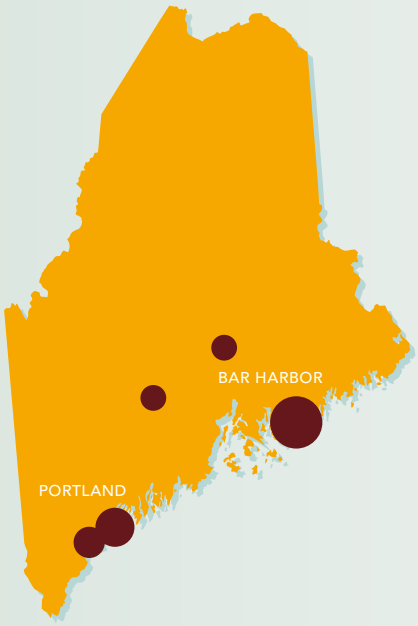
MAINE

Medical researchers funded by the National Institutes of Health (NIH) are working every day to improve health, discover cures and provide hope to people the world-over affected by disease. This work, however, has a secondary benefit: it supports employment and economic activity across the United States, including in Maine.



ADDING TO MAINE'S ECONOMY

In FY2017, nine institutions in Maine received

129 research awards

totaling nearly $90 million

While the bulk of the research awards went to Jackson Laboratory and the Maine Medical Center, many others supported a range of institutions and businesses in the state. This research funding, when cycled through the economy, generated **more than $200 million in total sales** for Maine businesses:

Supporting nearly **1,500 jobs** in Maine; and

Generating approximately **$24 million in tax and fee revenues** for state, county and municipal governments statewide.

BOOSTING THE LABOR FORCE IN MAINE

Jobs in the scientific R&D sector in Maine on average pay nearly 1.5 times more than those in other sectors. In 2017, this was $57,200 vs. $38,500. For young workers (under 25), the difference was even larger — 1.8 times the average pay in other fields, $24,000 vs. $13,000. Additionally, Maine has experienced somewhat higher job growth for young workers in the scientific R&D sector since 2014 compared to other sectors (5% vs. 4%). The ability to attract and retain young workers is important to Maine's future growth given its status as the "oldest" state in the nation.

REDUCING PUBLIC HEALTH COSTS

In Maine, **46% of the population** is enrolled in Medicare and Medicaid[i], far exceeding the national average of 35%, and spending on these programs amounts to **9% of Maine's total GDP**, also above the national average of 6%. Contributing to this burden is the prevalence of chronic disease in Maine, which is much higher than in other states.[ii]

COMPARED TO OTHER STATES, MAINE RANKS:

8th for rate of deaths from **opioid overdose**

9th for rate of **cardiovascular disease**

15th for rate of deaths from **Alzheimer's disease**

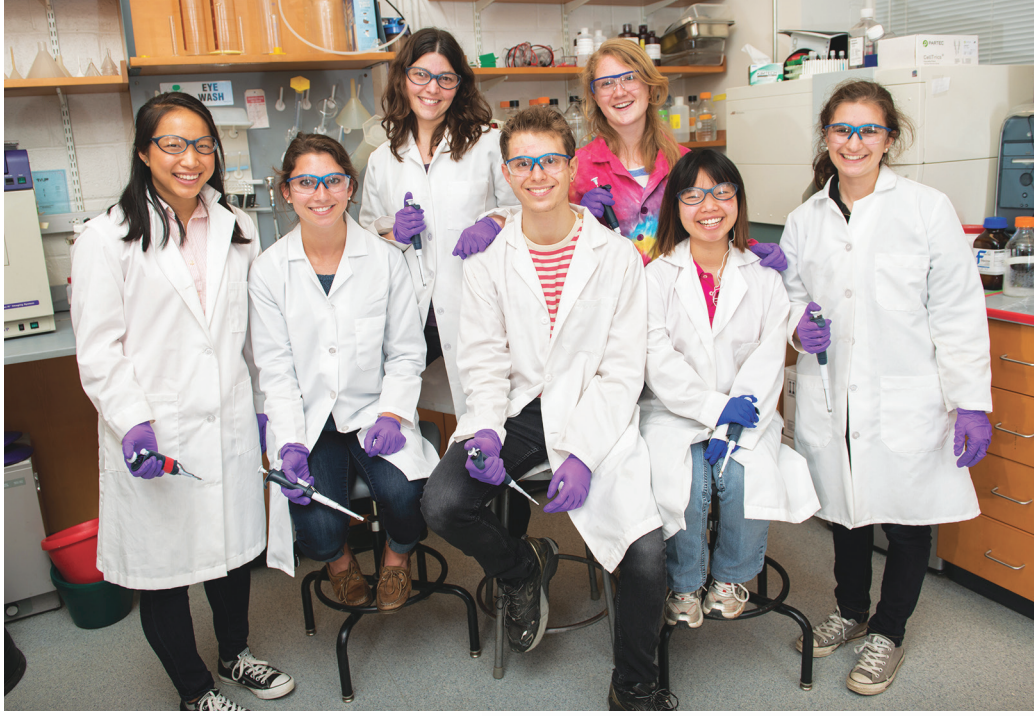
16th for rate of deaths from **cancer**

NIH-funded research that leads to improved treatments and cures for disease can help Maine address the state and local fiscal challenges of rising health care costs.

This state snapshot accompanies the UMR report, *"The Economic & Fiscal Impact on Select States of NIH-funded Medical Research."*

MEMBERS OF THE DUBE LAB

Photo credit: Michele Stapleton Photography



MEDICAL RESEARCH AT WORK IN MAINE

At Bowdoin College in Brunswick, Maine, Dr. Danielle Dube is studying the composition of sugars on the surface of disease producing bacteria. Specifically, she wants to understand how the sugar molecules stack together and enable bacterium to adhere to stomach cells. If she can figure this out, she can identify ways to interfere with this process and develop new antibiotics. Dr. Dube's target is the harmful Helicobacter pylori bacterial pathogen, a leading cause of stomach ulcers, gastritis and gastric cancer, and a bacterium that is increasingly resistant to existing antibiotic treatments.

In addition to providing clues to the development of new antibiotics, understanding how the sugars work might prove even more significant. Since they are unique to bad bacteria and entirely absent from human cells, Dr. Dube hopes the sugars may lead to the development of targeted antibiotics that work selectively against H. pylori and leave the many beneficial bacteria in the stomach alone (antibiotics today are not selective, they wipe out all bacteria — good and bad). This would be a significant medical advance and a potentially huge step in the battle against antibiotic resistance.

Dr. Dube's research has been supported directly and indirectly by the National Institutes of Health since 2010. She says this funding has been "transformative" both to her — supporting her work — and her students. With NIH funding she has been able to support 23 undergraduate research opportunities over the years, helping to launch these young researchers on to the next stage of their careers. The funding additionally supports a full-time technician for her lab.

"NIH funding has been transformative and helped support a vibrant, active undergraduate research lab where students have a meaningful research experience that launches them toward their own careers."

UMR
United for Medical Research

United for Medical Research is a coalition of leading scientific research institutions and industries, and patient and health advocates that have joined together to seek steady increases in funding for the National Institutes of Health. Learn more at www.unitedformedicalresearch.com. For examples of the amazing things that NIH research is making possible, visit www.amazingthingspodcast.com.

[i] According to the most recent statistics available from the Centers for Medicare and Medicaid Services

[ii] Cardiovascular Disease: Kaiser J Family Foundation State Health Facts
Cancer Deaths: National Cancer Institute State Cancer Profiles
Alzheimer's Disease Deaths: Alzheimer's Association "2018 Alzheimer's Disease Facts and Figures"
Opioid Overdose Deaths: Kaiser J Family Foundation State Health Facts