

## SAN ANTONIO BUSINESS JOURNAL



# San Antonio Leading the Bioscience Hub

The San Antonio Partnership for Precision Therapeutics unites prominent research entities in a groundbreaking collaboration to advance high-impact biomedical research



UT Health  
San Antonio



TEXAS BIOMEDICAL  
RESEARCH INSTITUTE

UTSA

# San Antonio's four leading research institutions join together for groundbreaking partnership in precision therapeutics

Collaboration among UT Health San Antonio, Texas Biomed, UTSA and Southwest Research Institute will lead to personalized therapies while serving as a worldwide health care model

Presidents of San Antonio's four largest research institutions announced they are providing \$800,000, collectively, for a major initiative in precision therapeutics. The process of precision therapeutics ultimately leads to breakthrough treatments that can be individualized to specific patient populations.

The new San Antonio Partnership for Precision Therapeutics (SA PPT) is being established by UT Health San Antonio, Texas Biomedical Research Institute (Texas Biomed), The University of Texas at San Antonio (UTSA) and Southwest Research Institute (SwRI®). This groundbreaking initiative will leverage the unique bioscience capabilities of the four institutions to address the specific and diverse medical needs of the city's population while serving as a model for the development of therapies to improve medical treatment around the world.

While precision medicine generally focuses on personalized interventions that are based on genetics, environment and diet, precision therapeutics represents a unique merger of this discipline with the complete drug discovery pathway, encompassing and integrating the two which has not been done before. This drug discovery pathway includes basic research, lead compound development, formulation, testing, production, and clinical trials leading to new FDA-approved treatments. The goal of this program will be to create much needed, breakthrough treatments that can be individualized to specific patient populations.

"Precision therapeutics allows us to tailor our treatments from person to person, adapting for a patient's lifestyle, environment and biology, within and across patient populations," said Texas Biomed President and CEO Larry Schlesinger, M.D. "What is most exciting is that this program will completely integrate the approach of precision medicine with the discovery of new treatments as well as the reformulation of existing drugs and drug combinations to address the growing drug resistance problem. It's a game-changing approach to health care that will allow us to more quickly get therapies to market and work for the majority of those who need it most."

## The San Antonio Advantage

With a Hispanic population that is expected to double by the year 2050, San Antonio currently reflects the demographics that the nation will experience in the coming decades. Of the city's 1.5 million residents, 65% are Hispanic, and of this group, 91% are of Mexican descent.

This ethnic diversity makes the Alamo City a prime location for the development of a precision therapeutics model. In addition to better caring for San Antonians, the lessons learned from the SA PPT will provide scientists, researchers and clinicians with a deeper understanding of how to improve health care in their own communities as their demographics shift to look more like San Antonio's current population.

"The San Antonio Partnership for Precision Therapeutics is an innovative and high-impact initiative that will put the patient first by fundamentally changing the way new treatments are developed for cancer, obesity, diabetes, infectious diseases and other debilitating conditions," said UT Health San Antonio President William Henrich, M.D. "Diversity is the key to discovering and developing improved and more effective drug therapies. Due to its diverse population, San Antonio is the exemplar for this groundbreaking partnership."

Texas Biomed, UTSA, UT Health San Antonio and SwRI will integrate all of the capabilities needed to build a world-class program in precision therapeutics. Their work will be further backed by a local bioscience industry valued at more than \$40 billion. In addition, our military medical research community has expressed an interest in being actively engaged. San Antonio's collaborative culture in the bioscience area also lends itself to the scientific teamwork that is necessary for this type of enterprise.

"A partnership of this magnitude requires very specific capabilities, and San Antonio is the only place in the world that has all of the right ingredients," said UTSA President Taylor Eighmy. "Making San Antonio the hub of this visionary collaboration will give scientists, researchers and health care professionals around the world access to the city's robust bioscience enterprise, its diverse population and its military ecosystem. San Antonio is the City of the Future, and this is the partnership of the future."



## Leveraging Unique Assets

To improve health care in Texas and beyond, Texas Biomed, UTSA, UT Health San Antonio and SwRI will each contribute unique assets and expertise to the SA PPT.

A pioneer of biomedical breakthroughs, Texas Biomed is a world-leader in the science of infectious diseases and their associations with other disease states and susceptible populations. Its strengths include research programs in tuberculosis, HIV, malaria and other parasitic diseases, hepatitis and hemorrhagic viruses, aging and obesity and other complex metabolic disorders. It is home to three interdisciplinary scientific programs (Host Pathogen Interaction, Disease Intervention and Prevention, and Population Health), and is the only place in the world with both a National Primate Research Center and a privately owned animal biosafety level four maximum containment laboratory.

UTSA's research portfolio is heavily focused on biomedicine, including neuroscience and brain health, infectious diseases, and regenerative and molecular medicine. Additionally, it is home to the nation's top cybersecurity program and has robust expertise in cloud computing, data analytics and artificial intelligence, which will lead to technological innovation and the creation of new algorithms to accelerate drug discovery and therapeutics. Its Center for Innovative Drug Discovery, a joint venture with UT Health San Antonio, provides core facilities and expertise to facilitate the translation of basic scientific discoveries into tangible pre-clinical candidate drugs that can be further developed into clinical therapies for human disease. SA PPT partners will also leverage UTSA's Genomics Core and its Immune Defense and Cell Analysis Core.

UT Health San Antonio, one of the nation's leading academic health and research institutions, is home to the Mays Cancer Center, a clinical and research enterprise affiliated with the world-renowned MD Anderson Cancer Center. The Mays Cancer Center, one of only four National Cancer Institute-Designated Cancer Centers in Texas, includes the renowned Institute for Drug Development. UT Health San Antonio also features the Center for Renal Precision Medicine, the Center on Smart and Connected Healthcare Technologies, the Glenn Biggs Institute for Alzheimer's and Neurodegenerative Diseases, and the Sam and Ann Barshop Institute for Longevity and

## MISSION STATEMENT

Stimulate synergistic efforts by creating a unique collaboration to improve the health of San Antonio's increasingly diverse population through precision therapeutics.



## A BOLD COLLABORATION

Driven by a shared vision to leverage the robust scientific community and strengths of one of the fastest growing cities in America, the leaders of four prominent research entities unite in a groundbreaking collaboration. This powerful partnership aligns the unparalleled bioscience capabilities, resources and military medicine opportunities available in San Antonio to improve health care in Texas and beyond. Together, UT Health San Antonio, The University of Texas at San Antonio, Texas Biomedical Research Institute and Southwest Research Institute will advance innovative and high-impact biomedical research in precision therapeutics. Partnering also with UT Health San Antonio's Military Health Institute, the novel work is among the nation's most pioneering collaborations in research.

Aging Studies. To advance the SA PPT, UT Health San Antonio will offer nine institutional core laboratories, including those focused on mass spectrometry, lipidomics, metabolomics and X-ray crystallography as well as biobanking, high-resolution optical imaging, single-cell analyses and flow cytometry.

SwRI, a leading applied science institution, has a rich history in advancing and supporting commercialization of drug and formulation technology to improve patient health care. It has developed and licensed multiple technologies to fight infectious disease, reduce pain

and treat addiction, mitochondrial poisoning and cancer. Its scientists offer vast expertise in micro and nanoencapsulation technologies that solve complex drug delivery problems and accelerate drug discovery and development. SwRI maintains FDA-inspected and Current Good Manufacturing Practice (cGMP)-certified facilities where it conducts pharmaceutical development and complex synthesis and formulation of quality products to advance preclinical and clinical testing.

"The San Antonio Partnership for Precision Therapeutics is a highly innovative initiative that will uniquely leverage our combined assets and expertise to create a competitive advantage for San Antonio and elevate its biosciences ecosystem to the international stage," said SwRI President and CEO Adam Hamilton. "With this partnership, San Antonio has the potential to revolutionize the development and delivery of therapeutics in a holistic way. This could be the model that defines health care around the world for generations to come."

## Changing the Outcome

The outcome is improved, personalized patient care with faster drug delivery, shorter recovery times and more life-saving options. This collaborative model achieves the following:

- Shifts the paradigm of how new treatments are developed
- Strengthens the efficacy of therapies targeting cancer, obesity, diabetes, infectious diseases, and more
- Allows for integration of complete drug development pathway

## Next Steps

The SA PPT will include collaborative research project teams, overseen by a leadership council and external advisory board. A technical steering committee composed of senior technical leads from all four institutions and pharmaceutical and industry experts will guide the selection of projects and commercialization opportunities. The four founding institutions will initially contribute \$200,000 each to launch SA PPT and support the initial collaborative pilot projects.

Liz Tullis has been named SA PPT Interim Operations Director. She will be responsible for establishing routines and governance, operational performance and strategic planning. More information on the San Antonio Partnership for Precision Therapeutics is available at [www.sappt.org](http://www.sappt.org).



# A DISCERNIBLE DIFFERENCE

The San Antonio Partnership for Precision Therapeutics merges the resources of stellar academic and research institutions unlike any other to integrate the complete drug development pathway from basic research, drug discovery and testing to clinical trials, to more effective life-saving solutions. This is not the standard, one-size-fits-all medicine, but rather a tailored or personalized approach of medicine based on a patient's individual lifestyle, environment and biology that is backed by research on specific populations. Precision therapeutics offers patient-focused, personalized health care solutions through targeted research, notable drug discovery and more effective interventions and therapies.

- New discovery driven by maximizing emerging technology and scientific data
- Deepening understanding of human biology for diverse populations
- Bold new approaches to resistant diseases
- Drive down the cost of care
- Improve the lives of patients



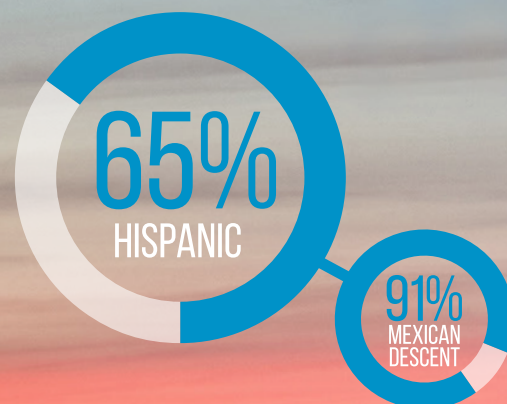


# BY THE NUMBERS

San Antonio's current demographics represent changing national demographics

This bold, novel partnership distinguishes San Antonio as a national and international leader in precision therapeutics. With San Antonio as the hub of this visionary collaboration, scientists, researchers and health care professionals have access to the city's robust military community and significantly diverse populations. Diversity is key to discovering improved drug therapies and identifying individual treatment options that truly work. San Antonio is brimming with opportunities to advance effective, personalized precision therapeutics.

POPULATION  
**1.5 MILLION**



**4** CORE INSTITUTIONS

**31,000** ACTIVE DUTY MILITARY

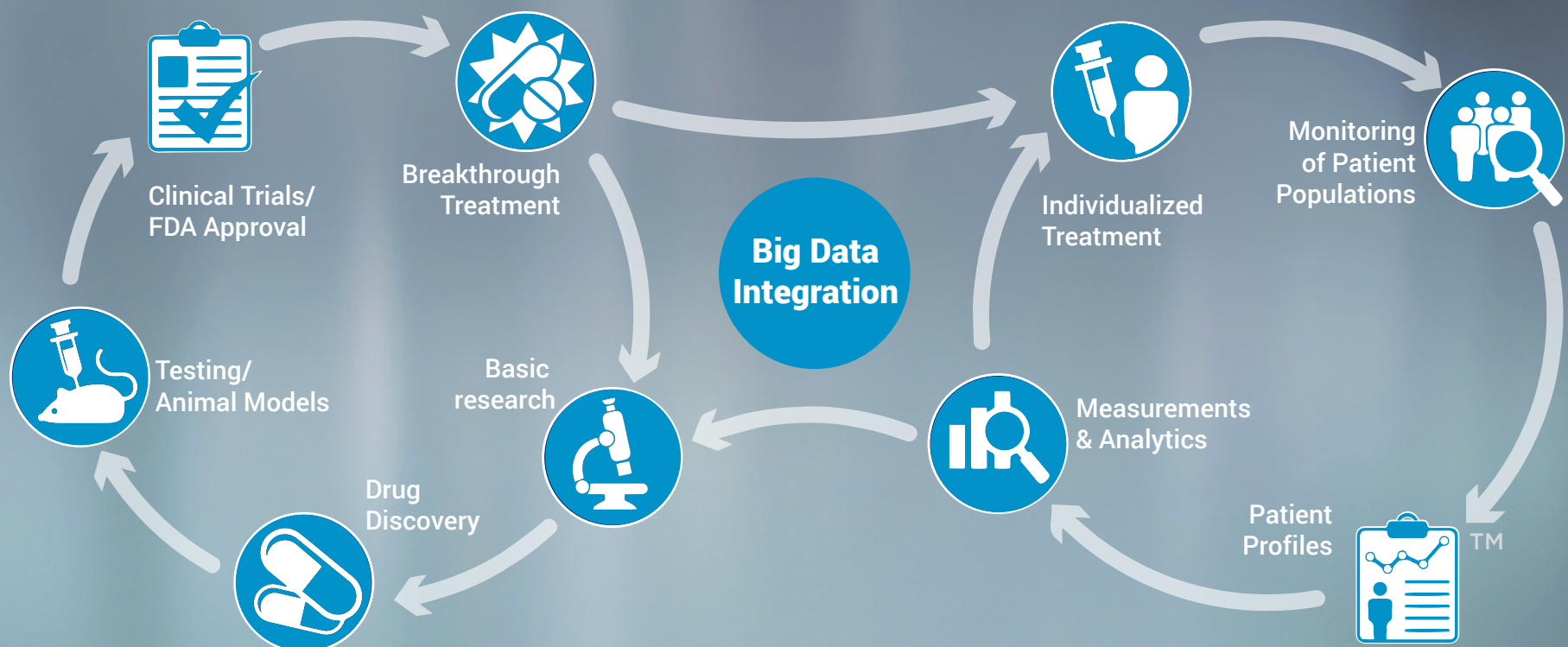




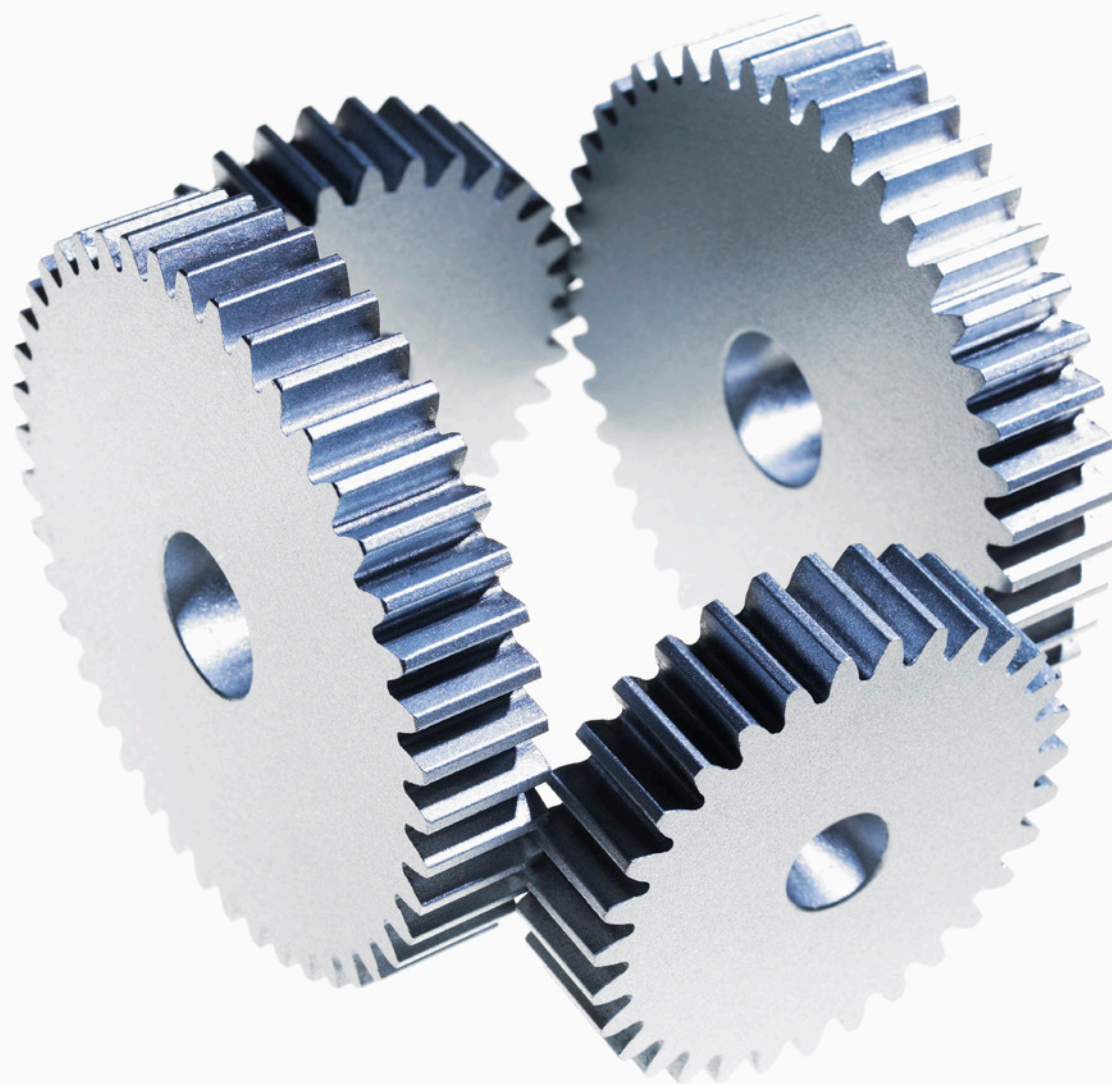
# INDIVIDUALIZED SOLUTIONS

This partnership serves as a novel generator for advanced and timelier biomedical breakthroughs that accelerate the delivery of life-saving treatment options. The partnership aligns and maximizes the unique research and service delivery capabilities of each of the participating institutions in a vastly diverse population that includes robust military

medicine initiatives. By overlaying the research and therapeutics channels with innovative “multi-omic” or big data integration in precision medicine, this partnership provides the infrastructure to develop individualized therapies in an effort to address the specific and diverse medical needs of San Antonio’s growing population.







## LEVERAGING UNIQUE ASSETS

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How are new cancer drugs created?

How is Alzheimer's disease being cured?

How is diabetes treatment improving?

How are soldiers getting the care they deserve?

How is childhood cancer being defeated?

**We're how. You're why.**



**UT Health**  
San Antonio

The University of Texas  
Health Science Center at San Antonio

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