Treatment of Behavioral Changes in Persons with Dementia
Resources

AHRQ Evidence-based Practice Center Systematic Review Protocol. Non-pharmacologic intervention for agitation and aggression in dementia. www.effectivehealthcare.ahrq.gov

Maslow, K. Translating innovations into impact: evidence-based interventions to support people with Alzheimer's disease and their caregivers at home and in the community. A white paper. September 2012: https://www.nhqualitycampaign.org/files/Maslow_evidence-based_review_community_interventions.pdf

National Partnership to Improve Dementia Care in Nursing Homes.
https://www.nhqualitycampaign.org/professionalDementia.aspx

Nursing home initiative on behavioral health & antipsychotic medication reduction (you-tube video presentation). https://www.youtube.com/watch?v=U1_rpO0bwbM

The Alzheimer's Association
1-800-272-3900
www.alz.org/

The Alzheimer's Disease Education and Referral Center (ADEAR)
1-800-438-4380
www.ninds.nih.gov/alzheimerscaring-for-a-person-with-alzheimers-disease.pdf

Beeri MS, Werner P, Davidson M, Noy S. The cost of behavioral and psychological symptoms of dementia (BPSD) in community dwelling Alzheimer's disease patients. Int J Geriatr Psychiatry. 2002;17:403-408.

INTRODUCTION:
Behavioral and psychological symptoms of dementia (BPSD) are highly prevalent in Alzheimer's disease (AD) patients. They are a source of distress for the caregivers and one of the main reasons for nursing home placement, which is the major component of the cost of Alzheimer's disease. The aim of the present study was to assess the direct and indirect cost related to the care of BPSD within a prospective study examining the overall cost of AD in Israel.

METHODS:
Seventy-one community dwelling AD patients were interviewed. Interviews covered information about the number of caregivers' hours invested in caring for the patient and amount of expenditure such as in-house paid help and payments for day care. Effort devoted to BPSD was defined as the number of hours spent by primary and secondary caregivers in a typical week dealing

with BPSD (managing aggression, pacing, attempts to leave the house under inappropriate circumstances, or comforting a hallucinating, depressed or anxious patient).

RESULTS:
The annual indirect cost for management of BPSD in an AD patient was approximately 2665 dollars -over 25% of the total annual indirect cost of care ($10 520). The annual direct cost of BPSD of an AD patient was approximately 1450 dollars -over 35% of the total annual direct cost of care (3900 dollars).

CONCLUSIONS:
Approximately 30% (4115 dollars) of the total annual cost of AD (14420 dollars) is invested in the direct management of BPSD. Given the importance of BPSD as one of the main components of the cost of AD, future cost studies should be designed to measure the cost of specific components of BPSD and verify which are the most costly aspects of the disease. Despite the considerable methodological difficulties in disentangling the costs of the specific symptoms of AD, cost effectiveness studies of different interventions should be conducted in order to determine the optimal intervention with relation to cost.

Dettmore D, Kolanowski A, Boustani M. Aggression in persons with dementia: use of nursing theory to guide clinical practice. *Geriatr Nurs* 2009;30:8-17.

ABSTRACT
With approximately four million people in the United States today diagnosed with dementia, one of the most devastating problems faced by caregivers and patients is dealing with aggressive behavior. Aggression occurs in half of persons diagnosed with dementiaand is associated with more rapid cognitive decline, increased risk of abuse, and caregiver burden. This paper uses the Need-driven Dementia-compromised Behavior (NDB) model to explain aggression and discusses therapeutic approaches to care that combines non-pharmacological and pharmacological interventions targeting both the management of aggression crisis and preventing its future recurrence. A clinical algorithm guided by the NBD model is provided for practitioners.

Gitlin LN, Kales HC, Lyketsos, CG. Nonpharmacologic management of behavioral symptoms in dementia. JAMA. 2012. 308:2020-2029

ABSTRACT
Behavioral symptoms such as repetitive speech, wandering, and sleep disturbances are a core clinical feature of Alzheimer disease and related dementias. If untreated, these behaviors can accelerate disease progression, worsen functional decline and quality of life, cause significant caregiver distress, and result in earlier nursing home placement. Systematic screening for behavioral symptoms in dementia is an important prevention strategy that facilitates early treatment of behavioral symptoms by identifying underlying causes and tailoring a treatment plan. First-line nonpharmacologic treatments are recommended because available pharmacologic treatments are only modestly effective, have notable risks, and do not effectively treat some of the behaviors that family members and caregivers find most distressing. Examples

of nonpharmacologic treatments include provision of caregiver education and support, training in problem solving, and targeted therapy directed at the underlying causes for specific behaviors (eg, implementing nighttime routines to address sleep disturbances). Based on an actual case, we characterize common behavioral symptoms and describe a strategy for selecting evidence-based nonpharmacologic dementia treatments. Nonpharmacologic management of behavioral symptoms in dementia can significantly improve quality of life and patient-caregiver satisfaction.

Kales HC, Gitlin LN, Lyketsos CG; Detroit Expert Panel on Assessment and Management of Neuropsychiatric Symptoms of Dementia. Management of neuropsychiatric symptoms of dementia in clinical settings: recommendations from a multidisciplinary expert panel. J Am Geriatr Soc. 2014. 62(4): 762-769.

ABSTRACT
Noncognitive neuropsychiatric symptoms (NPS) of dementia (aggression, agitation, depression, anxiety, delusions, hallucinations, apathy, disinhibition) affect individuals with dementia nearly universally across dementia stages and etiologies. NPS are associated with poor outcomes for individuals with dementia and caregivers, including excess morbidity and mortality, greater healthcare use, and earlier nursing home placement, as well as caregiver stress, depression, and difficulty with employment. Although the Food and Drug Administration has not approved pharmacotherapy for NPS, psychotropic medications are frequently used to manage these symptoms, but in the few cases of proven pharmacological efficacy, significant risk of adverse effects may offset benefits. There is evidence of efficacy and limited potential for adverse effects of nonpharmacological treatments, typically considered first line, but their uptake as preferred treatments remains inadequate in real-world clinical settings. Thus, the field currently finds itself in a predicament in terms of management of these difficult symptoms. It was in this context that the University of Michigan Program for Positive Aging, working in collaboration with the Johns Hopkins Alzheimer's Disease Research Center and Center for Innovative Care in Aging sponsored and convened a multidisciplinary expert panel in Detroit, Michigan, in fall 2011 with three objectives: to define critical elements of care for NPS in dementia; to construct an approach describing the sequential and iterative steps of managing NPS in real-world clinical settings that can be used as a basis for integrating nonpharmacological and pharmacological approaches; and to discuss how the approach generated could be implemented in research and clinical care.

Sink KM, Holden KF, Yaffe K. Pharmacological treatment of neuropsychiatric symptoms of dementia: a review of the evidence. JAMA. 2005. 293(5): 596-608.

CONTEXT:
Neuropsychiatric symptoms of dementia are common and associated with poor outcomes for patients and caregivers. Although nonpharmacological interventions should be the first line of treatment, a wide variety of pharmacological agents are used in the management of neuropsychiatric symptoms; therefore, concise, current, evidence-based recommendations are needed.

OBJECTIVE:

To evaluate the efficacy of pharmacological agents used in the treatment of neuropsychiatric symptoms of dementia.

EVIDENCE ACQUISITION:
A systematic review of English-language articles published from 1966 to July 2004 using MEDLINE, the Cochrane Database of Systematic Reviews, and a manual search of bibliographies was conducted. Inclusion criteria were double-blind, placebo-controlled, randomized controlled trials (RCTs) or meta-analyses of any drug therapy for patients with dementia that included neuropsychiatric outcomes. Trials reporting only depression outcomes were excluded. Data on the inclusion criteria, patients, methods, results, and quality of each study were independently abstracted. Twenty-nine articles met inclusion criteria.

EVIDENCE SYNTHESIS:
For typical antipsychotics, 2 meta-analyses and 2 RCTs were included. Generally, no difference among specific agents was found, efficacy was small at best, and adverse effects were common. Six RCTs with atypical antipsychotics were included; results showed modest, statistically significant efficacy of olanzapine and risperidone, with minimal adverse effects at lower doses. Atypical antipsychotics are associated with an increased risk of stroke. There have been no RCTs designed to directly compare the efficacy of typical and atypical antipsychotics. Five trials of antidepressants were included; results showed no efficacy for treating neuropsychiatric symptoms other than depression, with the exception of 1 study of citalopram. For mood stabilizers, 3 RCTs investigating valproate showed no efficacy. Two small RCTs of carbamazepine had conflicting results. Two meta-analyses and 6 RCTs of cholinesterase inhibitors generally showed small, although statistically significant, efficacy. Two RCTs of memantine also had conflicting results for treatment of neuropsychiatric symptoms.

CONCLUSIONS:
Pharmacological therapies are not particularly effective for management of neuropsychiatric symptoms of dementia. Of the agents reviewed, the atypical antipsychotics risperidone and olanzapine currently have the best evidence for efficacy. However, the effects are modest and further complicated by an increased risk of stroke. Additional trials of cholinesterase inhibitors enrolling patients with high levels of neuropsychiatric symptoms may be warranted.

O'Neil ME, Freeman M, Christensen V, Telerant R, Addleman A, Kansagara D. Non-pharmacological interventions for behavioral symptoms of dementia. Evidence-based synthesis program. Washington (DC): Department of Veterans Affairs; 2011 Mar.

EXCERPT
In 2004, the Office of the Assistant Deputy Under Secretary for Health for Policy and Planning estimated that the total number of Veterans with dementia would be as high as 563,758 in FY 2010. The behavioral symptoms that are associated with dementia, such as agitation/aggression, wandering, and sleep disturbances, are associated with increased caregiver burden, decreased quality of life for the patient, and increased healthcare costs. It is estimated that behavioral symptoms occur in as many as 90 percent of people with Alzheimer's disease (AD).

Moreover, it is the behavioral symptoms that are most often cited by caregivers as the reason for the placement of individuals with dementia into residential care. Psychotropic medications are commonly used to reduce the frequency and severity of the behavioral symptoms of dementia. There is little evidence, however, that such interventions are effective, and their potential side effects are frequent and often hazardous. It has been reported that the use of atypical and typical antipsychotic medication is associated with the increased risk of death. Because of the limited benefits and the potential harms associated with psychotropic medications, non-pharmacological interventions for the behavioral symptoms associated with dementia may be an attractive alternative to pharmacological treatment. The purpose of this report is to review systematically the evidence on non-pharmacological treatments
for behavioral symptoms of dementia.