University research in the life sciences not only benefits patients through the development of life saving therapies and improved diagnosis and prevention, it also serves as a catalyst for economic growth that far surpasses the initial research investment.

- Funded research helps Emory and Georgia attract a highly skilled workforce and top professors and students, create and sustain small companies focused on health care innovation, develop and use new state-of-the-art equipment and facilities, partner with industry on drug development, and facilitate the transfer of laboratory discoveries into commercialized products that save and improve lives.

- Emory received $572.4 million in external research funding in FY2015. According to the NIH, every $1 million of research funding in Georgia has a 2.21 multiplier effect on economic growth, equaling a $1.265 billion state economic impact last year. Federal agencies contributed $375 million of 2015 research funding, with the remainder coming from state, industry, and philanthropic sources.

- Emory ranks 18th in the nation in NIH research grant funding to universities.

- Major federal grants to Emory in 2015 funded a national Fragile X research center, one of four national NIH-supported Tuberculosis Research Units, Ebola vaccine and drug development through the Defense Advanced Research Projects Agency (DARPA), a “Systems Vaccinology” center to improve vaccine responses in infants and the elderly, research on new treatments for atherosclerosis and aortic aneurysms, and software tools to help cancer researchers interpret “big data” from imaging studies.

- Private research grants in 2015 included $73 million from the Bill & Melinda Gates Foundation to establish a global surveillance and intervention network to prevent childhood mortality in developing countries, and $25 million from the Goizueta Foundation to fundamentally change the way Alzheimer's disease is detected and treated.

**LEADING RESEARCH CENTERS**

- The Emory Vaccine Center is one of the largest academic vaccine centers in the world, with scientists working on vaccines for AIDS, malaria, hepatitis C, influenza, and tuberculosis.

- Winship Cancer Institute of Emory University is the only National Cancer Institute-designated cancer center in Georgia.

- The Yerkes National Primate Research Center is one of seven NIH-designated national primate research centers in the country.

- Emory is one of nine NIH-supported Vaccine and Treatment Evaluation Units (VTEUs) conducting clinical trials for vaccines, diagnostics, and drugs for infectious diseases. The Emory VTEU recently was selected to establish a national laboratory for the VTEU centers.

- The Emory Center for AIDS Research has been continuously funded by the NIH since 1998.

- The Emory Alzheimer's Disease Research Center has attracted 71 federal grants over five years totaling $122 million.

**TECHNOLOGY TRANSFER**

- In 2015 Emory's Office of Technology Transfer celebrated 30 years of success in guiding scientific discoveries from the laboratory into the marketplace, since the Bayh-Dole Act first put ownership of innovations in the hands of universities.

- Over the past three decades Emory has launched 39 products into the marketplace, and helped create 72 startup companies in drug discovery/pharmaceuticals, medical devices, diagnostic technologies, and software. Fifty-three of these companies are still active, and 44 are Georgia-based.

- Emory startups have received $1 billion in private investment capital, $314 million in public investment capital, and $13.5 billion from mergers and acquisitions.

- Emory investigators have filed 2,671 patent applications and been issued 609 U.S. patents and patents in 91 countries. The
university was ranked No. 58 in the world among universities granted U.S. patents in 2014, according to the National Academy of Inventors and the Intellectual Property Owners Association.

- Emory's 35 issued patients last year included a medical device to treat kidney failure, an apparatus for delicate throat surgery, computer displays to improve patient care, and manikins to better train CPR. Patents also addressed treatments for hepatitis C, HIV, diabetes, and various cancers.

- Emory has executed 700 license agreements with industry, resulting in $854 million in licensing revenue from university discoveries, which creates additional funding for new and ongoing research.

**DRUG DISCOVERY**

- More than 9 in 10 HIV patients in the United States who are on lifesaving therapy take Emtriva (emtricitabine) or 3TC (lamivudine), both drugs created at Emory.

- 75 percent of new cancer drugs approved by the FDA since 2007 have been tested in clinical trials at Winship Cancer Institute, many initiated by Emory teams. Winship played a key role in the development of four new drugs recently approved by the FDA to treat multiple myeloma.

- Emory transplant surgeons helped develop belatacept, an FDA-approved post-transplant drug that is less toxic and more effective than the previously standard immunosuppressant drugs.

- Emory Vaccine Center scientists discovered the role of the PD-1 protein in inhibiting the immune response to chronic viral infections, which paved the way for new cancer immunotherapy drugs.

- Emory's independent but wholly-owned biotechnology company, DRIVE: Drug Innovation Ventures at Emory, identifies promising discoveries with the potential for commercialization, licenses and develops them through the Emory Institute for Drug Development (housed in a 12,000 sq.ft. facility on the Emory campus), then out-licenses them to industry for commercialization.

- DRIVE is focused on drugs to treat globally challenging viral infections such as Dengue, Chikungunya, Rift Valley fever, respiratory syncytial virus (RSV) and equine encephalitis, for which it recently received a $9.7 million grant from the federal Defense Threat Reduction Agency. DRIVE has an ongoing research collaboration and licensing agreement with AbbVie Pharmaceuticals for drug development aimed at viral diseases.

- The Emory Chemical-Biology Discovery Center, a member of the National Cancer Institute's Chemical Biology Consortium, contains state-of-the-art high-throughput screening equipment to create new research tools, develop drugs, and train the next generation of drug discovery scientists.

**RESEARCH PARTNERSHIPS**

- As one of seven collaborative Georgia Research Alliance research universities, Emory has 13 GRA Eminent Scholars and GRA facilities support in infectious diseases, cancer, imaging, neurology, and pediatrics, among others.

- Emory and Georgia Tech share the No. 2-nationally ranked Wallace H. Coulter Department of Biomedical Engineering and a Regenerative Engineering and Medicine Center.

- Emory and the University of Georgia jointly oversee one of six NIH-funded Centers of Excellence for Influenza Research and Surveillance.

- The Atlanta Clinical and Translational Science Institute (ACTSI) is a partnership among Emory, Georgia Tech, and Morehouse School of Medicine that has received two consecutive five-year NIH grants totaling more than $60 million. The ACTSI engages university researchers, community clinicians, and industry collaborators in transformative laboratory, clinical, and translational research projects.

- Following its successful treatment of four patients with Ebola virus disease, Emory was designated the lead coordinator of the National Ebola Training and Education Center, funded by the NIH for $12 million over five years.

- Emory's partnership with Children's Healthcare of Atlanta supports a highly ranked and funded Department of Pediatrics, and 13 pediatric research centers, including an NIH-funded Autism Center of Excellence.

- Emory, the University of Georgia, and Georgia Tech direct the Malaria-Host Pathogen Interaction Center (MaHPIC), funded by a $19 million contract from the NIH to develop effective malaria vaccines.

- The Atlanta Pediatric Device Consortium is an FDA-funded partnership among Emory, Georgia Tech, and Children's Healthcare of Atlanta to develop devices to improve child health.