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Shared Decision-Making in Emergency Departments: Context Sensitivity Through Divergent Discourses

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Abstract. Patient-centred care and the empowerment of patients through shared clinical decision-making is a key goal of healthcare systems internationally. The Emergency Department is one of the first opportunities for shared decision-making to occur, with information exchanged between patient and clinician, between clinical disciplines, across the continuum of care, and between clinicians and ancillary departments including radiology and pathology laboratories. The successful development and implementation of sustainable health information technology (HIT) to support shared decision-making in Emergency care requires an understanding of the factors affecting this context. From a purposive, maximum variation sample of clinicians and a convenience sample of patients across three metropolitan and regional Emergency Departments in Australia, we identified three divergent discourses from an in-depth qualitative exploration of issues around shared decision-making. This allowed us to identify unanticipated factors affecting patient-centred care to inform context-sensitive implementation of HIT in the Emergency Department.

Keywords. Patient-Centred Care, Emergency Care, Health Information Technology, Shared decision-making, Pathology, Medical Imaging

1. Introduction

In the Australian healthcare setting, patient-centred care is enshrined in the ethical principles of informed patient consent, the professional standards outlined in the Australian National Safety and Quality Health Service Standard 2: Partnering with Consumers (Second edition) [1], and The Australian Charter of Healthcare Rights [2]. Patient-centred care improves patient outcomes and satisfaction by enabling patients to become partners in their own healthcare through shared clinical decision-making that respects and responds to their preferences, needs and values [3]. On the continuum of care, the Emergency Department (ED) is one of the first opportunities for this shared decision-making to take place, where health information technology (HIT) systems, particularly concerning tests and test results, are used to exchange health information between patients and clinicians, between clinical disciplines, across the continuum of

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care, and between clinicians and ancillary departments including radiology and pathology laboratories.

The Institute of Medicine describes patient-centredness as a core healthcare service deliverable, and identifies empowering patients to manage and execute healthcare decisions as a key competency in 21st century healthcare [4]. Healthcare is a complex, adaptive sociotechnical environment in which even well-designed technology can fail due to contextual issues [5]. Developing HIT that supports patient-centred practices in healthcare requires a sociotechnical approach that considers both people and technology [6]. The failure to be context-sensitive when implementing HIT can lead to adverse effects on workflow, communication and safety [7]. Therefore successful and sustainable HIT development and implementation requires in-depth research that expands our understanding of the broader range of contextual factors [8] within particular healthcare settings. This enables us to anticipate rather than remediate issues post-implementation, and thus ensure the sustainability of HIT that supports patient-centred care [8].

A sociotechnical approach to HIT places an emphasis on the inclusion of qualitative [9] and sociotechnical methods such as participatory design [8], seeking the perspectives of clinicians and patients to identify these contextual factors. Additionally, seeking deviant cases [10, 11] and divergent discourses in qualitative data [12] enables researchers to discover potentially unanticipated factors. Therefore, by identifying divergent cases from an in-depth, qualitative study of the perspectives of a diverse sample of clinicians and patients in ED, this study aimed to identify factors potentially affecting the implementation of HIT supporting patient-centred care.

2. Methods

2.1. Study Design, Setting and Participants

This study included one regional (Site 2) and two metropolitan (Site 1 and 3) hospital EDs in New South Wales (NSW), Australia (see Table 1). MD and JL conducted 58 semi-structured face-to-face interviews between December 2016 and May 2018. A purposive, maximum variation sample of clinicians across the three sites (n=26) spanned Nursing, Medical and Management/Executive positions, various levels of experience from interns to senior specialists, and both male and female participants (Table 1). A convenience sample of patients (n=32) were eligible to participate if they presented to the ED of one of the three sites and received pathology or medical imaging testing. The sample featured a wide variety of clinical presentations and both male and female participants who ranged from 25-34 to 75-84 year age brackets (Table 1).

Table 1. Hospital and patient demographic information across sites

Site	**Hospital Demographic**	**Average quarterly ED presentations in 2018***	**ED Clinicians, n (% Female)**	**ED Patients, n (% Female)**	**Site Total**
1	Major Metropolitan	17,245	14 (28.6%)	13 (61.5%)	27
2	Large Regional	10,022	7 (57.1%)	10 (60.0%)	17
3	Medium Metropolitan	7,691	5 (20.0%)	9 (55.6%)	14
		TOTAL	26 (34.6%)	32 (59.4%)	58

* Calculated using Bureau of Health Information ED presentation data for 2018 [13]

Ethical approval was obtained from the Human Research Ethics Committee of the relevant Local Health District and ratified by Macquarie University. All participants provided written consent to participate.

2.2. Data Collection

Clinicians were asked to describe current test management and communication processes, including: i) whether patients/family were informed about the types and purposes of tests; ii) how it is ensured that information is conveyed to patients/family in a way that is easy to understand and iii) if there had been any staff communication training.

Patients were asked about: i) their awareness of the types and purposes of tests ordered; ii) the results of tests and their understanding of the meaning of their test results; iii) their ability to access their results; iv) who communicated the results to them; v) how they felt about the result reporting process and vi) their opinion of potential electronic access to test results.

All interview data was audio-recorded and transcribed verbatim. All transcripts and recordings were de-identified and demographic information reported only as an aggregate (Table 1) to preserve participant anonymity.

2.3. Qualitative Analyses

In addition to being a highly important strategy for testing the internal validity of qualitative findings [10], seeking deviant cases [11] and divergent discourses [12] is valuable for studies which aim to discover unknown factors and capture the breadth and complexity of an issue. As we sought to inform the sustainable implementation of HIT in the ED context by identifying potentially unanticipated aspects of shared decision-making in ED, we analysed the whole dataset from all 58 participants to identify and examine discourses that were divergent from the remainder of the dataset [12].

Firstly, as data collection was part of a broader study of test result management, communication and follow-up [14], for the purposes of this study, MD and JT systematically excluded data describing test management processes to obtain data across all 58 participants which pertained specifically to the communication of diagnostic test information between patients and clinicians in ED. MM and MD then completed an iterative analytical process involving (1) immersion, (2) description, (3) coding and categorisation, and (4) interpretation of the dataset from 58 participants using both thematic [15] and qualitative content analysis [16] methods, after which MM and MD reached consensus on discourses that were defined as meeting all three of the following criteria: (1) represented a diverse or divergent view not seen elsewhere in the dataset from the 58 participants, (2) explored an aspect of shared decision-making in ED and (3) described the issue directly and in sufficient detail.

3. Results

As a result of our iterative analyses, three discourses met all inclusion criteria. These related to 1) the value of case and family history in preventing diagnostic error; 2) providing health information to facilitate self-management of chronic conditions and 3) clinician barriers to supporting patient health literacy of tests and results. We supply below verbatim excerpts from each identified discourse, with indication of how each diverged from the whole dataset of 58 participants.

3.1. The value of case and family history in preventing diagnostic error

One patient reflected on an incident in their own life in which "I always felt that if that doctor had been able to – or given me advice to seek a second doctor's opinion, I would have been saved from a stroke which would have rescued my life and changed my life quite dramatically". This patient was the only interviewee across the whole dataset who described case and family history as a factor leading to an adverse outcome. The patient's conclusion from this experience was that:

> *"...you should be given your medical records in any form that you can take from GP [General Practitioner] to GP and it should be available to every GP. I had a long family history of stroke; both my mother and her sisters and my grandmother, all died from stroke, and yet nowhere was that information requested of me or did we know. It was only after I'd had a stroke we began to ask in my family and found out that my whole family had virtually died of stroke, whereas it would have been really handy to have had that information and been able to pass it to any doctor that I was seeing, and they have at least a starting point."*

3.2. Providing health information to facilitate self-management of chronic conditions

While most clinicians noted that providing health information enables a patient to take ownership of follow-up from ED with their own GP, one doctor described this information as "part of the reassurance" and the empowerment of patients to self-manage chronic conditions through adequate information and support;

> *"...if a patient comes in with, for example, headache, chronic headache and the first two presentation[s] of headache for each and every person - it will be like, you know, [a] nightmare because you will think about all the wrong, you know, very unusual things. But if - for example, migraine headache; most of the patients can manage at home and they have [a] weekly or bi-weekly or once a month attack, but they manage at home. They stop managing at home when they be[come] aware about the red flags, if we can call it [that], and what they need to- when exactly they need to come in [to ED]."*

This case was also distinct because an emphasis on efficiency in ED was a commonly cited reason among clinicians elsewhere in the dataset for not prioritising communication with patients, yet this exemplar advocated for greater triage efficiency in ED through increased communication and shared decision-making.

3.3. Clinician barriers to supporting patient health literacy of tests and results

While most clinicians across the dataset voiced the aspiration to inform patients despite describing shortfalls in doing so, one participant in the clinician sample provided a distinctly different tone from the remainder of the clinician sample and maintained this divergent discourse in the presence of a peer in the interview. This clinician countered the patient communication efforts described by their colleague by reasoning:

> *"...given that most junior doctors don't understand what the tests are anyway, it's a bit silly to try and explain to the patient. And the words that we use are a bit funny".*

This participant was unique in identifying this knowledge gap as a barrier for clinicians:

> *"But sometimes I don't actually know what test I'm doing when I'm talking to them. And that's the problem with the juniors: they don't know what test they need done".*

4. Discussion and Conclusion

The aim of this study was to identify and examine divergent discourses from a diverse sample of 58 patients and clinicians in ED. Our findings support the value of this methodology to discover factors that may not otherwise be investigated and so capture the breadth and complexity [11, 12] of shared decision-making processes in ED.

The first exemplar depicting a diagnostic error is consistent with recent estimates that most people will likely experience a diagnostic error in their lifetime [17], and represents the individual experience of such an incident. The adverse outcome points to the potential impact of diagnostic error upon an individual's life, and the patient right and need [2] to be engaged in the diagnostic process [18]. It captured the importance of integrating a person's case and family history with their clinical presentation and test results, the value of partnering with patients as the only party in the shared decision who can "ask in my family" for this crucial data [18] and the frequent absence of this practice in primary care [19]. This finding supports current research exploring the potential to link electronic health records with a patient-reported health history tool [20] or to develop computerised family history systems and decision support tools [19].

The second exemplar depicted shared decision-making around a management plan and agreed "red flags", in which the patient had a more active role than merely re-presenting in ED or to their GP. This example was consistent with the literature in highlighting the potential for person-centred approaches to reduce the burden of care in ED by empowering patients to understand and self-manage chronic conditions for improved outcomes, greater reassurance, and reduced repeat presentations [3]. To this end, it supports the potential value of HIT to enable patients to monitor and manage their health beyond ED. For instance, the electronic health record in Australia, MyHealthRecord, includes a private personal notes section [21], and the Danish National eHealth Portal allows patients to monitor their own drug compliance [21].

The third divergent discourse uniquely explored the potential to facilitate the health literacy of patients by increasing support for the clinical decision-making of clinicians, highlighting the two-way nature of a shared decision. Usable HIT may therefore include electronic decision support tools to optimise the appropriateness and timeliness of diagnostic tests ordered for patients presenting to ED [22], or provide clinicians and patients with a shared taxonomy to bridge the gap between jargon and plain language. This diverse exemplar identifies potential issues and solutions that may need to be further investigated and addressed in ED.

Collectively, the three exemplars above contributed unique insights not captured elsewhere in the dataset, consistent with literature yet also giving voice to the real experiences of patients and clinicians in ED that may not otherwise be investigated. Further research into such factors is warranted to broaden our current knowledge of how to implement sustainable HIT that supports patient-centred practices in ED. Increasing partnerships with patients and clinicians through such research is key to implementing translational, sustainable and impactful HIT solutions in the ED context.

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