ARTICLE

Compassion or speed? Which is a more accurate indicator of healthcare quality in the emergency department from the patient's perspective?

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Abstract

Rationale, aims and objectives: Devising indicators to measure quality of care is challenging in Emergency Departments (ED). It is difficult to measure aspects of quality which are less amenable to measurement; hence waiting time has often been relied on. This study aimed to determine whether patients' perceptions of empathy are a measurable indicator of quality of care in comparison to waiting time within the ED.

Method: A cross sectional survey of patients who attended an ED during a 10 day period was conducted to assess correlation between a measure of empathy (the CARE measure), waiting times and perception of care quality. Data other than waiting times were obtained using a questionnaire completed by patients immediately on completion of treatment. Waiting times were obtained from an existing database. Both waiting times and CARE scores were correlated with responses to a patient satisfaction question using Spearman's rho.

Results: Of the 81 patients who participated the majority reported care to be good (21%) or very good (75%). Waiting times varied between 11 minutes and 5 hours 17 minutes. CARE scores ranged from 12 to 50 (mean 41.1). Analysis showed a statistically significant relationship ($p<0.001$) between ratings of patient satisfaction and CARE measure scores with a moderate correlation (Spearman's rho = 0.55), whereas no correlation was found between satisfaction and waiting time (Spearman's rho = -0.07, $p=0.56$).

Conclusions: Length of time was not associated with patients' perceptions of care quality and hence would have been of limited value as a current measure of quality in the ED. Conversely, empathy was associated with care quality and thus should be considered as a means for assessing quality from the patient's perspective in the context of ED departments.

Keywords

Emergency department, empathy, quality measurement, quality of healthcare, waiting time

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Introduction

The quality and safety of healthcare is variable worldwide, despite an array of quality improvement programmes [1-3]. Current thinking suggests that an appropriate family of measures helps drive quality improvement within healthcare systems [4,5]. Emergency Departments (ED) pose unique challenges in developing improvement measures due to the complex variation of patients and the impact of other system components upon its functioning.

Despite these challenges significant work has been undertaken to develop quality indicators within the ED setting internationally [6,7,8]. The UK waiting time target is a maximum length of stay in the ED of 4 hours [9,10]. The target was devised in response to public and political concerns reporting long and inappropriate 'trolley' waits in ED [11]. Results were under great scrutiny with financial and other penalties for hospitals failing to reach the target. There were concerns that dysfunctional activity was apparent in order to meet the pressure of the target [12]. Such activity has been termed 'effort substitution' and 'gaming' [13]. Effort substitution is the reduction of effort in other activities which were not being measured. For example, reducing the clinical care patients receive to enable patients to be seen quicker. Gaming refers to an activity which represents the data as better than they

actually are; for example, ambulances waiting outside busy ED until 'ready' to receive the patient. Despite these concerns, there is evidence that the 4 hour wait dramatically improved wait time performance between 2003 and 2006 in England, UK [13]. However, a systematic review found that there was no evidence to suggest that the target had resulted in consistent improvements in care [12].

Most work to date focuses on dimensions of quality which are easily measured, that is, time. Yet, quality is multi-dimensional and necessitates measuring different aspects or indicators, to ensure a more comprehensive analysis. The Institute of Medicine, which provides advice on matters of healthcare quality to the American Congress, have devised 6 dimensions of healthcare quality; namely safety, timeliness, effectiveness, efficiency, equity and person-centredness. Despite originating in America, these dimensions are accepted worldwide [1]. A more recent integrative review elicited the dimensions as safety, timeliness, effectiveness, caring, system navigation and person-centredness [14]. A recent paper devising a framework for measuring quality within the ED also highlights the need to develop indicators for a range of quality dimensions [5].

There have also been concerns that current measures are an inaccurate reflection of quality from the patient's perspective [15,16]. These concerns have become increasingly important as healthcare systems in the UK and other higher income countries attempt to implement systems which are more reflective of patient and public views. Despite an array of literature acknowledging the plurality of perspectives of what constitutes quality, current indicators are devised from the view of providers, rather than recipients of healthcare. Definitions of healthcare quality vary between clinicians, managers, policymakers and those in receipt of health services [17]. Indicators which are representative of patient/public perspectives of quality need therefore to be devised.

This study aims to build on the integrative review by Beattie *et al*. (2012) [14] to determine whether caring can be measured as an indicator of healthcare quality from the patient's perspective within the ED. Although caring may be perceived as an element of person-centredness, we believe that caring should be an explicit and conceptually separate dimension. Creating caring as an explicit dimension would increase the likelihood of measures and targeted interventions to maintain and improve this fundamental dimension of healthcare quality. Otherwise, there is a risk that caring will become marginalised in favour of dimensions more amenable to measurement.

While the elusive nature of caring remains complex, there is some consensus that elements or indicators of caring can indeed be measured [18]. Many definitions or conceptions of caring capture the notion of empathy or "the ability to communicate an understanding of the patient's world" [19]. Empathy may be a useful element or indicator of healthcare quality from the patient's perspective. Most caring theories focus on what people 'say they do', rather than 'what is actually done' [20]. While healthcare has changed considerably from a technical perspective, basic care needs (such as good communication and caring behaviour) remain central to quality healthcare. As measuring the wholeness of caring remains elusive, empathy, as an observable and tangible construct, may offer a measurable indicator of care (as discussed later in relation to the CARE measure).

This study thus sets out to assess if a measurement of empathy could be effectively used as a measure of quality in an ED setting by assessing: (a) if it correlates with a measure of care quality from patients' perspectives and (b) whether this correlation is greater than any found for a measure of waiting time.

Method

We hypothesised that a measure of empathy (namely the CARE measure) would correlate with responses to a question assessing perceptions of quality amongst attendees in an ED and that the correlation would be greater than would occur between the indicator of quality and waiting time.

To assess these hypotheses, we conducted a cross sectional survey of all adult patients who attended an ED during a 10 day period in December 2011. Such data were not routinely collected and thus necessitated primary collection. Cross-sectional data collected at the point of time where people were in the ED enabled participants to record their experience of care immediately and thus reduced the likelihood of recall bias. Furthermore, the data enabled analysis to explore associations between different measures of care quality. Ethical approval for the study was sought from and granted by the University of Stirling and the National Health Services Research and Ethics Committee (North of Scotland).

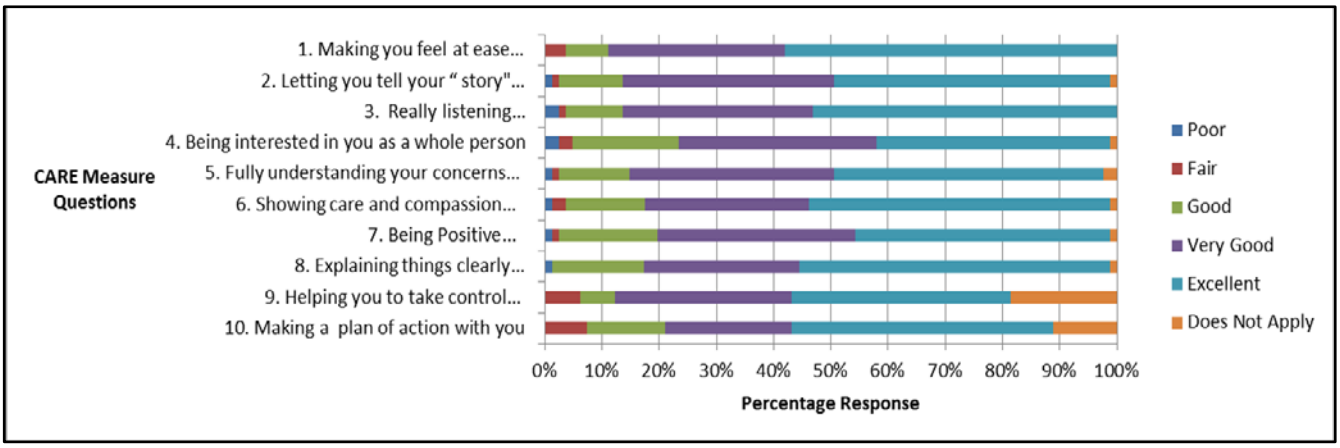
Setting

The ED is typical of departments across higher income countries. It is located within a 577 bed general hospital with a catchment area including urban and rural areas and sees approximately 33,000 patients per year.

Data collection tool

The questionnaire contained the Consultation and Relational Empathy (CARE) measure, socio-demographic questions and a rating scale of patient satisfaction. The CARE measure quantifies patients' perceptions of healthcare practitioners' empathy. The measure consists of statements in relation to the healthcare practitioners' ability to understand and respond to patients' fears and concerns, termed 'relational empathy'. The CARE measure is simple and quick to complete making the tool attractive for an ED setting. Other tools were available. We decided against using these, however, given their limited utility in practice, their length and their complexity [21], the need to measure staff and patient's perceptions [22] and their inappro-

Figure 1 CARE Measure Responses



priateness to alternative settings [19]. The CARE measure has been demonstrated to have a high degree of validity in measuring the elusive notion of empathy [23,24].

Some studies have effectively utilised the CARE measure within a secondary care setting [25,26]. The CARE measure represents a modern conception of caring - 'collaboration', rather than 'doing', which is appropriate in current healthcare practice. The theory explicit within the CARE measure explains components of empathy in emotive and behavioural stages. Stage 1 involves the practitioner understanding the patient's perspective and feelings, Stage 2 requires the practitioner to communicate their understanding of the patients perspective and Stage 3 requires the practitioner to act appropriately [27]. These stages are helpful as they clarify that measuring empathy requires more than what practitioners say they do; rather, empathy needs to be demonstrated by the practitioner and perceived by the patient. These behavioural aspects of care were identified as key components of healthcare quality in the literature review previously conducted by Beattie *et al*. 2012 [14].

The CARE measure requires patients to respond to 10 questions using a 6-point rating scale ranging from 'poor' to 'excellent' or to select "does not apply" (see Figure 1). Each response totals to provide an overall score of relational empathy ranging between 10 and 50. The CARE measure has usually been utilised to provide overall empathy score for consultations with practitioners [24-26]. As the purpose of this study was to determine the relationship between empathy scores and satisfaction ratings, individual scores were not calculated; rather, scores were correlated with patients overall ratings of quality of care.

The reverse of the questionnaire included sociodemographic details of the sample to determine whether these characteristics influenced satisfaction of quality of care ratings (see Table 1). Age, gender and type of practitioner have been identified in the literature as factors which may influence satisfaction with healthcare [28-30].

Table 1 Sociodemographic details of the sample

Variable	% of Patients n=81
Gender	
Male	50.6
Female	49.4
Age (Years)	
18-29	28.4
30-39	12.3
40-49	19.8
50-59	8.6
60-69	14.8
70-79	9.9
80-89	4.9
89-99	1.2
Seen by	
Doctor	45.7
Nurse	22.2
Both	18.5
Don't know	6.2
Missing	7.4

The main outcome of interest was how patients perceived the quality of care they had received during their visit to the ED. Patient satisfaction measures are commonly used to determine quality of care from the patient's perspective [31]. A patient satisfaction rating scale was used to capture patients' perception of quality of care (see Table 2). A 5-point scale ranging from 'very good' to 'very poor' was devised to encourage a response

which was reflective of the patients' perception of quality of care [32].

Table 2 Patient satisfaction ratings

Satisfaction	% of Patients n=81
Very Good	75.3
Good	21.0
Fair	2.5
Poor	1.2
Very Poor	0

Data collection

Patients were recruited as they presented at the ED. Clinical staff distributed Study Information Leaflets to all patients on arrival who were 18 years of age or over and who were considered to have the capacity to give informed consent. Patients who agreed were then seen by members of the study team who addressed any questions and, for those who remained agreeable to participate, consent was obtained. Patients in Scottish hospitals have a unique number used for administrative purposes. This number was inserted into the questionnaire to enable the study team to link information on the length of time spent in the ED (information routinely recorded by ED staff). Patients completed the questionnaires after their assessment and treatment and immediately before leaving the department for discharge, transfer or admission. Completed questionnaires were returned in envelopes and deposited into a collection box. Members of the research team matched the waiting times to questionnaires from the hospital database.

Statistical analysis

Data were entered into SPSS (version 17) for analysis. An overview of respondents was ascertained by calculating descriptive figures for age, gender and practitioner type using percentages and means as appropriate. The continuous variable for age was transformed into categories commonly used in existing data sets for ED in the UK to enable comparison with other data.

Patient satisfaction with quality of care was the primary outcome measure. Initial analysis established the data to be non-parametric (the majority of responses to the satisfaction with quality of care question being 'good' or 'very good') and so Spearman's rank was used to assess correlation between the measure of empathy and perceptions of quality and between waiting time and perceptions of quality.

We transformed responses to the patient satisfaction question into a binary variable. Patients are known to overrate the care they receive, which can result in responses of 'good care' (as opposed to 'very good care'), actually meaning 'substandard care'. Previous studies have found people to be reticent to report negative experiences [33-35]. We managed the validity threat of using patient satisfaction as an outcome measure by using a high threshold of what constitutes good care. The binary variable was categorised as 'good' and 'not so good' care. 'Good' care was composed of responses from participants who rated quality of care as 'very good' only. 'Not so good' care was composed of all other responses – 'very poor', 'poor', 'fair' and 'good'.

Results

The sample was generally young and included a roughly equal number of males and females. Of the 81 patients 41 (51%) were male. Twenty-three (28%) were aged 18-29 years (mean 46.5) indicating that the sample was more representative of young people. Almost half of the sample (46%) had their consultation carried out by a doctor and a small proportion (6%) did not know whether they were seen by a doctor or a nurse. Waiting times varied between 11 minutes and 5 hours 17 minutes with a mean of 1 hour 48 minutes, which indicated that waiting times were generally low and mostly within the 4 hour wait target. CARE measure scores varied from 12 to 50 (mean 41.1), indicating wide variation in patients perceptions of empathy by caregivers, although mostly reporting high levels of perceived empathy. Gender did not appear to make any difference in respondents' ratings of satisfaction with care - comparative analysis indicated no significant differences between male and female responses and overall satisfaction with quality of care (Chi 2 =1.20, p=0.274).

Most patients rated overall satisfaction of care highly, indicating their care to have been either very good (75%) or good (21%) with only a very small proportion (4%) indicating otherwise. Even if we assume those indicating care to be no better than 'good', these figures still indicate that only 25% were at all dissatisfied with care (see Table 3). Women were more likely to rate their care as 'not so good' (30% out of 49.5%); however, this was not statistically significant (Chi Square 1.20, p=0.27). A statistically significant difference was found between dissatisfaction rates of younger people (36.3%) compared to older people (20.0%) (Chi Square 4.08, p=0.04).

Some patients felt the last 2 questions on the CARE measure were not applicable – Q9: helping you take control (18.5% not applicable) and Q10: Making a plan of action with you (11.1% not applicable). These 2 questions related to patient involvement in their care, which may have been perceived as less relevant in the ED setting. These 2 questions may need refinement to ensure the questionnaire is appropriate in an ED setting.

The Spearman's rho test showed a statistically significant relationship between ratings of patient satisfaction and CARE measure scores with a moderate correlation (Spearman's rho = 0.55, $p<0.001$), whereas no statistically significant correlation was found between satisfaction and waiting time (Spearman's rho = -0.07, p=0.56).

Table 3 Comparison of 'good' and 'not so good' patient satisfaction ratings

Variable	% Patient Satisfaction Good n=81	% Patient Satisfaction Not So Good n=81
Gender		
Male	80.5	19.5
Female	70.0	30.0
TOTAL	**61 (75.3)**	**20 (24.7)**
Age (Years)		
18-29	60.9	39.1
30-39	70.0	30.0
40-49	81.3	18.8
50-59	85.7	14.3
60-69	83.3	16.7
70-79	87.5	12.5
80-89	75.0	25.0
90-99	100.0	0
Seen by		
Doctor	83.8	16.2
Nurse	66.7	33.3
Both	80.0	20.0
Don't know	60.0	40.0

Discussion

To our knowledge, this is the first study which aims to explore the measurement of empathy within an ED setting. The results demonstrate a moderate and statistically significant correlation between empathy and satisfaction with quality of care. In other words, those who considered their care to have been of high quality were also more likely to have perceived staff as being more empathetic. This finding suggests relational empathy (CARE measure) to be a valid indicator of healthcare quality from the patient's perspective. This finding has important implications when determining quality indicators for an ED setting, specifically those which encompass the notion of person-centred care.

The study design does not control for other patient and environmental factors which may have influenced patient satisfaction ratings. We do not believe our findings to have been the result of selection bias. Most of our patients were towards the minor end of the spectrum for levels of illness or injury seriousness. Studies of patient satisfaction in the ED have found that patients presenting with urgent conditions were more likely to be satisfied with their care than those who presented with less urgent conditions [36]. Other studies have noted that as the severity of the presenting complaint increases so does the level of communication between patient and practitioner [30]. For ethical reasons, we had to exclude patients if they lacked capacity to give consent, which included those temporarily incapacitated from opiate analgesics, sedation or altered levels of consciousness. We acknowledge that the study group were predominantly 'walking wounded', which limits the transferability of these findings. Excluded patients were likely to have had more serious conditions or injuries. Individuals who present with major injury or illness may have a longer length of stay within the ED due to the complexity of their condition, which could influence their overall rating of satisfaction; however, again these individuals were likely to have had more serious conditions and so again would have been more likely to have a high level of empathetic care.

We found most care to be of a high quality, with 3-quarters of the respondents indicating care to be 'good' or 'very good'. These findings are consistent with those reported for EDs elsewhere [36]. We found care to be largely empathetic, yet public perceptions of ED may be skewed by the portrayal of negative stories in the media and the under-reporting of positive experiences. However, there is also evidence which suggests that patients do not readily express their dissatisfaction with healthcare quality [37]. Some of the reasons for under-reporting include the patient perception that the issue is outwith the frontline practitioners' control, for example, having to wait a considerable length of time to see a specialist. Also, patients may feel they do not have the expertise to judge the technical aspects of care or indeed automatically assume technical competence of staff [38].

Since the publication of a key paper by Erikson (1987) [38], who questioned the validity of patient satisfaction as a measure of care, many papers have supported the notion that when care meets or exceeds the patients' expectations, then they are more likely to report high levels of satisfaction with care. Leonard (2007) [39] gives a balanced view of the pros and cons of using satisfaction as a measure of quality of care. Despite the debate surrounding the use of patient satisfaction instruments, there is consensus in the literature that the quality of the interaction between patients and practitioners is a strong predictor of quality of care [40].

Empathy and quality of care were significantly and positively correlated, indicating that one is associated with the other, thus valuing the use of patient satisfaction as an outcome measure. This finding may conflict with perceptions of ED being uncaring environments, where the focus is to move the patient through a busy system in a timely manner [41,42]. The brief encounters between patients and clinicians may limit the extent to which a therapeutic relationship can be developed. However, our findings are a reminder that empathy remains central to patients' perceptions of quality of care in an ED.

Consistent with other studies, our sample showed that younger patients were less satisfied with their care; however, no differences were found between other age categories and by gender. The latter finding is consistent with other research in an ED setting [29,36]. Other studies have also found that younger people are more likely to express dissatisfaction than older patients [30,36]. This may be due to the fact that younger patients have higher expectations of the care received in ED or even inappropriate expectations, such as presenting to ED with

Table 4 Spearman's rho determining the relationship between empathy/waiting time with satisfaction of quality of care ratings

Variable		How would you rate your overall satisfaction with the quality of care you have received today?	Total empathy score	How may minutes spent in the ED?
How would you rate your overall satisfaction with the quality of care you have received today?	Correlation coefficient	1.000	0.549**	-.066
	Sig. (2-tailed)		0.000	0.559
	N	81	80	81
Total empathy score	Correlation coefficient	0.549**	1.000	-.120
	Sig. (2-tailed)	0.000		0.289
	N	80	80	80
How may minutes spent in the ED?	Correlation coefficient	-0.066	-0.120	1.000
	Sig. (2-tailed)	0.559	0.289	
	N	81	80	81

** Correlation is significant at the 0.01 level (2-tailed)

minor ailments that could be managed effectively by other healthcare providers. Notably, our study found that empathy remains an important indicator of healthcare quality irrespective of age – young patients who were dissatisfied also reported low levels of empathy by practitioners. Regardless of age, therefore, measuring empathy remains a valid aspect of quality measurement within ED.

Conceptions of quality are likely to change as the discourse of society and healthcare changes. For example, waiting time was likely to be an important indicator within the ED in the UK before substantial improvements were made in this area. Compliance with the 4 hour target in the UK increased from 77% in 2002 to 96% in 2004 [12]. Given that waiting time in ED has improved dramatically over the last few years in the UK, this may no longer be an important predictor of quality of care in the ED. As found in this study, busier time periods do not necessarily result in less satisfied patients [36]. Previous research has also indicated that perceived waiting time is a stronger predictor of patient satisfaction than actual waiting time [36,43-45]. This finding supports the widely recognised disconfirmation paradigm; where perceptions of quality of care are influenced by confirmation or rebuttal of expectations. For example, if a patient expects to be seen within 1 hour of arrival, being seen within 30 minutes would constitute satisfaction; whereas dissatisfaction is likely if the patient has had to wait 1 hour and 15 minutes. Current thinking supports the disconfirmation paradigm, in which dissatisfaction arises when patient expectations are not met [46].

A recent systematic review found no clear evidence to suggest that the 4 hour target actually improved quality of care in the ED [12]. Our study further supports these findings that waiting time is at best weakly linked to quality of care. In April 2011, NHS England introduced a group of measures which aimed to give a more balanced view of performance within the ED. The aim of the 4 hour target was amended to 95% of attendees being seen on time (previously 98%). Other measures, for example, the number of patients who left before treatments, were also introduced. These changes suggest that the 4 hour wait target alone does not provide an accurate portrayal of quality of care within an ED.

It is difficult to compare average waiting times between studies as there are wide variations in definitions of wait time. For example, wait time within this study was the total time for arrival until departure within the ED (mean 108 minutes). Others have recorded wait time in stages, for example, time from arrival to triage or treatment [43,47] while others have included overnight stays within the ED [48]. However waiting time is defined, its currency as a sole indicator of healthcare quality in the ED appears limited.

Specific indicators of quality are likely to change as practice evolves, for example, as technical and therapeutic interventions advance. Dimensions of quality likely remain constant with some dimensions having more or less prominence over time. For example, time was an important dimension of healthcare quality before significant improvements were made in this area. However, it would be short sighted to banish the dimension of time, as there is a risk that this would eventually result in increased waits for patients. The humanistic and behavioural aspects of caring remain, however, an important and consistent dimension of quality regardless of context or time. Oluwadiya *et al*. [49] studied patient satisfaction with ED care in Nigeria and found that practitioners showing genuine concern, attitude and courtesy were priority areas for improvement. Interpersonal skills such as listening, valuing people as individuals and attempting to understand their concerns, appear to be timeless imperatives of good quality healthcare.

Furthermore, EDs differ from other clinical areas, in that there is a greater degree of uncertainty and anxiety of the patients during their stay, more contact with unknown staff, a constantly changing and busy environment and limited attention to psychosocial issues [29]. Yet, these very factors if anything make the need for empathy even

greater. The measurement of empathy may thus be even more pertinent in EDs than elsewhere.

This study adds to others that have demonstrated that caring behaviours are key predictors of patient satisfaction in an ED setting [15,29,36,44,45,50]. This study, however, suggests one method of measuring a distinct aspect of caring, namely empathy in an ED. The empathy measure reported here, namely the CARE measure, has the potential to be integrated into the daily practice within ED as a quality indicator. Doing so would be especially appropriate with contemporary concerns for ongoing quality improvement.

However, this study found that patients perceived the last 2 questions in the CARE measure to be less relevant than the other questions, 29.6% of patients indicating these questions not to be relevant. This finding is perhaps unsurprising given that these questions centred on the control and planning of care which may be less applicable in an ED setting. These responses may have been attributed to a public perception that ED deal with immediate care, rather than promote self-care and action planning. It is less likely that staff failed to relinquish control to the patient or integrate care planning as patients would have been more likely to rate the response to the question as 'poor' or 'fair', rather than 'does not apply'. As healthcare systems in higher income countries attempt to shift to a more mutual service provision, this finding highlights the cultural shift that will be needed by the public and practitioners to embrace real empowerment and involvement. Mutuality in healthcare requires people actively to influence service provision and enhance their wellbeing in all areas of healthcare including ED.

Conclusions

Identifying quality indicators is a balance of necessity and sufficiency. There is a risk that dimensions of quality which are difficult to measure will be marginalised in favour of those which are easier to quantify. Despite the continuing changing landscape of healthcare, aspects of caring (of which empathy is an example) remain fundamental to attaining and improving quality of care. This study demonstrates that patients' perceptions of empathy are a measurable indicator of quality of care within the ED. Waiting time, as an isolated indicator, is of little value in determinations of the quality of care in an ED setting.

We suggest a number of areas in which the issues explored in this paper could be further developed. In order to attempt to include the views of patients who were incapacitated, further work would need to be done to ascertain the validity of asking patients' relatives to complete the CARE measure as a proxy. Likewise, parents may also wish to complete the CARE measure after attending the ED with children. The CARE measure offers a potential solution to capture an essential dimension of quality, namely empathy. Capturing the wholeness of quality necessitates inclusions of a person-centered dimension.

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