Review article

ISBAR: Adding an extra step in handoff communication: A Review

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Abstract

Poor communication can harm patients or make work life difficult. Incident and complaint data provide strong evidence for the critical role of lack of appropriate communication in adverse events. The imperative to act to improve clinical communication is recognized by international agencies. Research has shown that using a standardized format can assist the transfer of information, particularly when there are time constraints. ISBAR (Introduction, Situation, Background Assessment, Recommendation) is such a tool. ISBAR organizes a conversation into the essential elements in the transfer of information from one source to another. Its effectiveness has been demonstrated in both clinical and non clinical situations of communication transfer. The present review discusses different studies related to ISBAR.
Keywords: ISBAR, communication.

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1. Introduction

ISBAR (Identify, Situation, Background, Assessment and Recommendation) is a mnemonic created to improve safety in the transfer of critical information. It originates from SBAR, the most frequently used mnemonic in health and other high risk environments such as the military. The "I" in ISBAR is to ensure that accurate identification of those participating in handover and of the patient is established.

ISBAR communication - Communication is key

ISBAR stickers may improve communication within multidisciplinary teams, ensuring accurate handover of information between shifts. One of the most important factors in determining the outcome of an acutely ill patient is the quality of the communication between the clinicians involved. It has long been recognized that when this communication is sub-optimal, patient safety is compromised [1,2]

In a review of all cases that were resolved in 2010, the State Claims Agencies clinical risk team lists communication failure as second of the top root causes identified [3]. It has been suggested that a structured method of communication would improve the quality of information exchange [4].

The Acute Medicine Programme has proposed that the ISBAR tool be utilized as the model that all healthcare staff use to structure clinical communication. This tool is a slight adaptation of the SBAR tool, which was developed in the US navy for standardizing important and urgent communication in nuclear submarines. It is well established in many settings, including aviation and some acute medical environments, and encourages staff to gather the appropriate information and provides a framework for organizing this information in a clear and concise format (Table 1).

Table 1. Format of ISBAR

Identify	Identify yourself, who you are talking to and who you are talking about
Situation	What is the current situation, concerns, observations, EWS etc?
Background	What is the relevant background? This helps to set the scene to interpret the situation above accurately

Assessment	What do you think the problem is? This requires the interpretation of the situation and background information to make an educated conclusion about what is going on
Recommendation	What do you need them to do? What do you recommend should be done to correct the current situation?

Background of ISBAR

The Acute Medicine Programme has recommended that the introduction of the National Early Warning Score (NEWS) is supported by the COMPASS multidisciplinary education programme. Participants who attend the programme are introduced to the ISBAR tool in the pre-course manual in addition to further explanations of its use and interactive skills training during face-to-face training.

St Luke's General Hospital is a 246-bed hospital, which provides surgical, medical, obstetric and paediatric services to the population it serves. Preparation and training for the transition from a modified Early Warning Score, which was in use for a number of years before NEWS commenced in September 2011.

During this preparation, key stakeholders explored the idea of introducing the ISBAR tool to the clinical areas in a structured and readily available sticker format. In addition to facilitating staff to communicate in a clear, concise manner, the use of a pro-forma ISBAR sticker could be filed as evidence of this communication. This would replace the requirement for staff to document this exchange in the traditional manner.

Advice from other sites, which had previously or were in the process of looking at developing such a sticker was sought, and following consultation with all key personnel, a pro-forma sticker was developed (Table 2).

Table 2. ISBAR- Proforma Sticker

ISBAR for EWS/ERT call	
Identify	
Situation	
Background	
Assessment	
Recommendation	
Name of nurse: Date contacted: Signature:	

Pilot study

A pilot study on the use of the sticker was run on a 14-bed general ward, which facilitated primarily surgical and medical patients. This study was approved by the St Luke's General Hospital National Early Warning Score Project Group. Because patient data was unnecessary, approval from an ethics committee was not required. The aim of the pilot was to evaluate the perceived usefulness of the sticker, utilizing a self-efficacy questionnaire on communication.

This questionnaire was aimed at evaluating nursing staff's perception of self-efficacy in communicating a deteriorating patient's condition in two domains:

• Verbal notification of the deterioration to the appropriate physician

• Documentation of this communication in a clear and concise manner.

Utilizing a Likert scale with a score of one to five, where one indicated 'not at all' and five indicated 'extremely', the staff was asked to identify how confident they felt on their ability in these two domains in relation to areas such as patient assessment findings, concerns regarding the patient, requesting a review or intervention.

All 14 nursing staff on the ward were asked to complete this questionnaire prior to the introduction of the sticker. A total of eight questionnaires were returned. The sticker was then made available for use on the ward for a period of four weeks. Stickers were readily available at convenient locations beside telephones in an adhesive sticker format in order to facilitate ease of filing.

All nursing staff had attended prior COMPASS training and further support on the use of ISBAR stickers was provided by two of the COMPASS training faculty. The sticker was completed and filed in the patients' nursing notes when an increase in the patients EWS, indicating a deterioration in the patients' condition, prompted a medical review. Following the four weeks, pilot nursing staff were again asked to complete the same questionnaire. A total of eight questionnaires were returned. Overall, there was an increase in scores from the pre- to the post-pilot questionnaires. Scores of one and two indicating 'none at all' or 'no' confidence in their ability to communicate to a physician that a patient is deteriorating and to document this event totaled eight in the pre-questionnaire compared to none in the post.

Score of three indicating some degree of confidence increased by one in the post questionnaire but score of four increased from total of 50 to 57 and score of five remained the same at 95. See Table 3 for the total score results.

Table 3. Total Score results

Total score results					
Score	1	2	3	4	5
Pre-pilot	6	2	7	50	95
Post-pilot	0	0	8	57	95

Questions one and two, which looked at the area of communicating information about patient's current status and assessment findings, show an increase in respondents who scored a five in both the areas of verbal communication and its documentation.

One respondent had indicated a score of two in the area of documentation of the patient's current status prior to the sticker pilot, whereas four was the lowest score for this question post.

Questions five and six, which asked staff to indicate their confidence levels on requesting a patient review or intervention, show somewhat conflicting results. Perceived confidence levels in requesting an appropriate order/intervention in a direct manner increased slightly in the post questionnaire, but confidence levels were slightly reduced to request a physician to come and see the patient based on assessment findings. In addition, question eight, which looked at providing an organized description of a patient's status to a physician who is not familiar with the patient, reported a slight reduction in confidence.

Questions three and ten looked at confidence levels in providing and documenting information in an organized, succinct manner. Overall, there was a slight increase in these areas in the post pilot questionnaire, although the number of fives scored in 10a fell from five to three post-pilot with a corresponding increase in fours scored. Generally the nursing staff reported high confidence levels in their ability to communicate issues regarding a patient's condition to medical personnel, even prior to the use of ISBAR sticker. As the majority of the nursing staff on the unit had attended COMPASS training prior to the pilot, one has to consider the possibility that they were already using the ISBAR method of communication albeit in a less formal format. However, of note are the scores of one and two pre-pilot regarding documentation of this communication in the areas of:

- Giving clinical findings in an organized manner
- Requesting an intervention
- Communicating when faced with unhelpful behavior and
- Providing information about a patient not known to the physician which were not reported in the post pilot questionnaire.

As loss of information during handover and between staff groups has been reported as a frequent characteristic of reported incidents, the formal use of ISBAR in sticker format may improve communication between members of the multidisciplinary team as well as ensuring accurate handover of all information between shifts [5]

Finnigan et al described and evaluated the implementation of this project; evaluation was undertaken using program logic mapping. Recommendations for other health services planning to introduce communication tools into routine clinical use in thier latest study [6].

In consultation with doctors, nurses and allied health staff in the Western Australian Country Health Service, Porteous et al developed a clinical handover checklist, adapted from an existing tool for standardizing communication. The acronym "iSoBAR" (identify-situation-observations-background-agreed plan-read back) summarises the components of the checklist. The authors designed a comprehensive iSoBAR handover form to reduce the number of existing clinical handover forms. The new form, with an accompanying toolkit, was initially trialled in the Kimberley region, but is now being adopted more widely. Early adoption of the new form has been attributed to extensive clinician involvement and leadership. The authors concluded that there is a need for further research to assess whether the use of handover checklists improves patient outcomes [7].

Yee et al conducted pilot study conducted in six clinical areas (nursing and medical handovers in general medicine, general surgery and emergency medicine) at the Royal Hobart Hospital between 1 October 2005 and 30 September 2008. Data collection and analysis involved triangulation of qualitative techniques; 120 observation sessions and 112 interviews involving nurses and junior medical officers were conducted across the six clinical areas; information on more than 1000 individual patient handovers was analyzed. A standardized protocol for clinical handover can be developed and validated across professional and disciplinary boundaries. It is anticipated that our model will be transferable to other sites and clinical settings [8].

Finnigan et al conducted a study to introduce the ISBAR communication technique across the whole of a large multisite health service for internal clinical communication. Given the large size of the organisation, having over 12 000 staff members, the project was divided into two phases. The initial phase, based at one campus, was followed by a second phase during which the project was rolled out site by site. This paper discusses the lessons learned from the roll-out at the first campus. The use of a structured methodology of communication using a standardised tool can improve the quality of information exchange. One such tool that has been demonstrated to improve communication is the situation briefing tool, SBAR.9 This tool was developed in the US Navy to standardise important and urgent communication in nuclear submarines. SBAR (Situation, Background, Assessment, Recommendation) was implemented into the health care environment by a multidisciplinary team at Kaiser Permanente of Colorado10 and is a commonly used effective tool, adapted for a large variety of clinical scenarios in the USA [9].

Literature related to importance of Handoff Communication

In today's complex and rapidly changing health care environments, patient harm may result if important patient information is not communicated from one health care provider to another during handoffs in care. Issues involving communication, continuity of care, and care planning are cited as a root cause in more than 80% of reported sentinel events. In light of the inherent risks associated with handoffs in care, the use of strategies that reduce the impact of human factors on effective communication and standardize the communication process is essential to ensure appropriate communication patient information and that a plan of care is continued through the process [10].

Communication lapses at the time of patient handoffs are believed to be common, and yet the frequency with which patients are harmed as a result of problematic handoffs is unknown. Resident physicians were surveyed about their handoffpractices and the frequency with which they perceive problems with handoffs lead to patient harm. Although handoffs have long been recognized as potentially hazardous, further scrutiny of handoffs has followed recent reports that handoffs are often marked by missing, incomplete, or inaccurate information and are associated with adverse events. In this study, reports of harm to patients from problematic handoffs were common among residents in internal medicine and general surgery. Many best-practice recommendations for handoffs are not observed, although the extent to which improvement of these practices could reduce patient harm is not known. MGH has recently launched a handoff-safety educational program, along with other interventions designed to improve the safety and effectiveness of handoffs, for its house staff and clinical leadership [11].

Poor physician handoff can be a major contributor to suboptimal care and medical errors occurring in the hospital. Physician handoffs for intensive care unit (ICU)-to-ward patient transfer may face more communication hurdles. However, few studies have focused on physician handoffs in patient transfers from the ICU to the inpatient ward. During the initial stage of patient transfers, 15.6% of the consulted receiving physicians verbally communicated with sending physicians; 26% of receiving physicians received verbal communication from sending physicians when patient transfers occurred. Poor communication during patient transfer resulted in 13 medical errors and 2 patients being transiently "lost" to medical care. Overall, the levels of satisfaction with communication (scored on a 10-point scale) for sending physicians, receiving physicians, and patients were 7.9±1.1, 8.1±1.0, and 7.9±1.7, respectively. The overall levels of satisfaction with communication during ICU-to-ward patient transfer were reasonably high among the stakeholders. However, clear opportunities to improve the quality of physician communication exist in several areas, with potential benefits to quality of care and patient safety [12].

When new-graduate nurses enter practice, they are expected to provide clear, effective handoff reports during care transitions. However, few nursing programs offer systematic instruction or opportunities to practice this important form of communication. Authors described a teaching intervention designed to prepare students with handoff skills they will need in practice. Data was gathered to evaluate its effectiveness indicated that skill repetition improved student performance and perceived self-efficacy of handoff reporting [13].

Psychiatric inpatient unit nurses implemented a quality improvement project to explore strategies to enhance the effectiveness of the change of shift communication between nurses and patients and obtain goals of care information. Three nurses championed a 6-month project to implement more efficient, patient-centered communication; influence patient outcomes; and assess nurses' perceptions about patient satisfaction. A survey established the level of nurse satisfaction regarding the length of time spent at change of shift obtaining patient information. Following a literature review, nurses used a standardized approach for their change of shift report, which they called patient bedside handoff. Nurses reported increased satisfaction with the length of time spent with the patient bedside handoff from a pre-implementation average score of 5.7 (somewhat satisfied) to a post-implementation score of 8.3 (very satisfied). This nurse-led quality improvement project helped illuminate perceived barriers to the implementation of patient bedside handoff and the changes in nurses' perceptions over time [14].

Nurse-to-nurse beside handoff allows the oncoming nurse to visualize the patient and ask questions of the previous nurse. It encourages pateints to be involved actively in their care and allows standardized communication between nursing shifts. Patient handoff between nurses at shift change has been an important process in clinical nursing practice, allowing nurses to exchange necessary patient information to ensure continuity of care and patient safety. Bedside handoff allows the patient the ability to contribute to his or her plan of care. It also allows the oncoming nurse an opportunity to visualize the patient and ask questions. This is critical in meeting the Joint Commission's 2009 National Patient Safety Goals. It encourages patients to be involved actively in their care and it implements standardized handoff communication between nursing shifts. Bedside handoff promotes patient safety and allows an opportunity for patients to correct misconceptions. Fifteen nurses with a mean of 2 years in the profession completed the pre- and post-survey. A majority of staff were not satisfied with the current shift change report, but statistical improvement was achieved after the practice change. Also, statistical improvement was achieved with patients' satisfaction with involvement in their plan of care. Use of bedside nursing handoff promotes staff accountability, two-person IV medication reconciliation, and patient satisfaction [15].

Handover of patient care has been an ongoing problem within the health care sector. The process remains highly variable and there is a threat to patient safety. Despite the general belief that handover transitions in patient care have become routine, not enough attention or research has been directed at improving this period of care. For this reason there is a need to provide an analysis of the communication processes during handover. A study was conducted of the handover process among doctors during shift changes within a hospital setting. The results suggested a need for process change. Results revealed a handover process which was unstructured, informal and error prone, with the majority of doctors noting that there was no standard or formal procedure for handover. The research found that the majority of hospital doctors recognized the potential benefits of formalizing and computerizing this process [16].

Effective communication and teamwork have been identified in the literature as key enablers of patient safety. The SBAR (Situation-Background-Assessment-Recommendation) process has proven to be an effective communication tool in acute care settings to structure high-urgency communications, particularly between physicians and nurses; however, little is known of its effectiveness in other settings. This study evaluated the effectiveness of an adapted SBAR tool for both urgent and non-urgent situations within a rehabilitation setting. In phase 1 of this study, clinical staff, patient and family input was gathered in a focus-group format to help guide, validate and refine adaptations to the SBAR tool. In phase 2, the adapted SBAR was implemented in one interprofessional team; clinical and support staff participated in educational workshops with experiential learning to enhance their proficiency in using the SBAR process. Key champions reinforced its use within the team. In phase 3, evaluation of the effectiveness of the adapted SBAR tool focused on three main areas: staff perceptions of team communication and patient safety culture (as measured by the Agency for Healthcare Research and Quality Hospital Survey on Patient Safety Culture), patient satisfaction (as determined using the Client Perspectives on Rehabilitation Services questionnaire) and safety reporting (including incident and near-miss reporting). Findings from this study suggest that staff found the use of the adapted SBAR tool helpful in both individual and team communications, which ultimately affected perceived changes in the safety culture of the study team. There was a positive but not significant impact on patient satisfaction, likely due to a ceiling effect. Improvements were also seen in safety reporting of incidents and near misses across the organization and within the study team [17].

Despite being essential to patient care, current clinical handover practices are inconsistent and error prone. Efforts to improve handover have attracted attention recently, with the ISBAR tool increasingly utilized as a format for structured handover communication.

However, ISBAR has not been validated in a junior medical officer setting. Use of the ISBAR tool improves JMO perception of handover communication in a time neutral fashion. Consideration should be given to the introduction of ISBAR in all JMO handover settings. Use of the ISBAR tool improves JMO perception of handover communication in a time neutral fashion. Consideration should be given to the introduction of ISBAR in all JMO handover settings [18]. Communication of information that is timely, accurate, complete and directive between healthcare providers is essential to quality patient care. ISBAR is a type of hand-off report technique that healthcare providers can use to improve the quality of their hand-off reports. Institution implemented this hand-off technique in the Fall of 2006. One year later, the task-force who chose ISBAR needed to quantify and qualify the use of the ISBAR technique amongst its staff. As identified by the Joint Commission in their publication: Patient Safety Solutions, Communication breakdowns were the leading cause of sentinel events in the United States between 1995 and 2006. Healthcare hand-off best practice techniques and processes have not yet been established, however lessons can be taken from other industries. The use of a common communication technique such as SBAR, used initially in the military and the aviation industries provides one such lesson. Though articles regarding the use SBAR are common in current healthcare literature, research studies regarding its use and effects are rare. Using ISBAR technique does improve the success of hand-off communications in healthcare. Further education and/or remediation is needed, with an emphasis on providing recommendations [19].

Conclusion

Good communication is essential for safe patient care. Bad communication can have serious consequences. Without a framework the communication of important clinical information may be forgotten or missed. The ISBAR (Identify -Situation-Background-Assessment-Recommendation) technique is a simple way to plan and structure communication. It allows staff an easy and focused way to set expectations for what will be communicated and to ensure they get a timely and appropriate response. It helps to prevent vital information being missed, provides a recognized framework within which to organize what you want to say and give the opportunity for you to state what outcome you desire from the conversation.

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