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ABSTRACT

Introduction: Triage is the process whereby individuals presenting to the Emergency Department (ED) are quickly assessed by a nurse and their need for care and service prioritised. Research examining the care of individuals presenting to EDs with psychiatric and mental health problems has shown that triage has often been cited as the most problematic aspect of the encounter. Three questions guided this investigation: where do the decisions triage nurses make fall on the intuitive versus analytic dimensions of decision-making for mental health presentations in ED and does this differ according to comfort or familiarity with the type of mental health/illness presentation, how do “decision aids” (i.e., structured triage scales) help in the decision-making process, and to what extent do other factors such as attitudes influence triage nurses’ decision-making.

Methods: Eleven triage nurses participating in this study were asked to talk out loud about the reasoning process they would engage in while triaging five scenarios based on mental health presentations to the ED.

Results: Themes emerging from the data were: tweaking the results (including the use of intuition and early judgements) to arrive at the desired triage score, consideration of the current ED environment, managing uncertainty and risk (including the consideration of physical reasons for presentation), and confidence with communicating with patients in distress and managing their own emotive reactions to the scenario.

Discussion: Findings support the preference for using the intuitive mode of decision-making with only tacit reliance on the decision-aid.
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General hospital Emergency Departments (EDs) are often the first place individuals and families seek assistance in a mental health crisis. However, ED staff are often ill-prepared to care for these psychologically and socially challenging, yet often medically complex patients. Emergency staff may lack of confidence in assessment and treatment, they may be frustrated with the revolving door nature of the presentations, or they may reflect generally negative societal attitudes towards mental illness. The ED is a rapidly changing environment and external influences such as acuity and capacity problems in the department can exert their effects on a clinician’s decision-making or behavior. The challenge for the triage nurse is to rapidly elicit and synthesize information in a systematic and standardized way, to ensure accurate and consistent decision making occurs for all patients. The conditions under which triage nurses work, however, foster a distinctive set of thinking and problem-solving strategies which can lead to error or stereotypically thinking that may not be of benefit to the patient. A better understanding of ED triage decision-making, particularly when working with mental health presentations, has the potential to lead to evidence-informed training and interventions that can increase the accuracy of these often very complex presentations.

Background

Triage, the process whereby individuals presenting to the ED are quickly assessed and their need for care prioritized, has often been cited as problematic for individuals presenting to EDs with mental health problems. Recent revisions to the Canadian Triage and Acuity Scale (CTAS) have been designed to better accommodate these presentations by adding mental health-related modifiers to the standardized entrance complaints in order to further refine the triage decision. To illustrate using the mental health entrance complaint of “bizarre behavior”, modifiers are: uncontrolled behavior (Level 1 – immediate attention); uncertain risk for flight or safety (Level 2 – emergent); controlled/redirectable (level 3 – urgent); harmless behavior (Level 4 – less urgent); chronic,
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harmless behavior (Level 5 – not urgent). The application further allows the clinician to “override”
the computer generated triage level provided they document their rationale. While these revisions
have been shown to be of some use in assigning triage categories, the cognitive processes that
resulted in the final decision and the role of the CTAS in that decision are as yet unknown.

Studies of clinical decision-making in nursing typically put forward the use of two primary
forms of cognition: analytic reasoning or intuition. However, because clinical decisions are rarely
“either/or” with neither type of cognition seen as superior, nurses use a combination of both with
the deciding factor being the context within which the decision-making occurs. Accordingly, this
study was guided by the Cognitive Continuum Theory (CCT), a decision-making theory which
proposes a continuum of modes of inquiry anchored at opposite ends by analytic reasoning and
intuition and an adjacent task continuum ranging from well-structured to ill-structured. The theory
suggests that individuals move along the continuum preferring one type of decision-making over
another depending on the task at hand. Whether a nurse at triage uses something that looks like
intuition or analytic reasoning or some combination of the two may depend on any number of factors.

These factors may include the unique characteristics of the presentation, the nurse’s degree of
knowledge, previous experience, attitudes towards or comfort with that type of presentation, and the
availability of any decision-aids or tools that may help them make the decision more objectively and
accurate.

While the cognitive and procedural aspects of decision-making are well understood,
understanding the influence the more ill-defined affective domain has on decision-making is
crucial as emotions in the ED can be powerful. Since mental health patients may also experience
stigma and discrimination when they present for care, the degree to which the attitudes of healthcare
providers influence clinical decisions is of particular concern.
The aim of this study was to explore, using Think Aloud methodology, how triage nurses in general hospital emergency departments (EDs) make clinical decisions for patients presenting with mental illness related complaints. Three questions guided this investigation: (1.) Where do triage nurses’ decisions fall on the intuitive versus analytic dimensions of decision-making for mental health presentations in ED? (2.) How does the CTAS as a “decision aid” help in the decision-making process? (3.) To what extent do other factors such as attitudes and emotions influence triage nurses’ decision-making?

Methodology

Think-aloud, a qualitative methodology, further described below, is used when investigators want to understand participants’ thought processes as they conduct a particular task without disturbing ongoing processing. The think-aloud method captures the problem-solving process as it occurs by asking participants to verbalize their thoughts as they occur.

Sample: Nurses experienced in triage working at regional EDs in a moderately sized western Canadian city were recruited through letters or emails of invitation, posters in staff areas, and presentations by the researchers. A $50 honorarium was offered to defray expenses such as travel or child care. Recruitment continued until data saturation was achieved.

Mental health scenarios: Twenty mental health scenarios based on a range of actual mental health-related triage encounters abstracted from patient charts were developed as part of a previous study. These scenarios were vetted by an expert panel and tested under research conditions. All scenarios included primary CTAS modifiers (mode of arrival, vital signs, level of consciousness, and mechanism of injury if any) in addition to a narrative description of the patient and any available assessment data. For purposes of this study, five scenarios with good inter-rater reliability that were typical of a commonly-seen mental health presentation but that also had the potential to elicit some
emotional and affective reaction from the participants were selected.

**Data Collection:** Ethical approval was obtained from the Education/Nursing Research Ethics Board at the University of Manitoba with written consent obtained prior to the start of the individual sessions. Participants were given the five paper-based scenarios described above and asked to talk into a digital voice recorder about the reasoning process they would engage in while triaging such presentations, one at a time. Sessions took from 75 to 105 minutes. To more realistically simulate a triage situation, they used the CTAS e-triage computer software.

**Data analysis:** Data were transcribed verbatim and analyzed independently by all researchers using thematic content analysis. An ‘open coding’ method was conducted ‘in vivo’ with continuous comparisons (comparative analysis) identifying the same codes occurring elsewhere in the text. Over time and through research team discussions, codes were collapsed into concepts then to categories and finally themes. Themes were reviewed by experienced triage nurses for validity.

**Results**

Eleven participants, all female, had worked at triage an average of 2.2 years (range from less than one to more than 10). All had received the basic mental health training offered through orientation; three had received Advanced Emergency Training. They were overall mildly to moderately comfortable with mental health presentations, being least comfortable with aggressive and personality disorders and most comfortable with anxiety and depression. The participants rated five scenarios each for a final sample of 55 scenarios. There were no missing data. Inter-rater reliability overall was acceptable at 0.7. Agreement with the expert panel ranged from 40% on a CTAS Level 1 presentation to 80% for a Level 3 scenario. Participants overrode the score on a total of five occasions, four of which resulted in changing the score from the one that agreed with the expert panel to the “wrong” score, typically that of a lower urgency.
Five themes emerged from the analysis across the five scenarios: managing the scores, managing the current ED environment, managing uncertainty and risk, and managing their own distress and confidence in communicating with patients in distress.

**Managing the scores**

Participants clearly used the CTAS as a guide to assessing the clinical risk of individuals although they struggled to consistently define types of presentation using the list of presenting complaints and modifiers. There was also evidence that, using their clinical judgment/experience, they often tweaked either the entrance complaint or the modifiers to establish a score with which they were comfortable. The tweaking at times appeared to be gambling/ playing/ overriding the system until the clinician was satisfied. The CTAS scores appeared to be a blunt instrument with participants using their intuition and or relying on habitual practices.

Participant (P) 8 ‘…he comes up as a 3,…I’m gonna say his behavior’s uncontrolled. That makes him a one which is life threatening which I don’t know if I want to triage him as a 1…I want him to be a 2.’

P3 ‘..damn how did I get a 1?…I’m gonna have to override this. I can see her as a 2 possibly, that’s my highest score.’

Pressure to come up with an acceptable score also appeared to be exerted by other clinicians or the second guessing about what the clinicians in the treatment area might say.

P1 ‘I’m going to modify this and put his as a 3 … I don’t usually modify stuff’ . . . but if I mean it’s not appropriate. I’m gonna get crap when I get him to the back (if I send him in as a 1).’

**Managing the environment**
In addition to the CTAS scores, individual patients were moved around the ED based on their perceived risk and hierarchy of need. Wanting to prevent patients leaving before they’ve been seen motivated their choice of CTAS score on occasion.

P3 ‘I have a funny feeling that if the police left, uncuffed him, and put him in the waiting room, he would have gone.’

The presence of other patients in the waiting room and the availability of family or police seemed to modify/influence the decision regarding where the patient would wait – in the waiting room, the police room, or in a treatment room.

P8 ‘...I wouldn’t want him sitting in the waiting room because maybe other people staring at him that might agitate him further...I’d want him in treatment room as soon as I could.’

Participants responded differently to the presence of police. Most were comfortable with a less urgent triage score for patients accompanied by police if the police could wait until the patient had been seen. A couple of participants though, wanted to be able to let the police leave, and thus looked for a more urgent CTAS score.

P4 “I’ll put him as a flight risk so if the police go away ...”

Managing uncertainty: “What’s actually going on here?”

Uncertainty about the nature of a person’s presentation arose from a lack of or limited information from the patient, collateral sources and conflicting objective observations of the patient in triage.

P9 “Very little that I could establish from other than what I’m seeing and what she’s shouting.”

P11 “...Is it um sadness and not participating like an anhedonic (inability to experience pleasure) type of stuff or is it anger and then depression? Which way is he going?”
Participants indicated that in some circumstances they would attempt to seek further information either by appearing to apply existing knowledge about mental health problems or considering the person’s presentation in a systematic way. Participants seemed to want to know the context of a person’s presentation (the ‘why’) as well as ‘what’ they were presenting with.

P11 “Sleep disruption for a week. So does that mean troubles getting to sleep, trouble staying asleep, sleeping during the day and up at night. . .”

P9 “It might well be that the daughter doesn’t wanna sort of open up in front of the father, so I would ask him to step back. . . . I can clarify any further details afterwards with the dad”.

Not all participants sought further information to inform their decision making. Factors influencing this appeared to relate to situations where the patient was not communicating directly, or their level of distress was impeding communication resulting in a greater level of uncertainty about the presentations and associated risks. One approach to manage this uncertainty was to move a person ‘further into the ED system’ in order to be seen more urgently where more information could be elicited.

P9 “Does she look like she’s been taking care of herself. . . that being said some people do look well dressed and can have mental health problems. . . She’d probably be someone I’d put into a room in the back right away so we could get a little bit more information.”

Participants appeared to appreciate the need to adjust their approach in communicating in order to obtain more information from patients to better inform decision making.

P2 “I would speak to her calmly in a low tone of voice and ask her what she would like for help... if she could please not scream and swear at me so that I could help her.”
Where information could not be elicited directly and non-psychiatric causes were suspected, there was a demonstrated willingness to ensure this was investigated whilst in the ED. This was sometimes before referring to psychiatric colleagues.

P4 “I can’t rule out head injury versus mental health versus alcohol or drug use”

**Managing their own distress**

For some participants the lack of on-site psychiatry services or uncertainty about psychiatry’s availability to respond resulted in uncomfortable feelings from the outset of a triage consultation. Statements suggested an apprehensive feeling of “we can’t deal with this” or “why have you come here?” even before the consultation had been completed.

P3 “Wrong hospital, honest we don’t have psychiatry in this area”

The nature of a patient’s presentation appeared to influence whether the triage nurse would ask further closed questions in triage. This seemed less likely when a person was acutely distressed or agitated.

P3 “She’s screaming at me okay so unfortunately screaming patients make my heart pound so probably my throat is in my chest at the moment and my hands are starting to shake”

A lack of knowledge or skills in assessing severity of distress left triage nurses feeling that they may not have ‘got it right’. They planned to seek support from psychiatric colleagues.

P6 “I am unsure if patient is hearing voices cause she’s not answering questions. ... if we have a psychiatric nurse on duty I would ask them to come and help me.”

Furthermore, a lack of confidence eliciting information at triage was reported by participants. It is unclear whether this relates to a lack of confidence in their communication skills, limited time available in triage, or the nature of the patient’s communication. There was also a suggested perception that their psychiatrically trained colleagues were better skilled at this.
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“our (psychiatric) nurses ... usually get way more than I can out of someone out at triage cause that’s what they're trained to do . . . I’m not what she needs right now.”

This study explored the thinking processes triage nurses engage in while triaging and provided some insight into the cognitive processes when confronted with mental health presentations which may have some assessment challenges and/or emotive aspects. Although participants used the decision-aid, they manipulated it in a way so as to have it validate their intuitive judgement. The participants appeared to suggest how their clinical experience could ‘tell them’ what score a person’s presentation should generate and they adjusted their triage accordingly until this matched. This may be due to their perception that CTAS does not provide the necessary modifiers to effectively describe how a person is presenting. However there are limitations to applying such an approach, specifically in relation to psychiatry. There is further risk in that clinical knowledge or experience-based judgments alone can be associated with incorrect conclusions as they are less objective. A combination of the two approaches together is associated with more accurate assessments of risk in particular.

This study suggests that, despite revisions, CTAS may still not lend itself to accurately defining a person’s presentation. Triage nurses did not consistently agree with the final CTAS score and responded by adjusting the score. This appeared to be influenced by a number of factors such as prior clinical experience, confidence, environmental pressures in the department, and a wish to avoid negative responses from their colleagues. The latter point is suggestive of ED staff experiencing the influence of their own colleague’s negative attitudes about this patient group. Whilst this is widely reported in literature in relation to patient experience, it has not been noted as a contributing factor, conscious or unconscious, to decision making by clinicians.
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When a person is not speaking or is communicating in an aroused or disturbed manner, the triage nurse can struggle to elicit enough information. In response to this uncertainty, it appears that the subsequent triage assessment may be based solely on objective observations and or informed by prior experiences or knowledge of this client group. Given that many ED clinicians believe that their knowledge and skills in relation to mental health problems is limited, it might be that decision making is influenced by knowledge informed by prior clinical experience and current observations leading to heuristic decision-making.

A common phenomenon within mental health care in the ED is ‘diagnostic overshadowing’ where a focus on a person’s mental health diagnosis overrides the consideration of physical health needs. Crosskerry attributes this to the cognitive bias of “anchoring” (basing a decision on early observations) and can compromise patient safety.

Positively, in this study several participants demonstrated an awareness that physical complaints can have apparently psychiatric manifestations, requiring robust investigation either prior to or in parallel to psychiatric care. This, together with a willingness of some participants to obtain collateral information from other sources about a person’s recent history, suggested that for some ED staff there is a motivation to establish with greater certainty ‘what is going on’. However this study did not clearly demonstrate that this informed more accurate decision making.

The consultation role of mental health professionals within the ED is perceived as valuable to ED staff particularly in terms of communicating with, providing support to, and managing patients with mental health problems in the ED. The actions of participants in this study in involving their mental health trained colleagues to support them in communicating with patients or by taking over their care appears to support this evidence. However in departments
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where this service is not resident or only operating within specific times, this resource cannot be
relied on as a means of managing this patient group.

Participants in this study clearly took the overall environment of the ED into
consideration when triaging. Where could the patient wait? Who is available to wait with the
patient? Is this appropriate given the level of risk? Who will be available to help given the
circumstances? Where are other patients waiting? How busy are they “in the back”? Nugus and
colleagues have described this as the ED “carousel” where patient flow into, through, and out
the department is orchestrated and choreographed in order to optimize resources, reduce risk, and
meet patients’ needs effectively and efficiently. The current study provides support for this, with
the triage nurse as the one who places the patient in the queue to get on the carousel.

Limitations

The sample was self-selected and very likely attracted those who were more comfortable
with mental health presentations. The decision-making processes engaged in by those less
confident and less comfortable with this patient population will need to be further investigated.

The use of paper-based scenarios, although an accepted research methodology for
studying decision-making, was frustrating for the participants as they didn’t feel they had
enough information to complete the triage. They were however, able to talk about where they
might go with further assessment and some were able to imagine themselves in the situation
demonstrating feelings of anxiety around presentations that were more emotive than others.

As this study did not examine patient outcomes resulting from the triage decisions,
whether or not the intuitive decisions were any better or any worse than those that might have
been generated from more analytic decision-making cannot be determined. Until further research
examines the outcomes of triage decisions, triage tools may simply remain an algorithm designed
to support and validate heuristic thinking 10,19.

**Implications for practice**

Valuable as heuristic thinking and intuitive problem-solving can be, there is a danger of
cognitive bias resulting in negative patient outcomes. Education and clinical supervision could
be of benefit in raising the awareness of triage nurses about the factors influencing their decision
making as well as their confidence in working with people with mental health problems. De-
biasing strategies need to be developed to promote more individualized and compassionate care
to all patient populations.

Difficulties in matching presentations to triage descriptors are possibly related to a lack
of knowledge [and or language] of triage nurses about the recognition of specific presentations
and clinical risk assessment/management. More accurately recognizing them could result in more
appropriate choices of descriptors and therefore priority, particularly if they are more competent
and confident in risk assessment and management.

Finally, mitigating against the effects of environmental influencing factors is difficult as
these can vary day to day and dependent on skill mix and acuity. Being able to justify decision
making clinically does not necessarily seem to be enough to manage a perceived need (and
associated stress/worry/anxiety) not to put unnecessary pressure on colleagues 'in back'. With
this in mind, triage nurses may need more support to be able to manage the emotions evoked by
the environment in the ED, including dynamics with colleagues.

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