



PRESCRIPTION FOR INNOVATION

WISCONSIN'S WORLD-LEADING BIOHEALTH INDUSTRY

INDUSTRY STRONG. TECHNOLOGY SMART. FUTURE READY.

2,000+

Wisconsin biohealth companies¹

51,000+

biohealth industry employment¹



BUILT FOR INNOVATION

In the field of biohealth, a number of subsectors—including medical device manufacturing, digital health, biopharmaceuticals, and diagnostics—are converging into a single interconnected, synergistic field to create the best solutions for today's health challenges. Wisconsin's strength in bioscience, manufacturing, and technology makes our state well positioned to take advantage of this convergence and to lead the way in producing the integrated health solutions of tomorrow.

Wisconsin is also an excellent place to start a business. We have a comprehensive network of resources that supports entrepreneurs from the birth of their business idea all the way through bringing it to market and scaling.



Federal grants (primarily biohealth) contribute

\$1 BILLION +

to Wisconsin's economy each year¹



253

medical device manufacturers in Wisconsin¹

WISCONSIN'S LEADERS IN BIOHEALTH



Source: (1) Wisconsin Biohealth Industry Landscape and Economic Impact Report, prepared for BioForward Wisconsin by TEconomy Partners LLC, October 2022

INDUSTRY STRONG. TECHNOLOGY SMART. FUTURE READY.



WISCONSIN'S ESTABLISHED STRENGTH IN BIOHEALTH

is concentrated in three areas:

- **Medical device manufacturing**, with a primary focus in medical imaging technologies. Everything from MRI and dialysis machines to pacemakers and vacuum devices for negative pressure wound therapy—as well as diagnostic equipment, supplies, and kits—is made in Wisconsin. The nearly 12,000 jobs in this subsector translate to a specialized employment concentration (34% higher than the national average).²
- **Biopharmaceuticals**, with several areas of focus related to biomanufacturing. From the development of drugs and therapies to translational and integrated science, Wisconsin has a long history of excellence in biotechnology and biopharmaceuticals. Within biopharmaceuticals specifically, Wisconsin has a specialized employment concentration exceeding three times the national average.²
- **Radiation/nuclear medicine**, spanning both the device and the biopharmaceutical subsectors. Via the research and educational expertise of UW-Madison, Wisconsin is building a core competency in radiotherapeutic technologies.



Wisconsin is a
WORLD LEADER
in animal genetics.

Wisconsin also has high-growth areas within its biohealth sector:

Medical laboratories: Since 2018, the sector has added more than 2,200 jobs in Wisconsin.²

Medical equipment and supplier wholesalers: Employment in this category is steadily growing (up 13% since 2018), and with more than 5,800 jobs, this subsector is 11% more concentrated in Wisconsin than the national average.²



\$31.8 BILLION
economic impact
of biohealth industry²

Source: (2) Wisconsin Biohealth Industry Landscape and Economic Impact Report, prepared for BioForward Wisconsin by TEconomy Partners LLC, October 2022

THE WORKFORCE YOU NEED AWAITS YOU IN WISCONSIN



NEARLY 5,000

engineering degrees and certificates awarded in 2021

Lightcast 2022.4 Dataset using U.S. NCES IPEDS data



14,000

health and life science degrees awarded in 2021

Lightcast 2022.4 Dataset using U.S. NCES IPEDS data



ADVANCING KNOWLEDGE

In Wisconsin, our universities lead in research and technology commercialization, supporting partnerships, companies, and policymakers to develop new, innovative products that fill market needs.

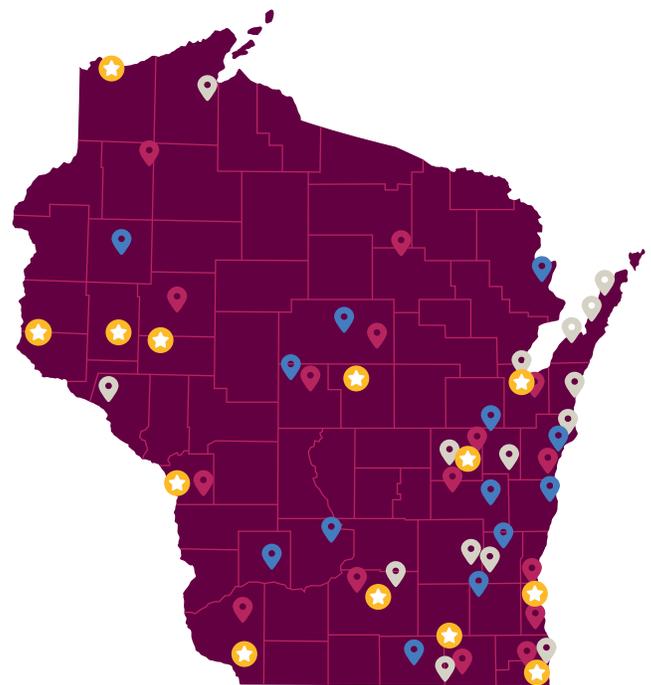
UW-Madison and **UW-Milwaukee** are both Tier 1 research universities;³ UW-Madison ranks #8 in the U.S. for research spending,⁴ with over \$1.3 billion in research expenditures in fiscal year 2021.⁴

World-renowned health and medical education and research take place in Wisconsin at institutions such as:

- The **UW-Madison School of Medicine and Public Health**, the first in the nation to fully integrate medicine and public health
- The **Morgridge Institute for Research**, an independent biomedical institute exploring uncharted scientific territory to discover tomorrow's cures
- The **UW-Milwaukee Institute for Drug Discovery**
- The **Center for Predictive Computational Phenotyping** at UW-Madison
- The **Medical College of Wisconsin**, a distinguished leader and innovator in the education and development of the next generation of physicians, scientists, pharmacists, and health professionals, investing nearly \$277 million in research each year—and its **Department of Biomedical Engineering** in collaboration with Marquette University

Our 16 technical colleges and 35 universities, with a combined total of 100 campus locations around the state, prepare students to make strong contributions to Wisconsin's economy—and the leaders who hire them.

Higher Education in Wisconsin



Sources: (3) Carnegie Classifications of Institutions of Higher Education; (4) National Center for Education Statistics Higher Education Research & Development Survey

THE WORKFORCE YOU NEED AWAITS YOU IN WISCONSIN



Wisconsin exported
\$2 BILLION

in medical and scientific instruments in 2022.⁵



More than
2,200

biohealth patents were awarded to Wisconsin entities from 2018-2021.⁶

BIOHEALTH R&D SPENDING
AT WISCONSIN UNIVERSITIES HAS RISEN BY

33% since 2015.⁶



Cost of living in Wisconsin is

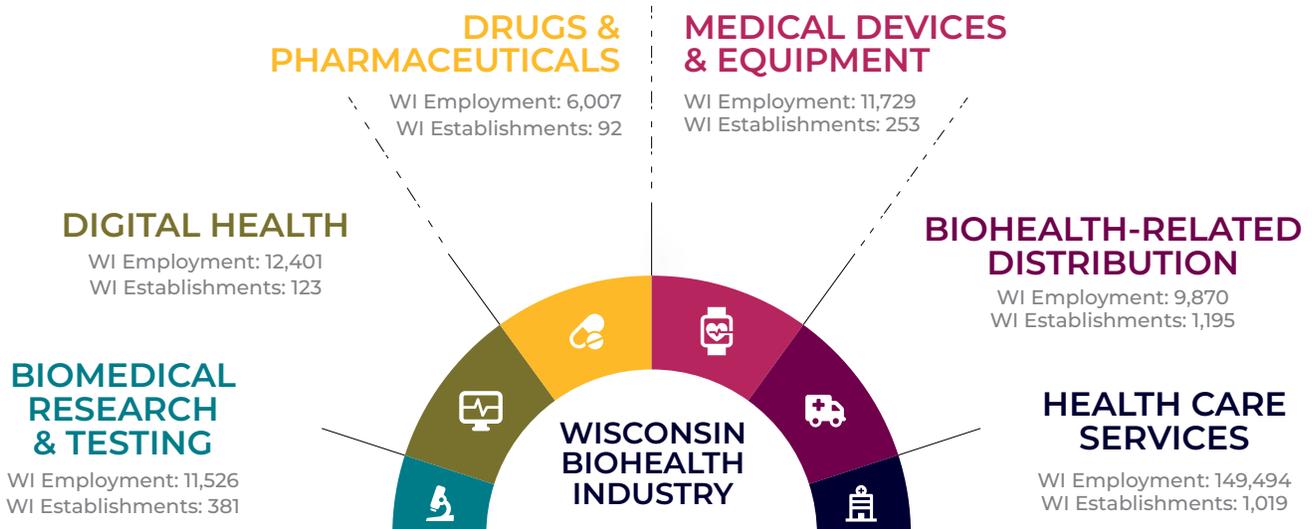
34% LOWER ↓

than in California

and

20% LOWER ↓

than in Massachusetts.⁷



Sources: (5) U.S. Census Bureau data as reported by WISERTrade; (6) Wisconsin Biohealth Industry Landscape and Economic Impact Report, prepared for BioForward Wisconsin by TEconomy Partners LLC, October 2022.; (7) Council for Community and Economic Research Cost of Living Index; Chart source: Wisconsin Biohealth Industry Landscape and Economic Impact Report, prepared for BioForward Wisconsin by TEconomy Partners LLC, October 2022

UNPARALLELED ADVANTAGES



“ By welcoming Cellular Dynamics Inc. to the Fujifilm Group and by combining the technologies and knowhow of both companies, we will seek synergies and efficiencies to be more competitive in the field of drug discovery and regenerative medicine. ”

SHIGETAKA KOMORI

CEO, Fujifilm

INDUSTRY AND ENTREPRENEURIAL SUPPORT

Wisconsin's strength in biohealth comes together with the help of **BioForward**, an industry organization that facilitates partnerships among government, academia, and private industry. Its biomanufacturing center of excellence also includes:

▶ The **Forward BIO Institute**, based at UW-Madison, which will support transformative research in the field of biomanufacturing, translate technologies into the private sector, and establish public-private partnerships to connect UW inventors and researchers with industry leaders. As part of this initiative, the institute is establishing a new master's degree at UW-Madison in biomanufacturing innovation.

▶ **Forward BIOLABS**, a shared lab facility at the University Research Park in Madison that provides office and lab space and other supportive services for biotech startups. Its aim is to lower the barrier for entrepreneurs in launching new ventures. Early outcomes are promising: Young companies that have used this space or graduated from Forward BIOLABS have far exceeded projections.

Biohealth companies know that in Wisconsin, they can find a **broad and deep supply chain** including the suppliers and workforce they need to create their products as well as companies that can handle the logistics of bringing those products to market.

A Secure Supply Chain



Infographic chart source: Wisconsin Biohealth Industry Landscape and Economic Impact Report, prepared for BioForward Wisconsin by TEconomy Partners LLC, October 2022

UNPARALLELED ADVANTAGES

Wisconsin ranks
1ST IN THE U.S.
for medical imaging
(irradiation apparatus) manufacturing⁸

Nearly
4,000
employed in Wisconsin
medical image manufacturing⁸



AN IDEAL LOCATION

In Wisconsin, we offer unparalleled advantages that are especially suited to biohealth.

Workforce

We deliver a critical mass of highly skilled and highly educated employees for the biohealth sector, including life sciences, medical technology, and digital health.

Research and development excellence

We push the boundaries of theoretical and applied science—and prepare talent for the future. At more than \$1.3 billion annually,⁹ our flagship University of Wisconsin-Madison ranks #8 in the U.S. for research spending;⁹ the University of Wisconsin System awards more than 41,000 degrees annually.¹⁰

Fiscal responsibility

From our fully funded state pension system—one of only two in the U.S.—to our extraordinary credit rating, we offer a politically stable, low-tax, low-regulation, business-welcoming environment.¹¹

Low risk of natural disaster

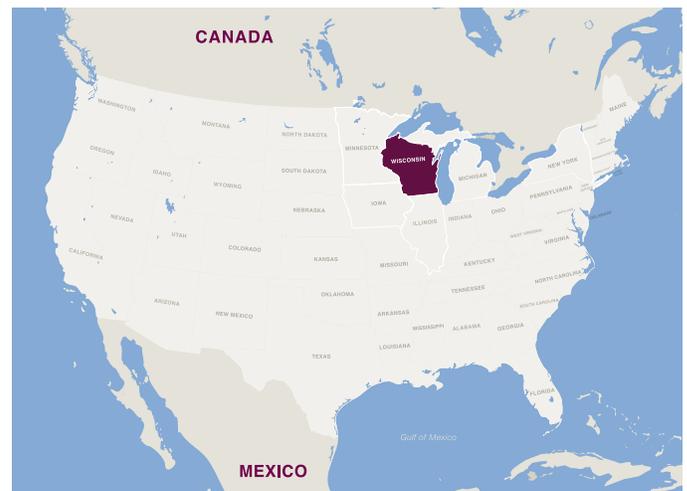
We offer remarkably low risk for every imaginable type of disaster, from earthquakes and wildfires to climate threats like heat waves, tornadoes and hurricanes.

Central location

From the center of the U.S., we offer quick access to markets throughout North America. Chicago and its O'Hare Airport are less than an hour from our border. And our well-developed logistics sector moves your goods to market efficiently via rail, road, air, or water.

Natural resources

More than two-thirds of Wisconsin's borders are water,¹² and 21% of the entire world's fresh water is located along the state's borders.¹³ In addition, Wisconsin has 1.2 quadrillion gallons of groundwater;¹⁴ this plentiful supply means Wisconsin businesses have no trouble getting access to the water they need for their operations.



Sources: (8) Lightcast 2022 Q4 Dataset; (9) U.S. NCES Higher Education Research and Development Survey; (10) Lightcast Q4 2022 Dataset; (11) Pew Charitable Trusts; (12) Wisconsin State Cartographer's Office and U.S. Census Bureau; (13) Wisconsin Water Facts, Wisconsin Water Library, UW-Madison; (14) Wisconsin Department of Natural Resources



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