrocketed since we were able to offer it at Tufts as a stand-alone major in 2015. We have seen a 20-25% increase in enrollment each year and we now have about 230 majors. We don’t currently have the resources to be able to offer community health as a secondary major or minor. However, many students combine the community health major with other majors, or take our courses--because community health is so relevant to other fields. This is particularly the case for pre-health majors, but also for those in international relations, sociology, child studies and human development, and environmental studies, to name only a few. Unfortunately, we are struggling to meet the demand.

**Why is community health increasing so much in popularity as a major?**

I think that there are a number of reasons for this. First, community/public health is now among the fastest growing majors across the U.S. This is a national phenomenon and we are seeing this play out at Tufts.

Second, the ability to major community/public health in undergraduate studies is a relatively recent phenomenon; it has only been an option in the U.S. for the past 5-10 years. Historically, community/public health have been viewed as pre-professional training--available only in graduate schools. In the past 5 years since I came to Tufts, the number of programs available in the Boston area alone has nearly doubled! The Association of American Colleges and Universities has issued a call to increase access to community/public health education for all students and note that field offers a “capacious vision of liberal education.” This has definitely impacted the growth of programs across the U.S.

Another factor is the rapid increase in market demand for people in this field. Back in 2003, the Institute of Medicine Public (now called the National Academy of Medicine) projected a need for a quarter million additional public health workers-- and the demand has only increased since then. There are so many changes and challenges in health care, health economics, and health policy. We will also see exponential growth in the elderly population. All of these things mean that we need more people with training in community/public health now, more than ever.

**How does community health intersect with other disciplines?**

Community health is, by definition, an interdisciplinary field of study. We encourage our students to take courses in sociology, psychology, international relations, economics, political science and environmental studies--to name only a few. We need to be familiar with and conversant in a number of other fields. Whether you are community health practitioner or researcher, you need to understand the role of socio-cultural, psychological, economic, political, historical and environmental factors on the health of individuals, communities and populations. A key theme throughout all of our courses is that health is a human right. Social justice requires that we take immediate and meaningful action to eliminate health disparities. I think that these are values that many in Tufts share.

**What career paths can community health majors expect?**

The vast majority of our students get jobs --or are admitted to graduate schools-- right after
I started competing in robotics my junior year of high school in 2013, and since then, I have been hooked. Unlike many other students who graduated from the FIRST (For Inspiration and Recognition of Science and Technology) program, I ended up not pursuing engineering or computer science in college. I started my journey at Tufts as a mechanical engineer, but after taking Bio 13 and CH 1 in the fall of 2016, I decided to declare a double major in biology and community health.

Even though my academic interests shifted, I still wanted to be involved in the FIRST community, so I decided to mentor teams. I have mentored FIRST Robotics Competition (FRC) Teams since I graduated high school after taking a semester off in the spring of 2016 to have surgery. For the past two years, I mentored my high school team in Minnesota, but this year, I decided I wanted to be involved with a team in Boston. I reached out to FRC team 125 the NUTRONs out of Northeastern University last year to see if it would be possibly to mentor their team, and I was met with open arms. I make the trek into Boston at least 2 times per week to mentor the team during the season and off-season, but during our 6 week build season from January 6th to February 20th, I often went in more than that. We are currently in our competition season, and we had our first competition in Myrtle Beach, South Carolina March 1st - 4th where we qualified for the 2018 FRC World Championship at the end of April. Before the World Championship, we will be competing at 4 more competitions-- 2 of which are in Boston.

For me, being involved with FIRST is more than just building robots. It is about building connections, creativity, innovation, leadership skills, organization skills, and problem solving skills that I can use in every aspect of my life. In fact, every single job and internship interview I have had, I have mentioned the work I have done with FIRST and the life skills FIRST has taught me. Even though I may have a hectic schedule, I see myself continuing to mentor the NUTRONs throughout the rest of my time at college, and I plan to continue mentoring FRC teams after college.

We won’t be able to maintain these departmental strengths without more resources. Nonetheless, we are fortunate in that we have strong support from the administration.

How do see the community health major developing in the near-future?

This is an exciting and pivotal moment in the CH department. We gained recognition as a “department” in 2016. This has been so beneficial in that we now can confer tenure to our faculty and provide more stability for our lecturers. We now have a (small) budget so that we can offer school- and university-wide events focused on health and its social determinants. We have developed new alumni mentoring program (CHAMP) that provides students access to leaders in their chosen field. There are so many more things that we hope to do!

In the next five years, it will be vital that we are able to keep up with student demand, expand our course offerings, and grow the research portfolio of the department. All of this will require more faculty and resources. With the current financial strain on the university, we will have to be creative so that we can meet our goals. We need our students and alumni to be involved in that process—they are among our greatest assets. We want to be leaders in undergraduate education and in research to address health disparities.

We see a very bright future!
INTERNSHIP SPOTLIGHT

Boston Area Health Education Center

Kristine Moran ‘18

For my CH Internship, I interned at the Boston Area Health Education Center (BAHEC), a program within the Boston Public Health Commission that aims to diversify the pool of healthcare professionals in Boston by building knowledge and confidence in high school students through our after-school and summer intensive programs. We teach health career-specific courses such as Intro to Nursing or Intro to Physical Therapy, along with classes that focus more on social determinants of health and health equity. Throughout my time at Tufts and my work with Peer Health Exchange, I have developed a strong interest in health education and found myself very drawn to the mission of this organization.

BAHEC is made up of a small (but very passionate) team of individuals coming from various academic backgrounds including public health and social work. Because it is a small group of only four full-time staff, everyone takes part in all aspects of the program and the behind-the-scenes operations of the organization. From day one, I immediately felt very welcomed into the “BAHEC family” and they always made me feel like more of a co-worker than an intern. I had the opportunity to work very closely with my supervisor, Becca Rector, which allowed me to dive right into the program and rapidly improve my skills.

As an intern, I would support our instructors with classroom management, create pre- and post-test evaluation metrics to better understand the effectiveness of the program, revise and edit the current curriculum to ensure that it was up to date, and even develop my own lesson plans such as one I wrote on Healthcare and Politics to supplement our class on Navigating the Healthcare System.

My primary role, however, was to co-facilitate the Youth Advisory Board (YAB) program with Becca. YAB is a select group of enthusiastic students who spend a whole academic year designing and implementing a public health intervention for a cause they care deeply about. This year’s focus is on raising awareness of adolescent mental health needs, and specifically trying to break down the cultural stigma associated with it. This is a very personal cause for many YAB students, as they represent eleven different cultures and often feel misunderstood by their parents or feel that their stress/mental health needs are undervalued. With YAB, I have been part of the process from the start, helping them conceptualize what their intervention will entail, enhancing their public speaking skills in preparation for a pitch presentation to get seed money (in which we received the full $1000 of funding!), and now further supporting them as they move forward in realizing their goals. After my fall semester CH internship concluded, I was lucky enough to be hired as a paid intern through BAHEC for a second semester in order to continue my work with YAB and see their project through to the end when we hold our student Mental Health Event in May.

Working at BAHEC has been an incredibly valuable experience — I am constantly inspired by my students, encouraged by my co-workers, and pushed to improve my skills. I have become a better communicator, collaborator, and critical-thinker. I feel that this internship allowed me to utilize knowledge and skills I had gained through my extra-curricular interests and CH classes while also building upon these skills in a way that I believe is the best way imaginable to culminate my Community Health experience and begin my public health career.

Kristine and the other BAHEC staff: Anthony Crosson, Geraldy St. Clair, Becca Rector and fellow CH intern Allison Kannam.
Student Involvement on Campus

Tufts Essential Medical Supplies and Activism for Inequities and Disasters (Tufts EMS-AID)

Alfredo Gutierrez ’20

In a world with a twenty-four-hour news cycle that often focuses on political banter and tabloid issues, the media has failed to highlight the current humanitarian crisis in Venezuela, where a failing government has its people desperate for even the most basic needs. Alexander Ferrera, Tufts class of 2017 graduate and founder of EMS-AID, learned from his mother, who conducted research in nutritional and health studies by observing families in the neighborhoods of Caracas during the 1980s, that the shift in political power that came with the Chavez regime has led to a staggering deterioration of economy, safety, and especially healthcare. Venezuelan citizens must resort to the black market for something as simple as a loaf of bread; their prospects of finding essential medications are even worse. Simple medical supplies are rarely, if ever, available at hospitals or pharmacies throughout the country, forcing patients to take their health care into their own hands.

As premedical students, we are strongly driven by our belief that health is the single most important human right. We cannot simply stand by the fact that Venezuelans searching for basic health care, from ambulatory clinics to public hospitals, are unable to receive treatment due to a lack of materials. This is clearly an issue of inequity, since under international human rights law, governments have a core obligation to ensure that certain medicines and supplies are accessible to all citizens without discrimination. According to the Pharmaceutical Federation of Venezuela, the country is lacking roughly 80% of the essential medical supplies needed to treat its population. Access to these necessities is deteriorating more rapidly in Venezuela than in most war zones and the government continues to deny large efforts for international aid.

As residents of the metro-Boston area, we are surrounded by some of the world’s best healthcare facilities, which we often take for granted. It is not uncommon that organizations such as hospitals, ambulance companies, and community clinics have a surplus of supplies, and dispose of materials when the expiration date is reached. One of our club members (Alexander Spring, A17) worked for a private Boston ambulance company and has witnessed firsthand how routine ambulance checks result in discarded medical supplies due to their expiration dates. While these supplies are deemed unusable in the United States, they can oftentimes still be utilized for basic medical care and shipped to countries experiencing inequality or disaster. While not ideal, these items would serve a far better alternative for the Venezuelan people than no supplies at all.

By engaging with Boston health care organizations, it is Tufts EMS-AID’s mission to utilize our local community to benefit global communities. We plan to encourage local health care facilities to donate expired or surplus medical supplies to our organization. For the purposes of this project, the medical supplies collected will be based on the World Health Organization’s Model List of Essential Medicines. We will then coordinate with established contacts in Venezuela to receive shipments of essential medical supplies and ensure delivery of those supplies to local health facilities in Venezuela.

Up to this point, we have made a number of shipments to Venezuela, one through a donation from a medical supply company and the others through the purchase of supplies following fundraisers. The shipments are sent to the “Fundacion Proyecto Maniapure,” a clinic in the Maniapure region of rural Venezuela that serves over 10,000 indigenous and creole indigenous communities. Last summer, Ferrera spent two months working at the Maniapure clinic. During this time, he established connections with the staff and a public hospital in Caracas, confirming that our shipments are reaching their intended destination. I mention this because the Venezuelan government has recently taken steps to block donations of supplies from certain groups in the United States, exacerbating the shortage of supplies in the country. This development underscores the importance and urgency of our project.

While we will continue to make donations to Venezuela through bulk purchases of supplies, we hope to find a more consistent source of supplies as the crisis in Venezuela does not appear to be ending anytime soon. Eventually, our goal is to send a weekly shipment of supplies to the clinic in rural Venezuela and expand our donations to other regions of the country; however, purchasing supplies in bulk on a weekly basis is neither sustainable nor efficient way of helping the Venezuelan people. We hope to focus our fundraising on raising awareness about the crisis in Venezuela and medical supply waste in the United States and shipping costs. Hopefully, this club empowers students to be active spokespeople promoting the universal right to health, as we work to provide basic care to rural Venezuela, and eventually other communities that need it most.

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Congratulations!
Community Health Graduates
Class of 2018

Victoria Aboagye-Adinkdra
Arushi Agarwal
Nayab Ajaz
Fatima Ajose
Toluwanimi Akinyemi
Saja Alani
Amylee Anyoha
Diane Arnos
Marianna Athanassiou
Sara Banbury
Pilar Bancalari
Chloe Boehm
Emily Brodkin
Charles Calabrese
Isabela Cheng
Tenzin Chokki
Srinitha Dasari
Alexandra Dawson
Saskhia Dieudonne
Allison Dorneo
Claire Downward
Jennifer Duffy
Stefan Duivier
Cameron Eck
Sophia Eschelbeck
Gabriela Funez-dePagnier
Jose Garcia
Jacob Garrell
Nellie Harvey
Susan Hassan
Noelle Henderson
Hannah Heselton
Alison Hoi
Odeosa Idaho
Shriya Jamakandi
Juliet Johnson
Allison Kannam
Anika Kumar
Elizabeth Lawless
Jessica Lee
Nina Leifer
Brian Leung

Ana Karen Manriquez Prado
Jessica Mar
Lucia McArdle
Sean McCarthy
Kianna Medina
Michaela Mellen
Harrison Mintz
Kristine Moran
Diana Morrill
Nicole Morris
Ravali Mukthineni
Kathy Nguyen
Phuong Nguyen
Janet Nieto
Priyanka Padidam
Alexa Paiva
Risa Paley-Zimble
Harry Paul
Wilna Paulemon
Leanna Pham
Brett Phillips
Ander Pierce
Suvithan Rajadurai
Anna Rodriguez
Michael Rogalski
Annelise Ryan
Samantha Salkin
Olivia Schultes
Sahil Shah
Nishali Shah
Jennifer Sherwill
Janki Shingala
Bailey Siber
Madison Silver
Katherine Stiegemeyer
Vivian Tam
Shane Visram
Elaine Wang
Lily Weinraub
Sarah Woodworth
Brianna Xavier
more active job of conducting could reduce cardiovascular problems.

Clinical knowledge was transformed into policy in the 1990s. In 1992, the American Heart Association recognized physical activity as one of the “big four” risk factors for cardiovascular disease. The CDC and American College of Sports Medicine recommended exercise guidelines in 1993. The first Surgeon General’s Report on Physical Activity and Health was released in 1996, and the CDC began providing states with funding for nutrition, physical activity, and obesity prevention programs in 1999. With the recent focus on addressing the rise in rates of childhood obesity in the United States, a critical lens has been lent towards youth physical education programs.

The variety of third places available for fitness has increased exponentially since the days of Aerobics. For the sake of argument, let’s consider the two broad categories: globo-gyms and branded fitness. Memberships at globo-gyms have monthly fees from $20 to $50, typically with a required year-long contract, and the spaces themselves are packed tightly with fitness equipment. Branded fitness, as defined by Powers and Greenwell, involves a “coach or instructor who guides groups of participants through highly regimented sets of actions; members of the gyms or studios frequently enjoy strong community.” This category includes boxing gyms, Crossfit boxes, yoga studios, barre fitness, Zumba classes, spinning gyms, etc. The two prevalent types of health clubs present a dichotomy between fitness as an individual versus communal activity. In globo-gyms, though group classes are available, most people do their workouts alone; in branded fitness facilities, members are not afforded the opportunity to work alone. Active participation and interaction is required, and a shared language can be developed. For example, in Crossfit boxes, the space itself is designed for group work; there is little equipment in order to emphasize “functional fitness,” and WODs (workout of the day) are often done outdoors.

The YMCA is a textbook example of the conflict between access to exercise as a right versus market forces treating it as a commodity. YMCA’s were originally intended to serve youth, particularly young men, and promote community through good works and faith, and were exempt from paying local, federal, or state property or income taxes. In the 1920s, YMCAs created a second tier of membership, called “Business Men’s Clubs” (BMCs), with higher monthly rates and access to more services, such as private lockers or swim times. After World War II, YMCAs with BMCs increasingly moved to predominantly white, middle-class suburbs. When health clubs began rising in popularity in the 1970s, YMCAs were forced to update their facilities, as the competition in the private market led to negative externalities for nonprofit wellness facilities. The health club boom in the 1970s caused another challenge for YMCAs: legal battles for their rights to tax exemption. In a landmark ruling in Springfield, MA in 1984, the IRS ruled that if the YMCA’s two-tier membership structure were to continue, the upper tier would be taxed unless it was genuinely accessible to all members of the community it served. YMCAs were forced to eliminate the second tier and switched to a multilevel payment structure. At the Somerville YMCA, fees vary from $22 to $53 monthly, with lower rates per person for families, seniors, children, and single parents. These costs are comparable to many globo-style gyms, but financial aid is available upon confidential application.

The costs of attending private fitness clubs can be prohibitive for many. Membership to a branded fitness facility or globo-style gym in Somerville requires monthly payments of $49.99 to $399.99. For those seeking more affordable forms of exercise, the City of Somerville attempts to create options for an active lifestyle. For older adults, the Council on Aging runs a bike club, a $10/month nutrition and wellness program, a walking club, tai chi, yoga, and Zumba. The Department of Parks and Recreation operates the Somerville Community Path, a 0.8-mile continuation of the Cambridge Linear Park. In 2014, the state announced that an addition to the path would be built along the MBTA Green Line Extension, connecting it to the Charles River Bike Paths. There was a period when the Path’s extension was removed from the plans due to budget concerns, but after the MBTA selected a team to design and construct the extension in November 2017, the bike path was added back in.

The health benefits of regular exercise are undeniable. Being active strengthens social bonds, increases perceived self-worth, acts as a catalyst to more positive health habits, improves immune health - the list goes on. However, there can be barriers to accessing exercise-focused spaces for some. The Boston Sports Club in Davis Square, for example, can cost members upwards of $200/month. Cost can be an extremely prohibitive barrier to exercise in guided settings, and gyms are often spaces for isolation rather than socialization. The Cambridge Planet Fitness only requires monthly payments of $10 to $22, but does not afford the community-building amenities that Boston Sports Club, Commonwealth Crossfit, or other local branded fitness facilities offer. The Tufts University gym enables students and faculty to have access to a dedicated facility, a privilege we should consider with respect to the surrounding community. Welfare-minded spaces are often forced to contend with industry competition, resulting in a reduction of available programs and spaces for those unable to afford memberships to more exclusive spaces.

4 Andreasson, J. and Johansson, T. 2014.
13 Accessed 3/30/18 from https://www.planetfitness.com/gyms/cambridge-mass-ave-ma/
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From the Classroom to the State House

Students in Professor Andrea Acevedo’s Substance Use, Addiction and Policy Spring 2018 course met with Senator Keenan to discuss current substance use policy issues going on in the state.

Senator Keenan is the Chairperson for Special Senate Committee on Addiction Prevention, Treatment and Recovery Options and the Vice Chair, Joint Committee on Mental Health, Substance Use and Recovery.

Students win Tisch Library Undergraduate Research Award

Community Health students in Professor Shalini Tendulkar’s course CH 30: Community Health Research Methods, recently won the Tisch Library Undergraduate Research Award. Nola Jenkins ‘20 (left), Nancy Kissinger ‘20 (right) and Maya Lubeck-Schricker ‘20 (not pictured) were awarded First Place for their group project, “Leprosy in Northeastern Brazil: An Analysis of Populations and Interventions,” in the 001-099 category.

Tisch Library has developed an award recognizing outstanding undergraduate use of the library’s collections, resources and services in the production of an exemplary research project.