Systematic Review: Risk Factors and Interventions to Prevent or Delay Long-term Nursing Home Placement for Adults with Impairments

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PREFACE

The VA Evidence Synthesis Program (ESP) was established in 2007 to provide timely and accurate syntheses of targeted healthcare topics of importance to clinicians, managers, and policymakers as they work to improve the health and healthcare of Veterans. These reports help:

Develop clinical policies informed by evidence;
Implement effective services to improve patient outcomes and to support VA clinical practice guidelines and performance measures; and

- Set the direction for future research to address gaps in clinical knowledge.

The program is comprised of four ESP Centers across the US and a Coordinating Center located in Portland, Oregon. Center Directors are VA clinicians and recognized leaders in the field of evidence synthesis with close ties to the AHRQ Evidence-based Practice Center Program and Cochrane Collaboration. The Coordinating Center was created to manage program operations, ensure methodological consistency and quality of products, and interface with stakeholders. To ensure responsiveness to the needs of decision-makers, the program is governed by a Steering Committee comprised of health system leadership and researchers. The program solicits nominations for review topics several times a year via the program website.

Comments on this evidence report are welcome and can be sent to Nicole Floyd, Deputy Director, ESP Coordinating Center at Nicole.Floyd@va.gov.

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This topic was developed in response to a nomination by Dr. Thomas O'Toole, Senior Medical Advisor, for the purpose of informing the VA Secretary's Choose Home Initiative. The scope was further developed with input from the topic nominators (*ie*, operational partners), the ESP Coordinating Center, the review team, and the technical expert panel (TEP).

In designing the study questions and methodology at the outset of this report, the ESP consulted several technical and content experts. Broad expertise and perspectives were sought. Divergent and conflicting opinions are common and perceived as healthy scientific discourse that results in a thoughtful, relevant systematic review. Therefore, in the end, study questions, design, methodologic approaches, and/or conclusions do not necessarily represent the views of individual technical and content experts.

The authors gratefully acknowledge the following individuals for their contributions to this project:

Operational Partners

Operational partners are system-level stakeholders who have requested the report to inform decision-making. They recommend TEP participants; assure VA relevance; help develop and approve final project scope and timeframe for completion; provide feedback on draft report; and provide consultation on strategies for dissemination of the report to field and relevant groups.

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Technical Expert Panel (TEP)

To ensure robust, scientifically relevant work, the TEP guides topic refinement; provides input on key questions and eligibility criteria, advising on substantive issues or possibly overlooked areas of research; assures VA relevance; and provides feedback on work in progress. TEP members are listed below:

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Peer Reviewers

The Coordinating Center sought input from external peer reviewers to review the draft report and provide feedback on the objectives, scope, methods used, perception of bias, and omitted evidence. Peer reviewers must disclose any relevant financial or non-financial conflicts of interest. Because of their unique clinical or content expertise, individuals with potential conflicts may be retained. The Coordinating Center and the ESP Center work to balance, manage, or mitigate any potential nonfinancial conflicts of interest identified.

EXECUTIVE SUMMARY

INTRODUCTION

In fiscal year 2020, the Department of Veterans Affairs (VA) is projected to spend $9.8 billion on long-term care services for eligible Veterans. Recent legislation have created and expanded VA programs to support informal caregivers (*ie*, family or friends who provide unpaid care for Veterans with substantial impairments). A substantial proportion of Veterans with impairments served after September 11, 2001; there is a higher prevalence of mental health conditions for this younger group, and their caregivers are more likely to lack social support networks.

In 2017, the VA Secretary launched the Choose Home Initiative to enhance VA policies and practices for supporting Veterans and their informal caregivers, and to improve collaboration with non-VA community groups. To help VA policymakers understand the effects of VA-provided or -funded home and community-based services (HCBS), particularly with regard to avoiding long-term nursing home placement (NHP), the VA Evidence Synthesis Program (VA ESP) was asked to examine evidence on modifiable risk factors for long-term NHP and interventions that aimed to delay long-term NHP for community-dwelling adults with physical and/or cognitive impairments.

We sought evidence for both adults with existing disabilities (or at high risk for developing impairments) and individuals with posttraumatic stress disorder (PTSD) and/or traumatic brain injury (TBI). To address the broad scope of questions for these diverse populations and to provide specific recommendations for VA policies, we undertook an umbrella review of systematic reviews. We present qualitative summaries of results from the highest quality and most recent reviews covering the largest range of risk factors and interventions. We also describe policy implications and evidence gaps.

METHODS

We developed a conceptual framework for factors contributing to long-term NHP, broadly organized into 3 categories: 1) needs for care; 2) personal and social factors; and 3) larger systems and environmental factors. Interventions may seek to change modifiable risk factors and/or substitute services (to address needs) in settings other than nursing homes. We were particularly interested in HCBS, but included a broad range of interventions.

We searched for systematic reviews in multiple databases (MEDLINE, Sociological Abstracts, PsycINFO, CINAHL, Embase, Cochrane Database of Systematic Reviews, Joanna Briggs Institute Database, Agency for Healthcare Research and Quality Evidence-based Practice Center and VA ESP reports) and sought references from our expert advisory panel. Due to lack of eligible reviews for individuals with PTSD and/or TBI, we undertook additional searches of published primary research studies and ongoing studies for these 2 populations.

At abstract screening, articles were excluded by consensus of 2 reviewers. Two reviewers independently conducted full-text review, and for eligible reviews, quality rating (using modified AMSTAR2 criteria). Eligible populations of interest included community-dwelling adults with existing physical or cognitive impairments, or those with high risk of developing impairments due to advanced age or existing medical conditions; no specific conditions were required or

excluded. Eligible reviews addressing risk factors could include any number or type of factors. Eligible interventions included case management, caregiver support, respite care, preventive home visits, and home-based primary care, among others. We created a preliminary list of interventions to guide searches, but we allowed for new interventions to emerge during screening and selection; such articles were included if review authors clearly intended to examine long-term NHP as an outcome of interest. We required that eligible reviews reported intent to focus on long-term NHP (or used similar terms such as "institutionalization") as outcomes of interest in review objectives and/or included results on long-term NHP. If a review examined "nursing home admissions" as the outcome and explicitly counted short-term stays for rehabilitation within its definition, then the review was excluded. Although we hoped that reviews would clearly state their definition of long-term NHP (or "institutionalization") and how authors had determined that included studies had measured the relevant outcome, we found that reviews rarely provided this information.

For all eligible reviews, we abstracted: target population(s); dates of search queries; number and characteristic of included primary studies (location, setting, and study design); if and how reviews determined long-term NHP; and risk factor or intervention addressed. For results on specific associations between risk factors and long-term NHP and the effects of particular interventions on long-term NHP, we prioritized the highest quality and most recent eligible systematic reviews. From these prioritized reviews, we abstracted data including: pooled effects (or qualitative summaries); moderation of intervention effects by participant characteristics; authors' ratings of quality of included studies and overall strength of evidence; and total number of unique primary studies addressing long-term NHP for that risk factor or intervention.

Given heterogeneity in populations, risk factors, and interventions, we undertook a qualitative synthesis of results. We noted which risk factors or interventions were addressed by eligible reviews, and determined the total available evidence for different risk factors or interventions. Then we summarized results on associations with specific risk factors or effects of interventions from the prioritized subset of higher quality, more recent, eligible reviews.

RESULTS

We screened 7014 unique citations for systematic reviews and reviewed the full text of 336 articles. We identified 67 eligible systematic reviews, which mainly addressed older adults and/or those with dementia.

We found no eligible reviews for individuals with PTSD and/or TBI. We also searched for primary research studies, ongoing clinical trials, and VA-funded research studies, but found no eligible studies addressing long-term NHP for these populations.

For older adults and/or those with dementia, what are potentially modifiable risk factors that contribute to long-term nursing home placement?

Of 20 eligible reviews addressing risk factors for long-term NHP, 4 focused on frailty status and the remaining reviews included a wide variety of potentially modifiable risk factors within each review. Approximately half of reviews were conducted within the past 5 years, and 15% were high quality. We prioritized all 3 high-quality reviews and 3 of the medium-quality reviews (to more broadly cover populations and risk factors) for evaluating associations with long-term

NHP. In abstracting results, we grouped factors into the 3 categories from our conceptual model, except for frailty status which we describe separately below. We focus on factors which may be addressed by healthcare providers, health systems, and/or public policies, although some of these factors may not be truly amenable to improvement or change (*eg*, degree of cognitive impairment). Demographic characteristics were not considered modifiable

Frailty Status

Frailty has been mainly conceptualized as either a phenotype of decreased physiologic reserve (with concomitant vulnerability to health stressors) or an accumulation of age-related deficits in health and function (*ie*, medical conditions and impairments). Within our conceptual framework, frailty status is most analogous to a combination of risk factors within the needs category, although some features of the frailty phenotype (*eg*, slow gait speed) do not correspond directly to impairments or symptoms. Among prioritized reviews, 2 high-quality and one medium-quality review examined associations between frailty status and long-term NHP. All 3 reviews addressed both frailty phenotype and deficit-accumulation frailty scores, and included studies that used different scoring systems to operationalize definitions of frailty. Overall, using a variety of measures, presence of frailty (or higher frailty scores) was associated with higher risk for long-term NHP.

Needs for Care

Three prioritized reviews (one high-quality and 2 medium-quality) examined a wide range of potentially modifiable risk factors, including those indicating needs for care. The most consistent and substantial associations were found for physical and/or cognitive impairments, with some studies showing more than 3-fold increased risk (*eg*, with impairments in activities of daily living) but most demonstrating modest elevations in risk (1.5 to 2-fold) for long-term NHP. For older adults in general, poor self-reported health status and higher number of prescribed medications were associated with higher long-term NHP, but for those with dementia, general health status was not associated with long-term NHP. One review also reported that among adults with dementia, more behavioral and psychological symptoms were associated with long-term NHP.

Personal & Social Factors

Three prioritized reviews identified studies evaluating personal and social risk factors. While caregiver depression was not associated with long-term NHP, higher caregiver burden or distress was found to predict higher risk for long-term NHP. Other factors associated with long-term NHP included lower physical activity, poor social networks, and poor general health status of caregivers.

Systems & Environmental Factors

Among studies included by all prioritized reviews, only one evaluated systems or environmental factors. This study was conducted more than 20 years ago, addressed long-term NHP for adults with dementia, and showed inconsistent associations for a number of factors. Overall, there was a large gap in evidence on systems and environmental factors.

What is the effectiveness of interventions for preventing or delaying long-term nursing home placement?

Of 47 eligible reviews addressing interventions, more evaluated case management (8 reviews), caregiver support (10 reviews), respite care and adult day clinics (9 reviews), or preventive home visits (6 reviews). Fewer examined home-based primary care (2 reviews) or physical activity interventions (2 reviews). The remaining 10 reviews were either very broad in scope (*eg*, all nonpharmacologic interventions for dementia) or were the only review specifically addressing that intervention (*eg*, occupational therapy). A third of eligible reviews were high quality, and 40% were conducted within the past 5 years. We prioritized all 15 high-quality reviews, 4 medium-quality reviews, and one low-quality review (due to this being the only one for that intervention) for abstraction of results on specific intervention effects. Most prioritized reviews (60%) only included randomized controlled trials (RCTs).

Case Management

Four prioritized high-quality reviews included 29 unique studies that evaluated the effects of case management on long-term NHP. Two of these reviews included only RCTs and collectively identified 22 unique trials. Two reviews focused on adults with dementia, while the other 2 addressed older adults with a variety of different chronic health conditions and/or needs for care. Case management interventions differed on the number and type of components. Case managers were most commonly nurses, and many interventions included components of caregiver support or education. Some interventions described inclusion of comprehensive geriatric assessments among their components, while other interventions did not (though they may have included components with similar goals). There were different frequencies and modalities of patient contact, and varying follow-up periods (one to 10 or more years).

The 2 reviews including only RCTs found no overall effect and inconsistent effects across studies with different follow-up intervals, respectively. One review that included observational studies in addition to RCTs found that case management did not delay long-term NHP for frail elderly (low strength of evidence) but for adults with dementia, programs lasting more than 2 years and involving spouse caregivers delayed long-term NHP (low strength of evidence). The fourth review addressed case management that focused on “reablement,” and only identified one study that evaluated intervention effects on long-term NHP.

Caregiver Support

Two high-quality reviews focused on caregiver support interventions, and both included only RCTs. One review included diverse interventions for caregivers of adults with dementia or cancer, and included 7 studies that evaluated long-term NHP. Review authors concluded that overall strength of evidence was low or inadequate for outcomes such as long-term NHP, but highlighted results from 2 studies that showed delay in long-term NHP. The other review evaluated cognitive reframing interventions for caregivers of adults with dementia, but did not identify any study reporting long-term NHP.

Respite Care and Adult Day Clinics

Three high-quality reviews examined respite care and/or adult day clinics. Two reviews limited inclusion to RCTs and collectively identified 14 trials. One of these reviews focused on adult day clinics for participants with a variety of conditions and found no overall effect of this

intervention on long-term NHP. The other review evaluated respite care in a variety of settings for adults with dementia, and identified one trial showing increased average days in the community (*ie*, alive and not institutionalized). The third review included observational studies and RCTs on a wide range of respite care interventions for adults with a variety of conditions. This review reported participants using respite care had increased likelihood of long-term NHP, and concluded this was likely due to unmeasured confounding in observational studies.

Preventive Home Visits

Two prioritized reviews (one high-quality, one medium-quality) examined preventive home visits; the medium-quality review included only RCTs. Together, these reviews identified 32 unique studies, and nearly all employed health professionals (most often nurses) as visitors. In contrast to case management, preventive home visits generally included older adults (*eg*, from population registries or general practitioner panels) who did not have known impairments or high-risk diagnoses at the outset. Both reviews found no overall effect of preventive visits on long-term NHP across studies, but 1 review reported that the subset of studies with interventions having more than 9 visits showed some decrease in long-term NHP.

Other Interventions

One prioritized high-quality review evaluated home-based primary care but did not identify any study that addressed long-term NHP. One included study examined admissions to skilled nursing facilities before and after initiation of the intervention but did not distinguish between nursing home admission for the purpose of short-term rehabilitation versus long-term NHP for custodial care.

One high-quality review examined any intervention to reduce falls in older adults and included 9 RCTs that evaluated intervention effects on long-term NHP. Three of these trials were also included by the 2 reviews on preventive home visits, described above. Review authors reported evidence of heterogeneity and described inconsistent effects of multifactorial fall prevention interventions.

One medium-quality review addressed occupational therapy interventions and found one study evaluating long-term NHP. This study reported no significant differences in institutionalization at one year.

One high-quality review focused on different models of delivering personal assistance for older adults. This review identified one study that reported average number of days that the participant was not hospitalized or in a nursing home; no separate data for long-term NHP was provided.

Two medium-quality reviews addressed physical activity interventions, one high-quality review evaluated light therapy, and one high-quality review examined assistive technologies. None of these reviews were able to identify any study reporting effects of these interventions on long-term NHP.

Finally, one low-quality review evaluated demonstration projects that aimed to change policy and financing of acute and long-term care services. Among 7 projects described, 2 of these showed decreased rates of institutionalization. Both demonstrations occurred in Europe and involved case managers who assessed participants, coordinated care, and promoted utilization of

HCBS; in one program, case managers also managed the budget for HCBS and institutional care for their panels.

DISCUSSION

Summary of Key Findings

To inform the VA Secretary's Choose Home Initiative, we conducted a review of reviews that examined a wide range of risk factors and interventions to delay or prevent long-term NHP. We found 67 eligible reviews addressing these questions mainly for older adults with impairments or at high risk of developing impairments. We did not find any eligible review or research studies for individuals with PTSD and/or TBI.

Key findings include:

- Frailty status and higher frailty scores were associated with higher risk for long-term NHP
- Functional impairments, including difficulty with activities of daily living, demonstrated the most consistent and substantial associations with higher risk for long-term NHP
- Caregiver distress and/or burden was associated with higher risk for long-term NHP
- Case management, caregiver support, and preventive home visits demonstrated no overall benefit for delaying or reducing long-term NHP across studies, but there were a few studies in each category which showed delays
- For a variety of other interventions, such as physical activity, home-based primary care, and assistive technologies, very limited to no evidence was available for effects on long-term NHP

The lack of effectiveness for multiple interventions reflects the complexity of factors contributing to long-term NHP and the challenges of conducting and evaluating multicomponent programs to address these factors. Review authors highlighted multiple difficulties with summarizing effects for these complex interventions. This included lack of clarity on the exact components for various interventions, which made it difficult to understand the critical nature of any single component or the potential requirement for a specific combination of components. Moreover, review authors noted that different groups of participants with variable underlying risk for long-term NHP were enrolled in different studies. Overall, effects of complex interventions are particularly challenging to evaluate and synthesize due to differences in components and variation in context for the interventions (including characteristics of both participants and the healthcare or community setting).

Our results also suggest critical questions about the potential impact of interventions to delay or prevent long-term NHP. First, which participants should be selected for interventions? At earlier or less severe stages of a chronic condition, interventions may have a better chance of preventing development of impairments and disease progression. However, challenges for such a public health approach include that many participants (in this lower risk group) must engage with the intervention in order to see any appreciable benefit, and effects may not be evident for many

years. In the current US healthcare environment, the entity or organization that makes an upfront investment in such early interventions is unlikely to see the potential savings in resources from decreased future utilization of services. In contrast, interventions that target participants with many (or more intensive) existing care needs may have very limited ability to alter trajectories of decline for those at later stages of disability who have higher risk for long-term NHP. Current interventions aimed at these higher-risk groups have largely sought to enhance coordination of services and caregiver resources, often with the hope that such efforts will enable existing informal support networks to continue meeting needs for adults with impairments. Our results suggest that many existing interventions would not sufficiently meet the needs of adults with impairments who have no informal caregiver support.

Furthermore, the financial and regulatory environment for healthcare and long-term care services in the US have shaped local availability (or lack thereof) to care and services. Thus, these factors limit the potential impact of individual interventions, such as case management, which must work within existing resources. While a change in state or national policy may incentivize improved access and/or higher quality of HCBS, it may take many years to truly change the landscape of local resources.

Implications for Policy

In contrast to most other healthcare organizations in the US, the VA is an integrated national system that provides and/or funds services across the whole continuum of healthcare and community settings; thus, the VA may be better situated to ensure integration of services across settings to meet the entire range of needs for eligible Veterans with impairments. However, although VA provides many services through its own facilities and staff, VA also purchases substantial amounts of care provided by non-VA community agencies and organizations. This is especially true for long-term care services, where the vast majority of Veterans receiving VA-paid HCBS and nursing home care are served by non-VA providers. It seems unlikely that VA can change the landscape of local resources (and availability of new models of care), unless it strategically partners with organizations that determine the majority of financial incentives (and regulations) for long-term care service providers in the US.

Additionally, and likely in part due to variation in local resources, VA facilities differ in the number and types of long-term care programs and services that are provided and/or funded. Understanding what is available at a particular facility, and coordinating services across multiple programs within the same facility, remain key challenges for Veterans, their caregivers, and VA clinical staff. Therefore, in VA (as in non-VA settings), case management for adults with impairments may offer substantial benefits, despite the lack of effectiveness in general as suggested by our results. To impact NHP, it is likely that case management (and other similar interventions) should have relatively high-frequency longitudinal contacts with participants, be initiated early in the course of chronic conditions (*eg*, dementia), and extend for at least several years. As noted by other groups, there are also opportunities for VA to streamline its programs, and focus on consistently implementing a core set of evidence-based interventions across all facilities. This may improve the ability of Veterans, their caregivers, and VA staff to identify and engage in appropriate care, potentially without high-intensity case management. In the absence of robust, longitudinal, and coordinated services to address needs for Veterans with impairments, we think it unlikely that improved assessment for impairments (or other risk factors for long-term NHP) will be sufficient to improve outcomes.

Finally, to better serve Veterans with impairments, the VA should be at the forefront of advancing our understanding of the value of HCBS versus institutional nursing home care. There are questions about the current national shift of funding to HCBS (and away from nursing homes) and whether this will lead to worse outcomes for those with substantial needs, especially if numeric goals (*eg*, proportion of spending on HCBS) do not adequately account for the specific mix of needs for different populations. Our results support concerns that increased utilization of HCBS may not lead to appreciable changes in long-term NHP, and point to the importance of understanding the impact of HCBS on other outcomes for adults with impairments and their caregivers. We agree with others who have encouraged policymakers to evaluate existing programs (and future interventions) in terms of cost-effectiveness due to improved patient and family-centered outcomes, and not solely in terms of avoiding costs of long-term NHP.

Therefore, we suggest the following:

- Organize and streamline VA programs and services according to their key goals, which may include delaying long-term NHP or other important outcomes, such as caregiver support and wellbeing

- Compare VA programs that aim to prevent or delay long-term NHP with models of high-intensity interventions (*eg*, case management, caregiver support, and/or home visits) that have some evidence for effects on long-term NHP, and consider that lower-intensity programs may have low likelihood of changing long-term NHP

- Combine implementation of improved assessment for physical and cognitive impairments and social resources with programs to provide dedicated, longitudinal care coordination over years, in order to impact long-term NHP

- Evaluate programs (including alternative residential settings that provide a high level of care) for cost-effectiveness from improved patient and family-centered outcomes, rather than cost-savings (from avoidance of long-term NHP)

- Leverage past VA experience with implementation of complex programs that have addressed both healthcare and social needs for vulnerable Veterans, and develop new models of support for Veterans with substantial impairments

Evidence Gaps and Future Research Needs

We found no review or studies that addressed risk factors or interventions to delay long-term NHP for individuals with PTSD and/or TBI. Eligible reviews also found little evidence examining systems or environmental factors, such as local availability of HCBS, or appropriate and affordable housing. As noted above, systems and environmental factors may be very important and limit the ability of individual interventions to address long-term NHP. Additionally, reviews did not identify evidence regarding certain personal and social factors, such as attitudes and preferences for setting of care.

We examined different complex interventions that often varied along multiple dimensions, and were evaluated for different groups (and in different settings). This complexity and variability

created substantial challenges in understanding effects on long-term NHP. As complex interventions may be the most plausible way to enhance healthcare delivery and improve outcomes for various groups with complex needs, it is imperative that we consider methodologies to improve design and evaluation of such interventions. For example, the multiphase optimization strategy (MOST) can be employed to guide selection of intervention components; frameworks for pragmatic trials and evaluation of implementation outcomes (*eg*, stepped wedge and hybrid designs) may also improve interpretation of results and enable future implementation.

Therefore, we recommend the following for future research:

- Longitudinal observational studies examining whether individuals with PTSD and/or TBI are at substantial risk of long-term NHP
- Longitudinal studies on effect of factors such as attitudes and preferences for setting of care, and systems and environmental factors (*eg*, local availability of HCBS), on long-term NHP
- Randomized evaluations of complex interventions that compare models of care which differ in only 1-2 key components or characteristics (*eg*, similar types of services at home vs in clinic)
- Randomized evaluations of interventions with longer follow-up (likely > 2 years) and larger sample size, particularly if targeting individuals at lower overall risk of long-term NHP
- Consider using strategies to optimize selection of intervention components and evaluation designs that explicitly consider implementation outcomes in future studies of complex interventions to address long-term NHP

Limitations

Our work focused on long-term NHP and we excluded reviews that did not address this outcome (*eg*, those examining only caregiver outcomes). Thus, our findings do not indicate that interventions are not effective for other important outcomes for adults with impairments or their caregivers. We prioritized highest quality and more recent reviews to provide associations and effects of specific risk factors and interventions. We relied on review authors' descriptions of interventions, quality ratings for included studies, and determination of overall strength of evidence. Most eligible reviews did not specify how they determined whether included studies addressed long-term NHP. To further evaluate this, we examined primary studies included in prioritized reviews, and found that most used participant or family reports of long-term NHP. Few studies confirmed these outcomes with additional data sources, such as state or federal administrative data on utilization of long-term care services. Examination of the primary studies also showed that few were conducted in the VA or among Veterans; however, evidence for the general population may be applicable to Veterans, given the likelihood of some shared risk factors that contribute to long-term NHP, as well as VA's use of non-VA service providers for many Veterans with impairments. It may be that interventions in countries other than the US is

less relevant for Veterans and the VA, but we elected to include this evidence, as it may help inform future policy changes.

Conclusions

Existing evidence on a wide range of risk factors and interventions for older adults demonstrated the complexity of contributors to long-term NHP and the difficulty of preventing or delaying this outcome. There was a lack of evidence evaluating certain risk factors, especially at the level of systems and environment. Very limited evidence suggested that high-intensity models of case management, caregiver support, and home visits may delay long-term NHP. Although there are a variety of VA programs and services that seek to help Veterans with impairments, many likely do not involve similar levels of participant contact and dedicated coordination of care and services over years, compared with those interventions that delayed long-term NHP. Policymakers should consider evaluating cost-effectiveness of current and future VA programs in terms of improved patient and family-centered outcomes, and not solely as seeking to avoid costs of long-term NHP.

ABBREVIATIONS TABLE

Abbreviation	Definition
AHRQ	Agency for Healthcare Research and Quality
EPC	Evidence-based Practice Center
ESP	Evidence Synthesis Program
HBPC	Home-based primary care
MeSH	Medical subject heading
NHP	Nursing home placement
PTSD	Posttraumatic stress disorder
RCTs	Randomized controlled trials
SR	Systematic review
TBI	Traumatic brain injury
TEP	Technical expert panel
VA	Department of Veterans Affairs
VHA	Veterans Health Administration