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# CHOATE PUBLIC HEALTH



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# A LETTER ON EEE

Eastern Equine Encephalitis (EEE) is a potentially fatal mosquito-borne virus that has been spreading across North and South America this fall. According to WebMD, an estimated 30% of patients who contract EEE die from it. The infection targets the central nervous system, destroying human brain cells and inciting an inflammatory response that causes fluid to rush to the brain. The increased pressure caused by the brain pushing against the confines of the skull can compromise brain function, leading to death or serious long-term disabilities.

Local governments have begun to take initiatives to protect their citizens from EEE. Some Connecticut towns such as Norwich and New London restricted evening outdoor events, since mosquitoes are typically most active between dusk and dawn. Many other towns have followed suit, and government officials continue to carefully monitor the infection's progress in Connecticut and surrounding areas.

The best way to prevent yourself from contracting EEE is to avoid getting mosquito bites altogether. Be sure to use insect repellent and wear long sleeves. In addition, try to prevent mosquitoes from getting indoors. Install screens on all windows and doors, and be sure to replace faulty screens immediately. CDC also recommends using air conditioning or fans instead of opening the windows. In the end, prevention is vigilance, and being careful to avoid mosquitoes will go a long way in protecting you from EEE.

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# IVY LEAGUE COLLEGES FALL SHORT IN MENTAL HEALTH SERVICES

By Nathan Lang '22

The 21st century is marked by growth. The population is booming, technology is advancing by the second, and our ever-competitive society is marred by a growing epidemic of mental disorders and anxiety. From school to the workplace, constant societal demands have pushed many to the limits of their mental health. This trend is especially apparent in private universities like Harvard, Yale, and MIT, where the pressure to succeed can be a heavy burden

on students.<sup>1</sup> Surprisingly, very little mental health support is provided at these institutions, which can start a spiral of mental deterioration with impacts that last long beyond college.

The Ruderman Foundation, a group that advocates for disability inclusion in society, recently published a paper detailing mental health services in Ivy League schools — and the results are far from stellar. “40% of undergraduates have felt so depressed within the

past twelve months that it was difficult for them to function. More than 10% of undergraduates have seriously considered suicide during the past year.”<sup>2</sup> This shows the sheer volume of the problem in colleges and universities.

Despite such statistics, very few mental health services are available to students at these schools. “There is one mental health clinician for every 1,000 to 2,000 students on smaller campuses, and one clinician for

every 2,000 to 3,500 students on larger campuses.”<sup>2</sup> This number of clinicians is woefully inadequate and can prevent students from getting the help they need.

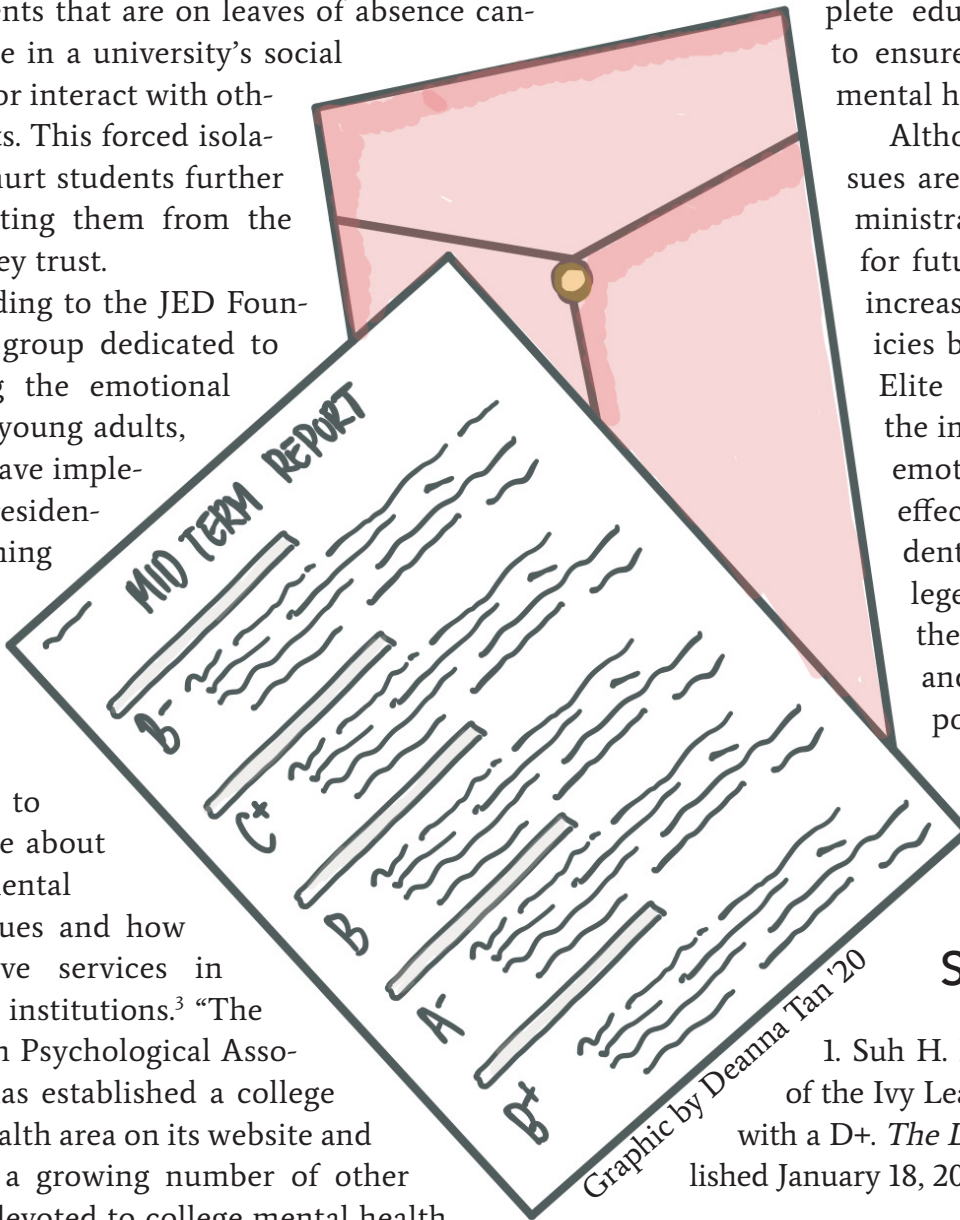
The study also pinpoints various vague and discriminatory policies that colleges use to remove students with mental health problems from their campuses. For example, one policy states that students that are on leaves of absence cannot engage in a university’s social activities or interact with other students. This forced isolation can hurt students further by separating them from the friends they trust.

According to the JED Foundation, a group dedicated to improving the emotional health of young adults, colleges have implemented residency training programs for undergraduates of all majors to learn more about college mental health issues and how to improve services in their own institutions.<sup>3</sup> “The [American Psychological Association] has established a college mental health area on its website and there are a growing number of other websites devoted to college mental health and substance abuse ... Much more needs to be done to continue to understand and explain the growing number of increasingly troubled students presenting to college services and the best approaches for their care.”<sup>3</sup>

Moreover, college mental health clinicians are also educated in legislation regarding college stu-

dents, and are expected to place student health first. Some of these laws include the Family Education Rights and Privacy Act and the Americans with Disabilities Act, which together provide a strong framework for decision-making in complex mental health cases. The JED foundation remains steadfast in its position that helping a student remain in school and granting them a complete education is the best way to ensure their improved future mental health.<sup>3</sup>

Although mental health issues are on the rise, college administrators have high hopes for future improvement due to increasing awareness and policies built to protect students. Elite colleges now recognize the importance of mental and emotional health and the effects it can have on a student’s future. Now, as colleges attempt to improve their mental health services and policies, it is more important than ever to hold them accountable to make sure they continue to improve.

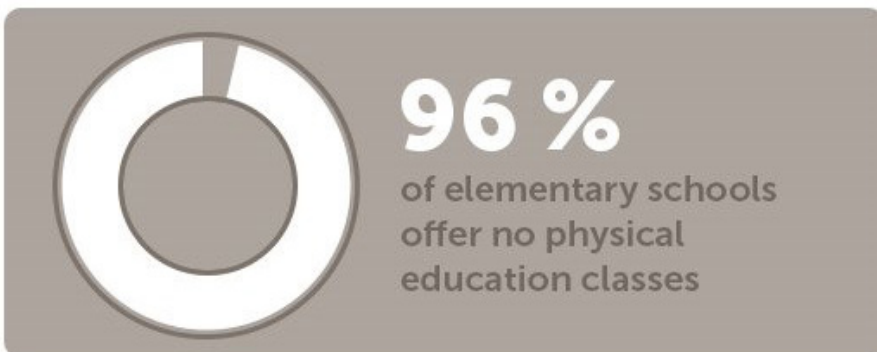
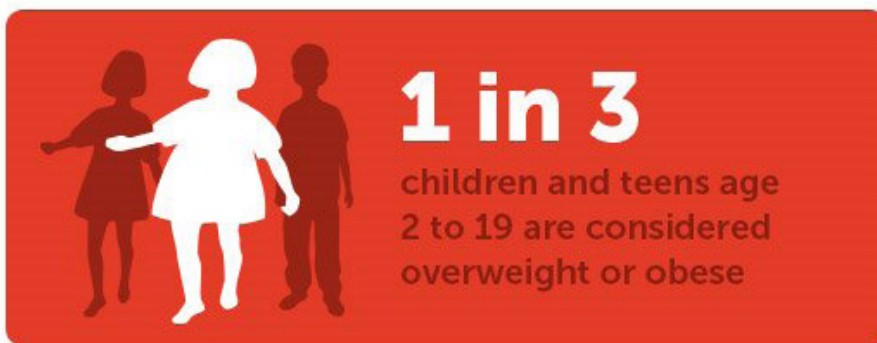


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# THE EVOLUTION OF AMERICA'S CHILDHOOD OBESITY EPIDEMIC

By Amanda Li '21



From an early age, students are taught to maintain a healthy lifestyle, whether by exercising regularly or fulfilling all of one's nutritional requirements. Yet, in the United States, childhood obesity is still a prevalent problem that, as of 2016, affects over 13 million children between the ages of 2 to 19, a number that has increased by 13.5 % since 1978.<sup>1,2</sup> In the past ten years, government agencies and private organizations alike have dedicated time and resources to addressing this issue, but the causes of childhood obesity are not easy to resolve.

Oftentimes, childhood obesity results from an unhealthy lifestyle, such as consuming foods that have low nutritional value but high calorie and fat content, partaking in a diet that misses out on important food groups, or not getting enough sleep.<sup>3</sup> Youth who have had adverse childhood experiences, such as abuse or neglect, have also been

CDC



shown to be at risk of becoming obese by almost 1.5 times more compared to children who did not have such negative childhood experiences.<sup>4</sup> Young children who live in communities that have limited or no access to healthy food options are also at risk of childhood obesity.

The consequences of childhood obesity are severe, increasing one's risk of physical and mental illness both as a youth and an adult.<sup>5</sup> Obesity has a detrimental effect on nearly all systems of the body, from musculoskeletal to the respiratory and circulatory system.<sup>6</sup> Diseases like type 2 diabetes, for example, can involve lifelong dietary restrictions and constant maintenance of blood pressure and cholesterol. Children who suffer from obesity are also more likely to be bullied, and, as a result, may develop depression or anxiety. These unhealthy habits can also be carried into adulthood, resulting in long-term adulthood obesity, which comes with even more risks and dangers.

In the United States, government programs have strived to combat childhood obesity through the expansion of access to healthy meals at school. In 2010, the Healthy, Hunger-Free Kids Act was passed, a bill that required new standards of nutrition at school, the allocation of a \$4.5 billion budget towards the implementation of new programs and initiatives, including training sessions in food safety and nutrition for food personnel.<sup>7</sup> This act was passed under the effort of Michelle Obama's "Let's Move" initiative, which set a goal back in 2010 to drop the obesity rate to only 5%

by 2030.<sup>8</sup> The Robert Wood Johnson Foundation, the largest public health philanthropy foundation in the United States, pledged a \$500 million donation (over a ten-year period) in February 2015 that aims to ensure that students are entering kindergarten at a healthy weight and encourage healthy lifestyles for students while at school.<sup>9</sup>

Depending on the state, different health and nutrition policies for youth are in place. All states require licensed early childhood education programs to have healthy eating policies, but only 34 states (of which Connecticut is not one) require these programs to provide snacks and meals that meet general United States Department of Agriculture or Child and Adult Care Food Program standards.<sup>10</sup>

Childhood obesity is a systemic problem that groups all across the country are trying to address, but the roots of the problem lie in the presence of poverty and food insecurity and thus cannot be solved easily. Since 2015, media attention on youth obesity has decreased, with many saying that the rates of obesity have dropped or plateaued, but that is not enough. If not enough attention is given to this issue, not only will we fail to reach our goal rate of 5%, the rate will actually increase. The implications of the continuous rise of youth obesity will be disastrous. With more and more kids becoming susceptible to chronic or life-threatening illnesses, this is a problem that must be re-prioritized within our government.

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# TRUMPED—E-CIGAR

By Natarsh

On Wednesday, September 11, the Trump administration announced that it would ban the sale of most flavored e-cigarettes. This was a long-awaited decision prompted by this summer's startling reports of around 500 cases of vaping-related respiratory illnesses in nearly three dozen states and six vaping-related deaths.<sup>1</sup>

E-cigarettes were initially advertised as healthier alternatives for smokers. In an e-cigarette, a liquid solution is heated to a high enough temperature, producing an aerosol that is inhaled.<sup>2</sup> First appearing on the market over a decade ago, e-cigarettes have quickly proliferated across global markets, sparking a worldwide vaping epidemic. They have been especially popular amongst teenagers, with their fun flavors and strategic marketing. In response to the recent rise in vaping-related illnesses, an investigation by state health departments in Illinois and Wisconsin traced the first signs of illness among 53 vaping patients back to April. The victims — mostly

young men with a median age of 19 — overwhelmingly ended up in the hospital, with many under intensive care.<sup>3</sup>

Although vaping has been widely trumpeted as a safer alternative to smoking and has been increasingly adopted by smokers trying to wean themselves off of cigarettes, recent research has revealed that e-cigarettes can be equally as harmful as regular cigarettes. According to the Center for Disease Control and Prevention (CDC), the e-cigarette aerosol that users breathe from the device can contain many potentially harmful substances, including large amounts of nicotine, which can have detrimental effects on the parts of the brain that control attention, learning, mood, and impulse control as well as increase the risk for future addiction to drugs.<sup>4</sup>

Trump's most recent ban on flavored vapes came at a time when the White House and the Food and Drug Administration (FDA) have faced mounting pressure from lawmakers, public health officials, parents,

and educators who have become increasingly alarmed by the popularity of vaping among teenagers but have felt powerless trying to keep e-cigarettes away from their children and students.<sup>1</sup> Shocking reports from the CDC detail patients who vape experiencing coughing, chest pain, or shortness of breath before their health deteriorated to the point that they needed to be hospitalized. Others reported symptoms including nausea, vomiting, diarrhea, fatigue, fever, and weight loss. Many victims have also ended up with acute respiratory distress syndrome, a life-threatening condition in which fluid builds up in the lungs and prevents oxygen from circulating in the bloodstream.<sup>3</sup>

Many have come forward to express their approval of the White House's decision. Matthew L. Myers, president of the Campaign for Tobacco-Free Kids, called the administration's decision "historic." He remarked, "This is a public health crisis and we cannot afford more delays in confronting it."<sup>1</sup>



# CIGARETTES AND VAPING

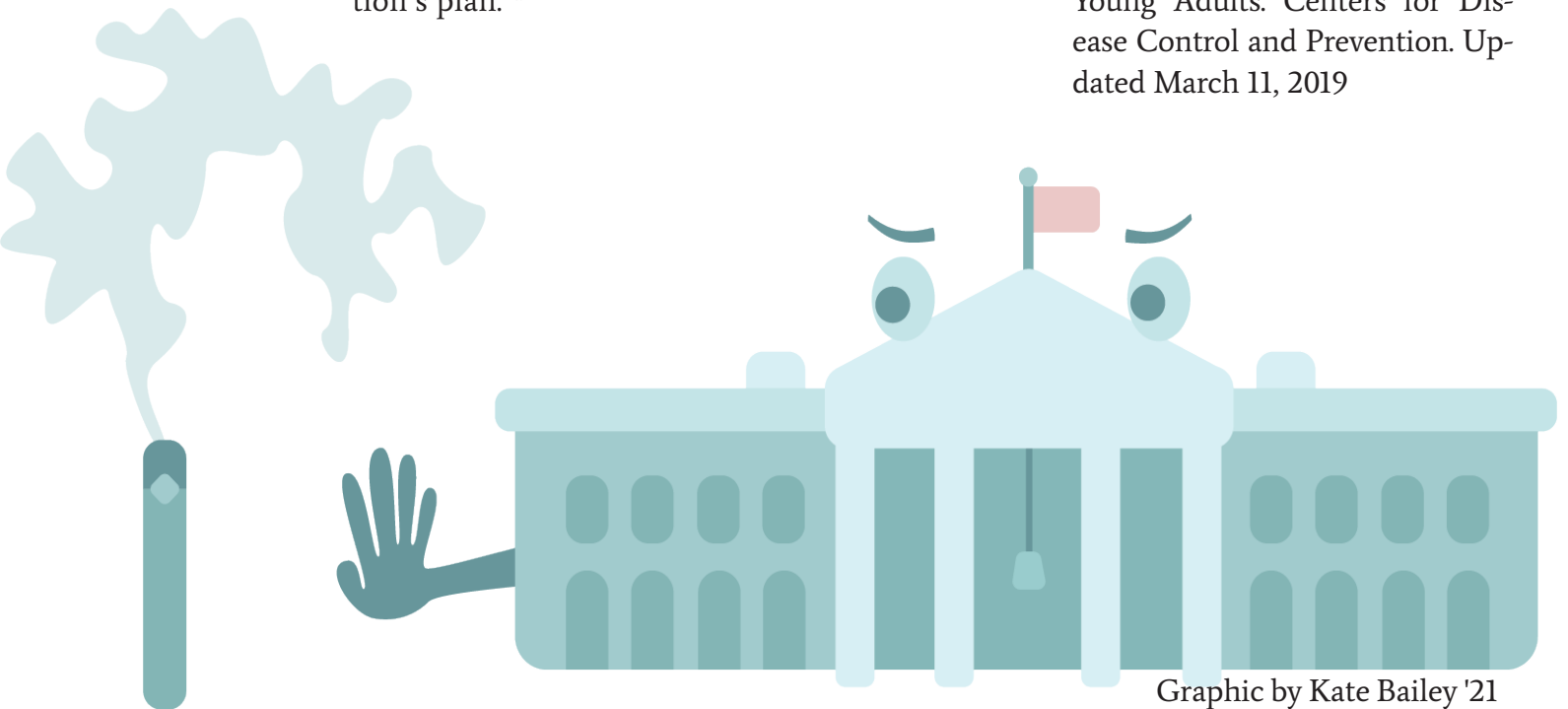
Yan '21

Harold Wimmer, President and Chief Executive of the American Lung Association, also voiced his support for the White House's decision, saying that the group had long advocated for the removal of products that appeal to teenagers. "Flavors have been shown to initiate kids to tobacco use and a lifetime of addiction and tobacco-related death and disease," Mr. Wimmer said. "We are anxious to review all of the details of the administration's plan."<sup>1</sup>

Conservative organizations and the vaping industry had earlier joined forces to oppose other Food And Drug Administration (FDA) attempts and proposals to reduce teen usage of e-cigarettes, including one that sought to require retailers to curb access to vaping devices, pods and other vaping paraphernalia in an attempt to keep them away from minors.<sup>1</sup> However, the recent Trump ban has helped set a new political tone in this ongoing controversy.

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Graphic by Kate Bailey '21

# A LETHAL BITE: THE SNAKEBITE CRISIS IN RURAL COMMUNITIES

By Anika Midha '22

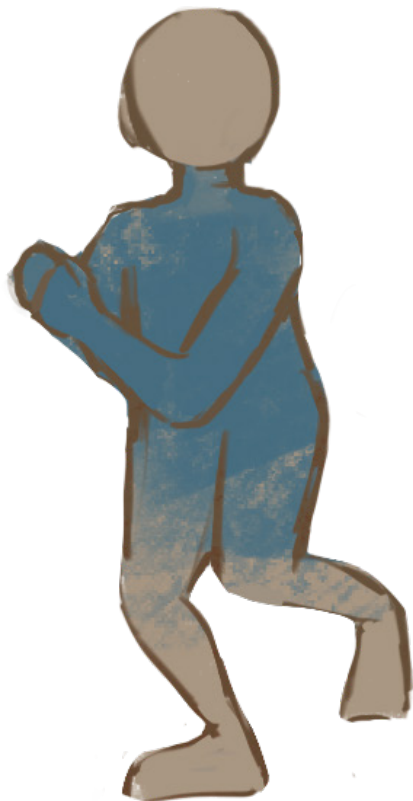
A slithering health crisis — venomous snakes — has crippled the secluded communities whose habitats occupy vast jungles in the Democratic Republic of Congo (DRC). Death by snakebite, a neglected public health crisis, kills as many as 138,000 people annually on a global scale, and leaves another 400,000 severely disabled.<sup>1</sup> The highest

concentration of snakebites occurs in rural communities where the healthcare infrastructure is underdeveloped and medical resources are sparse.

Years of political instability and conflict have led to specialized healthcare and antivenom treatments being virtually inaccessible in the DRC. The DRC's northwestern province is characterized by its winding rivers and lush jungles, notable for the presence of snakes and a rural lifestyle with no access to immediate medical attention or any form of anti-venom.<sup>2</sup> The lack of knowledge regarding prevention and treatment has worsened the circumstances for members of

remote communities who rely on the resources near rivers and fields of tall grass.

A terrifying list of immediate acute medical conditions follow a venomous snakebite, including paralysis, bleeding with the risk of hemorrhaging, irreversible kidney failure, and permanent disability that can create the need to amputate several limbs.<sup>3</sup> The lack of access to modern medicine has left the rural populace to turn to traditional methods of healing. These traditional methods include applying powder consisting of burnt herbs and ashes of snake heads or making a cut into the wounds and applying charred herbs, both of which



create a risk of infection.<sup>4</sup> There is an indubitable life-threatening attribute to snakebites, unlike many serious health conditions for which there exists a cure, albeit an unpredictable one.

Anti-venom for snake bites is not only inaccessible to populations who need it the most, but also a customized cocktail that produces a revertant dependent on the combination of toxins that have entered the patient's bloodstream. Additionally, an adverse reaction to the antitoxin could be fatal.<sup>3</sup> Essentially, the current cure to the venomous toxins of snakes could be either a cure or another toxin, depending on the person. The production of antivenom is a significant challenge due to the preparation of immunogens which requires a significant amount of a certain quality of snake venom. All these factors combined with the lack of data in terms of the number and types of snake bites have created an inefficient distribution of production and increasing prices of antivenoms.<sup>3</sup>

In many developing countries, government-issued health care has failed to address the need for antivenoms by under-reporting the num-

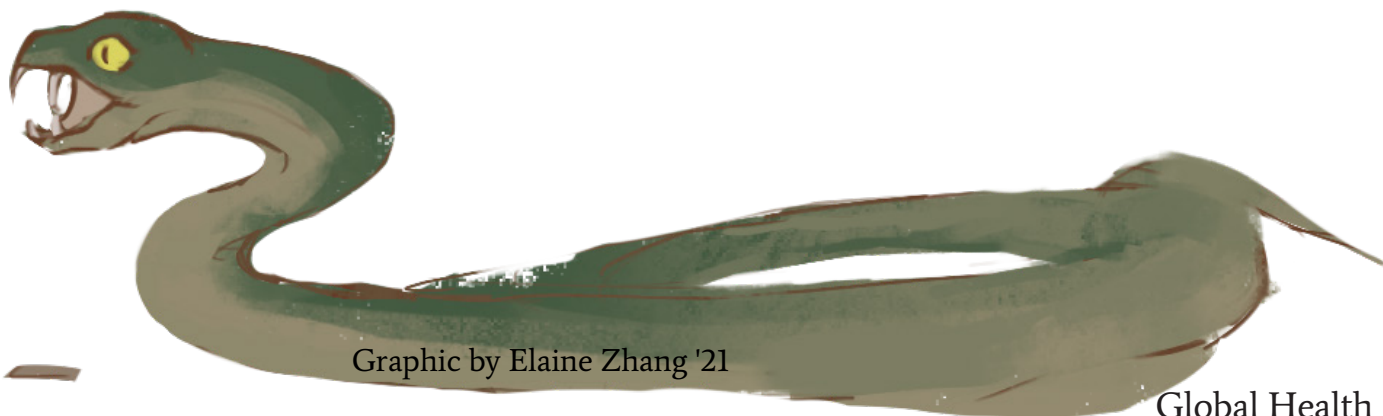
ber of snake bite incidences. In 2000, the Ministry of Health of Nepal (where 90% of the population is considered rural) reported 480 snake bites with 22 resulting in death, whereas a community-based study of eastern Nepal demonstrated 4,078 bites and 396 deaths.<sup>3</sup> The under-reporting of snake bites drives the production of snake venom down due to an apparently decreasing demand which furthers the insufficient availability of antivenom. The World Health Organization (WHO) has taken notice to the growing crisis of snakebites and has spread awareness and launched programs intended to spread antivenom to populations in need. In December of 2015, the WHO launched a program intended to determine the effectiveness of antivenom products that would potentially provide treatments to regions in sub-Saharan Africa.<sup>3</sup> And in June of 2017, WHO formally recognized snakebites as one of the highest neglected tropical diseases.<sup>3</sup>

In order to combat the deadly symptoms of snakebites, multiple organizations have taken the initiative to conduct research to provide a suitable solution for rural populations. As of April 2019,

the Wellcome Charity in London announced a \$99 million initiative to improve current antivenoms and search for new treatments that can be accessible to the rural populace.<sup>1</sup> Alongside the Wellcome Foundation, the WHO announced — in May — its goal to half the death toll and injuries suffered from snakebites through the programs they have launched.<sup>1</sup> Organizations are working towards prevention and treatment that can ensure that lives will no longer be lost to snakebites.

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Graphic by Elaine Zhang '21

# CONQUERING BURNOUT

By Charissa Lin '21

Once again, the days are filling up with classes, sports, extra-curriculars, and homework. And as the workload starts piling up, stress levels rise along with it. There seems to be no other option but to stay up late, working until your body gives out, then visiting the Health Center to take naps. These are all symptoms of burnout, a common occurrence characterized by emotional, physical, and mental exhaustion due to stress induced by overwork. To many, it seems an inevitable part of being a student. However, there are ways of preventing and overcoming burnout.

## Make sure to take breaks.

While it may seem that working for hours on end until all of your work is done is the best option, it simply isn't. When deprived of breaks, people tend to be less productive, therefore taking more time to finish their work. When it takes more time to finish your work, you also get less sleep, making untimely naps during the day a likely possibility.

## Disconnect from electronic devices.

Devices are a constant reminder of all of your unfinished work. Whether it is a laptop, iPad, or phone, you will constantly receive notifications about remaining

work, which will only cause more stress and prevent true relaxation. Take a few hours a week, or maybe just a few minutes each day, to disconnect from all devices. Turn off the ringer and read a book or go outside and look around — anything to relax and clear the mind before going back to work.<sup>1</sup>

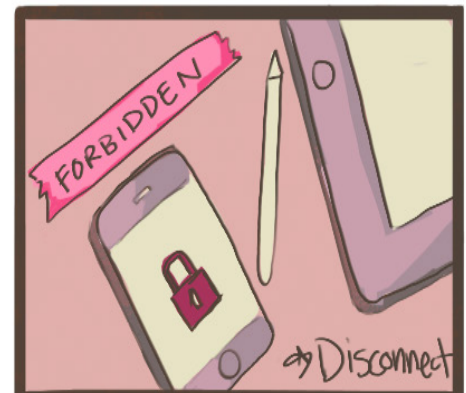
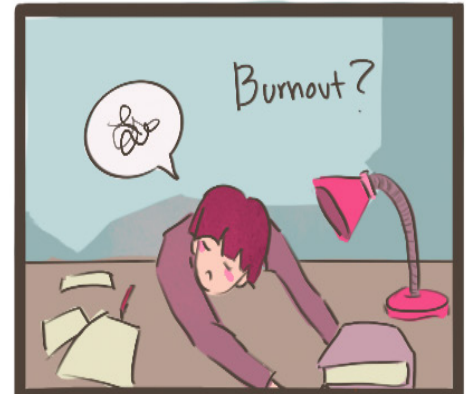
## Be sure to practice good sleeping habits.

With lack of good quality sleep comes burnout. If you feel as though you are burning out, make sure to practice good sleeping habits. Turn off all devices two hours before going to bed, abide by a routine sleep schedule, avoid caffeine in the four to six hours before sleeping, and follow a nighttime routine promoting relaxation such as stretching or meditation.<sup>2</sup>

With these tactics in mind, burnout does not have to be inevitable. It can become something that is preventable. Besides, if you are able to control it, you will benefit in the long run.

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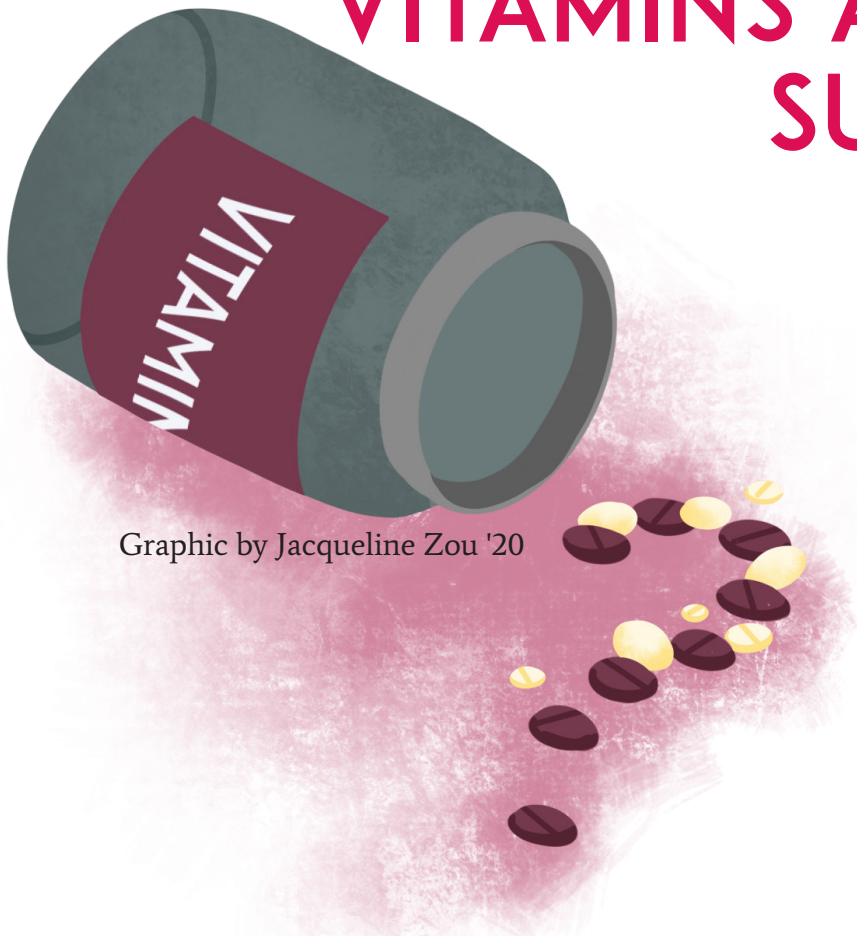
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# VITAMINS AND DIETARY SUPPLEMENTS:

# ARE THEY REALLY GOOD FOR US?



Graphic by Jacqueline Zou '20

By Henrik Torres '22

The vitamin and dietary supplement industry, worth more than \$32 billion, caters to more than half of all Americans, popularizing a pill-popping culture and the notorious “cure-all” multivitamin. In response to a public hooked on these miraculous vitamins and supplements, some physicians have issued a statement: “Stop wasting money.”<sup>1</sup>

The Food and Drug Administration (FDA) defines dietary supplements as products that are “intended to add further nutritional value to the diet” and are unregulated — unlike drugs. This lack of regulation can have negative health impacts. For example, researchers found that four weight-loss supplements contained the stimulant ephedra, a toxin banned by the FDA in 2004.<sup>2</sup>

In most cases, multivitamins do next to nothing for promoting health. In the past, doctors prescribed vitamin supplements to prevent heart disease or cancers, but more recent research has shown that they have no impact on reducing risk whatsoever. Dr. Larry Appel, Director of the Johns Hopkins Welch Center for Pre-

vention, Epidemiology and Clinical Research, explained, “Other nutrition recommendations have much stronger evidence of benefits—eating a healthy diet, maintaining a healthy weight, and reducing the amount of saturated fat, trans fat, sodium, and sugar you eat.”<sup>3</sup>

Of course, if you have a clinically diagnosed vitamin deficiency, it may be necessary to take prescribed vitamins. But in general, following a healthy lifestyle will get you all the nutrients you need.

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# TOBACCO 21 IN

By Noah Tru

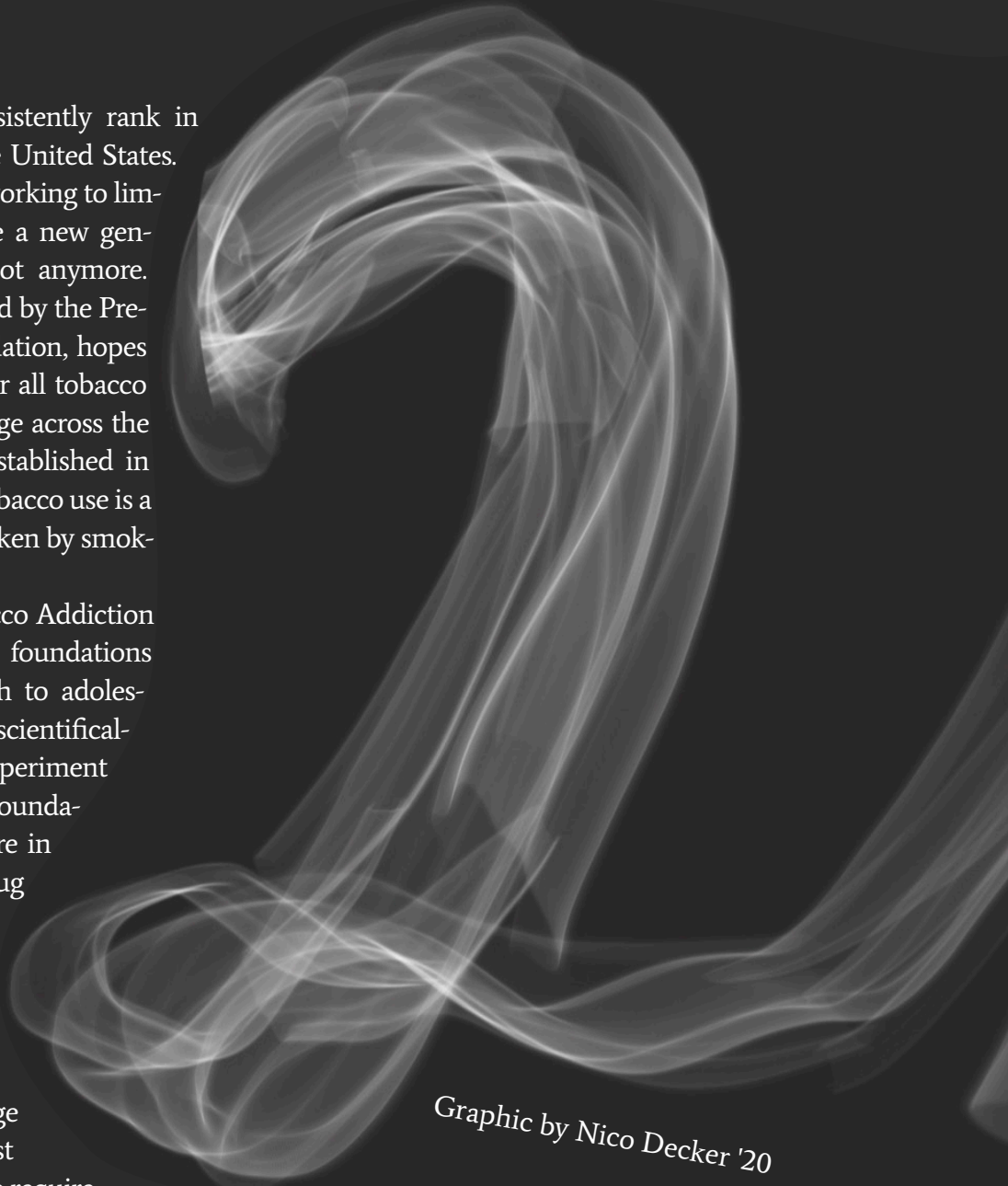
Tobacco-related illnesses consistently rank in the top ten causes of death in the United States. So why has no one been actively working to limit tobacco accessibility and create a new generation of non-smokers? Well, not anymore. Tobacco 21 is produced and funded by the Preventing Tobacco Addiction Foundation, hopes to raise the minimum legal age for all tobacco and nicotine sales to 21 years of age across the United States. The foundation, established in 1996, is based on “the belief that tobacco use is a voluntary risk continually undertaken by smokers themselves.”

What makes Preventing Tobacco Addiction Foundation different from other foundations and movements is their approach to adolescent tobacco use. Adolescents are scientifically more likely to take risks and experiment with nicotine and drug use.<sup>1</sup> The Foundation hopes to target early exposure in order to prevent a lifetime of drug use and drug-related fatalities.

Before the implementation of any legislation, local ordinances in Connecticut, including Meriden and Hartford, had already raised the minimum purchasing age from 18 to 21. Hartford was the first city in Connecticut to raise the age requirement in October 2018. Mayor Luke Bronin of Hartford found the message of Tobacco 21 particularly inspiring: “Tobacco 21 has earned unanimous support on our City Council and our team will work in the coming months to implement this ordinance. Cities and states across the country had already taken this step based on compelling public health research, and I

hope that Connecticut follows our lead and passes Tobacco 21 on a statewide basis.”<sup>2</sup>

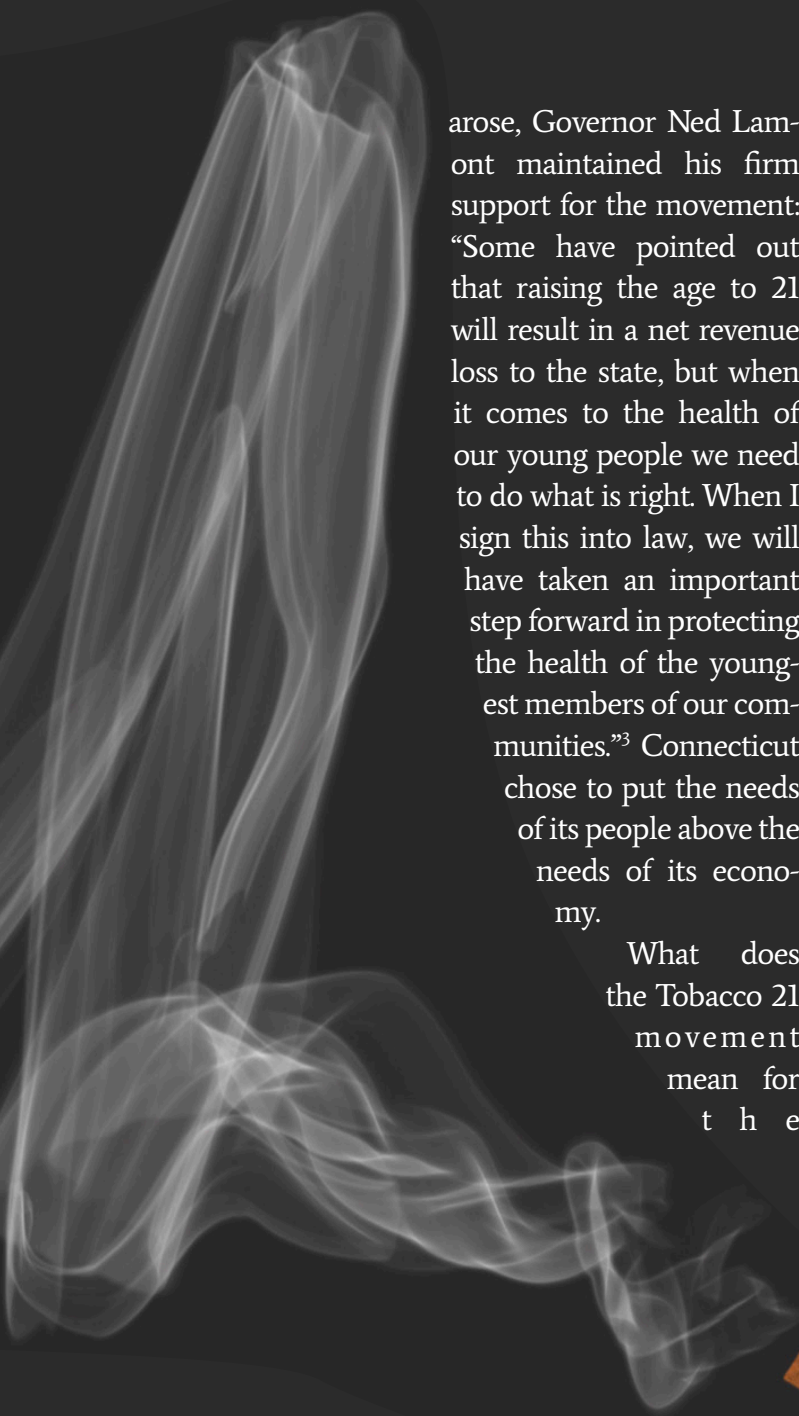
As of now, Connecticut is one of 29 states to join the Tobacco 21 movement. In May, Connecticut passed a state-wide law raising the minimum age to purchase tobacco and/or nicotine to 21. Though controversy



*Graphic by Nico Decker '20*

# CONNECTICUT

udeau '20



arose, Governor Ned Lamont maintained his firm support for the movement: “Some have pointed out that raising the age to 21 will result in a net revenue loss to the state, but when it comes to the health of our young people we need to do what is right. When I sign this into law, we will have taken an important step forward in protecting the health of the youngest members of our communities.”<sup>3</sup> Connecticut chose to put the needs of its people above the needs of its economy.

What does the Tobacco 21 movement mean for the

Choate community? The new legislation in no way contradicts Choate’s policies. If anything, the new legislation supports the student handbook, which clearly states that tobacco and nicotine products are strictly prohibited and will result in disciplinary consequences. Choate’s Safe Haven policy responds with a non-disciplinary action if a student engages in illegal substance activity by allowing the student to pursue constructive action. However, it is important to note that Safe Haven is not an easy way out to drug use; rather, it encourages open and supportive communication between students and faculty. Choate’s substance abuse policies reflect the goals of the Tobacco 21 movement and legislation: creating a safer and healthier generation by preventing drug use in the early stages of adolescence.

At its core, Tobacco 21 is not intended to punish the tobacco and nicotine industries. Supporters of the movement do not necessarily wish to put companies out of business, but hope to prevent illegal substance abuse by increasing the required age of purchase — and in the process, force adolescents to put more thought into purchasing tobacco and nicotine.

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# #PRAYFORAMAZONIA

By Sunny Sun '20

Known as the lungs of the earth, the Amazon rainforest offers a third of the world's oxygen supply. However, in August alone, the forest has undergone more than 2,500 fires, a nine-year high, according to Brazil's National Institute for Space Research.<sup>1</sup> The number of patients in local hospitals increased sharply while local officials scrambled for ways to alleviate the environmental and public health emergency.

The blazes lasted for months and spread across unpopulated land, covering Brazil in thick smoke. According to a pediatrician in Porto Velho, a city in northwest Brazil, "we are finally seeing what we are breathing." Particulate matters floating in the air have decreased visibility significantly and caused severe health problems.

Inhaling particulate matters hinders breathing and exacerbates respiratory issues like asthma and bronchitis.<sup>1</sup> These symptoms are especially prominent in more susceptible demographics such as children and elders, as evidenced by a children's hospital

in Porto Velho that has recently been receiving three times more patients than average. "The kids are affected the most," said Elaine Diaz, a nurse in the Brazilian city.<sup>2</sup>

Even though authorities in Porto Velho advise citizens to avoid outdoor activities, there is almost no escape for those who live downwind of the fires. "Just one day of exposure to these pollutants has a critical impact on health," said a specialist in environmental diseases.<sup>1</sup>

Apart from health effects, fires in the rainforest also pose fatal threats to the ecosystem. The destruction of Amazon forests means the loss of a huge carbon sink to balance emissions from factories, mining, and transportation. It is also important to note that these fires were mostly caused by human interference, from cattle ranchers to loggers who wished to clear the land by burning the plants.<sup>3,4</sup> This agricultural practice was further endorsed by the newly-elected president Jair Bolsonaro, as he declared that large areas of protected land were an obstacle to economic growth.<sup>5</sup>

Since Bolsonaro's inauguration in January, measures to exploit resources in order to boost the economy have surged. A far-right climate skeptic himself, Bolsonaro weakened forces against illegal logging and mining with other political agendas that undermine efforts to solve environmental challenges, including pulling out of a climate change summit and cutting the environmental budget by 24%.<sup>6</sup>

In addition to loosening environmental regulations, the Brazilian government encouraged

**"A loss in carbon-sequestering trees and an increase in the burning of wood, which releases carbon dioxide, have aggravated global warming, leading to a dual negative effect."<sup>5</sup>**



agricultural practices that would accelerate climate change.

We cannot afford to lose natural habitats that capture carbon dioxide, nor can we watch idly as children and elders suffer from respiratory disorders. Under both national and international pressure, local governments built up fire brigades while Bolsonaro took to direct military measures to control the fires.<sup>6</sup>

The Amazon rainforest is a treasure to all of mankind. While people in Brazil and neighboring countries are directly affected by the fires, people from other parts of the world are also watching this ecological disaster from afar. The hashtag #prayforamazonia has sprung up on Twitter and was retweeted many times by celebrities and environmental non-governmental organizations (NGOs) to raise awareness. Some of the tweets were filled with melancholy and angst for the loss and anger at the government's inaction. "Everything on Earth is dying, the Amazon forest is burning, everyone is hopeless," read one tweet.<sup>7</sup>

In a cobweb crisscrossed with political agendas, environmental challenges, and health concerns, the Amazonian fire magnified core conflicts of the world. Drier seasons are yet to come, and we must act globally to help quench the fire.

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Graphic by Jacqueline Zou '20





# EAT FOR EARTH: THE ENVIRONMENTAL IMPACTS OF FOOD

By Renee Jiang '22

Trudging into the dining hall, you are ravenous for a succulent piece of steak or scrumptious chicken slider after an exhausting morning of classes. You are greeted instead by the delectable sight of cauliflower bites and tofu patties; the dreaded Veg-Out Monday had slipped your mind. Many students at Choate object to Veg-Out Mondays because they simply crave meat and doubt that omitting meat for a single meal is significantly beneficial to the environment. While most members of the community are aware of the severity of climate change, they often consider their own actions as inconsequential, convinced that environmental problems are too complex for individuals to make even the slightest impact.

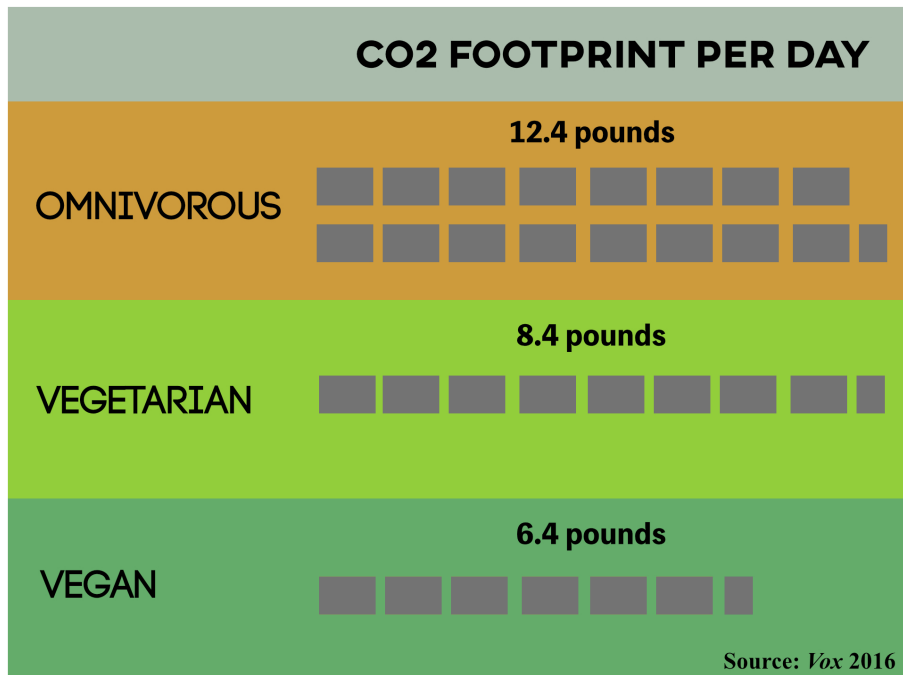
Environmentalists, however, claim that various diets, such as the common omnivorous, vegan, and Paleo diets, can all have significantly positive — or negative — impacts on the environment.

The common omnivorous diet, consisting of meat, dairy, fruits, vegetables, and carbohydrates, has multiple negative effects on the environment. A recent study by the Food and Agriculture Organization (FAO) found that “livestock accounts for about 14.5% of anthropogenic greenhouse gas emissions estimated as 100-year CO<sub>2</sub> equivalents.”<sup>1</sup> Animal agriculture is responsible for producing more greenhouse gases than all global transportation systems combined. Greenhouse gas emissions are a major cause of climate change.

In addition, according to a 2009 study by the Natural Resources Defense Council, “four-fifths of the deforestation across the Amazon rainforest could be linked to cattle ranching, and the water pollution from factory farms can produce as much sewage waste as a small city.”<sup>2</sup> With the recent tragedy of the Amazon fires, it is even more critical to reduce livestock farming. Undeniably, an omnivorous diet is detrimental to the environment, and a simple decrease of meat and dairy intake does make an impact.

The increasingly common vegan diet is especially beneficial for the environment. “A vegan diet is probably the single biggest way to reduce your impact on planet Earth, not just greenhouse gases, but global acidification, eutrophi-





cation, land use and water use,” argued Joseph Poore, a researcher at the University of Oxford.<sup>3</sup> According to the U.N. Convention to Combat Desertification, “it takes up to 10 pounds of grain to produce just one pound of meat, and in the United States alone, 56 million acres of land are used to grow feed for animals, while only four million acres are producing plants for humans to eat.”<sup>4</sup> A decrease in animal agriculture would minimize land use, a primary cause of mass wildlife extinction. Moreover, “cutting meat and dairy products from your diet could reduce an individual’s carbon footprint from food by up to 73 percent.”<sup>5</sup> Clearly, veganism isn’t just healthy; it also significantly benefits the environment.

Although trendy diets such as the Paleo or Keto may seem helpful for the environment, they have negative impacts on the environment. The Paleo diet is based on “caveman foods,” rejecting any-

thing packaged or processed. The Keto diet is a low carb, high fat, and high protein diet intended to promote weight loss. Both of these healthy diets encourage meat consumption, consequently increasing animal agriculture, which is evidently hazardous for the planet. “Plant-based proteins, and whole grains and a small amount of starchy vegetables: Those are all part of a balanced, healthy eating patterns,” said Nicole Tichenor Blackstone, Assistant Professor in the Division of Agriculture, Food, and Environment at Tufts University. “We’re doing people a disservice by telling them you have to rule out those categories entirely and change the emphasis more toward animals. That’s actually going in the wrong direction in terms of environmental sustainability.”<sup>6</sup> All things considered, a Keto or Paleo diet isn’t necessarily harmful if you limit your meat intake.

Ultimately, a single individual or meal can affect the earth in various ways. With so many limitations on diets such as vegan or “eco-friendly” Keto and Paleo, it can certainly be difficult to restrain yourself from eating meat and dairy. A manageable solution is starting slow, and gradually decreasing your meat intake. Even going vegan for a meal a day will make a substantial impact on the earth. In the future, reflect on all the positive effects Veg-Out Monday has on our world before complaining.

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# A FUTURE WITHOUT PEANUT ALLERGIES

By Mirielle Ma '21

Schools all over the United States have been banning peanuts due to the increasing number of kids with severe peanut allergies. One of the most common allergies seen among chil-

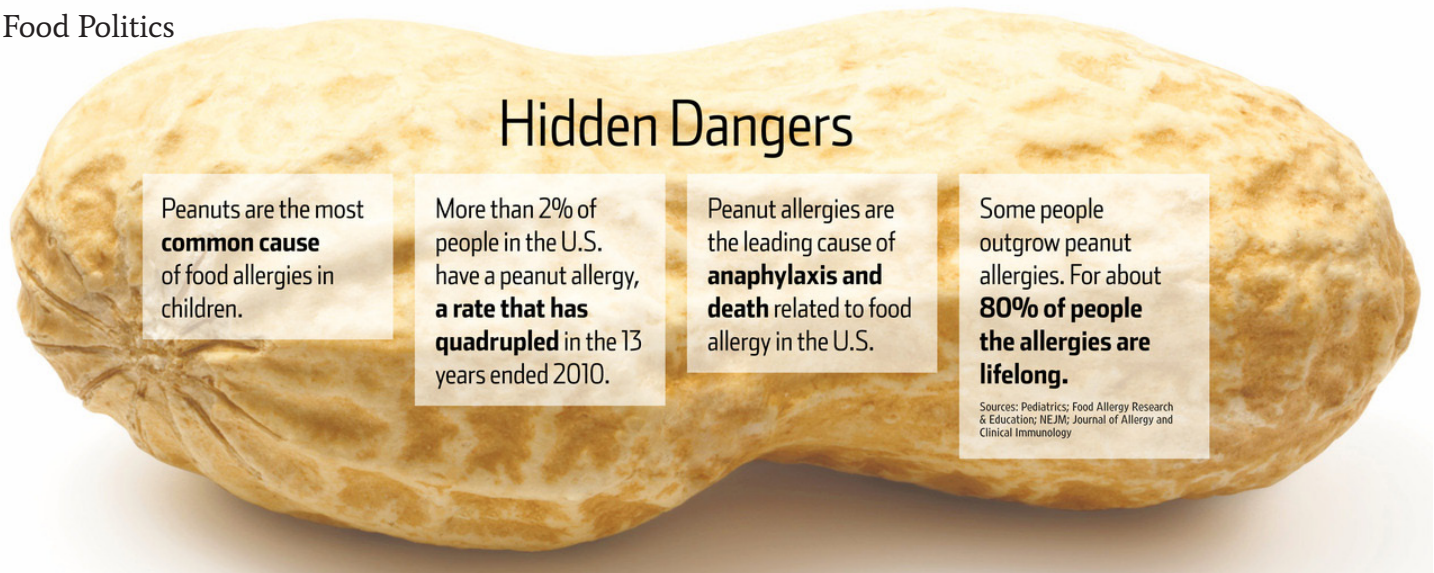
dren, peanut allergies are found in about one out of every fifty children. The number of peanut allergies has skyrocketed in the last twenty years, almost tripling since 1997.<sup>1</sup> These aller-

gies are serious — and can even be fatal.

Currently, there is no cure for peanut allergies; there are only ways to minimize the severity of the reaction. One new method of reducing symptoms is sublingual immunotherapy, also known as SLIT, a treatment that involves exposing the sufferer to the allergen in small doses. This oral immunotherapy increases the allergic person's tolerance for an allergen. Starting from a young age, kids with these allergies are given small doses of liquid mouth drops that contain peanuts. Researchers use the same concept used in vaccinations; gradual exposure to the allergen will train the immune system to become more tolerant of peanuts.

Medical News Today





## Hidden Dangers

Peanuts are the most **common cause** of food allergies in children.

More than 2% of people in the U.S. have a peanut allergy, **a rate that has quadrupled** in the 13 years ended 2010.

Peanut allergies are the leading cause of **anaphylaxis and death** related to food allergy in the U.S.

Some people outgrow peanut allergies. For about **80% of people the allergies are lifelong.**

Sources: Pediatrics; Food Allergy Research & Education; NEJM; Journal of Allergy and Clinical Immunology

The liquid mouth drops are easy to administer in young children and only have mild side effects, such as a slight tongue itch. It's a simple alternative to swallowing peanut pills. In a study conducted by the University of Chicago Medical School, children were given daily doses of these peanut proteins, with the dosage gradually increasing for a year. At the end of the study, about 86% of patients were able to eat peanuts in small doses without having a severe reaction.<sup>1</sup>

Although the medicine doesn't completely get rid of the patient's allergies, it is able to reduce the severity of the allergy. This decreases the risk of fatal accidents and protects children from accidental exposure or cross-contamination. SLT has not yet been approved by the Food and Drug Administration (FDA), but multiple studies are being conducted to make sure that the medicine is safe for children all over

the country to use. It is a risky treatment to test since patients' reactions are difficult to predict. However, if it can be administered safely, SLT could improve the lives of thousands of kids all over the country.

Another method of peanut oral immunotherapy is the use of peanut flour. A company called Aimmune created a pill that contains traces of peanut protein to give patients a gradual exposure to peanuts. The company conducted an experiment in which one group of patients was given a pill with peanut flour and the other group was given a placebo pill that contained no traces of peanuts. The dosage of peanut flour was gradually increased until the pills contained the same amount of peanut protein as two peanuts. The study showed that about two-thirds of the patients taking the peanut pill were able to consume two peanuts without a reaction by the end of the study.<sup>2</sup> However, the

pills are expensive and would have to be taken daily for an indefinite amount of time to maintain the positive effects.

Aimmune has named these peanut flour pills "Palforzia" and is currently awaiting FDA approval. Both SLT and Palforzia, if approved by the FDA, could change the lives of kids with peanut allergies all over the country who live in fear of the smallest exposure to peanuts. Hopefully, in the future, the same techniques of oral immunotherapy can be applied to other serious food allergies.

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# 988: 911 FOR THE BRAIN

By Clarence Liu '22

Recently, the Federal Communications Commission (FCC) proposed to launch a new three-digit suicide hotline, abolishing the current National Suicide Prevention Lifeline number, 1 800 273 TALK, and instead adopting the three-digit number: 988.<sup>1</sup>

This proposal has been met with much excitement and hope. According to Madelyn Gould, a psychiatrist at Columbia University, this change is a great idea. “People can have a cognitive shutdown or blank, as any of us do, when we can’t remember things during times of extreme stress.”<sup>1</sup> She adds that having a three-digit hotline will “facilitate people’s access to care at times when they are in dire need.”<sup>1</sup> This is important because in 2018 alone, the existing lifeline answered more than 2 million calls.<sup>1</sup> Gould believes that if a simpler three-digit number was to be implemented, more people will be inclined to call, and thousands more lives saved.

In 2018, the National Suicide Hotline Improvement Act was passed. This required the FCC to work with the Substance Abuse and Mental Health Ser-

vices Administration (SAMHSA) to evaluate the effectiveness of the current suicide prevention lifelines and consider the possibility of having a three-digit lifeline. Now, this possibility is becoming a reality. David Covington, the CEO of RI International, an organization dedicated to proper recovery in behavioral health, believes that the new hotline will reduce the stigma around mental health and become “a 911 for the brain.”<sup>1</sup> He adds that “having a three-digit national hotline would go a long way in beginning to normalize that it’s OK to seek help.”<sup>1</sup>

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Graphic by Nico Decker '20

# STEER CLEAR OF THE RAMPANT FLU

By Brooke Edwards '22

The flu season at Choate is notoriously one of the toughest times of the school year. As the season begins to change, the ill will likely begin piling into the Health Center. However, by following a few simple tips, you may be able to avoid many trips to the Health Center.

First, get yourself vaccinated — an annual vaccine will increase immunity to the flu. While there is a controversy surrounding the necessity and safety of vaccines, the majority of reputable scientific sources identify them as key to maintaining good health. The basic rules of flu prevention such as avoiding those sick with the flu, washing hands, and coughing and sneezing into elbows also remain crucial.<sup>1</sup>

When looking towards specific ways that Choate can establish enhanced overall health, masks are also a viable option. As one study states, "When used correctly, masks are highly effective in preventing the spread of viral infections."<sup>2</sup> Choate should consider supplying masks to further prevent the rapid spread of illness.

On top of that, students should also strive to maintain proper habits such as getting plenty of sleep and hydration, as these seemingly trivial changes can aid recovery and fight off illness.<sup>3</sup>

Lastly, if you do fall ill, you should go to the Health Center to stop symptoms from worsening and sickness from spreading to others.

Overall, the Choate community should work towards upholding basic hygiene and staying vigilant as the flu season approaches. Let's stay healthy, boars!

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## ★ FLU SEASON ESSENTIALS ★



Graphic by Elaine Zhang '21



# CAFFEINE: NOT SO INNOCENT

By Lara Selçuker '21



The media has recently been flooded with news of drug- and alcohol-related deaths. As a result, many people who continue to use illicit drugs and consume excessive amounts of alcohol are well aware of the substances' harmful effects on the human body; if not aware, the information is readily available to them, given the rising prevalence of these topics in current research. How-

ever, there is still one perfectly legal drug that is regularly overused and can, in some cases, be just as harmful: caffeine.

Caffeine is nowhere nearly as harmful as tobacco and alcohol, and if regulated, the drug is practically harmless. However, the problem arises when coffee-based drinks are too often presented in the media as a substitute for sleep. The

instilling of these unhealthy caffeine habits at an early age may be ruining teenagers' sleep habits all around the world.<sup>1</sup>

According to psychologist Murray Carpenter in her book, *Caffeinated: How Our Daily Habit Helps, Hurts, and Hooks Us*, "It's the only drug that's not really seen as a real drug, that doesn't have a stigma. It's one that many of us feel comfortable giving to our children in small doses."<sup>2</sup>

Susannah Cahalan, a renowned journalist, adds that although nearly three quarters of children on any given day will ingest caffeine and 87% of Americans who ingest caffeine will boast about their addiction, nobody talks about its problems.<sup>3</sup> Caffeine is society's favorite drug, and it has now seemingly spread everywhere.

This normalization of coffee consumption as a replacement for sleep stems from sources that children are exposed to very early in their lives, such as video games. For instance, in a popular life-simulator game "The Sims," players are given the option to choose between sleeping or simply drinking coffee as an option to refill their energy status. Though the game is marked appropriate only for those aged 12 or older, many elementary school students play the game. Young, impressionable children are thus taught that caffeine can act as a substitute for sleep, even providing energy and good health.

In younger children, the effects of these poor influences are not as apparent simply because they are less likely to be seeking stimulation to stay awake. Teenagers, on the other hand, are much busier and more sleep-deprived. Having grown up with the misconception that caffeine can provide the same

**The instilling of these unhealthy caffeine habits at an early age may be ruining teenagers' sleep habits all around the world.<sup>1</sup>**

benefits as sleep, many choose to consume coffee to complete their work.

Their choice is proven to be normal in movies and TV shows. In "Gilmore Girls," one of the most popular coming-of-age television series, the main character constantly talks about her reliance on coffee: "I need coffee, whatever form you got, I haven't had it all day. I'll drink it, shoot it, eat it, snort it, whatever form it's in."<sup>4</sup>

It may seem pointless to try to completely prevent peo-

ple from drinking any coffee — after all, it now makes up such a large part of many cultures and societies. In addition, small dosages of caffeine, like the amount existent in chocolate, have even been proven to release serotonin, a neurotransmitter often called the "happy chemical." However, it is necessary to recognize that caffeine should be a complement, not a lifeline. At a competitive and challenging academic environment like Choate, it's normal to need a cup of coffee once in a while — but it shouldn't be an alternative to sleep. Unlike what is depicted in "Gilmore Girls," 10 cups a day won't restore happiness or replace lost sleep. Just go to sleep!

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# WHAT HURRICANE DORIAN LEFT BEHIND

By Joy Bang '22

On September 1, 2019, Category 5 storm Hurricane Dorian landed in the northwest Bahamas. When Dorian first made landfall, more than 50 were killed, and countless homes destroyed. The devastation did not end there. According to the Pan American Health Organization (PAHO), the hurricane has affected about 73,000 people, hundreds of whom are still in shelters with nowhere to go.<sup>1</sup> Unfortunately, Hurricane Dorian has not only brought about deaths, injuries, and destruction of homes, but

also long-lasting consequences for the health of Bahamians.

One of the primary concerns is the unhygienic conditions in areas of destruction. Some imminent concerns include problems regarding drinking water, food, and conditions of shelters and medical clinics.<sup>1</sup> Indeed, public health advocate Sanya Mansoor wrote, “The lack of access to toilets, clean water and medications puts tens of thousands at risk for disease.” For example, cuts and gashes caused by debris have a high chance of getting infected as

victims are likely to be wading in unsanitary water, which contains high levels of fecal bacteria. Many of these patients are unlikely to receive immediate sanitary care from health clinics due to the chaotic nature of post-disaster treatment centers.

The most devastating results of natural disasters often become more apparent long after the initial event.<sup>1</sup> The 2010 earthquake in Haiti led to the outburst of a cholera epidemic, resulting in the death of about 8,100 people and the infection of about 665,000 people. This outnumbered the death toll of the actual earthquake — 230,000 people. Likewise, an outbreak of leptospirosis resulted in countless deaths following Hurricane Maria in 2017. Thus, potential threats of an epidemic outbreak cannot be overlooked. The nature of a hurricane may create a suitable environment for mosquito reproduction, possibly leading to mosquito-borne diseases, such as Dengue, Chikungunya, and Zika. Destruction of infrastructure could lead to overpopulation of mosquitoes, and thus a higher risk of mosquito-borne pathogens. Other water-



Gonzalo Gauden





borne diseases could also be easily transmitted with the presence of unsanitary water.

To mitigate the devastation, many organizations are working to offer help through various means.<sup>2</sup> Different organizations including the PAHO, Heart to Heart International, and Water Mission are taking part in an effort to lessen the harmful results from the devastation and to prevent further damage. The PAHO requested \$3.5 million from donors to support the recovery of Bahamians in need of financial and physical support, and Heart to Heart International sent out eight professional medical practitioners to the scene. Meanwhile, Water Mission is working with the Bahamian government to help citizens regain access to freshwater in the affected areas.

Perhaps the most long-lasting and dangerous effect of the hurricane is the victims' compromised

mental health. Even if their financial and physical needs are being met with the help of the government and organizations, these victims have lost their loved ones and their homes. This type of trauma may negatively impact the victims for the rest of their lives.<sup>3</sup> Many survivors of natural disasters suffer from post-traumatic stress disorder (PTSD), which includes overwhelming anxiety, sleeping problems, and depression. Children in Puerto Rico, for example, displayed symptoms of PTSD after the 2017 Hurricane Maria. Though both financial and medical support are crucial to the mitigation of Hurricane Dorian's devastation, government officials should always keep in mind the importance of having equal, if not more, resources and attention to providing mental health care.

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COVER GRAPHIC BY KATE BAILEY '21

