Evaluating an intervention to improve communication between healthcare professionals within secondary care

KRISTINA ÅSTRÖM[1], CATHERINE DUGGAN[1], & IAN BATES[2]

[1]*Academic Department of Pharmacy, Barts and the London NHS Trust, Royal London Hospital, London E1 1BB, UK, and* [2]*Department of Practice and Policy, School of Pharmacy, University of London, 29–39 Brunswick Square, London WC1N 1AX, UK*

Abstract

Aims and objectives: The purpose of this study was to evaluate a method to improve communication between healthcare professionals (HCPs) in secondary care.

Setting: The study was undertaken at a London Teaching Hospital on a General Emergency Medical ward containing 23 beds and all stages of the study involved representatives from medicine, nursing, pharmacy and physiotherapy.

Methods: Following an evaluation of the types of communication problems that occurred on a general medical ward, HCPs developed a joint communication note (JCN). A specific place to communicate, request comments and decisions and to follow up on monitoring. This was attached to the end-of-bed-notes folder for each patient for maximum access and convenience. The content of the messages were described coded and assessed. A second focus group was convened to assess the effects of the JCN and explore HCPs' perceptions of the intervention. The findings were collated to provide recommendations to improve communication within General and Emergency Medicine and across the Trust.

Results: A total of 29 HCPs participated in the study (8 doctors, 12 nurses, 4 pharmacists and 5 therapists). During the four weeks of implementation 44 JCNs were collected which comprised a total of 123 messages, a range of 1–10 messages and a median of two per JCN. Different professions used the JCN in different ways: pharmacists and nurses used it the most, whilst doctors relied on the exiting medical notes and therapists used it least. Despite decreased use by the end of the study, it was agreed that the JCN provided a means for HCPs to communicate with each other.

Conclusions: Whilst the JCN did not solve all problems with communication, it is a useful first step in influencing the communication culture within the Trust and the findings will be used to inform the development of electronic communication within the Trust. The differences between the professions highlighted the need to account for professional and behavioural differences when implementing any future developments in communication.

Keywords: *Communication between HCPs, risk management, communication, joint communication note*

Introduction

As previously described, there is wide acceptance that communication between healthcare professionals (HCPs) is central to delivering high quality patient care and is increasingly important for demonstrating professional accountability and responsibility (Berko, & Wolvin, 1989; Davis, 2000). There is a need to improve communication between HCPs and across healthcare settings, to understand the barriers that exist that prevent good communication, insights into why and where communication breaks down and to involve HCPs in any interventions to improve communication.

Previous work by our group sought to identify problems and to investigate ways to improve communication between HCPs within secondary care. Interviews and group work helped to engage the staff and get their perceptions on the importance and scale of communication issues in practice.

The different professionals developed a joint communication note (JCN) where they could all communicate but they used the JCN to different extents and differed in the sorts of information they gave and requested. These differences warrant further exploration as they go some way to explain breakdowns in communication in the first place. There are very few robust and efficient routes of information transfer, depending mainly on individual innovation rather than any systematic approach, none of which have been thoroughly evaluated in practice.

Study aims

The aim of this study was to *evaluate* an intervention to improve communication between HCPs and to make recommendations for changes to practice.

Methods

Study site and participants

The study was undertaken at a London Teaching Hospital on a General Emergency Medical ward containing 23 beds. Representatives from all healthcare professions were involved at each stage to ensure the development, implementation and evaluation of the intervention was relevant to practice. Ethical Approval was obtained (N/98/057). The development of the intervention is described in the previous paper. The participants agreed that a central point of communication was needed; somewhere where they could write notes to each other about patient-related problems or interventions required or undertaken. They identified a need for some method whereby information could be acknowledged, which they described as the JCN.

Implementing the intervention

The JCN was implemented on a general medical ward during a four-week period in spring 2001. Staff were updated and reminded about the intervention via meeting, mailings, regular updates and posters. The JCN was placed in the end-of-bed-notes folder of each patient for maximum access and convenience. Posters were placed around the wards and all HCPs were reminded to use the JCN at their various staff meetings. The main researcher visited the ward regularly to remind staff about the project, to make sure there was a supply of JCNs and that they were collected after a patient had been discharged.

Evaluating the intervention

The evaluation comprised a content analysis of the JCNs and group work. A focus group was convened made up of representatives from medicine, nursing, pharmacy and therapy to assess the effects of the JCN and to explore HCPs' perceptions of the intervention. These themes were compared before and after the intervention to assess the effects of the intervention on the perceptions of the staff involved. The findings of the focus group and the content analysis of the JCNs were collated to provide recommendations to improve communication within General and Emergency Medicine and across the Trust.

Results

Study sample

The study was undertaken at a London Teaching Hospital on a General Emergency Medical ward containing 23 beds. A total of 29 HCPs participated in the study (8 doctors, 12 nurses, 4 pharmacists and 5 therapists). Different numbers of staff were involved during the different phases of the study, as would be expected of an intervention on communication in practice.

Evaluating the intervention

During the four weeks of implementation 44 JCNs were collected which comprised a total of 123 messages, a range of $1-10$ messages and a median of two per JCN. A total of 29 HCPs participated (8 doctors, 12 nurses, 4 pharmacists and 5 therapists). In general, the JCN provided a means for HCPs to communicate with each other. Figure 2 displays the use of the JCN by the different professionals. There was uniform support of the intervention during its development by all the professions; interestingly, different disciplines varied in their use of the JCN. Doctors, nurses and pharmacists were active users of the JCN while therapists used them less. The nurses sent 27 messages, pharmacists sent 38 messages, doctors sent 29 messages and therapists sent 10 messages. The sender was unidentifiable in 19 messages. Over half of the messages, 64, were sent to doctors, 28 were sent to the nurses, 20 to the pharmacists, and 11 to therapists: 4 to the dieticians, 4 to the physiotherapists and 3 to the social workers/care co-ordinators, respectively.

The JCNs were used to request and provide information on drug related issues, drug administration, administrative issues and issues regarding the patient's discharge. More than one-third (37.3%) of messages were around drug related issues (46/123). Examples included clarification around dose, drug choice, interactions, requests for follow up of laboratory data in order to proceed with the best drug choice. These messages were mainly sent by pharmacists and nurses to doctors or by nurses to pharmacists. Almost one-third of messages (30.1%)

Asynchrous Communication	Sources of Documentation
Doctors Often have to be bleeped or phoned to resolve urgent issues, otherwise notes are left. They report high levels of stress having to rely on memory to make decisions remotely from the patient or being asked for immediate responses when away from the case	**Medical notes** Mainly used by doctors to document medical history, presenting complaints and treatment plan
Nurses Often the HCPs who have to bleep, phone or leave notes for others. They are often contactable as they remain on the wards, but report feeling stressed when they cannot contact another HCP or when they have finished a shift and remember an issue for clarification	**Nursing notes (CARDEX)** Mainly used by nurses to record observations (blood pressure, temperature etc) and care issues for the patient
Pharmacists Sometimes required to clarify issues around prescribed drugs, particularly in specialist situations, respond to bleeps and calls when required. They report feeling stressed when they cannot get hold of a prescriber to verify changes will take place and worry over weekends (where pharmacy services are minimal)	**Drug Chart** Used by pharmacists to check, amend and verify prescribed drugs Used by nurses and doctors to document drug administrations
Therapists Tend to work independently in specific cases, communicate with the doctor and the nurse. They are often contacted by bleep to clarify issues for a specific patient. Report feeling stressed if changes are made to a patient's therapy without them being informed	**Therapy Notes** Tend to be solely used by therapists to document issues around diet, physiotherapy needs, sometimes accessed by nurses

Figure 1.   Observation of communication between HCPs.

were drug administration issues (37/123). Examples include clarification around the route for the drug to best be administered, the rate, whether more than one drug could be administered down the same line. These messages were increasingly sent by nurses to both pharmacists and doctors.

Around one-fifth (20.3%) of messages were administrative issues (25/123). Examples include booking scans, requesting lab tests, clerking issues, checking what is meant when something was poor legibility. These were often sent by pharmacists and nurses to doctors. Almost one-eighth (12.2%) of messages were around discharge issues (15/123). Examples include verification of the date and time of discharge, processes to be followed and by whom and chasing up information needed for the patient to be transferred home. These messages were often sent between therapists and nurses, and were related to patients who required specific care when returning home following discharge. A minority of these messages were sent to the pharmacist clarifying the drugs to be prescribed at discharge.

Not surprisingly, the types of messages differed between professions. Nurses requested more than provided information; whereas doctors received more requests for information than they themselves requested. Pharmacists provided information more often than any other profession, sending almost double the number of messages they received. Just over 15% (19/123) messages were sent from unidentified HCPs which were reportedly difficult to acknowledge. The legibility of messages was generally poor; six messages were completely illegible and could not be coded. Only 20 of the 123 messages were acknowledged, usually by a "tick" on the side of the message rather than the preferred signature under the message, pharmacists most frequently acknowledged messages (12), followed by doctors (6) and nurses (2). Therapists did not acknowledge any messages.

It seemed that the use of JCNs was limited between professionals who were used to writing to each other. Doctors never sent a message to the therapists; nurses never wrote to pharmacists or social workers; pharmacists never wrote to therapists or dieticians;
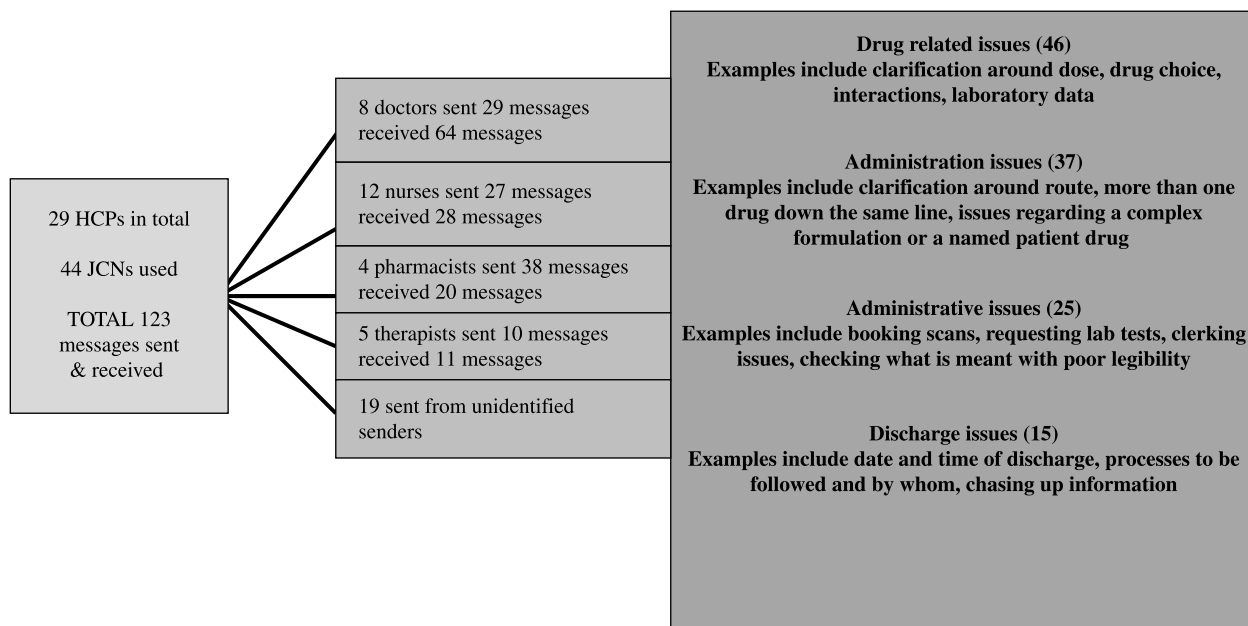
Figure 2.   Types of communication between HCPs.

therapists only wrote to nurses, social workers/care co-ordinators and other therapists; dieticians only wrote to the nurses, as did the social workers/care co-ordinators. The doctors and pharmacists reported an increased understanding of the patient information that nurses and therapists needed and there was a general increase in awareness of each other's discipline and information requirements, which is vital for multidisciplinary group work.

Following the implementation of the JCNs, all HCPs reported that they read patient information more frequently from the four original sources (medical notes, nursing notes, drug chart and therapists' notes) as well as using the JCN to target their communication. Pharmacists in particular reported a decrease in the so-called "ploughing through" the records.

Perceptions of the JCN in practice

The second focus group convened all HCPs who had used the JCN ($n = 29$; 8 doctors, 12 nurses, 4 pharmacists, and 5 therapists). The purpose of the group was to explore issues around the use of the JCNs, the benefits and drawbacks of its use in practice and to identify any recommendations. Figure 1 summarises the communications between the HCPs involved. All participating HCPs found the JCN was easy to use, and was clearly laid out. The JCNs were used in conjunction with medical notes, phone and bleeps, so the full impact on communication was difficult to assess. The HCPs agreed that they felt uneasy relying *solely* on the JCN to communicate.

I would rather rely on verbal communication—it is more effective

Nurse 1

I do get worried relying solely on written communication

Pharmacist 1

Pharmacists were frequent users of the JCN and thus verbal communication could have been substituted by writing in the JCN. There was an increased perception amongst respondents that doctors and pharmacists regarded *their* information as useful. Information needs of fellow HCPs were increasingly regarded after the implementation of the JCN for example, doctors and pharmacists reported having an increased understanding of the information nurses and therapists need. However, messages were often not acknowledged and sometimes had to be repeated before they were acted upon which was an understandable limitation. These repeats were not counted in the analysis. In order to influence and improve communication, there needs to be focus on behaviour of HCPs. The lack of response ultimately influenced some nurses who said they "gave up" using the JCN by the end of the study.

The JCN was used in conjunction with other means of communication (medical notes, phone and bleep) and did not relieve the reliance on *all* verbal communication. This could have been a "teething" issue, the use of bleeps and phones may have decreased as HCPs became used to the JCNs, but at this stage, it seemed they were using both and increasing their workloads as a result! All HCPs found the fact that messages were not acknowledged and had to be repeated in the JCN or elsewhere a limitation.

Table I. The types of messages written in the JCNs and their priority.

Issue	Type	Priority
Drug related issues (top priority)	Drug choice	This was considered an "important" issue: usually when a choice of brands was available and the pharmacist had yet to endorse the chart. The nurses would chase this up as a matter of urgency, especially as it would be when the drug was needed that the clarification would be required.
	Clarification around dose	This was also considered an "important" issue and the HCP (usually doctor or pharmacist) would be contacted by a variety of means to ensure it was clarified. These issues were normally spotted when the patient was due a dose (so it was considered urgent) or if the writing was illegible or confused.
	Drug interactions	This would be clarified with (usually) the pharmacist when they attended the ward. The nurse or doctor would usually seek to verify a potential interaction or check for the incidence of reactions with a specific therapeutic choice. This was "important" but not as "urgent"
	Laboratory data	These data would be needed to make therapeutic choices and would usually be sought. This involved doctors, nurses, pharmacists and therapists communicating with each other
Administration issues (second priority)	Clarification around route	The nurses required this information as a matter of priority as they usually found they needed it when the drug would be required. They would seek this type of information from the pharmacist or the doctor
	More than one drug down the same line	Again, the nurses regarded this as a matter of priority as they would need the information at the time of administration. They would seek this type of information from the pharmacist or the doctor

Table I – *continued*

Issue	Type	Priority
	Complex formulation or a named patient drug	The nurses or doctors would require this information from fellow doctors or pharmacists and would need it urgently for specific patients
Discharge issues (third priority)	Date and time of discharge	All HCPs were involved in chasing up discharge issues with each other. This was considered important and, depending on how long the patient had waited, urgent. This affected the patient's satisfaction with the final stages of care and needed clarification to ensure TTA (to take away) drugs were ready at discharge.
	Processes to be followed and by whom	Again, all HCPs were involved in identifying the processes and professionals involved in follow up, community liaison, outpatients' appointments etc.
	Chasing up discharge information	Chasing up all of the process and professionals involved was regarded as arduous and cumbersome. This was an issue that irritated all HCPs.
Administrative issues (fourth priority)	Booking scans	These were regarded as important but not necessarily urgent
	Requesting lab tests	These were regarded as important but not necessarily urgent
	Clerking issues	Again, these were regarded as important but not necessarily urgent. It was the follow up of issues that had not been done that would irritate or frustrate fellow HCPs.
	Checking what is meant with poor legibility	This could be important if related to specific drugs or doses but was regarded as irritating when it was considered "careless" by fellow HCPs. Nurses in particular complained that care was often delayed because they could not read what the doctor had prescribed

I think doctor to pharmacist wise, you usually communicate verbally ... pharmacist to doctor, doctor to pharmacist, it is usually verbal ... on the whole, pharmacists don't write in the notes a great deal, whereas dieticians and physios quite routinely do write in the notes

Pharmacist 2

The HCPs reflected on why there needed to be such an intervention to start with, if they communicated well with each other in the first place, there would be no need for anything extra.

If the doctors communicated better with all of us they would not be bleeped as much

  Nurse 2

If we learnt how to communicate with each other better, we wouldn't need the JCN at all

  Nurse 2

The fact that it's there should act to enhance communication rather than substitute for it

  Pharmacist 2

We should get to the bottom of why we don't regularly communicate with each other as well as this

  Doctor 1

At the start of the intervention, the HCPs preferred verbal communication as a first course of action, that the JCN (or a similar intervention) should be used as a backup. There was a general agreement that information transfer was not as good as it could or indeed should be and the implementation of the JCN highlighted how information transfer could be made better, quite easily.

I hadn't realised how much I relied on verbal communication … whilst I don't want to move to only writing down information, it's good to know there's a place where I can write my notes and that someone will acknowledge that my requests have been followed up …

  Nurse 1

It was very good to actually have a place to write down pertinent issues, ask questions, raise awareness of problems … we don't have a specified place to write things down otherwise

  Pharmacist 1

While we have the medical notes, so obviously don't want to repeat everything, this was a good place to jot down important issues … I could get the pharmacist, for example, to check up on something and direct them to the specific issue quite easily

  Doctor 2

The JCN did have an impact on the communication climate on the ward. The dependence on verbal communication changed over time; HCPs became more used to the JCNs and their use in practice and found they could reliably decrease their reliance on bleeps and phones. Following the intervention, HCPs were reportedly more confident to contact each other and found it easier to find a contact number to a HCP. The general reliance on memory decreased and so did the frequency of "ploughing" through pages in records and they more frequently read dieticians', therapists' and nurses' patient information.

Reviewing the messages

As described, the content of the JCNs were analysed for type of message and for request or provision of information. In addition, a sample of the different types of messages were reviewed by the multi-disciplinary group to assess the importance or urgency (or both) of the message and the type of message (Table I). This was not an evaluation of the "effect" of the JCN, more an insight into the potential impact of poor communication. The HCPs prioritised issues relating to the drug or the administration of a drug (or drugs) as important and urgent. If an issue related to a specific drug required at a specific time, the clarification would be required immediately and that would cause stress to the nurse (usually the one asking for the information) or the doctor or pharmacist (person answering). The HCPs said that they could highlight such clarifications before they became urgent by raising the other HCPs awareness. It is hard to say whether the JCN reduced any potential harm to patients, but it certainly provided a means of communication to enable messages to be transferred more effectively with HCPs knowing their requests for clarification were being acted upon.

Discussion

The purpose of this study was to identify problems and to investigate ways to improve communication between HCPs within secondary care. Staff were involved in all stages of the study, yet while the intervention was very simple and easy to use, it did not solve as many of the problems as they had first thought. There was a lot of duplication at the start of the intervention, until the HCPs became used to using the JCN, both to send and to receive messages. The HCPs all acknowledged that they were "getting the hang of the JCN" by the end of the intervention: the fact that such additional, though simple, methods of communication, could be useful in the upcoming implementation of electronic prescribing.

Study limitations

The study took place in one Trust in East London and was funded by a research grant from the study trust as part of an initiative to explore ways to improve communication. The research team was based at the Trust which further enabled the project to be undertaken in practice. The results are not, therefore, generalisable, but instead provide insights into

communication problems which may exist elsewhere, together with the implementation of a simple, yet mostly effective, intervention. The implementation of the JCN proved successful, though took some time for the professionals themselves to become used to it. Throughout the study, there were clearly issues around the different ways the different professionals worked and communicated, including the fact that some professionals do not read or act on others' messages, or perceive their methods of communication to be distinct from others.

As previously discussed, despite the extensive involvement of HCPs and training involved, it was often difficult to engage staff fully and to get them to attend the necessary discussions. Additionally, the intensity of the intervention, together with devoted research staff enabled the JCNs to be used, which would not be sustained in practice following such an intervention. This study highlights the many breakdowns in communication systems in secondary care and the need for improved communication between HCPs and an effective forum where they can acknowledge each other's intervention, which is essential for governance. Effective communication requires effective teamwork between professionals and patients and it is essential that this culture is fully in place. There are very few robust and efficient routes of information transfer, depending mainly on individual innovation rather than any systematic approach. Different disciplines all have their own systems and preferences for modes of communication, which need to be acknowledged and explored so as to implement good communication between HCPs in future interventions.

General discussion

There were of course some drawbacks to implementing the JCN, such as increased time to write notes to each other and some duplication of messages. However, staff reported that they did not have to rely on memory as much and that with time they believed it would prove useful. Pharmacists used the JCN most. There seemed to be several reasons for this: they were on the wards on a daily basis seeing most patients at the bedside so the JCN proved convenient for them and indeed highlighted the need for them to formally write in the notes and communicate with fellow HCPs. This highlighted secondary issues: how to ensure pharmacists write in the medical notes in the first place and the fact that the drug chart does not allow for messages suggests that the JCN "filled the gap". This evidence shows the need for a record for pharmacists to conveniently communicate with other HCPs and highlights pharmacists' role in hospitals as independent and specialised professionals with an informing role.

Many messages were administrative (as opposed to relating to administration of drugs). This highlighted the

need for a structured system for the paperwork that surrounds a patient, especially regarding the increasing number of specialities that are involved in one patient's care. HCPs generally did not acknowledge their peers when using the JCNs. The study also highlighted a wide variance in inter-disciplinary communication within secondary care. The reasons are yet unknown but they should be investigated to see whether there are other underlying issues which need to be taken into account when continuing to develop robust communication systems in clinical settings. What we do know is that HCPs need an effective forum where they can document, communicate and acknowledge each other's interventions. By improving information management, for example through clinical records, it will become more feasible to implement culture change like clinical governance in the NHS.

There seemed to be a blame culture within the Trust: "if the doctors just did their job they did not have to be bleeped as much". Appreciation of the impact of communication breakdown also went some way to changing behaviours of the different professionals involved. Whilst the JCN did not, and in retrospect could not, improve all communication all of the time, it did provide insights to all the HCPs' roles and responsibilities and the impact of not addressing problems. It could be stated that the JCN highlighted some cultural and behavioural issues between the professions that need to be addressed if further interventions are to prove beneficial.

As touched on in the introduction, "synchronous communication" relies on the communicators acting at the same time which is usually more convenient for one party than the other (e.g. talking in the phone). It can cause interruption and create disruptive working situations and stress if the call comes at an inopportune time for the other communicator. The opposite, "asynchronous communication" (e.g. notes and emails) occur when the communicators act at different times when convenient for them which can potentially reduce stress as each party can work on the issues when it suits them. This was a problem highlighted by the use of the JCN, which could be developed further using asynchronous communication (e.g. email and computerised records), which could reduce duplication of information and provide increased legibility. At present, there is no formal requirement to acknowledge the interventions of colleagues. However, clinical governance has highlighted communication as an important issue for Trusts to improve upon. Establishing such methods of "information sharing" has a positive impact on daily working as well as each Trust's culture.

For the JCN to be effective, it is essential that all HCPs agree on how to use it and then also make use of it. There was a general agreement of issues concerning the JCN within professions, but less so across professions. Possibly, increased repetition of messages in records could be attributed to the JCN, as messages not always

were acknowledged and thus had to be repeated to make sure they had been received. This issue could be overcome thorough improved training of JCN usage and acknowledgement of messages. Respondents increased their acknowledgement towards other HCPs and increased acknowledgement of their messages, which points out a greater awareness amongst the HCPs of the importance of acknowledgement. The JCN clearly did not address all the communication difficulties (and indeed appeared to create some), however, the process of developing "something" to address the communication breakdowns experienced by staff on a regular (and frequent) basis was a useful process and indeed helped with communication overall. What is needed is a simple, easily incorporated method of communicating as well as documenting all aspects of patient care. There has to be a real (rather than policy) shift towards multidisciplinary working and a recognition of the information that other HCPs need to effectively function in their role for the central benefit of patients. With the development of electronic systems of communication and transfer of information, such a process of "alerting" and warning other HCPs of information required could be incorporated into the implementation of a blog or messaging system. Such a method of communication would be easy to implement and use (by both parties) and would provide another step forward in building a safer process of care delivery for patients.

Conclusions

The study highlights the need to develop a culture where HCPs can highlight individual issues for resolution and where others can provide this information in a timely and effective way. The JCN was a simple, unsophisticated method of communicating such issues, but provided insights into underlying behaviours and cultures of poor communication on the medical ward, which warrant further investigation to ensure future interventions to improve communication are fully implemented.

Many of the limitations of the JCN could be overcome by implementing an electronic version, easily accessible by the HCPs involved in an individual patient's care. However, while IT can help with structuring and accessing information, a culture of inter-professional communication must also be established, otherwise the cultural and behavioural issues will continue. The JCN seemed to be a useful first step in influencing the communication culture within the Trust.

Acknowledgements

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