

# Evidence-based Synthesis Program (ESP)



A Systematic Evidence Review of Non-pharmacological Interventions for Behavioral Symptoms of Dementia

Portland VA Medical Center

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# Evidence-based Synthesis Program (ESP)

## Acknowledgements

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# Evidence-based Synthesis Program (ESP)

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# Evidence-based Synthesis Program (ESP)

## Disclosure

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# Evidence-based Synthesis Program (ESP)

## VA Evidence-based Synthesis (ESP) Program Overview

- Sponsored by VA Office of R&D and HSR&D.
- Established to provide timely and accurate syntheses/reviews of healthcare topics identified by VA clinicians, managers and policy-makers, as they work to improve the health and healthcare of Veterans.
- Builds on staff and expertise already in place at the Evidence-based Practice Centers (EPC) designated by AHRQ. Four of these EPCs are also ESP Centers:
  - Durham VA Medical Center; VA Greater Los Angeles Health Care System; Portland VA Medical Center; and Minneapolis VA Medical Center.

# Evidence-based Synthesis Program (ESP)

- Provides evidence syntheses on important clinical practice topics relevant to Veterans, and these reports help:
  - develop clinical policies informed by evidence,
  - the implementation of effective services to improve patient outcomes and to support VA clinical practice guidelines and performance measures, and
  - guide the direction for future research to address gaps in clinical knowledge.
- Broad topic nomination process – e.g. VACO, VISNs, field – facilitated by ESP Coordinating Center (Portland) through online process:

<http://www.hsrd.research.va.gov/publications/esp/TopicNomination.cfm>

# Evidence-based Synthesis Program (ESP)

- Steering Committee representing research and operations (PCS, OQP, ONS, and VISN) provides oversight and guides program direction.
- Technical Advisory Panel (TAP)
  - Recruited for each topic to provide content expertise.
  - Guides topic development; refines the key questions.
  - Reviews data/draft report.
- External Peer Reviewers & Policy Partners
  - Reviews and comments on draft report
- Final reports posted on VA HSR&D website and disseminated widely through the VA.

<http://www.hsrd.research.va.gov/publications/esp/reports.cfm>

# Evidence-based Synthesis Program (ESP)

## Current Report

A Systematic Evidence Review of Non-pharmacological  
Interventions for Behavioral Symptoms of Dementia  
(March 2011)

Full-length report available on ESP website:

<http://www.hsrd.research.va.gov/publications/esp/reports.cfm>



# Evidence-based Synthesis Program (ESP)

## Overview of Today's Presentation

- Background: Why is this topic of interest
- Scope of the review
- Findings
  - Cognitive/Emotion-oriented Interventions
  - Sensory Stimulation Interventions
  - Behavior Management Techniques
  - Other Psychosocial Interventions
  - Various Interventions Targeting a Specific Behavioral Symptom
- Limitations
- Future Research

# Evidence-based Synthesis Program (ESP)

## Dementia: DSM-IV-TR Definition

- Multiple cognitive deficits that include memory impairment and at least one of the following cognitive disturbances: aphasia, apraxia, agnosia, or a disturbance in executive functioning
- Significant impairment in occupational or social functioning
- Decline from previous higher level of functioning
- Listed according to presumed etiology: Dementia of the Alzheimer's Type, Vascular Dementia, Dementia Due to Other General Medical Conditions (e.g., HIV, head trauma, Parkinson's Disease, Huntington's Disease), Substance-Induced Persisting Dementia (drug abuse, medication, toxin exposure), Dementia Due to Multiple Etiologies, or Dementia Not Otherwise Specified

# Evidence-based Synthesis Program (ESP)

## Questions for the Audience

(Respond in your “Q&A” tab, upper left corner)

- How do you and your colleagues treat dementia?
- What do you think are the most effective treatments, and why?
- What treatment(s) would you want for yourself or a loved one who was diagnosed with dementia?

# Evidence-based Synthesis Program (ESP)

## Background

- 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 VHA Office of Geriatrics and Extended Care (OGEC) convened an interdisciplinary Dementia Steering Committee (DSC) in December 2006, with the goal of making recommendations on comprehensive, coordinated care for Veterans with dementia.
- The DSC requested VA HSR&D's Evidence-based Synthesis Program (ESP) to review evidence on selected topics, in order to assist with DSC planning efforts.

# Evidence-based Synthesis Program (ESP)

## Key Questions

- Key Question 1: How do non-pharmacological treatments of behavioral symptoms compare in effectiveness with each other, with pharmacological approaches, and with no treatment?
- Key Question 2: How do non-pharmacological treatments of behavioral symptoms compare in safety with each other, with pharmacological approaches, and with no treatment?
- Key Question 3: How do non-pharmacological treatments of behavioral symptoms compare in cost with each other, with pharmacological approaches, and with no treatment?

# Evidence-based Synthesis Program (ESP)

## Methods

- Searched MEDLINE, Cochrane Database of Systematic Reviews, and Cochrane Database of Reviews of Effects through 2009 for systematic reviews related to dementia
- Additional articles obtained from reference lists
- We conducted a search of primary studies of animal-assisted therapies because there were no existing systematic reviews on this topic
- Additional primary studies were suggested for inclusion by reviewers based on recency and relevance to the field

# Evidence-based Synthesis Program (ESP)

## Results

- 21 good quality systematic reviews each examined a single non-pharmacological intervention; seven good quality systematic reviews reviewed a variety of interventions.
  - Cognitive/emotion-oriented interventions (10 reports)
  - Sensory stimulation interventions (12 reports)
  - Behavior management techniques (3 reports, 2 primary studies)
  - Exercise (3 reports)
  - Animal-assisted therapies (9 prospective studies)
  - Interventions for wandering (5 reports)
  - Agitation (1 report, 1 primary study)

# Evidence-based Synthesis Program (ESP)

## Results

- Key Question #1: How do non-pharmacological treatments of behavioral symptoms compare in effectiveness with each other, with pharmacological approaches, and with no treatment?



# Evidence-based Synthesis Program (ESP)

## Cognitive/Emotion-oriented Interventions

- Reminiscence Therapy
  - Reminiscence therapy involves the discussion of past activities, events, and experiences with another person or a group of people.
  - Two previous systematic reviews identified seven small randomized control trials (RCTs) of reminiscence therapy.
  - This limited body of evidence does not support the use of reminiscence therapy for the treatment of behavioral symptoms of dementia

# Evidence-based Synthesis Program (ESP)

## Cognitive/Emotion-oriented Interventions

- Simulated Presence Therapy (SPT)
  - SPT involves the use of audiotapes made by family members containing a scripted conversation about cherished memories about the patient's life.
  - Overall, well-conducted studies are lacking.
  - The evidence that SPT reduces behavioral symptoms of dementia is inconsistent, and SPT may have adverse effects in some patients.

# Evidence-based Synthesis Program (ESP)

## Cognitive/Emotion-oriented Interventions

- Validation Therapy
  - Validation therapy is intended to give the individual an opportunity to resolve unfinished conflicts by encouraging and validating expressions of feeling.
  - Four systematic reviews examined the effects of validation therapy in three RCTs as well as other study designs, and found mixed effects.
  - Overall, there is insufficient evidence to draw conclusions about the efficacy of validation therapy for behavioral symptoms, depression, and emotional state associated with dementia.

# Evidence-based Synthesis Program (ESP)

## Sensory Stimulation Interventions

- Acupuncture
  - Acupuncture is an ancient Chinese treatment that has been used for over 3,000 years.
  - One systematic review found no rigorously conducted RCTs.
  - There is no good quality evidence indicating benefit or harm of acupuncture for the treatment of behavioral symptoms for dementia.

# Evidence-based Synthesis Program (ESP)

## Sensory Stimulation Interventions

- Aromatherapy
  - Aromatherapy consists of the use of fragrant oils from plants, and has been used to promote sleep and reduce behavioral symptoms in individuals with dementia.
  - Overall, there is insufficient evidence that aromatherapy may be an effective treatment for agitation and other behavioral symptoms.

# Evidence-based Synthesis Program (ESP)

## Sensory Stimulation Interventions

- Light Therapy
  - Light stimulation aims to improve the circadian disturbances in the sleep-wake cycles experienced by individuals with dementia.
  - Two systematic reviews identified six studies, including two RCTs.
  - Although some studies found beneficial effects of bright light therapy on agitation and nocturnal restlessness, studies were generally limited by small sample size and poor quality. The limited body of evidence is insufficient to draw definitive conclusions about the effects of bright light therapy in managing sleep, behavior, or mood disturbances associated with dementia.

# Evidence-based Synthesis Program (ESP)

## Sensory Stimulation Interventions

- Massage and Touch
  - Massage and touch therapies include a range of interventions ranging from professional massage to informal hand patting and other types of “calming touch.”
  - A systematic review identified two small RCTs that reported increased calorie and protein intake in a study that compared touch combined with verbal encouragement during meals to verbal encouragement alone, and reduced agitation in a study that compared hand massage with calming music and with no treatment.
  - This limited body of evidence suggests that hand massage and touch therapy may have beneficial effects.

# Evidence-based Synthesis Program (ESP)

## Sensory Stimulation Interventions

- Music Therapy
  - Music interventions range from activities administered by a professional music therapist to the presentation of recorded music by caregivers to patients.
  - Four systematic reviews examined a variety of study designs. Three RCTs reported reduced aggression, agitation, and wandering while listening to music; and other studies found similar reductions in behavioral symptoms, although there was no evidence of long-term effects. All studies were limited by methodological issues.
  - Overall, well-conducted studies are lacking, but music interventions have potential for reducing agitation in patients with dementia in the short term.



# Evidence-based Synthesis Program (ESP)

## Sensory Stimulation Interventions

- Snoezelen Multisensory Stimulation Therapy
  - Multisensory stimulation (MSS), otherwise known as Snoezelen therapy, combines the therapeutic use of light, tactile surfaces, music, and aroma. MSS is based on the premise that neuropsychiatric symptoms may result from periods of sensory deprivation.
  - There were six RCTs identified among four systematic reviews.
  - Although the evidence did not consistently demonstrate a durable effect of MSS therapy on behavioral symptoms, preliminary findings of short-term benefits and the reported pleasantness of the treatment suggest that future research is warranted.

# Evidence-based Synthesis Program (ESP)

## Sensory Stimulation Interventions

- Transcutaneous Electrical Nerve Stimulation (TENS)
  - TENS is a non-invasive analgesic technique that is most often used for pain control and occasionally for neurological and psychiatric conditions, such as drug/alcohol dependency, headaches, and depression.
  - A systematic review combined data from three RCTs in individuals with dementia and found no significant effects on sleep disturbances or behavioral symptoms, evaluated immediately after treatment or at six-week follow-up.
  - Although some short-lived improvements in neuropsychological symptoms of dementia have been observed with TENS, definite conclusions on the possible benefits of this intervention cannot be made.

# Evidence-based Synthesis Program (ESP)

## Behavior Management Techniques

- Behavior management techniques include a variety of behavioral interventions (e.g., functional analysis of specific behaviors, token economies, habit training, progressive muscle relaxation, communication training, behavioral or cognitive-behavioral therapy, various individualized behavioral reinforcement strategies).
- Findings from three systematic reviews including seven RCTs and two additional more recent trials provide some support for behavior management techniques as effective interventions for behavioral symptoms of dementia. However, mixed study results, the variety of specific interventions across studies, and methodological concerns in many studies suggest that additional research in this area replicating results is warranted.

# Evidence-based Synthesis Program (ESP)

## Other Psychosocial Interventions

- Animal-assisted Therapy
  - There were no RCTs evaluating the effectiveness or harm of pet therapy.
  - Nine non-randomized studies demonstrated decreases in agitated and disrupted behaviors, increases in social and verbal interactions, decreases in passivity, and increases in nutritional intake.
  - The findings suggest that pet therapy has potential for benefit, but more rigorous studies are needed to establish benefit, harms, and feasibility for implementation in VA settings.

# Evidence-based Synthesis Program (ESP)

## Other Psychosocial Interventions

- Exercise
  - Three systematic reviews of 59 studies showed inconsistent effects of exercise interventions on behavioral symptoms and functional status. Variations in intensity of exercise intervention, severity of dementia at baseline, and outcome measures make it difficult to draw a firm conclusion. Many of the included studies were small and did not use rigorous methodology.
  - The most consistent evidence showed that exercise did increase sleep duration and decrease nighttime awakenings. While the impact of improved sleep on distal health outcomes remains uncertain, there may be an additional benefit to caregivers who are disproportionately affected by dysfunctional sleep.

# Evidence-based Synthesis Program (ESP)

## Interventions Targeting a Specific Behavioral Symptom: Wandering

- No RCTs on effects of subjective visual barriers, such as mirrors, floor grids, camouflage of doors/doorknobs, and concealment of view through door windows.
- Two RCTs determined that exercise and walking therapies had no impact on wandering.
- No evidence is available on the effects of wander gardens.
- Tracking devices, motion detection devices, and home alarms were generally effective in detecting wandering and locating lost patients in non-randomized studies.
- Evidence about the effects of sensory stimulation therapies, such as MSS, aromatherapy, and music on wandering, is scant and inconclusive.

# Evidence-based Synthesis Program (ESP)

## Interventions Targeting a Specific Behavioral Symptom: Agitation

- One systematic review of agitation identified 14 RCTs.
- A meta-analysis of three sensory interventions (aromatherapy, thermal bath, calming music, hand massage) showed a significant decrease in agitation, but there was substantial variability in the type of intervention, duration of exposure, and outcomes measured.
- Other interventions (social contact, environmental modification, caregiver training, behavior therapy) showed no effects on agitation.
- One recently conducted primary study suggested to us by reviewers provided preliminary support for the effectiveness of systematic individualized intervention in decreasing agitation, though a lack of assessor blinding to condition limits the validity of these findings.

# Evidence-based Synthesis Program (ESP)

## Interventions Targeting a Specific Behavioral Symptom: Inappropriate Sexual Behavior

- There were no systematic reviews that examined the topic of inappropriate sexual behavior among individuals with dementia.
- Currently, the effectiveness of non-pharmacological treatments for inappropriate sexual behavior is unknown.



# Evidence-based Synthesis Program (ESP)

Comparative effectiveness among non-pharmacological interventions and between pharmacological and non-pharmacological approaches

- None of the systematic reviews captured in our search identified any head-to-head trials that directly compared effectiveness among different non-pharmacological interventions, or between non-pharmacological and pharmacological treatments.

# Evidence-based Synthesis Program (ESP)

## Recap of Results

- Overall, some promising results, yet support for most interventions was inadequate and plagued by methodological limitations
- Stimulation/sensory approaches show more promise than cognitive/emotion-oriented approaches but there are no head-to-head comparisons
- Behavior management techniques need additional validation, though preliminary research shows promise
- Some support for positive effects of exercise on sleep and physical health outcomes
- Targeted, tailored, individualized, multi-faceted, and flexible approaches show the most promise
- Potentially fewer and less severe harms associated with non-pharmacological versus pharmacological interventions

# Evidence-based Synthesis Program (ESP)

## Results

- Key Question #2: How do non-pharmacological treatments of behavioral symptoms compare in safety with each other, with pharmacological approaches, and with no treatment?

# Evidence-based Synthesis Program (ESP)

## Cognitive/Emotion-oriented Interventions:

- One study found that simulated presence therapy increased agitation and disruptive behaviors in some patients.
- Reality orientation has been observed by caregivers to increase distress, fear, and agitation in individuals with later stages of dementia.

# Evidence-based Synthesis Program (ESP)

## Sensory Stimulation Interventions:

- For some individuals, the increased stimulation from sensory stimulation therapies such as music therapy and massage/touch therapy may cause increased agitation and aggression.
- Consideration of the individual preferences in the use of these treatments should be emphasized.

# Evidence-based Synthesis Program (ESP)

## Behavior Management Techniques:

- None of the systematic reviews nor the primary studies reviewed documented any patient harm or safety concerns resulting from the use of behavior management techniques.

# Evidence-based Synthesis Program (ESP)

## Animal-assisted Therapy:

- The American Veterinary Medical Association guidelines describe potential physical and emotional harms associated with animal-assisted therapy, but the actual incidence of harms has not been well-studied.
- Theoretical harms include human injury, zoonotic disease, allergic reactions, and the risk of grief reaction if an animal dies.

# Evidence-based Synthesis Program (ESP)

## Exercise:

- Potential harms of exercise programs include the increased risk of falls or physical injuries, but risks associated with exercise have not been well studied.



# Evidence-based Synthesis Program (ESP)

Various interventions targeting a specific behavioral symptom:

- The HTA report noted the potential risk of a false sense of security in the caregiver associated with the use of tagging/tracking devices for wandering.
- Other systematic reviews included in our search did not identify evidence on adverse effects of interventions that target wandering or agitation.

# Evidence-based Synthesis Program (ESP)

## Comparative Safety among Non-pharmacological Interventions and between Pharmacological and Non-pharmacological Approaches

- None of the systematic reviews captured in our search identified any head-to-head trials that directly compared safety among different non-pharmacological interventions, or between non-pharmacological and pharmacological treatments.

# Evidence-based Synthesis Program (ESP)

## Results

- Key Question #3: How do non-pharmacological treatments of behavioral symptoms compare in cost with each other, with pharmacological approaches, and with no treatment?

# Evidence-based Synthesis Program (ESP)

## Costs

- No direct evidence on the cost-effectiveness of specific interventions.
- GPS tracking devices and other monitoring systems are costly, but the potential increases in patient safety and caregiver peace of mind associated with the use of these devices are notable.
- Training and veterinary care associated with animal-assisted therapy are costly. Some options such as aquariums may be less expensive than more individualized approaches.
- Further studies are needed to determine the cost-benefits, harms, and feasibility of these and other non-pharmacological interventions.

# Evidence-based Synthesis Program (ESP)

## Future Research Priorities

- 1) Double blind, RCTs
- 2) Research replicated across labs
- 3) Head to head comparisons providing direct evidence comparing interventions to other interventions and to pharmacological treatments
- 4) VA feasibility and implementation research
- 5) Cost effectiveness research

# Evidence-based Synthesis Program (ESP)

## Discussion

- Where do we go from here as clinicians?
- How do we take information from this report and implement appropriate policy?
- How should we design necessary research to address the gaps in our knowledge?

# Evidence-based Synthesis Program (ESP)

## Discussion

- Re-introduction of discussants
- Overview of the Dementia Steering Committee activities and information about the National Alzheimer's Project Act (Susan Cooley)
- Overview of current VA Office of Mental Health activities and goals including roll out of the STAR-VA program (Brad Karlin & Greg Hinrichsen)

# **STAR-VA Pilot: A Multi-Component Psychosocial Approach to Managing Challenging Dementia-Related Behaviors**

Bradley Karlin, Ph.D.  
Office of Mental Health Services  
VA Central Office



## Bridging Science and Practice: STAR-VA Pilot Dissemination Initiative

- VA workgroup charged to review literature on psychosocial approaches to managing dementia-related behaviors
  - Efficacy
  - Utility with Veteran population
  - Implementation issues and feasibility
- Recommendation and decision made to develop pilot initiative to disseminate adapted version of STAR (Teri et al., 2005) for VA CLCs
  - STAR originally developed for assisted living residences
- Subsequent content development workgroup formed to adapt STAR intervention and training materials for VHA
  - In conjunction with Dr. Linda Teri

# STAR-VA Content Development Workgroup

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# Overview of STAR-VA

- STAR-VA is an *interdisciplinary* behavioral approach to managing challenging dementia-related behaviors
  - CLC MH Providers work with “Staff Partners” (primarily nursing staff) in **development** and **implementation** of behavioral intervention plan
    - CLC MH Provider: Primary interventionist and behavioral coordinator
    - “Staff Partners”: Inform development of behavior plan and actively contribute to implementation of plan
  - Individualized and systematic

# Core Components of STAR-VA

1. Identifying and changing antecedents to and consequences of challenging behaviors (ABCs)
2. Increasing pleasant events
3. Promoting effective communication and creating realistic expectations of individuals with dementia

# Evidence-based Synthesis Program (ESP)

## Discussion

- Where do we go from here as clinicians?
- How do we take information from this report and implement appropriate policy?
- How should we design necessary research to address the gaps in our knowledge?

# Evidence-based Synthesis Program (ESP)

## Questions?

If you have further questions,  
feel free to contact:

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The full report and cyberseminar presentation is available on the ESP website:

<http://www.hsrd.research.va.gov/publications/esp/>

6/23/2011	12:00pm	ESP Report: Non-Pharmacological Interventions for Behavioral Symptoms of Dementia	Spotlight on Evidence-based Synthesis Program	Cooley, Susan Hinrichsen, Gregory Karlin, Bradley O'Neil, Maya
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## Q&A Submitted:

**Question:** Has there been any evidence for using creative arts as a treatment approach to BPSD?

**Answer:** We did not find any direct evidence that met our criteria for inclusion (good quality systematic review); however, some of the articles mentioned art-related activities as part of behavior management technique interventions as they can be very reinforcing for some individuals. Also, the music literature is very related to the creative arts and these types of interventions demonstrated some positive results.

**Question:** Our geriatric clinical team support Veterans staying in their homes for as long as possible. To do this means supporting the caregiver along the way. Although we use behavioral approaches all the time we do need to rely on atypical antipsychotics for the short term when a Veteran's behavior is unmanageable to the caregiver ( e.g. up all night pulling things out of drawers, attempts to hit caregiver, etc.). The evidence does not support utilizing these medications for behavior management in dementia. We need more research on these medications and their use in dementia. Other medications we have tried in the community setting have not worked as well. **Are there any key funded studies going on currently to compare different medications for agitation in dementia?**

**Answer:** I'm not an expert in this area, but the research I'm familiar with comes from the Cochrane database of systematic reviews: [www.cochrane.org](http://www.cochrane.org). I found some reports there suggesting that some drugs are likely to be efficacious. Here are the relevant reviews that I am aware of: <http://www2.cochrane.org/reviews/en/ab008191.html>, [http://www2.cochrane.org/reviews/en/title\\_06042972373138472468100917122124.html](http://www2.cochrane.org/reviews/en/title_06042972373138472468100917122124.html), <http://www2.cochrane.org/reviews/en/ab003945.html>, <http://www2.cochrane.org/reviews/en/ab004990.html>, <http://www2.cochrane.org/reviews/en/ab002852.html> <http://www.annals.org/content/148/5/379.full> <http://www.annals.org/content/148/5/370.full> <http://www.guideline.gov/syntheses/synthesis.aspx?id=16414>

**Question:** did light study studies measure impact on sun dowing sx?

**Answer:** Sun-downing was not mentioned in the reviews that we examined, likely because this term is hard to define, it's not part of a DSM diagnosis, and it has not been well researched. The light studies we examined, however, didn't mention sun-downing.

**Question:** Do memory-enhancers (like Aricept, Namenda, or Cognex) do really work?

**Answer:** I have never seen any discernible cognitive changes or memory-enhancement in my patients. I'm not an expert in this area, but the research I'm familiar with comes from the Cochrane database of systematic reviews: [www.cochrane.org](http://www.cochrane.org). I found some reports there suggesting that some drugs are likely to be efficacious, particularly with Alzheimer's type Dementia. Here are the 3 relevant reviews that I am aware of: <http://www2.cochrane.org/reviews/en/ab005593.html>, <http://www2.cochrane.org/reviews/en/ab001191.html>, <http://www2.cochrane.org/reviews/en/ab001011.html>.

**Question:** how do token economies work in patients with impairments in memory and learning?

**Answer:** This really depends on the individual and the extent of memory and learning impairment. Sometime a very simple, basic token economy can be effective even when there is significant cognitive impairment; however, you bring up a good point that sometimes the severity of memory impairment precludes the use of this particular type of strategy, This, like many other behavior management techniques, often requires attempting variations on the standard intervention to determine what might be effective for each individual.

**Question:** did the review focus on the level or stage of dementia? There can be wide variation across the disease progression which could confound the response to interventions.

**Answer:** You are right—there is wide variation. We did not limit by level or stage of dementia for the purpose of this review, nor did any of the studies we found. It is likely, however, that an individualized approach to treatment might be needed to address individual differences in progression and severity of symptoms.

**Question:** what was the cause of death in those deaths associated with antipsychotics?

**Answer:** Though I am not an expert in this area, I do know of some recent research suggesting that antipsychotic medications (both typical and atypical), particularly when prescribed to elderly individuals, is associated with increased risk of death. Some recent citations include: <http://www.ncbi.nlm.nih.gov/pubmed/17687661>, <http://onlinelibrary.wiley.com/doi/10.1111/j.1600-0447.1991.tb01421.x/pdf>, <http://canadianmedicaljournal.ca/cgi/content/full/176/5/627>, and <http://ajp.psychiatryonline.org/cgi/content/abstract/158/11/1774>.

**Question:** are there any studies looking at some of the principles of Positive Behavior Support?

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**Answer:** None that we found, though PBS principles are likely included in many of the Behavior Management Strategies that we examined.

**Question:** How do we access the STAR-VA manual?

**Answer:** STAR-VA manual is currently unavailable for distribution since we've just begun the assessment of its initial implementation.

**Question:** Is there a version of STAR-VA adapted to work with Caregivers in their homes?

**Answer:** STAR-VA is for work with formal caregivers. However, REACH-VA is an effort that was developed for implementation with family caregivers.