As life expectancy rises across the globe, the burden of dementia will increase significantly. This is especially true in developing countries, which will be home to nearly 70% of people with dementia by 2050, up from 58% today. In recognition of this trend, the Global Coalition on Aging (GCOA) and Alzheimer’s Disease International (ADI) focuses our 2018 Dementia Innovation Readiness Index on Argentina, Brazil, China, and India, as well as Saudi Arabia in recognition of its upcoming leadership of the G20 in 2020.

In 2017, we released the first edition of the Dementia Innovation Readiness Index – the result of an ambitious project to survey and analyze countries’ readiness to develop and implement innovative dementia solutions across G7 countries.

Many of our findings from the G7 are equally relevant to the countries evaluated this year: Public leadership and funding for dementia innovation is insufficient, early diagnosis of dementia is not prioritized, and access to high-quality care is limited. But, for the countries we studied in this report, each of these shortcomings is compounded by additional challenges - economic disparity, geographic limitations, and in some cases, achieving human development goals.

The Index identifies specific challenges within each of the five countries as well as opportunities to promote innovation in the treatment and prevention of dementia and care for people and families impacted by the condition. Our findings are based on a series of expert interviews and a rigorous analysis of available data sources, and we are immensely grateful to the many people who contributed their time and insights.

We hope you will use the Index findings and recommendations as a tool to support advocacy, research, and public policies that can help alleviate the burden of dementia, and we welcome your feedback and sharing of best practices to accelerate this process.

Over the coming years, GCOA and ADI intend to expand the Index to cover all G20 countries. As we do so, we will continue to monitor progress in the countries we have studied and work to hold leaders accountable for fostering innovation readiness to improve the lives of people with dementia and their families.
We would like to thank the members of the Global Coalition on Aging and Alzheimer’s Disease International for their leadership, vision, and invaluable contributions to the Index. We would also like to recognize the World Dementia Council and the following organizations and individuals who shared their expertise through interviews or survey responses:

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Below is a snapshot summarizing our overall findings on dementia innovation readiness in each of the five countries studied this year: Argentina, Brazil, China, India and Saudi Arabia. The snapshot is followed by more detailed category-specific findings. Further information about each country’s response to dementia can be found in the report’s detailed findings, which follow this executive summary and are accessible at www.alz.co.uk and www.globalcoalitiononaging.com
Low awareness of dementia among health care providers and the general public delays detection, diagnosis, and treatment. Countries do not have adequate systems to track dementia diagnoses, share information among health care providers, and optimize patient care. Due to distrust, lack of information, and under-diagnosis, people with dementia are not effectively recruited into clinical trials.

**Call to Action**
Stakeholders must raise awareness of dementia across society to promote timely diagnosis and access to care.

### ACCESS TO CARE

**Key Findings**
Geography and economic status dictate an individual’s ability to access high-quality care. In traditional societies, caregiving is typically considered a familial duty rather than utilizing professionals with specialized training and expertise.

**Call to Action**
Governments, payers, and providers must establish care pathways that help people with dementia receive appropriate support from skilled caregivers as the condition progresses.

### REGULATORY ENVIRONMENT

**Key Finding**
Regulators in the five countries studied generally support the findings of the U.S. Food and Drug Administration (FDA) and the European Medicines Agency (EMA).

**Call to Action**
Governments must fund regulatory agencies to ensure the timely approval of therapies introduced in other markets. The patient voice should be better integrated into the drug review process.

### BUSINESS ENVIRONMENT

**Key Finding**
There are currently few incentives for the private sector to invest in developing innovations and overcoming access barriers.

**Call to Action**
Stakeholders must raise awareness of dementia across society to promote timely diagnosis and access to care.

### EDUCATION & WORKFORCE

**Key Findings**
Health care education and workforce training includes limited availability for geriatric training programs and little dementia-specific training. There is a missed opportunity to fully utilize non-physician professionals to provide dementia-related care and services.

**Call to Action**
Geriatrics, including information on dementia, should become an essential aspect of training for all medical providers, health care service providers, and related professionals.

### GOVERNMENT FUNDING

**Key Finding**
Government funding for dementia research and care is relatively low and not focused on discovering innovative solutions for dementia.

**Call to Action**
Governments must develop comprehensive funding strategies for dementia research that prioritizes innovation.

### EARLY DETECTION & DIAGNOSIS

**Key Findings**
Under-diagnosis of dementia is a significant challenge in the countries studied.

**Call to Action**
Governments should fund regulatory agencies to ensure the timely approval of therapies introduced in other markets. The patient voice should be better integrated into the drug review process.

**Call to Action**
Stakeholders must raise awareness of dementia across society to promote timely diagnosis and access to care.

### CARE STANDARDS

**Key Finding**
Even where governments have implemented care standards, additional efforts are needed to improve the quality of dementia care.

**Call to Action**
Governments should support rigorous standards and innovative funding models to improve access to high-quality care specifically for people with dementia.

### PREVENTION & RISK REDUCTION

**Key Findings**
As national populations age, dementia is an increasingly critical element of public health surveillance – but data remains limited in the reviewed countries. Raising awareness will be the foundation of innovation readiness in the countries studied.

**Call to Action**
Risk reduction strategies for dementia should be integrated into broad or multi-condition health campaigns.

### BUILT ENVIRONMENT

**Key Finding**
Mobility options, a key part of community living support, are limited for people with dementia.

**Call to Action**
Stakeholders should support the creation of dementia-friendly communities to support independence and community living.
The Dementia Innovation Readiness Index was created based on primary and secondary data sources collected and analyzed by the Global Coalition on Aging (GCOA) and Alzheimer’s Disease International (ADI). The primary data sources consist of interviews and surveys with global key opinion leaders and subject matter experts including scientists, advocates, regulators, researchers, caregivers, and business leaders, representing thousands of stakeholders in the fight against the diseases that cause dementia, as well as expert input from GCOA and ADI members. The secondary data sources consist of existing research gathered from global authorities including ADI and the World Health Organization (WHO). A full list of data sources can be found in Appendix C.

In order to measure innovation readiness, the Index aims to uncover and clarify the following:

• Where innovation in dementia is currently occurring;
• The enablers of innovation in prevention, treatment, and care; and
• The barriers to innovation in prevention, treatment, and care.

To that end, the Index evaluates dementia innovation across 10 categories:

• Strategy & Commitment
• Government Funding
• Education & Workforce
• Early Detection & Diagnosis
• Regulatory Environment
• Access to Care
• Prevention & Risk Reduction
• Business Environment
• Care Standards
• Built Environment

Each category consists of a set of indicators (a total of 48), according to which each category is scored. The categories and indicators were developed based on insights from existing indices measuring innovation in other sectors and an assessment of the current dementia innovation landscape. Though important innovations are occurring globally in dementia, the scope of this index is five G20 countries: Argentina, Brazil, China, India, and Saudi Arabia. This methodology was first developed in 2017 and will be applied to evaluate the innovation readiness of other countries in future indices.

Scoring
Scores were generated from surveys and interviews. Survey respondents were asked to designate a score of one, two, or three in each indicator for one or several countries, based on the respondent’s area of expertise. In interviews, scores on the three-point scale were derived based on qualitative inputs from subject-matter experts. Insights from the interviews have also informed the qualitative analysis in the Index.

GCOA and ADI scored each country’s performance in each indicator on a three-point performance scale (see Appendix A for performance scale) based on our combined analysis of qualitative and quantitative data, with a three representing high performance, a two representing moderate performance, and a one representing low performance.

Weighted Country Scores
Finally, the Index combines each country’s category scores and each category’s innovation weight to measure a country’s overall performance in advancing innovation in dementia treatment, prevention, and care.

Each weighted country score is derived by adding all weighted category scores for that country and dividing that sum by the total possible weighted country score.
The 2018 Dementia Innovation Readiness Index describes the current dementia landscape in five of the G20 countries: Argentina, Brazil, China, India, and Saudi Arabia. It highlights the enablers driving progress in dementia treatment, prevention, and care as well as the barriers preventing innovation.

For each category, countries that performed in the 75th percentile for a given indicator are labeled green, countries below the 25th percentile for a given indicator are red, and countries between the 25th and 75th percentile for a given indicator are represented in yellow. In a few cases, indicators are left blank when no data was available.

Through our assessment of these enablers and barriers, we identified opportunities to promote dementia innovation readiness. On the following pages, we summarize our key findings and recommendations across each of the 10 categories.
**KEY FINDINGS**

Several of the five countries studied have started to address the challenges presented by rapidly aging populations, but dementia is not yet a local point for most. Argentina is the only country among the five with a dementia plan in place. Others are stepping up their focus on aging issues generally but have yet to identify dementia as a highest-priority health issue. For example, India has established a National Program for Health Care of the Elderly, which aims to improve quality and access to care for older people. Similarly, experts report that Saudi Arabia’s Vision 2030 will include a health care plan for older adults. Age-related strategies like these typically include some discussion of dementia but fall short of addressing the impact on the health system or society.

Not surprisingly, countries with younger populations are less focused on aging and dementia—yet they have the greatest opportunity to proactively manage the condition’s inevitable toll. Among the countries profiled this year, the 65+ population is highest in Argentina at 11.6% and lowest in Saudi Arabia at 3.3%. In comparison, 17.9% of the G7 countries’ population is over 65.

Third-party organizations are helping to fill the leadership gap left by government. None of the countries profiled have established strong national leadership on dementia. However, national Alzheimer’s associations, university researchers, and other third-party organizations are playing a critical role in helping those with dementia while advocating for a stronger government role.

There have been some notable efforts over the past decade to make Alzheimer’s a priority in Argentina. But when politicians or administrations change, our strategy goes back to step one.”

**FERNANDO TARAGANO**  
Vice President of Scientific Committee  
Asociación Lucha contra el Mal de Alzheimer y Alteraciones en la Memoria de la República Argentina

Some regional and local governments outpace their national governments in prioritizing and responding to dementia. For example, in several provinces and cities where the local populations are older than the national average, such as Tucumán, Argentina, and Kerala, India, local authorities established dementia support programs and enacted local dementia plans. Local action can galvanize a broader response and provide immediate help for people with dementia.

However, experts report that without the full commitment of a national government, there is insufficient access to high-quality treatment and care and minimal support for developing innovative responses to dementia.

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**INDIA**

Kerala offers a model for local action

Kerala is one of the most elderly states in India. In the absence of a national dementia plan, the state government teamed up with the Alzheimer’s and Related Disorders Society of India to develop and implement the Kerala State Initiative on Dementia to better serve those with the condition.

The initiative focuses on five pillars: (1) awareness, (2) services, (3) day care centers and residential care, (4) specialist care, and (5) palliative care. Notable accomplishments include opening a residential dementia care center, a day care center, starting a dementia friends program, and raising awareness of the importance of early diagnosis. Other states have reportedly expressed interest in replicating Kerala’s model.

**ARGENTINA**

Official government support for dementia has yet to coalesce

Establishing sustained political leadership on dementia at the national level has been a challenge for Argentina. Current and past health ministers reportedly see dementia as a priority, but their individual interests have not translated to a broader, sustained commitment from the government.

Experts report that in 2017, the Mental Health Directorate urged Congress to establish a Special Directorate in Neuro-Cognitive Disorders. Congress should urgently act upon this recommendation and create a permanent leadership position on dementia.

**CALL TO ACTION**

Countries must create and implement dementia plans, which are critical to aligning priorities and enabling innovation. Plans drive funding for research, promote preventive solutions, and improve care services. Of the countries reviewed, only Argentina has a national dementia plan in place. The program is led by Programa de Atención Médica Integral (PAMI), the Argentine agency responsible for elderly care, but is not currently being implemented due to lack of funding. The state of Kerala, India, launched a dementia plan with the Alzheimer’s and Related Disorders Society of India. National dementia plans offer an opportunity to improve innovation readiness and should be widely embraced.
KEY FINDING
Government funding for dementia research and care is relatively low and not focused on discovering innovative solutions for dementia. Even in countries where funding for dementia research is on the rise, the investment is not commensurate with the need. Today, governments might fund basic research to understand dementia prevalence or diagnosis rates. However, few were reported to prioritize funding innovative research, treatments, and care delivery models. Besides increasing the amount and nature of funding, countries also need to ensure they have a skilled workforce capable of researching novel treatments and interventions as well as providing care for those with dementia.

CALL TO ACTION
Governments must develop comprehensive funding strategies for dementia research that prioritizes innovation. While some government agencies – India’s Council of Medical Research, for example – do provide limited support, these funds tend to be allocated in a patchwork fashion. A unified funding strategy that prioritizes innovative research into basic and translational science, prevention, and care would help direct countries’ responses to dementia and ensure that people with the condition receive the support they deserve.

The countries studied could benefit from greater utilization of nontraditional funding mechanisms like public-private partnerships that leverage government funding to promote innovation. Best-practice examples include the United States’ Critical Path Institute and Europe’s Innovative Medicines Initiative (IMI). IMI is jointly funded by the European Commission and the European Federation of Pharmaceutical Industries and Associations. It funds drug discovery projects with an emphasis on areas of "unmet medical or social need."

Even in countries where funding for dementia research is on the rise, the investment is not commensurate with the need.

ARGENTINA
Brazil
China
India
Saudi Arabia

Change in overall R&D funding

Change in government funding for dementia research and care

Incentivizing public-private partnerships

Government prioritization of innovative research, treatments, and care

BRAZIL
Model for universal distribution of treatment could expedite integration of innovations into the health care system
Experts report that the Brazilian government funds universal distribution of anticholinesterases to people diagnosed with mild to moderate dementia. However, because dementia in Brazil is under-diagnosed – it is estimated that only 23% of Brazilians with the condition receive a proper diagnosis – not everyone can access these treatments. Still, Brazil’s distribution system could help to pave the way for universal distribution of innovative treatments in the future, especially if paired with an effort to encourage diagnostic testing for dementia.

SAUDI ARABIA
Shortage of well-trained researchers
Government funding for R&D is, in general, on the rise in Saudi Arabia. Experts also report an increasing amount of funding for research into cognitive diseases, including dementia and its behavioral side effects. However, this funding is frequently left on the table because Saudi Arabia lacks a well-developed research infrastructure and workforce that might put these funds to good use. Today, Saudi Arabia has 2,200 physicians in training programs. It aims to nearly double that number by 2020. New training programs for physicians could be an opportunity to help prepare Saudi Arabia’s workforce to tap into research funding opportunities.
Early Detection & Diagnosis

**KEY FINDINGS**

Under-diagnosis of dementia is a significant challenge in the countries studied. Only a few countries have diagnosis rates publicly available, and those diagnosis rates are rarely accurate. In Brazil, for example, it’s estimated that 77% of cases of dementia are undiagnosed. In India, as many as 90% of cases of dementia are reported to be undiagnosed.

Low awareness of dementia among health care providers and the general public delays detection, diagnosis, and treatment. People may put off visiting their health care provider because they equate dementia with normal age-related cognitive decline. A general practitioner (GP) may lack the training to recognize dementia, and many doctors do not have access to advanced technologies that would enable diagnosis. Even in countries where advanced technologies exist, access is unevenly distributed.

Even when people do seek help, health care providers might be reluctant to make a diagnosis. In Brazil, for example, it’s estimated that 77% of cases of dementia are undiagnosed. In India, as many as 90% of cases of dementia are reported to be undiagnosed.

Low awareness of dementia among health care providers and the general public delays detection, diagnosis, and treatment. People may put off visiting their health care provider because they equate dementia with normal age-related cognitive decline. A general practitioner (GP) may lack the training to recognize dementia, and many doctors do not have access to advanced technologies that would enable diagnosis. Even in countries where advanced technologies exist, access is unevenly distributed.

Due to distrust, lack of information, and under-diagnosis, people with dementia are not effectively recruited into clinical trials. Older people in the countries studied may be hesitant to take new, unapproved drugs and often maintain the misconception that trials are being used to experiment upon people, rather than to develop innovative treatments for dementia. Under-diagnosis of dementia further constrains clinical trial recruitment, as it is hard for companies to recruit enough people who meet the trial protocols. One bright spot is in Argentina, where recruitment for clinical trials is reportedly becoming easier due to a history of collaboration between universities, the pharmaceutical industry, and other organizations working to cure Alzheimer’s disease and related dementias.

**CALL TO ACTION**

Stakeholders must raise awareness of dementia across society to promote timely diagnosis and access to care. Early diagnosis is also critical to enabling access to disease-modifying treatments, which evidence shows are most effective when used in the early stages. Experts point to several strategies for promoting early diagnosis: promoting awareness of the condition, creating more and better training opportunities for health care providers, and establishing data-sharing systems that enable providers to track diagnoses.

Perhaps the most pivotal challenge to promoting early diagnosis is that dementia is frequently conflated with normal aging. In China, for example, dementia directly translates as “stupid, demented elderly.”12 Because people with dementia and their families are unaware that the condition is not part of normal aging, they do not always seek help at an appropriate time. Even when people do seek help, health care providers might not be prepared to give a diagnosis due to a lack of training, a hesitancy to misdiagnose, and a shortage of advanced technologies that make it easier to confirm dementia.

**INDIA, BRAZIL, CHINA**

Training for community health workers aids early detection

In Kerala, India, as part of the state dementia plan, maternal and child health care workers who make home visits have been trained to identify people with potential cognitive impairments. Similarly, in Brazil, a small number of community health workers have been trained to identify potential cases of dementia. In both places, the community health workers provided referrals that resulted in a diagnosis over 60% of the time. These programs represent promising models for other countries.13 China is piloting the WHO Regional Office for the Western Pacific’s toolkit for community-based dementia care, and experts say it is a useful tool for promoting early detection. The toolkit provides a care model and training for community workers working in low- and middle-income countries. It includes screening tools as well as best practices such as memory cafes, support groups, and public awareness campaigns.
KEY FINDINGS

Geography and economic status dictate an individual’s ability to access high-quality care. From early diagnosis, through treatment, to end-of-life care, where a person lives has an outsized impact on his or her care. While those living with dementia in major metropolitan areas may have access to highly trained neurologists and advanced technologies, people living in certain rural or impoverished areas must do with a lower quality of care. Of course there is variability in policies across regions, yet national policies have yet to adequately address the rising care needs that come with an aging population.

In China and India, respectively, 43% and 67% of individuals live in rural areas where access to high-quality care is reported to be limited. As a point of comparison, in the G7 countries, an average only 19% of individuals live in rural areas.

Even for those living in urban areas, economic disparity has a significant impact on access to care – especially long-term care. Publicly funded long-term care facilities are often characterized by lengthy admission wait times, discriminatory policies that make it difficult for people with dementia to receive care, and low quality of care. While private care facilities often provide a higher quality of care, the high cost can be a barrier for many.

In traditional societies, caregiving is typically considered a familial duty, rather than utilizing professionals with specialized training and expertise. This was raised by experts in China, India, and Saudi Arabia where most care for people with dementia is provided by untrained family members or low-paid domestic workers who are not trained to provide care for people living with dementia. Moreover, experts report that stigma surrounds issues of family caregiving. For example, in China daughters who want to work rather than stay at home are frequently criticized, and in India family caregivers who seek training are perceived as not loving their relative enough to provide an adequate level of care. For those family caregivers interested in training, common barriers include a lack of programming and high costs.

CALL TO ACTION

Governments, payers, and providers must establish care pathways that help people with dementia receive appropriate support from skilled caregivers as the condition progresses. Especially within developing countries, when individuals are diagnosed with dementia, they are rarely provided with a care plan or adequate tools and resources to help them manage their condition. This can be due to multiple factors, ranging from a health care provider’s general lack of awareness of how to address the condition to structural issues in the health care system. Innovations are needed to establish an uninterrupted, standardized continuum of care for people with dementia. Ideally, countries should have systems in place that enable high-quality care to start in the home and be provided by trained family members and/or professional caregivers. As the condition progresses, people with dementia must be able to access high-quality long-term care – at home, in community day care programs, or in residential care facilities with skilled caregivers. Both the lack of appropriate facilities and the shortage of trained personnel present barriers today. In China, for example, some institutions have informal policies preventing people with dementia from moving in because they lack staff who are trained to manage the condition.

Access to in-home care (medical and non-medical)

Access to caregiver support (training for family caregivers, respite care, etc.)

Affordability and availability of assisted living and nursing homes

Assisted living and nursing homes well-equipped and staffed

ARGENTINA BRAZIL CHINA INDIA SAUDI ARABIA

One-child policy leads to family caregiver shortage

Between 1979 and 2015, China’s government imposed a family-planning policy barring couples from having more than one child. Care for the elderly in China is traditionally provided by family members, and many families now have one child who must deal with two aging parents and four aging grandparents. To begin addressing the pending care crisis, the Chinese government is working to keep care in the home and community, as institutional care is costly and economically unsustainable. Recently, experts report that the government published guidelines that call for 90% of older care to be provided in home, 6% in community-based care, and 4% in nursing homes. However, experts note that the Chinese government often sets in place policies that are not followed and suggest that the government’s commitment to enacting these guidelines will clarify over the coming years.

Regulations discourage investment in long-term care facilities

Only 3.3% of Saudi Arabia’s population is currently over age 65. This puts the country in a unique position to plan for a massive aging shift that will occur over the next 20 to 30 years. Today, experts report that long-term care facilities – known as “extended care homes” – are uncommon due to restrictive government regulations. The government reportedly considers extended care as a hospital setting and requires that facilities have a fully functional emergency department, intensive care unit, and radiology department. Because of the massive capital investment required to create a compliant facility, the private sector is reluctant to develop extended care homes.
Regulatory Environment

KEY FINDING

Regulators in the five countries studied generally support the findings of the U.S. Food and Drug Administration (FDA) and the European Medicines Agency (EMA). For example, the regulatory agencies of Brazil and China have set policies to help accelerate the review of treatments approved in the United States and the European Union. This sort of informal harmonization will help ensure that innovative treatments, once approved in a major market, will gain approval globally. At the same time, however, the experts interviewed were frustrated that government agencies were unable to act independently and promote policies in line with domestic priorities.

Governments must fund regulatory agencies to ensure the timely approval of therapies introduced in other markets. Experts report that regulators tend to follow the direction of global leaders in regulatory science such as the FDA and EMA, rather than establish country-specific policies. Following the lead of countries with greater capacity for regulatory sciences can be a good way for countries with smaller budgets to evaluate the efficacy and safety of innovative treatments. However, it is critical that policymakers adequately invest in regulatory agencies and their staffs so that as innovative treatments are approved abroad, they can be quickly made available to the public domestically.

The patient voice should be better integrated into the drug review process. None of the countries reviewed had formal structures in place to ensure that people with dementia advise on clinical trial design and outcomes that are important from their perspective. While some countries might have limited opportunities to comment upon new drug approvals — in Brazil, for example, online public inquiry is reportedly sought during the approval period — better integrating people with dementia into the development of drug guidelines specific to their diagnosed pathology would ensure that treatments adequately target the symptoms and outcomes that matter to them.

ARGENTINA BRAZIL CHINA INDIA SAUDI ARABIA

Dementia regulation issues are clear and reflect latest scientific findings

Relevant regulatory bodies’ willingness to drive innovation in regulatory science

Patient involvement in drug review process

Priority review - available for dementia

Streamlining approval of innovative therapies

In 2015, the China Food and Drug Administration updated its priority review policies to streamline the approval of innovative therapies. Previously, priority review was available for innovative therapies that had not yet been approved in another market or for therapies that addressed an important unmet medical need – dementia was not included. Following the revision, China opened priority review for a wide range of drug categories – including geriatric drugs – and for foreign drugs manufactured in the United States or Europe and approved by the FDA or the EMA.

It is critical that policymakers adequately invest in regulatory agencies and their staffs so that as innovative treatments are approved abroad, they can be quickly made available to the public domestically.
There are currently few incentives for the private sector to invest in developing innovations and overcoming access barriers. In the countries reviewed, a significant urban/rural and socioeconomic divide limits access to cutting-edge services and care facilities, which negatively impacts the potential for private-sector investment and innovation. For example, Rio de Janeiro is a central hub for diagnostic and research infrastructure, but financial barriers prevent much of the population from accessing these services. Such access barriers deter private-sector investment from finding new solutions and reaching untapped markets. Without government incentives or a large population that can self-fund care, such as in Saudi Arabia, private-sector investment remains limited.

The private sector can catalyze technological innovation, including data-sharing and medical records platforms, which will be an essential tool to improve dementia diagnosis and care. In countries with significant economic and geographic barriers to accessing high-quality care, integrating technologies into the health system will be vitally important to address the needs of people with dementia. In the countries reviewed, research and care opportunities were largely limited to urban population centers and segments of the population that can afford to privately fund some or all aspects of care. Rural and poor populations often lack access to diagnostic tools, educational resources, and caregiving support, which indicates an opportunity for innovative technological approaches. However, fostering these innovations will require removing barriers to private-sector solutions in the health system.

Stakeholders should improve the market environment in all countries to support private-sector investment in innovative solutions. While there are examples of public-private partnerships and financial incentives to attract private-sector investment, a comprehensive approach is needed to improve the business environment in the studied countries. There are some signs of progress: China has adopted measures that would provide government subsidies to NGOs to invest in care centers for older people, and India has established tax relief mechanisms for care expenses that would reduce the financial burden on individuals and families. However, a far more robust, multi-faceted approach is needed to create a business environment and market that fosters innovation in dementia.

In all of the countries reviewed, an increased role for the private sector can help bring new, needed solutions to dementia research and care. There is evidence of growing momentum in this area. For several decades, the Indian government has promoted a shift towards private-sector health care and medical education, with the private sector now delivering nearly 80% of out-patient care and 60% of in-patient care. Some of the studied countries represent large pharmaceutical markets, and experts report that the industry is increasingly interested in these markets, including conducting clinical trials. Among all countries, a growing role for the private sector is a significant opportunity to develop and deploy innovations, particularly for the unmet needs of dementia. However, incentives to attract private-sector investment need to be further developed, implemented, and refined.

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In all of the countries reviewed, an increased role for the private sector can help bring new, needed solutions to dementia research and care. There is evidence of growing momentum in this area. For several decades, the Indian government has promoted a shift towards private-sector health care and medical education, with the private sector now delivering nearly 80% of out-patient care and 60% of in-patient care. Some of the studied countries represent large pharmaceutical markets, and experts report that the industry is increasingly interested in these markets, including conducting clinical trials. Among all countries, a growing role for the private sector is a significant opportunity to develop and deploy innovations, particularly for the unmet needs of dementia. However, incentives to attract private-sector investment need to be further developed, implemented, and refined.
Education & Workforce

KEY FINDINGS

Health care education and workforce training includes limited availability for geriatric training programs and little dementia-specific training. While some countries have health care and medical training programs that focus on older people, these efforts are often limited and relatively new. For example, geriatrics-specific training programs are only just being established in Saudi Arabia, and in Brazil, the number of these programs is quite limited as well. In China, dementia is not included in the medical school curriculum, which has been shown to reduce doctors’ ability and willingness to diagnose and treat the condition. Additionally, across the countries reviewed, geriatrics programs often struggle to recruit candidates, further reducing the number of specialists.

There is a missed opportunity to fully utilize non-physician professionals to provide dementia-related care and services. In the countries reviewed, many of the geriatrics programs are available only to physicians, with few options for nurses or other non-physician professionals. Experts also report that the level of training varies widely by geographic region and economic status. This is a missed opportunity to equip nurses and other professionals to provide and extend appropriate dementia care and assistance. For example, geriatric nursing is not a recognized specialty in India, which exacerbates a gap in workforce capabilities. While the country has several short-term programs to support elder caregivers in the private and public sectors, experts note that there is a relatively small number of these caregivers—leading to difficulty with hiring and retention. In Brazil, experts report that social workers have sufficient training to address dementia-related challenges—especially the legal issues surrounding dementia. But due to a lack of awareness about the role that social workers could play, they are not utilized to their highest potential.

CALL TO ACTION

Geriatrics, including information on dementia, should become an essential aspect of training for all medical providers, health care service providers, and related professionals. Multi-disciplinary care teams—including nurses, caregivers, social workers, and other non-physician professionals—can serve as a key resource to extend appropriate dementia care and services. For example, hospitals in Saudi Arabia and urban areas of Argentina have created successful multi-disciplinary care teams for older people, including people with dementia, by engaging a variety of health care professionals in geriatrics specialization. However, experts report that, in rural communities, a single doctor might be responsible for all aspects of patient care, without adequate training or non-physician support. In some of the countries studied, concerted efforts and innovative approaches provide a model for how geriatrics training can be expanded. Brazilian geriatrics specialist societies, such as the Brazilian Society of Geriatrics and Gerontology, have led efforts to promote training in the field. Online tools, such as those in Argentina, have helped medical professionals to more easily engage in continuing education and knowledge-sharing. In addition to such voluntary professional training, geriatrics and dementia should be integrated into the core curriculum for all medical students, nurses, pharmacists, and other professionals. This approach would be one of the most effective ways to address the current shortfall of trained elder care professionals and meet the rapidly growing need.

There are only 18 geriatric consultants in Saudi Arabia today. We’re projected to reach 6 million elderly people in 2030—there’s no way that 18 specialists will be able to provide care for all of them. — MOHAMMED BASHEIKH

Associate Professor & Consultant Internist & Geriatrician
King Abdulaziz University, Saudi Internal Medical Society, Saudi Geriatric Society

Saudi Arabia plans changes to the health system
The Saudi government has released a Vision 2030 statement, including a commitment to “better training to improve treatment for chronic diseases such as heart disease, diabetes and cancer that threaten our nation’s health” and to improve “collaboration and integration between health and social care.” While dementia is not specifically discussed in the statement, experts noted an increased attention to the provision of geriatric training programs available to health care professionals.

SAUDI ARABIA PHYSICIAN SATURATION

Ranking the number of physicians working in country per 1000 people.

ARGENTINA 3.9
CHINA 3.4
SAUDI ARABIA 2.5
BRAZIL 1.8
INDIA 0.76

SAUDI ARABIA

Elder care specialty nurse saturation

Availability of ongoing training for elder care professionals

Integration of healthcare extenders (e.g., nurses, social workers, OTs) into dementia care pathway

Availability of geriatric-specific training programs

Specialist saturation

Multi-disciplinary care teams (e.g., nurses, caregivers, social workers, and other non-physician professionals) — can serve as a key resource to extend appropriate dementia care and services.
**KEY FINDING**

Even where governments have implemented care standards, additional efforts are needed to improve the quality of dementia care. In a few of the countries reviewed, the national government has implemented quality measures in care settings such as hospitals and nursing homes. Saudi Arabia is exceptional in this area: the Ministry of Health has programs to improve geriatric care and home health care, and the sector is eager to embrace technology. However, in the other studied countries, experts express concern that care standards may be too low and not focused specifically on dementia, not adequately or consistently enforced, or face a financial disincentive because of the increased cost to public health systems. For example, while several Indian agencies provide certification of care standards, this certification is not mandatory. In Argentina, standards are largely related to care infrastructure, but do not cover care delivery. And in China, the government has adopted standards which are not uniformly implemented across care settings. Across all countries, limited funding and resources can constrain efforts to improve the quality of care.

**CALL TO ACTION**

Governments should support rigorous standards and innovative funding models to improve access to high-quality care specifically for people with dementia. Concerted efforts, including new funding models, are needed to improve the quality of dementia care, especially by expanding and refining pilots in the geriatrics space. India and China have invested in research grants to innovate care settings and practices in geriatric care, but there is little indication that these pilot approaches have been integrated or scaled into the national health system. While these programs would support the care of older people, they also need to be focused to support the specific needs of people with dementia. Overall, additional efforts are needed to ensure that care standards elevate quality of care and are supported by sufficient funding, enabling patient choice and accommodating a variety of needs and preferences. Further, national leadership to build countries’ capacity for high-quality care will be a critical success factor, as this will require resources, training, and a commitment to awareness as the population with dementia continues to grow.

Experts express concern that care standards may be too low and not focused specifically on dementia, not adequately or consistently enforced, or face a financial disincentive because of the cost to public health systems.
KEY FINDINGS

As national populations age, dementia is an increasingly critical element of public health surveillance — but data remains limited in the studied countries. The selected countries have rapidly growing populations of older adults, which elevates the importance of reliable data regarding national rates of dementia prevalence, incidence, and mortality. However, this data is largely unavailable in the countries reviewed. Barriers include low rates of early, accurate diagnosis and a lack of health data interconnectivity, leading to information silos among facilities and providers. Some independent researchers and non-governmental organizations in India and Brazil have implemented measures to more accurately collect data on dementia, but the efforts are not expected to produce a national profile that encompasses the full impacts of the condition on populations or health systems.

Raising awareness will be the foundation of innovation readiness in the countries studied. There is currently low dementia awareness among national populations and policy-makers, who often believe that it is a normal part of aging and can be adequately addressed in general geriatric care settings. Additionally, there is little understanding of risk factors for dementia, which have not been included in public health messaging. However, organizations like the Alzheimer’s and Related Disorders Society of India (ARDSI) and the Associação Brasileira de Alzheimer (ABRA) are prioritizing public awareness, particularly prevention strategies that align with those of other non-communicable diseases. Such non-governmental organizations will play a key role in raising the public’s dementia awareness and prompting calls to action.

CALL TO ACTION

Risk reduction strategies for dementia should be integrated into broad or multi-condition health campaigns. In countries around the world, public health campaigns focused on the prevention of non-communicable diseases have shifted attitudes and behaviors — but often failed to include dementia. On the other hand, campaigns focused only on dementia are sometimes ineffective. Experts note that efforts to launch public awareness campaigns regarding dementia in Argentina did not have the impact or dissemination into at-risk communities that had been expected. This indicates the potential for a variety of stakeholders to tie dementia into multi-condition health campaigns. The opportunity for health systems to reduce the incidence of dementia — and the associated costs — is significant; research estimates that reducing lifestyle risk factors could reduce worldwide dementia prevalence by a third.30

The projected rise of dementia in developing countries like India is overwhelming. So we’re focusing on prevention efforts and raising awareness by including dementia in other public health campaigns and helping people understand that ‘what’s good for the heart is good for the brain.’”

MEERA PATTABIRAMAN
Chairperson
Alzheimer’s and Related Disorders Society of India

Research estimates that reducing lifestyle risk factors could reduce worldwide dementia prevalence by a third.
Mobility options, a key part of community living support, are limited for people with dementia. Mobility, including driving and public transit, supports the basic needs of people with dementia, such as daily errands and travel for medical appointments. It is also essential for participation in clinical trials. However, people with dementia face limited mobility options, particularly when driving becomes unsafe. Moderate accommodations have been made for older people on Indian public transit services, but there has not been a dedicated effort to make public transit accessible to people with dementia. In Argentina, travel to clinical trials is sponsored by pharmaceutical companies, offering one option for people with dementia to remain mobile to participate in research.

While mobility is just one piece of the puzzle when it comes to ensuring community participation and independence of people with dementia, it is an important marker towards embracing dementia-friendliness.

**KEY FINDING**

**CALL TO ACTION**

Stakeholders should support the creation of dementia-friendly communities to support independence and community living. Careful design and modifications to the built environment, as well as training for customer service professionals in public-facing sectors, can enhance engagement and mobility in addition to increasing awareness and shaping communities to understand and accommodate dementia. Reviewed countries can build on growing progress in this area. Some Indian states have deployed dementia-friendly community programs, and they are also exploring platforms for research participation that do not rely on access to transportation. In China, primary care is often provided in community health centers that are designed to be accessible to older people with limited mobility, though dementia diagnosis and treatment remain specialized and are not widely available.

**ARGENTINA**

Presence of a support system in transportation for people with dementia

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**CALL TO ACTION**

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<th>Consideration of dementia issues when planning and developing the built environment</th>
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**ARGENTINA**

**NGOs and local government drive dementia-friendly initiatives**

In Argentina, the Alzheimer’s and Related Disorders Society of Argentina (ARDAS) conducted 5 workshops on what dementia friendliness means in Trivandrum, Chennai, Bengaluru, New Delhi, and Cochin. Two hundred participants attended these workshops, including family caregivers, health and social care professionals, and members of the public. Beginning in 2011, ARDAS and the city of Cochin have been working to make the city dementia-friendly through programs for children, dementia care informational sessions for students, and skills trainings for care home staff. Some individuals also trained to become dementia guides.
The scores for the Dementia Innovation Readiness Index are based on extensive survey research and secondary data. Survey respondents and interview subjects were asked to score their countries’ performance for a set of indicators, based on their expertise. On the following pages is the performance scale that ADI and GCOA used to determine what scores to assign a country based on interview and survey responses.
### Strategy & Commitment

<table>
<thead>
<tr>
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<th>Score of 3</th>
</tr>
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<tr>
<td>Visible, continuous political leadership</td>
<td>Non-significant political leadership</td>
<td>There is some political will, but it is either just emerging or does not appear to be enduring</td>
<td>Strong political leadership</td>
</tr>
<tr>
<td>Presence of national dementia plan</td>
<td>No plan at all</td>
<td>Non-governmental plan or strategy</td>
<td>Governmental plan</td>
</tr>
<tr>
<td>Implementation of national dementia plan</td>
<td>There is no local, regional, or national strategy</td>
<td>There have been efforts to create a national strategy, but it has not been formalized by stakeholders</td>
<td>Plan has been officially adopted at the national level and is being widely implemented</td>
</tr>
<tr>
<td>Efficacy of national dementia plan in creating engagement</td>
<td>There is little or no engagement as a result of the plan</td>
<td>There is limited engagement or a small group of stakeholders involved</td>
<td>Plan is engaging a broad range of stakeholders</td>
</tr>
<tr>
<td>Monitoring, evaluation, and updating of national dementia plan</td>
<td>Strategy is rarely updated with progress tracked</td>
<td>Strategy is periodically updated with progress tracked</td>
<td>Strategy is updated regularly with progress tracked</td>
</tr>
<tr>
<td>Commitment to dementia-friendly communities</td>
<td>No interest in dementia-friendly communities</td>
<td>There has been interest in dementia-friendly communities</td>
<td>Country has invested in and prioritized dementia-friendly communities</td>
</tr>
<tr>
<td>Private sector or NGO leadership on dementia issues</td>
<td>The private sector and NGOs have provided minimal leadership on dementia issues</td>
<td>The private sector and NGOs have provided moderate leadership on dementia issues</td>
<td>The private sector and NGOs have provided strong leadership on dementia issues</td>
</tr>
<tr>
<td>Change in overall R&amp;D funding</td>
<td>Total R&amp;D funding has trended downwards</td>
<td>Total R&amp;D funding has trended flat</td>
<td>Total R&amp;D funding has trended upwards</td>
</tr>
<tr>
<td>Change in government funding for dementia research and care</td>
<td>Government spending on dementia has decreased relative to inflation</td>
<td>Government spending on dementia has remained constant relative to inflation</td>
<td>Government spending on dementia has increased relative to inflation</td>
</tr>
<tr>
<td>Intensifying public-private partnerships</td>
<td>Government does not incentivize the development of public-private partnerships</td>
<td>Government moderately incentivizes the development of public-private partnerships, but only under specific conditions</td>
<td>Government strongly incentivizes the development of public-private partnerships</td>
</tr>
<tr>
<td>Government prioritization of innovation research, treatments, and care</td>
<td>Government funding structure does not prioritize funding for innovation research, treatments or care</td>
<td>Government funding structure moderately prioritizes funding for innovative research, treatments or care</td>
<td>Government funding structure strongly prioritizes funding for innovative research, treatments or care</td>
</tr>
</tbody>
</table>

### Early Detection & Diagnosis

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Score of 1</th>
<th>Score of 2</th>
<th>Score of 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Effort by stakeholders to increase rates of detection and diagnosis</td>
<td>There has been an effort by major stakeholders but it has not been effective</td>
<td>There have been discrete efforts to increase detection and diagnosis</td>
<td>Strong national leadership has clearly demonstrated an effort to improve detection and diagnosis</td>
</tr>
<tr>
<td>Presence of reliable, publicly available diagnostic tools</td>
<td>No diagnostic tools</td>
<td>Limited understanding of the rate of diagnosis</td>
<td>Diagnostic tools are available and reliable</td>
</tr>
<tr>
<td>Cognitive assessment included as part of elderly medical assessment</td>
<td>Not included</td>
<td>Cognition testing is included but limited</td>
<td>Cognition testing is comprehensively included</td>
</tr>
<tr>
<td>General practitioners (GPs) able to diagnose and treat dementia</td>
<td>GPs cannot diagnose or provide treatment</td>
<td>GPs have limited diagnostic ability</td>
<td>GPs can make a diagnosis and provide treatment easily</td>
</tr>
<tr>
<td>Access to GPs</td>
<td>Accessing a GP is difficult and lengthy</td>
<td>There’s a wait to access an individual GP, but it’s not too difficult</td>
<td>People are able to reach their GP on demand</td>
</tr>
<tr>
<td>Ability of research centers to recruit and execute clinical trials</td>
<td>It’s nearly impossible to run and recruit for a clinical trial</td>
<td>There are some difficulties in recruiting and running clinical trials</td>
<td>Patients actively seek and doctors routinely refer people with dementia to clinical trials</td>
</tr>
<tr>
<td>Access to post-diagnostic support</td>
<td>Post-diagnostic support is limited or does not exist</td>
<td>Post-diagnostic support exists, but barriers to access exist</td>
<td>Post-diagnostic support readily evident</td>
</tr>
<tr>
<td>Access to in-home care (medical and non-medical)</td>
<td>Low access to in-home care</td>
<td>Moderate access to in-home care</td>
<td>Access to quality, affordable in-home care is not difficult</td>
</tr>
<tr>
<td>Access to caregiver support (training for family caregivers, respite care, etc.)</td>
<td>There is limited or no caregiver support available</td>
<td>There is access, however some barriers to utilizing services exist</td>
<td>There is access to quality, affordable caregiver support services</td>
</tr>
<tr>
<td>Affordability and availability of assisted living and nursing homes</td>
<td>Assisted living and nursing homes are not available for dementia patients</td>
<td>Assisted living and nursing homes are available for some dementia patients</td>
<td>Assisted living and nursing homes are available and affordable for the majority of dementia patients</td>
</tr>
<tr>
<td>Assisted living and nursing homes well-equipped and staffed</td>
<td>Assisted living and nursing homes are generally poorly equipped and staffed</td>
<td>There is a fair amount of variability in both assisted living and nursing homes are equipped and staffed</td>
<td>Yes, assisted living and nursing homes are generally well equipped and staffed</td>
</tr>
</tbody>
</table>

### Government Funding

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Score of 1</th>
<th>Score of 2</th>
<th>Score of 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Access to care</td>
<td>Staffed</td>
<td>Non-staffed</td>
<td>Generally well equipped</td>
</tr>
<tr>
<td>Assisted living and nursing homes</td>
<td>No</td>
<td>Yes</td>
<td></td>
</tr>
</tbody>
</table>
### Education & Workforce

<table>
<thead>
<tr>
<th>CATEGORY</th>
<th>INDICATOR</th>
<th>SCORE OF 1</th>
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<th>SCORE OF 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Regulatory Environment</td>
<td>Dementia regulations are clear and reflect latest scientific findings</td>
<td>No</td>
<td>In process of being updated</td>
<td>Yes</td>
</tr>
<tr>
<td></td>
<td>Relevant regulatory bodies’ willingness to drive innovation in regulatory science</td>
<td>No</td>
<td>Same officials have expressed willingness, but not across the regulatory body</td>
<td>Yes</td>
</tr>
<tr>
<td></td>
<td>Patient involvement in drug review processes</td>
<td>Patients are not included in the regulatory and review process</td>
<td>Patients are included in some level of the regulatory and review process</td>
<td>Patients fully included in the regulatory and review process</td>
</tr>
<tr>
<td></td>
<td>Priority review – available for dementia</td>
<td>Priority review is unavailable for dementia</td>
<td>Priority review is available, but not for dementia treatments</td>
<td>Yes, priority review is available for dementia treatments</td>
</tr>
<tr>
<td>Business Environment</td>
<td>Government subsidies or tax incentives across disease areas</td>
<td>Government does not subsidize or provide tax incentives for private research</td>
<td>There are some subsidies or tax incentives for private research</td>
<td>Government widely subsidizes or provides tax incentives for private research</td>
</tr>
<tr>
<td></td>
<td>Patent protection – length, and strength</td>
<td>Patents are not well protected</td>
<td>Patents have moderate protection</td>
<td>Patents are well protected</td>
</tr>
<tr>
<td></td>
<td>Barriers of government regulation</td>
<td>Performance of less than two in Global Competitiveness Report</td>
<td>Performance of two to three in Global Competitiveness Report</td>
<td>Performance of three or higher in Global Competitiveness Report</td>
</tr>
<tr>
<td></td>
<td>IP Protection</td>
<td>Performance of less than three in Global Competitiveness Report for intellectual property protection</td>
<td>Performance of three to five in Global Competitiveness Report for intellectual property protection</td>
<td>Performance above five in Global Competitiveness Report for intellectual property protection</td>
</tr>
<tr>
<td></td>
<td>Availability of geriatric-specific training programs</td>
<td>Low number of geriatric training programs</td>
<td>Moderate number of geriatric training programs</td>
<td>High saturation of geriatric training programs</td>
</tr>
<tr>
<td></td>
<td>Specialist saturation</td>
<td>Low number of relevant doctors relative to the growing need</td>
<td>Moderate number of relevant doctors</td>
<td>High saturation of relevant doctors</td>
</tr>
<tr>
<td></td>
<td>Elder care specialty nurse saturation</td>
<td>Low saturation of workers</td>
<td>Moderate saturation of workers</td>
<td>High saturation of highly trained workers</td>
</tr>
<tr>
<td></td>
<td>Availability of ongoing training for elder care professionals</td>
<td>No</td>
<td></td>
<td>Yes</td>
</tr>
<tr>
<td></td>
<td>Integration of health care extenders (e.g., nurses, social workers, OTs) into dementia care pathway</td>
<td>Poorly integrated</td>
<td>Moderately integrated</td>
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### Business Environment

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<tr>
<td></td>
<td>Dementia included in public health surveillance</td>
<td>No data is collected</td>
<td>Some data is collected, but limited or of poor quality</td>
<td>There is regular data collection on dementia prevalence, incidence and mortality</td>
</tr>
<tr>
<td></td>
<td>Completion of lifestyle campaigns that address risk factors for dementia</td>
<td>No lifestyle campaigns have been launched</td>
<td>Lifestyle campaigns have been launched that include dementia, but as part of broader health messaging</td>
<td>Stakeholders have successfully launched lifestyle campaigns that specifically relate to dementia risk factors and awareness</td>
</tr>
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<td>No</td>
<td></td>
<td>Yes</td>
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<tr>
<td></td>
<td>Integration of personal medical professionals into dementia care</td>
<td>Poorly integrated</td>
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### Care Standards

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<tbody>
<tr>
<td></td>
<td>Government implementation of quality measures</td>
<td>Quality measures are neither implemented nor being planned for</td>
<td>Quality measures are planned by government, but not yet implemented</td>
<td>Quality measures implemented by government to help improve health care outcomes</td>
</tr>
<tr>
<td></td>
<td>Government support of innovative care services</td>
<td>No obvious evidence</td>
<td>The government has developed a clinical effort to support care innovation</td>
<td>The government is actively driving care innovation</td>
</tr>
<tr>
<td></td>
<td>Presence of innovations in technology to improve care delivery</td>
<td>There is not a clear effort around technology innovation</td>
<td>Use of technology is often discussed but few programs exist to encourage the development</td>
<td>Technology is a central focus for improved care delivery</td>
</tr>
<tr>
<td></td>
<td>Participation of dementia organizations in global NCD alliance</td>
<td>Country’s dementia association does not participate in non-communicable disease alliance</td>
<td>Country’s dementia association participates in non-communicable disease alliance</td>
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### Prevention & Risk Reduction

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<tr>
<td></td>
<td>Integration of personal medical professionals into dementia care</td>
<td>Poorly integrated</td>
<td>Moderately integrated</td>
<td>Well integrated</td>
</tr>
<tr>
<td>CATEGORY</td>
<td>SCORE OF 1</td>
<td>SCORE OF 2</td>
<td>SCORE OF 3</td>
<td></td>
</tr>
<tr>
<td>---------------------------</td>
<td>----------------------------------------------------------------------------</td>
<td>----------------------------------------------------------------------------</td>
<td>----------------------------------------------------------------------------</td>
<td></td>
</tr>
<tr>
<td><strong>Built Environment</strong></td>
<td>Presence of a support system in transportation for people with dementia.</td>
<td>Some transportation options are open for people with dementia.</td>
<td>Transportation options are widely available for people with dementia.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Availability of transportation options for people enrolling in clinical trials.</td>
<td>There are some transportation options available for people enrolling in clinical trials.</td>
<td>Transportation options are widely available for people enrolling in clinical trials.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Policy on driver’s licenses.</td>
<td>Some procedures exist to evaluate continued ability to drive.</td>
<td>Cognitive test upon diagnosis is required.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Consideration of dementia issues when planning and developing the built environment.</td>
<td>Disabilities including dementia are considered when planning and developing the built environment.</td>
<td>Yes, the built environment is specifically planned and developed to accommodate people with dementia.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Enacting dementia-friendly community principles on a local level.</td>
<td>Almost no localities are working to enact the principles of dementia-friendly communities.</td>
<td>Many localities are working to enact the principles of dementia-friendly communities.</td>
<td></td>
</tr>
</tbody>
</table>
# STRATEGY & COMMITMENT

## Data Point

**Argentina**

- **Presence of a national plan:** "Yes" [34]
- **Implementation of national dementia plan:** "No plan" [35]
- **Commitment to Dementia-Friendly Communities:** "There are a small number of local efforts" [36]

**Brazil**

- **Presence of a national plan:** "No" [37]
- **Implementation of national dementia plan:** "Plan is reportedly not funded" [38]
- **Commitment to Dementia-Friendly Communities:** "There are a small number of local efforts" [39]

**China**

- **Presence of a national plan:** "No national plan, although dementia was acknowledged in National Mental Health White Paper on China (2011)" [40]
- **Implementation of national dementia plan:** "No national plan, although aging will be included in a new plan (2019)" [41]
- **Commitment to Dementia-Friendly Communities:** "There are a small number of local efforts" [42]

**India**

- **Presence of a national plan:** "No national plan, although dementia was acknowledged in National Mental Health White Paper on India (2011)" [43]
- **Implementation of national dementia plan:** "No national plan, although aging will be included in a new plan (2019)" [44]
- **Commitment to Dementia-Friendly Communities:** "There are a small number of local efforts" [45]

**Saudi Arabia**

- **Presence of a national plan:** "No national plan, although dementia was acknowledged in National Mental Health White Paper on Saudi Arabia (2011)" [46]
- **Implementation of national dementia plan:** "No national plan, although aging will be included in a new plan (2019)" [47]
- **Commitment to Dementia-Friendly Communities:** "There are a small number of local efforts" [48]

# GOVERNMENT FUNDING

## Data Point

**Argentina**

- **Change in overall R&D funding:** "Increase approx. 2% since 2015" [49]
- **Presence of reliable, publicly available diagnosis rates:** "No" [50]
- **General practitioners (GP) able to diagnose and treat dementia:** "Limited diagnostic ability" [51]
- **Dementia specialist with interdisciplinary diagnosis:** "No" [52]

**Brazil**

- **Change in overall R&D funding:** "Yes, increase approx. 77% since 2009" [53]
- **Presence of reliable, publicly available diagnosis rates:** "No" [54]
- **General practitioners (GP) able to diagnose and treat dementia:** "Limited diagnostic ability" [55]
- **Dementia specialist with interdisciplinary diagnosis:** "No" [56]

**China**

- **Change in overall R&D funding:** "Yes, increase approx. 12.5% since 2007; current 2017 R&D spending: $17.5 billion" [57]
- **Presence of reliable, publicly available diagnosis rates:** "No" [58]
- **General practitioners (GP) able to diagnose and treat dementia:** "Limited diagnostic ability" [59]
- **Dementia specialist with interdisciplinary diagnosis:** "No" [60]

**India**

- **Change in overall R&D funding:** "Increase from 2009 at 25% of GDP to 2017 at 2.4% of GDP" [61]
- **Presence of reliable, publicly available diagnosis rates:** "No" [62]
- **General practitioners (GP) able to diagnose and treat dementia:** "Limited diagnostic ability" [63]
- **Dementia specialist with interdisciplinary diagnosis:** "No" [64]

**Saudi Arabia**

- **Change in overall R&D funding:** "Increase approx. .2% since 2000" [65]
- **Presence of reliable, publicly available diagnosis rates:** "No" [66]
- **General practitioners (GP) able to diagnose and treat dementia:** "Limited diagnostic ability" [67]
- **Dementia specialist with interdisciplinary diagnosis:** "Yes, but only at a few top hospitals" [68]

# EARLY DETECTION & DIAGNOSIS

## Data Point

**Argentina**

- **Prevalence of reliable, publicly available diagnosis rates:** N/A [69]
- **General practitioners (GP) able to diagnose and treat dementia:** "Limited diagnostic ability" [70]
- **Dementia specialist with interdisciplinary diagnosis:** "Yes, but only at a few top hospitals" [71]

**Brazil**

- **Prevalence of reliable, publicly available diagnosis rates:** N/A [72]
- **General practitioners (GP) able to diagnose and treat dementia:** "Limited diagnostic ability" [73]
- **Dementia specialist with interdisciplinary diagnosis:** "Yes" [74]

**China**

- **Prevalence of reliable, publicly available diagnosis rates:** N/A [75]
- **General practitioners (GP) able to diagnose and treat dementia:** "Limited diagnostic ability" [76]
- **Dementia specialist with interdisciplinary diagnosis:** "Yes" [77]

**India**

- **Prevalence of reliable, publicly available diagnosis rates:** N/A [78]
- **General practitioners (GP) able to diagnose and treat dementia:** "Limited diagnostic ability" [79]
- **Dementia specialist with interdisciplinary diagnosis:** "Yes" [80]

**Saudi Arabia**

- **Prevalence of reliable, publicly available diagnosis rates:** N/A [81]
- **General practitioners (GP) able to diagnose and treat dementia:** "Limited diagnostic ability" [82]
- **Dementia specialist with interdisciplinary diagnosis:** "Yes" [83]

# ACCESS TO CARE

## Data Point

**Argentina**

- **Access to in-home care for medical and non-medical:** "Yes" [84]
- **Long-term care provided outside of home by family members but not government funded** [85]

**Brazil**

- **Access to in-home care for medical and non-medical:** "Yes" [86]
- **Professionals in-home care for dementia but not widespread; most dementia care at home** [87]

**China**

- **Access to in-home care for medical and non-medical:** "Yes" [88]
- **Professionals in-home care for dementia but not widespread; most dementia care at home** [89]

**India**

- **Access to in-home care for medical and non-medical:** "Yes" [90]
- **Professionals in-home care for dementia but not widespread; most dementia care at home** [91]

**Saudi Arabia**

- **Access to in-home care for medical and non-medical:** "Yes" [92]
- **Professionals in-home care for dementia but not widespread; most dementia care at home** [93]

# REGULATORY ENVIRONMENT

## Data Point

**Argentina**

- **Relevant regulatory bodies’ willingness to drive innovation in regulatory science:** "Moderate to poor" [94]

**Brazil**

- **Priority review for therapies available for dementia:** N/A [95]

**China**

- **Priority review for therapies available for dementia:** Yes [96]

**India**

- **Priority review for therapies available for dementia:** N/A [97]

**Saudi Arabia**

- **Priority review for therapies available for dementia:** N/A [98]

# BUSINESS ENVIRONMENT

## Data Point

**Argentina**

- **Parent protection – length, and strength:** "Parent protection for 20 years" [99]

**Brazil**

- **Parent protection – length, and strength:** "Parent protection for 20 years, but parents not regarded as strong" [100]

**China**

- **Parent protection – length, and strength:** "Parent protection for 20 years, but parents not regarded as strong" [101]

**India**

- **Parent protection – length, and strength:** "Parent protection for 20 years, but parents not regarded as strong" [102]

**Saudi Arabia**

- **Parent protection – length, and strength:** "Parent protection for 20 years, but parents not regarded as strong" [103]

# Footnotes

1. Argentina: "77% of cases are not diagnosed, with family; 57% of cases are not diagnosed, in rural areas. Available in cities, but not widespread; most dementia care at home with family."
2. Brazil: "Limited, for the rich; most people with dementia are taken care of at home by relatives."
4. India: "7,500 LTC beds in the country. Based on data in 2011. Only 1/10th of older persons live in LTC settings. 10% of those in the public system and 25 years for those in the private system."
5. Saudi Arabia: "There are a small number of local efforts, 5% of local efforts. There are a small number of local efforts. 3% of local efforts. There are a small number of local efforts."
### EDUCATION & WORKFORCE

<table>
<thead>
<tr>
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<th>India</th>
<th>Saudi Arabia</th>
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</thead>
<tbody>
<tr>
<td>Specialist saturation</td>
<td>1,149 specialists in geriatrics</td>
<td></td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
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<tr>
<td>Nurse saturation</td>
<td>2 nurses per 1,000 people</td>
<td>7.4 nurses per 1,000 people</td>
<td>2.4 nurses per 1,000 people</td>
<td>1.5 nurses per 1,000 people</td>
<td>.72 nurses per 1,000 people</td>
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### PREVENTION & RISK REDUCTION

<table>
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<th>Argentina</th>
<th>Brazil</th>
<th>China</th>
<th>India</th>
<th>Saudi Arabia</th>
</tr>
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<tbody>
<tr>
<td>Participation of dementia organizations in global NCD alliance</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
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Appendix C: Endnotes
ADI is the international federation of 90 Alzheimer associations around the world, in official relations with the World Health Organization. ADI’s vision is prevention, 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. As such, it works locally, by empowering Alzheimer associations to promote and offer care and support for persons with dementia and their care partners, while working globally to focus attention on dementia and campaign for policy change from governments. For more information, please visit www.alz.co.uk.

The Global Coalition on Aging aims to reshape how global leaders approach and prepare for the 21st century’s profound shift in population aging. GCOA uniquely brings together global corporations across industry sectors with common strategic interests in aging populations, a comprehensive and systemic understanding of aging, and an optimistic view of its impact. Through research, public policy analysis, advocacy, and strategic communications, GCOA is advancing innovative solutions and working to ensure global aging is a path to health, productivity and economic growth. For more information, visit www.globalcoalitiononaging.com.