

Creating Shared Meaning between Nurses and Physicians in the Nursing Home
Final Grant Report for STTI and NGNA
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Summary of project aims

The aims of this pilot study were as follows: (a) to examine the design and utility of an intervention based on the Sensemaking model, and (b) to examine communication between nurses and physicians caring for residents in the nursing home.

Research Questions

1. Does communication improve from baseline after Sensemaking training (SBAR use) in the long-term care setting as perceived by nurses or physicians caring for nursing home residents?
2. Following Sensemaking training in the use of SBAR, is Shared Meaning apparent in communication events about change in resident status by nurses and physicians working in a nursing home?
3. To what extent are nurses and physicians satisfied with the Sensemaking intervention in terms of intervention length, content, and format and communication experience?

Theoretical/conceptual framework

The theory guiding this study was Sensemaking (Weick, 1995). Sensemaking is an activity or process that occurs when individuals turn experiences into words and categories that they can understand, which are then used as a basis for action (Blatt, Christianson, Sutcliffe, & Rosenthal, 2006). "Sensemaking is an iterative process arising from dialogue when two or more people share their unique perspectives. Sensemaking has the potential to overcome many of the weaknesses in the current approach to the study of nurse/physician communication because it encourages the sharing of differing viewpoints and provides a roadmap for actions arising from the communication exchange" (Manojlovich, 2010, p. 941).

Methods, procedures, and sampling

Design. A sequential mixed methods approach with a pre-post quasi-experiment was used to obtain pilot data about the effectiveness of a communication intervention from a Sensemaking perspective (Sidani & Braden, 2011). Communication events between nurse and physician regarding changes in resident status were examined over the course of four months through debriefing interviews using an ethnographic approach (Spradley, 1979), medical record nurse/physician notes, Provider Logs, and SBAR forms. Feasibility of conducting the intervention in a larger trial in future studies examined nurse and physician satisfaction with communication and concerns with the length, content, and format of the Sensemaking training for SBAR use.

Setting/Sample. Following IRB approval, this study was implemented on six skilled NH units (Average census: 120 residents). To address research questions 1 and 3: The sample included 22 physicians in a geriatric clinical rotation at the NH and 19 NH nurses working more than 24 hours/week. Using an independent t-test with an alpha of 0.05, with the estimation of an increase on communication openness (score corrected to a 0-100 scale, mean difference -6, SD [5-8]) a power of 0.80 yielded a sample size of 20 in each group. Potential effect size was estimated based on a study using a similar type of communication scale (DeMeester, Verpuy,

Monsieurs, & Van Bogaert, 2013). To address research question 2: Nurses and physicians who recorded having communicated about the change in status of a resident (a communication event) were asked to participate individually in a debriefing interview. A total of 33 communication events that occurred between nurses and physicians were the focus of 16 interviews, 17 nurse notes, 22 MD orders, and 16 MD notes.

Sample size. Qualitative sample size determination was based on previous work where some interviews were short and provided more limited insight into conversations, while others yielded richer data (Ashcraft & Owen, in review). To allow for maximum variation, 30 communication events were needed to support examination of shared meaning and Sensemaking constructs (Charmaz, 2006). This approach is consistent with grounded theory methodology and offers opportunity for theoretical saturation (Charmaz, 2006).

Intervention. Communication training with an SBAR tool was based on three principles of Sensemaking: (a) problem identification-*prespecified rules & conventions*, (b) information gathering-*shared meaning & eliciting information*, and (c) information integration-*agreement and consensus* (Manojlovich, 2010). Using stories to convey challenges and opportunities for communication is central to a Sensemaking approach (Anderson et al., 2005; Wieck, 1995) and formed the main approach for conveying SBAR training that occurred in small groups of nurses or physicians. The control condition, prior to implementation of the Sensemaking intervention, was the orientation nurses and physician residents received on how to use the SBAR in the clinical setting that focused on recognizing the components of SBAR as well as completion of the form. As part of this customary SBAR training, nurses and physicians were asked to use the SBAR form as a guide when talking with each other about a change in resident status.

Sensemaking SBAR training for nurses and physicians. Sensemaking training focused on story exchange about opportunities and challenges, with SBAR being a way of communicating situational awareness in the NH setting for both the SBAR Trainer and study participant. Based on previous findings, stories focused on common situations indicative of a change in resident status and the signs and symptoms likely to be encountered (Ashcraft & Owen, 2014). This includes symptoms and signs pertinent to a resident's current problem as well as any relevant history related to the resident's current problem.

Intervention Fidelity. To ensure that we said the same thing to each group, enhanced treatment fidelity, and standardized the dose, we used an outline for each training and a standard set of scenarios.

Data Collection

After consenting participants, demographic data that could influence communication were collected from all participants. Quantitative data were collected before the intervention and after qualitative data collection was completed. The intervention consisted of an in-service detailing the sharing of resident information using the SBAR format and was delivered in person or via video for physicians and nurses who could not attend the educational session.

Qualitative data were collected through interviews and examination of other methods of communication such as written messages or faxes associated with a specific communication event up to three months after implementation of the intervention. Nurses and physicians were asked to identify communication events on Nurse or Physician Provider Logs using a format that has been successful in a previous study (Ashcraft & Owen, in review). Physicians were asked to participate in an interview after their monthly scheduled resident visits. Nurses were asked to participate in an interview based upon the Nurse Provider Log or statement of interaction with

the physician. These individuals provided an understanding of disciplinary perspectives. Medical record data were abstracted from the resident's medical record, providing a snapshot of the context of the communication between physician and nurse.

Qualitative Measures. After introduction of the intervention, data were collected related to the reporting of resident change of status for a total of 33 communication events. Provider logs were reviewed weekly to identify communication events involving a change in resident status. To extract cues, the Nurse Provider Log and the Physician Provider Log asked for information about "What is happening here?" and "What should we do about it?" from the perspective of the nurse and physician. Nurse Provider Logs were kept on the units for nurses to note when they called a physician about a change in resident status.

Physician Notes and Nurses Notes were used to examine conversations pertaining to the identified communication events by locating phrases indicative of "What is happening here?" and "What should we do about it?" Relevant nurses notes and physician progress notes were redacted for protected health information and transcribed for qualitative analysis.

Nurse Physician Debriefing. A semi-structured interview guide was used to elicit stories about the communication event from the personal perspective of each nurse and physician. The nurse and physician in each identified communication event was asked to participate in individual 30 minute to 1-hour interviews with the investigator. A follow-up interview was conducted if needed for clarification or expansion of ideas as directed by preliminary data analysis. Using a semi-structured interview guide, participants were asked to describe their conversation with the nurse/physician about a change in resident status. Interview questions/probes focused on eliciting stories about the Situation, Background, Assessment, and Suggestion/Recommendation and related aspects of the Sensemaking Model. Questions explored the tone, the content, the process, and the outcome of the conversation. All interviews were audio-recorded and transcribed verbatim. Transcripts were verified for accuracy and completeness prior to analysis.

Qualitative Data Analysis. Using grounded theory and ethnographic interviewing (1st & 2nd cycle coding, constant comparative analysis, analytic memos) with a Sensemaking-based semi-structured interview guide and examination of related medical records, the content, process, and outcome of communication events were elicited. For analysis, cases were created about communication initiation, communication routes, documentation, and final event outcomes. Trustworthiness was addressed through an audit trail of decision-making memos, triangulation of prolonged interviews with medical records, and using Sensemaking to guide interpreting codes and developing theory.

Quantitative Measures. Demographic items included age, gender, marital status, hometown, education, years in nursing/medicine, years of NH/geriatric experience, frequency of communication with nurses/physicians.

Communication Openness Scale. Communication openness was defined as an open, free exchange of information between nurse and physician. The exchange is characterized by positive or affirming words and the initiation of conversational turns by both participants in the conversation. The scale was originally created for use in a larger communication questionnaire focused on the organizational climate in intensive care units (Shortell, Rousseau, Gillies, Devers, & Simons, 1991). With permission, the scale has been adapted for use in the nursing home by replacing "in the ICU" with "providing care for nursing home residents." Scales for each nurse and/or physician are computed by calculating the mean of the non-missing component items of a specific scale for the individual. In order to compute a scale score for an individual, the

individual must have responded to at least 2/3 (66%) of the items composing the scale. If the person has not responded to at least 2/3 of the items, that person's scale score was coded as missing. Scores on this tool range from 1-5 (Shortell & Rousseau, 1989). Cronbach's alpha of 0.88 has been reported in the ICU setting (Shortell, et al., 1991) and in long term care (0.81) (Anderson, Corazzini, & McDaniel, 2004), and in our study (0.90).

Nurse satisfaction/physician satisfaction. The focus of this measure was two-fold, (a) satisfaction with the interventions, and (b) overall satisfaction with nurse-physician communication in the nursing home setting. Satisfaction with the Sensemaking SBAR training and communication between nurses and physicians after the SBAR training event was measured by an investigator developed tool using a 5 item Likert type scale, where 0 is low satisfaction and 5 is high satisfaction. A similar tool used by Shortell et al. (1991) in the ICU setting has a reported Cronbach's alpha of 0.80, and in our study (0.90). Quantitative data were analyzed using descriptive statistics and t-tests.

Summary of findings:

Quantitative. *Satisfaction with communication openness* did not improve over time ($t = -0.79$, $p = 0.45$). This was true for the overall sample as well as nurses and physicians independently. When looking at group means for nurses and physicians combined, *communication* did not change following the intervention ($t = -0.90$, $p = 0.39$). Nurses were satisfied or very satisfied with communication before and after the intervention. Before the intervention all but one nurse was satisfied with communication. The single nurse indicated they were dissatisfied with communication before the intervention and reported being satisfied after the intervention. By examining the twelve subjects completing the post survey as individual cases we were able to further characterize pre and post responses of potential subgroups. Four of six nurses completing the post intervention survey were satisfied with communication before and after the intervention. Physicians completing the post intervention survey showed greater variability in their responses about communication satisfaction than the nurses ($M = 3.83$, $SD = 1.17$). Five of the six scores indicated neutral or higher satisfaction. One of the scores post intervention indicated a change from satisfied to dissatisfied with communication.

Qualitative. Creation of *shared meaning* began with relationship development between nurses and MDs. Nurses established relationships by intentionally approaching MDs in the NH at monthly visits, creating individualized communication routes by cell phone and pager exchange, contact lists, and posting MD information. Physicians described nurses' availability or phone contact directing their coming to know the nurse and their capabilities. Case analysis yielded contrasting views by nurse and MD of the same event. Examples from nurses described symptoms and order or transfer requests. Examples from MDs showed the importance of crafting resident information for decision-making. Shared meaning of good communication encompassed information presentation consistent with expected order of information by the listener.

Feasibility Testing of the Intervention. We looked at the nurse and physician satisfaction with elements of the intervention and the delivery of the intervention. Although the format and content of the SBAR intervention had mean scores showing respondents were satisfied with the intervention, we noted that some respondents were actually dissatisfied with both content and format. The length of the training had the lowest mean score.

| Satisfaction with SenseMaking Intervention Elements and Training | | | |
|---|------------------------------------|---------------------|------------------|
| Combined Nurse-MD sample N= 12 | Cronbach's Alpha post = .90 | <u>X</u> | <u>SD</u> |
| | Format | 4.17 9 (2-5) | 0.84 |
| | Content | 4.08 (2-5) | 0.90 |
| | Length | 3.91 (3-5) | 0.67 |
| | Training | 4.17 (3-5) | 0.58 |
| | Overall | 4.08 (3-5) | 0.90 |

Recommendations:

- Sensemaking was useful in creating the intervention, in that we could identify areas of the intervention for targeted improvement in the dose of the intervention. Further development and testing of this model within the context of nurse-physician communication is warranted.
- Ensuring the agency commitment to the use of handoffs, such as SBAR, needs to be a preliminary step in setting the stage for testing an SBAR intervention and may need to be monitored across the course of the study to address potential changes in administrative staff or institutional priorities.
- A stronger dose of the intervention was needed both in time of initial exposure and in additional reinforcement over time. Additional detailing of the intervention, particularly in relation to dose, is needed prior to retesting. A more interactive approach to the formatting and content of the intervention should be considered. Video format was helpful in addressing multiple groups taking the survey.
- The nurse logs were excellent and should be used again in future studies.
- In creating a larger sample size, it would be important to recruit physicians, nurse practitioners, and physician assistants who frequently and routinely respond to calls from the NH at least weekly.
- Shared meaning was seen in the qualitative data and highlights this construct as an important avenue for future research. This construct should be explored in qualitative studies in the future.