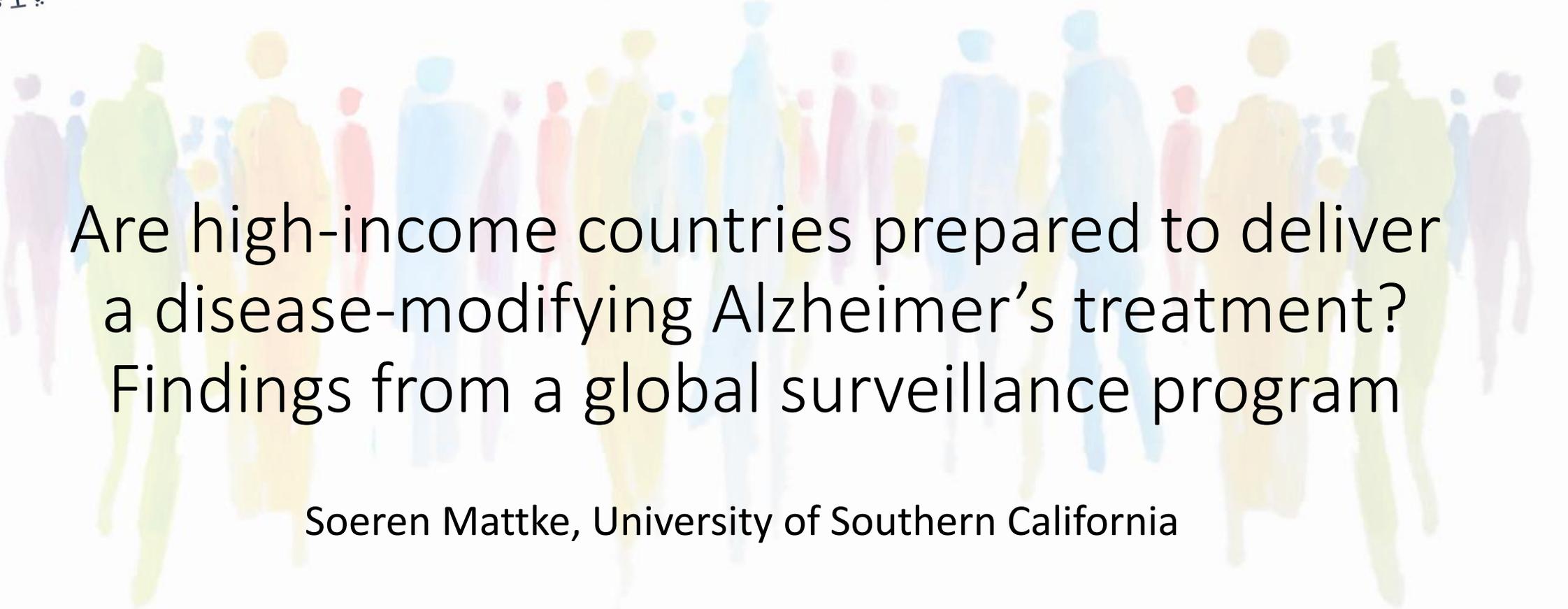




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# Are high-income countries prepared to deliver a disease-modifying Alzheimer's treatment? Findings from a global surveillance program

Soeren Mattke, University of Southern California

# Why am I worried about health system preparedness?

Alzheimer's disease is one of the last population-level conditions without a disease-modifying treatment

Potential approval would be a major break-through for patients and families

But the large pool of prevalent cases, when the treatment becomes first available, may overwhelm health system capacity

Combination or preventive paradigm and highly complex diagnostic process

Unless we address capacity constraints in a timely manner, millions of patients might progress to dementia on wait lists →

COVID-19 has painfully illustrated the impact of unexpected surges in demand

# Our research program has three main components

Simulation model to estimate impact of bottlenecks in access to treatment



- Completed for U.S., EU-5, Sweden, Canada, Australia and Japan
- Taiwan and South Korea in progress
- Starting soon on other G20 countries

Policy analysis to understand institutional obstacles to expanding capacity



- Coverage for tests along the patient journey, financial and regulatory obstacles to capacity growth and provider capabilities
- Completed for U.S. and EU-5, working on Canada

From quantifying problems to solutions



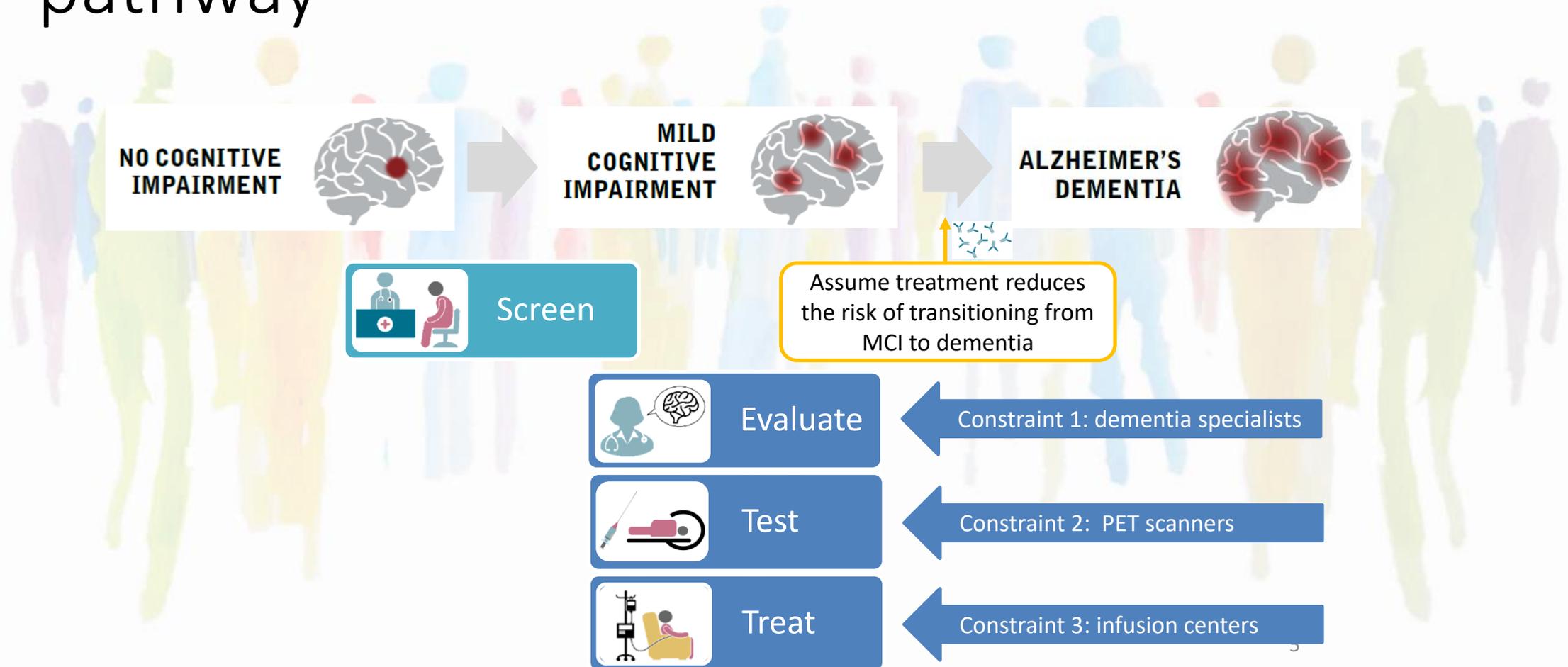
- Better diagnostic technology
- Improved care delivery models



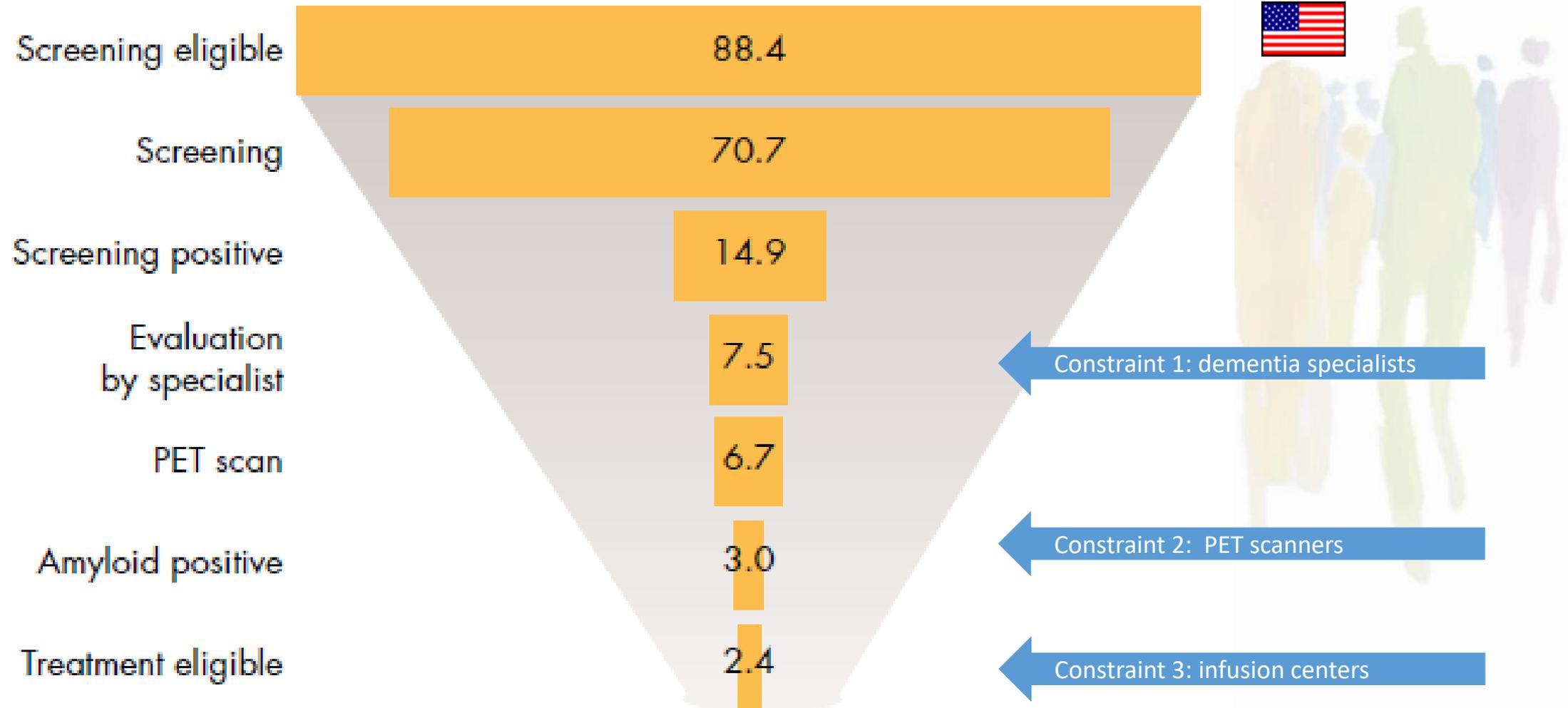
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# Capacity Simulation

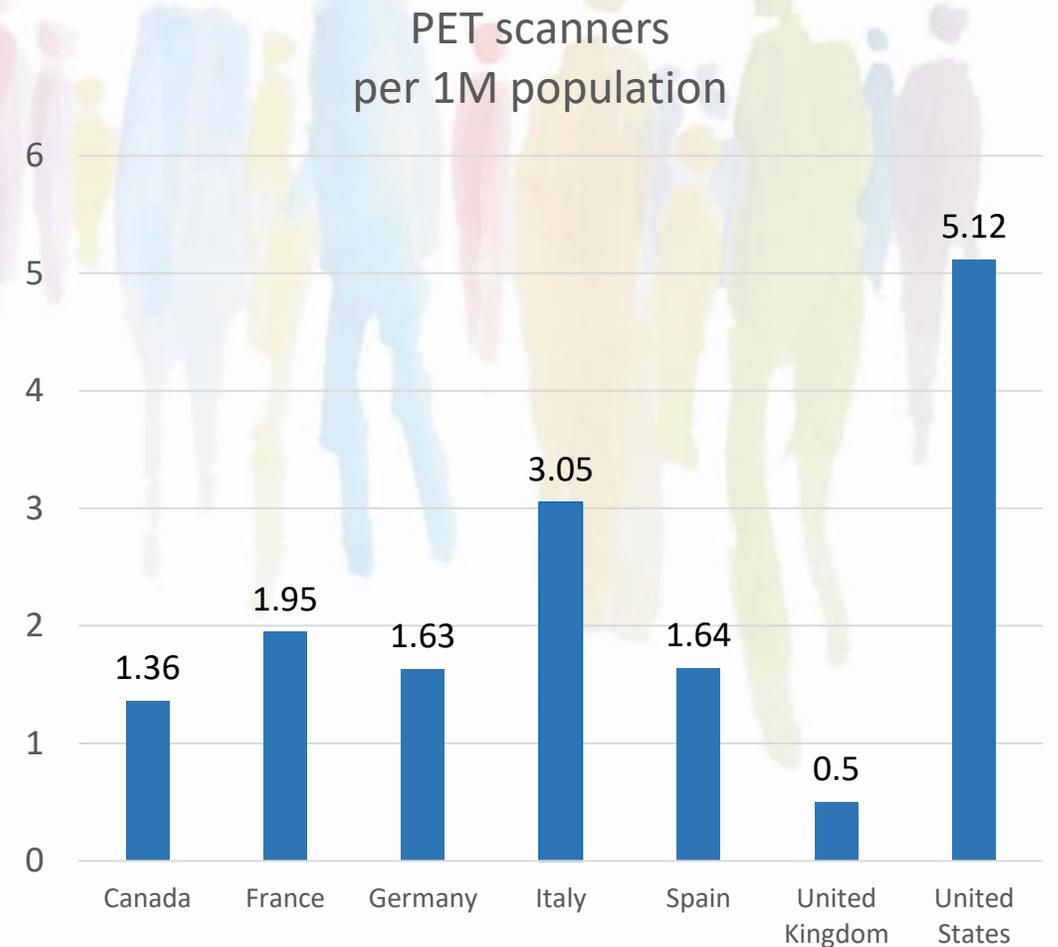
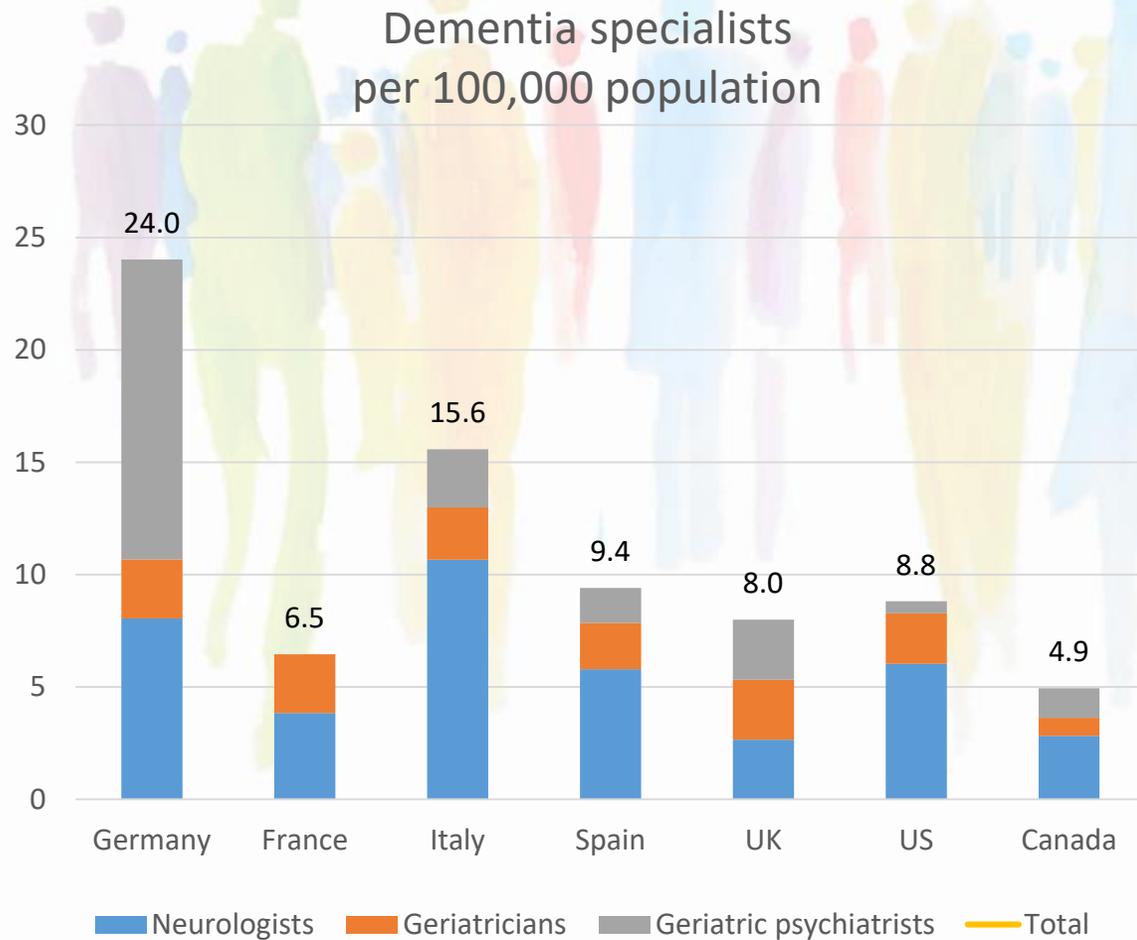
# Alzheimer's disease progression and clinical pathway



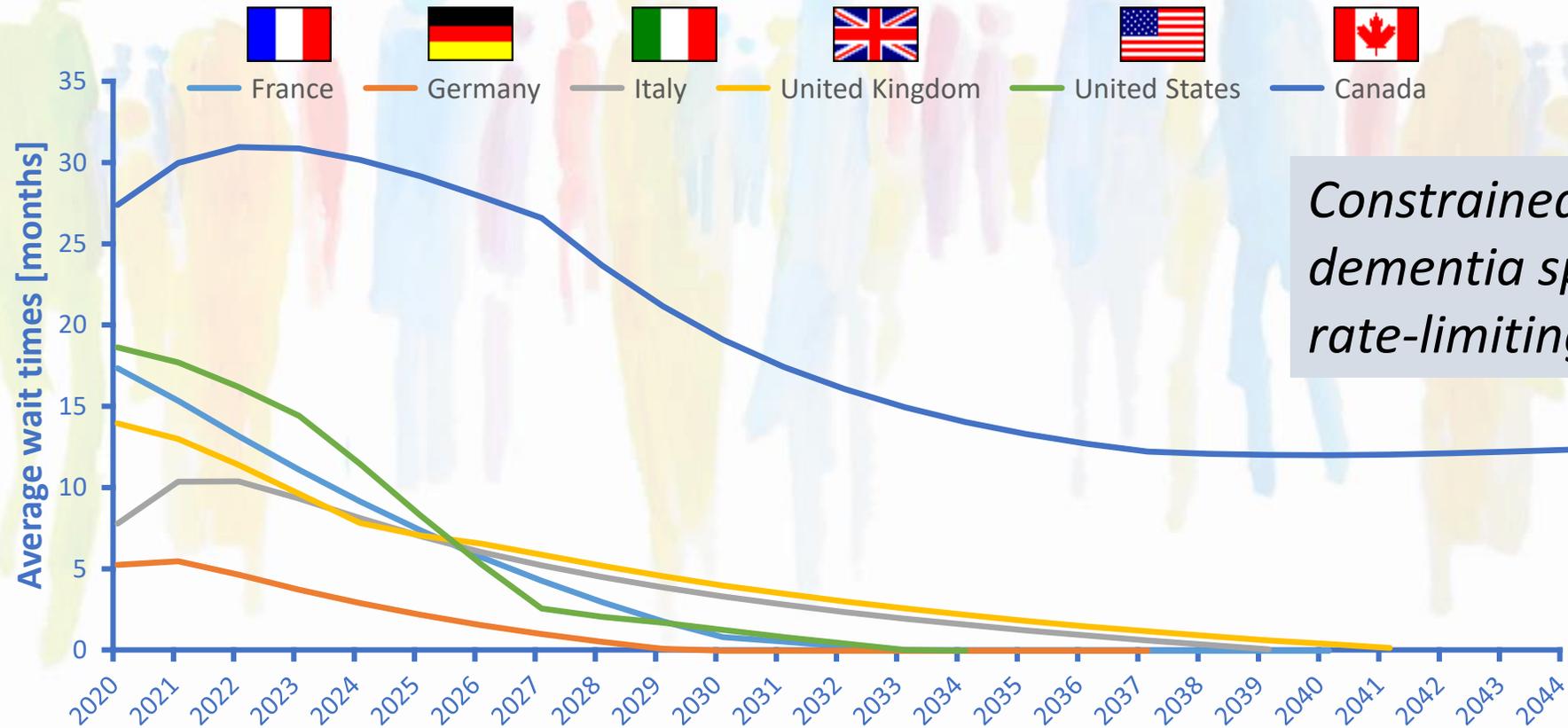
# A substantial number of patients will have to be evaluated



# Diagnostic capacity varies across countries

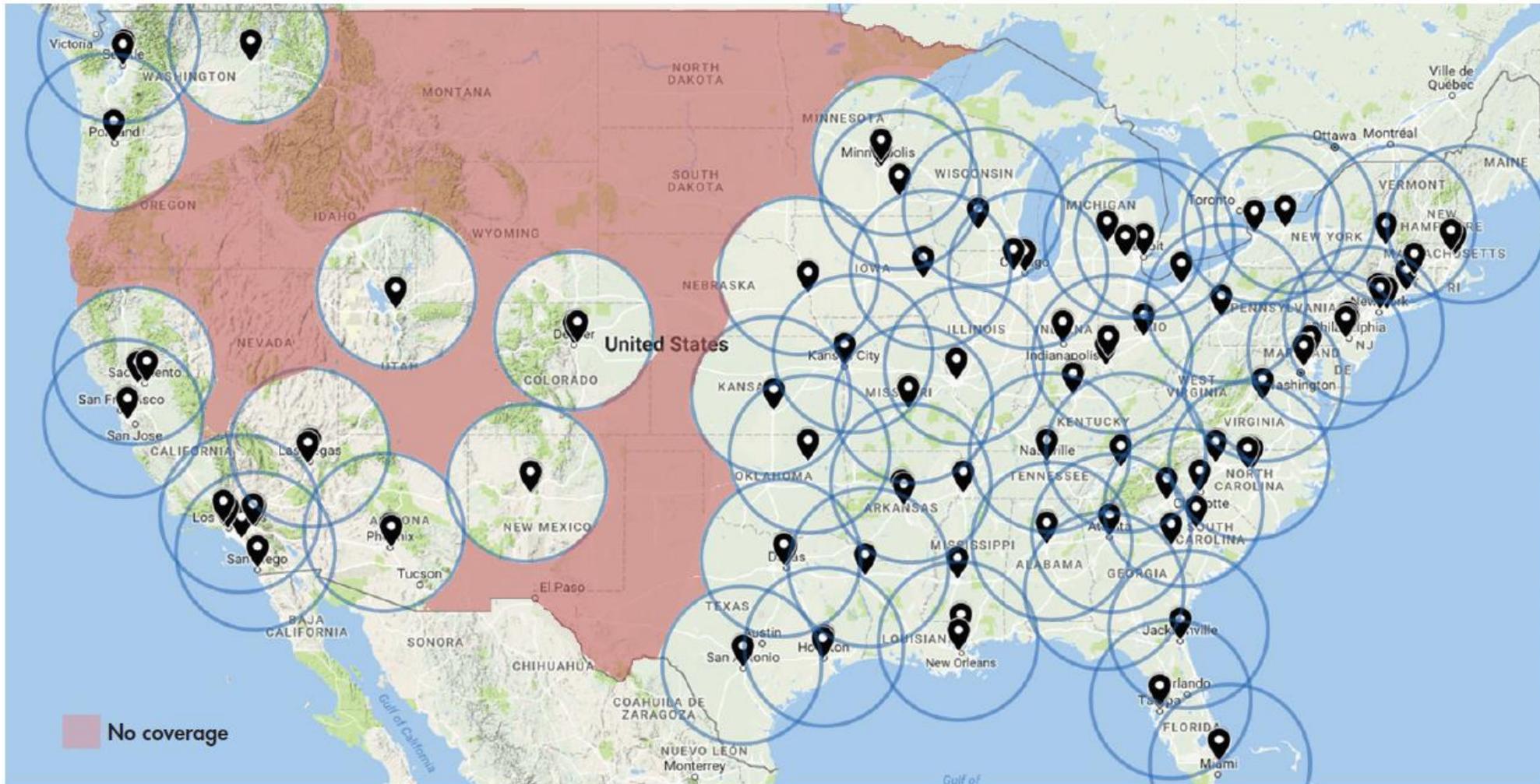


# Projected wait times are long and variable



*Constrained capacity of dementia specialists is rate-limiting factor*

# Sometimes geographical obstacles to access exist





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# Policy Analysis: EU-5 Results

# Objectives for policy analysis work



Identify potential risks to access along expected care pathway

- Coverage, capacity, and capability



Point out potential solutions

- Development of value-added services
  - Tools (e.g., screening tests)
  - Solutions (e.g., model care pathways)
- Best practices and lessons learned from other countries



Assess feasibility of solutions at high-level

- Not a formal feasibility study

# Work uses analytic framework to describe status quo and point out opportunities for improvement



# The analysis points to common challenges across countries

While many jurisdictions have dementia plans, they tend not to be funded



Coverage of services along the patient journey remains patchy



Even if absorptive capacity exists, incentives to use it are lacking



Capabilities to deliver high-quality memory care are limited



- Coverage of services along the patient journey remains patchy
  - In particular confirmatory biomarker testing
  - Assumed but by no means guaranteed that DMT approval would trigger coverage

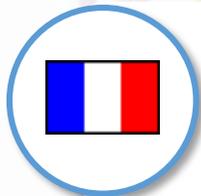
- Even if absorptive capacity exists, incentives to use it are lacking
  - Many countries operate under actual or functional global budget for services
  - Investment decisions into human and physical capital take long
    - Several years to install new PET scanner in Canada

- Capabilities to deliver high-quality memory care are limited
  - Primary care clinicians remain reluctant to assess cognitive function
    - Incompatible with workflows, lack of training, perceived lack of therapeutic consequences
  - Memory clinics' skills and scale are varied
    - Often not equipped to handle medicalized nature of DMT
  - Gaps in technical functions like neuroradiology and CSF diagnostics

# Encouraging examples are emerging: Europe



- Accreditation scheme to standardize memory services
- Dementia diagnosis rates as performance measure for GPs



- National network of memory clinics for routine care and for research
- Emphasis on right to know about cognitive decline in dementia strategy



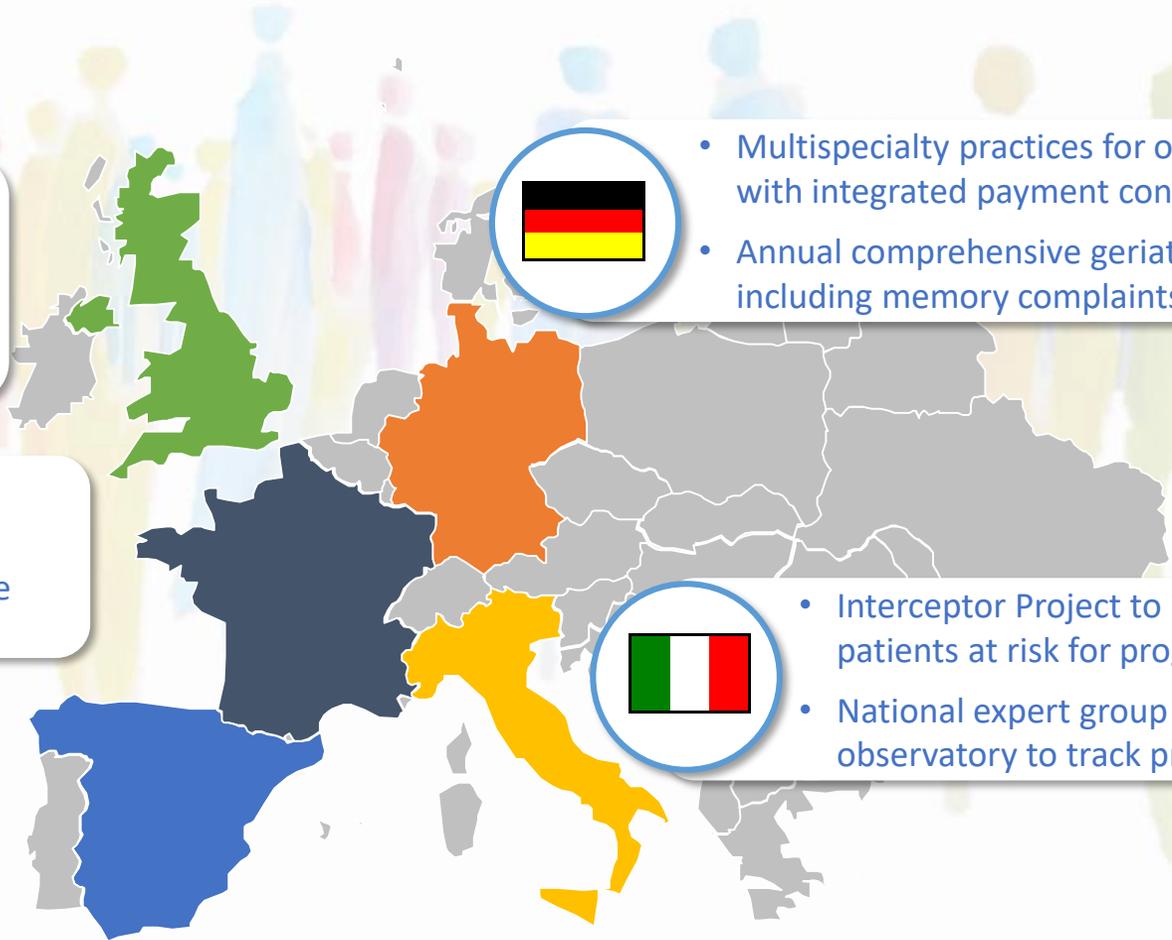
- Centers of Excellence approach to memory care
- Expert-led assessment of regional preparedness



- Multispecialty practices for oncology and MS with integrated payment contracts
- Annual comprehensive geriatric assessment including memory complaints



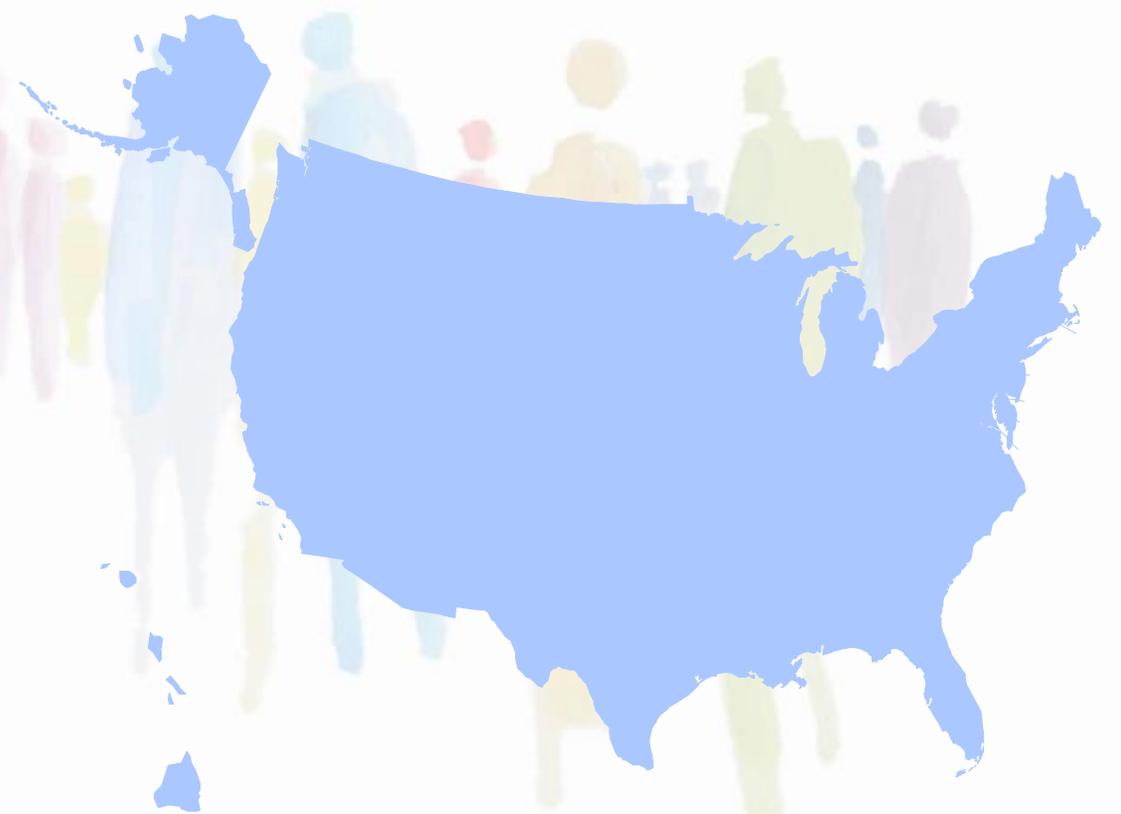
- Interceptor Project to identify MCI patients at risk for progression
- National expert group and dementia observatory to track progress and data



# Encouraging examples are emerging: North America

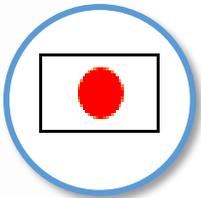


- Shift to team-based primary care models with individual focus areas
- Primary-care led memory services



- Tele-care enabled specialist support (Project ECHO)
- Emergence of large-scale, fully integrated brain health centers

# Encouraging examples are emerging: Asia



- Use of driver's license renewal for cognitive screening
- Community physicians for geriatrics monitoring and care



- Free cognitive screening and consultation in memory centers, incl. caregivers
- Brief training programs in memory care for non-dementia physicians



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# Solutions

# Engaging and empowering primary care will be critical



**Entry point into healthcare system and less capacity constrained than specialists**

## **Country reviews point to neglect of memory care**

- Limited motivation to proactively assess cognitive state
- Tendency to downplay memory complaints voiced by patients or family members
- Risk of delayed diagnosis, potentially beyond treatable states

## **Reasons for neglect are complex but addressable**

- Limited training and knowledge
- Therapeutic nihilism
- Lack of workflow-compatible tools
- Insufficient incentives

# Primary care physicians will need better tools...



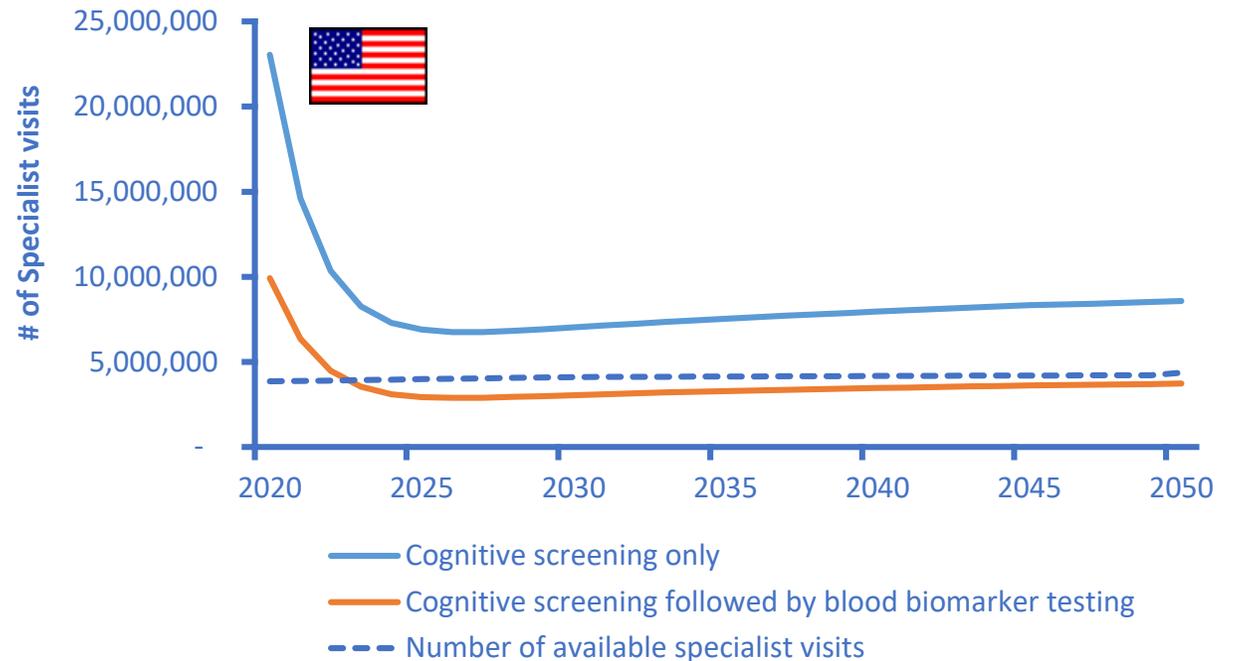
## Review of screening tools suitable for primary care settings

- Presented at AAIC 2019
- Published in the Journal of the American Board of Family Medicine



## Impact of blood based biomarkers on cost and wait times

- Using assumptions for automated test
- Presented at AAIC 2020
- Published in Alzheimer's & Dementia: Diagnosis, Assessment & Disease Monitoring



# ...and better care models



Review of care models  
to empower primary care-led  
memory services

- Under review at Neurodegenerative Disease Management



Accountable care models that  
identify and reward high value  
memory care

- Need for robust performance measures tied to value-based payments
- Work in progress....

# Dementia specialty care will have to evolve too



## New-gen Memory Clinics

- “Medicalized” clinics for the shift from care to cure
  - Adding capabilities or co-locating with acute care facilities
- Increased scale and scope to allow for task-shifting
  - Learning from MS and oncology practices
- Centers of Excellence approach
- Standardization of diagnostic pathways
  - Planning or accreditation



## Payment model innovation

- Bundled payments for evaluation of patients with suspected cognitive decline
  - Paired with quality measures
- Creative payment models for treatment itself to reduce immediate budget impact to avoid financial obstacles to access, assuming adequate value for money
  - Deferred payments
  - Outcomes-based payments



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# Summary



# Preparing health systems for a disease-modifying treatment is a complex challenge

- Coordination between multiple stakeholders needed
- Proximity of potential approval implies limited runway
  - COVID-19 has taught us how hard it is to prepare system quickly
- Tight finances mean limited scope for additional investment
  - Must spend smarter not more

**LET'S GET  
TO WORK**

- Many no-cost/low-cost ideas that countries can borrow from each other
- We owe action to our parents and grandparents and to our children for the sustainability of social protection schemes



# Thank you

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and Social Research*

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EU-5 plus Sweden: [https://www.rand.org/pubs/research\\_reports/RR2503.html](https://www.rand.org/pubs/research_reports/RR2503.html)  
Canada: [https://www.rand.org/pubs/research\\_reports/RR2744.html](https://www.rand.org/pubs/research_reports/RR2744.html)  
Australia: [https://www.rand.org/pubs/research\\_reports/RR2891.html](https://www.rand.org/pubs/research_reports/RR2891.html)  
Japan: <https://cesr.usc.edu/sites/default/files/CESR%202019-101.pdf>

Capacity simulations

US:  
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EU-5:  
[https://cesr.usc.edu/sites/default/files/Implications%20of%20Alzheimer%27s%20Treatment%20for%20Organization%20and%20Payment%20of%20Medical%20Practices%20in%20the%20EU-5%20%282020%29\\_020620.pdf](https://cesr.usc.edu/sites/default/files/Implications%20of%20Alzheimer%27s%20Treatment%20for%20Organization%20and%20Payment%20of%20Medical%20Practices%20in%20the%20EU-5%20%282020%29_020620.pdf)

Policy analyses

Screening tools: <https://doi.org/10.3122/jabfm.2019.06.180328>  
Blood biomarkers: <https://doi.org/10.1002/dad2.12081>

Solutions