Participatory action research and action learning: changing clinical practice in nursing handover and communication

Professor Val Wilson is Director of Nursing Research & Practice Development, The Children’s Hospital at Westmead and University of Technology, Sydney, NSW, Australia. Aileen Ho is a registered nurse and Raelene Walsh is Nurse Unit Manager, Special Care Nursery, Southern Health, Victoria, Australia. Correspondence: valeriew@chw.edu.au

Changing clinical practice, even in the light of evidence, can be a frustrating experience. It is often considered the end point of research rather than being the outcome of a planned approach. This paper presents the findings from a study where the aim was to change clinical practice using a participatory approach to achieve integration of evidence into practice. The study took place in a special care nursery (SCN) in Australia providing level two services for sick neonates and their families. The unit had 12 cots and around 30 nursing staff, five consultants, five trainee medical staff on rotation and one clerk. Building on previous research undertaken in the SCN as part of a larger research project, the aim of this particular study was to evaluate if combining participatory action research and action learning (Box 1) was an effective mechanism for healthcare clinicians to change clinical practice in regards to the handover process.

Action learning (AL) is based on the connection between reflection and action. It is a continuous process where participants of an action learning set work on real issues and take time to critically reflect and learn from their own experiences (Wilson et al, 2003). It is based on a perspective transformation and relates to the transformational change in the individual set member in order for them to achieve change within the unit (McGill and Beaty, 2001).

Participatory action research (PAR) may be defined as a ‘collective, self-reflective enquiry undertaken by participants in social situations in order to improve the rationality and justice of their own social … practices’ (Kemmis and McTaggart, 1998). PAR involves five stages:
- Identify an issue of concern
- Investigate the issue
- Develop a change of practice
- Implement the change, and finally
- Evaluate if the change has been successful.

The involvement of stakeholders is essential at each of

Abstract

Combining participatory action research (PAR) and action learning (AL) is an effective mechanism for healthcare practitioners who wish to change clinical practice: The outcome of a study on nursing handover and multi-disciplinary communication.

Traditionally verbal handovers are lengthy and time consuming resulting in nurses spending an unacceptable time away from patient care. They lack structure and the information presented is often repetitive, incomplete, inadequate, or incorrect and therefore does not always present sufficient information to plan appropriate patient care.

The primary purpose of this study was to review the effectiveness of the traditional nursing handover (in one clinical unit) with the aim of developing and implementing evidence-based strategies that would improve practice. In addition, this study aims to highlight the appropriateness and effectiveness of using PAR and AL within ePD.

The results of the project indicated early adoption by nursing and medical staff of a database tool developed to assist handover. This improved multi-disciplinary communication, increased staff satisfaction, focussed staff on discharge planning and problem solving as well as reducing the time spent in handover. There remained however, areas for improvement and these were identified in order to begin the next rotation of the PAR cycle.

This study suggests that by combining PAR with AL clinicians not only succeeded in changing handover practice but were then able to take what they learned and use it to further develop projects within the unit. It is therefore important to consider carefully the process by which knowledge utilisation takes place in order to ensure that learning is an intended outcome rather than an unexpected consequence of participation.

Key words
- Nursing
- Participatory action research
- Emancipatory Practice Development
- Handover
- Action learning

Accepted for publication 16 March 2007
these stages. The continuous cycle of PAR closely relates to the cycle of action learning, where participants are challenged by one another, reflect on their learning and initiate new actions to enable them to move forward with an issue. Combining PAR and AL may provide a framework for individual learning as well as enabling the change process to occur and is outlined in Figure 1.

**Participants and consent**

Seven nursing staff from the SCN volunteered to join an action learning set (ALS). The intent of the set was for each of them to focus on ways in which practice could be improved for patients, their families and for staff. The set met monthly for 3 hours over a 15-month period. Ethical approval was given for the study and consent was obtained from the participants.

In the beginning stages of the ALS one of the participants identified nursing handover as an area of concern for her. The journey that she (with others) embarked on using both AL and PAR processes is the basis of this paper. While the PAR was led by one of the nurses in the ALS, most nursing and medical staff were involved throughout the research study. In order to articulate the process

---

**Box 1. Glossary**

<table>
<thead>
<tr>
<th>Term</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Action learning</strong></td>
<td>Action learning is a well established strategy for reflective inquiry at an individual, collective and organisational level. It is based on the connection between reflection and action. It is a continuous process where set members work on real issues and take the time to reflect and learn from their own experiences and to take action around what they have learned.</td>
</tr>
<tr>
<td><strong>Action learning set</strong></td>
<td>A group of people who meet regularly (e.g. monthly) to work together using action learning processes is known as an action learning set.</td>
</tr>
<tr>
<td><strong>Emancipatory practice development</strong></td>
<td>Emancipatory practice development (ePD) is based on the theory of critical social science. An essential component of this approach is focused on improving the effectiveness of patient-centred care through the development of clinicians.</td>
</tr>
<tr>
<td><strong>Participatory action research</strong></td>
<td>Participatory action research is an approach that locates research in practice and provides a systematic framework for assisting a stakeholder group to actively generate evidence from practice at the same time as changing practice. It is cyclical process and has five stages (1) Identify (2) Investigate (3) Develop (4) Implement and (5) Evaluate</td>
</tr>
</tbody>
</table>

---

Figure 1. Combining action research with action learning
undertaken in this study, each stage of the AL/PAR cycle will be highlighted.

Data collection and analysis

To systematically explore the aims of the study and capture the process and outcomes, several approaches to data collection were undertaken:
- Participant observation in the SCN before (60 hours) and after (50 hours) implementation of practice development strategies, all staff in the unit observed
- Staff survey taken before development of handover tool (nursing) and continuously for 6 months after implementation of the tool (all staff)
- In-depth interviews with nurses; before (30%) and after (50%) implementation of practice development strategies

This multi-method approach provided the opportunity to use differing sources of evidence to assist with creating a more meaningful and deeper understanding of the changing context of handover from a variety of perspectives. The multi-method approach enhances the validity and credibility of the findings (Patton, 1990). Cognitive mapping was used to manage and analyse data, and is defined by Eden et al (1983: 39) as a ‘modelling technique which intends to portray ideas, beliefs, values and attitudes and their relationship to one another in a form which is amenable to study and analysis’. Thematic analysis was used in the process of map formation and refinement of themes (Boyatzis, 1998). Staff involved in the PAR were involved in the data analysis and examined the labels and refinement of themes to enhance validity.

Identify an issue

The effectiveness of nursing handover was raised by a member of the ALS at the first meeting. She considered handover to be problematic and time consuming and it did not meet her needs in informing patient care planning. Through critical questioning and support from other members of the ALS, she was able to reflect on her own beliefs and assumptions about handover and explore ways in which she might influence the improvement of handover. She left the set with a number of actions to review the effectiveness of nursing handover in the unit and to question other staff about the issue and whether it was also a problem for them. This is the initial stage of a PAR cycle, in which the practitioner identifies an issue that needs to be changed in practice. She continued to follow-up with the issue and present problems that occurred during the process of change at subsequent ALS meetings.

Investigate

The next step was for her to review current practice with key stakeholders—in this case other nursing staff—and to then examine the literature around effectiveness in nursing handover. She had never done a literature review before and was supported by other staff in the ALS and in the SCN to undertake this activity. The support given by team members enabled her to overcome her initial fears in relation to undertaking the review and provided her with a purpose and ultimately a sense of achievement.

Handover provides an opportunity for nurses to update each other on progress and ongoing issues for patients. This traditionally occurs at the handover of each shift, enabling nursing staff to plan and implement future care. The process and time required to prepare, deliver and receive handover varies considerably, but accounts for a considerable proportion of a nurse’s working time and therefore incurs significant costs (Miller, 1998). As a result, there is an impact on the delivery of care because of a reduction in the amount of time nurses have with patients and their families. Therefore, exploring ways to improve the effectiveness and efficiency of handover are valid from patient, unit and organizational perspectives. There is also considerable variation in the practice of nursing handover. Previous research has found that nurses traditionally use oral forms of communication to convey information (Street, 1992; Swan and MacVicar, 1992). Handover is generally attended by nursing staff and reflects the knowledge and individual qualities of the nurse (Manias and Street, 2000; O’Connell and Penney, 2001; Sexton et al, 2004).

Traditional verbal handovers are found to be lengthy and time consuming, which leaves an unacceptable time away from patient care.

“Traditional verbal handovers are found to be lengthy and time consuming, which leaves an unacceptable time away from patient care.”

Research
**Table 1. Comparison between findings of previous study in the SCN and the literature on nursing handover**

<table>
<thead>
<tr>
<th>Findings from a previous study in the SCN (IV = interview, PO = participant observation)</th>
<th>What the literature says about nursing handover</th>
</tr>
</thead>
<tbody>
<tr>
<td>Handover could take up to forty minutes, even when patient numbers were low (PO)</td>
<td>Traditional verbal handover often lengthy and time consuming which leaves an unacceptable time away from patient care (Mathews, 1986; Baldwin and McGinnis, 1994; Mosher and Bontomasi, 1996; McKenna, 1997; O’Connell and Penney, 2001)</td>
</tr>
<tr>
<td>No evidence of a handover framework or tool (PO)</td>
<td>Nursing handovers lacked structure (Sherlock, 1995; McKenna, 1997; Williams, 1998; Greaves, 1999; Webster, 1999; O’Connell and Penney, 2001; Sexton et al, 2004)</td>
</tr>
<tr>
<td>Delivery was inconsistent and there was evidence of conflicting or inaccurate information being presented (PO)</td>
<td>Often did not provide appropriate information to plan care (Thurgood, 1995; Mosher and Bontomasi, 1996; McKenna, 1997; Manias and Street, 2000; O’Connell and Penney, 2001) at times it was incomplete, inadequate or incorrect (O’Connell, 1998; O’Connell and Penney, 2001)</td>
</tr>
<tr>
<td>At times the language used was noted to be judgemental or derogatory in nature ‘oh this ones a drug addict’ (IV 4/15)</td>
<td>Subjective and judgemental (O’Connell and Penny, 2001), negative labelling (Wills, 1994; Sherlock, 1995; McKenna, 1997) and stereotyping of patients was found in practice (Parker et al, 1992).</td>
</tr>
<tr>
<td>Handover was neither patient centred ‘the baby is not acknowledged’ (IV 9/39) or family-centred ‘we don’t look at how the parents are coping, we focus on the baby’ (IV3/8) but had a tendency to be nurse centred.</td>
<td>Reports contained personal bias (Odell, 1996) McMahon (1990) and Williams (1998) highlight that handover can often focus on what the nurse has done during the shift rather than reflect pertinent information about the patient</td>
</tr>
<tr>
<td>Handover was perceived as being repetitive and ritualistic, reporting a series of facts with little evidence of interaction, discussion or problem solving ‘Handover is not always valued, it’s for bouncing ideas not just reciting ABC’ (IV4/13).</td>
<td>Information presented was often repetitive (McMahon, 1990; Sherlock, 1995; McKenna, 1997) vague and ambiguous (Sexton et al, 2004)</td>
</tr>
</tbody>
</table>

Reports contained personal bias (Odell, 1996), language was found to be subjective and judgemental (O’Connell and Penney, 2001), there was a tendency for negative labelling (Wills, 1994; Sherlock, 1995; McKenna, 1997) and stereotyping of patients (Parker et al, 1992).

A recent review of the culture of the SCN undertaken as part of the larger study and reported elsewhere (Wilson et al, 2005) highlighted some of the key areas for consideration when reviewing handover practice. These findings, taken from participant observation and interviews, were compared with the findings of a literature review and were found to be consistent (Table 1). The combined findings were then used as a basis for questions in a staff survey that was undertaken to determine how staff viewed handover in the SCN. The survey asked staff to formulate solutions for the problems they identified and to consider whether a handover tool may be of benefit. This investigative stage of the PAR cycle was important for establishing the project within the team. As each step of the PAR cycle progressed, AI was used to support and challenge the nurse leading the change. This resulted in positive reinforcement about actions she was taking and in developing confidence in her skills. This enabled her to critically reflect on her progression in the PAR study, to overcome the hurdles presented and to move forward.

**Develop**

The next phase of the PAR cycle was to develop a handover tool based on findings from the literature and culture review, as well as the survey feedback from staff about handover practice and ways of improving the process. The decision was made to develop a handover tool—stage three in the PAR cycle. The areas to be included in the tool were ascertained from the staff survey and included information about the maternal history, the delivery, gestation, diagnosis, test results,
treatment, feeding plan, discharge plan and family involvement in care.

A multidisciplinary collaborative process began when a paediatric resident doctor in the SCN, who had previously developed a small medical database program, was interested in developing a computerised system for handover that would incorporate information already collected by nursing staff. The nurse leading the change worked closely with the doctor to ensure the development of the database tool reflected the needs identified by staff and was easy to use. The tool automatically updated the age of the baby each day and calculated the percentage of weight gain or loss in relation to birth weight, a vital aspect of daily care planning.

**Implement**

A trial of the database (NEObase) was established during which staff using the tool were asked to review the effectiveness of the tool and give feedback—stage four of the PAR cycle. During the trial period the use of the tool was on a voluntary basis, although staff were encouraged to ‘give it a go’. This resulted in a large number of early adopters (approximately two-thirds), and by the end of the first month all nursing staff were using the tool. Once the 3-month trial was complete staff chose to continue using the tool.

**Evaluate**

Six months following the implementation of the handover tool, participant observation undertaken as part of the larger study (Wilson et al, 2006), illustrated the impact that the adoption of a handover tool had on practice (Table 2). The observation revealed that not only did nursing staff continue to use the tool, but there was also an uptake of the tool by medical staff. There was evidence of increased questioning during the handover and the consultants reported that the junior doctors appeared to be better prepared for rounds. This resulted in improved communication for both nursing and medical staff. Before implementation of the tool nursing handover often took up to 40 minutes—even when patient numbers were low—and delivery of the information was inconsistent, sometimes conflicting and inaccurate. Following implementation, observation revealed time spent in handover was now 20 minutes on average. There was a reduction in repetitive, ritualistic information as well as reduced use of judgmental and derogatory language. Babies’ first names were being used consistently, something that was absent in the pre-observation data and reflected a more individualized approach to handover, rather than a nurse-centred approach to reporting facts and figures.

Initial feedback about the handover tool via a staff survey was quite negative in nature. Staff documented that they felt that the tool contained too much information, used too much paper and raised issues of concern regarding confidentiality and responsibility for updating the tool. This caused concern for the nurse leading the change and she wondered if she should halt the trial. She presented the data at the ALS and through high challenge and high support of set members (questions that critically challenge the individual and framed in a supportive manner) she was able to reflect on the progress made to date. She was then able to develop strategies to overcome any concerns she and others had at this stage. This was an important hurdle for her to overcome. It is often at this stage of the process that changes in practice appear to fail, and are often abandoned when challenges are perceived too difficult to overcome.

As staff became more familiar with use of the tool, feedback became more positive. This was demonstrated by feedback such as ‘excellent handover tool’, ‘saves time and includes all information’, ‘concise and comprehensive’ and ‘very useful for keeping track of progress’. Table 3 provides a summary of the post-implementation staff survey and how each issue was subsequently addressed.

An overview of the findings and implications for future practice development is contained in Table 4. A significant impact was a demonstrated 50% reduction in the time taken to provide handover, to an average of 20 minutes. Although all staff were now using the tool it became apparent through the observation that staff had differing styles of conveying the information; this is something that the next phase cycle of the study may choose to focus on. It was evident that the reduced time enabled nurses to provide more time for direct care. In addition, handovers were observed to become individualized and family-centred, resulting in increased staff knowledge about patients and their families. Interviews with staff highlighted improved communication between multidisciplinary members of
the SCN and a reduced use of ritualistic and negative language. This reduction in negative language (which previously had been directed at families or indeed staff) resulted in a happier environment during handover and an increased level of satisfaction with the handover process. Staff engaged in conversations about discharge planning and spent time problem-solving issues relating to care of individual patients and their families rather than focusing on what was ‘not done’ on the previous shift and who was to ‘blame’.

Although originally intended for nursing staff, the tool was quickly adopted by the medical staff in the unit as a basis for planning and monitoring the medical care of each patient. Consultant doctors noted that the resident medical staff appeared to be better informed about their patients. The use of the tool by both nursing and medical staff resulted in improved multidisciplinary communication and staff could be seen referring to the tool throughout their shift and using it to discuss issues with one another.

**Table 3. Post implementation findings (staff survey)**

<table>
<thead>
<tr>
<th>Benefits of using the tool</th>
<th>Issues of concern</th>
<th>How issues addressed</th>
</tr>
</thead>
<tbody>
<tr>
<td>■ comprehensive tool</td>
<td>1. Need time to update the database to ensure that staff had an up-to-date account of each patient</td>
<td>1. Staff training re database system, staff now more responsive to regularly updating and preparing the handover tool</td>
</tr>
<tr>
<td>■ very informative and easy to read</td>
<td>2. The amount of paper used in printing the tool</td>
<td>2. Handover tools double sided when photocopied</td>
</tr>
<tr>
<td>■ provides a patient update especially after days off</td>
<td>3. Issue of confidentiality</td>
<td>3. Used tools are collected and shredded</td>
</tr>
<tr>
<td>■ helps you to organise yourself on clinical rounds</td>
<td></td>
<td></td>
</tr>
<tr>
<td>■ it is a quick reference tool throughout the day</td>
<td></td>
<td></td>
</tr>
<tr>
<td>■ cuts down handover time</td>
<td></td>
<td></td>
</tr>
<tr>
<td>■ enables more time for patient care</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Discussion**

This work is set within the ePD framework (Manley and McCormack, 2003). The intent of ePD is to increase effectiveness in patient-centred care through the enablement of health care teams to transform the culture and context of care (Garbett and McCormack, 2002). Kemmis and McTaggart (2000) suggest that participatory action research is useful when practitioners wish to make changes to practice in a meditative and purposeful way and where consideration is given to taking a realistic look at current practice as a starting point for establishing what might be considered for change. The research takes place in the ‘real world’ and is undertaken by those involved in the reality in order to improve patient care. It aims to develop an understanding of the situation and process in order to establish a culture of enquiry (Winter and Munn-Giddings, 2001). We can see from the study outlined in this paper that nursing staff were able to not only influence but drive practice

**Table 4. Overview of the findings and implications for future practice development**

<table>
<thead>
<tr>
<th>Pre Implementation</th>
<th>Post implementation</th>
<th>Implications</th>
</tr>
</thead>
<tbody>
<tr>
<td>Could take up to 40 mins</td>
<td>20 minutes</td>
<td>More time for care</td>
</tr>
<tr>
<td>No handover framework or tool</td>
<td>Tool used by all staff, handover style varies</td>
<td>Need to review handover delivery</td>
</tr>
<tr>
<td>Conflicting or inaccurate information</td>
<td>Improved (multidisciplinary) communication</td>
<td>Influenced team communication</td>
</tr>
<tr>
<td>Repetitive and ritualistic</td>
<td>Less ritualistic</td>
<td>Increased satisfaction</td>
</tr>
<tr>
<td>Tendency to be nurse-centred</td>
<td>Individualized and family-centred</td>
<td>Staff increased knowledge of baby and family</td>
</tr>
<tr>
<td>Judgemental or derogatory language</td>
<td>Reduced use of negative language</td>
<td>Happier environment for everyone</td>
</tr>
</tbody>
</table>
change that resulted in improvements in handover, reduced negative language and labelling in handover and improved multidisciplinary communication, all of which hold relevance for children’s nurses and nursing in general. These changes had a direct impact on care and ensured staff were better prepared to care for individual patients and their families.

An action learning set, in this setting established as part of the ePD initiative with the SCN, was used to support the clinician who raised the nursing handover as a problematic issue. In this context, action learning was used to develop critical reflection skills to enable them to reflect on their assumptions and beliefs about clinical practice. This type of action learning has its foundations in the work of Argyris (1982), Schon (1983; 1987) and Senge (1990) and involves a transformational change in the individual set member in order for them to achieve change with the organization (McGill and Beaty, 2001).

In this context the nurse leading the PAR reflects on the effectiveness of using AL:

‘[AL] is a really good choice for learning the process of practice development. It’s not tied up in emotion so you can really think through… get this development into practice.’

This resulted in the successful implementation of a practice change for handover and also encouraged other staff to join in the PAR project.

PAR and AL occurred simultaneously (as seen in Figure 1). Action research reflects the overall process of the study and the actions taken to move forward. Action learning reflects the learning, challenge and support for the clinician leading the project and for the participants of the ALS who supported and challenged the presenter. The cycles run continuously and are interlinked as change occurs. Action learning provided the challenge and support for the nurse leading the change in practice to identify issues that arose from the PAR cycle and develop strategies to address these in the form of action points. For example, in investigating if the issue presented at the ALS was the same for other SCN nurses, data from an observation of the handover process was reviewed and the results confirmed by the literature review. This provided the lead nurse with consistent evidence that the issue impacted on practice in the SCN.

Another example of the interaction and support provided through the dual process of PAR and AL can be seen when the initial feedback about the handover tool was quite negative in nature. At this point, it may have been easier to ‘give up’ as much negotiation was required. The AL process encouraged the nurse to move forward, turning the process into a positive experience where she not only learned about overcoming hurdles in practice change, but also learned the importance of seeking both challenge and support to help overcome the barriers created by self-doubt. Here she discusses the impact the combined AL and PAR process have for her:

‘What I liked most is I feel in control, that I’m getting somewhere and I feel positive and confident about doing it.’

“Changes in clinical practice can lead to stress, feeling threatened, vulnerable or confused”

The combined use of PAR and ALS provided a strong support process for ensuring the continuing success of this study and offers a framework for other nurses who wish to develop and support an ongoing process of change in their clinical unit.

Changes in clinical practice can lead to stress (Swan and Mac Vicar, 1992), feeling threatened, vulnerable (Haynes, 1992) or confused (Fitzgerald, 1991; Booth, 1995). These can be reduced by careful planning (Ootim, 1997) and opportunities for staff to discuss their concerns and influence the change process (Haynes, 1992). In this study, the nurse leading the change was supported through the use of both the PAR and AL cycles and was encouraged to involve staff throughout the process. The process also ensured that ownership of change, the ability to be involved and provide feedback was encouraged among medical and nursing staff at the SCN.

The dual process was not only used to inform change, but also emphasized the learning that was occurring about the process of undertaking a PAR project and the transferability of this process into other areas of practice. Since the use of the AL/PAR combined process to review handover, the unit has completed other projects using the same process to focus on practice changes in other areas such as developing a ‘babies like books too’ initiative which encourages mothers to read to their newborn babies from birth. There has been a sustained change in practice with continuing use of the handover tool, including ongoing use by members of the multidisciplinary team. Nursing staff can learn from this study to think about the changes that may benefit from a similar process being used in their unit.

In order to disseminate this work staff involved in this project have presented at international and local conferences. Papers about the project such as this one have been developed for publication in journals. In addition to this, other units within the organization have sought advice and support for implementing a change to the handover process in their respective units, thereby enabling the process used to be transferred into other contexts.

**Conclusion and future directions**

Staff learned from participating in ALS and undertaking the PAR process that sustained change is achievable. Discussion held with the nursing unit manager since that initial change have highlighted the continued
Improvements in the process of handover can lead to more effective communication in the multi-disciplinary team.

Haynes S (1992) Let the change come from within, the process of change in nursing. *Prof Nurse* 7(10): 635–8

commitment of staff to improving care. The handover tool has recently undergone an update and staff have quickly adapted to the new version of the tool which enables them to think more about the issues and associated management for the baby and family. The manager also conveyed that in a state-wide review of practice, the SCN received ‘best practice for the length of stay for 4 out of 5 [diagnostic reporting groups] when compared to four other level 2 hospitals in the state’. She indicated that this was due to very good discharge planning which ‘may be attributed to the handover process/tool’. She went on to say that ‘the handover process/tool is well embedded and is used by consultants to handover to their colleagues’.

Combining PAR with AL enabled clinicians in the SCN to manage a change process and lead to sustainable changes in practice development. This was not only demonstrated by a change in the practice of handover but by also applying what was learnt about the process of enacting change to further projects in the unit. It is therefore important to carefully consider the process by which knowledge utilisation takes place, in order to ensure that learning is also an intended outcome rather than an unexpected consequence of participation in the action research process. Combining AL and PAR can then lead to greater understanding about how to overcome barriers in order to effectively change practice. The end result is staff who are not only ready but able to take on future changes in practice.