WITH IQVIA, NEW SOLUTIONS FOR ADVANCING HOW WE UNDERSTAND AND TREAT ALZHEIMER'S DISEASE ARE WITHIN REACH

At IQVIA™, we have a vision:

Where every healthcare decision is based on evidence.

Where human science comes together with data science to improve the health of people, not just when they are patients.

Where new and creative solutions aren't just possible – they are expected.

We must think differently about how we harness innovations in human data science and artificial intelligence to be faster and more precise in how we identify patients – possibly before they even are recognized as patients in the first place, helping to predict the onset of full blown disease.

With IQVIA, you can tap into unmatched domain expertise together with advanced analytics to optimize drug development, identify sites, and identify, recruit and engage patients in new, innovative ways.

IMS Health & Quintiles are now IQVIA™

SPOTLIGHT ON ALZHEIMER'S DISEASE

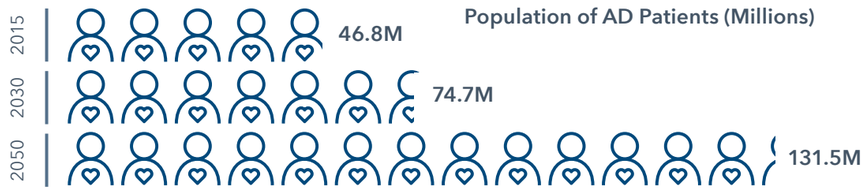
THE AD BURDEN[1]

Alzheimer's disease (AD) is the most common form of dementia, affecting over 40M people worldwide. Currently, no treatment for AD is able to stop or even slow down the disease process, so there is an urgent need to accelerate AD drug development

- Fastest accelerating disability burden globally
- Most costly in U.S. direct health expenditures
- The cost of AD globally is $800B[2]
- Only major killer without a means of preventing or curing

Direct Health Expenditures (Billions)

Population of AD Patients (Millions)



THE CURRENT CHALLENGES IN CLINICAL TRIALS FOR AD[2]

RECRUITMENT
High screen failure rate + competing trials at many of the same global sites
- 80% screen failure rates in Prodromal AD
- 90% screen failure rates in Pre-Clinical AD

ECONOMIC CONSEQUENCES OF SCREEN FAILURES
$29,100/Prodromal Patient
$33,600/Pre-Clinical Patient

COMPETITION
For disease modification trials is very high due to competing trials + geographical access to the 3 amyloid PET ligands

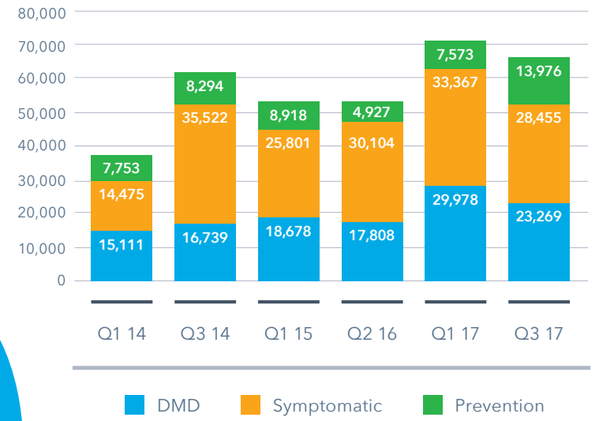
STUDY POPULATION
Challenges in outreach efforts required for pAD and preclinical AD subjects and for more advanced subjects

PROTOCOL DESIGN
Designs must carefully consider
- Burden for participants & sites
- Process for amyloid disclosure
- Level of staffing needed to handle high screening throughout

RESOURCES
Major resourcing requirements in terms of equipment and staff

99.6%
Failure rate
of 244 agents tested for efficacy in slowing AD progression (2002-2013)

SHIFTING TREND IN AD TRIAL LANDSCAPE



DISEASE MODIFYING DRUGS (DMD)
- Modify the disease progress
- Do not treat AD symptoms

SYMPTOMATIC TREATMENTS
- Improve symptoms, especially memory and cognition
- Have a fast acting, but short-lived effect

PREVENTION
- Use of DMDs to treat those who are asymptomatic but at high risk of developing AD
- Delay onset of AD by preventing/delaying accumulation of amyloid in the brain

OVERVIEW OF CLINICAL TRIAL LANDSCAPE

In 2016 it was estimated that nearly 7M registry participants were needed to achieve 4.5K randomized subjects.

264 Trials, Close to 66,000 Target Patient Enrollment

Phase	PHASE I	PHASE I/II	PHASE II	PHASE II/III	PHASE III	PHASE IV
# of Trials	29	18	103	15	45	54
Target Accrual	1,757	926	14,852	10,024	31,333	7,071

INNOVATIVE APPROACHES TO IMPROVE AD CLINICAL TRIALS

Develop predictive algorithms to identify undiagnosed MCI patients (that go on to develop AD) through Dx and EMR data

Broaden AD site base by increasing the number of sites ready for selection to perform AD trials

Use evidence-based metrics to determine the highest potential sites

Help develop trial-ready cohort by validation and use of pre-screening centers

Develop new diagnostics/ screening tools for amyloid or AD via a blood test

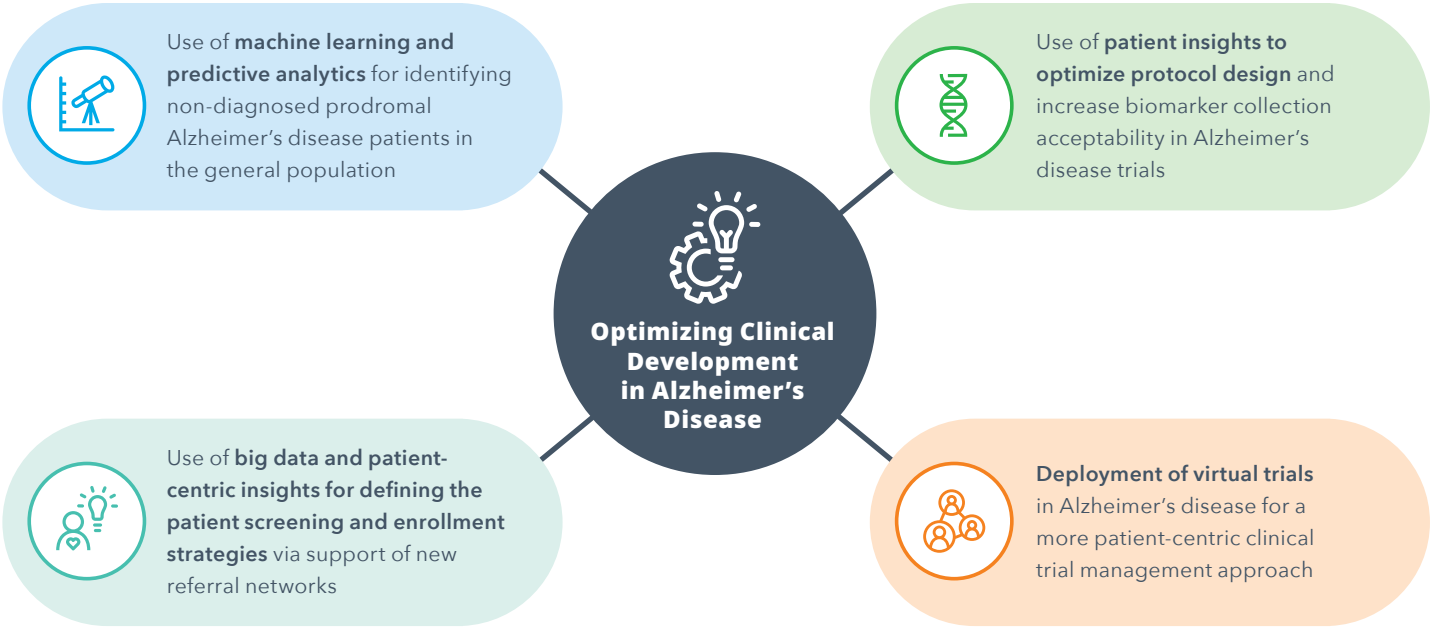
1. P.J. Ousset, J. Cummings, J. Delrieu, V. Legrand, N. Prins, B. Winblad, J. Touchon, M.W. Weiner, B. Vellas . IS ALZHEIMER'S DISEASE DRUG DEVELOPMENT BROKEN? WHAT MUST BE IMPROVED. JPAD - Volume 1, Number 1, 2014
2. Global Alzheimer's Platform Foundation. Gap Foundation Overview, April 2016

AN EXPLOSION IN CLINICAL AND REAL-WORLD DATA. ADVANCES IN DATA SCIENCE AND TECHNOLOGY.

Together, these forces can help you advance your approach to Alzheimer's disease clinical trials. And help bring new innovative therapies to patients faster.

As the leader in human data science, IQVIA is at the forefront of integrating **human science expertise** with **advances in analytics and technology** to help you make better decisions and enable better patient outcomes.

IQVIA helps optimize the clinical development process in Alzheimer's disease by specifically focusing on early stages of the disease. This innovative approach includes:



CONTACT US TODAY TO START A CONVERSATION

Learn how the IQVIA CORE™ is helping solve challenges and deliver more predictable results in Alzheimer's trials. Contact **clinical@iqvia.com** to speak with one of our experts.

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