

# analyzing language, improving health

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We empower patients with tools to measure their overall health through collecting and analyzing speech samples. By fingerprinting health abnormalities early, we equip patients and providers with insight to prevent symptoms from worsening. In this way, we strive to be the world's leading platform company to advance linguistics as a tool to characterize various health conditions.



## For Patients

Subscribe monthly to analyze your health proactively and improve your health.



## For Providers

Lower per capita health costs and improve health outcomes from on-premise deployments of our mobile app.



## For Pharma

Build companion diagnostics for your drug portfolio.



## For Researchers

Amend your IRB to collect speech data with our API and co-publish research papers with us.



“8 years ago my brother suffered a psychotic hospitalization. When examining his voicemails, it looked like you could predict his psychosis simply from voice features. At NeuroLex, we're passionate about capturing disease symptoms early through voice tests the same way blood tests are used today. In doing so, I hope we can avoid acute hospitalizations like the case of my brother through simple interventions - like sleeping more or seeing a psychotherapist.”

**Jim Schwoebel**  
Chief Executive Officer  
NeuroLex Laboratories



## Quick Facts

- ➔ Company founded: **September 2016**
- ➔ Investment stage: **Seed**
- ➔ Amount invested (to date): **\$210,000**
- ➔ Seeking funding: **\$1.5 Million**
- ➔ Current round closes: **August 31st, 2017**

## Problem

Many health conditions are treated only after advanced symptoms become known, leading to higher costs and worse outcomes.

## Solution

Bring to market a universal voice test for use in primary care to refer patients to specialists faster, improve outcomes, and lower healthcare costs.

# Areas of Focus

## Depression

Depression affects up to 20% of the population in a given year. The DepLex assay, currently used in a research context, is being built to output whether or not someone is likely depressed from frequency, speaking rate, and a cluster of semantic features.

## Alzheimer's Disease

Alzheimer's disease (AD) is a progressive degenerative disease characterized by a gradual decline in memory. This leads to changes in speech, like pauses in language. Our AlzLex assay can detect AD symptoms early and characterize memory decline as AD progresses.

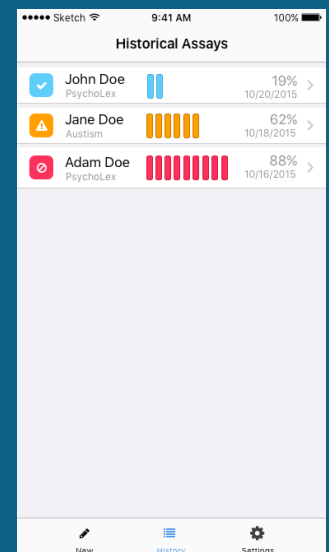
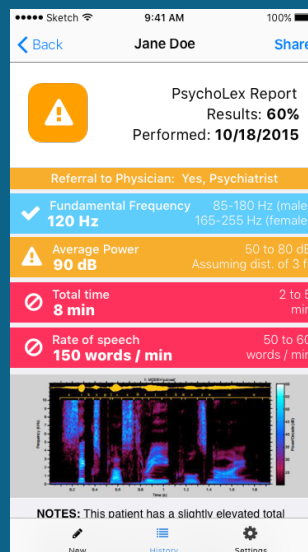
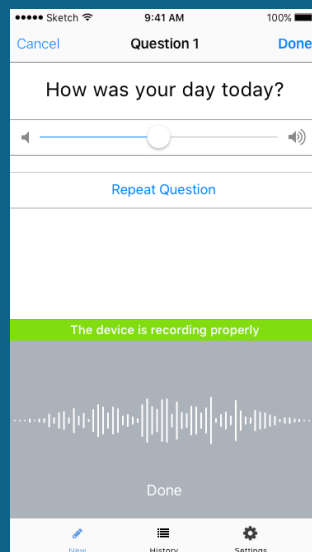
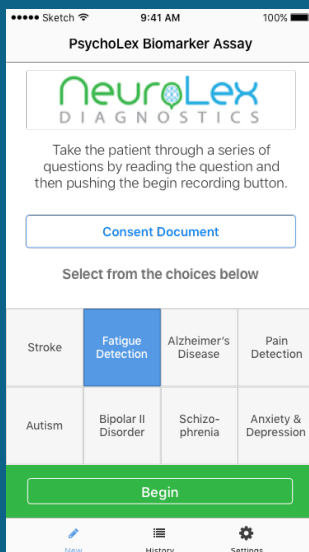
## Schizophrenia

Individuals who develop schizophrenia often have a multi-year period prior to their first episode of psychosis called the "prodrome." This period is marked by anxiety, depression, social isolation and subtle disorganization in thoughts. Our PsychLex assay characterizes these changes and predicts which individuals will have onset of psychosis and which will not.

## Parkinson's Disease

Parkinson's disease (PD) often goes undiagnosed until motor symptoms appear in patients. Our ParkLex assay captures abnormalities in the vocal fold and syntax of speech (polarity estimators) to log PD symptoms early and track PD progression.

# Our Approach



For a live demo please go to <http://demo.neurolex.co>

# Our Team

Our mission is to apply machine learning on voice samples to **detect health conditions early, lower costs, and improve outcomes.**



## Jim Schwoebel

### Chief Executive Officer

Jim has started, managed, and grown companies across multiple sizes, stages, and market sectors, taking the roles of CEO, CTO, COO, board member, and advisor.



## Drew Morris

### Chief Technology Officer

Drew Morris is a technology consultant based out of the Atlanta area with a strong background in developing applications for the web, mobile and desktop.



## James Fairey

### Chief Audio Officer

James is a systems and methods patented inventor/producer with over 30 years of experience in audio recording and applied production.



## Reza Hosseini Ghomi, MD, MSE

### Chief Medical Officer

Reza is a physician training as a neuropsychiatrist in Seattle, serving as an Innovation Fellow for the APA and a behavioral health advisory board member for King County with a background in biomedical engineering.



## Kerry Byler

### Chief Financial Officer

As CFO, Kerry brings NeuroLex more than 15 years of assisting high growth companies in their strategic planning, fundraising, business development and financial and operational management.



## Charles "CW" Hall

### VP of Business Development

CW brings NeuroLex over 15 years of business development experience at the intersection healthcare, radio, and pharmacogenetics. Trained as a critical care nurse, he also brings a clinical perspective to align NeuroLex's product with patient needs.



## Brian McDonald

### UI/UX Advisor

Brian has over 20 years of highly diverse leadership experience in UX, UI, IxD, IA, and mobile design. He has been cited as a "tech designer leader to watch" by Fox Business News in 2015.



## Marsal Gavalda, PhD

### Machine Learning Advisor

Marsal is a senior executive with over 20 years of experience at the intersection of voice analysis, natural language processing, and deep learning. Currently, Marsal is the Director of Machine Intelligence at Yik Yak.

## Innovation Fellows

The NeuroLex Innovation Fellows (NIF) was formed as a way to efficiently engage outstanding individuals who wish to be involved in NeuroLex in some way. An Innovation Fellow is trained under the direction of a mentor. By the end of the program the fellow will have a collaborative and independent project demo as determined by mutual agreement with the mentor, which will have a direct impact on the company.

## Tribe 1

- Over **40 men and women** from around the world.
- Diverse backgrounds ranging from **machine learning, biomedical engineering, computer science**, and many others.
- Demo day presentations on **September 30th, 2017.**

Interested in joining our team? Sign up at <http://innovate.neurolex.co>