Brain waves may be key to mental health meds

By Patricia Kime - Staff writer
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A program that melds the oldest method of brain imaging with cutting-edge crowd sourcing could revolutionize the way doctors prescribe medications for mental health problems.

Today, doctors choose drugs for depression, bipolar disorder, post-traumatic stress and other illnesses largely through trial and error, taking into account a patient's medical history.

But because each brain reacts differently, the success rate for finding a drug that works the first time is only 33 percent.

A company called CNS Response has developed technology that uses data from a patient's electroencephalogram and a vast electronic warehouse of other EEG readings and medication responses to produce a report showing which drugs worked for others with similar brain wave activity.

In some studies, the first-time success rate using the technology shot up to 85 percent.

"Many people go through many drugs to get the right one. If we can arm our doctors with a tool that reduces trial and error, they can do a better job," said George Carpenter, the company's CEO.

Researchers at Walter Reed National Military Medical Center Bethesda, Md., are so intrigued that they've launched a massive study to determine its effectiveness. They are recruiting nearly 2,000 patients with depression at Walter Reed and Fort Belvoir Community Hospital, Va., to participate.

"Our goal is to see [if] we're able to choose the correct medication the first time ... and decrease polypharmacy, because if we get people on the right medication first, it will decrease the chance they'll have to have a second medication," said Army Lt. Col. Brett Schneider, chief of psychiatry at Walter Reed.

As part of the 15-month study, patients will get a baseline EEG and medication based on factors including their EEG, database recommendations and physician guidance. Interim results could be available by December.

CNS Response's database, the Psychiatric EEG Evaluation Registry, contains more than 35,000 cases and outcomes.

Dr. Michael Anderson, a psychiatrist in McLean, Va., has used the technology for eight years.

In one case, a new patient had used Prozac for depression for four years without much success. After taking her off the medication, giving her an EEG and uploading it into the database, Anderson received a report that noted anti-depressants like Prozac were the least effective class of medicines for patients like her.

Instead, he prescribed an anti-seizure medication highly rated in the report.

"She feels like an effective, competent person now that she's not on this roller-coaster," Anderson said.

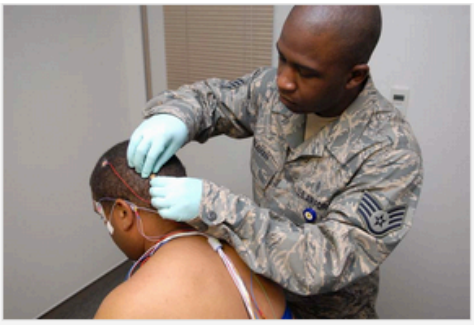
Scientists elsewhere have had success with similar technology. A group at McMaster University in Canada found that by using an EEG and small database, they could predict with 85 percent accuracy whether depressed patients would respond to treatment with a selective serotonin reuptake inhibitor.

Debbie Paxton, a mental health adviser to the Marine Corps Wounded Warrior Regiment in Quantico, Va., said if the technology works, it could change the way troops think about mental health treatment.

"If we can offer them something that works quicker and keeps them from getting discouraged, it would be good," she said.

To participate in the study, individuals must be between 18 and 65, live in the Washington, D.C., area, and be eligible for military health care.

They must have or be seeking treatment for depression and cannot have a history of psychoses or an organic medical illness, although those with mild traumatic brain injury and post-traumatic stress disorder in addition to depression are encouraged to apply.



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Interested individuals can sign up at the behavioral health clinics at Walter Reed-Bethesda and Fort Belvoir.