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Qualitative Health Research

Advancing Qualitative Methods

King et al.

The Pictor Technique: A Method for Exploring the Experience of Collaborative Working

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**Abstract**

Collaborative working is a crucial part of contemporary health and social care. Researching the experiences of those involved—as professionals, patients, or carers—is challenging, given the complexity of many cases and the taken-for-granted nature of roles and identities in relation to it. In this article we introduce the Pictor technique for exploring experiences of collaborative working. This is a visual technique in which participants construct a representation of roles and relationships in a particular case using arrow-shaped adhesive notes or cards. The chart so produced helps the participant tell the story of his or her experience and serves as a focus for further exploration with the researcher. We describe the background to Pictor and illustrate its use with professionals, patients, and carers, drawing on recent and current research. We examine how Pictor relates to other visual methods, and conclude by considering how the technique might be developed in the future.

**Keywords**

end-of-life issues; health care professionals; health care, interprofessional; health care, teamwork; interviews, semistructured; nursing; palliative care; qualitative analysis; relationships, health care; research, qualitative; visual methods

Collaborative working is a commonplace of contemporary health and social care. In almost all settings—be it primary, secondary, or tertiary health care, community or institutional social care—the provision of good-quality services is reliant on different professional groups working effectively with each other and with service users. When things go drastically wrong, the failure of professionals to work well together is often a major contributory factor, as can be seen in high-profile cases such as that in the United Kingdom of 17-month-old “Baby Peter,” who died after prolonged physical abuse and neglect by his mother and two other adults, despite the involvement of multiple health and social care agencies (Haringey Local Safeguarding Children Board, 2009). Even when the consequences are less tragic, failings in collaborative working might be costly (for instance, through sickness absenteeism; Kivimäki et al., 2001), harmful to service quality and patient safety (Catchpole, Mishra, Handa, & McCulloch, 2008; Morey et al., 2002), and demoralizing for staff (Gulliver, Towell, & Peck, 2003). As Godlee comments in a recent editorial in the *British Medical Journal* “There’s no shortage of stories about failed and fragmented care in the United Kingdom and elsewhere” (Godlee, 2012, p. 3959).

In this article we present a method, the “Pictor” technique, for qualitative research exploring experiences of collaborative working, be they from the perspectives of health/social care professionals, patients/clients, or lay carers. We detail the steps involved in using the technique, and provide two examples from recent research at the University of Huddersfield. We consider the strengths and limitations of Pictor, and suggest directions for future research involving the method.

Despite the ubiquity of calls for effective collaboration between health professionals, and between health and social care services, there is inconsistency in how the concept is defined and differentiated from related concepts, such as teamwork, interdisciplinary and multidisciplinary working, and integrated care (Choi & Pak, 2006; Xyrichis & Ream, 2008). We agree with Xyrichis and Ream that collaborative working is a necessary but not sufficient precondition for good teamwork, the latter also requiring that team members exercise concerted effort toward a shared goal, are interdependent, and engage in shared decision making. Similarly, collaboration between professionals is an essential aspect of integrated care, but this concept is much wider, referring to the design and operation of health care systems to facilitate good, seamless patient care across the traditional boundaries between sectors and professions (Gröne & Garcia-Barbero, 2001).

From our point of view, collaborative working occurs when two or more professionals from different professional groups are required to interact to ensure that appropriate care is delivered to a service user. The

individuals concerned need not be members of a formally constituted team, and the level of collaboration can vary from the transient and superficial (such as a short phone call passing on a specific piece of information) to close, long-term working relationships. The notion of different professional groups includes interactions between roles and specialities within a profession (e.g., generalist and specialist nurses), between professions (e.g., doctors and physiotherapists), and between sectors (e.g., health care and social care staff). We also include within the concept of collaboration interactions between health professionals and patients/carers, above and beyond the provision of treatment or the passing of treatment-related information.

Exploring the experience of collaborative working presents some significant methodological challenges. This was very evident in some of our early research into collaborative working between district nurses (a particular group of community nurses in the United Kingdom) and social workers (Ross, King, & Firth, 2005). Cases are often complex, involving many different professionals and lay people. In an interview situation, it can be hard for the participant to bring to mind all of those who played a part in his or her case, and equally difficult for the researcher to remember these details. The result can be that the interview focuses on the obvious “main players,” neglecting some whose involvement might have been more temporary or narrowly focused but was nevertheless crucial to the way the case unfolded.

Health and social care staff are generally very aware of the rhetoric around the importance of good collaboration, and are likely to have been taught about issues relating to it in the course of their professional training. When asked about their own involvement in and understanding of collaborative working, they can sometimes present an “official” explanation or ideal version, rather than an account of their own direct lived experience of the phenomenon (Ross et al., 2005). Finally, especially when it comes to experienced professionals, the way they work with others (professional or lay) might have become so habitual and taken for granted that it is quite difficult to reflect on in any depth when questioned by an interviewer. The Pictor technique was developed in direct response to these challenges.

### **The Pictor Technique**

Put briefly, the Pictor technique requires the participant to choose a case of collaborative working in which he or she is, or has been, involved (in interviews with lay people this usually means the person’s own case as a patient/client, or that of the person he or she cares for). They are provided with a set of arrow-shaped cards or adhesive notes and asked to lay them out on a large sheet of paper in a manner that helps them tell the story of their case, with the

arrows representing people and/or agencies involved in the case. The interviewer uses the “chart” so produced to probe the participant on his or her experiences. In this section we discuss the theoretical background to Pictor, and then present a detailed account of how to use the technique, both with professionals and with lay people. We give two examples from our own research to illustrate the use of the technique.

### *Theoretical Background*

The Pictor technique has its intellectual origins in Personal Construct Theory (PCT; Kelly, 1955), and particularly in phenomenological readings of PCT by more recent scholars such as Butt (2003). PCT suggests that human beings are essentially meaning makers, and uses the “person-as-scientist” metaphor to describe how we formulate our own personal hypotheses or constructs to explain our world. In the event that experience challenges or invalidates personal constructs, systems of meaning can be revised and modified. There is a danger that this meaning-making process (referred to in PCT as “construing”) can be viewed in too cognitive a manner, as though it were a rationalistic mental operation (Warren, 1990). Writers such as Butt (1998) and Walker and Winter (2007) pointed out that construing involves the whole person, and happens not “inside” the person but through his or her actions and interactions in and with the world.

From a PCT perspective, we are often not consciously aware of our construing. Much of it becomes taken for granted and accepted as simply the “natural” way of seeing things, rather than as a perspective that can be altered if it proves to be unhelpful. In our exploration of collaborative working among health care professionals, it was evident that participants could find it difficult to reflect on aspects of their working practice that had become highly routinized. PCT has generated a number of methods in both clinical and research settings—most notably the repertory grid technique (Fransella, Bell, & Banister, 2004)—to assist people in exploring and reflecting on their own and/or others’ construct systems at personal and interpersonal levels. In seeking a methodological solution to facilitate reflection on collaborative working practices, it therefore made sense to turn to PCT techniques as a potential source of inspiration.

### *Description of the Pictor Technique*

The Pictor technique was developed from a method used in PCT-based family therapy, described by Hargreaves (1979). In this method, clients are provided with a set of blank arrow-shaped cards on which they must write the names of family members. They are then asked to arrange them in a way that portrays how they see relationships within the family, and this serves as the basis for exploration with the therapist. In the Pictor technique, the focus

shifts from the family to the network of people involved in a case of collaborative working; nevertheless the procedure is broadly similar to that employed by Hargreaves.

At the University of Huddersfield we have mainly used the Pictor technique in studies of collaborative working in community settings, or in the interface between community and acute care. These have included research into collaboration between district nurses and social workers (Ross, 2005; Ross et al., 2005), community nursing roles in palliative care (King, Melvin, Ashby, & Firth, 2010), and patient and carer experiences of professional and lay support networks in palliative care (Hardy, King, & Firth, 2012). Several studies in similar areas are ongoing (King, 2011). We have also examined the technique as a tool to facilitate reflection on collaborative practice for nursing and midwifery students (Bravington, 2011), and have employed it in training and development work with a range of health and social care professionals.

The precise procedure to be used for implementing the Pictor technique should take into account the needs of a particular study or context, so our guidelines should be followed with some degree of flexibility. Beyond small differences in approach between studies, we have found a more general difference when using Pictor with health and social care professionals compared to its use with patients/clients and carers. We therefore present below a generic procedure for using the technique with professionals, followed by a description of the modifications in its use we would suggest in research with lay people.

*Procedure for health and social care professionals.* The first step in using the Pictor technique is to ask the participant to bring to mind a case of collaborative working that fits the criteria of the particular study. He or she is then asked to think of all the people who were involved in the case; this must include the patient/client and the participant him- or herself, but can also encompass other professionals, family members, friends, neighbors, and other community members—indeed, anyone who had a bearing on the way the case progressed. The participant is encouraged to think as widely as possible, and if in doubt, to err on the side of inclusivity. He or she is then provided with a stack of arrow-shaped adhesive notes and asked to write a pseudonym and/or role title for each person on a separate note. We have found that quite often the participant wants to use a single note to refer to a team or a group of people—for instance, “community nurses,” “the acute unit,” or “neighbors.” Unless there is a good reason to discourage this within the aims of a specific study, we would allow it. The fact that certain people are not identified individually can sometimes be quite telling about the way in which collaborative working is viewed.

We do not restrict participants to human stakeholders when identifying factors that played a role in a case. In our research in palliative and supportive care settings, family pets have appeared quite frequently. We had one instance in which a community nurse personified “the weather” on an arrow; in this case, the patient lived in a rural setting difficult to access by road. The severe winter weather had a direct impact on the nurse’s ability to provide help when needed, and created difficulties for her in persuading other services to get involved with the patient.

Once the participant has generated the arrows, he or she is asked to place them on a large sheet of plain paper in a manner that helps him or her tell the story of what happened in the case. The researcher specifies that there are no fixed rules about how this should be done, but that features such as the direction of arrows or the space between them might be used to represent aspects of roles and relationships in the case. The adhesive notes we use generally come in three different colors, and we invite participants to use the color of notes to make distinctions if they so wish, but emphasize that they are absolutely under no compulsion to do so.

Our normal practice is to give the instructions above to participants, check that they are clear about what is required, and then step out of the interview room to allow them to generate arrows and lay out the chart on their own. This prevents participants from feeling overlooked while they produce the chart, which can result in them monitoring the interviewer’s reactions to tell whether they are doing it “right.” We typically remain outside for approximately 10 minutes and then reenter to see whether they have finished, and if necessary leave them a little longer. Having used the Pictor technique with professionals more than 100 times now, we have found that people rarely need more than 15 minutes to produce even a complex chart with more than 20 arrows. On very rare occasions, participants have not felt confident about “doing it right” and have preferred the researcher to remain in the room with them while constructing the chart. This is perfectly acceptable, so long as the researcher makes every effort to avoid leading the participant. (Note that we commonly do remain with the participant when using the Pictor with patients and carers, as explained below.)

Once the chart is completed we ask the participant to talk us through the story of the case, using prompts based on the layout of the arrows. We might, for instance, ask why some arrows are closer to the patient/client than others, whether the direction of arrows represents anything (and if so, what), whether and why he or she has systematically used different colored arrows for different groups of people, and so on. If, in the course of the discussion, the participant realizes that there are other individuals or agencies he or she would like to talk about in relation to the case, we encourage the addition of new arrows. We also allow the participant to move arrows if he or



she wants to represent changes over time, but first we draw around the arrow with a dotted line to record its original position. We audiorecord both the instructions prior to chart construction and the full discussion of the chart, but switch recording equipment off while we leave the participant creating his or her chart.

Immediately after each interview we draw around each arrow with a black felt-tip pen, copying the label that was written by the participant (if a real name or other identifiable label was used, we would anonymize it at this point with a pseudonym). We also mark the color of the original arrow on our tracing. We note on the chart the date of the interview, and codes to identify both participant and interviewer. The final stage in the process is to take a good-quality digital image of the chart.

*Procedure for patients and carers.* Although our initial studies using the Pictor focused on health and social care staff, more recently we have used the technique to explore patients' and carers' experiences of collaborative working. In this research (Hardy et al., 2012) we have looked at what it is like for patients (and their carers) receiving palliative care at home to be involved with a network of professionals and lay people supporting them through their illness. In other ongoing projects we are examining similar aspects of the patient and carer experiences. At the start of this work it quickly became apparent that there were difficulties in using the technique with such participants if we followed the same procedure described above. There were three main issues we needed to take into account in modifying it for use with patients and carers: lack of familiarity with reflection, the nature of the home environment, and the impact of patient symptoms on their ability to undertake the task itself. We detail below how we attempted to deal with each of these issues.

*Lack of familiarity with reflection.* The health and social care professionals we have interviewed using the Pictor technique were mostly very familiar with the process of reflecting on their working lives, through their training and often also in continuing professional development. Therefore, although they had not encountered the technique before, they almost always readily understood what was required. In contrast, many patients and carers were not accustomed to stepping back and reflecting on the experience of care in a structured way. They sometimes struggled to understand what was asked of them, and were more anxious than most professionals about "doing it right." We felt that explaining the full procedure all at once was sometimes too much for lay participants to take in.

To address patient and carer concerns, we found it helpful to separate the main tasks involved more explicitly than we did when working with professionals. We began by asking them just to produce the arrows naming the people/agencies they saw as involved in their care. Only once that was done did we explain fully what

we wanted them to do with the arrows to construct a chart representing their experiences. When necessary, for further clarification we showed them a “dummy” version of a chart (on a theme unrelated to the topic of the research project). Finally, in most cases we sat with the participant while he or she constructed the chart, to provide reassurance. We were aware of the danger of leading participants if they asked whether what they were doing was correct, and tried our best to avoid this happening, even implicitly. In fact, we found that patients and carers commonly wanted to talk about their emerging chart while they constructed it, so being present (and leaving recording equipment running) during this process was advantageous.

*Nature of the home environment.* Our research has been focused on community settings, so one of the challenges in using the Pictor technique with patients and carers was in using the technique in their own homes. The two main problems here were the physical space itself and the likelihood of interruptions. Creating a Pictor chart requires quite a large, flat surface, such as a table top. In some cases this was not available, either because the patient and carer simply did not possess such a thing, or because space had been taken up by the clutter that can accumulate when a very ill person is being looked after at home. Furthermore, in our studies patients were often restricted in their mobility, and some were not able to sit up at a desk or table. We found the best solution to this was to halve the size of the paper we normally used, so that it could be placed on a board on the participant’s lap, on a small coffee table, or even next to him or her in bed. This did restrict the scope for utilizing space on the chart, which was something we had to bear in mind at the analysis stage.

For any interview-based research that takes place in people’s homes, the possibility of interruptions from family members or visitors must be taken into consideration. This is particularly likely in the context of research into palliative and supportive care, with visits and/or telephone calls from friends and family rallying around to support the patient and carer. In quite a few cases, health or social care staff arrived to attend to the patient while we were in the participant’s home. To reduce the likelihood of interruptions we tried as far as possible to schedule interviews when participants were not expecting visitors. We found that the nature of the Pictor technique in some respects made interruptions less problematic than in conventional semistructured interviews; this is because the visual representation produced in the Pictor chart can help both participant and interviewer to refocus on the matters under discussion after an enforced break in their interaction. Of course, in cases in which the research is concerned with the complex networks of care and support that can exist around seriously ill patients, witnessing such comings and goings can itself be enlightening.

*Impact of patient symptoms.* A challenge for any qualitative interviewer who seeks to gather detailed accounts from seriously ill patients is the impact of their symptoms on this process. Fatigue, breathlessness, and lapses in concentration are common in advanced illness, and can make it very difficult for a participant to reflect clearly and coherently on his or her experience. We have found that the Pictor technique can be facilitative for such participants (Hardy et al., 2012). One strength is the way it enables participants to take short periods of rest during the interview itself. Of course, participants can and do take breaks in any kind of interview, but in the more conventional kind they must either ask for one, or the researcher must suggest they take one. In Pictor interviews, participants can take a break in a way that feels more natural and less potentially disruptive. They can rest between the stages of writing out names on arrows and beginning to lay them out to construct their chart. They can also take pauses at any stage as they decide where to place particular arrows. As we noted above in relation to interruptions, the visual nature of the technique makes it relatively easy to pick up the thread of the interview again after a pause. It can also help participants maintain focus on the interview in the face of symptom-related problems with sustained attention.

The extent to which these adaptations to the technique apply to different kinds of lay participants is likely to vary; our use of it was shaped by the context of research in palliative and supportive care. Nevertheless, we believe that many of the points we have made above are likely to be of more general relevance; for instance, unfamiliarity with personal reflection, and the constraints of the physical (and social) environment in which data collection takes place. We would encourage anyone using the technique to think carefully about the needs and circumstances of those with whom they intend to use it, to pilot-test if possible, and to modify the technique as appropriate.

#### *Examples of the Pictor Technique in Use*

In this section we provide two detailed examples from recent studies using the Pictor technique. The first is from an interview with a community matron<sup>2</sup> in a study examining community nursing roles and identities in palliative care. The second is a patient/carer dyad, interviewed separately in an ongoing project looking at how patients with advanced disease and their carers in the community experience networks of professional and lay support and care.

*Health professional: "It's me in the center, really."* We are currently using the Pictor technique in a study entitled "Unpicking the Threads," examining how different health care professionals work together in the United Kingdom to provide supportive and palliative care to patients with cancer and long-term chronic health conditions.<sup>3</sup>

Ethical permission for the study was granted by the South Yorkshire Research Ethics committee. The main focus of our study is on nurses, in both the acute and community sectors, but we have also interviewed a wide range of other professionals with whom they interact, and some patients and carers. To explore how health care professionals understand their own roles and identities and those of others requires the use of a research methodology which is able to examine relationships and interactions in depth. The Pictor technique is ideally suited to this task.

In our study, each nurse participant is instructed to bring to mind a case of collaborative working they remember clearly. For each case, participants are asked to discuss the roles and relationships among those involved, and the Pictor charts are used to focus their reflection and the interviewer's questioning. Figure 1 shows the Pictor chart from a community matron (CM) who was discussing the case of a cancer patient with whom she was involved. The patient was an 86-year-old man with cancer who had become quite aggressive because of the side effects of the condition. His wife, the sole carer for the patient, was finding it difficult to manage. The case was referred to the community matron team by the patient's general practitioner (GP).

INSERT FIGURE 1 ABOUT HERE

Using the Pictor chart, the CM (whom we will call "Janine") described her central role in this case, coordinating other services to provide a smooth care pathway for the patient and his wife at the end of life. The Pictor chart created by Janine provided a clear visual illustration of both this central role and the range of other services and agencies involved in the case. Arrows were arranged in three clusters, with herself in the middle. She described these groupings as representing the services and sources of support that were drawn on at different stages of the patient's illness. They were arranged from top to bottom on the page, in temporal order, with the final grouping being those involved at the very end of life (arranged around a sketch of a cross labeled "RIP"—"rest in peace"):

Really it's sort of a, it's a pathway through. So it's me in the center really, coordinating with what was there initially—services that were there initially; liaising with the other services that came into play, obviously there [points to left-hand grouping], and then the pathway's there [points to bottom grouping] down to the end.

On her chart, Janine had placed the arrow for the GP very close to hers. The interviewer, who should make no assumptions about the meaning of such positioning, probed her about this. Janine's explanation showed that her placement of the arrow here was not mainly a representation of the quality of her personal relationship with this GP,

but instead reflected the powerful role of the GP in UK primary health care, and the perceptions patients have of them. In the extract below it is striking how she shifted back and forth from discussing the particular case to commenting on the role of GPs in general:

The GP actually was probably central to everything because the actual person himself, [name], actually had more trust in the GP than anybody, and isn't that the case with a lot of elderly patients? The GP's always central, but not necessarily the person doing the doings, are they? They're the one who they see as being on the pinnacle, and I think the health care team referring to them for advice and help. And certainly in my role now, I don't necessarily have to use a GP for medication anymore, as a medical prescriber [myself], even though I do pass supplementary prescribing past them. For small things, certainly, I didn't necessarily need to use the GP, but you always would, because the GP's holding the whole thing together really, I think, out in "Primary Care Land."

Janine had drawn lines to each of the groupings to emphasize her central role in the case. Although we do not instruct participants to draw or write on the charts, other than on the arrows, we also avoid telling them not to do so. We find that a significant minority do make such additions, usually to emphasize or clarify an aspect of the case they are describing. In another study, for example, a specialist palliative care nurse drew what she described as a line of "barbed wire" to graphically illustrate the conflicted relationship she had with a particular district nurse.

Another point to note from Janine's chart is that on three of the arrows she had not just written a role title but had also included some reference to the context of the person's involvement in the case (e.g., for the patient's wife she had added "younger carer, crisis"; for other family members she noted that they "live away"). Again, this kind of elaboration is not uncommon. Usually, if participants add such comments it is only to a minority of arrows; considering what they are representing in this way can be part of the researcher's process of interpreting the data. In the example from Janine, the fact that the arrows in question all represented family members rather than professionals might well be significant. Arguably, Janine was highlighting key background elements to the case that helped to explain the need for the level of service involvement depicted, and that would not be obvious simply from a knowledge of the medical details of the case. When the interviewer asked her about what she had written, she said, "They didn't have anybody, so they had nobody to rely on. So they were really relying on the primary health care team and the neighbors."

*Patient and carer charts: "I will put these two side by side, because we're in it together."* The Pictor technique was used as an integral research tool in our study exploring the experiences of people affected by

advanced disease who had multiple services involved in their care. The research involved people with a diagnosis of cancer ( $n = 4$ ), chronic obstructive pulmonary disease (COPD;  $n = 4$ ), heart failure ( $n = 2$ ), and Parkinson's disease ( $n = 2$ ), and their spouses ( $n = 8$ ). When possible we sought to recruit patient–carer dyads, so we could obtain both perspectives on the same case; we interviewed the two parties separately.

The example here is from interviews with a couple we refer to as “Roger” (patient) and “Tricia” (carer). At the time of the interviews they were both in their 60s and had been married for more than 40 years. Six years previously, Roger had a heart attack; he subsequently developed heart failure, which at the time of interview was in the advanced stages. He also had kidney and prostate problems on top of his long-standing diabetes. There was no cure for Roger's conditions, and he was aware that his prognosis was poor, so he did not make plans beyond the end of the year. His illnesses affected all aspects of his life, and he became severely breathless with only minimal exertion. Tricia also had health problems, including COPD, which also caused her breathlessness, although she was not as severely affected by this as Roger. Tricia helped Roger with his personal care as well as doing most jobs in the house. Patient and carer charts are shown in Figures 2 and 3, respectively.

INSERT FIGURE 2 ABOUT HERE

INSERT FIGURE 3 ABOUT HERE

Separate interviews took place with Roger and Tricia in their home, with interviewer and participant sitting at the dining room table. Each began by discussing some background details to their situation, including previous employment, family situation, and their perspectives on Roger's diagnosis. The Pictor exercise was started after about 10 minutes; this allowed Roger and Tricia time to relax in their respective interview. It was not possible for the researcher to leave the room while the charts were being created, so she sat in silence with them while this happened. Once the charts were created they formed the basis for the ongoing interview. Roger and Tricia explained their charts, with the researcher prompting as necessary, using questions such as, “Why have you placed this person here? Why did you place this arrow going in this direction?”

Many interesting insights were gained from Roger's and Tricia's interviews. They each placed themselves and each other at the center of their respective chart, and close together. Both described how they saw the other as integral to their experiences: Tricia described how their lives were very closely connected, and Roger discussed how he could not live at home without Tricia to help and support him. Roger placed the arrows on his chart in a ring around himself and Tricia. He initially discussed how he felt that the services included on his chart were all there

supporting him, but as the interview progressed he went on to explore his different relationships with the individuals and services that he identified. This included his frustrations with his GP, whom he thought did not understand his difficulties, demonstrated by the GP's reluctance to visit Roger at home.

Roger also described the special relationship he had formed with the heart-failure nurse specialist (HFNS), who had been particularly active in helping him to live with his illness, and whose arrow he placed closer to himself and Tricia than that of any other professional:

I don't think doctors' practices are that much involved anyway, nowadays. It's like 'em not coming out and visiting and that sort of stuff. . . . Off days, I struggle to get to end of the drive. I mean, it's not as if it's [far], but they won't come and see you. . . . But [name of HFNS], she's always there. If she's not sure about it she goes and asks about it, and, if she's not sure some of them [other professionals] are on right track, she'll ring [call] 'em, you know.

Tricia used her chart to show how she felt the focus of her life was on Roger, and how this focus was more important to her than her own health problems. In contrast to Roger's placement of services in a close ring around himself, Tricia placed her own health providers toward the outside of the chart, in part to demonstrate a more distant focus, and to show how frustrated she was with them for not taking her own problems seriously:

Roger's heart failure's the most thing that I worry about, obviously, because he's got renal failure, prostate [trouble], insulin-based diabetes, and that's the thing I worry about, in't it? I just think he's greedy! And, like I'm on the edge, aren't I? I don't matter, my things are out there. But that's really because of the, erm, the reception I get when I've got to seek help [ for myself].

In contrast, Tricia placed Roger's HFNS almost touching her and Roger. She described how the HFNS had become "like a friend"—someone with whom she discussed her concerns freely, who was available to her, and who took her fears for the future seriously. The HFNS was very important to Tricia in helping her feel able to cope with Roger's condition:

Tricia (T): She's the main person in the equation.

Interviewer (I): Who's that?

T: [Name], the heart-failure nurse; both to Roger and to me. Because I can ring her up and speak to her when he's not in, or he's in bed or . . .

I: Do you do that often?

T: I do. She's the crutch on the medical side, and she's brilliant.

Creating the Pictor chart helped Roger and Tricia describe and discuss their experiences; both participants commented on how much they had enjoyed the interview and the opportunity to discuss what it was like living with serious chronic illness. Tricia was particularly surprised by how the Pictor technique had encouraged her to consider her relationships with the various people involved. She explained this, pointing at her chart as she thought out loud:

So from that, I've learnt that that's part of this [indicates services for her being part of the overall picture]. Because of my worry, I suppose, that's [points to HFNS] the crutch I go for, in't it? [Pause] And that's [points to friends] my personal crutches. That's [indicates practice nurse and respiratory nurse specialist] just if I need it, and if she's [HFNS] not there, we have to go there [GP].

### *Analyzing Data From Pictor Interviews*

Although the Pictor technique has its roots in a phenomenological reading of personal construct theory, we argue that it can be used within any theoretical and methodological approach related to the experience of collaborative working. As such, there cannot be a single method of analysis prescribed for any and all studies utilizing the technique; rather, researchers need to carry out a form of analysis congruent with their approach. Thus, a researcher using a narrative approach would be concerned with the story of the case as constructed through the use of the Pictor technique; a phenomenologist would seek to describe and/or interpret (depending on philosophical stance) what essentially constituted the particular experience of collaborative working; a construct theorist would look for the constructs people were using to make sense of the experience.

Despite these inevitable differences in the way researchers might analyze data from Pictor interviews, we offer some general guidelines and points for consideration. First and foremost, a researcher must recognize that in a Pictor interview, the data consist of both the chart and the transcribed discussion about it. At the very least, the researcher should have the accompanying chart available to examine while interpreting the content of an interview, to ensure clarity in making sense of what the participant has to say about a case. Greater richness of analysis is likely to be achieved by the researcher approaching the two forms of data in a more integrated fashion, moving iteratively from considering interesting aspects of the chart to the associated text and vice versa. This can be a very fruitful way of eliciting analytical categories or dimensions appropriate to the approach being used.

An example of this kind of approach can be found in the analysis of the Pictor interview data from the study of patient and carer experiences of multiprofessional collaborative working (Hardy et al., 2012; described



above in relation to Figures 2 and 3). Following the participant interviews all charts were retained, arrows drawn around, and names replaced with pseudonyms to protect anonymity. These charts were then photographed and reduced in size to that of an ordinary sheet of office paper. When interview transcripts were analyzed the Pictor charts were available to view at all times, their reduced size making this more convenient. The charts were considered alongside the text, with interesting aspects of the text prompting the researcher to consider how this was reflected in the charts and vice versa.

For instance, across the participants' charts it was apparent that the patient and carer dyad at the center of the interview nearly always placed themselves adjacent to each other. This drew attention to sections of the interview transcripts where patients and carers described the couple as a unit, tackling the illness together. Another striking pattern in the charts was the location of the arrow representing the GP, which was frequently placed on the periphery or was missing altogether. This was interesting because it challenged the academic literature base and policy documents, which suggest that the GP has a central role in primary palliative care service delivery in the United Kingdom (Bliss, Cowley, & While, 2000; Thomas & Noble, 2007; Department of Health, 2009). The main researcher was thus prompted to look carefully at the transcript data to examine why patients and carers generally did not see their GP as central to their experience.

As the previous example shows, the Pictor technique allows the researcher to look for common patterns in charts across a whole sample of participants. These can provide valuable insights into the perspectives of different groups of participants. In several of our ongoing studies in community palliative care we have noted that district nurses quite frequently do not write a single arrow for themselves as an individual, but rather include themselves on one labeled "DN team" (or similar label). This is much less common for other professional groups. Looking at the relevant interviews, this pattern did seem to say something about the strong team identity that was often found in district nursing. It is vital to bear in mind that common patterns, in and of themselves, cannot automatically be assumed to be meaningful; the researcher must always go back to the interview text to draw a valid inference from such patterns.

The analysis of the Pictor-based interviews in the "Unpicking the Threads" study (Hardy et al., 2012) illustrates how identifying patterns across charts can facilitate the understanding of complex transcript data, especially in relatively large studies. We interviewed 78 participants from numerous different professional groups as well as a small sample of patients and carers, focusing on the relationships between generalist nurses working in the

community, and specialist cancer and long-term-condition nurses (some based in the community and some in the acute sector). Looking at the Pictor charts from these groups, it was immediately apparent that charts in the form of a “timeline” were much more common for the specialist nurses—and especially the acute-based specialist nurses—than for the community generalist nurses. In timeline charts, arrows are placed to represent the patient’s journey through services and interventions, and the places of the participant and other professionals in the journey. Such charts and the talk associated with them tend to portray less about the relationships among different professionals and lay people than do the more frequently used “network” charts such as the one shown in Figure 1.

Examining the narratives in the transcripts, we were confident that this pattern did relate to differences in the way the groups of nurses experienced collaborative working around these patients. The acute-sector specialist nurses would often be involved with a patient over a considerable period of time, but their main interaction was focused around key milestones in the illness trajectory: diagnosis, exacerbations, the start and end of treatment periods, and so forth. They also tended to have limited understanding of how generalist nursing roles were configured and how services were organized in the community. In contrast, generalist community nurses (especially community matrons) had a broader involvement with patients and their families over time, often became involved in coordinating care from many services, and tended to have a much wider understanding of the family and the social contexts in which patients lived. The network chart enabled them to portray this kind of understanding better than a timeline.

## **Discussion and Conclusions**

In this section we examine how the Pictor technique relates to other visual methods in qualitative research. We consider potential challenges for and limitations of the technique, discuss plans for its future development, and conclude with some reflections on its potential to contribute to the development of collaborative working in health and social care.

### *Pictor as a Visual Method*

Although qualitative researchers still predominantly collect data in the form of the spoken or written word—using interviews, focus groups, diaries, and so forth—there is a growing interest in making use of visual media (Reavey, 2011). Images in the form of photographs, drawings, collages, and video footage are used to facilitate participants’ reflections and/or illustrate how particular phenomena are experienced by them. Sometimes preexisting images are used (Gill, Henwood, & McLean, 2000; Howarth, 2011), sometimes they are produced by researchers (Pink, 1999),

and sometimes they are produced by research participants (Radley, Hodgetts, & Cullen, 2005; Yamada & Kato, 2006).

Despite this current popularity, producing a generic definition of what constitutes a visual method remains problematic (Banks, 2001; Prosser, 1998; Rose, 2007). Although we recognize, along with Emmison (2004), the danger of “imposing a spurious unity” (p. 255) across the diversity of visual images used in research, we believe that a pragmatic definition that describes common features of their use across disciplines and methodologies is useful for clarifying discussion. We therefore use the term *visual methods* to refer to the use of visual data in the form of extant images and/or images generated by the participant or researcher to address an empirical question, whereby these images are interpreted by the researcher and/or participants as an expression of meaning.

The Pictor technique is most closely aligned with those visual methods that facilitate a graphic representation of relationships and interactions, to help the participant reflect on how these relate to their experience. The most similar technique, both in form and purpose, is the ecomap (Ray & Street, 2005), which has been used to examine networks of social support for carers of people with chronic illness. In this technique, the carer draws a circle representing him- or herself in the center of a piece of paper and surrounds this with other circles, each labeled to represent a person (e.g., son, friend), group (e.g., coffee group), or institution (e.g., church, community nurses) in his or her social network. Lines are drawn from the inner circle to the outer ones to indicate the nature of the perceived relationships. For instance, thickness of lines can be used to indicate the strength of relationships, hash marks over the line show a stressful or conflicted relationship, and so forth. Arrows can be drawn next to the lines to indicate the main direction of flow of emotional, physical, or other resources between the parties.

Ecomaps are reported to have many of the same advantages as Pictor charts. Rempel, Neufeld, and Kushner (2007) stated that participants engage well with the technique, and note the advantages of its pictorial nature for those who might otherwise struggle to put abstract ideas into verbal form. They argued that it is an adaptable research tool that can be used with different populations of participants and within different methodological approaches, including ethnography, narrative inquiry, and grounded theory. We would also note that neither ecomaps nor Pictor charts rely on the artistic ability of participants, unlike some drawing- or photography-based methods. The limited literature on ecomaps is focused on carers, but there is no reason they could not also be used with patients (at least those who have the mental and physical capacity to perform the task).

Despite these similarities, there are some significant differences between the two techniques. Ecomaps reveal the nature and quality of relationships between the participant and each member of his or her network, whereas Pictor charts also allow the participant to depict and explore perceived relationships between other network members. Pictor charts are more flexible in form than ecomaps, allowing participants to lay arrows out in whatever configurations best enable them to talk about the case, whereas ecomaps use the fixed format of a central circle with surrounding small circles. It is likely that the relative flexibility of Pictor charts also allows the researcher to be less directive than published articles suggest is the case for ecomaps. Overall, we believe that although Pictor charts and ecomaps draw on similar principles, they are each best suited to somewhat different research aims. When researchers seek to compare and contrast the nature of different forms of support from different people, ecomaps are especially useful; when the goal is to examine relationship dynamics and role perceptions in networks of care as a whole, Pictor charts are the better choice.

#### *Challenges and Limitations of Using the Pictor Technique*

In our experience, the ways participants depict experiences of collaborative working on Pictor charts vary considerably. This raises the question of whether some ways of carrying out the task of chart construction tend to lead consistently to richer data than others, and if so, whether that should influence the guidance given by the researcher to the participant. Bravington (2011) addressed these points in a study examining how the Pictor technique was used by nursing and midwifery undergraduate students to reflect on experiences of collaborative working during placements. She found that there were three key elements that tended to facilitate a full and productive discussion of experiences of collaborative working, which together constituted what she referred to as a “classic chart.” A classic chart is:

*Case-specific:* Focusing on one particular case, rather than a series of them or a generic representation of a typical case.

*Interrelational:* Using the placement of arrows—both their direction and their proximity—specifically to show something about the relationships between the people they represent. Charts that are low on interrelationality often have a linear appearance—for instance, showing a series of arrows representing people with a similar type of involvement in the case arranged in a line—which fails to indicate anything about the nature of the relationships among the people.

*Complex:* Includes a relatively large and diverse selection of people involved in the case, and attempts to represent through the chart their differing types of involvement.

Bravington's findings ring true to our experience of using Pictor charts in our studies of collaboration in palliative and supportive care.

We suggest that the instructions given to participants incorporate the three elements listed above: that they should focus on a particular case; that they should use the arrows to show how they perceive relationships among all of those involved in the case; and that they should think about everyone who was involved in the case and be inclusive in those they represent with the arrows, rather than just concentrating on a few key players. One issue that is quite frequently raised when we give conference or workshop presentations on the Pictor technique is our exclusive use of arrow shapes to represent those involved in a case. This is seen by some as restrictive, because participants might prefer to use different shapes to represent specific people and the nature of relationships among and between them. We encourage researchers to experiment with adaptations of Pictor charts using different representational shapes, but we remain convinced that the core technique should include the use of arrows only, for three main reasons.

First, using arrows encourages a focus on relationships and interaction, which is crucial for research exploring collaborative working and similar issues. If participants were given a choice of shapes to represent different people or agencies, the likelihood is that they would tend to focus on the distinctive qualities of each individual or agency represented, rather than on relationships between them. Second, the exclusive use of arrows facilitates comparisons across cases. We have noted above that although this needs to be done with caution, it can be very useful in highlighting consistent differences in experiences of collaborative working across different groups of participants. Third, restricting the representations to arrows keeps the task of creating a Pictor chart relatively simple; adding the choice of shapes as part of the procedure might overcomplicate the technique for participants.

We highlighted previously the potential limitations relating to the physical requirements of the Pictor technique and to participant understanding of it. Our use of it with seriously ill, even bedbound patients has shown that it is not restricted to physically able participants, but modifications do need to be made when the physical tasks of writing out and placing arrows are problematic. There is inevitably a danger of leading participants when the interviewer is required to place the arrows for them, but this might be the lesser of two evils when the alternative is to deny certain people the chance to contribute to research. For example, in studies on palliative and supportive care [AU Q: 10] it would be a major loss to exclude some of the sickest patients because they struggle with writing and placing arrows. As with other visual methods, the one physical characteristic that would prevent participation is

serious visual impairment; the Pictor technique does require the participant to be able to look at the chart both as they create and as they discuss it with the interviewer.

Since we recognized the need to modify the Pictor technique for use with patients and carers, we have encountered very few instances of participants (professional or lay) struggling to understand what was required of them. Nevertheless, it is true that some people take to the technique more readily than others. When participants appear anxious or uncertain about Pictor, we recommend the strategies we described earlier: showing them a “dummy” version of a chart (preferably on a different topic to the one under consideration), separating the tasks of compiling arrows and laying them out to create the chart, and staying with the participant during chart construction to offer encouragement. Sometimes we found that those who were initially unsure about what was required developed a better grasp of the purpose of the technique during the interview; for these people in particular, the interviewer should make it clear that the chart can be modified or added to in the course of discussing it.

#### *Future Directions for the Development of Pictor*

We are currently looking at a variety of further developments in the use of the Pictor technique. We are keen to widen its use in research on collaborative working, first by employing the technique in areas outside of those that have up to now been the focus of our own work; for instance, in the care of older people, learning-disability services, and child protection. We are also exploring the potential use of the technique outside of health and social care altogether; promising settings include the criminal justice system and arts event organization. A second way the use of the technique in research might be widened is in terms of the types of design into which it is incorporated. Colleagues at Cambridge University are currently using it in a longitudinal study of the support given to lung cancer and COPD patients and their carers.. In their study, each participant creates a Pictor chart at two points in the illness trajectory, as does their identified main carer and the health professional(s) with main responsibility for the patient. We see opportunities, as well as significant challenges, in using the Pictor in longitudinal qualitative research.

Although we developed the Pictor technique as a research tool, some members of our team have had considerable experience using it in training and development for health and social care staff. This includes training in case management for community nurses and other professional groups, and workshops on its use as a reflective tool for individuals and teams. The response to the technique from these groups has been overwhelmingly positive; they have found it to be an engaging and stimulating way to reflect on and learn about collaborative working. Feedback from participants mirrored the views of Bravington’s (2011) nursing and midwifery students, who felt that

the flexible and visual nature of the technique gave it real advantages over other reflective techniques. We intend to build on our experiences to produce training packages and materials that will enable a wide range of professionals to try out the Pictor technique as part of their personal and professional development.

#### *Developing Collaborative Working: The Potential Contribution of Pictor*

On the basis of our experience using the Pictor technique in research, training, and professional development, we believe that the technique can make a valuable contribution to improving collaborative working in health and social care settings. In the research context, it is able to draw attention to aspects of collaborative working that could be underplayed or overlooked by other methods. For example, in our ongoing research in palliative and supportive care, the use of Pictor charts has highlighted the importance of personal relationship networks among different professionals in facilitating effective collaboration. This has direct implications for policy and practice: professionals facilitating organizational change in service delivery rarely take this factor into consideration, and all too often disrupt such networks rather than facilitating and reaping the benefits from them. In training and development work, Pictor charts can help foster mutual understanding of roles and identities, and clarify how these are enacted in practice; this can be especially valuable for new roles. The Pictor technique can also be used to learn lessons from specific cases in the context of clinical supervision or in a team development session.

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#### **Notes**

1. If arrow-shaped adhesive notes are not readily available, it is perfectly acceptable to create arrows out of card stock. The main advantage of the adhesive notes, other than saving effort, is that they will stick to the paper when the participant creates a Pictor chart, but not so firmly that they cannot be moved. If the interviewer is using card arrows, care will need to be taken that they are not dislodged before the end of the process.

2. Community matrons are a fairly new role in the British National Health Service, typically having case-management responsibilities for patients with multiple comorbidities, with a brief that strongly emphasizes the avoidance of hospital admissions.

3. The study was funded by Macmillan Cancer Support.



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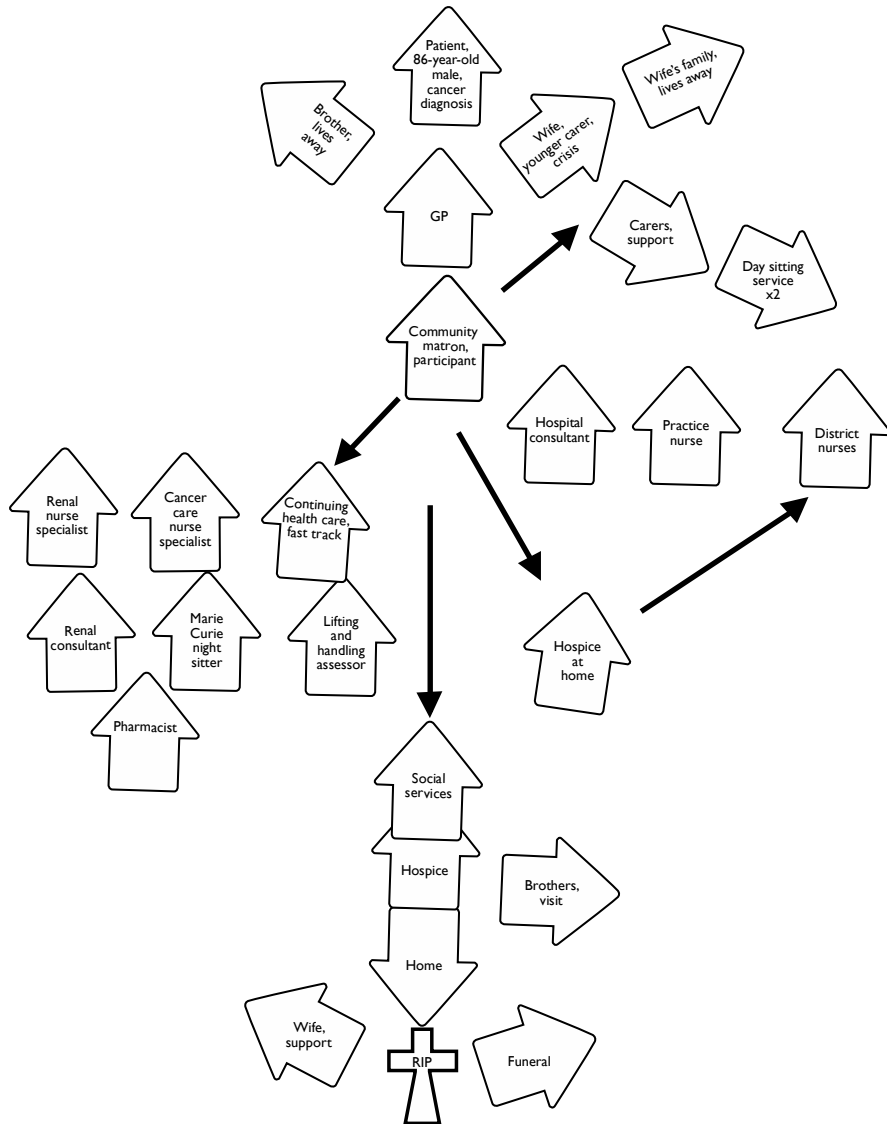
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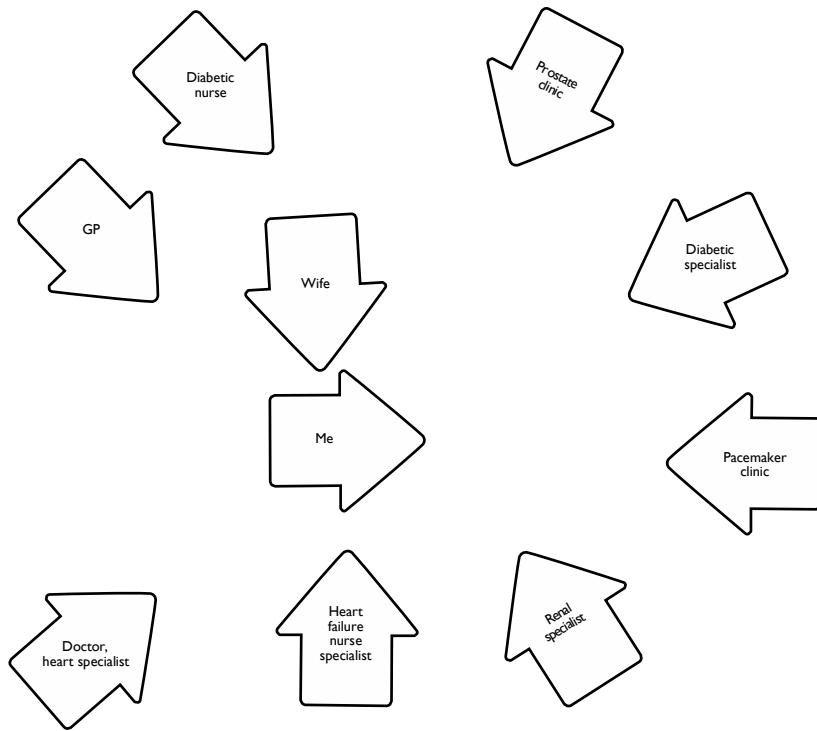
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**Figure 1.** Pictor chart from a health professional



**Figure 2.** Pictor chart from a patient



**Figure 3.** Pictor chart from a carer

