

Evidence-based Synthesis Program (ESP)

Effect of Geriatricians on Outcomes of Inpatient and Outpatient Care

Evidence Brief

Mark Helfand, MD, MPH, MS
Director, ESP Coordinating Center
March 20, 2013

Evidence-based Synthesis Program (ESP)

Acknowledgements

Principal Investigator

- Annette Totten, PhD

Contributing Investigators

- Susan Carson, MPH
- Kimberly Peterson, MS
- Allison Low, BA
- Vivian Christensen, PhD
- Arpita Tiwari, MPH

Project Manager: Nicole Floyd, MPH

Evidence-based Synthesis Program (ESP)

Disclosure

This report is based on research conducted by the Evidence-based Synthesis Program (ESP) Center located at the Portland VA Medical Center, Portland, OR, funded by the Department of Veterans Affairs, Veterans Health Administration, Office of Research and Development, Quality Enhancement Research Initiative. The findings and conclusions in this document are those of the authors who are responsible for its contents; the findings and conclusions do not necessarily represent the views of the Department of Veterans Affairs, AHRQ or the United States government. Therefore, no statement in this article should be construed as an official position of the Department of Veterans Affairs or AHRQ. No investigators have any affiliations or financial involvement (e.g., employment, consultancies, honoraria, stock ownership or options, expert testimony, grants or patents received or pending, or royalties) that conflict with material presented in the report.

Evidence-based Synthesis Program (ESP)

Background

- Older veterans are increasingly receiving healthcare from VHA
 - 43% of veterans over age 65 will enroll in VHA in 2013
 - Increase from 31% in 2003
- Health needs change with age and are likely to increase
 - Chronic illness, age-related disability, falls, cognitive impairments, multi-morbidity

Evidence-based Synthesis Program (ESP)

VA Role in Geriatrics

- Early innovator in US
 - Training
 - Models of Care
- Ongoing Leadership
 - Patient care
 - Research

Evidence-based Synthesis Program (ESP)

Background

Several models of care are designed to address complex needs of older adults

- Interdisciplinary Teams (inpatient and outpatient)
- Special Units or Geriatric Wards (inpatient)
- Geriatric Consultation (inpatient and outpatient)
- Co Management with other Specialists (inpatient and outpatient)
- Geriatricians as Primary Care Providers (outpatient)

Evidence-based Synthesis Program (ESP)

Objectives

Response to a request from the Office of Geriatrics and Extended Care and the Healthcare Delivery Committee of the National Leadership Council of VA

- Primary
 - To evaluate the effectiveness of geriatricians as consultants, co-management providers, or individual primary care providers.
- Secondary
 - To describe specific characteristics that lead to more effective outcomes.

Evidence-based Synthesis Program (ESP)

Questions for the Review

- **For inpatient medical and surgical patients**
 - What is the effectiveness of geriatric teams, consultative services or geriatric co-management?
- **For outpatients**
 - What is the effectiveness of geriatric consultation, co-management or geriatricians as primary care providers?
- **If geriatric care is shown to lead to improved outcomes**
 - Are there specific characteristics of the patients or the care model that lead to improved outcomes?

Evidence-based Synthesis Program (ESP)

Methods

- **Evidence Brief, not full Systematic Review**
 - Shorter time frame
 - Abbreviated search and review
- **Study Designs**
 - Good quality systematic reviews
 - Supplemented with fair to good quality randomized trials and observational studies not covered in reviews
- **Outcomes**
 - Function
 - Health and long-term care services use
 - Medications management
 - Mortality
 - Excluded satisfaction and cost

Methods

- Searches: 1985 through March 2012
 - PubMed, various Cochrane databases
 - Reference lists, hand searching, queries to content experts
- Quality assessment
 - Systematic Reviews: AMSTAR criteria
 - Individual studies: established criteria based on study design
 - Trials: US Preventive Services Task Force
 - Observational Studies: Downs and Black
- Peer review
 - 5 technical experts
 - Topic nominators

Evidence-based Synthesis Program (ESP)

Results

- 10 Systematic Reviews
 - 5 inpatient
 - 5 outpatient
- 28 Primary Studies
 - Inpatient
 - 5 fair or good quality
 - 6 poor quality
 - Outpatient
 - 11 fair or good quality
 - 6 poor quality

Evidence-based Synthesis Program (ESP)

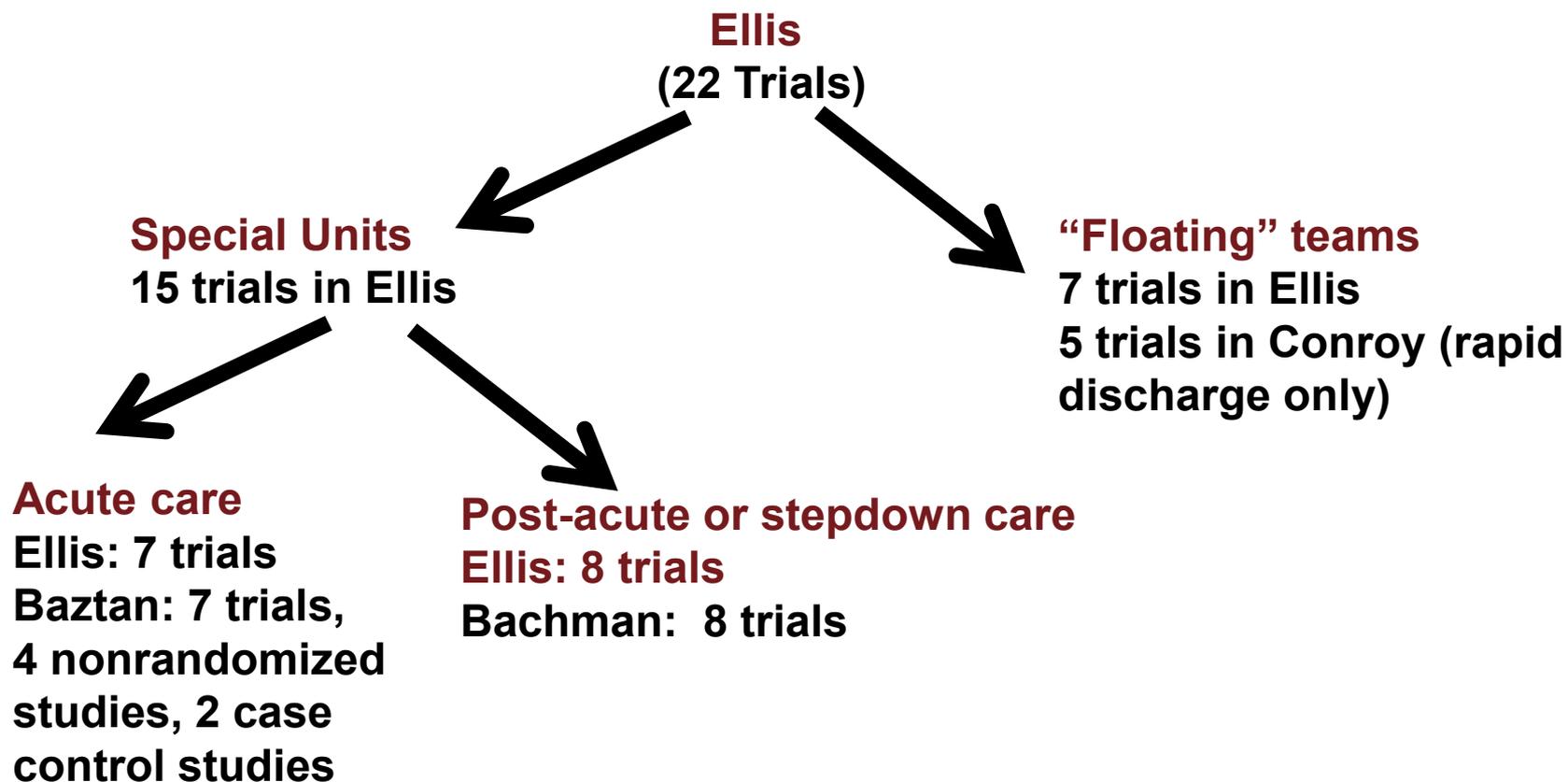
Inpatient Care: Included Studies

- **Ellis 2011 (Cochrane review)**
 - Comprehensive Geriatric Assessment, wards or floating teams
 - 22 Randomized Controlled Trials (RCTs)
 - 10,315 patients
- **Baztan 2009 (systematic review)**
 - Acute geriatric units vs conventional hospital units
 - 5 RTs, 4 nonrandomized trials, 2 case control studies
- **Bachmann 2010 (systematic review)**
 - Inpatient rehabilitation vs usual care
 - General geriatric rehabilitation (8 RCTs) or followup for hip fracture (9 RCTs)
 - 4,780 patients
- **Conroy 2011 (systematic review)**
 - Narrow focus (patients being rapidly discharged)
 - 5 RTs all included geriatricians, 2 geriatrician-led interventions
- **Day 2004, (Updated by Ellis 2011 Cochrane review)**
- **LeGrain 2011 (good quality RCT)**
 - Consultation only
 - 655 patients

Other individual studies: poor quality or similar results to systematic reviews

Evidence-based Synthesis Program (ESP)

Inpatient Care: Scope of Systematic Reviews



Evidence-based Synthesis Program (ESP)

Main Findings

Inpatient Special Units vs. Floating Teams

- Special geriatric units improved patient function and likelihood of discharge to home compared to floating teams with geriatricians (Ellis, Bachmann, Baztan)
- Comanagement by floating geriatric special teams did not improve patient outcomes (Ellis)
- Neither special units nor floating geriatric teams reduced patient mortality rates (Ellis, Baztan)
- Insufficient evidence about the effect of inpatient geriatric interventions on hospital readmission, length of stay, emergency visits, or outpatient visits (Conroy, Baztan)

Evidence-based Synthesis Program (ESP)

Main Findings

Inpatient Rehabilitation and Consultation

- Inpatient rehabilitation including geriatricians
 - Lower nursing home admissions, improved function, and lower mortality (Conroy)
- Geriatricians as inpatient consultants
 - Evidence is insufficient to draw conclusions about effectiveness (LeGrain)
 - Variation in nature of consultations
 - Generally low quality of studies

Evidence-based Synthesis Program (ESP)

Additional Outcome: Independent Survival

- Ellis 2011 calculated or estimated independent survival from published data
 - Composite outcome: “the inverse of death or institutionalization”
 - No included studies measured this: less direct
 - Not all studies provided the data needed to make this composite: less precise
- May be effort to provide another rationale for these services given trial findings
 - Large, well-designed trials (e.g., 2002 VA Cooperative Study, Cohen et al) found no difference in survival associated with Comprehensive Geriatric Assessment

Evidence-based Synthesis Program (ESP)

Outpatient Care: Systematic Reviews

- **Complex interventions including CGA**
 - Beswick 2008
 - Community-based complex intervention to improve function and maintain independence
 - 89 RCTs; 97,984 patients
 - Ekland, 2009
 - Interventions targeting frail elders
 - 9 RCTs
 - Kuo, 2004
 - Effect of CGA on mortality
 - 9 RCTs; 3,750 Patients
- **Home visits and screening assessments**
 - Byles, 2000
 - Health assessments
 - 21 RCTs
 - Huss, 2008
 - Preventive home visits
 - 9 RCTs, 3,750 patients

Evidence-based Synthesis Program (ESP)

Outpatient Care: Additional Studies

- **Geriatricians in team care or comprehensive models**
 - 5 Randomized trials
 - Direct contact with patients (Eloniemi-Sulkava, 2009; Phelan, 2007; Schmader, 2004)
 - Advised other providers (Counsell, 2007 & 2009; Rubenstein, 2007)
- **Geriatricians as consultants**
 - 3 Randomized trials, 1 observational study
 - 2 Direct contact with patients (Fenton, 2006; Monteserin, 2010)
 - 2 advised other providers (Bula, 1999; Li, 2010)
- **Geriatricians as primary care providers**
 - 2 observational studies
 - Compared to generalist physicians on medications management only (Avila-Beltran, 2008; Phelan, 2008)

Evidence-based Synthesis Program (ESP)

Outpatient Care: Main Findings

- **Geriatricians in teams and as consultants/specialists**
 - Mixed results/some positive effects on older patients' function, living at home, and health services utilization
- **Direct care verses indirect/advise others**
 - Interventions in which geriatricians have direct patient contact are more likely to result in better outcomes
- **Geriatrician primary care providers**
 - Manage medications more effectively for older patients than other clinicians
- **No reduction in mortality**

Evidence-based Synthesis Program (ESP)

Outpatient Care

Complex interventions (Beswick 2008)

- Only 19 of 89 trials were of interventions involving geriatricians
 - Subgroup analyses of only studies with geriatricians produced the same results
- CGA and community followup led to
 - Fewer nursing home admissions
 - Improved physical function
 - Lower risk of hospital admissions
 - No difference in mortality

Interventions targeting frail elders (Eklund 2009)

- 3 of 9 studies included geriatricians in the intervention
 - 2 showed no effect on function, 1 found an increase in health services, 1 found a decrease in utilization, and 1 reported no effect on hospital days.

CGA as primary care or outpatient consultation (Kuo 2004)

- No effect on mortality
- No effect across any subgroup analyses including characteristics of the intervention, how long patients managed by the team, or studies conducted in VA vs not in VA

Evidence-based Synthesis Program (ESP)

Geriatricians as Outpatient Consultants

Individual Studies Only-No reviews

- Patients at high risk of frailty had reduced risk of death or admission to long-term care if they received a visit from a geriatrician (Monteserin 2010)
- Patients with high numbers of outpatient visits had a lower rate of hospitalization if they met twice with a geriatrician (Fenton 2006)
- Two trials of consultation by geriatricians who advised other clinicians (no direct patient contact) reported limited impact on function
 - Small, non-statistically significant improvements (Li, 2010),
 - Delay in dependency only in patients with better function at baseline (Bula 1999)

Evidence-based Synthesis Program (ESP)

Geriatricians as Primary Care Providers

Preventive home visits (Huss 2008, meta-analysis)

- Favorable but not statistically significant effects on mortality, nursing home admission and function
- Reduction in functional decline if a clinical examination was included in the home visit
- Analyses stratified results by whether a geriatrician was involved and results did not change

Health Assessments (Byles 2000, systematic review)

- 2 trials included geriatricians, had conflicting conclusions about benefit
- Medication management (2 trials Avila-Beltran 2008, Phelan 2008)
- Patients without a geriatrician were more likely to have a potentially inappropriate medication

Evidence-based Synthesis Program (ESP)

Limitations

- Often difficult to isolate the specific contribution of geriatricians from other services within the complex models of care
- Methodological limitations:
 - No consensus on best practices for Evidence brief methodology
 - Searches did not include topic specific databases or extensive efforts to identify grey literature
 - Dependent on quality of prior reviews

Evidence-based Synthesis Program (ESP)

Questions?

If you have further questions,
feel free to contact:

Mark Helfand, MD, MPH, MS
Director, ESP Coordinating Center
Portland VA Medical Center
mark.helfand@va.gov

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

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