



Evidence-Based Medicine and Long-Term Care: Improving Outcomes in Pennsylvania Nursing Homes

Beryl Goldman
Richard Lee
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Barry Fogel, Moderator



Today's Presentations

- PA Department of Health Nursing Home Best Practices Project – Lee
- Organizing Evidence-Based Quality Improvement – Morrison
- Project Implementation – Goldman
- Project Evaluation – Nonemaker
- Summary Comments – Fogel
- Panel Discussion



Questions

- What are the lessons of the project?
 - Process improvement
 - Clinical outcomes of process changes
 - Barriers to change
- What is the current state of the art of evidence-based QI for nursing homes?
 - For what outcomes is the evidence the best?
 - Action recommendations



The Pennsylvania Project

Richard Lee
Deputy Secretary for Quality
Assurance



Project Focus: Nursing Facilities in Pennsylvania

- 743 nursing homes
- 91,588 licensed beds
- 4 regions
- 9 field offices
- 5 facilities per surveyor
- 615 beds per surveyor



Project Concepts

- Provide positive assistance for improving quality of care in nursing homes
- Use existing data sets, measurement tools and quality standards for better outcomes
- Develop cost-neutral, outcomes-based best practices that are effective in improving quality of care



Features of Project Operations

- Protocols for targeting specific residents
- Familiar mandated processes (e.g., MDS assessments) as a vehicle for introducing change
- Cost comparable to that of usual care – No incremental cost for substituting one process for another
- Effective training techniques using nurse educators



Phase 1 Activities

- 12-2001: Public kick-off
- 2-2002: Workshop for non-participating facilities
- 6-2003: Workshop with participating facilities on Phase 1 outcomes
- 11-2003: Media event at Montgomery County Geriatric and Rehabilitation Center
- 3-2004: Legislative updates
- Positive articles in trade publications



Phase 1 Research Design

- Selected protocols for study: ADLs, pain, and depression
- Match intervention and control sites
- Apply intervention
- Measure changes



Phase 2 Activities

- Continue with original three protocols
 - Ongoing nurse educator support
- Add new protocols
 - Urinary incontinence
 - Pressure ulcers
- Outcome analysis



Phase 3 Activities

- Make protocols available to all providers
- Disparity analysis
- Quality assurance committee activities



Present Status (8-2004)

- Phase 1 successful
- Phase 2 proceeding on schedule
- Phase 3 to begin next fiscal year
- Positive media coverage
- Empirical evidence of efficacy



Project Organization

Malcolm Morrison, Ph.D.
Chief Executive Officer
Morrison Informatics



Major Goals

- Identify trends and problems in quality indicators and outcomes in Pennsylvania's long-term care facilities
- Identify methods to change adverse quality indicators and outcomes using evidence-based best practices. Utilize changes in measurable quality indicators to facilitate and measure change
- Design, implement and evaluate results of evidence-based best practices pilot projects to improve quality indicators.
- Provide documentation to enable project replication



Project Team

- Project management and organization
 - Morrison Informatics, Inc. (Mechanicsburg, PA)
 - Clifton Gunderson, LLP (Towson, MD)
- Evidence-based protocol development, training materials and project evaluation – Hebrew Rehabilitation Center for Aged Research and Training Center (Boston, MA)
- Project implementation – The Kendal Corporation (Kennett Square, PA)
- Public information and communications – Sacunas & Saline (Harrisburg, PA)



Project Advisory Groups

- Stakeholders Advisory Group
 - Major long-term care organizations
 - Hospital and healthcare organizations
 - Medical directors organization
 - Health law and advocacy organizations
 - State Department of Health
 - State Department of Public Welfare
 - Center for Medicare and Medicaid Services (CMS)
 - Nursing home residents
- Executive Advisory Group – PA Department of Health
 - Administration
 - Office of Policy and Legislative Affairs
 - Office of Legal Counsel
 - Press Office
 - Office of Quality Assurance
 - Bureau of Facility Licensure and Certification
 - Division of Nursing Care Facilities
 - Intra-governmental Long Term Care Council



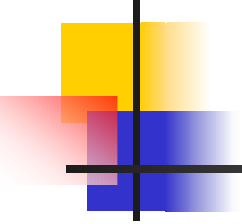
Project Communications

- Invitational workshops for participating long-term care facilities
- Conferences for all long-term care facilities
- Legislative briefings on project results
- Presentations at national conferences
- Articles and monographs in professional, research and trade publications



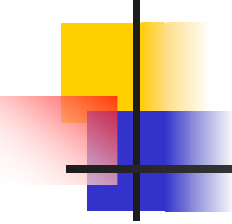
Project Description

- Quality improvement protocols in specific clinical problem areas (ADLs, pain, depression, etc.)
- Cost-effective processes with costs comparable to those of usual care
- Use of familiar government-mandated data collection instruments (MDS) and documentation
- Training techniques and materials suited to the skill levels of staff implementing new processes
- Use of formal quality monitoring protocols
- Evidence-based reporting of results



Project Phase 1(2001-2003): Selection and Testing of Care Protocols

- Selection of care protocols
 - Review of quality data from over 700 facilities
 - Review of evidence for specific protocols
- Testing of care protocols
 - 20 facilities selected for research, from 100 volunteers
 - 10 intervention sites, 10 controls
 - 12 month implementation, one protocol per test site
 - Faculty advisory panel
 - Training by nurse educators
 - Reference manual and protocol materials
 - Quality assurance monitoring
 - Outcome analysis



Project Phase 2 (2003-2005): Adding Protocols and Scaling Up

- 24 months
- Over 60 facilities participating
- Continuation of Phase One protocols
- Testing multiple protocol implementation
- Testing of two additional evidence-based Best Practices Protocols
- Overall summary and preparation for statewide implementation



Implementation Details

Beryl Goldman
Best Practices Implementation Director
Kendal Outreach, LLC



Staffing

- Nurse Educators
 - Extensive long term care experience
 - Good communication and teaching skills
 - Ability to motivate and encourage staff
 - Interest in raising the standards of care in long term care
 - Willingness to drive long distances



Process at Test Sites

- Contract
- Project coordinator
- Advisory panel
- On-site staff training
- Ongoing support and monitoring by nurse educators



Advisory Panel

- Key ingredient in project success
- Philosophy
 - This is a major initiative
 - “This is how we do things now”
- Support by administration
- Identifies strategies for implementing project protocols and removing barriers



On-Site Staff Training

- Begins with administration and advisory panel
- Includes all staff to be involved with the program (for each outcome)
- Includes plans for training new employees
- Periodic updates and refreshers as needed



Training Program

- Importance of the selected protocol
- Tools needed to :
 - Target residents for inclusion in the program
 - Assess, plan and approach the resident with the targeted problem
 - Monitor the resident
 - Monitor the program



Nurse Educators' Responsibilities

- Note facility-specific issues that may affect the program (e.g., change in ownership)
- Plan with facility advisory panel
- Demonstrate techniques used in the protocols
- Monitor staff attendance at training sessions
- Review care plans and records to ensure that targeted residents are receiving specified interventions
- Monitor facility adherence to the program



Challenges

- Attendance at in-service training sessions
- Turnover of administrative staff
- Turnover of clinical staff
- Follow-through with documentation
- Follow-through with ongoing staff education



Lessons Learned

- Obtain administrative “buy-in”
- Get a strong and influential project coordinator
- Make the new processes part of organizational culture
- Minimize competing programs
- Simplify documentation



MDS-Based Evaluation: Depression and Related Outcomes

Sue Nonemaker, MS, RN
Hebrew Rehabilitation Center for Aged
Boston, MA



Evaluation Team

- Sue Nonemaker, MS, RN
- Katherine Murphy, PhD, RN
- John N. Morris, PhD
- William McMullen, PhD



Evaluation Question

- How do the outcomes of care differ between facilities that follow best practices and those that render usual care?
 - What is the impact of implementing best practices on Quality Indicators (QIs)
 - What is the impact of implementing best practices on rates of decline?



Methodology

- Facilities studied have “average quality” at baseline on the outcome of interest
- Facilities in both Eastern and Western PA
- Four facilities received intervention, four were controls
- Outcomes were calculated from MDS data collected pre- and post-intervention
 - 1-3/2002
 - 1-3/2003



Measurement

- Primary outcomes were Quality Indicators (QIs)
- These are facility-level prevalence or incidence rates
- QIs were calculated by dividing the number of residents with a given condition (or with a given change in condition) by the total number of residents
- Improvement was defined as a favorable change in the rate from the beginning to the end of the observation period



Quality Indicators Studied

- Worsening of depressed or anxious mood
- Little or no activity
- Worsening cognition
- Worsening communication
- New or persistent delirium
- Significant weight loss (by MDS definition)
- Inadequate pain management (pain severe at any time or frequently worse than mild)



Results

QI	Baseline		Follow-up		% Change	
	E	C	E	C	E	C
Depression	.24	.22	.22	.26	- 8.3	18.2
Activity	.13	.08	.04	.06	- 69.2	- 25.0
Cognition	.23	.13	.19	.13	- 17.4	0.0
Communication	.16	.12	.15	.17	- 6.3	41.7
Delirium	.25	.15	.20	.14	- 20.0	- 6.7
Weight loss	.10	.06	.09	.12	- 10.0	100.0
Pain	.18	.17	.07	.15	- 61.1	- 11.8
Mean	.18	.13	.14	.15	- 22.2	15.4



Main Findings

- Depression rates decreased 8% in the experimental group and increased 18% in the control group.
- Experimental facilities' QIs improved dramatically in two areas:
 - Inadequate pain management – 61%
 - Little or no activity– 69% decrease
- Summing across all QIs experimental facilities improved by 22% while controls worsened by 15%



Main Findings – (2)

- Experimental facilities' QIs were “worse” at baseline than control facilities'
- Experimental facilities' QIs consistently improved
- Control facilities' QIs worsened dramatically in two areas:
 - Worsening communication – 42% higher rate
 - Weight loss – 100% higher rate



Conclusions

- The Depression Management Best Practice program was associated with improvement at one year in the Depression QI and in six QIs associated with symptoms of depression
- Effects on pain management and low activity were especially strong
- The intervention appears to be effective
- Further studies are suggested



Comments by the Moderator

- Evidence-based best practice programs in nursing homes can have measurable benefits.
- Outcomes with well-defined, widely accepted protocols and clear-cut interventions may be easiest to change – e.g., pain control.
- Painstaking planning and work with stakeholders is needed to implement.
- Stable commitment by administration is needed to keep projects on course despite turnover of staff and competing demands on staff time.



Questions from the Moderator

- What incentives or other means could be used to facilitate administrative buy-in and consistent support?
- How might technology be used to make the training process more efficient and consistent?
- What outcomes should be targeted first by a nursing facility or LTC health system?
 - For which outcomes is the evidence best?
 - For which outcomes are best practice interventions most effective?
 - For which can outcomes be measured with greatest reliability and validity
 - For which are the change management problems the least?