

# Pittsburgh Health Data Alliance

Carnegie Mellon University University of Pittsburgh UPMC

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**FOR IMMEDIATE RELEASE**

## **Pitt, CMU, UPMC Form Alliance to Transform Health Care through Big Data**

**PITTSBURGH, March 16, 2015** – Today’s health care system generates massive amounts of data –patient information in the electronic health record, diagnostic imaging, prescriptions, genomic profiles, insurance records, even data from wearable devices. Information has always been essential for guiding the care of individuals, but computer tools now make it possible to use that data to provide deeper insights into disease itself.

Leveraging “big data” to revolutionize health care and wellness is the focus of the new Pittsburgh Health Data Alliance, a powerful collaboration announced today by [Carnegie Mellon University](#), the [University of Pittsburgh](#) and [UPMC](#).

For example, the use of smart data could help hospitals and doctors rapidly detect potential new outbreaks and immediately alert staff and authorities to take appropriate actions. Systems based around this principle of finding emerging events in complex data sets have already been made possible by collaborations among UPMC, [Pitt](#), and [CMU](#).

This one-of-a-kind alliance is a wide-reaching commitment to advance technology and create new data-heavy health care innovations over the coming years, resulting in spin-off companies and furthering economic development in the region.

The alliance, funded by UPMC, will see its work carried out by Pitt-led and CMU-led centers, with participation from all three institutions. The centers will work to transform the explosion of health-related data into new technologies, products and services to change the way diseases are prevented and how patients are diagnosed, treated and engaged in their own care.

Using health care data to its full potential will require close collaboration among the leading health sciences research at Pitt, world-class computer science and machine learning at CMU, and the clinical care, extensive patient data and commercialization expertise at UPMC. The close proximity and world-leading talent among these organizations provide the ideal setting to transform all aspects of health care, not only in western Pennsylvania but around the world.

“The complementary strengths of the alliance’s partner institutions will allow us to re-imagine health care for millions of people in our shared, data-driven world,” said Subra Suresh, president of CMU. “Through this collaboration, we will move more rapidly to immediate prevention and remediation, further accelerate the development of evidence-based medicine, and augment disease-centered models with patient-centered models of care.”

The new research centers at CMU and Pitt will be funded over the next six years by UPMC and also will benefit from several hundred million dollars in existing research grants at all three institutions. They promise to create what UPMC CEO Jeffrey Romoff calls an “innovation ecosystem” for health data in the region.

“We are unlocking the potential of data to tackle some of our nation’s biggest challenges: raising the quality and reducing the cost of health care. Not only will this effort benefit patients, but it also will accelerate Pittsburgh’s revitalization,” said Mr. Romoff. Corporate partners and entrepreneurs from around the world will want to be close to this health care data hub, he predicted, just as Google, Apple and Disney already have space in or near Oakland to be close to CMU’s and Pitt’s talented faculty and students.

The alliance will support applied research and commercialization, along with basic foundational research in medicine and computer science. “Through this partnership, our brilliant scientists at Pitt and CMU will have unprecedented resources for turning their innovative ideas into products and services that can truly better the lives of patients and society,” said Patrick Gallagher, chancellor of the University of Pittsburgh. “The knowledge created here will result in the spin-off of many new companies and thousands of new jobs over the next decade.”

Initially, the Pittsburgh Health Data Alliance will include two research and development centers: the Center for Machine Learning and Health (CMLH), led by founding director Eric Xing, Ph.D., a CMU professor in the Department of Machine Learning; and the Center for Commercial Applications of Healthcare Data (CCA), spearheaded by Michael Becich, M.D., Ph.D., chair of the Department of Biomedical Informatics at Pitt. Scientists from all three institutions will participate in the work of each center.

The CMLH will work on challenging problems at the intersections of health care and machine learning. Data from sources as varied as electronic medical records, genomic sequencing, insurance records and wearable sensors will be utilized to directly improve health care. For example, imagine a smartphone app that suggests the single dietary change that will most improve your health, based on your genetic makeup and medical history. Or suppose a physician receives an automatic alert when a patient enters the earliest stages of rejecting a transplanted organ and can react while the condition is most easily treatable. The center will focus on five areas: big health care data analytics; personalized medicine and disease modeling; issues of privacy, security and compliance in the context of big data; data-driven patient and provider education and training; and a new general framework for big data in health care.

The CCA at the University of Pittsburgh will research and invent new technology for potential use in commercial theranostics and imaging systems for patients and doctors. (Theranostics works to develop individualized therapies for various diseases, and to combine diagnostic and therapeutic capabilities.) These technologies will be based on intelligently engineered big data solutions. Some areas of focus for CCA will be: personalized medicine for understanding diseases such as cancer and various lung disorders; genomics and imaging data; and methods for data capture and health care analytics. A key goal is new technologies and methods to create actionable information.

UPMC Enterprises, the commercialization arm of UPMC, will lead the efforts to turn these innovative ideas into new, for-profit companies and jobs, building on its nearly 20-year track record of investing in and growing companies that solve health care problems.

For more information about the Pittsburgh Health Data Alliance, visit [www.healthdataalliance.com](http://www.healthdataalliance.com).

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#### **About Carnegie Mellon University**

Carnegie Mellon ([www.cmu.edu](http://www.cmu.edu)) is a private, internationally ranked research university with programs in areas ranging from science, technology and business, to public policy, the humanities and the arts. More than 12,000 students in the university's seven schools and colleges benefit from a small student-to-faculty ratio and an education characterized by its focus on creating and implementing solutions for real problems, interdisciplinary collaboration and innovation. A global university, Carnegie Mellon has campuses in Pittsburgh, Pa., California's Silicon Valley and Qatar, and programs in Africa, Asia, Australia, Europe and Mexico.

#### **About Pitt**

An internationally renowned public research university founded in 1787, the University of Pittsburgh ([www.pitt.edu](http://www.pitt.edu)) is a leading center of learning and research in the arts, sciences, humanities, professions, and health sciences. Pitt ranks fifth among all U.S. universities in terms of the competitive grants awarded to members of its faculty by the National Institutes of Health, and consistently ranks among the country's leading U.S. public research universities, according to *The Top American Research Universities* report issued by the Center for Measuring University Performance. With 16 schools and colleges and 35,000 students on five campuses, the University offers nearly 400 distinct degree programs.

#### **About UPMC**

A world-renowned health care provider and insurer, Pittsburgh-based [UPMC](http://www.upmc.com) is inventing new models of accountable, cost-effective, patient-centered care. It provides more than \$887 million a year in benefits to its communities, including more care to the region's most vulnerable citizens than any other health care institution. The largest nongovernmental employer in Pennsylvania, UPMC integrates more than 60,000 employees, more than 20 hospitals, more than 500 doctors' offices and outpatient sites, a more than 2.5-million-member health insurance division, and international and commercial operations. Affiliated with the [University of Pittsburgh Schools of the Health Sciences](http://www.upmc.edu), UPMC ranks No. 12 in the prestigious *U.S. News & World Report* annual Honor Roll of America's Best Hospitals — and No. 1 in Pennsylvania. For more information, go to [UPMC.com](http://www.upmc.com).

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