

Using funding from Data Modernization and Enhancing Detection Expansion, the Texas DSHS built a bioinformatics team



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CATEGORY: Epidemiology and Laboratory Capacity (ELC)

CATEGORY: Public Health Data Science Workforce

Using multiple resources, Texas Department of State Health Services (DSHS) created a team of four bioinformaticians skilled in the use of computational tools and data analysis and is addressing important whole genome sequencing needs for newborn screening.

The “What”

Prior to the pandemic, the Texas Department of State Health Services (DSHS) had one bioinformatics fellow, who was concentrating on newborn screening. DSHS staff were utilizing Bionumerics for PulseNet specimens, pipelines provided by the Mountain Regional Laboratories in Colorado and then Utah, the Centers for Disease Control and Prevention (CDC), and the National Center for Biotechnology Information (NCBI) for bioinformatics capabilities.



One bioinformatician was funded through the Enhancing Detection Expansion of the Epidemiology and Laboratory Capacity for the Prevention and Control of Emerging Infectious Diseases (ELC) cooperative agreement, and another DSHS position was reclassified to give two bioinformaticians plus an Association of Public Health Laboratories (APHL)-funded contract bioinformatician. Two additional bioinformatics positions were obtained through the Public Health Infrastructure Grant. DSHS hired both the APHL fellow and the APHL contractor to build a team of four (4) bioinformaticians. The Texas DSHS Bioinformatics Team uses computational tools and data analysis techniques to identify and analyze genetic sequences associated with infectious diseases including COVID-19, influenza, tuberculosis, Candida, and antimicrobial resistant organisms. The Bioinformatics Team also supports Newborn Screening by running analysis against whole genome sequences when necessary, providing critical results to health providers.



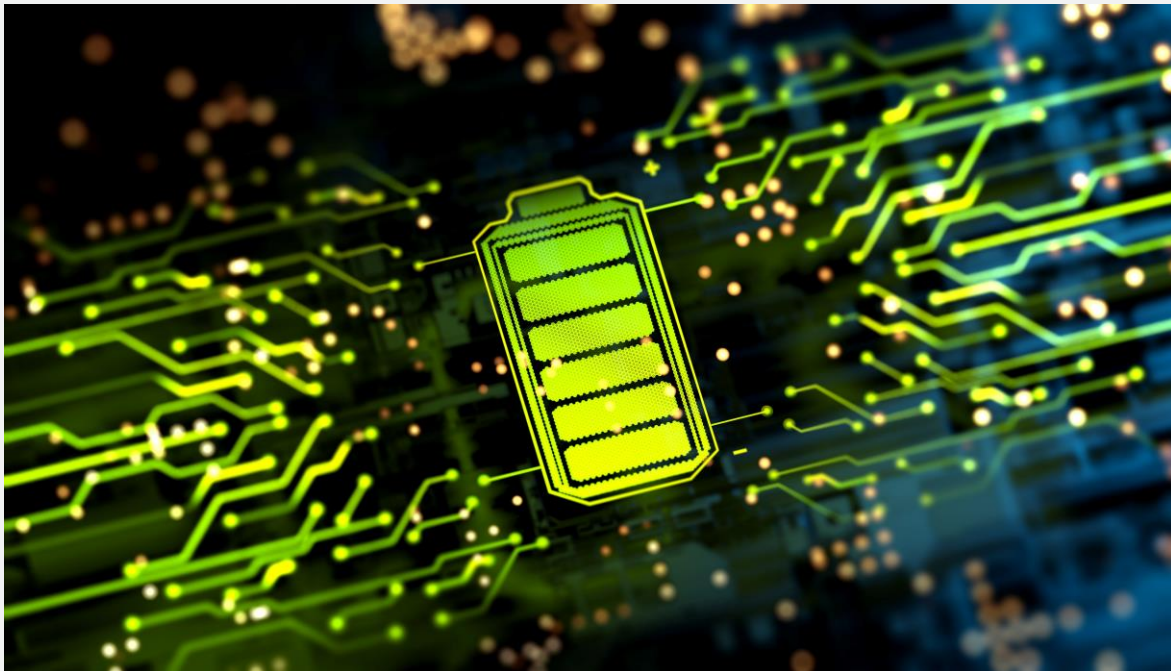
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Their work with **Newborn Screening** supports the important information necessary to **identify genetic issues prior to onset of symptoms within children.**

The “So What”

This group is extremely important for the State of Texas as they support genetic sequence analysis and variant identification and provide actionable information to healthcare professionals, epidemiologists, and critical decision makers. Their work with Newborn Screening supports the important information necessary to identify genetic issues prior to onset of symptoms within children.



The “Now What”

The Texas Bioinformatics Team is now fully staffed and has several bioinformatics pipelines in production. The group will continue to fine-tune the computing infrastructure to support increased processing to address the whole genome sequencing needs for Newborn Screening. The group also expects to enhance their offering to include even more pipelines supporting the greater needs of the State of Texas.