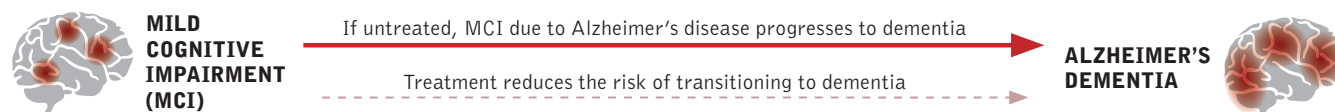


# How Prepared Are European Health Care Systems to Deliver a Future Alzheimer’s Treatment?




AN ASSESSMENT OF HEALTH CARE INFRASTRUCTURE IN FRANCE, GERMANY, ITALY, SPAIN, SWEDEN, AND THE UNITED KINGDOM

## A therapy for early-stage disease means that millions of patients would need care

Recent clinical trials offer hope that an Alzheimer’s disease–modifying therapy may become available soon. The therapy would treat the disease at an early stage to prevent or delay the progression to dementia.



If a therapy becomes available, there would be millions of patients to

1. **screen** for MCI 
2. **evaluate** for Alzheimer’s disease 
3. **test** for biomarkers (cerebrospinal fluid assays or brain imaging) 
4. **treat** with intravenous infusion therapy 

A RAND study used simulation modeling to assess the health care system capacity to evaluate, test, and treat expected patients in six countries that represent 65 percent of the population in the European Union (EU). The analysis looked at a scenario in which a therapy is available in 2020 and is delivered monthly to patients with MCI due to Alzheimer’s disease.

Initially,  
**7.1**  
MILLION  patients may seek evaluation by a dementia specialist.

**2.3**  
MILLION  patients may have MCI due to Alzheimer’s and be eligible for treatment.

## Wait times for specialist visits and infusion therapy could delay access to care

MAXIMUM WAITING TIME BASED ON THEORETICAL CAPACITY

	Dementia specialist visits	Infusion therapy	First year with no wait times
France	>12 months	<6 months	2033
Germany	No wait	<6 months	2030
Italy	<6 months	6–12 months	2040
Spain	6–12 months	6–12 months	2044
Sweden	<6 months	6–12 months	2036
United Kingdom	>12 months	6–12 months	2042

Delays in care could result in more than 1 million patients developing Alzheimer’s dementia while waiting for evaluation and treatment between 2020 and 2050.

NOTE: There are no waiting times for biomarker testing if cerebrospinal fluid assays are used for 90 percent of testing and positron emission tomography scans are used for 10 percent of testing.

## Policies and planning could help increase capacity

**Establish** graduated clinical pathways to screen for cognitive impairment and develop better detection tools.

**Utilise** dedicated outpatient infusion centers in collaboration with hospitals, memory clinics, and other facilities.

**Ensure** appropriate reimbursement of services.

**Create** EU-wide guidance and best practices for coordinated and timely care.

A combination of reimbursement, regulatory, and workforce planning policies and innovation in diagnosis and treatment delivery is needed **to expand capacity and to ensure that available capacity is leveraged** optimally to treat patients with early-stage Alzheimer’s disease.



# FRANCE: EXPECTED PATIENTS AND HEALTH CARE SYSTEM CAPACITY

## Millions of patients could seek diagnosis and treatment

Of the 20.3 million people age 55 and older in 2019,

**16.2**  
MILLION



could seek screening in a doctor's office

Of the 2.8 million who screen positive for MCI,

**1.4**  
MILLION



could seek a dementia specialist for evaluation (there are 4,327 neurologists and geriatricians, or 6.7 specialists per 100,000 people)



**1.3**  
MILLION

could be referred for biomarker testing

**0.6**  
MILLION



might test positive for biomarkers and return to the specialist to learn about treatment

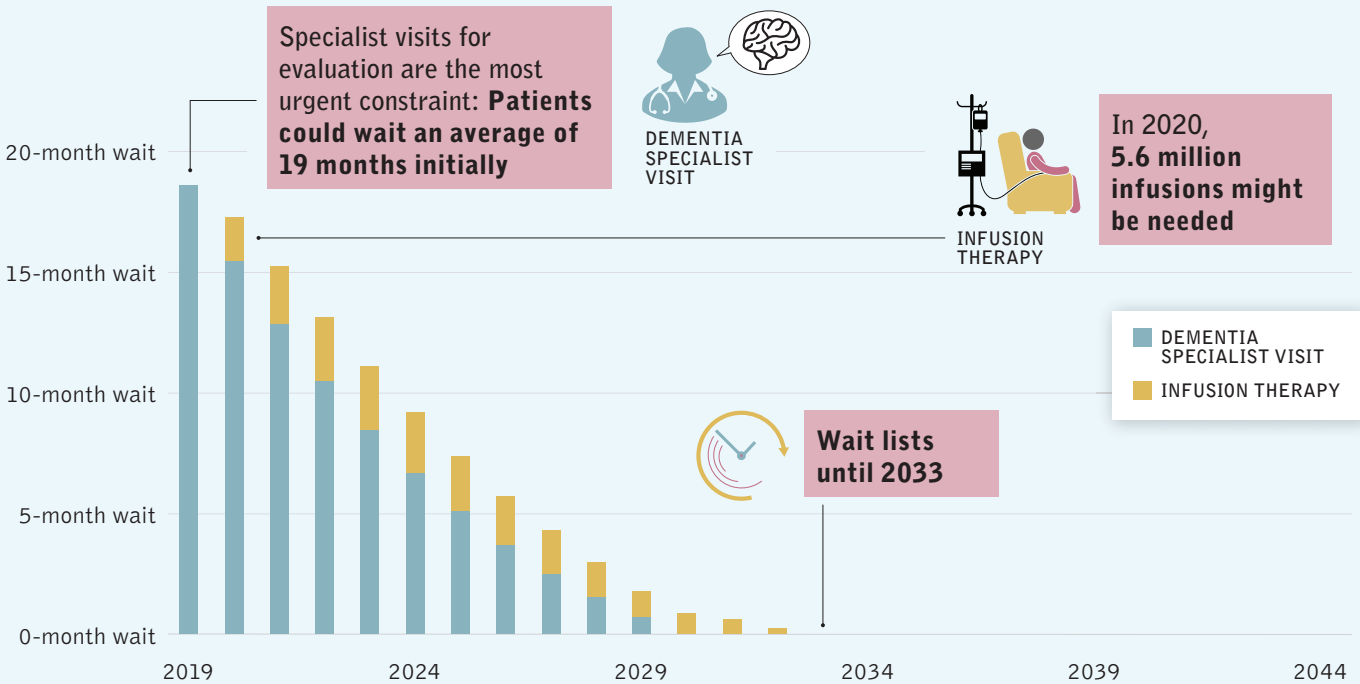
**0.5**



MILLION could be recommended for infusion therapy

## Wait times might be extensive, particularly for dementia specialist visits

### Average wait times in months



**BIOMARKER TESTING**

**No waits for biomarker testing** because of the use of cerebrospinal fluid assays

**While on wait lists, 389,000 people might develop Alzheimer's dementia while waiting for evaluation and treatment**



# GERMANY: EXPECTED PATIENTS AND HEALTH CARE SYSTEM CAPACITY

## Millions of patients could seek diagnosis and treatment

Of the 28.2 million people age 55 and older in 2019,

**22.6**  
MILLION



could seek screening in a doctor's office

Of the 3.7 million who screen positive for MCI,



**1.9**  
MILLION

could seek a dementia specialist for evaluation (there are 19,699 neurologists, geriatricians, and geriatric psychiatrists, or 24.0 specialists per 100,000 people)



**1.7**  
MILLION

could be referred for biomarker testing

**0.8**  
MILLION



might test positive for biomarkers and return to the specialist to learn about treatment

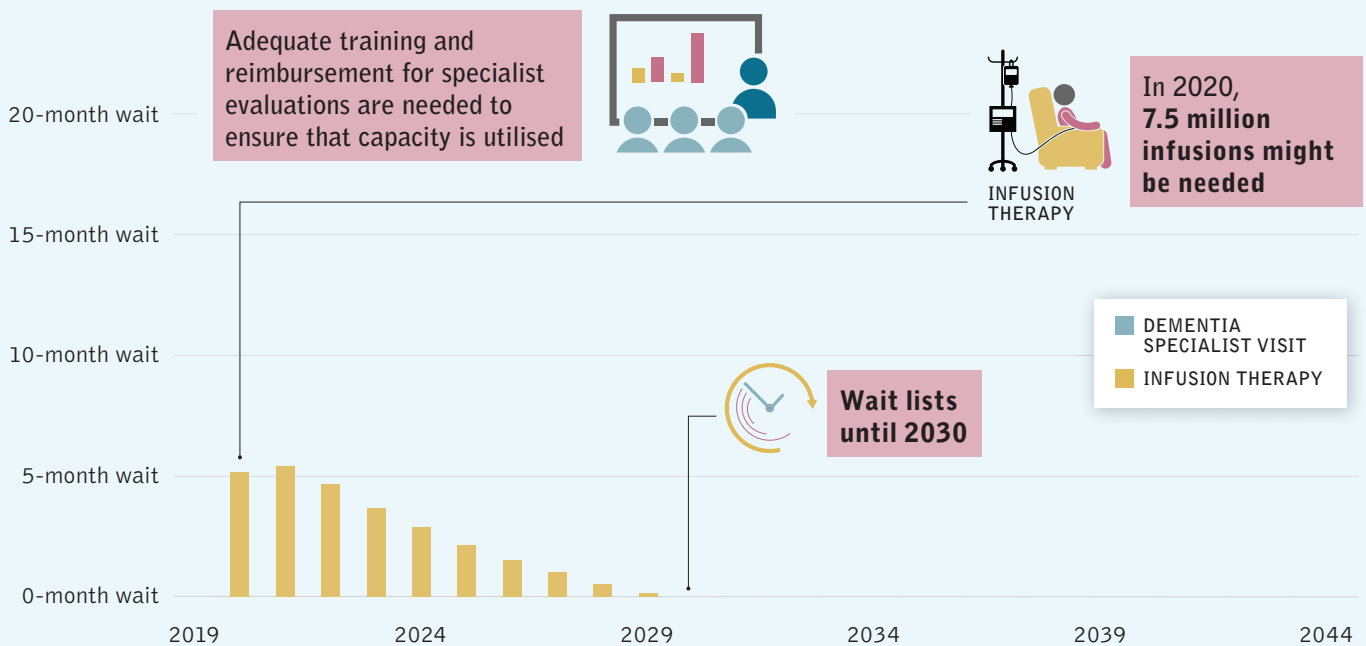
**0.6**  
MILLION



could be recommended for infusion therapy

## Wait times might be extensive for infusion therapy

### Average wait times in months



Adequate training and reimbursement for specialist evaluations are needed to ensure that capacity is utilised



INFUSION THERAPY

In 2020, 7.5 million infusions might be needed

Wait lists until 2030

No waits for biomarker testing because of the use of cerebrospinal fluid assays

BIOMARKER TESTING

While on wait lists, 55,000 people might develop Alzheimer's dementia while waiting for evaluation and treatment



# ITALY: EXPECTED PATIENTS AND HEALTH CARE SYSTEM CAPACITY

## Millions of patients could seek diagnosis and treatment

Of the 20.6 million people age 55 and older in 2019,

**16.4**  
MILLION



could seek screening in a doctor's office

Of the 2.9 million who screen positive for MCI,



**1.4**  
MILLION

could seek a dementia specialist for evaluation (there are 9,501 neurologists, geriatricians, and geriatric psychiatrists, or 16.0 specialists per 100,000 people)



**1.3**  
MILLION

could be referred for biomarker testing

**0.6**  
MILLION



might test positive for biomarkers and return to the specialist to learn about treatment

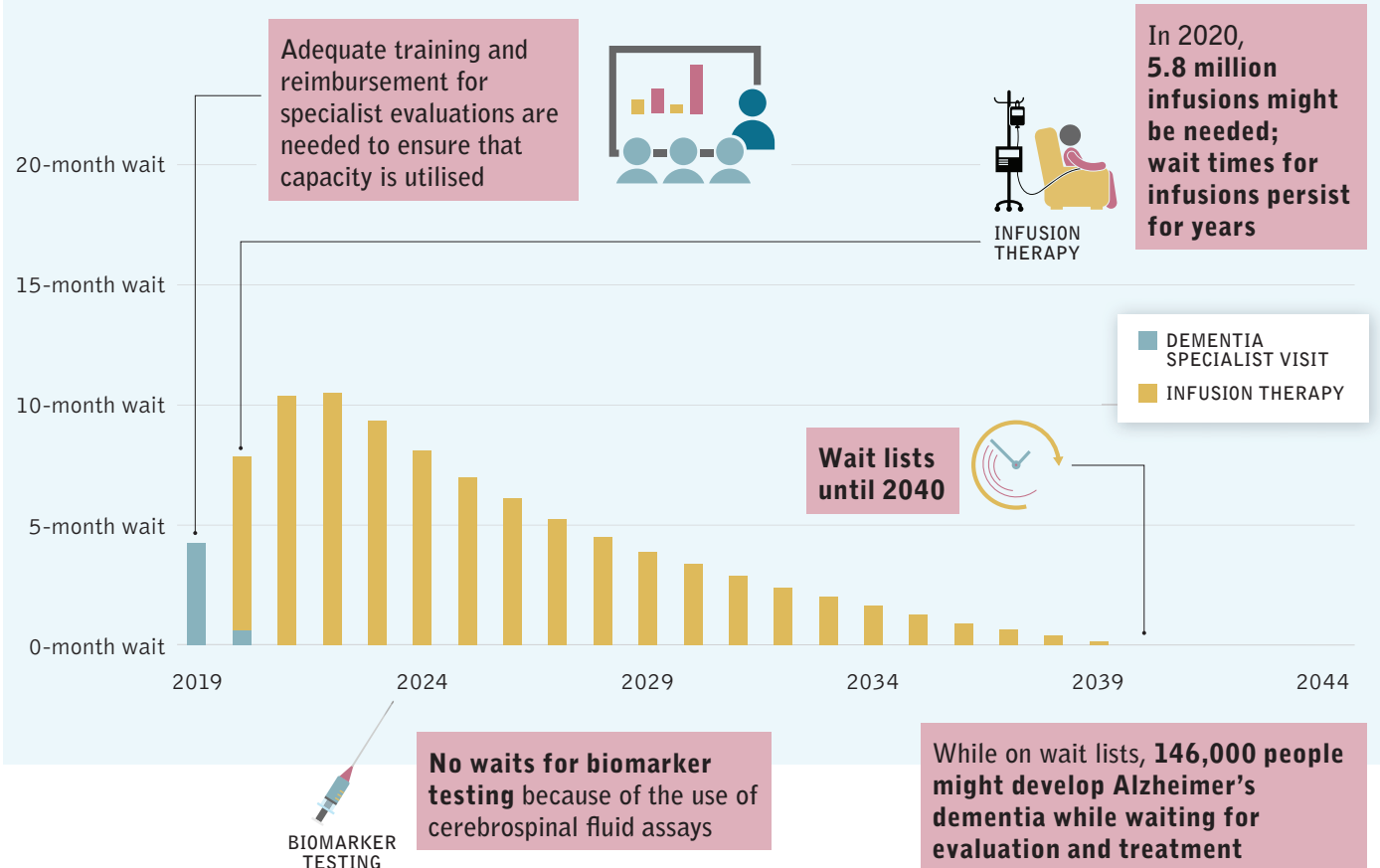
**0.5**  
MILLION



could be recommended for infusion therapy

## Wait times might be extensive for infusion therapy

### Average wait times in months





# SPAIN: EXPECTED PATIENTS AND HEALTH CARE SYSTEM CAPACITY

## Millions of patients could seek diagnosis and treatment

Of the 14.1 million people age 55 and older in 2019,

**11.3**  
MILLION



could seek screening in a doctor's office

Of the 1.9 million who screen positive for MCI,



**1.0**  
MILLION

could seek a dementia specialist for evaluation (there are 4,424 neurologists, geriatricians, and geriatric psychiatrists, or 9.5 specialists per 100,000 people)



**0.9**  
MILLION

could be referred for biomarker testing

**0.4**  
MILLION



might test positive for biomarkers and return to the specialist to learn about treatment

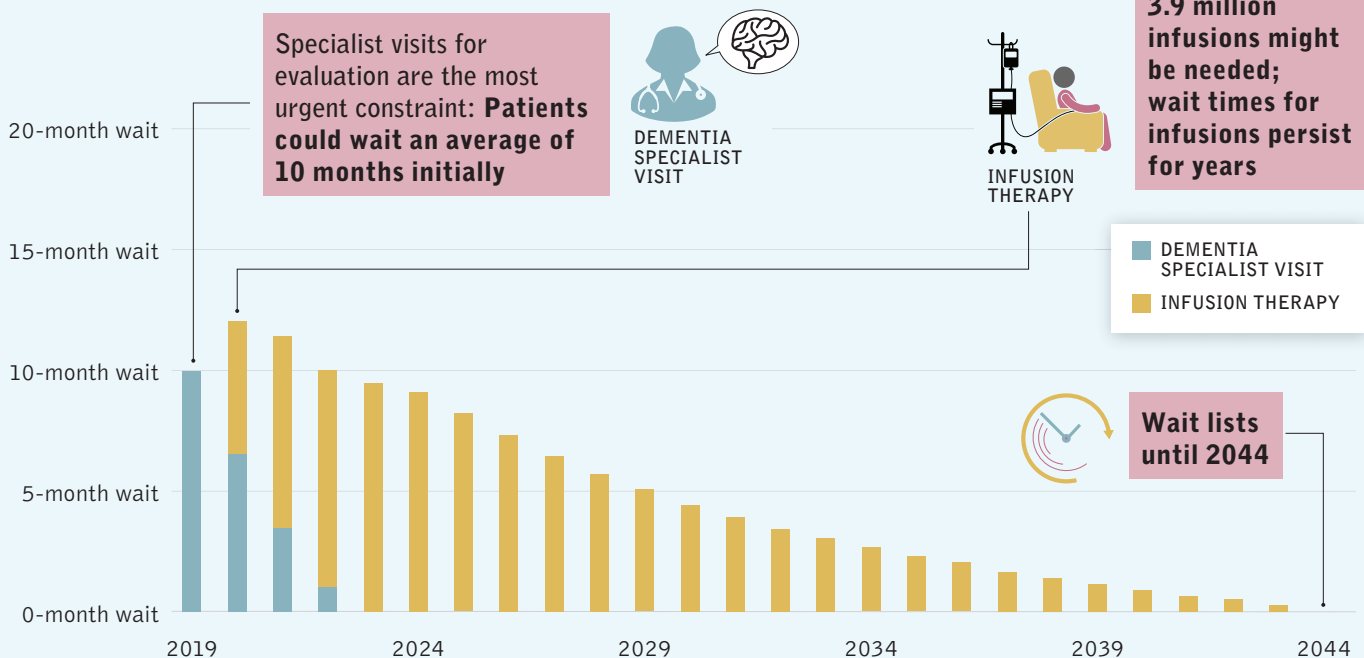
**0.3**



MILLION could be recommended for infusion therapy

## Wait times might be extensive for specialist visits and infusion therapy

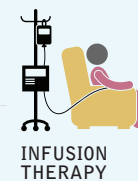
### Average wait times in months



Specialist visits for evaluation are the most urgent constraint: **Patients could wait an average of 10 months initially**



DEMENTIA SPECIALIST VISIT



INFUSION THERAPY

In 2020, **3.9 million infusions might be needed; wait times for infusions persist for years**

Wait lists until 2044



BIOMARKER TESTING

**No waits for biomarker testing** because of the use of cerebrospinal fluid assays

While on wait lists, **171,000 people might develop Alzheimer's dementia** while waiting for evaluation and treatment



# SWEDEN: EXPECTED PATIENTS AND HEALTH CARE SYSTEM CAPACITY

## Millions of patients could seek diagnosis and treatment

Of the 3.0 million people age 55 and older in 2019,

**2.4 MILLION** could seek screening in a doctor's office



Of the 0.4 million who screen positive for MCI,



**0.2 MILLION** could seek a dementia specialist for evaluation (there are 1,799 geriatricians and geriatric psychiatrists, or 18.2 specialists per 100,000 people)

**0.2 MILLION** could be referred for biomarker testing



**0.1 MILLION** might test positive for biomarkers and return to the specialist to learn about treatment

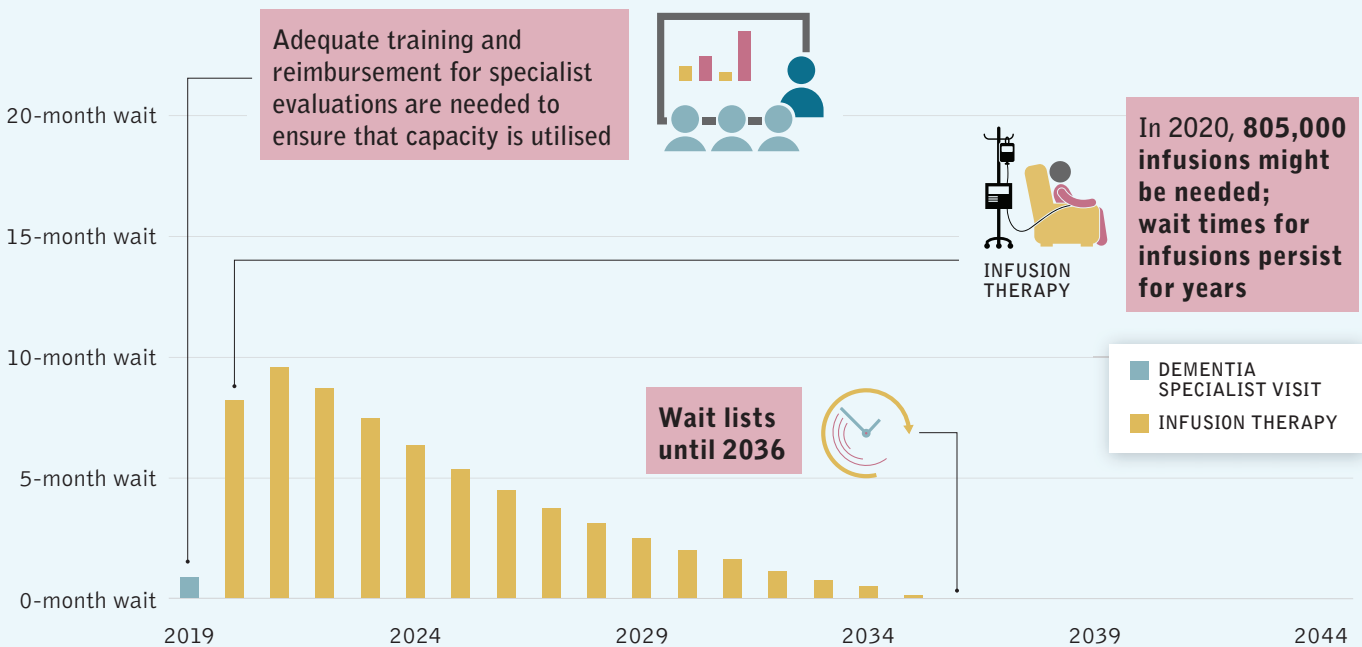


**0.1 MILLION** could be recommended for infusion therapy



## Wait times might be extensive for infusion therapy

### Average wait times in months



Adequate training and reimbursement for specialist evaluations are needed to ensure that capacity is utilised



In 2020, 805,000 infusions might be needed; wait times for infusions persist for years



Wait lists until 2036



DEMENTIA SPECIALIST VISIT  
INFUSION THERAPY

No waits for biomarker testing because of the use of cerebrospinal fluid assays



While on wait lists, 12,000 people might develop Alzheimer's dementia while waiting for evaluation and treatment



# UNITED KINGDOM: EXPECTED PATIENTS AND HEALTH CARE SYSTEM CAPACITY

## Millions of patients could seek diagnosis and treatment

Of the 19.2 million people age 55 and older in 2019,

**15.3**  
MILLION



could seek screening in a doctor's office

Of the 2.5 million who screen positive for MCI,



**1.2**  
MILLION

could seek a dementia specialist for evaluation (there are 4,848 neurologists, geriatricians, and old-age psychiatrists, or 7.3 specialists per 100,000 people)



**1.1**  
MILLION

could be referred for biomarker testing

**0.5**  
MILLION



might test positive for biomarkers and return to the specialist to learn about treatment

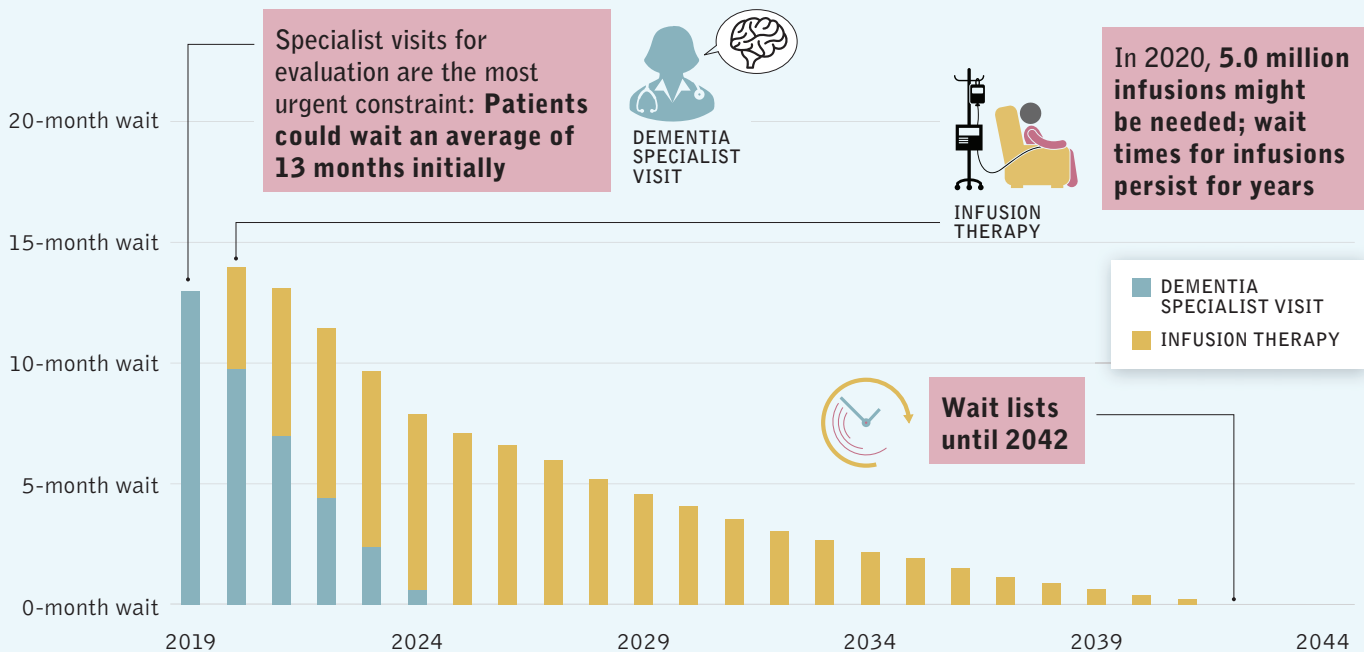
**0.4**  
MILLION



could be recommended for infusion therapy

## Wait times might be extensive, particularly for dementia specialist visits

### Average wait times in months



Specialist visits for evaluation are the most urgent constraint: **Patients could wait an average of 13 months initially**



DEMENTIA SPECIALIST VISIT

In 2020, **5.0 million** infusions might be needed; wait times for infusions persist for years



INFUSION THERAPY

DEMENTIA SPECIALIST VISIT  
INFUSION THERAPY



Wait lists until 2042



BIOMARKER TESTING

**No waits for biomarker testing** because of the use of cerebrospinal fluid assays

While on wait lists, **260,000** people might develop Alzheimer's dementia while waiting for evaluation and treatment



Excerpted from *Assessing the Preparedness of the Health Care System Infrastructure in Six European Countries for an Alzheimer's Treatment*, by Jakub P. Hlávka, Soeren Mattke, and Jodi L. Liu, Santa Monica, Calif: RAND Corporation, RR-2503-BIOG, 2018 (available at [www.rand.org/t/RR2503](http://www.rand.org/t/RR2503)). The RAND Corporation is a research organization that develops solutions to public policy challenges to help make communities throughout the world safer and more secure, healthier and more prosperous. RAND is nonprofit, nonpartisan, and committed to the public interest.

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