

# Impact across the platform

**: Leveraging DPUK Portal for  
International Cohort Collaboration**

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# Overview

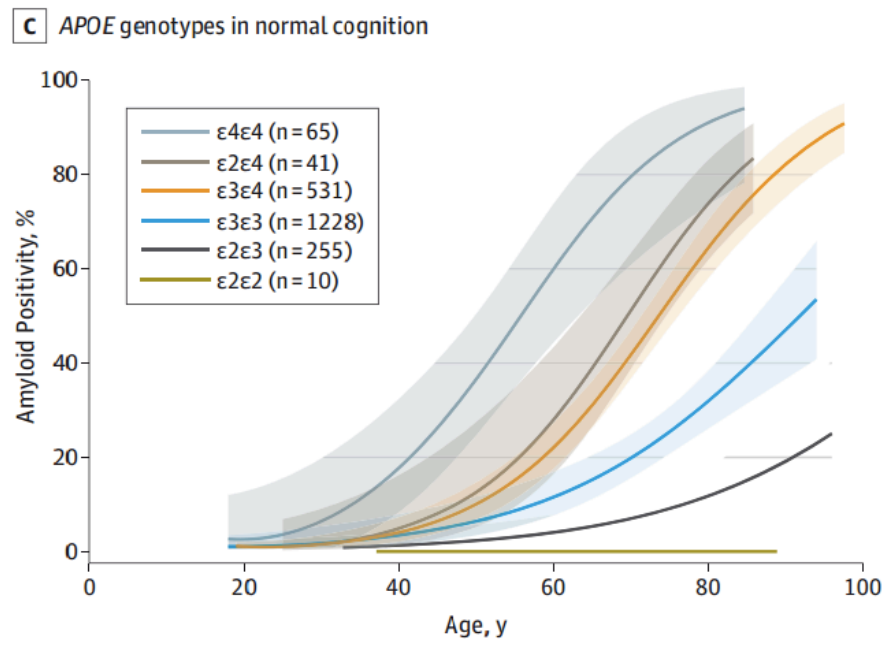
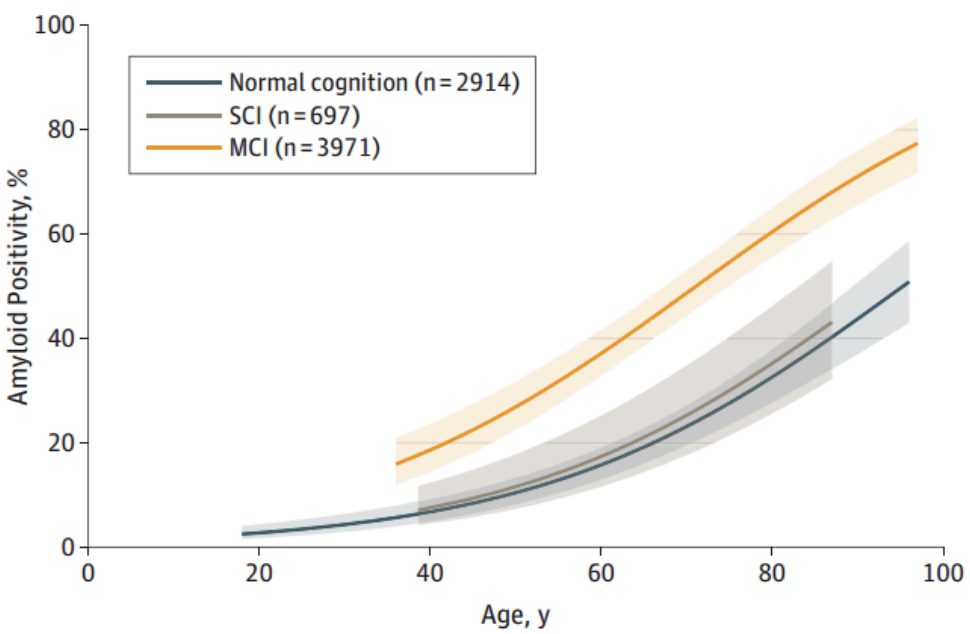
## MRC-Korea Partnering Award

Racial differences in the impact of demographics and  
APOE genotyping on brain amyloid burden

## MRC-NIH Neurodegeneration Partnering Award

Impact of vascular factors on the declining incidence of dementia

# Background: Brain amyloid burden



Jansen et al, JAMA, 2015

# Proposal: DPUK-Korea/US/Europe Amyloid PET Collaboration

## Research Question

Are there **racial/regional differences** in the impact of demographics and APOE genotyping on **amyloid positivity**?

## Data

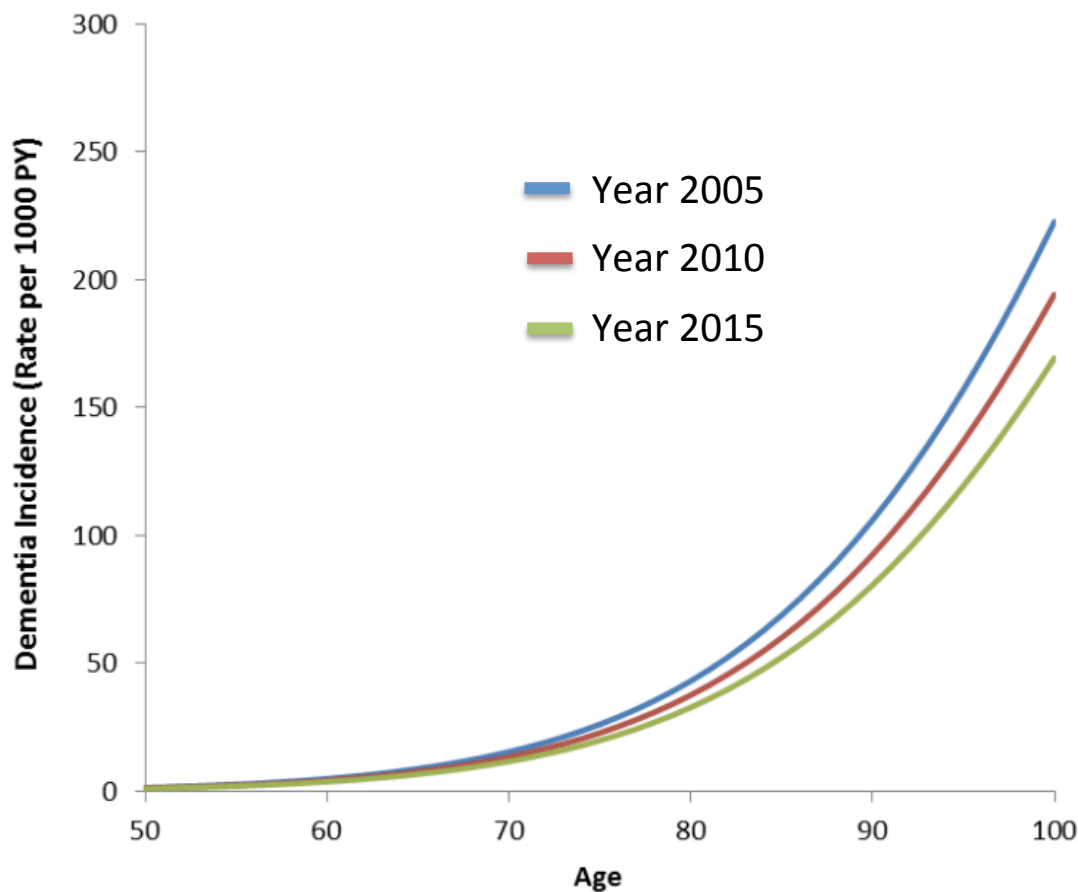
Korea – Amyloid PET cohort

US – ADNI

DPUK – NHSD 1946 PET cohort

European amyloid cohort

# Background: Dementia incidence is declining in high-income western countries



Other population-based studies  
Framingham Heart Study, US  
(Satizabal et al, NEJM, 2016)  
CFAS I and II, UK  
(Matthews et al, Nat. Comms, 2016)  
Bordeaux, France  
(Grasse et al, Alz & Dem., 2016)  
Stockholm, Sweden  
(Qui et al, Neurology, 2013)  
Rotterdam Study, Netherlands  
(Schrijvers et al, Neurology, 2012)  
Rochester, US  
(Rocca et al, Alz & Dem., 2011)

English Longitudinal Study of Ageing, UK (Ahmadi-Abhari et al, BMJ, 2017)

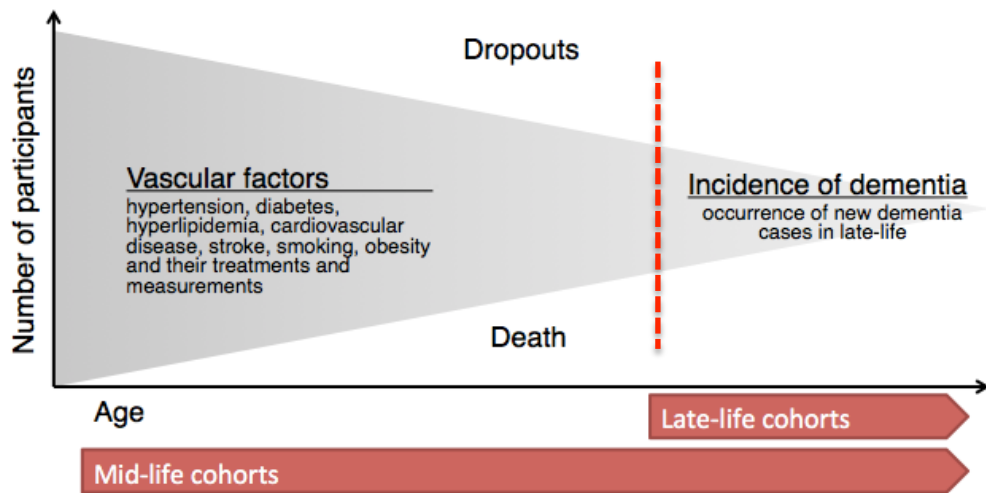
# Why impact of vascular factors is not clear?

## Limitation of single cohort studies

Lack of study power

Different population characteristics, study designs and measurements and analytical methods

## Selection bias in late-life cohorts



# Proposal: DPUK-NIA Mid-life Cohort Collaboration

## Research question

What is the impact of **vascular factors** on the **changing incidence of dementia**?

Name	N	Age at baseline	Data period	Vascular factors	Dementia diagnosis
Caerphilly Prospective Study	2959	42-61	1979-2004	Yes	Clinical
English Longitudinal Study of Ageing	17906	50+	2002-2017	Yes	Algorithmic
National Study of Health and Development	5362	Birth	1946-2015	Yes	*
Stress and Health Study	10308	35-55	1985-2016	Yes	*
Honolulu-Asia Aging Study	8006	45-68	1965-2011	Yes	Clinical
AGES-Reykjavik Study	30795	32-60	1967-2011	Yes	Clinical
Framingham Heart Study	15338	5-85	1948-2015	Yes	Clinical
Atherosclerosis Risk in Communities study	15792	44-66	1987-2013	Yes	Clinical

\*We will develop algorithmic diagnosis for dementia

# Acknowledgements

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## MRC-Korea Partnering Award

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## MRC-NIH Neurodegeneration Partnering Award

Dr Lenore Launer (NIA/NIH, US)