SCI-TECH

"Just take what you want, and leave what you don't
Let the world sink in and stick to your bones"
WHAT THEY SAY ZARA LARSSON

Yale study finds link between cancer and living near factory farms

BY MICHELLE SO
STAFF REPORTER

Earlier this year, Health and Human Services Secretary Robert F. Kennedy Jr. announced a revamp of the familiar food pyramid, with protein sources like red meat and full-fat dairy at the top of the list of recommended foods.

Yet, certain studies have found consumption of red meat to be linked to cardiovascular diseases and cancers of the colon.

Now, simply living near sites of red meat production may be linked to cancers as well.

A Yale study published in the journal Environmental Research examined whether living in areas with higher densities of animal feeding operations and concentrated animal feeding operations is associated with cancer incidence.

The feeding operations, commonly known as factory farms, often contain livestock in cramped conditions. Concentrated operations exceed a threshold population of 1,000 beef cattle, 700 dairy cows or 2,500 hogs.

"These facilities are known sources of environmental pollution, including air pollutants (e.g., ammonia, particulate matter, hydrogen sulfide) and water contaminants such as nitrates, which may have implications for human health," Jiyoung Son, a researcher at the School of the Environment and the paper's first author, wrote in an email to the News.

Using county-level data from California, Iowa and Texas between 2000 and 2021, the researchers found that counties with higher factory farm density had higher overall cancer incidence.

The increased cancer incidence prevailed despite variations in factory farm makeup; for example, dairy operations are more common in California, swine in Iowa and beef cattle in Texas.

Cancer isn't the only risk associated with living near a factory farm. When animals live in close proximity with one another, disease transmission becomes nearly unavoidable. Farmers often add antibiotics to animal feed to prevent disease-related deaths and bolster livestock growth. Overuse of antibiotics can cause bacteria to develop antibiotic resistance.

When runoff from these feedlots enters the environment, these superbugs may infect humans and other animals and remain unresponsive to treatment — a scenario that is dangerous to both livestock and human health.

Cole Haynes '27, the co-president of Plant Forward Yalies, a student group that promotes sustainable food systems, said he was not shocked by the study's results.

"While the findings of this Yale study are deeply concerning, they are unfortunately not surprising. The public health impacts of animal agriculture are widespread and well documented," Haynes wrote in an email to the News.

The study's researchers still say more detailed research is needed. Son suggested implementing environmental monitoring, especially of air quality and drinking water contamination, and improving waste management and reducing emissions.

Consuming red and processed meats is also associated with "pro-inflammatory mechanisms" that increase gastrointestinal and colon cancers and cardiovascular disease, John Dinkler, a cardiologist and the associate head of Timothy Dwight College, said.

Instead, Dinkler recommends that people switch to a more plant-based diet. Changing one's eating habits has marked benefits on cardiovascular disease and reduces cancer risk. A plant-based diet tends to lower blood pressure, improve cholesterol levels, maintain healthy blood sugar levels and reduce inflammation, he wrote in an email to the News. All of those changes improve the health of blood vessels throughout the cardiovascular system, reducing the risk of heart attacks and strokes.

"I've actually had many patients lower doses of cholesterol, blood pressure, and diabetes medications (or come off medications completely) after changing to a plant-based diet," Dinkler wrote. "It's impressive to see!"

According to Haynes, a plant-based diet has been shown to be one of the most effective ways to reduce an individual's carbon footprint by 75 percent, while also decreasing reliance on systems that harm human health, animals and the environment.

"Even small changes, like replacing meat with plant-based alternatives, opting for plant-based desserts, or swapping dairy milk for oat or soy, can have a significant impact," Haynes said.

An estimated 99 percent of the United States' farmed animals live on factory farms, according to the Sentience Institute, a think tank.

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New student-built app aims to make dining hall menus more accessible

BY ANYA GEIST
STAFF REPORTER

When Yassin Mudawi '28, a transfer student, arrived on campus last fall, he said he found Yale's dining system confusing: There were so many dining facilities, all with varying closures, transfer restrictions and menu changes.

Mudawi recently led a team at the Yale Computer Society to launch YaleMeals, an app that aims to offer an intuitive, easy-to-use menu guide to Yale's dining options. The app was downloaded over 700 times by April 7, according to Mudawi.

"For a new student coming here, it seemed to be a pain point for me personally, and how I approach software is I find a pain point in my life and then try to fix it," Mudawi said in an interview, referring to Yale's dining system.

Mudawi wanted to create an easily navigable app. The Yale Hospitality website, which uses Nutrislice to display menus, has a lot of "nested pages," Mudawi said. Nutrislice requires users to visit new pages to view a dining hall's menu for each meal on a given day.

Mudawi said he brought his idea to Yale Computer Society co-President Ryan Fernandes '28 last fall, and the club decided to take on YaleMeals as a project.

On YaleMeals, Mudawi tried to make it simple to switch between locations, meals and days. The app also allows students to customize its settings, including for their dietary preferences. The app features a "Friends" tab, where users can invite and schedule meals with their peers.

"I noticed there's a big meal culture here at Yale, where everyone wants to grab, like, lunch together or dinner together, and it's really wholesome. So why not try to promote that and encourage that?" Mudawi said.

Mudawi said he and his team hope students can use YaleMeals even in the case that Yale Hospitality's database changes. He added that he built the YaleMeals code to make it easy to switch to a new interface for a changed database.

Yale Hospitality spokesperson Alexa Gotthardt wrote in an email to the News: "We value student innovation and recognize the creativity students bring in developing new tools and platforms. At the same time, we encourage students to rely on Yale Hospitality's official menus page for the most accurate and up-to-date menu information."

Other students have created similar apps to YaleMeals in the past, including Bulldog Menus, which was founded by Edmundo Chavez Ramirez '28.

Regarding similar apps created outside of the Yale Computer Society, Lily Lin '27, the club's co-president, said, "Our goal is not to monopolize the market."

YaleMeals builds on the work of Yale Menus, a previously popular app that also listed each dining hall's menus. Yale Menus was originally launched by Eric Foster '20 and his brother David Foster '23 in 2017, and it was relaunched by David Foster and Erik Boesen '24 in 2020, Boesen wrote to the News. After Boesen graduated, the app became challenging to maintain.

"We negotiated a license to sell Menus to Yale Hospitality over a period of roughly 4-5 years," Boesen wrote to the News.

Ultimately, the sale fell through. Boesen, realizing the app was out of date due to changes to Yale Hospitality's databases and programming interfaces, passed it on to the Yale Computer Society. While Yale Menus was not a project created through the club, Boesen wrote, he had been a club member as an undergraduate.

"Yale Hospitality has previously explored partnership opportunities related to student-developed dining apps, including the 'Yale Menus' app," Gotthardt wrote to the News. "At that time, we determined it was not the right fit, largely due to the operational complexity involved in maintaining a separate platform alongside our existing systems, which serve the same purpose."

Ruby Lytton-Hirsch '29 frequently uses Yale's Nutrislice app to look at lunch menus around campus. Looking at the menu in advance allows her to see whether she prefers the Greens and Grains option or the regular offering. However, Lytton-Hirsch said the Nutrislice app can be challenging to use, particularly because she has to scroll to the bottom of the page to see the main options for each meal.

Lytton-Hirsch said she thought the YaleMeals app looked "prettier and easier to navigate" than Nutrislice.

Similarly, Hrishita Shah '28 said she found YaleMeals more "intuitive" to use than Nutrislice, though she added that she does not mind using Nutrislice because she has gotten used to it.

Shah, however, noted that the YaleMeals app lacks reviews of the menu items.

"The old Yale Menus app, it had a lot of reviews, like the Commons cookies had, like, 50 hearts," Shah said, adding that "not a lot of people" use YaleMeals. "So, like, the s'mores brownies have zero ratings."

Rishi Sankhe '28 sometimes uses YaleMeals, though he does not always feel the need to check dining hall menus before visiting. He finds the app easy to use, he said.

Sankhe noted that he thought the YaleMeals team was continuing to make good changes to the app, including adding pictures of the dishes.

Some students have never used YaleMeals. Zach Pan '27 said he had not heard of YaleMeals or even the Nutrislice website.

"I show up at the dining hall and eat what's there," Pan said. "I know I'm not going to spend additional funds on food from other sources. So I enter the dining hall, and I eat the food in the dining hall."

The dining halls serve chicken tenders for lunch every other Thursday.

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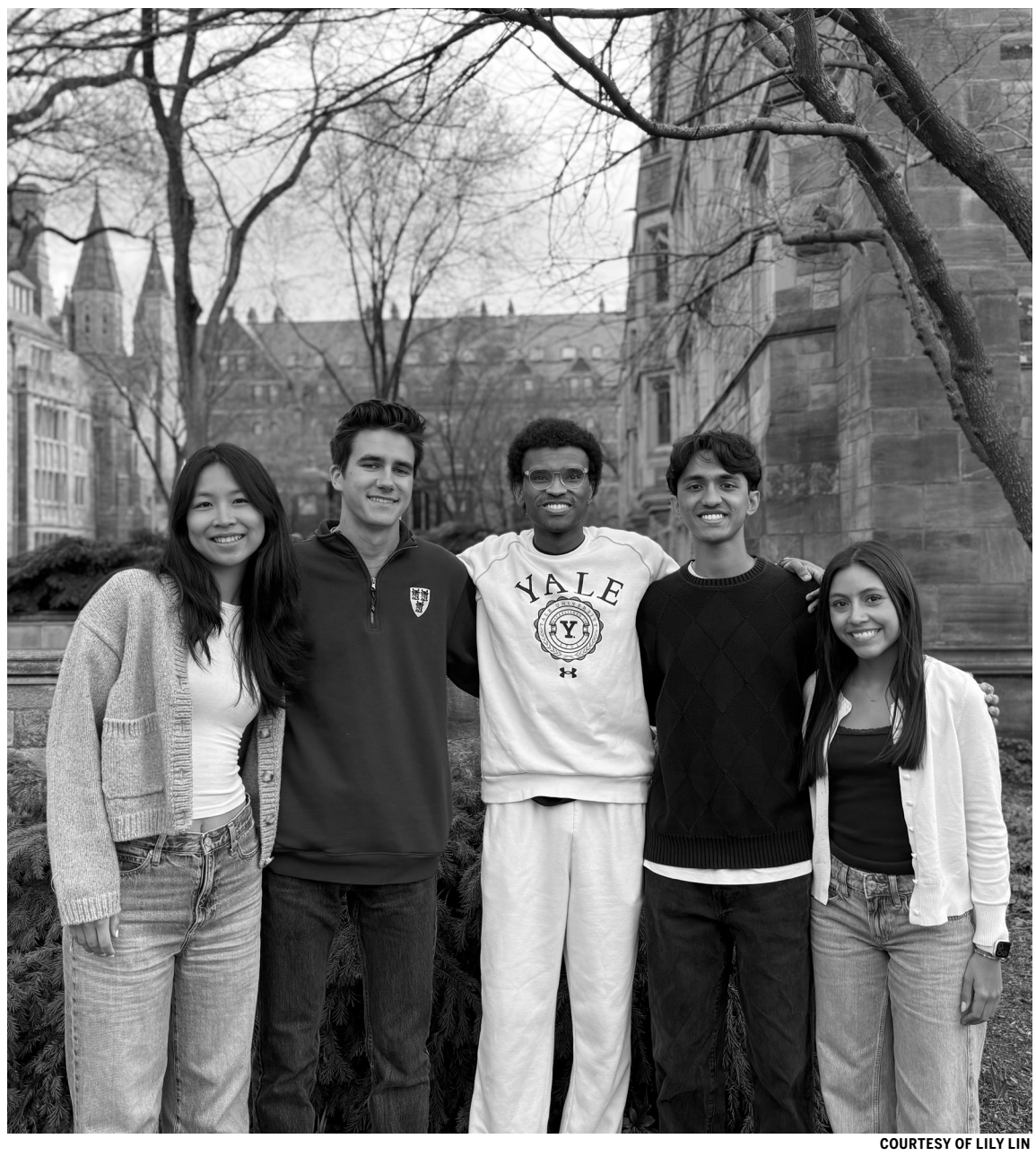

COURTESY OF LILY LIN

YaleMeals, an app that was recently developed by students in the Yale Computer Society, allows users to view the menus at various dining halls, as well as input their dietary preferences and coordinate meals with friends.

