

Together We Make the Difference

National Strategy for Recruitment and
Participation in Alzheimer's and Related
Dementias Clinical Research



Convened by



National Institute
on Aging

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FOREWORD

October 19, 2018

Spurred by the growing threat of Alzheimer's disease and related dementias to our loved ones and families, as well as our health and economic systems, Americans have taken notice. The National Plan to Address Alzheimer's Disease, in place since 2012, drives our efforts. Importantly, lawmakers have supported that mission with major increases in funding for research toward treatment and prevention. The scientific community is galvanized. We are tackling Alzheimer's and related dementias on an unprecedented scale, moving forward with innovative approaches and new discoveries that will need to be tested as expeditiously and comprehensively as possible.

This document focuses on one area of urgency—the pressing need for increased and diverse participation in research studies as these scientific opportunities emerge. Additional studies on new approaches will require greater numbers of people from across the disease spectrum, including healthy and preclinical individuals, and must ensure representation from racial, ethnic, and socioeconomic groups who may be differentially affected by dementia.

Here, I present to you *Together We Make a Difference: National Strategy for Recruitment and Participation in Alzheimer's and Related Dementias Clinical Research*. This National Strategy is the product of extensive and in-depth discussions over nearly 2 years, convened by the National Institute on Aging at the National Institutes of Health (NIH) and facilitated by the Alzheimer's Association, to bring together experts, including patients and caregivers, on this issue. Crowd-sourcing outreach invited and brought in comments, too, from the public more broadly. We thank all for their time and insights. They provided important data and experience on why people join studies as well as the obstacles and barriers for doing so, how to address concerns, and what it will take to engage broad segments of the public to join in Alzheimer's and related dementias research.

What's needed, they conclude, is concerted national action to create awareness and to support study participation. The National Strategy offered here outlines concrete steps that each of us—from researchers, funders, and participants to families and clinicians, employers and media, national and community-based organizations—can take to effect change. Some measures can be taken by individuals and organizations on their own and others through collaboration and coordination. This will require attention by both the public and private sectors.

For our part, we at the NIA/NIH will continue to emphasize the need for careful consideration of recruitment in Alzheimer's and related dementias studies, to support and disseminate research on effective strategies for study participation, and to conduct further and targeted outreach and information to increase awareness. And we will continue to take a leadership role in implementation of this National Strategy, working with all of you as we follow the guideposts provided by this document.

I look forward to expanding and intensifying our efforts to engage the public in Alzheimer's and related dementias trials and studies. Together, I believe we can move research more quickly and more inclusively toward our ultimate treatment and prevention goals.

Richard J. Hodes, M.D.

Director, National Institute on Aging
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With a broad stakeholder and community undertaking in mind, the NIA, with facilitation by the Alzheimer's Association, sought expertise and insights from a collaborative of government, private, academic, and industry stakeholders, as well as from individuals, caregivers, and study participants in development of the National Strategy. We are deeply grateful to the experts, stakeholders, and community members who contributed to this endeavor and look forward to continuing our work together to implement this framework.

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INTRODUCTION

Why a National Strategy—And Why Now?

As many as 5.5 million Americans ages 65 and older are estimated to be living with Alzheimer’s disease, the most common form of dementia, and many more under age 65 also have the disease (Hebert et al., 2013). Alzheimer’s disease is the sixth leading cause of death in the United States (Murphy et al., 2013). Estimates suggest more than 1 million individuals in the United States have related dementias, such as frontotemporal, Lewy body, vascular, and mixed dementias (Knopman & Roberts, 2011; Plassman et al., 2007; Zweig & Galvin, 2014). Age is the primary risk factor for dementia, and as the U.S. population ages, the number of people with Alzheimer’s disease is expected to triple by 2050 if no effective preventive strategies or treatments are found (Hebert et al., 2013). The human and financial costs to people with Alzheimer’s disease, their families, and society are among the highest of any disease (Hurd et al., 2013).

Recognizing the urgency of ramping up Alzheimer’s research and care, the National Alzheimer’s Project Act¹ (NAPA) was signed into law in 2011 and resulted in the first National Plan to Address Alzheimer’s Disease (National Plan) in 2012.² The National Plan’s primary research goal is to prevent and effectively treat Alzheimer’s disease and related dementias—such as frontotemporal, Lewy body, vascular, and mixed dementias—by 2025.

This ambitious goal demands new strategies to overcome obstacles to research and discovery.

Increased public and private investments have identified many potential therapeutic targets, and pharmaceutical interventions to hit those targets are quickly being developed and tested in clinical trials. Population studies enable researchers to characterize the trajectory of dementia in different sub-groups, better understand the risk factors for dementia, and identify the best approaches to clinical and long-term care.

¹ See <https://aspe.hhs.gov/national-alzheimers-project-act>.

² See <https://aspe.hhs.gov/report/national-plan-address-alzheimers-disease-2017-update>.

We have learned a great deal. A cadre of volunteers, who have contributed everything from their time to their DNA, has been critical to this progress, and the nation is grateful for their participation in research. But to build on progress thus far, and to reach our goals as quickly as possible, even more volunteers will be needed. Expanded scientific opportunities require a concerted national effort to bring a range of individuals and organizations into the research endeavor so that—TOGETHER—we can make a difference.

However, difficulties with recruitment and retention across a broad range of biomedical clinical trials mean that many fall short of recruitment and retention goals (Institute of Medicine, 2012). In Alzheimer’s disease research, despite best efforts, many study sites are slow to meet volunteer recruitment targets, delaying the time to complete studies and increasing research costs. Some sites never reach their targets (Grill & Galvin, 2014; Karlawish et al., 2008).

The challenge is daunting. Currently, nearly 200 U.S.-based Alzheimer’s disease clinical trials seek more than 270,000 participants.³ It is estimated that researchers will need to screen roughly 10 people to identify 1 eligible participant (Watson et al., 2014). Participation of diverse volunteers—such as by age, race, ethnicity, sex, education, socioeconomic status, geographic location, comorbidities, and cognitive status—for a variety of clinical research studies has become a leading challenge in Alzheimer’s and related dementias research today (Carr et al., 2010; Vellas et al., 2012).

Challenges to Research Participation

Inadequate recruitment and retention skew demographic representation, limit generalizability, and reduce statistical power of clinical trials (VanEpps et al., 2016). In addition to the common challenges facing all clinical trials (Institute of Medicine, 2012), studies examining Alzheimer’s disease research have identified unique barriers to participation.

Strict Eligibility Criteria

Many older adults are ineligible to participate in Alzheimer’s disease research because of stringent, though often necessary, study criteria. Fewer than one-third of Alzheimer’s disease patients are trial eligible, according to one estimate (Grill & Galvin, 2014). Studies may exclude individuals because of age, use of certain prescription medications, or medical or psychiatric comorbidities, or because they are unable or unwilling to undergo required procedures (Grill & Karlawish, 2010).

Need for Cognitively Unimpaired Volunteers

Evidence suggests that brain pathology begins at least 10 years before the onset of Alzheimer’s disease symptoms. Prevention trials that test interventions in at-risk individuals require participation of cognitively unimpaired adults who are willing to undergo gene and biomarker screening (Watson et al., 2014).

Lack of Capacity, Awareness, and Resources Among Primary Care Physicians

Primary care physicians typically manage multiple chronic conditions in older adult patients and may not always perform adequate diagnostic assessments of Alzheimer’s disease. Brief screening in primary care settings offers promise, but more research is needed (McCarten et al., 2012). Physicians may not suspect cognitive impairment in patients who might qualify for clinical studies unless they conduct screening, be unaware of local research participation opportunities, or have concerns about referring older adult patients to clinical studies (Watson et al., 2014).

Participant Burden

Many studies require concurrent participation of a study partner (e.g., spouse, partner, adult child, or caregiver) who can provide informed consent, report on cognitive changes in the participant, assure compliance with study procedures, and be available to assist with managing study risks. Study partners often are spouses, but an increasing

³ ClinicalTrials.gov, accessed 10/15/2018, <https://clinicaltrials.gov/ct2/results?recrs=abf&type=Intr&cond=alzheimer&cny=US>.

number of older adults have no spouse or live alone. Participants with dementia and non-spouse study partners drop out of studies more often than those with spouses (Grill et al., 2013).

Prospective research volunteers and study partners may be reluctant to participate in studies involving time-consuming or invasive procedures, such as lumbar puncture or brain imaging with radioactive materials. These and other procedures, such as cognitive testing, sometimes require significant time and repeat visits, or may be part of screening even before acceptance into a clinical trial, deterring volunteers and their study partners from participating (Grill & Karlawish, 2010; Watson et al., 2014). Travel inconvenience can be a disincentive to volunteer for participants and their study partners (Karlawish et al., 2008).

Emphasis on Inclusion and Diversity

Clinical trials often seek participants with similar characteristics such as the same stage of disease, comorbidities, prescription medications, and age range because a homogenous trial population increases confidence that any research results showing effectiveness of a treatment are due to the treatment and not other factors. However, building an evidence base for clinical care that benefits the entire population and does not perpetuate health disparities demands diversity in clinical research participants (Stronks et al., 2013). Diversity is considered broadly to include heterogeneity of age, race, ethnicity, sex, education, socioeconomic status, geographic location, comorbidities, and cognitive status. Representativeness in biomedical clinical research remains a challenge, despite its critical importance and some past efforts to improve it.

Clinical evidence that reflects population diversity is critical for Alzheimer's and related dementias studies. Evidence suggests, for example, that African Americans have greater risk of Alzheimer's disease than non-Hispanic whites, and there may also be differences in risk factors and disease manifestation (Barnes & Bennett, 2014). Higher rates of dementia are also found in Latino populations compared

to non-Hispanic whites, and understanding these differences is further complicated by diversity within the Latino population (Vega et al., 2017). These high-risk populations are less likely to be recruited to participate in Alzheimer's disease and other clinical trials (Oh et al., 2015; Romero et al., 2014), although studies show minority groups are as likely to participate as non-minority groups if offered the opportunity. Recruitment of underrepresented and underserved populations faces several challenges, including "differing access to care and therapy, gaps in the knowledge of Alzheimer's disease among certain rural and ethnic groups, differences in perceived risk for Alzheimer's disease, and long-standing (and well-founded) skepticism toward research" (Grill & Galvin, 2014).

Research, including important qualitative and practical experience of researchers focused on these issues, has demonstrated potential for community-based strategies to address the diversity challenge, including the use of satellite clinic locations, hiring of study staff that reflect the makeup of the population, community-specific outreach efforts and social marketing, and partnerships between researchers and local organizations. These and other promising approaches need to be further explored, studied, and implemented where they demonstrate success in recruiting from underrepresented populations. More work is needed to expand and strengthen the evidence base for effective strategies to increase minority participation in Alzheimer's and related dementias clinical trials (Grill & Galvin, 2014).

Barriers to participation often differ culturally as well as regionally, making it challenging to design universal recruitment strategies that adequately address community-specific barriers. Consequently, the status quo for Alzheimer's and related dementias clinical research systematically favors the enrollment of a shrinking, increasingly less representative segment of the U.S. population. Because of its critical importance, attention to improving diverse representation in Alzheimer's and related dementias clinical research is emphasized throughout this National Strategy.

Collaborating to Develop a National Strategy

As early as 2012, the National Institute on Aging (NIA) at the NIH began to solicit input on how to enhance participation in Alzheimer’s research.⁴ In 2016, the NIA launched the current effort to outline practical, proactive approaches to help study sites and researchers recruit and retain adequate numbers of volunteers for specific studies, resulting in this *National Strategy for Recruitment and Participation in Alzheimer’s Disease Clinical Research* (National Strategy).

The National Strategy enumerates ways we might increase the number of study participants and support the success of clinical research—through not only federal agency action, but also the engagement of all individuals and organizations interested in eradicating Alzheimer’s and related dementias. With extensive stakeholder and community involvement, the NIA, with facilitation by the Alzheimer’s Association, convened experts and collected insights from government, academic, and industry stakeholders, as well as from individuals, caregivers, study participants, and members of the public.⁵ A Steering Committee and topical working groups developed the initial draft of the National Strategy. The NIA then sought broad public input on components of the draft strategy as well as any new ideas for recruitment and retention. This endeavor sought a range of perspectives to encourage fresh thinking and new energy to address the challenges and opportunities of clinical research participation. The approaches outlined here include both those formally demonstrated in research and those brought to it by years of field experience by those who have shared what they know works—and what does not—to engage a variety of audiences.

These efforts resulted in four National Strategy goals.

Goal 1: Increase Awareness and Engagement

Increasing awareness and engagement can empower people from diverse communities to participate in clinical research, including individuals with Alzheimer’s and related dementias, their family members and caregivers, and healthy adults. To improve public understanding of the role and importance of clinical trials, education and outreach should capitalize on existing resources to provide basic information about brain health, Alzheimer’s and related dementias symptoms and risk factors, diagnosis, and treatment options. Multiple sectors have a role in increasing awareness and engagement, including federal and state governments, national advocacy organizations, community-based organizations, and research study sites.

Goal 2: Build and Improve Research Infrastructure

Building capacity and improving infrastructure of research study sites, registries, and referral networks is vital to recruiting and retaining more and more diverse qualified study participants. The federal government, the national and local medical community, study sites, and their host institutions all have a role in improving the Alzheimer’s and related dementias clinical trial research infrastructure.

Goal 3: Engage Local Communities and Support Participants

Sustained local engagement is needed to increase recruitment and retention of heterogeneous participants in Alzheimer’s and related dementias research. Community-based efforts must focus on developing equitable and sustainable partnerships and promoting health and science literacy of all community members. Researchers and study sites, local organizations, and people with and without dementia and their families have important roles in engaging potential participants where they live.

⁴ See, for example, <https://grants.nih.gov/grants/guide/notice-files/NOT-AG-12-017.html>.

⁵ See <https://www.nia.nih.gov/research/recruitment-strategy>.

Goal 4: Develop an Applied Science of Recruitment

Investing in and prioritizing research to study the effectiveness of recruitment and retention strategies, support program evaluation, and disseminate best practices is critical to developing an applied science of recruitment. Public and private research funding agencies, academic institutions, and researchers have an important role in evaluating the effectiveness of their own strategies, making transparent their research methodology, and sharing results without undue delay. Federal agencies and national advocacy organizations can help develop, collect, and widely disseminate research-based best practices.

From Recommendations to Implementation

This National Strategy comes at an important time in the ongoing partnership between scientists and the public to find more effective ways to prevent, diagnose, and treat Alzheimer's and related dementias. There is now an unprecedented opportunity to build on scientific knowledge and to accelerate and expand the research effort. It is incumbent on all of us to leverage our different missions, interests, and resources. Some agencies, organizations, and communities are already ramping up efforts, and this National Strategy describes ways more can contribute.

At the NIH, this effort is already under way. New tools and policies are allowing scientific and review staff to perform more targeted consideration of study recruitment plans and their potential effectiveness in applications for clinical research funding. The NIA awarded the Global Alzheimer's Platform Trial-Ready Cohort for the Preclinical/Prodromal Alzheimer's Disease (GAP TRC-PAD) project, which will build a new study-ready cohort and a next-generation clinical trials infrastructure with a particular focus on enlisting participants at presymptomatic stages of

Alzheimer's.⁶ The recently funded Alzheimer's Clinical Trial Consortium (ACTC) focuses on recruitment, including establishing a new minority outreach and recruitment team, which will use evidence-based recruitment strategies to support both central and local partnerships with diverse communities.⁷ The NIA is organizing a repository to collect and disseminate best practices in Alzheimer's and related dementias clinical studies recruitment. Released in April 2018, NIA funding opportunity PAR-18-749 will provide up to \$3 million in fiscal year 2019 to support collaborative network teams to target gaps in recruitment and retention methods and outcomes, as well as to establish the community infrastructure needed to accelerate studies.⁸ Looking ahead, the NIH will continue to use the National Strategy to identify opportunities to accelerate and expand its efforts, including new collaborations and partnerships at the national and community levels.

While the NIH can support and incentivize improved recruitment and retention in several ways, the success of this National Strategy rests on the contributions of diverse stakeholders, including but not limited to the following:

Federal agencies, including those involved in funding, regulating, guiding, or using outcomes from research, can signal study participation as a national priority. Depending on the mission, this might include attention in funding opportunity announcements or procedures, shaping application submission and review requirements, working directly with investigators in cooperative agreements, collecting and disseminating evidence-based resources in a central location, supporting evaluation efforts and compilation of the evidence base, and providing a national voice to communicate the importance of

⁶ See https://projectreporter.nih.gov/project_info_description.cfm?aid=9471301&icde=40471034 for project information.

⁷ See https://projectreporter.nih.gov/project_info_description.cfm?aid=9422266&icde=40471148&ddparam=&ddvalue=&ddsub=&cr=1&csb=default&cs=ASC&pball= for project information.

⁸ See <https://grants.nih.gov/grants/guide/pa-files/PAR-18-749.html> for full announcement.

study participation to a variety of audiences, including national and regional traditional and social media.

National organizations, including advocacy and funding entities and their local affiliates, can organize national, regional, and local awareness campaigns, build and maintain relationships with other stakeholder groups, create and adapt materials and resources for study site use, collect and disseminate evidence-based resources in a central location, support or conduct community needs assessments and evaluations, and provide a national voice to communicate and reinforce priorities.

Researchers and clinical research study sites and their host institutions can plan and budget for the priorities outlined in the National Strategy, prioritize and implement improvements in study site capacity to support diverse recruitment and participation, develop and sustain local-level community partnerships, build trust, involve members of the community in the research enterprise, develop and maintain referral networks with primary care providers and other study sites, and implement trial designs and organizational incentive structures that maximize diverse participation.

Health care providers and provider organizations can engage in ongoing conversation with local and regional researchers and study sites, consider their role in screening, educating, and referring potential participants in Alzheimer's and related dementias clinical research, and provide input on community advisory boards or as invited members of study teams on ways to leverage primary care provider relationships with potential participants.

Local community-based organizations providing services to people with dementia and their families and caregivers can participate in community advisory boards, build relationships with researchers and study sites, host community events or offer locations for study outreach, and become involved in the research enterprise.

People with or concerned about dementia, caregivers, and families can share their experiences with others, ask primary care physicians for screening or referrals to clinical research opportunities, participate in clinical research, become peer mentors for others considering research participation, provide input and feedback to researchers and study sites, and help study sites build community partnerships.

Pharmaceutical and biotech companies can collaborate with federal agencies and national advocacy organizations, leverage their relationships with health care providers and payers, build and improve study site capacity, broker local-level relationships between industry-funded researchers and the communities in which they operate, incentivize study sites to focus on underrepresented patient populations, and ensure that study endpoints are meaningful for participants and families as well as for researchers and regulators.

Health care payers and insurers can engage potential clinical research participants, cover and implement Alzheimer's and related dementias screening and referral procedures, and engage in ongoing conversations with other stakeholders about the importance of protecting beneficiaries participating in clinical research from reduction or loss of benefits.

The opportunities to advance our scientific understanding of prevention and treatment of Alzheimer's and related dementias have never been greater. Capitalizing on these opportunities requires participation and partnership of everyone who is willing and able to volunteer for research and meaningful support of these volunteers. There are multiple opportunities for all stakeholders to contribute to achieving each of the four goals.



GOAL 1: INCREASE AWARENESS AND ENGAGEMENT

A first step in motivating individuals with Alzheimer’s and related dementias, their families and caregivers, healthy adults, health professionals, businesses, and the general public to participate in research or support the research enterprise is simply awareness. National, state, and local level awareness campaigns targeted at diverse audiences are needed to better inform the public about Alzheimer’s and related dementias symptoms and risk factors, diagnosis and treatment options, opportunities for participation in clinical research, and the importance of clinical research in combating the disease.

Target audiences should include potential research study participants ranging in cognitive and functional status, from healthy volunteers to people with dementia; caregivers and families; health care providers including primary care physicians, specialists, and nurses; business and other community leaders; health care organizations and system providers; insurers and payers; advocacy organizations; professional associations; and other disease associations for common comorbidities (e.g., American Heart Association, American Diabetes Association). Audience segmentation—dividing a large target audience into smaller and relatively homogenous groups that are expected to respond similarly to a communication, influence, or incentive—can help to strategically assess when to approach a group based on its readiness for action, ease of access, or match to program needs. With these approaches, outreach strategies can be tailored to effectively engage each target audience.

Efforts by multiple stakeholders are already under way to address many of these strategic priorities. For example, the NIA plans to solicit feedback from health care providers and provider organizations about their knowledge of, interest in, and barriers to talking to patients about or referring them to clinical studies generally and specifically for dementia.

Strategic Priorities

1. Identify Diverse Audiences Needing Tailored Messages and Best Locations and Modes of Outreach at the National and Community Levels.

A. Identify key audiences that are instrumental to improving participation in Alzheimer's research.

- Identify target audiences for nationwide, regional, and community messaging, including primary audiences of potential participants, as well as secondary groups and influencers, such as caregivers, clinicians, and national professional and advocacy organizations.
- Determine current knowledge and predispositions of target audiences regarding participation in research studies, segmenting audiences into smaller groups according to interests, needs, and demographics to address what volunteers might have in common. This can be informed by current best practices, reported research findings, or new research.
- Assess the feasibility of successfully engaging specific audience segments through messaging and collaboration at the national, regional, and local levels. This should be approached with short, intermediate, and long-term goals in mind to fashion and implement effective outreach.

B. Determine the specific action or actions to be requested of each audience segment.

- Ascertain, along with the research community, the range of actions being requested of each audience, clearly establishing who is being asked to do what, and by when. Different types of studies and classes of research will require different types of participants in terms of age, disease and disease stage, gender, underrepresentation in research, physical location, and other criteria.
- Apply formative research, including such techniques as behavioral mapping and behavioral analysis, to identify major factors, including barriers and facilitators, to help determine the likelihood that particular audiences will engage in behaviors involved in joining research.

C. Study and address beliefs, attitudes, and social norms among diverse communities to enhance messaging and support successful recruitment actions at the study level.

- Identify salient beliefs, attitudes, values, and perceived behavioral norms and/or incentives (monetary and non-monetary) likely to affect whether people in diverse audiences are motivated to join in research.
- Identify major barriers to participation in research in each audience segment, especially among underrepresented groups.
- Include individuals from the audiences of interest in the design of outreach materials and strategies.
- To better engage presymptomatic or asymptomatic participants in prevention and other trials, consider framing outreach and recruitment messaging in terms of brain health rather than focusing on a deficit model of Alzheimer's disease.
- Leverage targeted advertising and popular social media platforms to engage families and communities about Alzheimer's and other dementias, particularly to address common myths and community-specific concerns and fears.

D. Conduct outreach to health care providers, including primary care physicians, specialists, and nurses.

- Gather information from health care providers or provider organizations about their knowledge, interest, needs, and barriers to talking to patients about or referring them to clinical studies, generally and specifically for dementia.
- Provide information to health care providers about the value of research referral as a clinical best practice. Consider multiple ways to engage clinicians, such as training, providing cognitive screening tools, and establishing learning communities through social media.
- Increase health care provider awareness of specific research opportunities at local centers and provide them with access to research experts at study sites.

- Provide educational opportunities about Alzheimer’s and related dementias clinical research opportunities and referral practices to health care providers through national programming (e.g., Continuing Medical Education credits).
- Provide updates to primary care providers on their patients enrolled in studies through regular communication or electronic health records.

E. Conduct outreach to health care plans and other insurers.

- Encourage health care systems, payers, and insurers to use clinical trial awareness initiatives, evidence-based brain health resources, and partnerships as an incentive and benefit for their beneficiaries/clients and subscribers.
- Engage the Centers for Medicare & Medicaid Services (CMS) as a partner, examining approaches such as including opportunities to participate in clinical studies as part of the Star Rating program ranking certain plans and drug coverage.
- Express the importance of not penalizing beneficiaries for their participation in clinical research. Coverage should not be compromised, lessened, or lost for clinical research participants.

F. Conduct outreach to national employer and employee organizations and workforce agencies at the federal, state, and local levels.

- Discuss with employers and employee leadership how organizational policies can support and increase participation in clinical studies, including by providing paid time off for employees who might become study participants or study partners.
- Ensure protections against discrimination for employees who participate in clinical studies or serve as study partners in age-related cognitive function, cognitive impairment, or dementia studies.

G. Adopt a wide range of grassroots strategies to raise awareness of the importance of participation in clinical research among potential participants, their family members, and members of the community.

- Identify and use a variety of locations for outreach, including physician office waiting rooms, pharmacies, senior centers, over-55 residential communities, nursing homes and assisted living facilities, adult day care centers, community-based organizations (e.g., Lions club, Rotaries, veterans’ groups, institutions of faith), Alzheimer’s and related dementias caregiver support groups, hospitals, health fairs, and other community events.
- Identify and use a wide range of modes of outreach depending on target audience and effectiveness, including print media, radio, brochures, posters, TV/Public Service Announcements, emails, face-to-face community events, social media, and computerized screen kiosks in public areas. Ensure inclusion of local and segment-specific media outlets (e.g., minority-owned or -focused media outlets and publications, local television stations, rural newspapers or radio shows).
- Identify and engage, at the national and local levels, key influencers to deliver outreach messages, such as current or former trial participants, people with Alzheimer’s and related dementias or their family members, caregivers, trusted advisors in the community, or local or national celebrities.
- Leverage a broad spectrum of social media and other interactive communication technologies, particularly for hard-to-reach rural or isolated populations.
- With great care for protecting privacy and obtaining appropriate consent, explore the possibility of partnering with social media companies to apply machine learning algorithms to identify potential participants and family members for outreach.

- Include in outreach materials the availability and benefits of registries.
- Consider innovative strategies such as “share on Twitter/Facebook” buttons at www.clinicaltrials.gov records or an appropriately moderated “Yelp” website for clinical trials and study sites.

2. Develop and Disseminate Culturally and Linguistically Appropriate Content for Outreach and Awareness.

A. Develop or adapt content in plain language for outreach materials to address common information needs and basic concerns of potential participants that describes the following:

- The impact of Alzheimer’s and related dementias nationally, in different geographic regions, and among sub-group populations. Explain that deaths due to complications of Alzheimer’s disease are underreported because it is often not recorded as the official cause of death.
- What a clinical trial is, what participants in clinical trials can expect, and why some necessary features of a clinical trial seem counterintuitive from the participant perspective (e.g., “clinical trials 101” for the lay reader).
- The scientific goals of clinical trials in Alzheimer’s and related dementias generally, goals of specific recruiting studies, and the realistic potential for scientific advances.
- The potential risks and benefits, both to the participant and for public health, of participating in a clinical trial.

B. Ensure that materials, tools, and content are available in languages used in the community.

- Use centralized translation services to ensure that all outreach materials are available in all languages used across the range of target communities.
- Provide opportunities for local community members to review and modify or approve translations based on local-level linguistic norms.

C. Adapt information to address concerns of specific racial/ethnic, geographic, or linguistic communities.

- Using information from community needs assessments and input from community partners, identify best-fit modalities and communications channels for delivering messages to each target community.
- Ensure that community-specific concerns are learned and addressed respectfully.
- Communicate that minority groups have a right to be represented in clinical trials funded by taxpayer dollars and explain how their representation improves generalizability of scientific knowledge and the future potential impact on preventing, slowing, or treating Alzheimer’s and related dementias.



GOAL 2: BUILD AND IMPROVE RESEARCH INFRASTRUCTURE

Increasing enrollment and participant diversity in Alzheimer’s and related dementias studies requires further development of study recruitment infrastructure. To build capacity, institutions and research sites can create more volunteer opportunities; collaborate with peers at the local, regional, and national levels; and contribute to the growing evidence base for effective recruitment strategies. Aligning staffing and organizational incentives with recruitment and retention goals, training staff to better serve their target populations, and investing in appropriate facilities and collaborative study site networks will all improve site capacity to recruit and retain research participants needed to conduct studies.

One straightforward approach to improving the rate and quality of clinical research enrollment is to increase the number of trial sites and their ability to enroll qualified volunteers (Grill & Karlawish, 2010). In addition, participant registries—repositories of individuals who have agreed to learn about new studies for which they might be eligible—are powerful and increasingly used tools to improve study recruitment. A variety of registry models and methodologies are currently being implemented, and registry sponsors report varying levels of success in converting enrollees into participants in clinical trials. Several improvements, such as linking individual registries in a unified network, may enhance the effectiveness of registries as enrollment tools. Registry designs and methods also need to be evaluated and optimized for specific audience segments and enrollment goals.

A variety of existing and emerging information technologies also have potential to support study recruitment. These range from enhancing electronic health record systems and other point-of-care tools to developing mobile apps for data collection and adapting customer relationship management software to improve recruitment efficiency. These sophisticated but often easy-to-use technologies may, for example, help researchers keep track of information, understand participant behavior, and connect with prospective volunteers and physicians.

Strategic Priorities

1. Leverage and Improve Existing Registry Infrastructure.

A. *Create larger registries by linking existing individual programs in a national network.*

- Develop a national recruiting network by linking existing registries, cohort programs, and other appropriately consented data sharing mechanisms.
- Engage large organizations with data on many potential participants, such as large integrated health systems.
- Bring together leadership of registries through meetings, focus groups, case studies, and guided interviews to develop a registry linkage plan.
- Produce lists of studies for which registered individuals are eligible based on information obtained from participants and mining of publicly available information, including actively recruiting studies listed in ClinicalTrials.gov. Ensure that smaller, local trials are included as options in larger registries.
- Reach participants at the local level through affiliated local or regional registries. Explore the use of local crowdsourcing methods to populate local registries. Consider technical and Institutional Review Board architectures that will optimize registry linkages.

B. *Improve the effectiveness of registries by studying current best practices.*

- Assess current performance of registries, including in the context of successful recruitment for small studies, large multisite trials, and national surveys. Consider the relative advantages of distinct registry characteristics, such as geographic reach, breadth of disease focus, and mode of participation.
- Identify best practices for recruiting and retaining registry volunteers. Assess the usefulness of social media, crowdsourcing, and online disease forums that may facilitate interest in registry participation.

- Examine the factors that motivate, facilitate, or hinder participation in registries and subsequent enrollment in research studies. Study how cognitive and functional status, demographic features, and other characteristics influence registry participation.

C. *Improve registries' ability to match participants with appropriate trials.*

- Clearly list inclusion and exclusion criteria for all available trials in lay language.
- Highlight trials that are actively recruiting. If displaying information about trials that are closed to new participants, clearly label trials as closed to accrual.
- Develop more effective processes for matching willing volunteers to specific studies in need of participants.

D. *Expand registries to include family groups and participants of all ages.*

- Recruit family members of people with dementia to join registries.
- Target family members of all ages to participate in observational studies to explore genetic links to Alzheimer's disease and prevention studies focusing on preclinical Alzheimer's disease.

E. *Facilitate follow-up and notify participants of new opportunities.*

- Send regular newsletter updates to registry participants notifying them of new trials enrolling in their area, local events, and research progress.
- Use registries to create a system to follow up with participants who have joined studies for further opportunities. For participants who have contributed data to past studies, leverage their contributions for additional studies or analyses.

2. Develop and Adapt Information Technologies to Support Recruitment.

A. Leverage electronic health records and other point-of-care tools to identify and inform potential Alzheimer's and related dementias trial participants.

- Create customized referral links and alerts to providers through electronic health records indicating trials for which the patient may be eligible. With appropriate consent, use electronic health records to produce lists of potential Alzheimer's and related dementias trial participants.
- Explore opportunities to link electronic health records to registries, including by allowing interested participants and their family members to share their electronic health records with researchers.
- Use personal health record portals to support direct, interactive messaging between providers, current and potential future research participants, and their family members.
- Install kiosks in primary care provider waiting rooms to deliver information about Alzheimer's and related dementias research studies and recruitment, while ensuring appropriate privacy protections.
- Embed new software tools into research site workflows and train staff to use them effectively.

B. Apply existing technologies in innovative ways to support recruitment efforts.

- Develop a lifestyle tracking mobile app for participants of all ages that would engage participants, provide relevant information for public health, and send passively collected data to researchers for identification of potential trial participants.
- Explore ways to incorporate sensory technologies, fitness trackers, augmented reality, and machine-learning algorithms to

collect and analyze data. Use an app to facilitate study enrollment by checking eligibility criteria, obtaining consent, submitting research data, and disseminating study results.

- Use client relationship management software to improve research site efficiency by managing and coordinating relationships with research participants, their health care providers, study partners, and other stakeholders.
- Facilitate study referrals from self-organized online communities such as disease forums.
- Explore partnerships between the pharmaceutical industry and private genetic testing organizations to enable volunteers to be invited to participate in clinical research based on their genetic profile.⁹

C. Maintain privacy protections in all new information technology applications.

- Ensure data security, privacy protections, and anonymity of participant data, especially for smaller studies conducted at a local level that may not have access to sophisticated security tools and in which participant identification may be a greater concern.

3. Structure Staffing and Organizational Incentives to Support and Reward Successful Recruitment and Retention of Diverse Participants.

A. Incentivize physicians and their practices to screen for and treat Alzheimer's and related dementias and refer patients to clinical trials.

- Consult primary care practices to determine how best to integrate research recruitment into the practice environment without disrupting the flow of clinical care.
- Provide logistical or monetary incentives to providers who screen and refer patients to clinical trials or explore ways to reimburse discussions of clinical trial participation as a component of care consultation.

⁹ See, for example, <https://www.gsk.com/en-gb/media/press-releases/gsk-and-23andme-sign-agreement-to-leverage-genetic-insights-for-the-development-of-novel-medicines/>.

- Leverage existing point-of-care tools to identify potential research subjects and obtain consent for enrollment in research studies.
- Work with partners (e.g., National Quality Forum, CMS) to make facilitating research recruitment a care quality criterion within ongoing, alternative payment models for primary care providers.

B. Set ambitious and realistic recruitment targets based on a community needs assessment, and reward success.

- Set realistic site- or region-specific recruitment targets with input from community partners and enforce accountability metrics to ensure demographic inclusion goals are met.
- Collect available CMS data on Alzheimer’s disease prevalence by county and census tract data on race, ethnicity, education, religion, and geographic distribution to inform local targeting and recruitment goals.
- Identify and use publicly available qualitative reports and community health assessments (e.g., from hospitals, universities) to complement CMS and census data.¹⁰

Recruitment Targets Success Indicators

1. Consistent pace of enrollment into the studies
2. Diversity of study population
3. Consistent number of referrals from current participants
4. Number of new participants
5. Retention of participants from underserved populations
6. Number of projects that achieved recruitment goals
7. Number of new collaborative partnerships and/or projects
8. Number of satellite recruitment sites

- Use existing online surveys or other tools to complete a community needs assessment in collaboration with community partners and use the results to develop realistic goals for recruitment and to obtain buy-in from local partners for accomplishing recruitment goals.
- Financially reward sites that meet or exceed their recruitment targets.
- Use data transparency to reward recruitment and retention of diverse participants.
- Provide incentives, such as additional funding, training, or access to resources, to grantees who meet recruitment targets specified in grant applications.

C. Incentivize academic institutions and publicly funded researchers to prioritize recruitment of diverse populations.

- Foster institutional environments that incentivize and prioritize recruitment, such as by communicating the importance of clinical trials to academic leaders, rewarding successful recruitment with financial incentives and co-authorship of research studies, and creating tenure-track career paths for recruitment professionals.
- Provide funding for outreach support modules for publicly funded clinical trials.
- Make diversity of researchers, key personnel, and study staff a consideration for clinical trial grant funding decisions.

D. Incentivize study site staff to actively recruit diverse study participants.

- Foster an environment that incentivizes and prioritizes diverse recruitment, enrollment, and retention in high-quality clinical trials and studies in academic settings.
- Provide viable career paths and opportunities for professional advancement for all staff in the recruitment workforce.

¹⁰ For example, https://www.kcoi.com/wp-content/uploads/2017/03/CHNA_2016.pdf.

E. Develop and implement process improvements that enhance trial recruitment.

- Develop site and system business processes that support a robust, efficient clinical research infrastructure (e.g., stable funding models that do not rely on per-subject recruitment revenue, use of existing clinical data for new studies, and centralized management of multisite studies).
- Develop nimble staffing models that respond to fluctuations in recruitment needs and minimize staff burden and risk of burnout during periods of heavy enrollment.

4. Support Study Site Capacity Building.

A. Invest in facilities to accommodate greater enrollment.

- Ensure that sites have adequate physical space, equipment, and support services such as pharmacy, laboratory, radiology, and information technology.

B. Train study site staff to foster more effective recruitment efforts.

- In collaboration with community advisory boards, create clear institutional or site-level guidelines and training programs focused on differentiating recruitment from coercion.
- Improve the health literacy skills of research teams so that they can effectively communicate trial information and results to potential and current participants.
- Identify ways to expose study staff to the realities of life with dementia in the target community.
- Educate recruitment staff on available community data and assessment tools to help understand community priorities and possible recruitment incentives.

C. Recruit and retain a diverse and skilled workforce.

- Develop a staffing strategy that is appropriate to the project's outreach and recruitment goals for its target populations.
- Develop guidelines to recruit and retain a diverse and inclusive professional workforce at all levels

of the research team. Ensure that researchers, research teams, and study site personnel are representative of the target population.

- Build the cost of full-time recruitment staff (e.g., outreach specialist, patient navigator) into grant application budgets.
- Retain a customer service team to respond rapidly to prospective volunteers.
- Leverage staffing resources from other departments or community partners that align with the target community.
- Hire at each site or cluster of sites a recruiter or recruitment team that includes backgrounds in public health marketing and outreach, as well as those with skills in recruiting families who are experiencing cognitive decline in a loved one. Develop employment descriptions that capture relevant experience with targeted communities and specialized skills.
- Support site-level efforts to retain experienced coordinators, raters, regulatory staff, and clinical researchers to ensure efficient and high-quality conduct of studies. Offer job flexibility and benefits to allow a broader range of individuals to serve as study staff. These may include access to child or adult care, access to transportation or telecommuting options, health benefits, and flexible schedules.
- Invest in recruitment training and mentorship programs to ensure the development of the next generation of researchers.

D. Assess and reduce workforce implicit bias.

- Assess and quantify implicit bias in academic and community research sites. Disseminate results of the assessment to relevant stakeholders and use these measures to track improvements over time.
- Train study site staff and research teams to recognize implicit bias and implement evidence-based interventions to reduce implicit bias at the individual or group level.
- Leverage existing resources for cultural competency training among study site staff.

- Engage and be accountable to community partners for reduction of implicit bias in study sites.
- Include individuals living with dementia on study staff, advisory boards, and local engagement teams.
- Use recruitment networks to disseminate information about specific research opportunities.
- Seek financial support for a practice-based research network from the Clinical Translational Science Institute and other funding entities.

5. Improve Efficiency and Effectiveness of Screening.

- Streamline required enrollment and informed consent forms to apply across sites, studies, and purposes, including coverage for all disease stages and trial interventions.
- Run multiple, complementary studies at a site so that screening efforts are not specific to one trial and can offer more than one research participation option for many volunteers. Allow sites to use funding from a single sponsor to help support recruitment efforts for multiple studies.
- Establish a community screening center or offer a financial incentive to sites that prescreen for studies beyond their own investigations.
- Combine outreach and screening efforts, such as by providing screening for trial opportunities at community outreach events.
- Offer cognitive impairment screening for everyone at the time of Medicare eligibility to record a baseline.
- Explore the feasibility of placing brain imaging scanners in convenient locations and returning results to local sites so that researchers can identify suitable study candidates.
- Identify potential study participants at risk earlier in the disease process through collecting a variety of evidence types, such as genetic, biomarker, clinical, and demographic data.

6. Facilitate Collaborative Networks of Study Sites.

- Incentivize study sites to form recruitment networks in which a site can easily refer a participant to a study being conducted at a different site if a more appropriate opportunity exists elsewhere.
- Encourage local clinicians to participate in referral networks by providing financial incentives, professional recognition, and exposure to the research community.



GOAL 3: ENGAGE LOCAL COMMUNITIES AND SUPPORT PARTICIPANTS

To improve the representativeness of participants—in the broadest sense—we must focus on inclusivity and diversity in age, race/ethnicity, language, sex, education, socioeconomic status, comorbidities, concomitant treatments, geographic region, and cognitive status by engaging with communities and supporting people with dementia and their families in their efforts to participate. Although more research is needed to strengthen the evidence base for best practices, the most promising efforts for improving recruitment and retention of diverse participants focus on building community relationships and addressing specific local-level barriers (Grill & Galvin, 2014).

Diversifying participant representation, including with at-risk sub-groups, addresses two important public health goals: (1) increase the generalizability of the evidence generated to benefit the overall population and (2) mitigate health disparities that are perpetuated by differential access to care and effectiveness of treatments in underrepresented groups.

Research participation involves a relationship between the research scientist and the participant. People volunteer because they trust the research system, expect potential benefits to themselves or to others, and judge the research risks and burdens to be reasonable. Lessons from marketing, behavioral economics, and other social sciences should be employed to better develop, test, share, and customize strategies to enhance these local relationships with heterogeneous populations. All community engagement efforts should strive to provide participants with individualized and genuine attention and demonstrate commitment to ongoing communication and cooperation.

Strategic Priorities

1. Develop Equitable and Sustainable Community Partnerships to Build Trust and a Sense of Shared Ownership of the Research Mission.

A. *Identify specific community-based organizations, support service organizations, and local stakeholders with whom to develop relationships.*

- Expand community partnerships beyond traditional networks.
- Identify and meet with representatives of support services, particularly for vulnerable populations (e.g., social services, clinical services, behavioral health, assisted living facilities, faith groups, caregiver support groups, Area Agency on Aging offices, city offices on aging, local chapters of AARP, those living with dementia).
- Engage students in professional training programs (e.g., medicine, nursing, social work, public health, home health).
- Identify key stakeholder collaborators to identify geographical areas of focus and to assist in engagement of targeted communities.
- Develop an effective and sustained communication strategy to support bidirectional flow of information with community partners.

B. *Create and/or participate in community advisory boards.*

- Develop diverse local community advisory boards to help monitor recruitment efforts of each research center. Include representation from primary care and specialist providers, patients, and caregivers.
- Work with advisory boards to ensure ongoing community presence and responsiveness to community needs.

C. *Implement varied grassroots strategies to build meaningful and sustainable community relationships.*

- Work with community partners to prioritize needs and develop a responsive outreach and recruitment program that features the voices of people with dementia living in the community.

- Develop and maintain a calendar of community events for outreach activities and share the information with outreach partners, and attend community events:
 - As guests to learn more about the community, its population, and its leaders.
 - To give presentations to introduce the researchers and study purpose to the community and solicit feedback on proposed recruitment strategies to the local community.
 - To provide opportunities for attendees to ask questions and sign up to receive more details about actively recruiting studies.
 - To provide educational materials about clinical trials research and the option to be added to a registry or referral database.
- Support and train local community spokespeople to discuss clinical trials and research within communities.
- Use personal stories on dementia, caregiving, and research in creative ways (e.g., hosted online webinars, hosted home-based support groups, social media, emails lists, newsletters). Featured faces and voices should be inclusive and local.
- Foster conversation opportunities between potential participants and their trusted advisors, including health care providers, support service providers, and community leaders.
- Directly and honestly address community concerns and barriers to participation.

D. *Develop community-based referral and recruitment partners.*

- Explore opportunities to work with community-based organizations and support service providers as referral and recruitment partners with a view toward leveraging existing networks to reach vulnerable populations.
- Support institutional and community-wide coordination among research groups and clinical/social services, including ensuring that study sites are fully accessible to local communities.

- Work with local Aging Resource Centers, Councils on Aging, Area Agencies on Aging, Veterans Administration health providers, and state medical societies to develop referral network processes.

2. Promote Health and Science Literacy in the Community with a Focus on Cognitive Health.

A. Enhance study site capacity to serve as a community resource for cognitive health literacy.

- Consider the value of educational programs targeting different community needs. Sites may not need to develop programs on their own but can utilize and customize resources from a national recruitment repository of materials and best practices.
- Ensure that study site staff engage with potential participants in the community to build trust before discussing research.
- Ensure that messaging is culturally and linguistically appropriate for targeted audiences because similar language may be interpreted differently in unique demographic groups.
- Onsite opportunities might:
 - Offer educational programming on dementia at study sites that includes cognitive health education, the range of modifiable and non-modifiable risk factors, benefits and risks of participating in clinical trials, background information on Alzheimer's and related dementias and how it is different from other neurodegenerative diseases, the importance of early screening, and medication that may slow symptom progression.
 - Offer tours of research study site(s) after introducing concepts of research into the community.
 - Host support groups (e.g., for people with dementia, family members, and caregivers) to disseminate information and discuss concerns.
 - Offer study participants, families, and caregivers free onsite education and

counseling to support lifestyle changes that can lower risk of dementia, enhance care, and improve quality of life.

- Educational materials
 - Use or adapt existing sources of culturally and linguistically appropriate educational materials about cognitive health.
 - Access and contribute to national repositories of educational materials that can provide information and training on dementia-related and clinical trial topics to local participants and influencers (e.g., health care providers, health educators, research navigators, community-based service organizations, faith-based organizations, family members).¹¹
 - Ensure technology-based education materials are user- and mobile-friendly.
- Multimedia approaches
 - Create short vignettes on brain health, dementia, caregiving, and clinical research in creative ways (e.g., online webinars, home-based support groups, social media). Featured faces and voices should be inclusive and local where possible, with time allocated for questions and answers.
 - Present at educational events for professional health providers and integrate cognitive health education into existing Continuing Medical Education (CME)-based training, particularly for primary care physicians in community health centers.
 - Conduct culturally and linguistically appropriate information sessions at community events for mixed-age audiences to increase cognitive health literacy and awareness of research opportunities (e.g., lunch and learn series, lay presentations, memory screening events, town halls).

¹¹ For example, the NIA Recruitment Resource repository, Dementia Friendly America, and Being Patient.

B. Train community partners and clinical research participants and/or their caregivers to be educational resources for local communities.

- Train and support a bureau of speakers to provide community education and training for the public and health care providers.
- Develop a peer mentor training program for selected clinical research participants and care partners to become recruiters and advocates for their study site.
- Create formal and informal opportunities for community-based advocates and champions to liaise with the public (e.g., community events, health campaigns).

Sample Training Program Topics

1. Basic facts about Alzheimer's and related dementias
2. Clinical trials 101
3. Overview of recruiting for local trials
4. Advantages of participating in clinical research
5. Responses to common reasons people say they do not want to participate
6. Developing a personal story
7. Media training

3. Expand Trial Design to Encourage Participation of Larger and More Diverse Communities.

A. Broaden inclusion criteria to increase heterogeneous participation.

- Relax exclusion and inclusion criteria to permit increased diversity in participant characteristics, and thus less restricted access to research, such as expanding design to include participants who are
 - taking other medications
 - asymptomatic
 - younger than 65
 - unable to bring a study partner
 - at any stage of disease
 - healthy, but have a genetic history of Alzheimer's disease (e.g., for prevention trials)

- Consider whether a study partner is required for healthy, preclinical, and asymptomatic participants.
- For individuals who fail to meet entry criteria for a study, offer other research opportunities so that there are no closed doors to those who express an interest in research. For example, redirect a healthy volunteer with genetic risk of Alzheimer's to a prevention trial opportunity or a person who does not want to take experimental medication to a non-pharmacological intervention trial.

B. Expand access to treatments for which effectiveness is demonstrated.

- Increase the experimental drug-to-placebo arm ratio so a larger proportion of patients receives the investigational compound.
- Encourage commercial pharmacological sponsors to use pooled data from their historical controls in Phase III trials so that all patients in the next generation of Alzheimer's trials have access to the investigational drug.
- Reform structure of open label restrictions so participants in the placebo arm get access to an effective treatment and are not restricted in future studies.
- If it is determined early on that the treatment protocol works well with minimal risk to patient, make it available to the control group as well.

C. Leverage ongoing studies for other indications.

- Collect a consistent minimum dataset from all participants of all trials that can be used across studies in a combined sample.

D. Involve people with dementia and their families and caregivers, local clinicians, and members of community-based organizations in planning the research design.

- Involve populations of interest in the design of the trial to help address issues such as disclosure of plaque or genetic status, number of screening steps before enrollment, open label status, etc.

- Seek input from health care providers or provider organizations when planning new research studies.
- Add local clinicians to site study staff to promote familiarity and community partnership.

4. Facilitate Participation of Diverse Individuals and Families by Providing Support and Implementing Audience-Specific Recruitment and Retention Strategies.

A. Compensate and recognize participants for their contributions to research.

- Develop, test, and implement a variety of feasible, culturally appropriate, and value-driven incentives, such as compensation for lost time or wages at work, charitable donations, gift cards, cost savings services, transportation and parking reimbursements, lotteries, educational programming, and support group opportunities. Evaluation should examine both positive and negative implications of incentive strategies on participation behaviors.
- Identify and address the scientific, ethical, regulatory, and compliance challenges to implementing incentives and recruitment strategies for a given audience. A menu of agreed-upon compensation and incentive opportunities could be developed as more is learned about these approaches.
- Identify goals for maintaining participant relationships.
- Host at least annual events summarizing research and publicly recognizing research participants and their families.

B. Consider whether/how to provide study results to participants.¹²

- Make some or all the test results administered for the trial available to the trial participant and their spouse/care partner.

Consider Ethical Issues Related to Offering Incentives

1. The potential for recruitment to become coercive, particularly for participants with cognitive impairment
2. The need for incentives to be culturally appropriate and value-driven, and to not exclude participants based on literacy or language
3. The risk of offering incentives that only appeal to limited subpopulations
4. The potential to unintentionally deter participation among the immigrant community (e.g., by collecting Social Security numbers)

- Consider offering individualized research feedback at the end of the study (or at regular intervals), such as z-scored cognitive data, so that participants may understand how they have performed.
- Provide general health tracking tools during and after completion of research studies to further engage participants and bolster retention and referral for future study participants.

C. Reduce participant burden.

- Explore opportunities to send study staff to where the participants are, such as residential settings, community-based settings, satellite locations, in mobile units, online, and via telemedicine, rather than requiring participants to always travel to a central location.
- Provide, coordinate, or reimburse costs of transportation.
- Simplify and reduce length of research consent process, screening and enrollment paperwork, and research protocols.

¹² A recent consensus study report titled *Returning Individual Research Results to Participants* (National Academies of Sciences, Engineering, and Medicine, 2018) recommends that investigators and their institutions routinely consider whether and how to return research results in specific studies through an informed decision-making process, which is consistent with stakeholder and public feedback NIA received for the National Strategy.

- Provide a study volunteer for participants who cannot go to the study site with a care partner.
- Provide opportunities to participate on evenings and weekends to accommodate participants and caregivers in the workforce.

D. Improve study staff-participant communication, coordination of care, and support for participants while providing participants with individualized and genuine attention and demonstrating a commitment to ongoing communication.

- Develop or leverage existing data management systems to track correspondence and support ongoing relationships with current, past, and potential research participants.
- Enlist a research navigator, ideally from the targeted community, to assist with recruitment, and shepherd participants through all phases of consent, screening, enrollment, and research protocol(s).
- Ensure that feedback is provided to anyone who submits interest in a trial and share submissions with other trials to ensure that studies do not miss the chance for a viable candidate.
- Provide a patient advocate, peer mentor, or resource person who can answer questions and provide guidance to potential and enrolled participants throughout the process.
- Identify goals for the participant relationship maintenance program (e.g., monthly contact to show continued appreciation) and related strategies (e.g., luncheons, personal notes, newsletters).

E. Consider and address stigma and negative consequences for study volunteers.

- Volunteering for a trial and being labeled with a dementia diagnosis can result in stigma and have implications for employment, health insurance coverage, capacity to make important decisions, establishing a power of attorney, ability to drive, and loss of independence. Develop policies to mitigate potential negative consequences for those diagnosed with dementia.

Study Site Approaches to Providing Individualized and Genuine Attention

1. Train study staff in soft skills and cultural competence.
2. Ensure adequate staffing to provide individualized attention and care.
3. Foster a culture of commitment to participant support and engagement.
4. Respond promptly to any inquiries from participants or potential participants.
5. Solicit feedback from participants and implement changes to address concerns.

5. Identify and Prioritize Available Funding and/or Resources to Develop Community Partnerships and Support Participants.

- Identify available resources to support the work of community-based organizations and study sites as they develop partnerships, sustain the work of community advisory boards, build referral networks, implement recruitment plans, and implement recommendations.
- Ensure when feasible that a budget and plan exist to expand a site’s capacity to serve the community as a cognitive health resource.
- Include a community engagement outreach plan in site recruitment proposals with a focus on sustaining partnerships for other future recruitment efforts.



GOAL 4: DEVELOP AN APPLIED SCIENCE OF RECRUITMENT

Scientific research on clinical trial recruitment effectiveness is limited, particularly for Alzheimer’s and related dementias (Tarrant et al., 2017). Yet, as efforts to improve recruitment and retention expand, it is crucial that these efforts be systematically applied, monitored, and evaluated so that they can be optimized. Existing literature on best practices in Alzheimer’s and related dementias clinical trials recruitment must be translated into practical implementation steps for study sites. Evaluation results should be transparent so that others may learn from them. Past recruitment efforts have benefited from robust, scalable, and generalizable approaches for improving local research participation, but implementation success has varied across locations. Superseding past performance will require an improved ability to adapt recruitment and retention strategies to specific communities by accurately characterizing them (e.g., by using U.S. Census data) and fostering relationships with the communities.

Building an applied science of recruitment entails developing and testing strategies before they are widely implemented and incentivizing researchers to consult the evidence base when designing recruitment and retention strategies for new studies. By systematically varying different aspects of a recruitment strategy (e.g., incentives or approaches to initial outreach), investigators can monitor objective success indicators across contexts. Target communities can be engaged proactively to integrate site-specific knowledge into each strategy. Investigators should be encouraged and incentivized to report on their specific approaches and outcomes to help build a shared evidence base that can inform efforts at different study sites. Methods are needed to track the effectiveness of newly implemented strategies and to increase reporting transparency.

Strategic Priorities

1. Develop Baseline Measures and Evaluate and Optimize Effectiveness of Outreach and Recruitment Strategies.

A. Summarize community baseline data.

- Determine the factors that influence different communities and how they vary (e.g., cultural norms, community voices, attitudes, values, incentives), perhaps with the help of community advisory boards and/or other community organization partnerships.
- Use available data sources (e.g., U.S. Census) to assess target community needs, and integrate these data with qualitative reports to identify and proactively recruit individuals with low health-seeking behavior.

B. Evaluate and optimize outreach and recruitment strategies.

- Use available literature and evidence-based resources to design evaluations and define metrics to measure outreach effectiveness.
- Identify target audiences (e.g., people with dementia, family members, caregivers, experienced/novice participants, specific ethnic/racial populations) and evaluate outreach and recruitment strategies for each subgroup.
- Track engagement on social media, websites, and hotlines, and at community events.
- Establish a monitoring and reporting capability as part of any recruitment initiative to monitor the performance of both national- and local-level strategies.
- Apply existing techniques such as behavioral mapping and behavioral analysis to identify factors that facilitate or inhibit recruitment and predict retention probabilities.
- Assess the potential to use social networks and platforms such as discussion forums to pre-recruit participants by educating them about clinical trials.

- Assess how clinicians decide when to refer patients to clinical studies and use this knowledge to encourage maximal eligible referrals.
- Involve members of the target audiences in evaluation efforts.
- Consider engaging an external program evaluator and/or marketing consultant to evaluate practices and inform alternate or improved strategies.
- Use evaluation results to inform improvements to outreach and recruitment strategies.

C. Evaluate registries.

- Characterize current national registry efforts and identify strengths and weaknesses.
- Understand what variables motivate people to enroll and remain in registries.
- Measure the effectiveness of different registry models and use this knowledge to improve the utility of Alzheimer's and related dementias registries for recruitment.

D. Evaluate data collection methods.

- Test ways to conduct clinical research within target communities and away from centralized clinical sites to reduce participation burden.
- Assess how participants use technology via the Internet of Things and use that information to personalize research and optimize engagement.

E. Develop tools to measure recruitment feasibility.

- Develop tools to assess the barriers to participation for specific populations and use the assessment data to inform recruitment strategies for those populations.
- Develop methods to assess study protocols and trial designs for recruitment and retention barriers, both generally and for specific populations.
- Develop and use metrics to measure levels of trust between researchers and members of the community.

- Build virtual reality models or simulations that model behaviors of participants, study partners, clinicians, researchers, and others to vary and test recruitment strategies before deploying them in the field.

2. Create, Disseminate, and Continuously Improve Evidence-Based Recruitment Resources.

A. Summarize existing recruitment literature.

- Study existing research on clinical trials recruitment and retention strategies, particularly for underrepresented populations, and summarize evidence-based techniques.
- Disseminate existing research knowledge to investigators and study sites.

B. Create and disseminate best practices.

- Bring together trialists and research funders, facilitated by additional experts such as industrial engineers and implementation scientists, to discuss recruitment practices.
- Analyze past recruitment efforts and create a publicly available online living textbook of strategies and population-specific efficacy data. Update the textbook with each new effort and incentivize investigators to consult the evidence base to inform their study design.
- Conduct focus groups to learn what factors are likely to influence participation of specific groups and create strategies to leverage those factors.
- Share evaluation results with outreach partners.
- Build a national repository (and/or local-level repositories) of outreach content, materials, strategies, and evaluation results from which others can learn.
- Learn from past and ongoing efforts in other disease areas.

C. Promote transparency.

- Encourage investigators and sponsors to report on screening, randomization, and retention rates to add to the evidence base on best practices.
- Involve populations of interest in trial design to help address issues affecting retention such as number of screening steps before enrollment, disclosure of biomarker or genetic results, and other study procedures.
- Create an open discussion forum to help evaluate past and current recruiting approaches, gather new ideas, and help define criteria for success.

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