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Strengths and weaknesses in team communication processes in a UK emergency department setting: findings using the Communication Assessment Tool-Team

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Patient reported data may identify strengths and weaknesses in team communication processes in a UK ED setting: Findings using the communication assessment tool team (CAT-T).

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ABSTRACT

Introduction. Identifying weaknesses in ED communication may highlight areas where quality improvement may be beneficial. This study explores whether the Communication Assessment Tool Team (CAT-T) survey can identify communication strengths and weaknesses in a UK setting.

Objectives To determine the frequency of patient responses for each item on the CAT-T survey, and to compare the proportion of responses according to patient and operational characteristics.

Methods Adults presenting to the minors area of a semi-urban ED between April-May 2015 were included. Those lacking capacity or in custody were excluded.

Multivariate analysis identified associations between responses and demographic/ operational characteristics.

Results. 407/526 eligible patients responded (77.3%). Respondents were mostly white British (93.9%) with a median age of 45 years.

Most responses were obtained during daytime hours (84.2% between 0800 and 1800). Median reported times to triage, assessment and disposition were 15, 35 and 90 minutes respectively.

Items most frequently rated as 'very good'/'excellent' (strengths) were 'ambulance staff treated me with respect' (86.7%), ED staff 'let me talk without interruptions' (85%) and 'paid attention to me' (83.7%). Items most frequently rated as 'poor'/'fair' (weaknesses) were 'encouraged me to ask questions', 'reception treated me with respect' (10.4%) and 'staff showed an interest in my health' (6.8%)

Arrival time, analgesia at triage, and time to assessment were associated with significantly increased odds of positive perception of team communication for a range of items.

Conclusion The CAT-T survey may be used within a UK setting to identify discrete strengths and weaknesses in ED team communication.

What is already known?

High quality team communication with patients in the ED reduces complaints, aids clinical decision making and increases concordance with discharge instructions.

The communication assessment tool team (CAT-T) is a validated survey which aims to assess patient perceptions of team communication in the ED. Whether data from the CAT-T can be applied to drive quality improvement is unclear.

What this study adds

This study demonstrates that data derived from the CAT-T can be used to identify discrete strengths and weaknesses in team communication processes. This may be used to target quality improvement efforts aimed at improving patient experience in the ED in the future.

MAIN BODY

The delivery of safe and effective emergency care is dependent on high quality interpersonal communication between healthcare providers and patients. Encouraging optimal provider communication skills in the ED has been demonstrated to reduce complaints, aid clinical decision making and increase concordance with discharge instructions.[1,2] Conversely, suboptimal communication is recognised to contribute to complaints and adverse outcomes.[3]

The communication assessment tool (CAT) is a self-administered patient questionnaire originally developed to measure patient perceptions of physician communication skills.[4] Patients are asked to rate perception of communication using a Likert scale. In order to provide a valid assessment of overall patient experience, the CAT was subsequently modified by Mercer et al to collect patient perceptions of team communication in settings such as the ED.[5]

To date, the CAT-T has not been used to assess communication in an ED setting outside the USA, nor have the results been interpreted with the specific aim of identifying discrete areas for quality improvement in communication processes.

Aims

The primary aim of this study was to determine the frequency of patient responses for every item on a modified 17 item CAT-T survey in order to determine strengths and weaknesses in team based communication processes.

Secondary aims were to identify whether patient perception of team based communication differs based on patient and operational characteristics (Table 1).

Table 1: Characteristics included in multivariate analysis.	
Patient Characteristics	**Operational Characteristics**
Age	Time of arrival
Gender	Length of stay
Co-morbidities	Time to Triage
Ethnicity	Time to clinical assessment
	Analgesia (pain relief) at triage
	Patient perception of ED crowding

Methods

Survey

Permission to use the CAT-T was granted by the original author (Personal communication, Gregory Makoul, October 2014). For the purposes of this study, the CAT-T was further modified to specifically include communication with staff groups not providing direct clinical care within the minors area, such as receptionists and where applicable, ambulance staff.

Population

Adult patients aged 18 years or over presenting to the minors area of a semi-urban UK ED (approx. 90 000 attendances per year) were eligible for inclusion. Those too unwell to complete the survey, lacking mental capacity, or in custody were excluded. Informed consent was obtained from eligible patients before clinical assessment.

Study Period

A team of three clinical researchers (two nurses, one physician) embedded within the host institution ED recruited patients directly to the study. A convenience sample based on researcher availability was obtained during a four week period (April - May 2015). A proportion of patients were recruited outside normal researcher working hours beyond 1800.

Ethics

The local research ethics committee deemed approval not necessary. The project was registered as a service evaluation with the host institution.
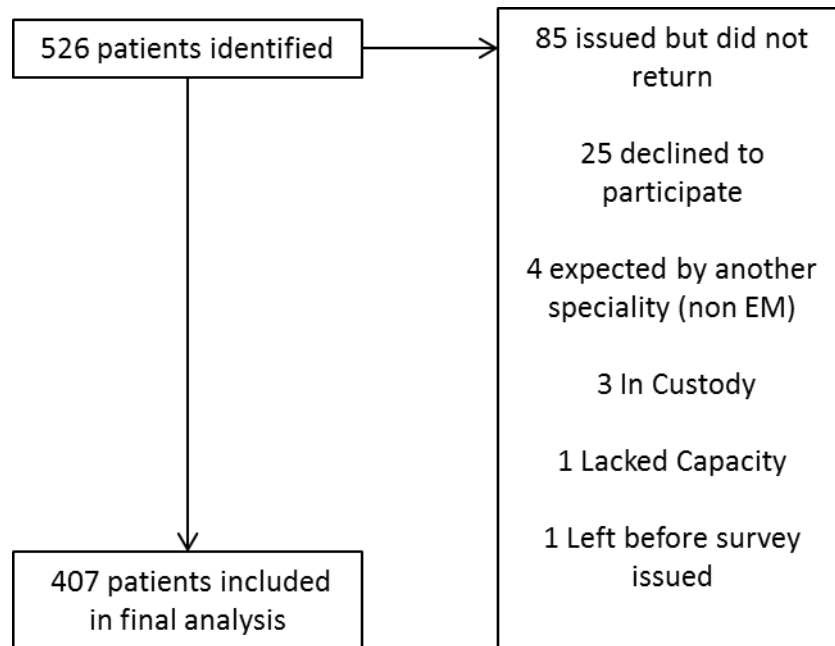
Analysis

Based on findings reported by McCarthy et al in an original evaluation of the CAT T,[6] a sample size of 385 was calculated to estimate the number of excellent responses with 5% significance. Ordinal logistic modelling was used to identify associations between patient demographics and operational characteristics.

To aid the identification of discrete areas for improvement, 'very good' and 'excellent' responses on the CAT-T were grouped together and categorised as potential strengths. Conversely, 'poor' and 'fair' responses were categorised as potential weaknesses. The midpoint of the Likert scale was excluded from the analysis.

Results

Data were collected during fifteen separate sessions over a period of 144 hours. For seven sessions, a researcher was present beyond 1800 to recruit patients during the twilight and night shift period. Out of 526 patients identified as eligible for inclusion, 407 responded (77.3%) (Table 2). The majority of responses were obtained between the hours of 0800 and 1800 (n= 343 (84.2%)) and a further proportion outside these hours (n= 64 (15.8%)) .

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┌─────────────────────────┐         ┌─────────────────────────┐
│ 526 patients identified │────────▶│ 85 issued but did not   │
└─────────────────────────┘         │        return           │
            │                       │                         │
            │                       │ 25 declined to          │
            │                       │ participate             │
            │                       │                         │
            │                       │ 4 expected by another   │
            │                       │ speciality (non EM)     │
            │                       │                         │
            │                       │ 3 In Custody            │
            │                       │                         │
            ▼                       │ 1 Lacked Capacity       │
┌─────────────────────────┐         │                         │
│ 407 patients included   │         │ 1 Left before survey    │
│ in final analysis       │         │ issued                  │
└─────────────────────────┘         └─────────────────────────┘
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Table 2: Summary of patient recruitment

Patient Characteristics

52.7% of respondents were male, with a mean age of 45 years. In keeping with the local
demographic of the study institution, ethnicity was predominantly white British (93.9%).
One third of respondents reported suffering from comorbidities, including long term
conditions (19.4%), sensory impairments (8.6%) and mental health conditions (5.4%)(Table
3).

Table 3: Summary of data—patient characteristics	
Gender, %	
Male	52.7
Female	47.3
Ethnicity, %	
White	
Other	93.9
ND*	3.2
	2.9
Age	
Median	45 years
Range	18—95 years

Age by category, %		
18-24 years	16.4	
25-34 years	15.7	
35-44 years	12.5	
45-54 years	16.2	
55-64 years	11.5	
65 or older	18.2	
ND*	9.5	
Comorbidities, %		
No	58.5	
Yes	33.4	
Single	24.5	
Multiple	8.8	
ND	8.1	
Prefer not to disclose	1.5	
Comorbidity by category, %		
Sensory Impairment	8.6	
Long term physical condition	19.4	
Current mental health condition	5.4	
		* ND=No Data

Operational Characteristics

Patients were asked to report operational characteristics including waiting times (Table 4). The median reported time to triage was 15 minutes, and time to clinical assessment a further 20 minutes. Median overall length of stay was 90 minutes (range 5-370 minutes). Respondents were also asked to report their perception of crowding on a visual analogue scale. The majority indicated that the ED was not busy or crowded during their stay (68.5%). Two thirds of patients reported being offered analgesia at triage (66.2%).

Table 4: Operational Characteristics

Time of Arrival, %	
'In Hours' (0800- 1759)	84.2
'Out of Hours' (1800-0759)	15.8
Time to triage	
Median	15 minutes
Time to clinical assessment	
Median	20 minutes
Patient reported LOS	
Median	90 minutes
Patient reported crowding (VAS), %	
1 (not busy/ crowded)	43.8
2	24.7
3 (fairly busy/ crowded)	23.7
4	5.7
5 (extremely busy / crowded)	2.1
Offered pain relief at triage, %	
Yes	66.2
No	33.8

Strengths and weaknesses Top ranking potential strengths included 'ambulance staff treated me with respect' (86.7% 'very good'/'excellent' response), 'let me talk without interruptions' (85%), 'paid attention to me' (83.7%) and 'treated me with respect' (83.3%). These items were also unlikely to be rated using the negative descriptors by patients.

Potential weaknesses included 'encouraged me to ask questions' (10.4% 'fair'/'poor' response), 'reception treated me with respect' (10.4%), 'staff showed an interest in my health' (6.8%) and 'greeted me in a way that made me feel comfortable' (7.1%) (Table 5).

Table 5: Summary of frequency of responses for each item, proportion of responses, and rank as potential strength / potential weakness.

CAT-T Item	Frequency of Responses (/407)	'Very good'/ 'Excellent', (%)	Rank (strength)	'Poor'/ 'Fair', (%)	Rank (weakness)
1. Greeted me in a way that made me feel comfortable	396	299 (75.6)	13	28 (7.1)	2
2. Treated me with respect	397	331 (83.3)	4	12 (3.0)	13
3. Showed interest in ideas about my health	381	287 (75.3)	14	26 (6.8)	4
4. Understood my main health concerns	387	310 (80.1)	9	20 (5.2)	7
5. Paid attention to me	393	329 (83.7)	3	20 (5.0)	8
6. Let me talk without interruptions	393	334 (85.0)	2	10 (2.5)	15
7. Gave me as much information as I wanted	388	314 (77.1)	10	22 (5.7)	5
8. Talked in terms I could understand	392	334 (80.9)	6	11 (2.7)	14
9. Checked to be sure I understood everything	388	319 (82.2)	5	19 (4.9)	9
10. Encouraged me to ask questions	383	263 (68.7)	16	40 (10.4)	=1
11. Involved me in decisions as much as I wanted	372	283 (76.1)	12	26 (7.0)	3
12. Discussed next steps	406	310 (76.3)	11	13 (3.2)	12
13. Showed care and concern	405	325 (80.2)	8	15 (3.7)	11
14. Spent the right amount of time with me	371	299 (80.6)	7	20 (5.4)	6
15. Ambulance staff treated me with respect	75	65 (86.7)	1	3(4)	10
16. Reception staff treated me with respect	382	272 (71.2)	15	40 (10.4)	=1
17. Overall Impression	327	275 (84.1)	-	10 (3.1)	-

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Global perception of communication

The majority of patients reported a very good or excellent experience overall (84.1%). However, amongst respondents who gave an global impression of 'excellent' (5/5 on Likert Scale; n=166), almost half (n=82 (49.4%)) gave at least one response of less than 5 within the preceding items. Furthermore, seventeen (10.2%) of these respondents gave at least one rating of poor or fair despite the award of an overall excellent rating.

Relationship to patient and operational characteristics

Three operational characteristics were significantly associated with positive perception of communication. These were time to assessment <1 hour, analgesia offered at triage and time of arrival out of hours. Items associated with time to assessment of <1 hour included 'treated me with respect' (OR = 4.6; p=.01), 'showed interest in ideas about my health' (OR=3.8; p=.01) and 'showed care and concern' (OR=4.8; p=.02). The offer or provision of analgesia at triage was also associated with increased odds of positive perception of communication for a range of items including 'involved me in decision making' (OR=3.0; p=.04), 'understood my main concerns' (OR=2.5; p=.03), 'discussed next steps' (OR=3.1; p=.01) and 'spent the right amount of time with me' (OR=2.7; p=.02). In this sample of respondents, the out of hours team were perceived as more likely to 'understand my main health concerns' (OR=10.8; p=0.03), 'involve me in decisions' (OR=6.6; p=0.03) and 'discussed next steps' (OR= 6.5; p=0.02)(Table 6).

Table 6: Association between individual CAT T items, operational characteristics and odds ratios of 'very good'/'excellent' responses, based on selected operational characteristics.			
CAT-T Item	**Operational Characteristic / OR (*p value*)**		
	Arrival time (>1800h)	**Analgesia at Triage**	**Time to assessment <1 hour**
Greeted me in a way that made me feel comfortable	6.1 (*.04*)	-	5.4 (*0.2*)
Treated me with respect	-	-	4.6 (*.02*)
Showed interest in ideas about my health	-	-	3.8 (*.01*)
Understood my main health concerns	10.8 (*.03*)	2.5 (*.03*)	-
Encouraged me to ask questions	3.7 *(.04)*	-	-
Involved me in decisions as much as I wanted	6.6 (*.03*)	2.5 (*.01*)	-
Discussed next steps including follow up	-	3.1 (*.01*)	-
Showed Care and Concern	-	-	4.8 (*.02*)
Spent the right amount of time with me	-	2.7 *(.02)*	3.9 *(.02)*

Discussion

This is the first study in an ED outside the USA to use the CAT-T to assess patient perception of communication. The high response rate suggests that the survey was acceptable to our population. Furthermore, as all eligible patients were approached on their arrival at the ED during data collection periods, the sample is likely to represent a reliable cross-section of patients attending the ambulatory area of the ED during the study period.

In overall terms, this study yields a positive patient perception of communication in the host institution. Data illustrate that respondents perceived staff as respectful and confirmed that they gave them time to speak without interruptions. Items relating to comprehension of information, understanding of language and compassion also scored highly. Some findings however are at odds with observational research conducted in other departments, where clinicians have been noted to interrupt patients frequently and use excessive medical jargon.[7] These differences may reflect methodological and cultural differences, highlighting difficulties in generalising communication skills research.

As hypothesised, this study was able to identify specific potential weaknesses in day-to-day communication practices. Two particularly conspicuous items were perceived respect from reception staff, and encouragement to ask questions. The former may indicate the importance of providing focussed customer centred training for receptionists.[8,9] For instance, a previous study found that perceived 'warmth and care' from reception staff was beneficial for patient experience.[10] Other potential areas for improvement may include modifying receptionist workload, the surrounding physical environment, and the content of interactions with reception staff.

The perceived failure of clinicians to offer patients the opportunity to ask questions is well documented in the literature, and has featured as the top scoring item in other studies utilising the CAT-T.[5,6] The reasons for this cannot be explained by survey results alone, but are also likely to be multifactorial. Whilst focussing training on the skill of closing a consultation seems a sensible step, further barriers to inviting questions such as the perceived pressure for clinicians to see and treat patients rapidly, combined with a reluctance to invite a prolonged discussion into an already busy work schedule may need to be addressed. Similarly, descriptive results highlight a potential need to enhance

introduction and initiation of consultations and to involve patients more in their care and decision making.

Further analysis demonstrates a possible association between the odds of positive perception of communication and three operational characteristics (analgesia offered; wait time to assessment <60mins; time of arrival after 1800). The first two characteristics are well documented to be related to higher patient satisfaction in the ED,[11,12] so it is unsurprising that they are associated with improved scores in some of the CAT-T items.

The finding that patients in this sample were more likely to report positive perceptions of team communication when seen after 1800 hours is interesting and although no evidence was identified in the literature to either confirm or refute this finding, it is counter-intuitive based on anecdotal experience. It is possible that the small sample size of the group seen after 1800 may have affected the accuracy of this result; additionally, these responses were gained over a small number of shifts and may be confounded by staff factors or other, unidentified, operational factors.

Limitations

This study demonstrates the feasibility of administering the CAT-T survey in a UK ED, and illustrates how results may be interpreted to highlight discrete areas where practice may be improved locally. It is possible that some findings, not least the low levels of crowding reported by patients, were influenced by the time of year in which the study was conducted and that patient perception of communication differs during times of high demand such as seasonal winter surges. In relation to this observation, the average patient reported length of stay during the study period was short, and there is insufficient data to determine whether excessively prolonged length of stay—for example beyond the UK government target of 4 hours—affects patient perception of communication. Nonetheless, patient reported experience data such as that derived from the CAT-T may provide a valuable means of assessing a range of performance targets in the ED setting in the future. Further data to confirm or exclude such associations are required.

External validity of this study is limited by the relatively small convenience sample, exclusive use of the minors area of a single ED and a predominantly white British patient population.

A larger study, encompassing multiple centres and a more diverse patient demographic reflective of the wider UK population is necessary to both confirm these findings and highlight widespread strengths and weaknesses in ED communication practices.

Conclusion

The CAT-T is acceptable to patients in a UK ED, and yields data that may determine strengths and weaknesses in ED team communication processes. There is potential for findings to be used to highlight the priorities for team based communication skills training and quality improvement initiatives in emergency care.   Further work should focus on administering the CAT T to a wider population of patients, including those with higher acuity problems and from minority groups.

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