

Industry Collaboration



The search for novel solutions to unmet health needs drives our scientific development and motivates us to forge unique partnerships.

This includes looking beyond traditional health care companies to consider partnerships more broadly. These out-of-the-box collaborations bring together expert thinking from complementary sources to shine light on new perspectives and stimulate progress.

Leading the Way in Digital Medicine

“It is inspiring to have the opportunity to leverage cutting-edge technologies in the development of new therapies and monitoring tools that have the potential – through early intervention – to prevent or delay the emergence of clinical symptoms.”

Claire Leurent
Clinical Lead, Neuroscience Research Unit, Pfizer

The effects of Alzheimer’s disease are devastating for patients, families and communities as loved ones drift away. The current annual worldwide cost of Alzheimer’s disease is estimated at \$315 billion and, with aging populations, this social burden is only expected to increase. Alzheimer’s is often first detected when memory issues start to interfere with daily tasks. But what if we were able to detect a person’s risk of developing the disease years before the first clinical symptoms arise? At Pfizer, we are looking at whether there are other, less obvious aspects of cognition, beyond memory, that may be affected by Alzheimer’s.

To that end, we are collaborating with Akili Interactive Labs, Inc., to test a new tool that would detect signals, or cognitive changes, that might not be recognized in daily life. Akili’s cognitive measurement platform, *AD Screen*, is delivered in a video game interface designed to measure the capacity of individuals to handle cognitive interference (including distractions and interruptions), which can impact their ability to pay attention. The participants play the dual challenge of attending to the driving-simulation task while also addressing the shape-color targeting task. Akili’s proprietary algorithms adjust the complexity of the tasks in response to each user’s skill level, deploying real-time, adaptive cognitive challenges in a constantly changing environment.

Our study of 97 healthy adults over the age of 60 included participants with or without brain amyloid (a known risk factor for Alzheimer's) on Positron Emission Tomography (PET) scans. As the participants played the iPad-based technology over a 28-day period, we monitored the data remotely to determine how well the different groups could multitask and how their abilities improved.

The initial goal of this initiative is to assess whether the technology could serve as a cognitive digital biomarker for the risk of developing the disease, which could provide for a diagnostic alternative to more expensive and less accessible tests, accelerating the identification of disease symptoms and getting patients on treatment sooner. It could also enable clinical trial execution and therapy advancement for populations at risk of developing the disease.

Generating Patient Insights

Our collaboration with 23andMe, Inc., a leading personal genetics company, on genome-wide association studies, includes studies to better understand depression, dysmenorrhea and the genetic heterogeneity of lupus and inflammatory bowel disease. Through efforts such as this, we believe we are poised to potentially usher in a new era of patient care defined by targeted research methods and ultimately better patient outcomes.

Results to date of our collaboration include the identification of certain novel genetic loci thought to be linked to the risk of major depression, as well as the identification of a potential genetic variant associated with dysmenorrhea, a form of severe menstrual cramps.

Leveraging Technology to Demonstrate Agility in Patient Care

Currently, Pfizer and IBM Corp. are working on research that strives to change the way neurological diseases are treated, using connected health technology, real-time data capture and advanced data analysis. In the area of Parkinson's disease, through sensors, mobile devices and advanced machine learning capabilities, we are looking for new ways to track a host of valuable patient data – measuring everything from mobility to sleep patterns – all in real time. This may help us not only to re-think our treatment procedures, but also to develop more effective decision systems.

[Learn more about Technology and Innovation.](#)

[Learn more about our clinical trials.](#)

[Learn more about our neuroscience and pain portfolio.](#)

Seeking to Create Industry-Leading Standards

As part of Pfizer's efforts to lead the industry, we are partnering with other companies to create and develop what we hope will be industry-standard research technologies.

Our collaboration with Research Triangle Park, N.C.-based DILIsym Services, Inc., has led to the development of a novel, mathematical modeling tool to potentially predict liver disease progression in patients by simulating non-alcoholic fatty liver disease (NAFLD) and its improvement with treatment. Pfizer is currently advancing three investigational candidates for non-alcoholic steatohepatitis, which is an advanced stage of NAFLD, in Phase 1 studies. Our research into this area is part of our 50-year long commitment to treating cardiovascular and metabolic diseases.

Our collaboration with Cambridge, Mass.-based Draper seeks to build preclinical microphysiological systems, specifically liver, vascular and gastrointestinal “organs-on-a-chip” models, which aim to recapitulate human tissues, allowing researchers to measure tissue function more accurately and more quickly than in traditional preclinical models. This technology could help us better predict clinical outcomes and to more efficiently bridge the translation gap – from in vitro to in vivo and from preclinical to clinical – and, ultimately, to more quickly bring new medicines to patients who need them.

Providing Access to Over-the-Counter Medicines

In Mexico, we are partnering with a Mexican-based retailer to offer low-count Advil® tablets (two- and four-count packages). The low-count packages, available in more than 14,000 retail locations, have increased the reach and distribution nationwide. Through this partnership, we are able to offer the medicine to consumers who need it at an affordable out-of-pocket cost.

[Learn more about our Consumer Healthcare products.](#)