



# Assessing Patient Safety Culture in Massachusetts Nursing Homes to Promote Safe Medication Administration

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Session: Using Nursing Home SOPS to Improve Resident Safety

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UMASS MEDICAL SCHOOL | COMMONWEALTH MEDICINE  
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# Project Sponsor

This study was made possible with funding from the National Council of State Boards of Nursing (NCSBN) Center for Regulatory Excellence Grant Program under its award # P20005, MBORN Nursing Patient Safety Initiative: Promoting Safe Medication Administration in MA Nursing Homes.

# Purpose of Nursing Patient Safety Initiative

## Purpose:

Promote safe medication administration by nurses practicing in Massachusetts nursing homes.

## Rationale:

Eliminating the fear of disciplinary action by the BRN in response to certain types of medication errors will result in greater medication error disclosure on the part of nurses, and that in turn, will increase the availability of information for the analysis of such errors, contributing to improved medication practices by nurses and a reduced risk for future medication errors.

# Purpose of Nursing Patient Safety Initiative

- Cultivate a regulatory environment to reduce nurses' fear of disciplinary action in response to medication error.
- Encourage and support a culture of patient safety within nursing homes.
- Foster remediation of nurse's practice and systems change through the Nurse Employer Safety Partnership (NESP) model
- Contribute to safe medication administration practices in nursing homes statewide through the creation of “communities of practice” that share lessons learned and best practices through a multi-level learning network.

# Purpose of Nursing Patient Safety Initiative

- Establish a quality and sustainable strategic alliance between policy makers, industry leaders, and practitioners to inform and develop the NESP and proactively respond to future challenges and opportunities related to patient safety and care.
- A 14-member Strategic Alliance of State regulatory agencies, the Betsy Lehman Center, Centers for Medicare and Medicaid Services, MA Long-term Care Ombudsman Program, & Provider organizations (nursing, pharmacy, administrators)

# Patient Safety Initiative

## Nurse-Employer Safety Partnership (NESP):

Non-punitive, education-oriented, facility-based

- Root Cause Analysis of errors meeting BRN criteria
- Implement corrective action plan
- Quality improvement focus
- Multi-level learning network

MBORN does not participate in NESP

# Study Objectives

- Primary Objective was to assess the perspective of nurses working in MA nursing homes on the patient safety culture and barriers to medication error reporting for NESP development.
- Secondary Objective was to establish a statewide benchmark for later comparison after NESP implementation and for individual nursing home use.

# Methods: Survey Instrument

- Established a Survey Workgroup composed of provider organizations and survey research consultants.
- Workgroup purpose was to advise on nursing home-specific considerations related to all aspects of survey implementation.
- Selected three survey tools to be implemented together as one instrument
- Assisted in pilot testing the instrument
- Approved all documents used to communicate about the survey with nursing homes and nurses

# Methods: Survey Instrument

- The Nursing Home Survey on Patient Safety (SOPS) was developed by Westat under contract for the Agency for Healthcare Research and Quality (AHRQ) and has 12 dimensions and one overall rating
- Each *dimension* has 3–5 questions and uses a 5-point Likert scale of agreement ("strongly disagree" to "strongly agree") or frequency ("never" to "always")
- Determining the Barriers to Medication Error Reporting in the Nursing Home Setting developed by Handler et al. with support from AMDA Foundation/Pfizer QI Award.
- Marlowe Crowne Social Desirability Scale

# SOPS Benchmark Data

- Publicly accessible data based on 3,700 staff working in 40 nursing homes in 2007.
- Responses from 531 nursing staff isolated from the overall sample of 3,700 used for presentation today
- Overall sample of 3,700 used as comparison for MA benchmark data when presentation posted.

Sorra J, Franklin M, Streagle S. Nursing Home Survey on Patient Safety Culture. (Prepared by Westat, under Contract No. 233-02-0087). AHRQ Publication No. 08-0060. Rockville, MD:Agency for Healthcare Research and Quality; September 2008.

# Survey Methods: Sampling

- Employed cluster sampling approach
- Sought to recruit approximately 25% of the 437 nursing homes (110) to ensure a representative mix of nurses participate.
- Nursing homes and beds equally distributed across 4 geographic planning regions

# Survey Methods: Sampling

- Nursing homes categorized by size according to the number of beds
  - Small: <50 beds (49)
  - Medium: 50-149 beds (299)
  - Large: 150+ beds (89)
- Disproportionate sample drawn to support analyses by bed size category (41-36-33)

# Survey Sampling & Distribution

- Letter and materials sent to both administrators and directors of nursing in all 437 nursing homes in September, 2009
- Assigned 437 homes to blocks three sampling strata by size category
- Assigned homes within strata to blocks (5-10-5)
- Randomly ordered blocks in sequence within each strata and drew blocks from each home size strata for 169 home total

# Survey Sampling & Distribution

- Sent administrators and directors of nursing in the sample homes a second letter informing them of their selection.
- UMASS staff contacted homes by selected blocks but
- Prior to UMASS contact seven of the homes in selected blocks called to volunteer
- Individual “champion” identified at each home recruited

# Survey Distribution

- Number of nurses employed in each home determined, that # survey packets sent/delivered to homes in September and October, 2009. (Denominator)
- Packets contained letter, FAQ sheet, survey, postage paid return envelope and a \$5 'thank you' card.
- Completed surveys tracked returns from each home by code on the survey instrument (Numerator)
- UMASS staff maintained regular contact with champion to encourage responses. Replacement surveys were sent as requested in November, 2009 through January, 2010. Data collection ended 2/12/2010

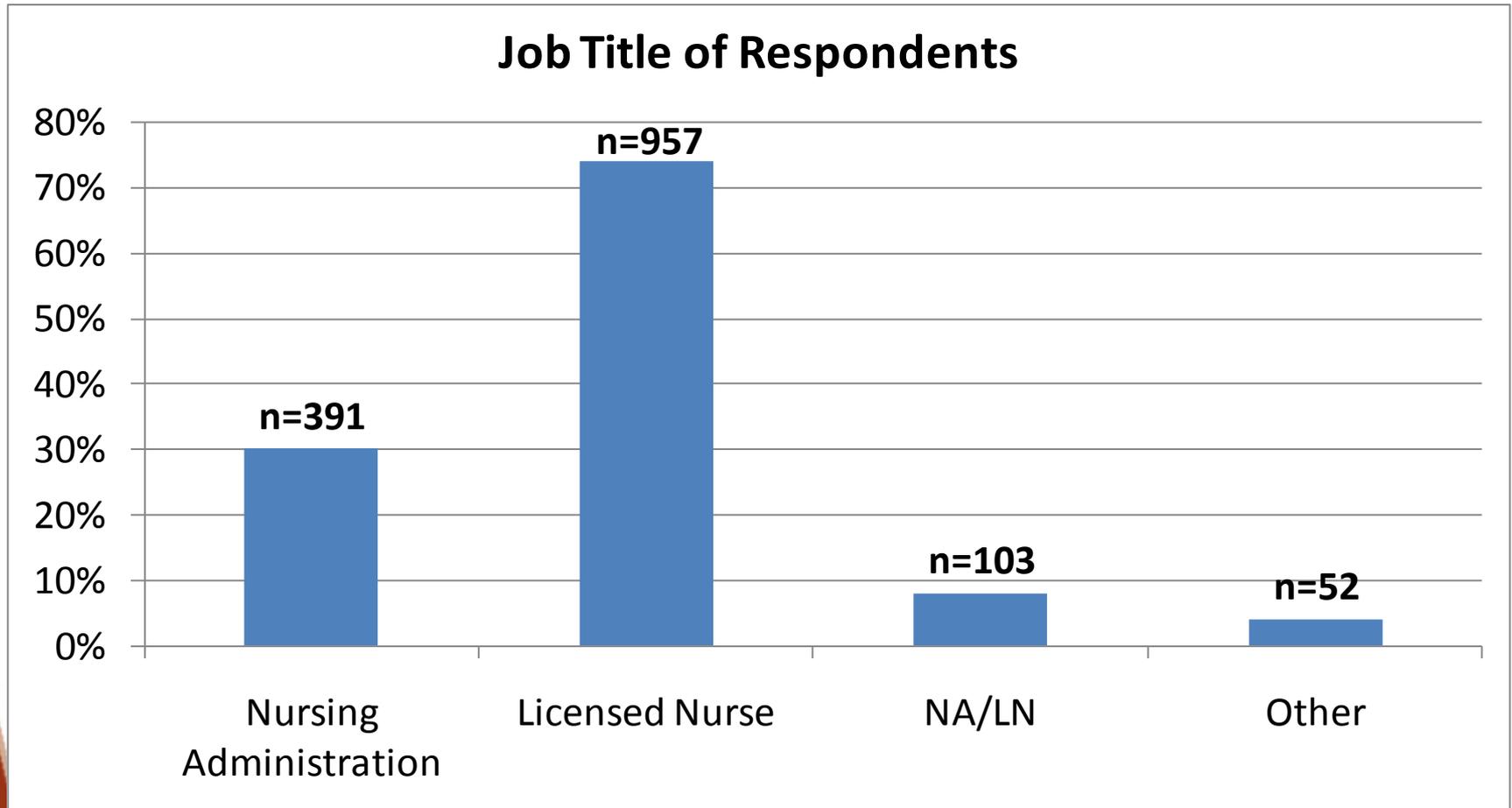
# Survey Response

- Response rate for Nursing Homes:
  - 110 Nursing Homes participated out of 141 homes contacted = **78%** response rate.
  - Overall response rate is **41.4%**
    - 48.5% in Small nursing homes (41)
    - 37.7% in Medium nursing homes (36)
    - 36.6% in Large nursing homes (33)
  - Statistics based on **1,286** responses **39.3%** of possible responses

# Response Rate

- Response rate in small homes significantly higher than the average ( $Z=2.48$ ,  $p=.01$ )
- No difference in response rate based on home's for profit versus not-for-profit status
- Methods for distribution of packets varied. Distribution during a meeting ( $Z=2.24$ ,  $p=.03$ ) or by a Director of Nursing with a follow up reminder ( $Z=1.96$ ,  $p=.05$ ) produced higher than average response rates.

# Demographics (N=1286)



Respondents could choose more than one response – Percentages add up to more than 100%.

# Demographics (N=1286)

- Job information
  - Length of Time Working at Nursing Home
    - Less than 1 year: 13%
    - 1 – 5 years: 43%
    - 6 – 10 years: 23%
    - Over 10 years: 21%
  - Percentage respondents identifying as Agency Nurses 1%
  - Respondents not working directly with residents 22%

# Demographics

- Hours per week worked at Nursing Home:  
(N=1254)
  - 15 or less hours: 5%
  - 16 to 24 hours: 13%
  - 25 to 40 hours: 51%
  - Over 40 hours: 31%
- Shift time: (N=1209)
  - Days 65%
  - Evenings 23%
  - Nights 12%

# Patient Safety Culture

Domain	Average Percent Positive Response	AHRQ LN Pilot Results†
1. Teamwork (n = 1220)	66%	67%
2. Staffing (n = 1163)	49%	46%
3. Compliance with Procedures (n = 1164)	57%	69%**
4. Training & Skills (n = 1217)	63%	69%*
5. Nonpunitive Response to Mistakes (n = 1116)	40%	56%**
6. Handoffs (n = 1234)	62%	64%
7. Feedback & Communication About Incidents (n = 1237)	87%	87%

† AHRQ pilot study percentages based on Licensed Nurses responses only (N = 531). \* p < 0.05 \*\* p < 0.0001 Two sample test

# Patient Safety Culture

Domain	Average Percent Positive Response	AHRQ LN Pilot Results†
8. Communication Openness (n = 1221)	51%	57%*
9. Supervisor Expectations & Actions Promoting Resident Safety (n = 1228)	82%	80%
10. Overall Perceptions of Resident Safety (n = 1253)	91%	88%
11. Management Support for Resident Safety (n = 1187)	71%	70%
12. Organizational Learning (n = 1169)	73%	75%
13. Overall Ratings (n = 1267)	84%	88%*

# Barriers to Medication Error Reporting

- Respondents were asked to rate a list of 20 potential barriers to medication error reporting, first based on the likelihood that it was a barrier, and second based on how modifiable they thought the barrier is.
- Scores range from 1 to 5 with:
  - 1 = Very Likely or Very Modifiable
  - 5 = Very Unlikely or Very Unmodifiable
- Lower scores are associated with higher likelihood of being a barrier and higher likelihood of being modifiable.
- Barriers are categorized as individual or organizational.

# Barriers to Medication Error Reporting

## Top Five Barriers

1. Lack of recognition that a medication error has occurred (2.37) [Organizational]
2. Fear of disciplinary action (2.38)
3. Fear of being blamed (2.42)
4. Fear of liability or lawsuits (2.45)
5. Lack of an anonymous error reporting system (2.62) [Organizational]

# Key Findings

- First statewide assessment of nursing home patient safety culture and barriers of medication error reporting to our knowledge
- PSC domain score for “Non-punitive response to mistakes” significantly lower than national benchmark. Most not positive about this factor
- Fear of disciplinary action is the top individual barrier to medication error reporting. Most nurses agree that staff are blamed when a resident is harmed.

# Strengths

- Low proportion of agency nurses in sample
- Administering two surveys together provided wider range of information on key aspects of NESP development
- Collaboration theory approach used in Survey Workgroup raised awareness of survey project that facilitated recruitment with seven homes within sample volunteering before UMASS contact

# Limitations

- No responses from one home despite consistent follow up.
- Lack of direct contact with nurses limited the ability to increase response rate
- Marlowe Crowne Social Desirability Scale responses missing from 16% sample.

# Implications & Future Direction

- NESP model will focus on ways to promote non-punitive responses to errors
- NESP community of practice model will alleviate fear of disciplinary action
- Survey will be conducted again after NESP implementation to assess changes in PSC
- Any of 437 MA nursing homes who use SOPS have statewide and national benchmark data