



PREPARING FOR THE NEXT HEALTH CRISIS:

# What Alzheimer's Can Learn from COVID-19

November 15, 2021





## Executive Summary

Nearly two years into the COVID-19 pandemic, the unprecedented global response offers lessons for the growing health crisis of dementia. Most importantly, it shows that a broad coalition of stakeholders – governments, healthcare professionals, international organizations, the private sector, scientific organizations, and the public – *can* mobilize quickly to address a looming public health catastrophe.

COVID-19 and dementia share similarities in the scale and nature of the challenge and the elements required to establish a response. Both diseases have a health impact that is concentrated among older adults and at-risk groups, but cause broader societal and economic disruptions across families, communities, societies, workforces, and economies. Both require similar strategies for an effective response:

- 1. Proactive public health and prevention efforts**
- 2. Accessible tools for early, accurate diagnosis**
- 3. Health system preparedness**
- 4. Modernizing how and where care is provided**
- 5. Accelerated research**
- 6. Robust real-world data**

In each of these areas, COVID-19 efforts provide powerful insights that can guide cross-sector responses to the dementia crisis. Alzheimer's Disease International, The Global CEO Initiative on Alzheimer's Disease (CEOi), and Hoffmann-La Roche hope to stimulate discussion about how our world can apply these lessons to address Alzheimer's disease: the growing pandemic.

## CHALLENGES:

### COVID-19 and Dementia Disproportionately Affect Older Adults, Impact All of Society

Since the World Health Organization declared COVID-19 a pandemic in the spring of 2020, every sector of society has joined in an unprecedented response that has driven incredible progress in controlling the disease. While these efforts are still ongoing, they already offer important lessons for the pandemic of Alzheimer's disease and dementia.

The dementia pandemic today shares many similarities with the COVID-19 pandemic. Older adults face the greatest risk, with societal and economic impacts that ripple across carers, families, communities, and countries. Yet, even as dementia prevalence rapidly grows, there are few effective treatments, diagnostic testing is not widely accessible, and the general public is not broadly aware of the most effective steps for risk reduction.

Based on the progress of COVID-19 responses, we can refine strategies for how the world can best respond to dementia. These lessons begin with understanding the similarities between the two challenges.

#### Global Pandemics in an Aging World

Both COVID-19 and dementia disproportionately affect older adults, leading to widespread societal and economic impacts in an aging world. Older adults face [higher rates](#) of hospitalization due to COVID-19 and account for the majority of deaths. Dementia, of course, becomes increasingly [common](#) as people age; age being the biggest risk factor.

These age-related challenges are especially critical and costly at a time of unprecedented longevity and population aging. There are currently [more than 900 million people](#) over the age of 60 globally, doubling to 2 billion by 2050. In [many advanced economies](#) like Japan, Italy, Germany, and others, people 65+ account for more than 20% of the population. According to the [World Alzheimer Report 2021](#), the number of people living with dementia is projected to grow from more than 55 million today to 78 million by 2030.

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#### Widespread Impacts on Carers, Communities, & Economies

While COVID-19 and dementia are most dangerous for older adults, both affect all facets of society. In the case of COVID-19, deaths, hospitalizations, and social distancing guidelines have led to tragic losses for families and communities, massive disruptions of everyday life, staggering unemployment and economic impacts, and concerns about mental health.

Yet tens of millions of family carers for dementia already faced similar impacts, albeit less suddenly or visibly. Annually, informal carers provide [roughly 82 billion hours of care](#) to people with dementia living at home – the equivalent of more than 40 million full-time workers. These carers [must contend with a range of impacts](#) – poorer physical health, higher rates of depression and anxiety, direct financial costs, and the indirect costs of lost wages, benefits, and jobs – that are difficult to measure and therefore often missed by policymakers and researchers.

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As a result, both challenges illustrate that public health is closely tied to economic health. While there are a number of different estimates of the ongoing costs of COVID-19, the World Bank calculates that the global economy shrank by 6.6% compared to its original estimates for 2020 – a cumulative loss [of \\$5.6 trillion](#). Dementia takes a similar, immense economic toll, with annual costs reaching [\\$1.3 trillion](#) – and projected to reach \$2.8 trillion per year by 2030. Therefore, responding to these diseases is not just a public health priority, but an economic imperative that should be at the top of global and local policy agendas.

Finally, the COVID-19 pandemic itself has exacerbated the challenges of dementia. According to a [global survey by Alzheimer's Disease International](#), 83% of clinicians say the pandemic has delayed access to cognitive assessment for

people with cognitive decline. People with dementia, carers, and families report difficult decisions about care, living arrangements, hospital admissions, and more during the pandemic.

These barriers and delays only heighten the urgency of responding to dementia. The global community, national leaders, health systems, and other stakeholders must act now to make up for lost time and drive progress against dementia, even amid the ongoing impacts of COVID-19.

## **LESSONS:**

### Parallels Between Strategies for COVID-19 and Dementia

Global and national strategies to address COVID-19 contain important lessons for dementia. For both diseases, an effective response must include many of the same elements.

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## 1. A broad, coordinated public health effort to educate, promote prevention, and drive early detection and diagnosis.

COVID-19 has illustrated the importance and impact of broad public health efforts that engage, educate, and equip an entire society to collectively solve a health challenge. Around the world, governments have taken remarkable action to promote awareness of how the disease spreads, its symptoms, and the need for vaccines, social distancing, masking, and other measures.

There is a direct parallel to dementia: it's estimated that [one-third of dementia cases](#) globally could be prevented by addressing modifiable risk factors. However, many people are currently not aware of brain health, risk reduction strategies, or the symptoms of cognitive decline. Therefore, "flattening the dementia curve" requires stronger public health efforts to educate people around brain health and motivate them to reduce their risk, ultimately lowering the overall burden on societies and economies.

Further, both require targeted efforts to reach at-risk groups. Just as older adults and those with certain chronic health conditions should take extra precautions to manage their risk related to COVID-19, people with a family history of dementia, genetic risk, or other risk factors should take extra steps to protect and assess their cognitive health. Additionally, public health efforts should consider ethnicity [evidence](#) where both [COVID-19](#) and [dementia](#) are shown to have a disproportionate impact on underrepresented communities.

## 2. Easily accessible tools for early, accurate detection and diagnosis.

Widespread, proactive testing for COVID-19 was credited with largely successful responses in [South](#)

1. A broad, coordinated public health effort to educate, promote prevention, and drive early detection and diagnosis.
2. Easily accessible tools for early, accurate detection and diagnosis.
3. Concerted efforts to increase health system preparedness, including the workforce and infrastructure.
4. Modernizing how and where diagnosis, treatment, and care is provided.
5. Urgency to accelerate research and innovation.
6. Accurate real-world data to understand who is at risk and plan a response to mitigate impact.

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[Korea](#), [Singapore](#), and [Taiwan](#) in the early days of the outbreak. These countries ensured that tests were easily accessible in primary care and public health settings, especially for those most at-risk for the disease. Since then, COVID-19 testing has advanced to the point where rapid, at-home tests are becoming more widely available in certain countries, including a [\\$1 billion public health investment in the U.S.](#) – enabling people to make informed decisions in real-time. This testing has enabled health systems to both accurately identify the scale of the crisis and speed resources to those who need them most.

To address dementia, researchers and health systems need similar detection and diagnostic tools: accurate, non-invasive, inexpensive, and widely available. Yet, at present, providers often lack the [tools, training, and time](#) needed to discuss and assess [brain health](#) with patients and diagnose dementia. According to [global surveys](#), 38% of clinicians say that a lack of access to specialized diagnostic tests is a key barrier to diagnosis. In part due to these barriers, it's estimated that, globally, [75% of people with dementia](#) are not diagnosed. When a diagnosis is made, it is [typically delayed by 2-3 years](#) after the first onset of symptoms.

In the past year, scientific advances have enabled rapid strides towards testing solutions that could help to address this need, including blood-based tests that may soon be available, and digital data capture to screen for cognitive decline. In October 2020, C2N Diagnostics announced a [new blood-based test](#) to predict Alzheimer's brain pathology in people with memory and thinking concerns. In January 2021, Biogen and Apple launched [a partnership](#) that uses data from Apple Watches and iPhones to screen for cognitive decline.

These and other tools to drive earlier detection would be used in conjunction with already available biomarker tests that provide a confirmatory diagnosis of Alzheimer's pathology. The ability to detect disease early and to be able to follow-up with an accurate biomarker-based diagnosis is especially critical given the emerging consensus that effectively treating dementia will require the use of a disease-modifying treatment early in the disease course – perhaps even before symptoms appear.

### 3. Concerted efforts to increase health system preparedness, including the workforce and infrastructure.

COVID-19 has shown the critical importance of health system preparedness. Without sufficient readiness, even the most sophisticated healthcare systems were left scrambling to [address a](#)

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[shortage](#) of personal protective equipment, ventilators, testing materials, and other infrastructure, as well as a [shortage of health providers](#). This led to extreme pressure being put on the availability of health services and difficult decision making in triage settings, negatively

impacting on older people and people with dementia. This lack of health system capacity limited the ability to launch a response in the initial phase of the pandemic that was commensurate with the health challenge they faced.

There is a similar lack of health system preparedness for dementia, even though this crisis has been growing for decades. There is a limited number of specialists, and other healthcare providers often lack the necessary training and confidence to [discuss and investigate brain health](#) with patients and diagnose dementia. There are also infrastructure limitations, including a lack of PET, MRI equipment, and other diagnostic tools, even in high income countries.

As a result, [recent analyses project that peak wait times](#) for Alzheimer's therapy in six European countries would range from five months for treatment in Germany to nineteen months for evaluation in France. The first year with no wait time would not arrive until 2030 in Germany, 2042 in the United Kingdom, and 2044 in Spain. In the U.S., it's estimated that patients would have to wait an [average of more than 18 months](#) for a new Alzheimer's treatment. This delay in treatment can have devastating consequences for a progressive disease like Alzheimer's.

Therefore, health systems must begin taking action now to prepare for the arrival of new dementia treatments – training, equipping, and empowering healthcare providers to proactively discuss, detect, diagnose, treat, and care for dementia.

#### 4. Modernizing how and where diagnosis, treatment, and care is provided.

COVID-19 has dramatically altered how and where healthcare is provided, including the rapid adoption of telehealth and digital tools. An expert in the U.K. equated the shift to [“10 years of change in one week.”](#) In the U.S., telehealth claims rose [a staggering 3,060% nationally](#) from October 2019 to October 2020.

A similar transformation is needed to make dementia diagnosis, treatment, and care far more accessible, efficient, and flexible. Developing new care models, and increasing the use and availability of digital tools and digital biomarkers can help people and providers to detect and monitor dementia earlier, without expensive tests or long wait times. Expanding the use of the memory center model and multi-disciplinary teams can increase capacity for diagnosis, treatment, and monitoring. Looking for opportunities to provide care at home, and expanding telemedicine, increasing capacity and providing a better experience for people living with Alzheimer's and their families. Training primary care physicians, nurse practitioners, physician assistants, and other healthcare professionals can help to ensure effective dementia diagnosis and care is more easily accessible.

## 5. Urgency to accelerate research and innovation.

COVID-19 triggered a sense of urgency to identify, test, and use potential treatments. In just months, researchers [launched hundreds of clinical trials](#) for potential COVID-19 treatments, and [more than 70 countries](#) joined a United Nations effort to accelerate research. These efforts delivered results, with multiple effective vaccines and treatments developed, tested, and approved in less than a year.

The same urgency is required in dementia, an area where more than 99% of clinical trials have not advanced to regulatory approval. There is an immediate need to speed up dementia research, including by building a global cohort of people with or at-risk for dementia and creating a global clinical trial platform. Together with risk reduction and prevention, speeding the development and delivery of new, effective disease-modifying dementia treatments will enable health systems to mitigate and avoid a potentially catastrophic burden.

## 6. Accurate real-world data to understand who is at risk and plan a response to mitigate impact.

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***And, just as for COVID-19, these real-world data efforts should be collaborative and continuous – enabling ongoing research advances and refinement of health system responses.***

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COVID-19 has sparked strong global collaboration to analyze real-world data, advance scientific understanding of the disease, and refine public health responses – all in record time. Due to this research, scientific and health leaders have continually learned more about how the virus spreads, who is most at-risk, and what containment and treatment strategies are most effective. This has enabled public health agencies and other stakeholders to develop and continually adjust their plans and approaches to better address the disease.

Accurate real-world data on dementia can provide similar benefits. This data will be necessary to understand the heterogeneous causes and course of dementia, which varies based on individual genetic, biological, and phenotypical factors. Better understanding of the disease will, in turn, enable health systems to better characterize patient populations and target interventions for those people who will benefit. And, just as for COVID-19, these real-world data efforts should be collaborative and continuous – enabling ongoing research advances and refinement of health system responses.

## CALL TO ACTION:

# Mobilizing Global, Cross-Sector Commitment, Partnership, and Action to Address Dementia

Effectively responding to dementia will require the same level of cross-sector commitment and collaboration currently on display in the fight against COVID-19. While many important dementia initiatives are already underway, more can be done to bolster and link these efforts, accelerate progress, and launch new initiatives.

To achieve these goals, the highest levels of government, public health agencies, the private sector, philanthropic organizations, dementia associations, and leading research and scientific organizations must join together. Working in collaboration, they can build on vital, existing efforts, like the WHO's Global action plan on the public health response to dementia, Alzheimer's Disease International's programs, the World Dementia Council, and the [Davos Alzheimer's Collaborative \(DAC\)](#) – as well as launch new initiatives to address current gaps. The most important thing is that we don't wait; we need to act now.

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Much like COVID-19, a range of stakeholders are needed to slow and end the dementia crisis. No one organization or initiative can do it alone. The global COVID-19 response shows that progress is possible, but we must act urgently and collectively. If we apply the hard-won lessons of the current outbreak, we can drive progress against dementia – one of the most daunting and complex health challenges of our time.

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The Global CEO Initiative on Alzheimer's Disease (CEOi) brings together private-sector organizations providing business leadership in the fight against Alzheimer's. CEOi partners with leaders from all sectors to transform the disease from a social, health, and economic crisis into an opportunity for healthy aging.



Alzheimer's Disease International is the international federation of 100 Alzheimer associations around the world, in official relations with the World Health Organization. ADI's vision is risk reduction, timely diagnosis, care and inclusion today, and cure tomorrow. ADI believes that the key to winning the fight against dementia lies in a unique combination of global solutions and local knowledge.



Roche is a global pioneer in pharmaceuticals and diagnostics focused on advancing science to improve people's lives. The combined strengths of pharmaceuticals and diagnostics, as well as growing capabilities in the area of data-driven medical insights help Roche deliver truly personalised healthcare. Roche is working with partners across the healthcare sector to provide the best care for each person.

Roche is the world's largest biotech company, with truly differentiated medicines in oncology, immunology, infectious diseases, ophthalmology and diseases of the central nervous system. Roche is also the world leader in in vitro diagnostics and tissue-based cancer diagnostics, and a frontrunner in diabetes management. In recent years, Roche has invested in genomic profiling and real-world data partnerships and has become an industry-leading partner for medical insights.

Founded in 1896, Roche continues to search for better ways to prevent, diagnose and treat diseases and make a sustainable contribution to society. The company also aims to improve patient access to medical innovations by working with all relevant stakeholders. More than thirty medicines developed by Roche are included in the World Health Organization Model Lists of Essential Medicines, among them life-saving antibiotics, antimalarials and cancer medicines. Moreover, for the twelfth consecutive year, Roche has been recognised as one of the most sustainable companies in the Pharmaceuticals Industry by the Dow Jones Sustainability Indices (DJSI).

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