

What is the project title? *

Utilization of Innovative Technology in Fort Bend County's COVID-19 response

Provide a brief project description of the research project?

The Fort Bend County Information Technology (IT) and Fort Bend County Health and Human Services (HHS) departments are branches of the Fort Bend County local county government seated in Richmond, Texas. IT's mission is to provide information technology services to support County business programs, customer departments and offices, and taxpayers in the most efficient, equitable and economical methods possible by leveraging technology resources. HHS is the principal agency for protecting the health of county residents and providing essential human services, especially for those who are least able to help themselves. HHS serves the county's residents, estimated at a population of approximately 811,688 in 2019, according to the United States Census data. The mission of Fort Bend County Health & Human Services is to promote the health and well-being of the residents of Fort Bend County through education, disease prevention and intervention, emergency preparedness and response, and helping to assure the provision of basic human needs. During this global COVID-19 pandemic, HHS, like many other health departments has generated massive amounts of data from numerous sources. Unlike many other health departments, HHS does not have an efficient way to automate some of its data systems and processes. This funding opportunity allows for IT with HHS to utilize Azure and analytics, which would then allow for HHS to have improved COVID-19 data outcomes.

In the day to day COVID-19 response, HHS gathers, receives, edits, analyzes, and stores data from multiple sources. Generally, these sources are independent and do not communicate or interface with one another. Additionally, these sources require a lot of manual data processes which create a significant liability from a data quality assurance perspective due to higher risks of human error, inefficient decision making, poor patient outcomes and inaccuracies in public information dissemination. The utilization of Azure and analytics allows for HHS to provide a more efficient COVID-19 response by allowing for automation of data systems and processes, automated data analysis, systems integrations, and overall, more informed data driven decision making.

Fort Bend County Information Technology (IT) and HHS are proposing to integrate Azure to its existing Epidemiology data infrastructure. There will be three (3) phases of implementation which are proposed as followed below:

Phase 1 (1 month):

- Database needs assessment meeting with all key stakeholders
- Database exploration assessment meeting with all key stakeholders
- Azure product demo with all key stakeholders

Phase 2 (2 months):

- Azure product Super User (SU) identification
- Azure product build

- Azure product user accepted testing

Phase 3 (3 months):

- Azure product go-live assessment needs
- Azure product training sessions
- Azure product go-live
- Azure product on going trainings
- Azure product end-user satisfaction meeting

After completion of the three (3) implementation phases, we propose to conduct an additional phase (6 months) to gather and submit information on the following 3 outcomes:

- Impact of Azure in informed data driven decisions
- Impact of Azure in data inefficiencies/inaccuracies
- Impact of Azure in staffing outputs through automation functionalities

How does your research make a difference to society's COVID-19 response? *

Our research makes a significant contribution to society's COVID-19 response by:

1. Ensuring we have data driven decisions
2. Ensuring improved collaboration with partners and key stakeholders
3. Ensuring we have systems that minimize data inefficiencies
4. Ensuring we have improved staffing outputs
5. Ensuring a library and database of COVID-19 resources are available globally

What is the time horizon which this project will impact and benefit society? *

Our estimated project timeline is two (2) years to implement and gather data on the impact of Azure. Thereafter, we propose commencing societal information sharing which should start to highlight the impact of Azure in our society.

What are the plans for sharing results (e.g. open source code, data, services, results, publications, etc.)? *

Fort Bend County IT and HHS propose to share Azure project results through a collaboration of partners and sources including publications, conferences, source code, etc.

What type of data which will be used for this project (e.g. Images, health records, CT scan)? *
HHS proposes various data sources which will not include protected health information in accordance with the Health Information Portability and Accountability Act (HIPAA).

Do you have data sovereignty requirements which require you to process data in certain geographies? *

No, HHS does not have data sovereignty requirements which require you to process data in certain geographies.

Do you currently have access to the data? *

Yes, HHS has access to its data.