

Successful tele-genetics pilot makes genetic counseling easily accessible

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Senior Airman Kimberly Deveau (left) at Spangdahlem Air Base, Germany consults with geneticist, Capt. (Dr.) Mauricio De Castro, staff medical geneticist at Keesler Air Force Base, Miss., using the Clinical Access Station, Feb. 1, 2018. The tele-genetics pilot program connects patients directly to specialized genetic counselors and geneticists from other locations. Credit: U.S. Air Force photo by Staff Sgt. Jonathan Snyder

A new telehealth program is expanding access to expert genetic counseling by making it available remotely, connecting families with trained genetic specialists who can help interpret their results.

Genetic counseling is a growing medical specialty that is becoming integrated into everyday clinical practice, and can have a deeply personal effect on patients and their families. The results of genetic tests can change the course of an Air Force career, how families plan their lives, and can even affect future generations.

Genetic testing encompasses a wide range of health concerns and involve hundreds of different tests. Interpreting genetic test results is challenging for many general providers. Both positive and negative results can have long-term effects on patients and their families. Having genetic experts available to provide pre-test and post-test counseling is critical for patients to make informed decisions.

"Genetic specialists are able to interpret complex results, explain to patients the potential impact they could have, and direct them to the appropriate level of care," said Capt. (Dr.) Mauricio De Castro, medical geneticist with the Air Force Medical Genetics Center of Excellence at Keesler Air Force Base, Miss.

With tele-genetics, patients are able to access a genetic specialist anywhere in the world and receive the same level of care as a face-to-face appointment. The patient can visit their local military treatment facility for all meetings and any lab tests, and receive specialty care from a trained genetic specialist via a video teleconference.

"A tele-genetics appointment usually starts with a pre-test counseling session where sample is collected. This is usually a blood draw, but can also include saliva or amniotic fluid," explained De Castro. "Results can take anywhere between two to 16 weeks depending on the type of test.

Lab results are sent directly to the genetic specialist who can interpret the results and provide post-test counseling."

Access to a genetic specialist is important when considering the impact results would have on an Airman's readiness. The limited number of military genetic specialists has meant longer wait times or extensive travel to get specialty care. Tele-genetics allows Airmen access to a genetic specialists that keeps Airmen readiness a central focus of the consultation.

"Many civilian providers are not attuned to the nuances of being in the military," said De Castro. Military geneticists have the background to counsel patients on things specific to being an active duty member. For instance, we can look at how the results of a genetic test affect an Airman's fitness for duty or long-term career. That is one of the benefits of increasing access to geneticists who are knowledgeable on how the military system works."

Tele-genetics increases access to care without delaying the patient's diagnosis. This is especially significant for deployed patients.

"Tele-genetics helps our Airmen maintain and improve their readiness," said Maj. Vonida Goodison, disease manager and virtual health coordinator with Spangdahlem Air Base in Germany. "They do not have to wait months to see a geneticist until they see the results. Tele-genetics can help get people back into the fight that much quicker. That is less time away from work and from the mission."

The first patients at Spangdahlem Air Base began receiving tele-genetic counseling in December 2017. Using a room specifically designed for virtual health appointments, the Airman and his entire family was able to connect with a military geneticist at Walter Reed National Military Medical Center in Bethesda, Md.

"An in-person genetic counseling appointment would have required aeromedical evacuation to the U.S.," said Lt. Col. (Dr.) Ruth Brenner, chief of personalized medicine with the Air Force Medical Service. "We were able to provide this service via video teleconference over a secured network that allowed the family to receive care from a geneticist. This was something never done before in military health."

Currently, the tele-genetics program is in its first phase, with two provider sites and three patient sites. The AFMS is working to expand the program to other Air Force MTFs that have limited access to in-person genetic counseling.

"It means so much for patients to access [genetic counseling](#) and receive treatment quickly," explained Brenner. "The mother of our first tele-genetics patient expressed how appreciative she was just to have the opportunity to talk to the geneticist and have her fears addressed. Bringing this type of support to patients is invaluable."

Provided by Air Force Office of Scientific Research

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