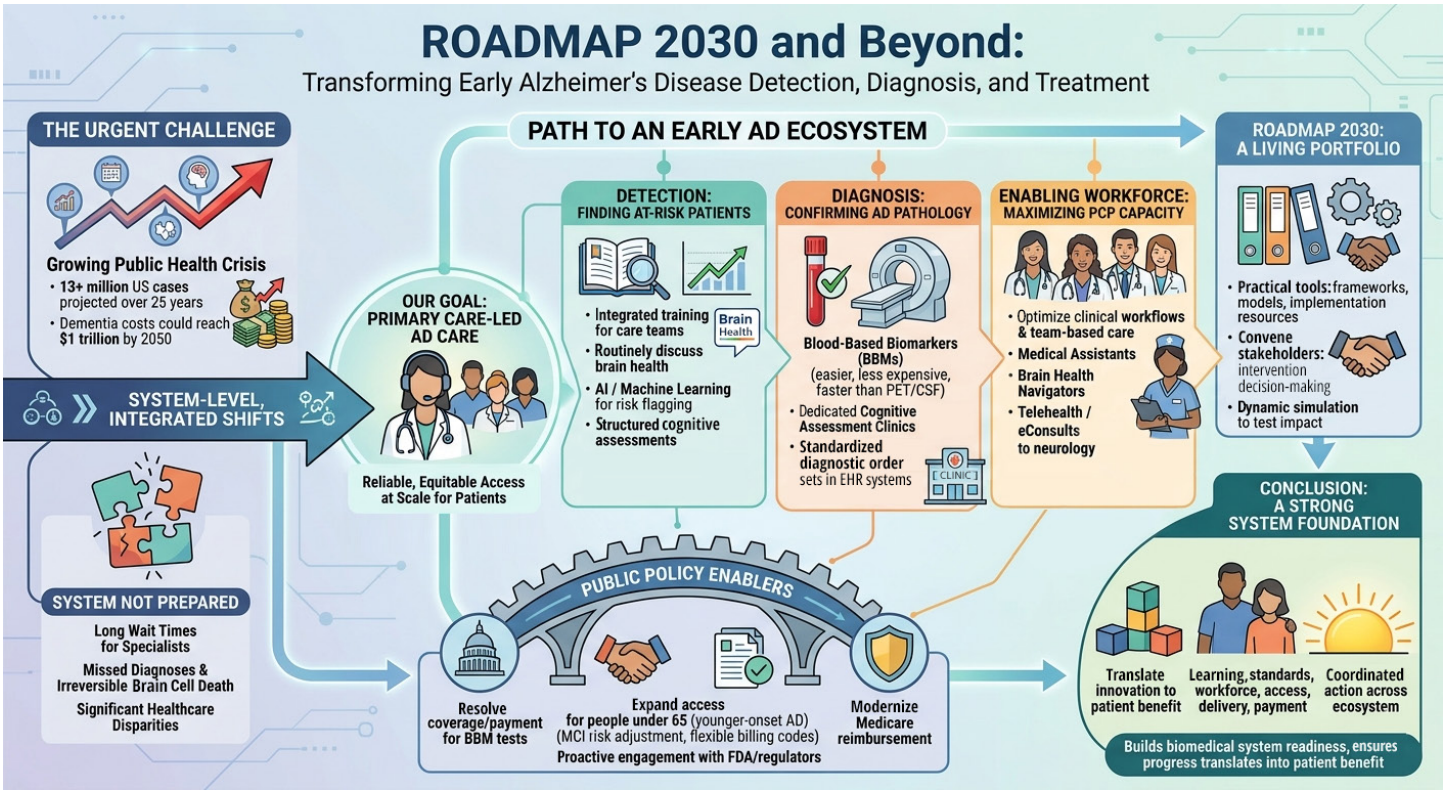
CBSD Center for Biomedical System Design / NEWDIGS

TuftsMedicine Tufts Medical Center

Roadmap 2030 and beyond:
Transforming early Alzheimer's disease detection, diagnosis, and treatment

Roadmap 2030 is a strategic initiative of the Tufts Center for Biomedical System Design (CBSD), developed through the NEWDIGS Consortium—a global, multi-stakeholder collaboration with a proven track record of accelerating impact from biomedical innovation. This initiative aims to transform early Alzheimer's disease (AD) care by enabling healthcare systems to deliver emerging therapies and diagnostics reliably, equitably, and at scale through a primary care-led model.



The urgent challenge

- **Access bottleneck:** Most eligible patients are **diagnosed too late to benefit** from FDA-approved disease-modifying therapies—a gap to close with biomedical system readiness.
- **Public health crisis**: Over the next 25 years, more than **13 million U.S. adults** are expected to be diagnosed with AD or dementia.
- **Economic impact**: Annual dementia care costs currently total **$384 billion** (plus $413 billion in unpaid care) and are projected to reach **$1 trillion by 2050**.
- **Systemic failure**: The current system relies on specialists—who comprise only **2.5% of U.S. physicians**—leading to wait times projected to exceed 18 months.

Strategic interventions for early AD care

Roadmap 2030 identifies three critical pillars to enable primary care professionals (PCPs) to manage early AD care:

- **Detection**: Improving screening rates through integrated care team training, the use of **structured cognitive assessments** (e.g., MoCA, SLUMS), and **AI/machine learning tools** to flag high-risk patients.
- **Diagnosis**: Streamlining the diagnostic process by adopting **blood-based biomarker (BBM) tests**, which are less invasive and can increase diagnostic accuracy from 61% to 91%. Other solutions include dedicated cognitive assessment clinics and standardized diagnostic order sets in EHR systems.
- **Workforce enabling**: Maximizing PCP capacity through **team-based care**, utilizing medical assistants for screenings, employing **brain health navigators** (registered nurses) for coordination, and leveraging **telehealth eConsults** to reduce specialist wait times by 12–24%.

Policy and system barriers

To achieve "biomedical system readiness," several structural hurdles must be addressed:

- **Coverage gaps**: Resolving the **24-month Medicare waiting period** for those with younger-onset AD and establishing clear reimbursement pathways for BBM tests and digital assessments.
- **Modernizing reimbursement**: Updating the Medicare Advantage Risk Adjustment Model to include incentives for diagnosing patients at the **Mild Cognitive Impairment (MCI)** stage.
- **Regulatory frameworks**: Proactively engaging with the FDA to ensure regulatory oversight for AI-driven clinical decision support software keeps pace with innovation.

Conclusion

Roadmap 2030 is a "living portfolio" of tools designed to move beyond design and into real-world implementation. The document emphasizes that without coordinated action across coverage, delivery, and payment policies, even the most promising scientific innovations will fail to reach patients effectively or equitably.

About NEWDIGS

NEW Drug Development ParadIGmS (NEWDIGS), founded at MIT in 2009, is a global "think and do" tank dedicated to improving patient outcomes by accelerating timely, appropriate access to biomedical innovations. NEWDIGS is the flagship program of the Center for Biomedical System Design (CBSD) at Tufts Medical Center's Institute for Clinical Research and Health Policy Studies. CBSD and NEWDIGS design, evaluate, and catalyze solutions that help the healthcare system keep pace with biomedical science — drawing on leaders from patient advocacy, payers, industry, regulators, clinicians, researchers, and investors.