St George's University Hospitals NHS
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# Major Trauma Centre Inpatient Pain Service outcomes in trauma patients compared to wider specialities in the trust

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## Background

Trauma patients are inherently complex with multiple sites of injury, psychological impacts of injury on rehabilitation and types of pain requiring multimodal analgesia, poly-pharmacy and an increasing array of skills from the Inpatient Pain Service (IPS). The IPS developed to meet the demands of a busy major trauma centre with a caseload including patients with chronic pain, psychiatric diagnoses, social issues and immediate medical needs in addition to acute pain resulting from trauma and associated surgeries. Treatment satisfaction is an increasingly used strategy for measuring outcomes and quality in pain management (McCracken, Evon and Karapas, 2002). To ensure the complex needs of trauma patients are met to the same standard as referrals from all other specialities a new satisfaction question was devised as the IPS grew to meet demand at a busy trauma centre hospital.

## Aims and Objectives

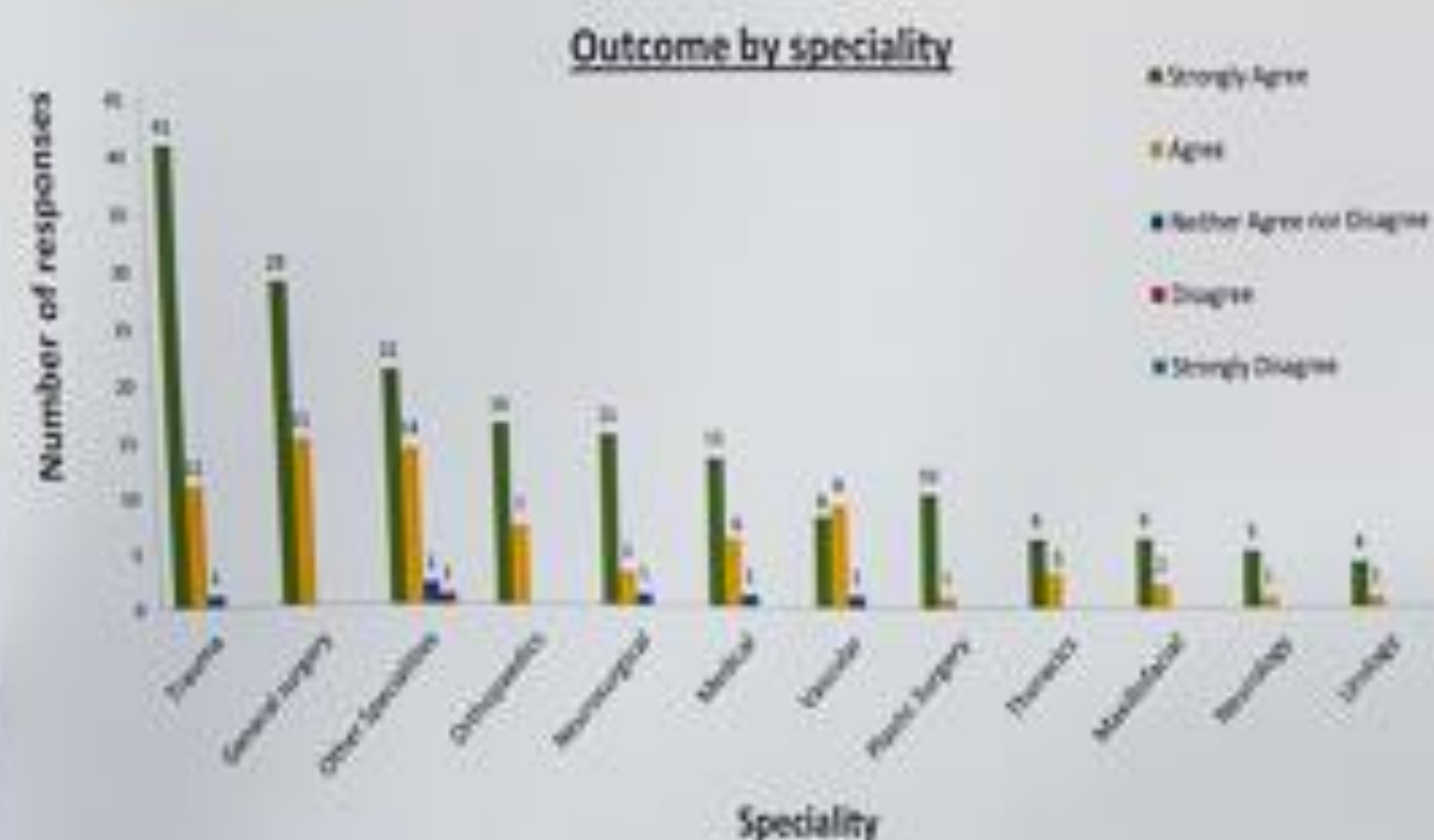
The aim of the audit was to assess the satisfaction of patients seen by the IPS and analyse possible reasons for the overall responses. A secondary aim was to learn what might affect patient satisfaction with the objective of prioritising resources to optimise satisfaction across the entire pain service caseload, including trauma patients.

## Method

A validated question format was chosen (Grogan et al, 2000) and wherever possible every patient was asked the outcome satisfaction question on the final follow up review. Over a 9 month period from August 2015 to April 2016, patients were asked to choose a response ranging from "strongly agree" to "strongly disagree" for the statement "I am satisfied with the care I received from the Inpatient Pain Service". The inability to ask an outcome question for a proportion of the patients was one limitation of the audit, e.g. If the patient had been discharged or transferred.

Data was also collected, in real-time, for every patient on number and length of assessments. Interventions made by the IPS such as loan of TENS machine, change of PCA drug, initiating regional analgesia or addition of adjuvant anti-neuropathic agent were recorded. The data for all patients was included in analysis, regardless of whether an outcome measure was recorded so as to not skew data on the number of assessments. Data is presented as median and range as this is an observational audit with no statistical analysis undertaken.

## Results

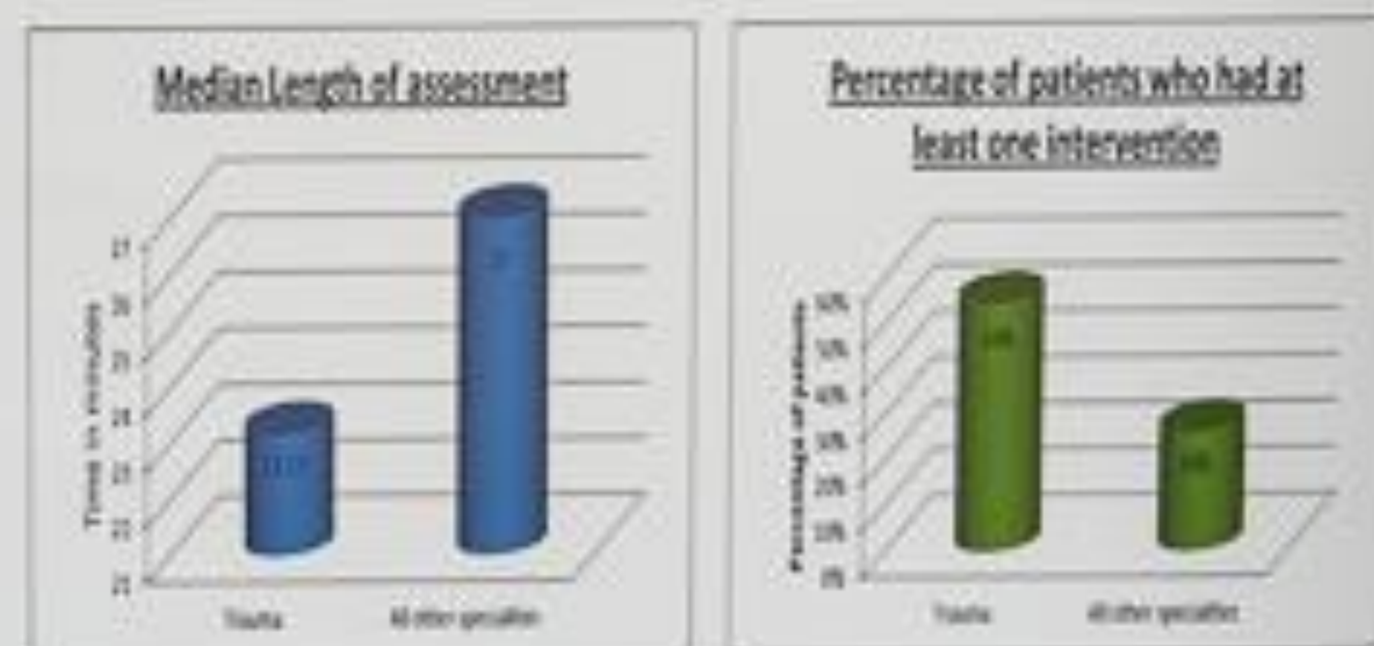



## Results

98% of trauma patients agreed or strongly agreed to the satisfaction question; 77% responding "strongly agree" and 21% "agree". Nobody responded "Disagree" or "Strongly Disagree". In the other specialities cohort 1 person responded disagree, enabling the service to evaluate this individual's response. 97% of patients referred from other specialities agreed or strongly agreed (68% responded "Strongly Agree"; 29% "Agree").

During the 9 month period we saw 441 patients and carried out 1973 assessments; 366 of which were trauma and 1607 other specialities. The median length of assessment for trauma patients was 23:17 minutes, which was shorter compared to all other specialities- this being 27:00 minutes. The longest trauma assessment recorded was 2 hours 40 minutes and the shortest was 1 minute, making the range of assessment length shorter than that for other specialities which was 1 minute to 3 hours 14 minutes.

Collectively the median number of assessments per patient was 3 for both trauma and all other specialities, with the range for trauma patients being smaller-1 to 37 compared to 1 to 45. 54% of trauma patients had at least one intervention; however only 26% of patients referred from all other specialities had at least one intervention.




## Discussion

The IPS found greater patient satisfaction among trauma patients compared to those referred from other specialities. The median length of assessment was shorter among the trauma cohort but the number of interventions per referral were higher. Arguably a better rapport may be built up when making a greater number of interventions rather than spending longer on the assessment and a feeling of everything possible being done may have improved satisfaction. As the median number of assessments was 3 for both groups it would seem more reviews do not lead to improved satisfaction. It could be considered that more reviews may be necessary if pain takes longer to be controlled or interventions are not successful, requiring alternatives. This is demonstrated by the range of reviews per referral being greater in the other specialities cohort. Greater pain complexity could require more reviews or more interventions; the relationship of which is unclear from these results. From these results it could be deduced that it is not necessarily how long you spend with the patient but what you do in that time.

## Conclusion

In order to learn more about what can affect satisfaction, in particular which interventions including non- pharmacological interventions, further audit into pain service activity is recommended. An increasingly detailed analysis of complexity of patients seen across all specialities is indicated. This would provide a greater understanding of the relationship between pain complexity, resulting pain service input and where to prioritise resources to optimise satisfaction for patients with trauma and all specialities alike.

**References:**

Grogan, S et al (2000) *Validation of a questionnaire measuring patient satisfaction with general practitioner services.* Quality in Health Care 2000; vol. 9 pages 210-215

McCracken, L M; Evon, D; Karapas, E T (2002) *Satisfaction with treatment for chronic pain in a specialty service: preliminary prospective results.* European journal of pain 2002; vol. 6, no. 5, pages 387-393, 1090-3801