

ISBAR revisited: Identifying and Solving *BAR*riers to effective clinical handover in inter-hospital transfer

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ACSQHC acknowledges that the information contained in this one-year study presents initial developments and supports longer-term research and evaluation. The information presented here does not necessarily reflect the views of the Commission, nor can its accuracy be guaranteed.

Hunter New England Health acknowledges that the data presented in the results section of this report are not without limitations, and must be interpreted with caution. The study is essentially a pre and post study design, without a control group. Therefore changes in assessments of various elements contained in all surveys could have occurred by chance, or because of other factors or events not recognised or captured through our measurement mechanisms. The study results do however provide information about the merits and benefits for staff and patients of a short tailored training program to improve clinical communication and handover using the ISBAR tool.

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Abbreviations

AMA	Australian Medical Association
GP	General practitioner
HNEHealth	Hunter New England Health
IIMS	Incident Information Management System
ISBAR	Introduction - Situation - Background - Assessment Recommendation
JHH	John Hunter Hospital
PFU	Patient Flow Unit
RNC	Royal Newcastle Centre
SBAR	Situation, Background, Assessment, Recommendation
TMH	The Maitland Hospital
VMO	Visiting Medical Officer
WAPS	World Alliance for Patient Safety
WHO	World Health Organisation

Abstract

Inter-hospital transfer is an everyday part of clinical practice where poor communication risks patient safety and contributes to adverse outcomes. This project evaluated the impacts of a standardised format 'ISBAR' - 'Introduction, Situation, Background, Assessment and Recommendation' – across one sending and two receiving facilities in the Hunter New England area of northern NSW. Results were derived from over 330 surveys or interviews with clinicians (medical and non-medical), patients, carers and staff from the Patient Flow Unit and those involved in transporting patients. Many participants reported that the best elements of the ISBAR framework were that it was simple, memorable and portable. Staff had increased confidence in giving and receiving clinical handover and audits of medical charts indicated that the quality of information improved. A comparative incident analysis between the sending facility and a similar hospital suggested a heightened awareness surrounding handover. Overall, ISBAR was well-received and is being implemented across the Hunter New England Area Health Service.

Executive Summary

As part of a wider program around clinical communication in Hunter New England Health (HNEHealth), this project developed, tested and evaluated a tool to identify and solve barriers to effective clinical handover in inter-hospital transfer. Informed by the international literature and experience from health and other high risk industries, we adapted the ISBAR (Introduction, Situation, Background, Assessment and Recommendation) model.

Eligible patients, their carers, clinical staff involved in their care, and transport staff involved in their transfer were surveyed or interviewed about their perceptions of the quality of their clinical communication experience. The study took place across The Maitland Hospital (the sending hospital) and the John Hunter Hospital / Royal Newcastle Centre campus (the receiving hospitals) and the model provides a highly effective framework for a standard operating protocol in communication of both clinical and non-clinical information.

This project was conducted in four phases: establishment, development, implementation and evaluation. During the development phase 40 medical records were reviewed for the quality of their documentation. Clinicians were consulted about their wish-list for clinical communication and a standard approach with their preferences incorporated into the final tool. Baseline data about the quality of clinical communication were also collected and the extensive training on ISBAR undertaken and evaluated. During the implementation phase, 50 patient inter-hospital transfers were closely examined: patients' medical records were audited and more than 300 patients, carers, clinicians and other staff were surveyed or interviewed to gauge their perceptions as to the quality of the clinical handover which had taken place. As well as analysing the data gathered, the evaluation phase also included comparative incident analysis from the sending hospital (The Maitland Hospital) and a similar hospital (Belmont District Hospital) to characterise trends in adverse incident reporting before and during the study period.

Our team worked through a methodical consultation and development process to generate a tool for handover which:

- was shaped by the requirements of the clinicians who might use it
- is brief, portable and widely generalisable
- is easy to teach and positively received
- appears to provide clinicians with a structure that once learnt, increased their confidence in giving clinical handover,
- was actively adopted by senior leadership of HNEHealth to shape critical information exchange, and
- was disseminated through word of mouth beyond the project sites so that it was adopted in many other settings and structures throughout HNEHealth.

Key outcomes of this project were that:

- A 15-minute ISBAR training session produced statistically significant improvements in confidence in capacity and in the self-assessed skill level of clinicians and patient transport staff to give and assess the quality of a clinical handover.
- Compared with baseline scores, non-medical clinicians demonstrated improvement in their perception of the quality of the handover which had taken place.
- There was improvement in patients' and carers' perceptions of the quality of information exchange concerning patient care (as measured during the development and implementation phases).
- The quality of documentation in patient records around items of handover information improved (including notations of information having been given to patients).

Evaluation of incident data at the sending hospital showed clear trends in increases in reporting incidents with concomitant increase in incidents relating specifically to communication with transfer (which did not occur at the comparator hospital), suggesting that a heightened awareness had penetrated the hospital concerning risks to patients.

Many elements were considered to have contributed to these outcomes. Importantly, second generation diffusion (in training and use of the tool) across the organisation occurred spontaneously, suggesting that the tool was a practical representation of an idea whose 'time had come'.

Our project addressed World Health Organisation and World Alliance for Patient Safety recommendations concerning the flexible adaptation and use of an 'SBAR' format, capitalising on communication sciences to train and disseminate the tool for use in clinical and non-clinical settings. However, it is recognised that measuring sustainability and penetration of the tool is beyond scope and time-frame of this project and this will require further evaluation in due course.

1 Introduction

1.1 Overview

Clinical communication has been long recognised a critical area of clinical practice and patient care and, done poorly, as a source of error in acute and community health care settings. To address recognised risks to patient safety from poor communication at handover, in 2007 the World Health Organisation (WHO, 2007) published the third in its series Patient Safety Solutions and recommended that its member states should consider adopting strategies to

...ensure that health-care organizations implement a standardized approach to hand-over communication between staff, change of shift and between different patient care units in the course of a patient transfer..

One of the suggested elements of this approach included the use of the SBAR (Situation, Background, Assessment and Recommendation) technique. A subsequent review by the World Alliance for Patient Safety (WAPS) concerning gaps in patient safety research identified that effective communication around the transfer of patient information was an under-researched area. Key research questions which remained to be answered included:

- What are the minimal requirements for effective transfer of knowledge from clinician to clinician?
- How can the communication sciences, which address beliefs and misunderstandings in oral, written and electronic messages, be applied to healthcare to make handovers less error-prone? (WAPS 2008:66)

1.2 Hunter New England Health and inter-hospital transfer

Spanning a land mass of more than 130,000 sq kms, Hunter New England Health (HNEHealth) (Figure 1.1) delivers public health services to more than 850,000 people who live in or around cities, towns and villages in regional, coastal, rural and remote NSW. By necessity, a system of patient referral has been developed to ensure the public's health needs are served by local, regional and tertiary referral hospitals and community networks.

A key challenge permeating the work of HNEHealth is of effective communication. In HNEHealth, where patients frequently require more sophisticated care than is available to them at their local rural facility, the challenge is heightened by the need for clinicians of often very different clinical backgrounds to communicate effectively across time and distance to optimise the transfer of a patient and their clinical information. Barriers to effective communication specific to clinician to clinician handover of information might include the clinical experience or background or care setting of both the sending and receiving clinician that the clinicians have not spoken together before, and in HNEHealth, that clinicians might live and work in locations sometimes hundreds of kilometres apart. Patients are transferred from these smaller sites to a larger tertiary centre for a number of reasons including the complexity of their disease, the severity of their illness, or as an urgent need for medical intervention not locally available. In small district hospitals medical care is provided by local general practitioner (GPs) who are appointed to the health services as Visiting Medical Officers (VMOs). In larger rural hospitals medical care is provided by specialist medical practitioners as well as local GPs.

Figure 1.1 Map of Hunter New England Health and NSW



There has long been recognition in HNEHealth that inter-facility transfer of patients poses special risks, and that poor clinical communication can multiply risks to patient safety and clinical quality. In 2005 in response to a series of serious adverse incidents around the transfer of patients from a rural facility to a metropolitan tertiary centre a formal aggregated task safety analysis was undertaken to identify and proactively manage risks associated with inter-facility transfer. Strategies to remove barriers to effective communication and to improve inter-hospital transfer processes (such as the implementation and on-going resourcing of a Patient Flow Unit) were implemented. There was a subsequent reduction in serious adverse events (Aldrich et al. 2006).

There have been a number of recent efforts in Australia (AMA 2006) and worldwide to improve particularly vulnerable areas for communication failure and adverse outcomes such as handover (WHO 2006, Leonard 2004, Baker et al. 2003). However, to our knowledge standardised handover has not been successfully implemented across an organisation such as HNEHealth,

with most reports in the literature being of a descriptive nature in a specific setting. A high priority area for intervention is high risk situations such as inter-hospital transfer (Gordon et al. 1996; Durairaj et al. 2003; Duke et al. 2001). We located no published data on the successful implementation of standardised communication format such as ISBAR in inter-hospital transfer. Into this context, HNEHealth developed, implemented and evaluated a process for improving incident management and innovation in clinical communication, handover and inter-hospital transfer. Essential to success to date has been the willingness of service providers to work collaboratively. The project was aligned with organisational objectives and attracted executive support at the highest levels of the organisation. In addition we undertook wide stakeholder engagement in our planning and implementation processes.

1.3 The Patient Flow Unit

The Patient Flow Unit (PFU) provides a single point of contact for key stakeholders involved in the inter-hospital transfer process, which is one of its core roles. It is an area-based rather than facility-based unit model and is located on the Rankin Park Campus with the John Hunter Hospital and Royal Newcastle Centre (see section 1.4 below). The PFU commenced operations in 2006 with a role to “broker” and effect transfers as requested by treating clinicians. The PFU seeks to arrange direct conversations between consultants for those consultants to discuss and make arrangements for the patient. The PFU coordinates between 20 and 40 transfers per day across HNEHealth, with sending clinicians often private practitioners working as visiting consultants in smaller centres throughout HNEHealth.

The PFU co-ordinates the inter-facility transfer of inpatients following a 'Standard Transfer Process' triggered by a single call from the referring medical/nursing practitioner. Upon taking the call, the Flow Manager will identify the most appropriate facility and ED/inpatient team to accept care based on preliminary clinical details provided and then facilitate a 3-way conference call between the referring and accepting team. It is the responsibility of the Flow Manager to document the relevant clinical details and the agreed management plan, and to elicit the medically agreed timeframe to transfer. Prompting by the PFU may occur during the call if the clinical information is not adequate to plan the transfer and negotiate an appropriate bed/determine the modality and level of escort required during the transport.

The accepting facility bed manager is then notified by the PFU of the need for a bed and the agreed timeframe and transport booking is forwarded to the Health Transport Unit. The PFU is then required to monitor the patient transfer episode until completed and if necessary will 'escalate' patient cases when timeframes (as determined by clinicians) are being exceeded. The patient remains the focus at all times and the distractions of capacity/activity issues are not to impede the transfer when the patients' clinical need warrants the transfer.

1.4 The Hospitals

The study took place across two HNEHealth campuses: The Maitland Hospital and the John Hunter Hospital / Royal Newcastle Centre complex.

1.4.1 The Maitland Hospital

The Maitland Hospital (TMH) is a 200-bed rural referral hospital serving the Upper and Lower Hunter Regions of New South Wales (NSW). The hospital is located in the Lower Hunter Valley of NSW, 35 minutes from the John Hunter Hospital, and had 14,136 separations in the year 2007/08. It has a very busy 24-hour Emergency Department, attending to 28,458 adult presentations in 2008, of which 5,522 led to admissions. The hospital provides services in internal medicine, general and special surgery, obstetrics, paediatrics and intensive care. The Maitland Hospital was the 'sending' facility in our study.

1.4.2 The John Hunter Hospital / Royal Newcastle Centre

The John Hunter Hospital (JHH) is the principal referral centre, teaching hospital and community hospital for Newcastle, Lake Macquarie and beyond. With 550 beds, it is the only trauma centre in NSW outside Sydney and has the busiest emergency department (ED) in the state. In 2008 the JHH ED attended to 43,766 adult presentations leading to 14,793 admissions; there were 69,617 separations at the JHH during the 2007/08 year. The Royal Newcastle Centre (RNC) is co-located with the JHH on the Rankin Park campus and shares essential functions and is subject to the same inter-hospital transfer processes. Patients with orthopaedic and urological conditions referred from elsewhere would usually be admitted to the RNC, which contains 84 inpatient beds and 60 interventional suite beds. Both facilities were included in our study as the 'receiving' facility.

2 Project Aims

The project aimed to test the impact on patient care that could result from identifying and solving barriers to effective communication around inter-hospital transfer. The project sought to identify challenges and opportunities and implement a transferable communication aid - the ISBAR framework - relating to specific handover processes concerning the transfer of patients between rural and metropolitan health care facilities.

The project adapted, trained staff to use, implemented and evaluated the ISBAR communication tool to assist in clinical handover of patients transferred between a rural referral facility (The Maitland Hospital) and the John Hunter Hospital and Royal Newcastle Centre located in metropolitan areas.

3 Research Methods

3.1 Overview of study design

The project employed a four-phase methodology:

The first phase concerns the **establishment** of the project, during which governance structures, the appointment of the Steering Committee and recruitment of project staff place. In addition, project information for communication to stakeholders was developed and disseminated.

The **development** phase comprised the second phase of the study. This included tasks such as assessing current practice of transfer through understanding clinicians', patients' and carers' perceptions of the quality of handover. These results formed the 'baseline' monitoring and assessment for comparison later on in the study. Incorporating information obtained through focus groups and surveys, ISBAR was chosen as the tool for standardising clinical handover in inter-hospital transfers. It was developed, piloted and finalised in this phase and clinicians and other staff were also trained in its use.

The **implementation** phase was informed by the baseline monitoring and assessment undertaken during the development phase and commenced after clinicians based at The Maitland Hospital (TMH) had been trained in using ISBAR for standardising handover communication of patient information. During the implementation phase each eligible patient transfer episode was identified, and clinicians (at both the sending and receiving hospitals), patients, carers and patient transfer staff involved in that transfer interviewed.

The fourth phase to the project was **evaluation**, during which data on the utility, acceptability and impact of the standardised format to affect optimal patient care at the receiving hospital were analysed. This included comparisons between pre and post-ISBAR training surveys,

baseline and implementation surveys of those involved in patient transfer and audits of patient charts. A comparative analysis of adverse incident data was undertaken for TMH against Belmont District Hospital, a hospital of approximately similar size, case mix and referral pattern.

This report provides a summary of the three latter phases. A multi-media education package based on the literature, consultation, tools and study results was also designed and produced for use across diverse settings in Hunter New England Health and beyond. For more information, please see Aldrich et al (2009).

3.2 Study inclusion and exclusion criteria

Study inclusion criteria were:

- Registered patients from TMH who were transferred to JHH/RNC for inpatient care for a current condition.
- Age 18 years and over

Exclusion criteria were:

- Patients admitted to the Delivery Suite
- Patients where the reason for transfer to JHH/RNC was for specific investigation (e.g. imaging) or brief intervention (e.g. angiogram) only with an intended return to TMH
- Patients where the transfer occurred outside of the PFU process
- Patients transferred other than to the JHH/RNC
- Patients where the decision was made not to transfer
- Patients who died prior to transfer
- Patients transferred to JHH through Retrieval

3.3 Participants

Over 270 members of staff participated in training around use of the ISBAR format in clinical handover during the Development Phase. Several focus groups and interviews with numerous clinicians were undertaken also during the Development phase to inform the format of standardised communication tool.

During the Development and Implementation Phases more than 330 formal surveys or interviews were undertaken with medical officers, non-medical clinicians, hospital staff, patients and carers in order to measure changes in perceptions of quality of communication which occurred over the course of the study. Table 3.1 below outlines the number of participants involved at each stage of development and implementation. For seven out of 50 patients tracked in the implementation phase, all identified participants in the transfer were interviewed, including the patient and carer. This '360 degree' view of transfer illuminated some of the complexities of inter-hospital transfer and some of these issues are discussed in the following section.

Table 3.1 Number of participants involved in the study

		Development Phase		Implementation Phase	
Number of patient transfers identified for the study		27		50	
Sending / Receiving Facility		TMH	JHH	TMH	JHH
Surveys (and interviews)	Medical officers	10	11	31	42
	Non-medical clinicians	12	14	23	25
	PCU and transport staff	18		13	
	Patients	24		45	
	Carers	25		42	

4 Results and Discussion

4.1 Developing a tool for improved communication

Clinicians reported that their preferences were for a communication tool or suite of tools which enabled respect and courtesy, identification of the person to whom they were speaking, a stated purpose for the call, and a clear process for communication. Table 4.1 below outlines features of the ISBAR tool with a summary of requests made by health clinicians for a proposed clinical handover tool. The ISBAR framework contained many of the key elements required by clinicians, such as being simple, standardised and multidisciplinary.

Table 4.1 Comparison of ISBAR to key elements required by clinicians

ISBAR	HNEHealth Clinician requests
Identification of person, role and location	Identification of person, role and location
Simple	Simple
Accessible	<i>Not identified as a key concern</i>
Generalisable	Generalisable
Culture-friendly	<i>Not identified as a key concern</i>
Gender-friendly	<i>Not identified as a key concern</i>
Compliments current training	Compliments current training
Multidisciplinary	Multidisciplinary
Gives common expectations	Gives common expectations
Flattens hierarchy	Flattens hierarchy
Standardised	Standardised
Minimises assumptions	Minimises assumptions
Concise	Concise
Time-limited	Time-limited
Used in different mediums – verbal, written, presentations etc	<i>Not identified as a key concern</i>
Reduces amount of information to take in or recall	Reduces amount of information to take in or recall
Focused	Focused

4.2 Training in the use of the ISBAR handover tool

Of the 276 staff members who attended 35 small group training sessions conducted over the course of the project in the use of the tool once it was finalised, at least 262 responded to every item in the evaluation surveys administered before and after the brief training session (providing 526 complete surveys evaluating the usefulness and relevance of the ISBAR skill training provided). Of the 262 surveys completed pre-training, 26 respondents indicated that they had attended an ISBAR education session prior to the training.

Rated using a likert-type scale (with 7 the maximum rating), the brief staff ISBAR training session (usually about 15 minutes in duration) produced statistically significant improvements both in participants' confidence in giving a quality clinical handover and in their self-assessed capacity to use the ISBAR tool for handover, as illustrated in Figure 4.1. Participants indicated that using a systematic approach increased their skill capacity and there was also increased certainty that they could give the relevant information. This probably reflects special characteristics of the ISBAR tool as well as the strengths of opportunistic teaching. The tool itself is simple, memorable and portable, and staff indicated that they would use it. The challenge remains to have staff *think* to use it, and strategies for prompting and reminding staff to “think talk think ISBAR” comprise part of the educational package under final development.

Barriers to effective clinical handover

As part of the pre and post training evaluation survey, attendees were asked to comment on issues related to patient transfer and handover. 74 individuals provided comment relating to 94 issues which were themed into the classifications set out in Table 4.2.

Table 4.2 Barriers to effective clinical handover as suggested by ISBAR training participants

Issue	% (approx)	Comments
Locating appropriate staff	30%	Comments related to the location of the appropriate person to accept handover. Reasons provided included issues such as staff breaks, shiftwork, identification of appropriate people and poor communication practices including failure to hand on pagers or to handover information received from the sending hospital to staff assuming care on the next shift.
Quality of handover	24%	Respondents listed problems such as being given unclear, irrelevant or sparse information, problems arising from the failure of a staff member to identify themselves, and having relevant patient information interspersed with unrelated or irrelevant matters. Four comments were given suggesting language could be a barrier to effective handover.
Time pressures	16%	Respondents expressed concern about the barrier to effective handover posed by limits on the time available to transfer the relevant content so that the person receiving the information had sufficient knowledge to care for the patient.
General systems	15%	Lack of a systematised process or standard form, access to written information regarding the patient, poorly organised or too many notes, use of faxes and email not allowing feedback were cited among systems issues that inhibited success in handover.
Environmental issues	5%	Five respondents suggested that interruptions, noisy or public areas designated for handover and technological problems could limit the effectiveness of clinical handover.
Poor reception of handover	5%	Five respondents referred to the attitude of the person at the receiving end of the handover. Issues raised included staff not listening to information or interrupting so that the message was left incomplete.
Not being included in the handover process	3%	Some staff believed that they were not seen as important in the handover process and therefore not given the necessary information to deliver care.
Other	10%	About 1 in 10 responses were unable to be interpreted with clarity and were not able to be classified.

4.3 Quality of clinical handover at baseline and during the implementation phase

4.3.1 Medical officers

There was no change from baseline scores in the level of satisfaction with the quality of the handover expressed by medical officers (MOs) from the sending hospital (TMH, n=10) at baseline and during the implementation phase (n=31). For medical officers at the receiving hospital, there was a slight decrease on all items in satisfaction with the quality of the clinical handover from baseline (n=11) to implementation phase (n=42).

One explanation for this is that the training induced increased expectations about the difference the training could make to the quality of communication, resulting in disappointment and disaffection when the quality of the handover received was not markedly improved compared with usual practice. Indeed, the results may support the conclusion that an ISBAR format for clinical handover is less attractive to medical officers because it requires *replacing* an existing conventional structure (even if poorly followed) by a *new* approach yet to prove itself; changing practice among medical officers is notoriously difficult.

Another explanation for these results is that the response rates among receiving MOs were much improved during the implementation phase, highlighting the possibility that the baseline measurement overestimated the usual quality of clinical handover received from sending MOs. A third explanation might be that the baseline surveys were undertaken by medical specialists in the Project Executive (two of whom were consultants in Clinical Governance), whereas the implementation phase surveys were undertaken by the Senior Project Officer, who was not a doctor. It is possible that talking to medical colleagues induced the clinicians at baseline to 'talk up' their rating of quality, and that MOs during the implementation phase were not motivated to do so. A final explanation may be that for a number of reasons the clinical handover from sending MOs during the implementation phase was actually poorer than the handovers given during the baseline measurement period. Overall however, all aspects of the above possible explanations could have influenced the results.

4.3.2 Non-medical clinicians

Clinical staff other than medical officers demonstrated improvements in their perceptions of the quality of the handover conversations which had taken place during the implementation phase, especially concerning the clarity of reasons for transfer and the patient's condition, and description of the patient's condition.

Although it is not possible to say whether this is due to the training given to staff at the sending hospital, or other unmeasured factors, this finding is promising, and does suggest that further work building on the experience of the project to develop skills in clinical handover is likely to be beneficial.

4.3.3 Patients and carers

Patients and carers reported an improvement in perception of courtesy, and satisfaction with the quality of explanatory information provided concerning their or their relative's transfer between hospitals, as illustrated in Figures 4.2 and 4.3 respectively. Response rates were also high, at approximately 93% and 84% respectively for patients and carers; the results were similar and again promising.

Rated using a likert-type scale (with 7 the maximum rating) patients and carers both reported a marked improvement in their own experience of the inter-hospital transfer experience. Patients and carers both expressed increased confidence in their capacity to ask questions about their condition in the future. There was some improvement noted in the item which scored least well

at baseline, in which patients and carers were asked to rate the clarity of information given to them about to whom they could speak to in the future about their/the patient's condition. Given that previous work undertaken by Clinical Governance suggested that lack of information being given about their care was a major source of complaints from patients and carers (Hill et al. 2007), this is a positive outcome.

It should be noted that the patients and carers surveyed at baseline were not the same patients and carers surveyed during the implementation phase, but they did receive the same survey, administered by the same project officers in the same way. This suggests that the changes apparent in the mean scores as assessed do reflect a changed environment and experience between the baseline measurement period and during the implementation phase.

4.3.4 Patient Flow Unit and transport staff

These surveys centred on staff assessment of how frequently referrers adequately provided relevant information, courtesy and respect and the overall quality of the communication. Administered at the commencement and conclusion of the implementation phase, staff reported some change in their perceptions of the quality of aspects of handover communications.

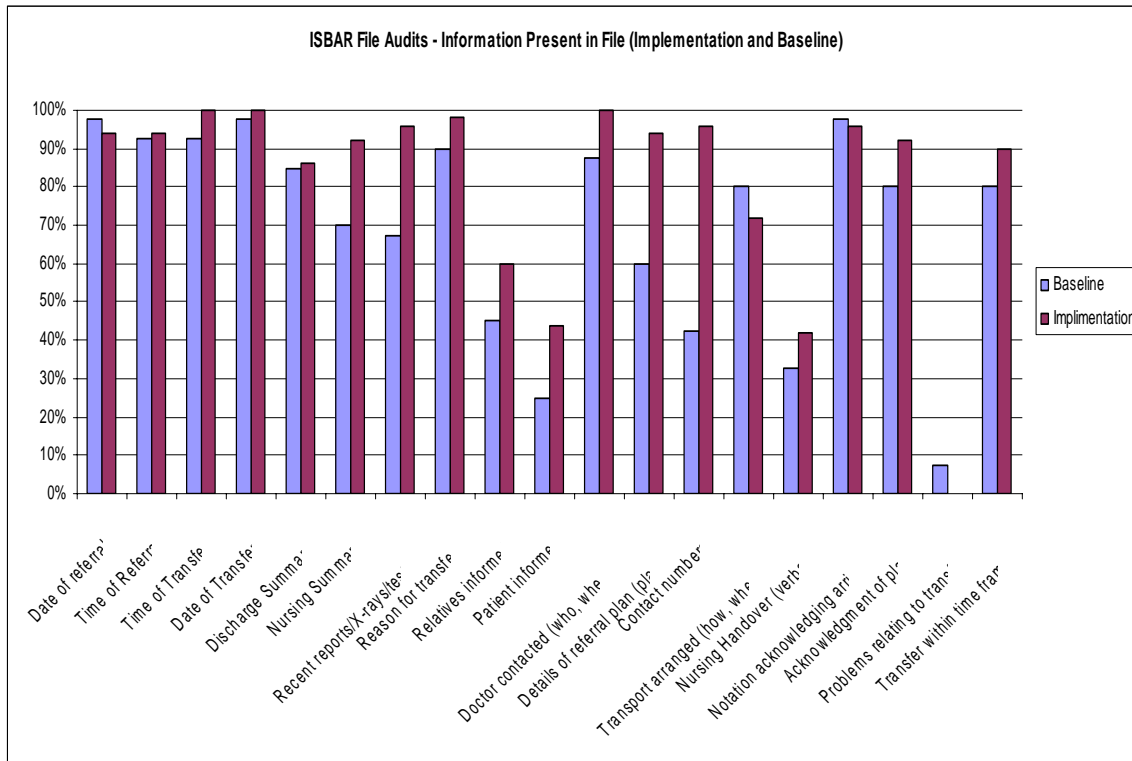
The five PFU staff who responded on both occasions noted over the course of the implementation phase that there was a slight improvement in courtesy in the overall communication which took place. There was also improvement in the frequency with which the sending clinician identified their location and gave adequate information about the patient's condition. However, PFU staff noted no improvement or indeed a move towards worse performance as assessed by the frequency with which staff considered that a medical officer identified themselves, the amount of prompting PFU staff had to do to solicit key information, and the clarity with which medical officers described their purpose for calling.

For most elements of the survey, there was no change in the average score of 13 transport staff surveyed after the implementation phase from the average score of the 18 staff surveyed prior to commencement of the implementation phase. The only exceptions to this were that transport staff assessed that at the conclusion of the implementation phase clinicians identified themselves at the start of the conversation more frequently and needed less prompting to provide relevant information.

4.4 Audit of patient medical records

Figure 4.4 presents the results of the file audit for 40 patient records examined early in the development phase, compared with the 50 patient records audited (as part of the evaluation for each patient inter-hospital transfer) during the implementation phase. As illustrated, there was an increase in the notation and inclusion of relevant information for nursing summary, relevant test results or reports, that relatives had been informed, that the patient had been informed (although this still amounted to 40% of patients informed only), noting the receiving doctor had been contacted, contact number for carers and details of a referral plan.

Figure 4.4 Notation or absence of notation of communication elements in patients' medical records (development and implementation phases)



The audit showed a trend towards improved documentation across almost all elements of written handover information, especially in having nursing summaries, recent test reports, details of the referral plan and contact telephone numbers for the next of kin noted in record. Improvement from low baseline values were noted also for the patient and carer having been informed of details of the inter-hospital transfer, which is consistent with the reported increase in satisfaction with this aspect of communication as discussed above. While there was an improvement on the baseline level of documentation, it is concerning that notation around having informed patients and carers of what was happening to the patient occurred in only 60% and 45% of cases respectively during the implementation phase; clearly there is still room for substantial improvement.

4.5 Adverse incidents during the study period

Analysis of IIMS (Incident Information Management System) data at The Maitland Hospital (TMH) and Belmont District Hospital (BDH) (presented in Table 4.5) show a divergence in trends in incident reporting and type at the two hospitals for the period of October to December 2008.

For TMH over each of the time periods, the *number* of communication related incidents and transport related incidents remained constant (but as a proportion of all incidents decreased as the denominator increased). However, incidents reported concerning communication with transfer *doubled* during the time of our study was in progress. This was on a background of a 30% increase in the total number of incidents reported between 2007 and 2008; and a total increase of 50% on incidents reported between 2006 and 2008. These data contrast with the incidents reported at BDH - the total number of incidents reported increased by 120% between

2006 and 2007 and reduced slightly in 2008, where the percentage of incidents relating to communication, communication with transfer and transfer alone remaining constant.

Table 4.5 Adverse incidents recorded in IIMS at TMH and BDH (2006, 2007 and 2008) concerning 'communication', 'communication with transfer', or 'transfer'.

		TMH	%	BDH	%
Oct-Dec 2006	Other	144	76	61	82
	Communication	29	15	7	9
	Comm &Trans	12	6	6	8
	Transfer	5	3	0	0
	Total	190	100	74	100
Oct-Dec 2007	Other	235	82	142	87
	Communication	26	9	14	9
	Comm &Trans	16	6	5	3
	Transfer	9	3	3	2
	Total	286	100	164	100
Oct-Dec 2008	Other	305	82	124	83
	Communication	28	7	12	8
	Comm &Trans	36	10	10	7
	Transfer	5	1	3	2
	Total	374	100	149	100

The data concerning adverse incidents provide some evidence that staff at TMH had an increasing awareness over time of patient-related adverse events in general and the impact that poor clinical and clinical handover communication could have on patients. This is firstly illustrated by the yearly increase from 2006 to 2008 in the number of adverse events reported. Second, that the category of incidents relating to 'communication and transfer' increased as a proportion of all incidents over the three years (from 6% in 2006 and 2007 to 10% in 2008 during the implementation phase) suggests a heightened awareness of incidents relating to communication around patient transfer. Given that there was no corresponding increase in severe adverse events during the same period, the increased numbers of IIMS reports suggest a strengthened culture of reporting at TMH. These trends in both increased reporting culture and an enhanced identification of communication-related transfer incidents (trends which did not occur at BDH during the same time periods) point to a care culture at TMH at least primed for clinical communication change, if not perhaps changed already in some way.

5 Staff Engagement and Project Reflections

The level of participation and engagement in the ISBAR project and in clinical communication initiatives throughout HNEHealth has been greater than anticipated. It is perhaps explained by ISBAR as a structure for communication being a simple idea whose 'time had come', and that the project and the Clinical Governance portfolio provided structures and vehicles for diffusion of that idea to take place. Importantly, there has been substantial feedback and enthusiasm for the importance of the 'I' in ISBAR: introduction of self and establishing the identify of the other person in the conversation while ensuring that a 'space' is created for the conversation to take place are seen as paramount to the fundamentals of courteous, appropriate and targeted

information exchange. Many participants commented that the nature of their exchanges was determined in part by whether they knew or what they knew of the person to whom they were speaking. ISBAR provides a framework to communicate relevant information without knowing the person receiving the information; it does not rely on prior knowledge of the situation or the audience.

Many participants in our project reported that the best elements of the ISBAR framework were that it was simple, memorable and portable. Clinical Governance and HNEHealth believe that our standardised format for health communication, supported by electronic resources which appeal to a diverse range of learning styles among staff, holds great promise for system improvement and enhanced quality of care for the community we serve. Importantly, the ISBAR project has consolidated a program around clinical communication first developed in 2007 by the Clinical Governance team for HNEHealth. During the past 12 months, one of the most important outcomes of the project has been the 'second generation diffusion' of the resources, training and uptake of the tool, both formally and informally. ISBAR was also disseminated through word of mouth beyond the project sites so that it was adopted in other settings and structures throughout HNEHealth, such as executive team briefings to senior management.

While the response rate for some groups surveyed in this project was 70% or higher, for other groups the response rate was much lower. In addition, the response rate was not uniform for sub-groups at baseline and during the implementation phase. There is no way of knowing the effect this differential response rate within a sub-group might have had on the data as presented in this report.

The study design would have been strengthened by having a control group, and additional numbers in the groups of medical and non-medical clinicians, patients, carers, and patient flow and transport staff surveyed. Other than for the participants who participated in the short training session around ISBAR, the numbers in each group were unlikely to be able to show statistical significance in the absence of very dramatic changes to perceptions of quality of clinical communications which had taken place. The study numbers were a function of the timeframe of the study. It is reasonable to expect that additional episodes of patient transfer could have been included in the study had the study period of the implementation phase been longer.

6 Future Directions

Our study has identified, adapted and further developed, trained staff to use, and evaluated the use of the ISBAR tool for critical communication concerning clinical handover in inter-hospital patient transfer. We have generated experience and data in the use of the ISBAR as a standardised tool for clinical handover, and identified scope for further work and in clinical communication in HNEHealth and beyond.

While measuring the longer term impact from the ISBAR project is beyond the scope of this project and timeframe, key among the questions for further action raised by our project¹ are:

- 1) Why do people handover poorly?
- 2) Does confidence in acquiring skill in using a tool for clinical communication translate into using the tool?
- 3) Does using the tool lead to a reduction in risk of adverse incidents, a reduction in the number and/or severity of adverse incidents, and an improvement in outcomes for patient, carers and staff?
- 4) How can we ensure and measure that change is sustained?

¹ These questions are additional to those detailed in WAPS (2008)

Clinical Governance and HNEHealth are committed to attempting to answer these questions as part of the organisational program to enhance all aspects of health communication. Clearly, as with patient safety improvement in general, organisation-wide engagement is key to systematically improving the culture. Our organisational commitment to effective clinical communication for quality and patient safety is based on experiences in incident and complaints management, and internal reflection on the impact of communication on outcomes for patients, carers and health care professionals. Further, we have recognised that for communication to be effective in a complex and geographically diverse environment such as HNEHealth, any communication framework must be applicable across all health care settings, whether they are clinical or managerial.

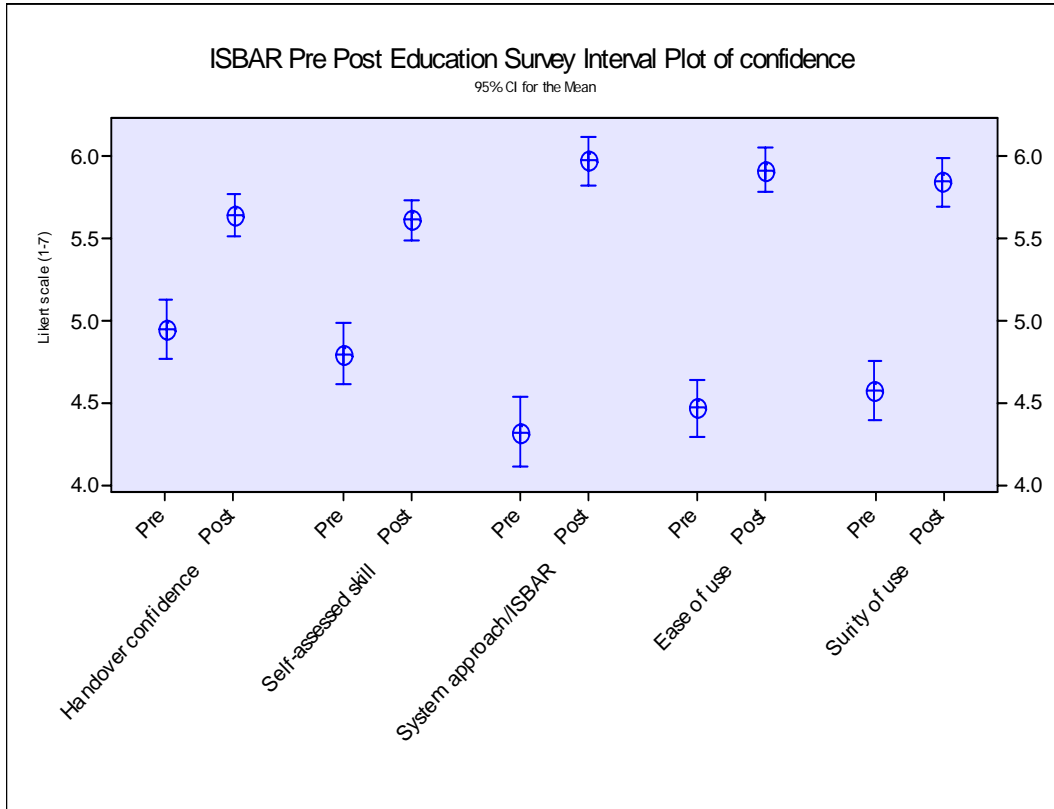


Figure 4.1 Mean values and confidence intervals of self-assessed capacity and approach to clinical handover, pre and post standardised 15-minute training session (n=262)

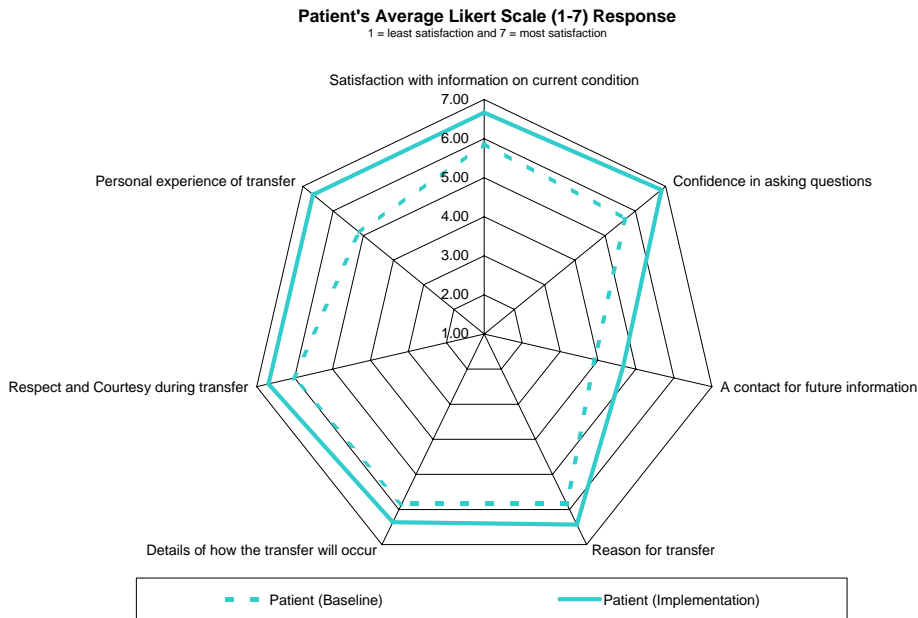


Figure 4.2 Patients' ratings of their experience of communication concerning their inter-hospital transfer, before and after staff training in ISBAR

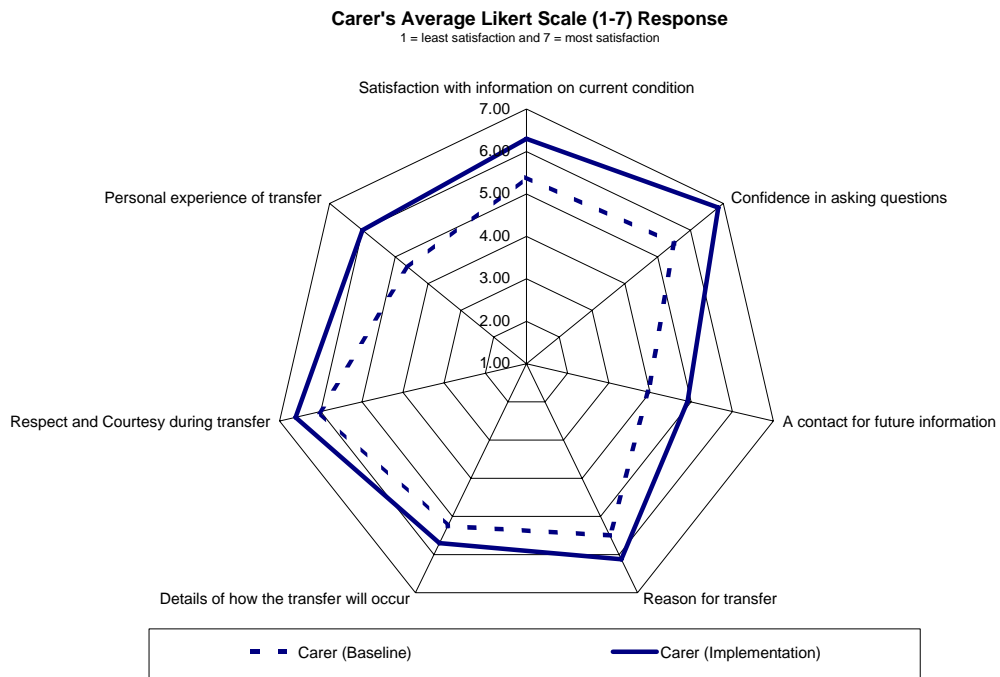


Figure 4.3 Carers' ratings of their experience of communication concerning their relative's inter-hospital transfer, before and after staff ISBAR training

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8 Glossary

Incident	Definition
Adverse Event	Unfavourable event that has happened
Adverse Incident	Unfavourable event that has happened
Clinical Governance	Clinical Governance is the framework by which accountability for quality patient care and standards of care delivery is ensured and demonstrated.
Clinical Information	Information relating to a persons medical condition and care
Clinician	A medical professional doing practical work
Hand over	The transfer of professional responsibility or accountability for some or all aspects of care for a patient, or group of patients to another person or professional group on a temporary or permanent basis
Incident Information Management System	A statewide incident management system, supported by a statewide electronic incident system, the Incident Information Management System (IIMS). IIMS is implemented under a policy framework to guide the notification, prioritisation, investigation, analysis and action and feedback of health care incidents using the Severity Assessment Code (SAC) system
Inter-hospital transfer	The transfer of one registered patient from one facility to another facility for on-going care
Near miss	Unfavourable situation narrowly avoided
Patient	A patient registered for care in HNEHealth
Patient Flow Unit (PFU)	The PFU provides a single point of contact for key stakeholders involved in the inter-hospital transfer process, which is one of its core roles. It is an Area not facility based unit model. The PFU co-ordinates the inter-facility transfer of inpatients following the 'Standard Transfer Process' triggered by a single call from the referring medical/nursing practitioner. The PFU is then required to monitor the patient transfer episode until completed and if necessary will 'escalate' patient cases when timeframes are being exceeded
Receiving Clinician	Clinician who assumes primary responsibility for the care of a patient where that care has been handed over by another clinician
Referring or Sending Clinician	Clinician with primary responsibility for the care of a patient who hands over that responsibility to another clinician
Rural Referral Hospital	A facility which has a local and regional function within Hunter New England Health but does not have a full range of specialised services
Select Survey tool	An on-line interactive program for survey
Stakeholder	A person or group with a direct interest or involvement
Tools	A device, or instrument, used to perform or facilitate work.