A Community-Based Medication Management Intervention

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Session Objectives

1) Describe the Community Based Medication Intervention including the role of care managers.

2) Identify lessons learned including some successes and challenges to implementing a new intervention in existing care management programs.

3) Discuss the tension between implementation fidelity and adaptation in applied settings.

- Some results of the program’s evaluation will be presented including the program’s impact to identify medication problems for frail older adults, ie prevalence data.
What do we know about medication errors?

- Medication errors can create costly and serious, even catastrophic, health problems:
  - 5th leading cause of death for older adults\(^1\)
  - 7,000 deaths per year due to adverse drug events\(^1\)

- Studies estimate up to 40% of community-dwelling seniors have medication-related problems\(^2\)

- About 1/5 of community-dwelling elderly use at least 1 of 33 drugs considered potentially inappropriate \(^2\)


Medication Management Intervention

- Partners in Care Foundation, San Fernando, CA, is conducting a 3-year U.S. Administration on Aging (AoA) funded study to apply a previously tested evidence-based Medication Management Model to MSSP programs first in Los Angeles County and then disseminate the program statewide.

- The goal of our Medication Model is to identify, prevent, and resolve medication errors among community-dwelling high-risk seniors receiving Medicaid waiver care management services.
Project Collaborators

- Multipurpose Senior Services Programs (MSSPs)
  Partners In Care and Senior Care Network
- Evaluators: Kate Wilber, PhD & Gretchen Alkema, PhD Candidate, USC Andrus School of Gerontology
- LA City Department of Aging AAA
- LA County AAA
- Others: Healthcare Partner, The Huntington Hospital, Pasadena, CA; UCLA School of Medicine and USC School of Pharmacy
Evidence-based Project Origins

- Funded by John A. Hartford Foundation, Inc. in mid-90s
  - Multiphase study to identify the prevalence of medication errors and improve medication management among Medicare beneficiaries receiving home health services.
  - Developed by Vanderbilt University researchers & the Visiting Nurse Assoc-LA (now Partners) and Visiting Nurse Services, NYC
  - To test the efficacy of Medication Management Model in home health agencies the team undertook a randomized, controlled trial intervention to improve medication use
  - The Model uses a pharmacist-centered intervention to identify & resolve medication errors
Results of Evidence-based Study

Results:
- 17% had medication errors using Home Health criteria developed for the study
- Medication use improved in 50% of intervention patients, compared to 38% of controls (p=.05).
- Improvement was greatest for therapeutic duplication (71% vs 24% p=.003)
- Cardiovascular problems (55% vs 18%, p=.02)

Conclusion:
- The trial demonstrated that medication errors can be avoided and prescribing practices can be improved in the geriatric population.
Adaptation of Model Program

- Adapted the previously tested evidence-based home health care Model to the community care management setting

- Implemented intervention in 3 MediCal/Medicare waiver programs(MSSPs) serving low income, high risk seniors living in diverse areas of Los Angeles
Overview of AoA Priority Population

- MSSP Care Managers are nurses and social workers who conduct health and psychosocial assessments.

- MSSP arranges for in-home services for frail seniors to delay or prevent nursing home placement.

- Core Functions typically performed in care management:
  - Outreach
  - Screening and Intake
  - Comprehensive assessment
  - Care Planning
  - Service Arrangement
  - Monitoring
  - Reassessment
Program Features

- The Model uses guidelines established by an expert panel for resolving high-risk medication problems among home health patients:
  - unnecessary therapeutic duplication
  - cardiovascular medication problems
  - use of psychotropic drugs in patients with a reported recent fall and/or confusion
  - use of non-steroidal anti-inflammatory drugs (NSAID) in patients at high risk of peptic ulcer complications.

- A consultant pharmacist assists care managers to assess and resolve potential medication problems.

- Computerized medication screening and alert system
Evaluation

- Process Evaluation monitored outcomes of translating evidence based research into care management practice.
  - Observation of trainings & care conferences
  - Logic Model tracking procedural issues

- Impact Evaluation looks at the following participant outcomes:
  - # of clients screened
  - # and type of medication errors
  - Type of pharmacist recommendations
  - Outcomes of recommendations
Sample Characteristics (N=615)

- Data collected from 6/2004-12/2005
- 615 clients screened in 3 LA County MSSP sites
- Average age ~ 80 years (SD=7.76); 80% female
- 53% widowed; 20% married; 13% divorced
- 42% live alone
Race/Ethnicity (N=615)

- Caucasian: 24%
- African-American: 39%
- Latino/a: 24%
- Asian/PI: 8%
- Other: 5%
Language Preference (N=615)

- English, 58%
- Spanish, 22%
- Armenian, 6%
- Other (e.g., Chinese, Tagalog, Farsi), 8%
Health Status

- Hospitalization, SNF, or ER in Last Year? ~ 38% yes
- Average # of Medications ~ 8.76 (SD=3.7)
- Falls in Last 3 Months ~ 22%
- Dizziness ~ 27%
- Confusion ~ 31%
Site Differences – Race/Ethnicity

- Caucasian
- African-American
- Latino/a
- Asian/PI
- Other

Site #1 (N=216)
Site #2 (N=283)
Site #3 (N=126)
Site Differences – CM Type (p<.001)

- Site #1 (N=216)
  - Social Worker: 51.9%
  - Nurse: 64.3%

- Site #2 (N=283)
  - Social Worker: 89.7%
  - Nurse: 48.1%

- Site #3 (N=126)
  - Social Worker: 10.3%
  - Nurse: 35.7%
Site Differences – Lives Alone (p=.019)

Site #1 (N=216)  Site #2 (N=283)  Site #3 (N=126)

34.7%  48.7%  37.3%

0.0%  20.0%  40.0%  60.0%
Site Differences – 9+ Medications (p=.030)

Site #1 (N=216) | Site #2 (N=283) | Site #3 (N=126)
---|---|---
43.5% | 51.3% | 57.9%
Medication Problem Prevalence (N=615)

- Average # of medication problems ~ .53 (SD=.82)

- 37.5% with at least 1 medication problem
  - 19% in original Home Health sample

- 12% with 2+ problems; 3% with 3+ problems
Medication Problem Prevalence

- Higher # of medications *positively related* to:
  
  - Any medication problem
  - Therapeutic duplication
  - Inappropriate psychotropic medication
  - Total # of medication problems

- Clients w/ 9+ medications have *2x greater odds* of medication-related problems that those with under 9 meds
MSSP frail elders seem at especially high risk for errors

Overall they have a higher prevalence of most medication problems than original Home Health study

Based on this, there is a need to improve medication management in this population.

A computerized medication risk assessment alert system can assist care managers to identify therapeutic duplication.
Lessons Learned: Fidelity Issues

- MSSP is a hybrid social/medical care management program, presenting challenges in replicating the Medication Intervention, eg scope of practice issues

- Clinical issues, eg cardiac assessment and follow-up

- Future: Modify, simplify and focus program materials

- Readiness assessment is essential before site implementation
What do participants say?

“I was on too many medications and didn’t know what they were for. I don’t have to worry about that any longer.”

“The pharmacist I spoke to was very helpful in sorting out my medications.”
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