

# IPECAD modelling workshop cross-comparison

Value of cross-comparison for possible Alzheimer disease-modifying treatment, learnings from the IPECAD collaboration on cross-comparison and future directions

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## Disclosure

### RELATED TO THIS WORK:

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No role in the design of the analysis, interpretation of data and in writing the manuscript

### UNRELATED TO THIS WORK:

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## Background

- Lack of clarity and reliability limits use of models
- Similar model results increase confidence in models

Eddy et al., Value Heal 2012;15:843–50.

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## Inspiration

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## Aim

- International Pharmacoeconomic Collaboration on Alzheimer's Disease (IPECAD) Modelling Workshop
  - Series of workshops
  - Exchange modelling ideas
  - Discuss methodological issues
  - Foster development transparent models
- Workshop 2020: cross-comparison of models for AD and related dementias
- Cross-comparison:
  - "examining different models that address the same problem and comparing their results" [Eddy, et al., 2012]

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## Method

- Workshop participants
  - Eligible: cost-effectiveness modelling in AD and related dementias
  - Recruit: literature, networks, conferences
- Benchmark scenario (jointly developed with participants; applied to each model)
  - Population:
    - AD-type mild cognitive impairment (MCI) or AD-type mild dementia
    - Age 70
    - Memory clinic setting
  - Treatment effect 30% reduction:
    - MCI to dementia
    - Mild dementia to moderate dementia
  - Treatment discontinuation: 10% / year
  - Treatment costs: \$5000 / year
  - Time horizon: 10- and 20-year
  - Other aspects not prespecified (natural history, mortality, costs inputs etc) to encourage participation
- Standardized reporting tables



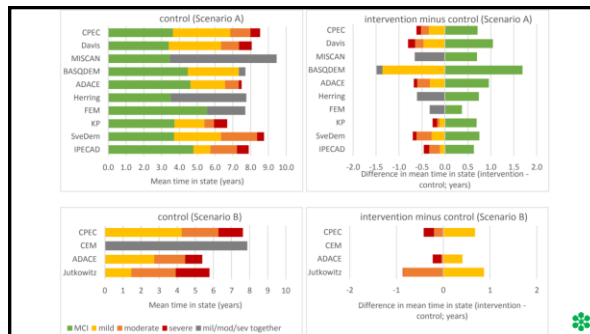
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## Result

- 12 modelling groups
- 14 models
  - Start in MCI (10)
  - Start in mild dementia (4)



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## Discussion

- Precisely identifying sources of variability across models was challenging, since models differed on multiple aspects simultaneously.
- 30% treatment efficacy relatively generic.
- Observed broadly similar profiles of disease progression across models.
- Collaboration/platform seemed to allow open discussions.



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## Future directions

- Narrower specification of benchmark scenario:
  - Same background life table
  - Specify treatment in units/outcomes used in actual clinical trials
  - Define starting population from actual clinical trials
  - Standardize health economic inputs



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## Take-away

- Increased understanding and confidence
- Workshop allowed open discussions
- Balance: specification versus feasibility



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## Acknowledgment



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|------------|--------------|----------------------------------------------|---------|------------------|
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| Mauricio   | Lopez Mendez | Brown                                        | US      | Jurkowitz et al. |
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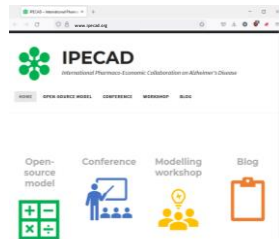


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## Organizers



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## Some statements open for discussion

Cross-comparison:

1. Is valuable as it increases our understanding of models
2. Is limited as it does not allow to judge model quality
3. Mainly reflects structural uncertainty
4. Is limited as it does not reflect external validation
5. Is valuable, even without funding for extensive time investment



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## Questions/discussion



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