

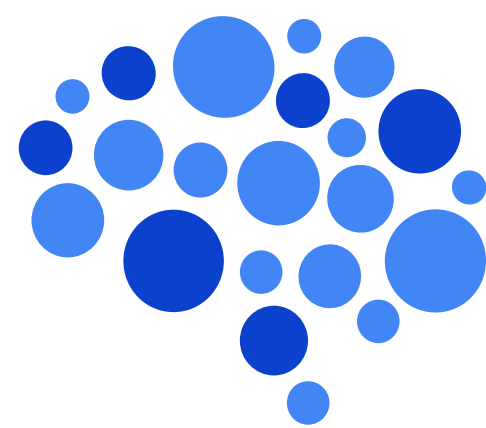
Mental health conditions in spouses of people living with Alzheimer’s disease: a longitudinal US claims data analysis



Lars Kamber, PhD¹, Michelle Johnson, MSc², Valerie Crowell, PhD¹, Soeren Mattke, MD DSc³, Richard Houghton, PhD¹

¹F. Hoffmann-La Roche Ltd, Basel, Switzerland; ²Roche Products Ltd, Welwyn Garden City, UK; ³The USC Brain Health Observatory, USC Dornsife, Los Angeles, CA, USA

Poster #0988
Exhibit Hall
15 July, 2026



Conclusions

- Spouses of people living with Alzheimer’s disease (AD) experience an **increase in claims for depression and anxiety, beginning years before** their partner’s formal AD diagnosis
- This increase in mental health claims does not translate to a corresponding rise in total annual claims costs

- The findings show one aspect of the broader **societal burden** associated with AD and highlight the **importance of supporting family members** of people living with AD

Background

Spouse burden in AD

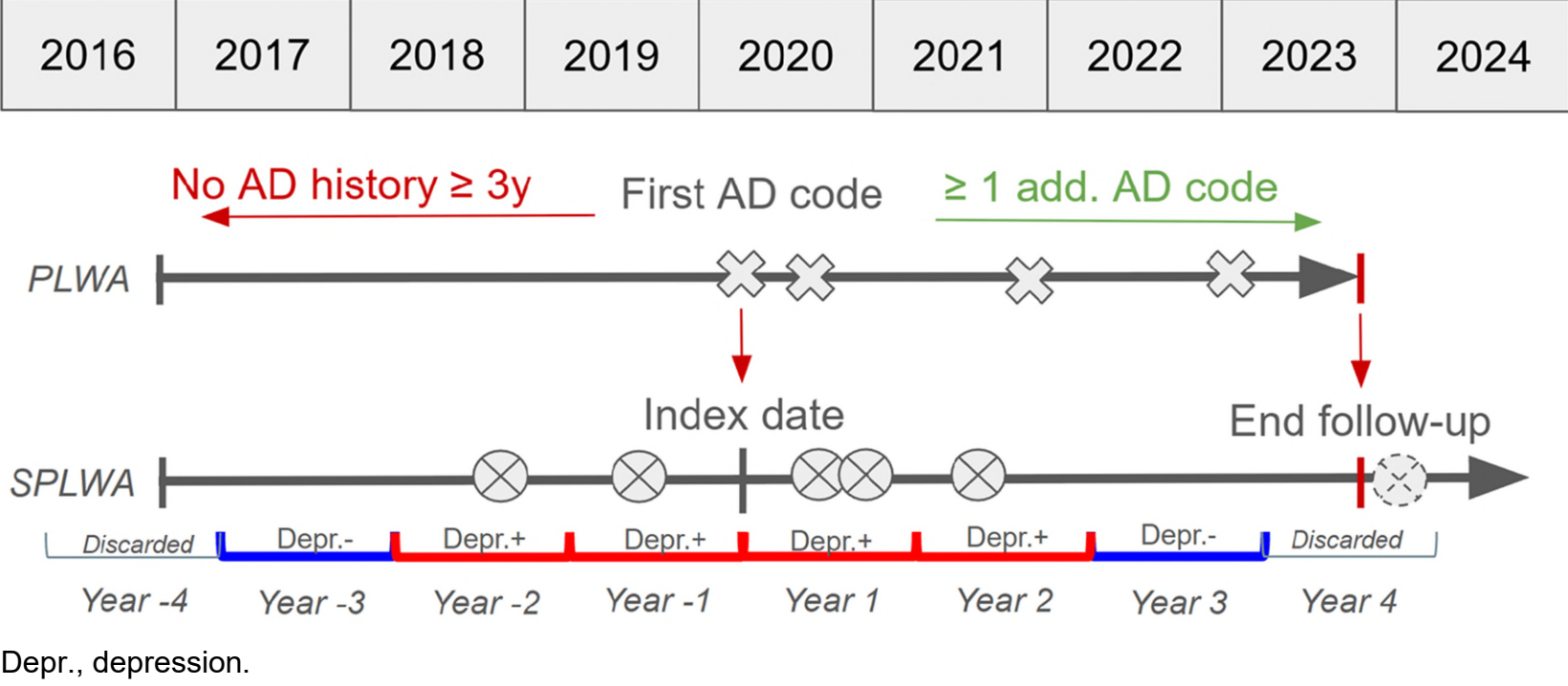
- Spousal care partners of people living with AD** can experience significant **care partner and mental health burden¹**
- The **pre-diagnosis period** often involves a long window of **early symptoms** before an AD diagnosis is established
- This **study assesses mental health conditions in spouses of people living with AD (SPLWA) over time**, including the pre-diagnosis period, as captured in US claims data

Methodology

Retrospective matched cohort study

- Retrospective analysis of **Merative™ MarketScan® Medicare** claims dated between **2016 and 2024 (Figure 1)**

Figure 1. Study design.

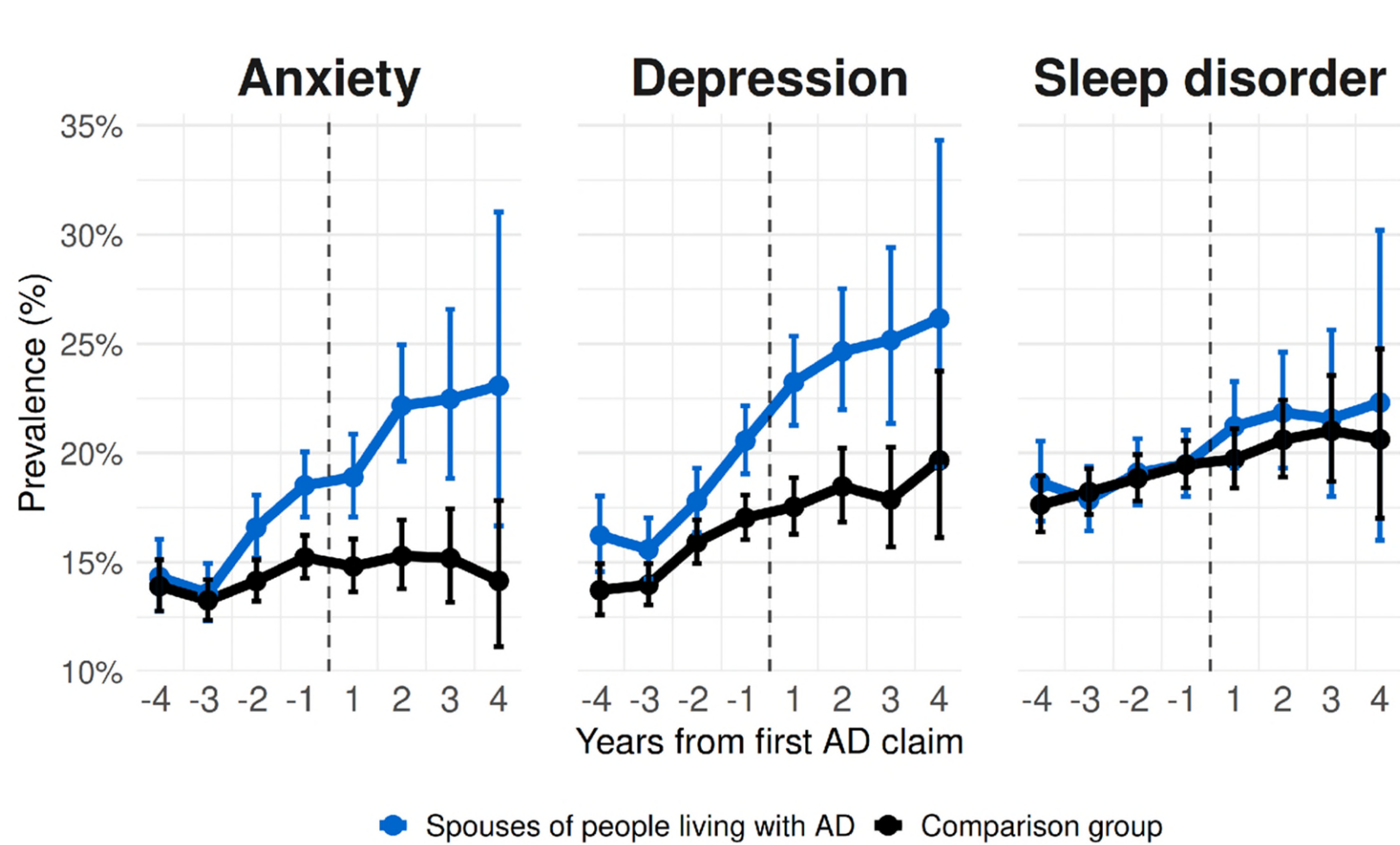


- Spousal pairs were **linked via family insurance plan IDs**
- The **index date for SPLWA** was defined by the date of the first **ICD-10-CM code for AD (G30.x)** in their partner, requiring at least two claims over a span of **≥7 days** for confirmation. Spousal pairs with confirmed claims for both partners were excluded
- Individuals in the **comparison group** of spouses of individuals without AD were assigned a random index date from within their period of continuous enrolment
- Both groups were required to have at least **3 years of continuous observation** prior to their index date
- SPLWA were **matched with a 1:2 ratio** to members of the comparison group based on age of both spouses, sex, geographic location, insurance plan type and index date
- Generalised estimating equations (GEE)** were used to estimate the annual **prevalence of anxiety, depression and sleep disorders** based on medical and pharmacy claims
- GEE were used to estimate **mean annual direct medical costs based on total insurance claims**, adjusted to 2024 USD

Results

Mental health conditions

Figure 2. Medical and pharmacy claims prevalence of mental health conditions in SPLWA.



- The **anxiety and depression prevalence** in claims among SPLWA **starts to diverge** from the comparison group **2 years before** the first claim for AD in their partner (**Figure 2; Table 1**)
- No divergence** was found in claims for **sleep disorders**

Table 1. Medical and pharmacy claims prevalence of mental health conditions in SPLWA.

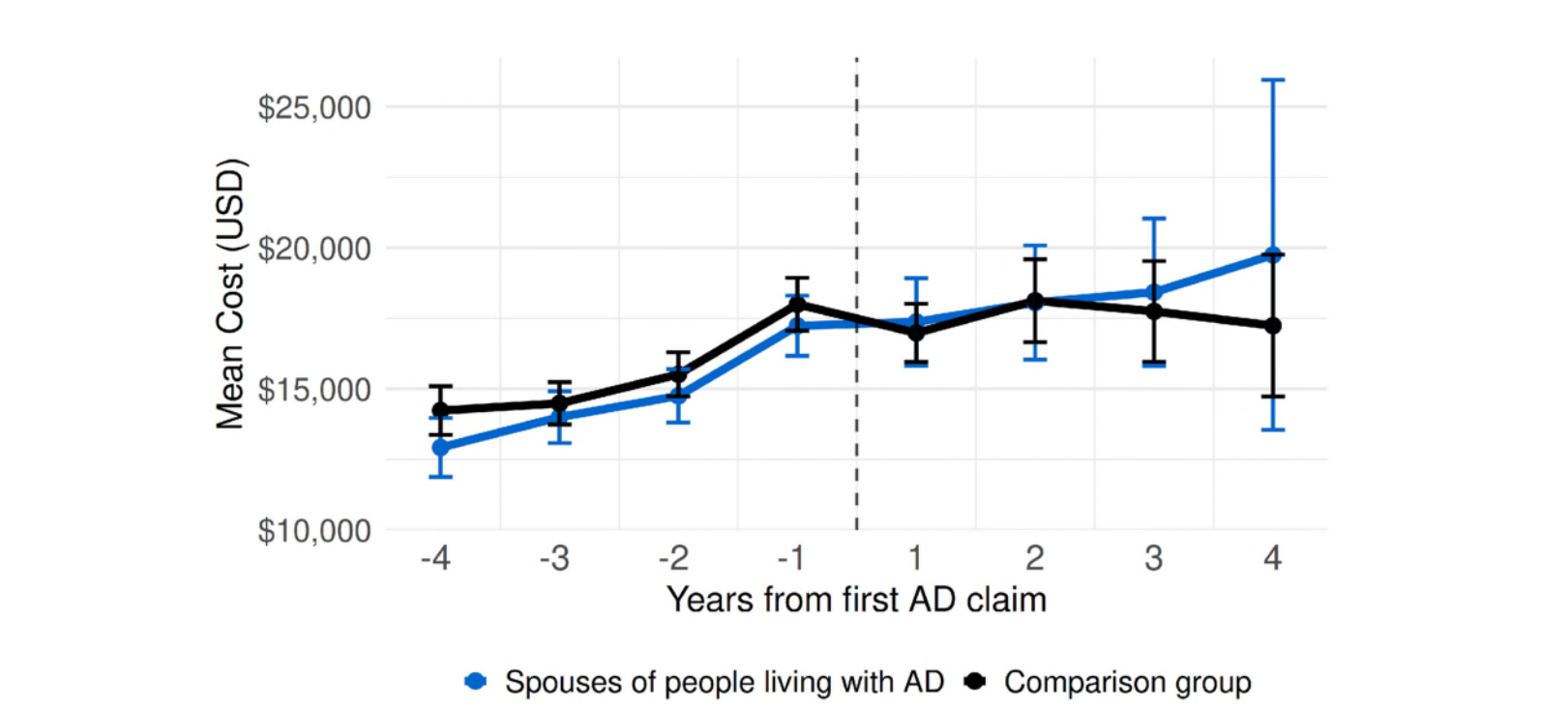
	Comparison group	SPLWA	Difference
Anxiety			
Year -3	13.3 [12.3–14.2]	13.6 [12.3–14.9]	0.3 [-1.9–1.3]
Year 2	15.3 [13.7–16.9]	22.2 [19.5–24.8]	6.9 [3.8–10.0]
Prevalence growth	2.0 [0.5–3.6]	8.6 [6.0–11.2]	6.6 [3.5–9.6]
Depression			
Year -3	14.0 [13.0–14.9]	15.6 [14.2–17.0]	1.6 [0.0–3.3]
Year 2	18.5 [16.8–20.2]	24.7 [21.9–27.4]	6.2 [2.9–9.4]
Prevalence growth	4.5 [2.9–6.1]	9.1 [6.5–11.7]	4.6 [1.5–7.6]
Sleep disorder			
Year -3	18.2 [17.2–19.2]	17.9 [16.4–19.3]	-0.3 [-2.2–1.9]
Year 2	20.6 [18.8–22.4]	21.9 [19.2–24.5]	1.3 [-1.9–4.4]
Prevalence growth	2.4 [0.1–4.1]	4.0 [1.5–6.5]	1.6 [-1.4–4.6]

Data displayed as percentage [95% confidence interval].

Results cont.

Medical costs

Figure 3. Mean annual direct medical cost in SPLWA.



- There is **no significant difference in yearly total claims amount** between SPLWA and the comparison group in the observed period (**Figure 3**)

Discussion

- The findings of **increased mental health conditions in claims data align with survey studies** on care partner burden in AD¹
- Additionally, this claims analysis highlights mental health conditions in spouses **years before a formal AD diagnosis**
- The lack of a difference in total yearly claims amounts is consistent with the **mixed results** of previous studies investigating **healthcare expenditures** in spouses of people with dementia through claims in the US,^{2,3} and could indicate care **partners are deprioritising their own medical needs** due to time constraints and demands of care provision
- The present analysis **does not capture many other important aspects of care partner burden**, including social isolation and financial strain
- Whilst spouses are frequently the primary care partners, **other family members** not captured by this analysis **are often important providers of informal care⁴**
- Over-the-counter medications are not captured** by this analysis which, in particular, may result in an underestimation of sleep disturbances
- Claims data** serve as approximations of true prevalence and diagnostic timing with identified conditions **not necessarily being confirmed via clinical testing or biomarkers**
- Due to inherent **delays in seeking care and formal coding**, the **data likely represent a conservative estimate** of both the partner's AD timeline and the spouse's mental health trajectory

Discussion cont.

- With the studied population consisting of only individuals on supplemental Medicare on family plans, the **generalisability of the results may be limited**
- Whilst highlighting significant trends, **unmeasured factors like socioeconomic status** may also contribute to the observed outcomes

Appendix

Cohort characteristics and attrition flowchart

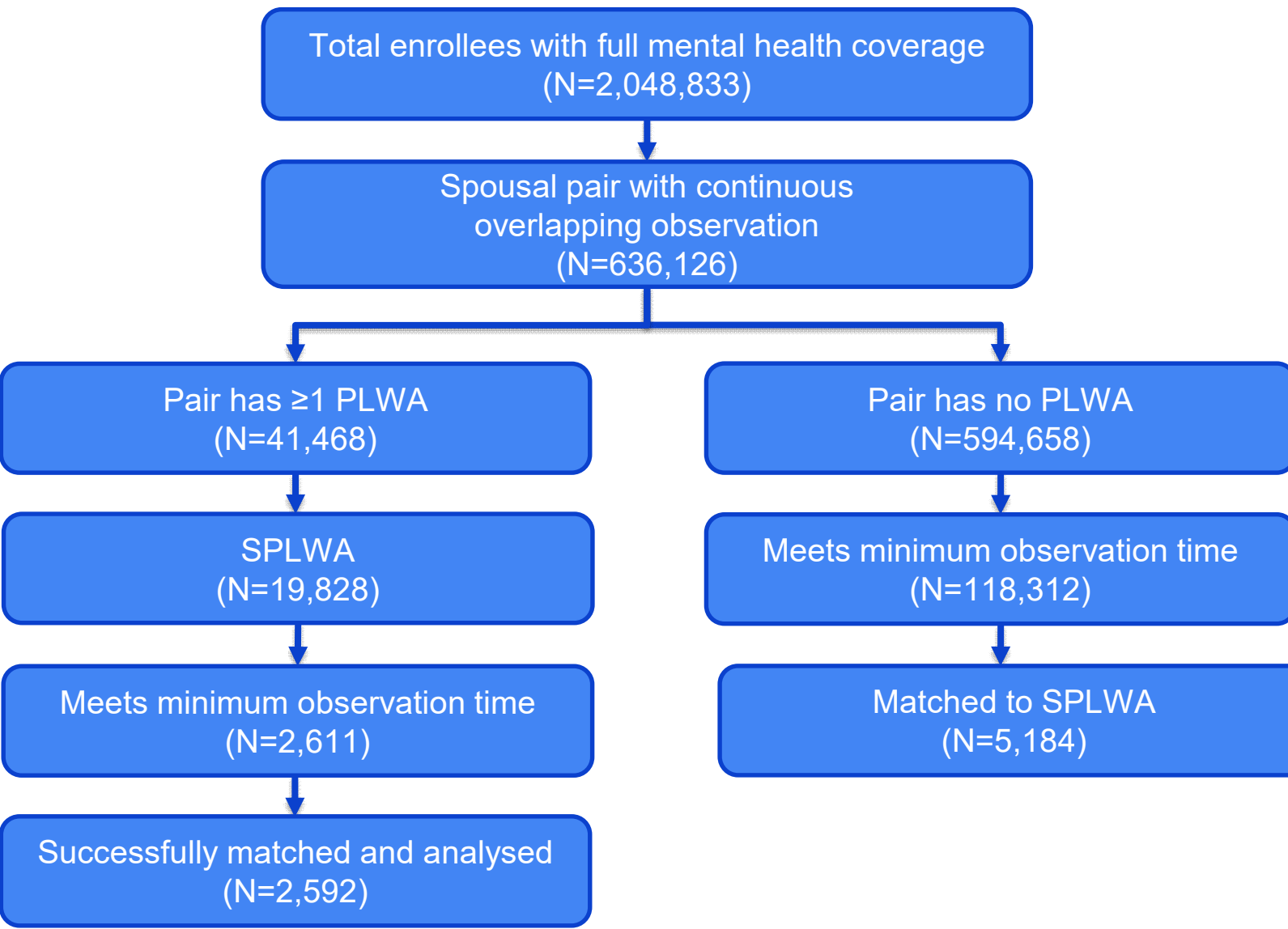
Table 2. Cohort characteristics.

	SPLWA (n=2,592)	Comparison group (n=5,184)
Age (years)	80.7	80.4
Age 65–74, %	15.8	16.5
Age 75–84, %	59.0	59.5
Age ≥85, %	25.3	24.0
Proportion female	51.2	51.2
Charlson Comorbidity index	5.8	5.7
Observed years before index	5.0	4.9
Observed years after index	1.7	1.8

Data presented as mean values unless stated.

- The analysed SPLWA and comparison group are **well-balanced** in terms of the matched characteristics **at index date**

Figure 4. Attrition flowchart.



Acronyms

AD, Alzheimer’s disease
GEE, generalised estimating equations
PLWA, people living with Alzheimer’s disease
SPLWA, spouses of people living with Alzheimer’s disease

Disclosures

- LK, VC** and **RH** are employees of and own stock options in F. Hoffmann-La Roche Ltd
- MJ** is an employee of Roche Products Ltd and owns stock options in F. Hoffmann-La Roche Ltd
- SM** serves on the director board of Senscio Systems, Inc. and scientific advisory board of AiCure Technologies, AlzPath and Boston Millenia Partners; he has also received consultancy and/or speaker fees from Biogen, C2N, Eisai, Eli Lilly, Novartis, NovoNordisk and Roche/Genentech

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Acknowledgements

- This work was funded by F. Hoffmann-La Roche Ltd
- Editorial support in the preparation of this poster was provided by Mhairi McGarva, BSc, of Ashfield Medcomms, an Inizio company, funded by F. Hoffmann-La Roche Ltd