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The University of Arizona Health Sciences will participate in the national Precision Medicine Initiative®.

## White House Announcement: UA Health Sciences Commits Biomedical Informatics and Genome Medicine Teams to National Precision Medicine Initiative

*The University of Arizona Health Sciences will commit significant resources to precision medicine - translating large-scale clinical and genomic data to accelerate disease prevention, early detection and treatment - through the UA Center for Biomedical Informatics and Biostatistics and the UA Center for Applied Genetics and Genomic Medicine.*

The [University of Arizona Health Sciences](#) (UAHS) is pleased to announce its participation in the national **Precision Medicine Initiative®**, as released earlier today by the White House.

Launched in January 2015 by President Obama, the [Precision Medicine Initiative](#) (PMI) is a bold new research effort to usher in “a new era of medicine that delivers the right treatment at the right time to the right person,” according to the White House. The initiative will pioneer a new model of patient-powered research that promises to accelerate biomedical discoveries and provide clinicians with new tools, knowledge and therapies to select treatments that will work best for individual patients. The PMI will make data shareable between health-care providers, researchers, patients and research participants, while protecting patient privacy.



Joe G.N. "Skip" Garcia, MD

In response to the national PMI, UAHS has committed significant resources to expand the clinical utility of its open-source, patient-centric analytic methods, such as the N-of-1-*pathways* software, which aids physicians in interpreting the dynamic changes of disease-associated gene expression arising from patients' own DNA blueprints. As part of the initiative, UAHS will translate large-scale clinical and genomic data into actionable individual outcomes through two of its centers: the [UA Center for Biomedical Informatics and Biostatistics \(CB2\)](#) and the [UA Center for Applied Genetics and Genomic Medicine \(TCAG2M\)](#).



Yves A. Lussier, MD, FACMI

Both centers bring together physicians, scientists, patients and other key stakeholders to develop strategies that advance understanding of the factors contributing to individual health and disease and personalized approaches to disease prevention, early detection and treatment.

“Delivering on the promise of personalized, precision medicine requires us to accelerate the analysis of large data sets in genetics and genomics in



Kenneth S. Ramos,  
MD, PhD, PharmB

support of the clinical decision-making of our multidisciplinary care teams,” said **Joe G.N. “Skip” Garcia, MD**, UA senior vice president for health sciences, the Dr. Merlin K. DuVal Professor of Medicine and an elected member of the National Academy of Medicine. “We have assembled an incredibly talented group of bioinformaticians, geneticists, genomics experts and population health scientists and empowered them with unique resources such as the University’s genetics core,” said Dr. Garcia, who oversaw creation of the two new centers.

**As part of its statewide programs, UAHS is launching three new precision medicine initiatives:**

- System-wide dissemination of an on-demand “case-based reasoning” system that intelligently searches and analyzes entire databases of electronic medical records. This will give clinicians the power to develop an individualized and effective treatment plan for unusual or complex clinical conditions, grounded on practice-based evidence.
- Development of genetic assays to predict an individual’s response to therapy and prevention of adverse reactions, termed “pharmacogenomics.”
- Partnership with five other institutions to advance the Sanford Pediatric Genomics Consortium to help families and their providers improve health-care decision-making through better understanding and integration of genomic evidence.

“Arizona is home to a richly diverse population, providing an ideal environment to build community partnerships for a better understanding of the cultural, ethnic, social and genetic factors influencing health,” said **Yves A. Lussier, MD, FACMI**, UAHS associate vice president for health sciences, chief knowledge officer and director of the UA CB2. “Currently, therapeutics are designed for ‘average’ populations, however, the truth is that every patient is unique in some way. These precision medicine initiatives will enable tomorrow’s medicine to deliver individualized treatments.”

Dr. Lussier will lead the UAHS patient-centric analytical methods and was invited to attend the Precision Medicine Initiative Summit held today in Washington, D.C. UAHS’ involvement in the PMI was initiated and facilitated by **Ikbel Achour, PhD**, who serves as CB2’s director for precision health.

Dr. Lussier is an international expert in translational bioinformatics and a pioneer in research informatics techniques, including systems biology, data representation through ontologies and high-throughput methods in personalized medicine. At the UA, he leads efforts to fully develop novel programs in biomedical informatics, computational genomics and precision health. In addition to his directorship of CB2, he also is associate director of cancer informatics and precision medicine for the [University of Arizona Cancer Center](#) and associate director, informatics, for the UA [BIO5 Institute](#).

Dr. Lussier collaborates closely with **Kenneth S. Ramos, MD, PhD**,

**PharmB**, associate vice president for precision health sciences, director of the UA TCAG2M and an elected member of the National Academy of Medicine, to advance precision health research and clinical care in Arizona with special emphasis in the adoption of precision medicine approaches and tools to address health disparities.

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### **About the UA Center for Biomedical Informatics and Biostatistics**

The UA Center for Biomedical Informatics and Biostatistics resources multiple centers within the University of Arizona Health Sciences to promote research aligned with key developmental areas: precision medicine, cancer research, health equity and diversity, and population science. With the goal of building a data-driven learning health system, the center is advancing precision medicine analytics and providing leading-edge services to translate Big Data science and genomic discoveries to clinical care.

### **About the Center for Applied Genetics and Genomic Medicine**

The UA Center for Applied Genetics and Genomic Medicine is developing novel, targeted therapies tailored to individual patients. The center supports health-care providers, genetic counselors and researchers in their efforts to advance precision health approaches for the diagnosis, prediction and treatment of disease; for improved patient care and outcomes and reduced health-care costs.

### **About the University of Arizona Health Sciences**

The University of Arizona Health Sciences is the statewide leader in biomedical research and health professions training. The UA Health Sciences includes the UA Colleges of Medicine (Phoenix and Tucson), Nursing, Pharmacy and Mel and Enid Zuckerman College of Public Health, with main campus locations in Tucson and the growing Phoenix Biomedical Campus in downtown Phoenix. From these vantage points, the UA Health Sciences reaches across the state of Arizona and the greater Southwest to provide cutting-edge health education, research, patient care and community outreach services. A major economic engine, the UA Health Sciences employs almost 5,000 people, has nearly 1,000 faculty members and garners more than \$126 million in research grants and contracts annually. For more information: <http://uahs.arizona.edu>

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