A doctor in triage: Impact on waiting times and healthcare workers' views at Helderberg Hospital, South Africa

R van Zyl,[1] MB ChB; **M L Allen,**[1,2] MB ChB, MMed (Fam Med), FCFP (SA)

[1] *Department of Family Medicine and Primary Care, Faculty of Medicine and Health Sciences, Stellenbosch University, Cape Town, South Africa*
[2] *Western Cape Department of Health and Wellness, Cape Town, South Africa*

Corresponding author: *R van Zyl (ipadrenee@me.com)*

Background. Lengthy waiting times are a frequent challenge faced by patients seeking care in South African (SA) healthcare facilities. Placing a doctor in triage has been extensively tested in higher-income countries as a way to reduce waiting times, while also providing numerous patient care opportunities. Very little research pertaining to resource-restricted settings has been conducted, with limited results showing no significant improvement in waiting times owing to many confounding factors.
Objectives. To determine whether placing a doctor in triage resulted in a decrease in patient waiting times and improved patient care in an SA setting.
Methods. A mixed-methods study design was used. The quantitative arm compared the waiting times of two patient populations (1 - 31 March 2023 and 1 - 31 March 2024) before and after implementation of a doctor in triage. The qualitative arm was an online survey sent to staff members working in the emergency centre (EC) or triage during the study period, gathering their views on the system and its impact.
Results. Waiting times did not decrease with the introduction of a doctor in triage. Instead, an increase of 13.4 minutes from triage to consultation time was observed, possibly owing to various confounding factors such as staff shortages, budget cuts and resource restriction. However, qualitative data indicated that the majority of the survey participants found the system to be practical, noted their observation of improved patient flow, expediting of seriously ill patients and the ability to quickly consult and discharge patients, and gave ideas for improvement of the system. Challenges included short staffing in the EC, burnout, and bottlenecks due to over-triaging.
Conclusion. Placing a doctor in triage increased the waiting time for patients by 13.4 minutes, and still caused an increase of 7 minutes with a significant confounder corrected. While staff members perceived that the system may have advantages for patient care, they mentioned that it requires staff training, patient education, and the execution of standard procedures. Further research with multiple study locations, including direct opinions of patients and improved standard operating procedures, is recommended before it can be decided whether the system is advantageous.

Keywords. Waiting times, resource-restricted setting, doctor in triage.

Undergraduate Res Health 2026;4(1):e3554. https://doi.org/10.7196/URHJ.2026.v4i1.3554

Renée van Zyl graduated from Stellenbosch University in 2024 and is currently completing her second year of internship at Tygerberg Hospital. This research was undertaken during her 6th year as part of an optional research project, in partial fulfilment of the MB ChB degree. The idea for the project was born while she was working at the Helderberg Hospital emergency centre as a student for 14 weeks and became invested in the staff's enthusiasm for continuous improvement. She passionately hopes to continue seeking ways to improve systems and patient care, while nurturing her interest in paediatrics and otorhinolaryngology.

Placing a doctor in triage may represent a step in the direction of reducing patient waiting times, which is one of the Western Cape Department of Health and Wellness's 2030 key indicators of success.[1]

Numerous studies describe a reduction in patient waiting times with the addition of a senior doctor in triage in the emergency centre (EC) setting,[2-10] with average reductions of up to 38%.[5] This reduction is only applicable while being implemented – a small study in the UK found that having a doctor in triage for 3 hours per day decreased total patient hours in the centre, but that it needed to be implemented for 24 hours for maximum effect, although this is often not practical after hours.[9] Numerous parameters other than waiting times were affected: time to disposition, risk of absconding, refusing hospital retreatment, patient satisfaction, morbidity and mortality, and cost-effectiveness, with varying results.[2,4-11]

The senior doctor in triage aims to provide high-quality care by means of early investigation, management and disposition of patients, while providing direction to junior doctors.[11] Other advantages noted by Abdulwahid *et al.*[11] included faster escalation and intervention for emergency patients, seeing and discharging non-emergency patients quickly, fast-tracking patient flow to the wards with early identification of possible admissions, continuity of care with emergency medical services handover, patient and staff satisfaction, and training opportunities. Possible disadvantages noted included the cost of extra employees, conflicting priorities in triage with juniors interrupting consults to ask questions, anchoring bias as juniors are cautious to challenge a senior's

opinion, and bottlenecks at triage due to overcrowding or the senior failing to keep assessments brief.[11]

With a paucity of research on this subject in the resource-restricted context, and some studies showing no improvement owing to multiple confounders,[12] the objective of the present study was to evaluate the impact of a doctor in triage on waiting times, the opportunities it provides for holistic patient care, and the practicality of this intervention in the South African (SA) context.

Methods

Study setting

The study setting was the EC at Helderberg Hospital in Somerset West, SA. This is a district hospital based under the Khayelitsha-Eastern Substructure of the Cape Town metropole, with eight referring community health centres. The population of the catchment areas was recorded as 281 077 in 2018,[13] with ~3 000 patients seen in the EC per month (Allen M, HECTIS yearly report, Western Cape Department of Health and Wellness, February 2022 – unpublished). Patients who did not arrive by ambulance completed a demographic form, were registered by a clerk and received a patient number. Patients waited to be triaged by a nurse and then proceeded to a second waiting area until called to the acute examination area by a doctor.

Study design

A before-and-after observational study design with mixed methods was used. The mean waiting times for patients aged ≥13 years who attended the EC in March 2024, after the intervention, was compared with those in March 2023, before the intervention. One senior doctor was stationed in triage, screening all the patients who arrived, providing basic interventions, and directing the patient's course through the unit. This design was chosen because it was practical; at the most only one senior could be spared from the EC to work in triage. For the purpose of the study, owing to a scarcity of resources, a senior doctor was defined as any doctor with experience beyond the first year of medical internship, including second-year interns, community service doctors, medical officers, registrars and consultants. The stipulations of what should be standard operating procedure (SOP) in triage, namely deferring, sending patients to investigations, etc., were discussed among the seniors with experience in the EC. New community service doctors attended a presentation defining the responsibilities of the doctor in triage on 5 January 2024 to equip them to act in this role when working in the EC. This process of screening, sending for investigations, and referring or deferring patients was implemented as far as practically possible from January 2024, but the study was conducted in March to give staff time to adjust. The doctors and nurses who worked in the EC or triage during the month of intervention were asked to complete an online questionnaire that gathered their views on the system. Ten staff members out of a possible 20 completed the survey.

Data collection

Quantitative

Patient data were anonymised and downloaded from the HECTIS (Hospital and Emergency Tracking and Information System) platform. This is an online data collection system used in ECs across Western Cape Province.[14] The data included demographic information, time stamps for arrival, triage, consultation, disposition and exit, and area referred to, for the month of 1 - 31 March 2023 and 2024. Names, surnames and folder numbers were excluded from the database for anonymity. Records were excluded where triage time stamps were not recorded or recorded incorrectly, resulting in a negative time difference.

Qualitative: Questionnaire in the form of an online survey

A link to an online REDCap questionnaire was sent to the participating staff members via WhatsApp. Anonymous responses were collected and analysed using the REDCap programme. Official staff communication groups were utilised to inform the entire study population about the research opportunity. Flyers with link scanner features were displayed in the break rooms of staff members to encourage participation. The link led participants to a single questionnaire with 11 questions, including long answers, short answers and sliding scales. The questions aimed to get the personal opinions of staff members on the advantages and disadvantages of the system in an anonymous context, hoping to assess the perceived impact of the system on staff and patients, and the system-wide repercussions. Ten completed surveys were received.

Data analysis

Quantitative data

A descriptive table was used to compare the demographic and clinical characteristics of the populations for the two respective months. Important percentiles of the waiting times were reported. For categorical variables, the χ^2 test was used for the comparison of the two months, and for continuous outcomes, the two-sample *t*-test was used. Furthermore, a linear regression model for waiting times on triage level, age, gender, trauma or non-trauma, time of day and month was fitted as the formal overall comparison of the waiting times between the months. Using this approach, the estimated mean difference in waiting times and 95% confidence intervals (CIs) were adjusted for possible differences in the composition of the patient population for the two months. The two-sample *t*-test was repeated with patients seen over weekends and on public holidays excluded to minimise confounders. A significance level of 5% was used in analysis. The statistical software used was Stata 17 (StataCorp, USA).

Qualitative data

Descriptive data collected from the online questionnaires were analysed using the REDCap system to categorise the data into descriptive themes in a table format based on the answers to the survey questions.

Ethical considerations

A protocol was submitted along with the necessary documentation to the Health Research Ethics Committee of Stellenbosch University, and ethics clearance was granted (HREC ref. no. U23/11/305 Project ID: 29701).

Permission to use the waiting time data and distribute the survey among staff members was requested from and granted by the Western Cape Department of Health and Wellness.

Results

Quantitative results

A total of 5 680 patients (≥13 years) were seen in the two months: 2 715 patients in March 2023 and 2 965 patients in March 2024. These two populations were compared for age, gender and trauma, as well as disposition (how a case was finalised: discharge, abscond,

Table 1. Patient demographics and dispositions for March 2023 and 2024

Variable	2023, *n* (%)	2024, *n* (%)
Demographics		
Age (years)		
13 - 24	463 (17.1)	549 (18.5)
25 - 34	688 (25.3)	765 (25.8)
35 - 44	560 (20.6)	580 (19.6)
45 - 54	356 (13.1)	391 (13.2)
55 - 64	344 (12.7)	342 (11.5)
65 - 74	168 (6.2)	200 (6.8)
≥75	136 (5.0)	137 (4.6)
Total	2 715 (100)	2 964 (100)
Gender		
Female	1 358 (50.02)	1 461 (49.3)
Male	1 357 (49.98)	1 504 (50.7)
Total	2 715 (100)	2 965 (100)
Disposition		
Absconded	102 (3.8)	118 (4.0)
DOA (natural)	2 (0.1)	1 (0.03)
DOA (unnatural)	1 (0.03)	1 (0.03)
Died (natural)	3 (0.1)	5 (0.2)
Died (unnatural)	7 (0.3)	3 (0.1)
Deferral	129 (4.8)	84 (2.8)
Discharged	1 517 (55.9)	1 925 (64.9)
Discharged to OPD	67 (2.5)	49 (1.7)
RHT	35 (1.3)	36 (1.2)
Referred to gynae	63 (2.3)	48 (1.6)
Referred to maternity	7 (0.3)	2 (0.1)
Referred to medicine	359 (13.2)	310 (10.5)
Referred to orthopaedics	39 (1.4)	40 (1.3)
Referred to paediatrics	2 (0.1)	0
Referred to psychiatry	61 (2.2)	51 (1.7)
Referred to surgery	167 (6.2)	174 (5.9)
Transfer other	154 (5.7)	118 (4.0)
Total	2 715 (100)	2 965 (100)

DOA = dead on arrival; OPD = outpatient department; RHT = refusal of hospital treatment.

transfer, etc.). Adjustments to the data were made for these variables. We excluded 39 records where the waiting times were negative (the time difference was recorded incorrectly with resulting negative waiting times such as −7 minutes) or not recorded. Arrival to triage time, triage to consultation time, consultation to disposition time and disposition to exit time were compared. A two-sample *t*-test with equal variances showed no significant difference in age for the two populations (p=0.3721). The mean patient age for March 2023 was 41.3 years and that for March 2024 was 40.9 years. Comparison of the gender distribution of the populations for the two years revealed that in 2023, 50.02% were female and 49.98% male, and in 2024, 49.3% were female and 50.7% male; there was therefore no significant difference in terms of gender (p=0.576; χ^2 test). There was also no statistically significant difference between the trauma profiles for the two populations (p=0.503), with the majority of patients having no trauma (76.1%) and the second-largest group having stab injuries (5.8%). Looking at disposition, there was a significant difference in the proportion of patients discharged, with 64.9% in 2024 and 55.9% in 2023. Age had a significant effect on whether a patient was discharged, with fewer older patients being discharged. The overall probability of being discharged was 1.16 times higher in 2024 than 2023 (95% CI 1.11 - 1.21). Males were less likely to be discharged than females (relative risk 0.91; 95% CI 0.87 - 0.95; p<0.001. Neither the proportion of patients who signed a refusal of hospital treatment (RHT) nor the proportion who absconded from the hospital changed significantly from 2023 to 2024: absconders increased from 3.8% to 4.0%, and RHTs decreased from 1.3% to 1.2%.

The waiting times for the two years (Fig. 1) were compared by looking at the following: arrival time to triage time, triage time to consultation time, consultation time to disposition time, and disposition time to exit time, the latter affected by ambulance times, nursing staff administering medications/sick notes, sending patients to the pharmacy, and whether or not there were beds available in the wards to which patients needed to be referred. There was no significant difference in the overall times between the two years (p=0.2860). Owing to the prevalence of many outliers, the data are positively skewed with the median providing a true representative view of the data.

Following this, a comparison between the two years was done for each of the four time differences, using a two-sample *t*-test with equal variances. For arrival to triage time, the null hypothesis was accepted (p=0.2860), showing no significant statistical difference between the times for 2023 and 2024. In the case of triage to consultation time, the null hypothesis was rejected (p<0.0001), showing an estimated increase of 13.4 minutes (95% CI 9.2 - 17.6) from 2023 to 2024 (Fig. 2).

Consultation to disposition time again showed no significant difference between 2023 and 2024 (p=0.9820). Similarly, disposition to exit time also showed no significant difference (p=0.8356).

A multivariate linear regression was used to analyse triage colours, years, age group and sex for the four time differences. (Triage colours are an internationally recognised system: red patients need to be seen immediately, otherwise they may die; orange patients can wait a little longer, but are also very sick; yellow patients are ill but can wait 2 - 4 hours; and green patients have minor problems.) Eight data points with no assigned triage colour were excluded.

Arrival to triage time had no significant time differences (p=0.1638). For triage to consultation time, red, orange and yellow triage colours had shorter times than green, and a non-significant decrease in times for 2024 of 90 seconds was observed for red patients.

For consultation to disposition time, red and orange had longer times at 2 hours, although there was no significant difference in times across the two years.

For disposition to exit time, urgent triage colours experienced significantly longer time periods, with red at 4.6 hours (95% CI 3.0 - 6.3), orange at 2.7 hours and yellow at 1.1 hours. However, there was no significant difference in times across the two populations (p=0.8356).

An interaction analysis was done to compare the times for 2023 and 2024 for each triage colour for every time difference. There was no significant difference in the overall triage profiles of the two years (p=0.9878). The only waiting time with a difference for the colours across

the two years was triage to consultation time, which was caused by longer times in 2024 for green and yellow patients (Fig. 3).

Patients seen over weekends and on public holidays were removed from the data to examine whether this was a significant confounder. All patients seen from 16h00 on a Friday to 8h00 on a Monday, as well as on public holidays from 8h00 to 8h00 the next day, were separated from the patients seen during weekdays. A two-sample *t*-test with equal variances for triage to consultation time across the two years revealed that there was a statistically significant increase of 7 minutes from March 2023 to March 2024. A few outliers were seen, as well as a small but statistically significant increase in the mean in 2024 of 7 minutes as represented by the mean line on the two box plots in Fig. 4.

Using 'weekend' as a factor, as defined above, a regression model was run, which resulted in a statistically significant increase of 21 minutes

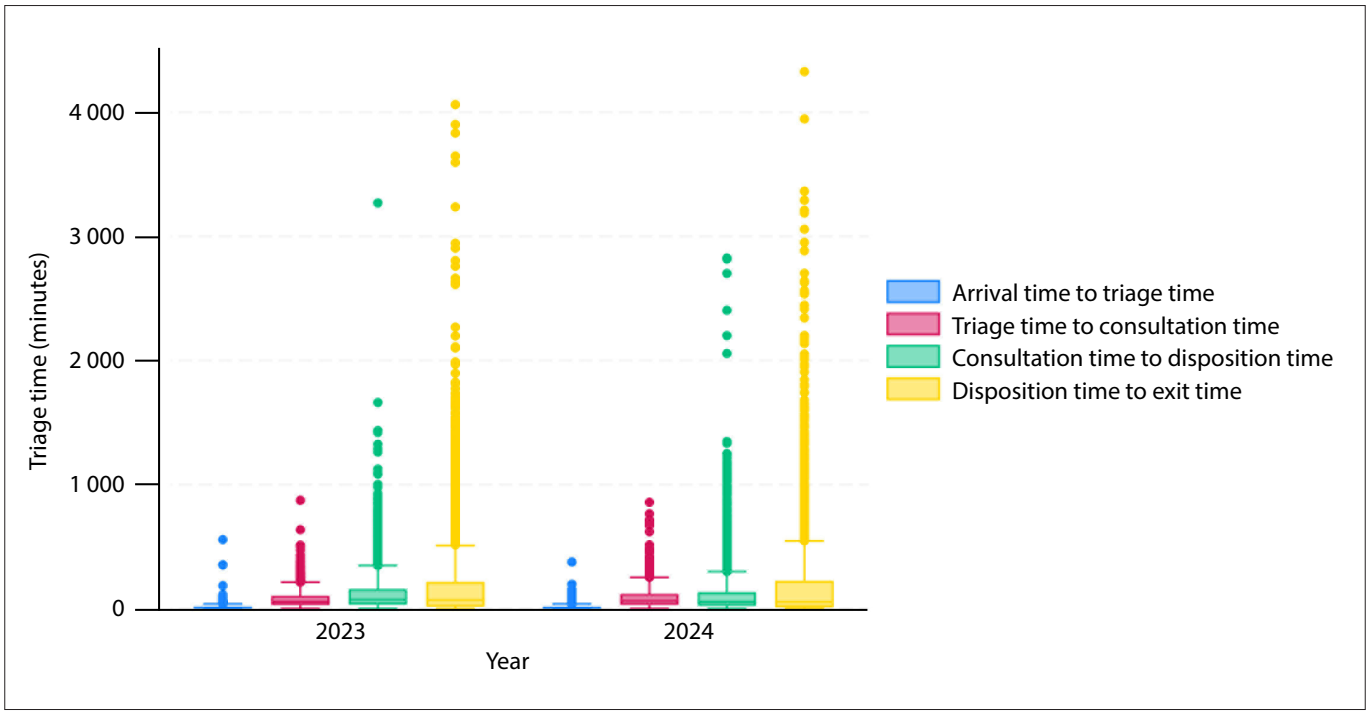

Fig. 1. Box plots comparing the four time differences for 2023 and 2024, with the prevalence of outliers.

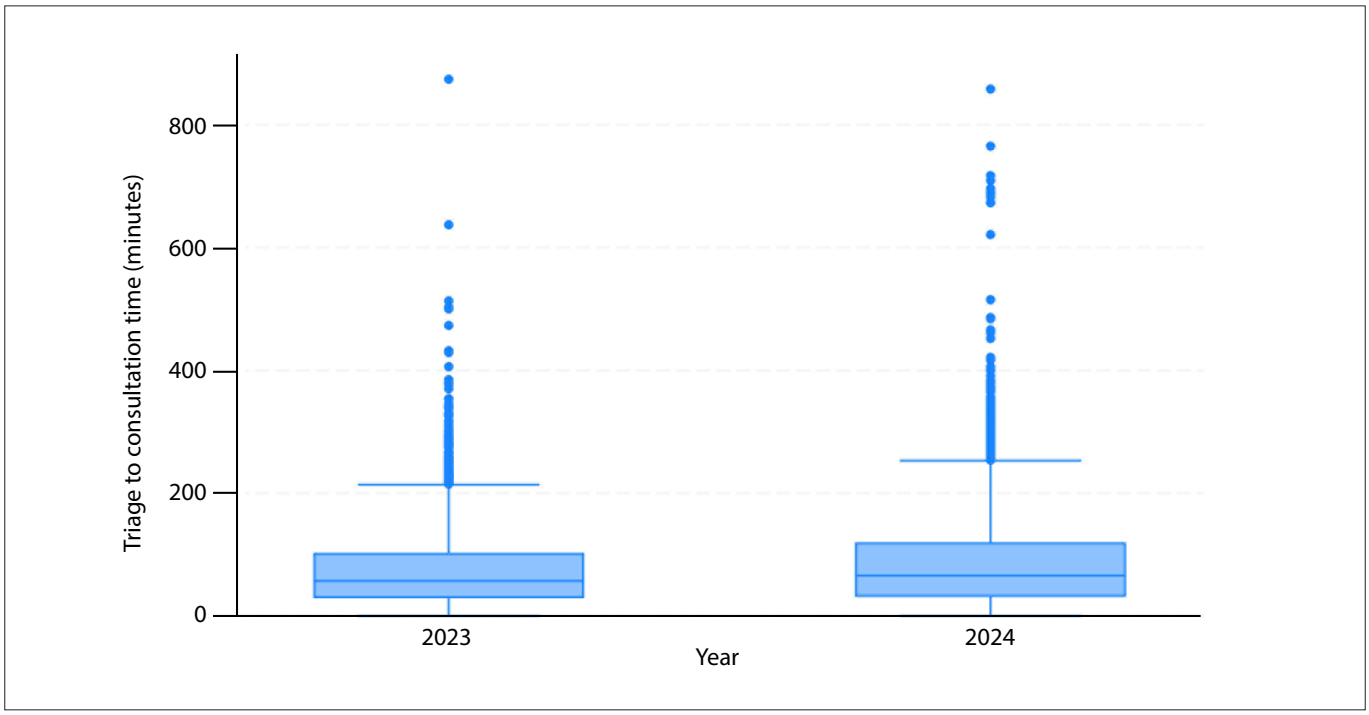

Fig. 2. Box plots comparing triage to consultation time (in minutes) for 2023 and 2024.

over weekends v. weekdays for triage to consultation time in 2024 (Fig. 4). An increase in waiting times over weekends was seen (indicated by 0 in Fig. 4) for both 2023 and 2024, with a statistically significant increase in the mean for 2024 of 0.35 hours (21 minutes).

Qualitative results

Participants completed 11 questions on the doctor-in-triage system. Seven were long questions and four were rating questions. Ten staff members, including senior and junior doctors and nurses (two professional nurses, one family medicine registrar, one specialist, four community service doctors, and one first-year and one second-year intern doctor) completed the survey, all of whom worked in the EC during the time of the study. Questions explored the intervention's strengths, areas for improvement, experiences, the impact on the EC acute examination area, patient satisfaction, and how this role should be filled. Table 2 explores the main themes gleaned from participants' answers to each of the questions.

Participants were asked to give ratings out of 10 for four questions, with 0/10 being 'no', 5/10 being neutral and 10/10 being 'yes'. On the general practicality of the system, all participants gave a rating above 5/10, with seven out of 10 of the participants giving a rating of 8/10

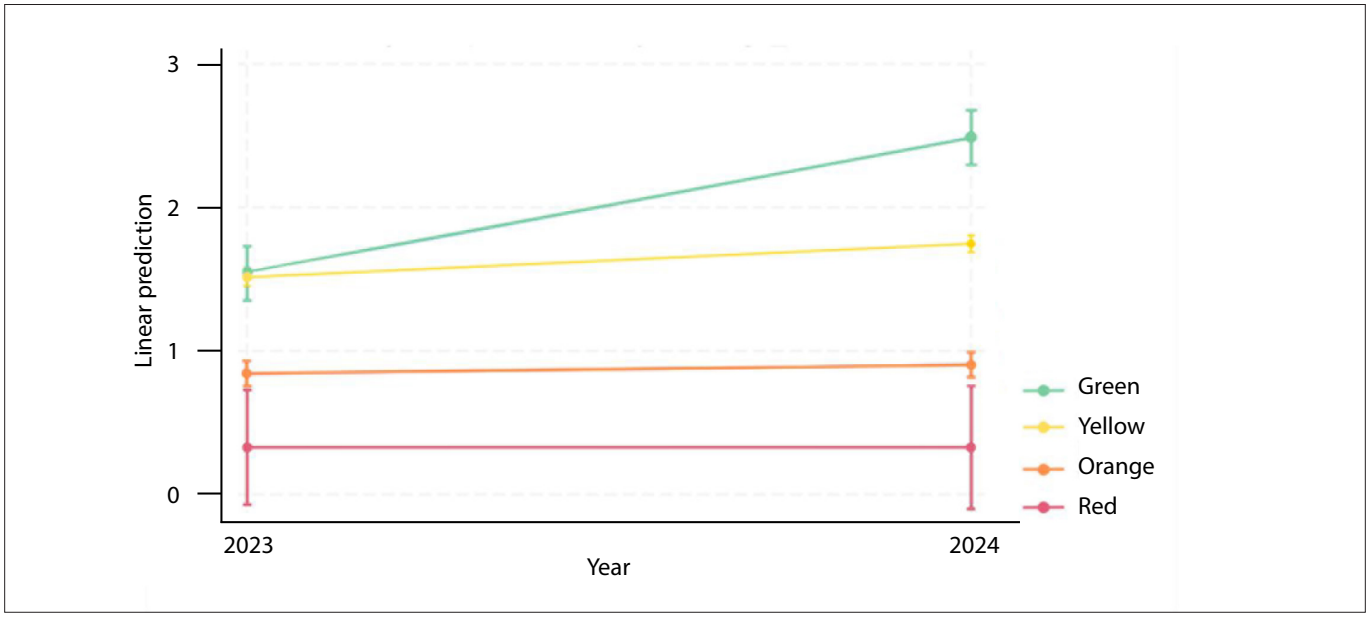

Fig. 3. Line graph indicating the 95% confidence intervals for each colour, showing increases in time for green and yellow triaged patients from 2023 to 2024.

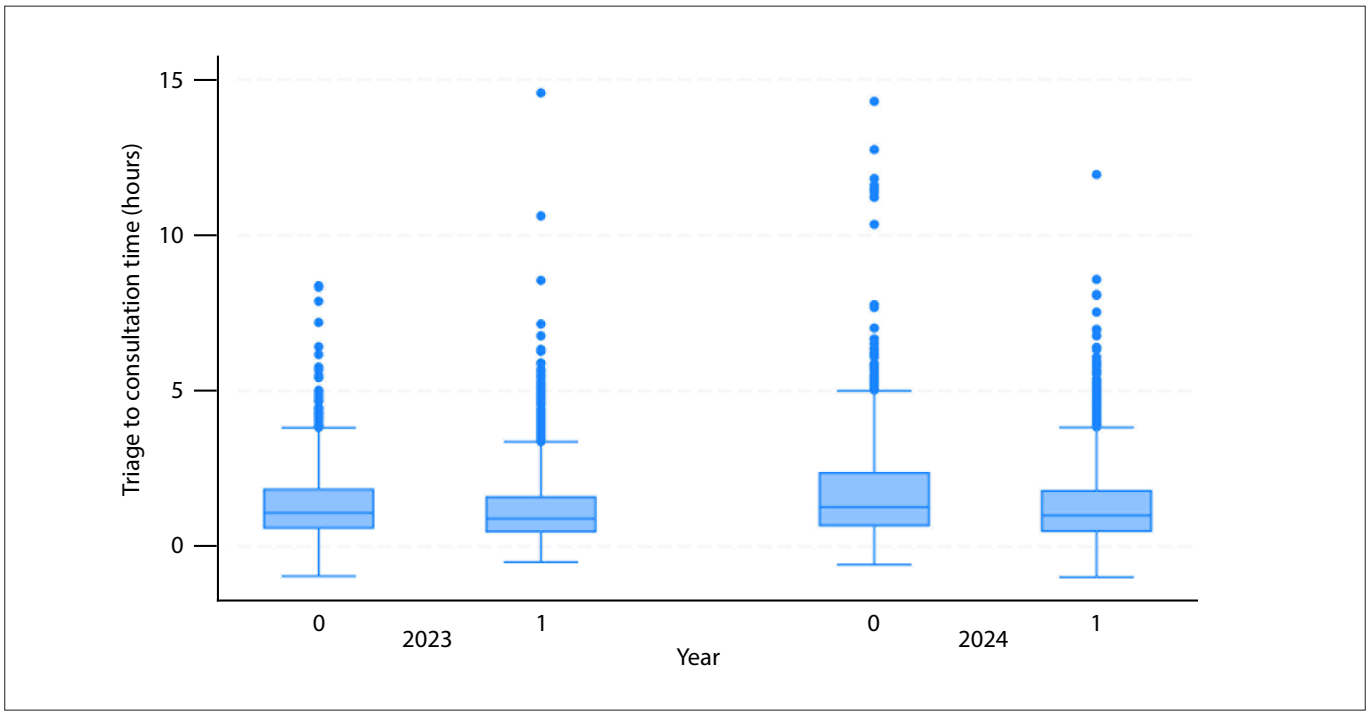

Fig. 4. Box plots comparing triage to consultation time (in hours) for 2023 and 2024 over weekends (0) and weekdays (1).

Table 2. Main themes arising from the qualitative data

Main themes	Summarised comments
Strengths of the doctor-in-triage system What do you think are strengths of the doctor-in-triage system? (For patients, staff, system etc.)	• **Expediting very sick patients.** Patients who need urgent care are seen faster • **Prevents non-emergency cases from clogging the system.** These cases are redirected or efficiently seen in triage, reducing congestion • **Improves patient flow.** Many patients are seen and sorted quickly • **Accurate triaging.** Patients are triaged more accurately, ensuring appropriate care • **Helps staff focus on emergency cases.** Staff in acute examination area can dedicate more time to those requiring thorough attention • **Reduces staff workload.** Non-emergency patients are sent to clinics, decreasing the burden on emergency staff • **Enhanced patient satisfaction.** Patients are seen quicker and receive appropriate care faster
Improvement suggestions for the system What do you think can be improved about this system, and how can we make it more efficient?	• **Continued training and support.** Ongoing training for nursing staff and ensuring that all doctors are proficient in the system • **Standardise the system.** Making the doctor in triage a standard practice for both day and night shifts to reap maximum benefit • **Address bottlenecks.** Identify and escalate issues early to improve efficiency • **Fast track triage notes.** Reduce time spent on electronic notes in triage by converting from ECCR to HECTIS notes (this refers to writing a ECCR discharge summary for patients who are seen v. making a short summary on the triaging system, HECTIS) • **On-site dispensary.** Triage nurse can dispense basic medication from triage to improve patient flow • **Assign experienced doctors.** Allocate more senior doctors to triage to enhance efficiency • **Better patient directions to radiology.** Provide clearer directions to patients from the triage room to the X-ray department
Experiences of doctors in triage If you are a doctor, how do you experience working as the doctor in triage? Give us a high and a low.	**Positive** • High patient turnover • Work satisfaction due to seeing quick results and improving patient flow • Improved flow and quicker assessment of critical patients **Negative** • It can be labour intensive and draining • Nurses may take less responsibility • Patient/family interactions can be challenging • Isolated from other colleagues • It can become impersonal owing to fast pace
Impact on nursing If you are a nurse, what impact does the system have on nursing (triage and the floor nurses?)	**Positive** • Helps nurses prioritise patient care • Reduces patient load and frustration • Shortens waiting times and improves patient management **Negative** • Some nurses may feel less responsibility • Junior doctors may slow down patient flow
Impact on the acute examination area How is it to work on the floor (in the EC) while there is a doctor in triage?	**Positive** • Reduces patient load in the EC • Helps identify emergencies earlier • Improved organisation and patient management • Makes the consultation in the acute examination area more efficient **Negative** • Sometimes delays the system if the doctor is not efficient
Impact on perceived patient satisfaction Do you think the system has an impact on patient satisfaction? If you have a scenario, please share.	**Positive** • Patients are seen faster and experience less waiting time • Improved satisfaction with quicker assessments and appropriate referrals • Fewer official complaints in March 2024 **Negative** • Some patients may be dissatisfied if they do not understand the triage process and deferrals • Impersonal and rushed interactions may reduce satisfaction
Sustainability of the system Can one person do this for an extended time (every day for a month)? Please indicate why.	**Mixed responses** • Impersonal, fast-paced work is draining, requiring frequent rotations • Extended periods in triage can lead to frustration and burnout • Shorter, more frequent rotations may be more sustainable • Extended periods in triage may improve skills significantly

ECCR = electronic continuity of care record; HECTIS = Hospital Emergency Tracking and Information System; EC = emergency centre.

or above. Implementing a doctor in triage on night shift was seen as less practical than during daytime hours, with three participants rating the practicality of the system during the night shift (16h00 - 22h00) as 5/10 or less, with a minimum rating of 3/10. Seven participants rated it at 7 - 9/10.

Participants were asked how likely they would be to volunteer for the role of doctor in triage. Of the seven participants who could volunteer (the others were nurses or first-year intern doctors), two participants gave ratings of 2/10 and 3/10. another two gave neutral ratings of 5/10, two were more likely to volunteer at 7/10, and one gave a rating of 10/10, showing a broad distribution of opinions.

Participants gave varied ratings with regard to their willingness to recommend the system to another facility. Two participants gave ratings of 0/10 and 5/10, while the other eight participants gave ratings of 8/10 or more, with three rating their likelihood of recommending the system at 10/10.

Discussion

This study aimed to evaluate whether placing a doctor in triage improves waiting times, enhances patient care, and is feasible in the SA setting. A mixed-methods approach was used, to triangulate quantitative waiting-time data and qualitative staff perceptions. Placing a doctor in triage did not reduce waiting times from triage to consultation; in fact, there was an increase of 13.4 minutes, particularly affecting green and yellow triage categories. This increase can be ascribed to many confounders, an ever-present part of the SA setting. After adjusting for confounders by excluding weekends and holidays (as there was a discrepancy in the number of such days over the two years), there was still a 7-minute increase in 2024 compared with 2023.

There was no significant difference in the percentage of patients who absconded or signed an RHT, a marker that showed improvement in other studies.[2-4,8] There was also no significant difference in consultation to disposition time (p=0.6936) and disposition to exit time (p=0.8356) across the two populations. The number of patients who were discharged increased, probably owing to higher admission thresholds, as renovations decreased bed space in 2024. This finding cannot be ascribed to a change in patient acuity, as triage colour distributions did not show a significant change over the two years.

Red and orange cases require significant management time, leading to delayed consultation to disposition and disposition to exit times, especially when patients are awaiting ambulances and transfer to tertiary units. Disposition to exit time for low-acuity patients (green/yellow) is particularly affected by nursing availability, as it involves administering medication, brief explanations, signing patients out on the system, and directing them to the hospital pharmacy.

Expounding on confounders to the data

March 2023 had four weekends and one public holiday (total 9 days), while March 2024 had two public holidays and five weekends (total 12 days). Locum hours were also decreased in 2024, and one less professional nurse was hired owing to budget cuts. These changes in staffing were especially relevant after hours, as locum doctors often assist with these shifts, and they had to be covered by junior doctors, or the shift had fewer doctors. Removing weekends and holidays from the data improved waiting times from 13.4 minutes' difference with weekends to 7 minutes without weekends. Presenting to the facility on a weekend day in 2024 increased the waiting times by 21 minutes compared with a non-weekend day. Staff familiarity also influenced the data, as all but two of the community service doctors in 2023 had been trained at Helderberg Hospital the previous year and were familiar with the EC system, whereas in 2024 only two were familiar with the system. Stretcher cases, or patients arriving by ambulance, entered the hospital through a separate entrance, missing the triage area, which was another confounder to the data, as very few stretcher patients (red and orange) would have been seen by the doctor in triage. Other confounders included variable buy-in from staff, doctors with differing consultation styles (in terms of whether they worked effectively or over-triaged patients), day-to-day patient volume variations, availability of beds in other wards, ambulance service availability, and accuracy of times recorded on the system.

Qualitative data were included in the study to give understanding of whether this system was seen as feasible and having a positive impact. The survey had a 50% response rate, with 10 staff members answering the questions.

Perceived benefits included improved patient flow with faster recognition and care of critical patients, redirecting non-urgent patients to appropriate levels of care, and decreased load on EC doctors, allowing them to focus on emergencies. These correspond with the findings of a UK study that reported earlier recognition of critical patients, early senior input and appropriate disposition.[11] Challenges that were identified are similar to what was found in previous research, such as bottlenecks due to lack of SOPs, variable triaging approaches by doctors (over-triaging), and limited buy-in from staff.[11]

Impact on staff

Nurses reported improved patient flow, decreased strain on nursing staff and a decline in complaints, as formal complaints declined from four to one between 2023 and 2024.

Doctors in the EC had fewer lower-acuity cases, found that critical patients were better prepared for management, and experienced less frustration. Increased work satisfaction and learning opportunities were mentioned by those working in triage. Concerns included fewer senior staff in the EC and the risk of burnout of the triage doctors. It was suggested that this role be rotated weekly. They did not think it was feasible to implement the system during night shift. Staff members were willing to recommend the system to other facilities.

The impact on the broader community may include improved patient safety with faster care for critical patients, faster discharges and deferrals of lower-acuity patients, and improved patient satisfaction.[2-4,8]

Looking at opportunities provided for improved patient care by the doctor-in-triage system, survey participants highlighted more accurate triaging, expediting emergency cases, quickly seeing and discharging non-emergency patients, and starting the management and special investigations of patients from triage. Survey participants had different perceptions of the intervention's impact on patient satisfaction. Innovative ideas for improving the system were also suggested in the survey, including clearer directions to radiology, adding paediatric patients to the system, having a small dispensary in triage, and training all staff in the correct EC patient flow process.

Study limitations

The quantitative arm only used one month's data and was only tested in one facility, which allowed for more possible confounders. In the qualitative arm, the response to the survey was only 50% of the targeted population, therefore only expressing a few limited opinions. Patient satisfaction was also not measured directly, but indirectly by staff assessment of patient satisfaction and complaints received. Many confounders were identified, and despite efforts to control them, they are likely to have had an effect on the data.

Recommendations

Extending the time of the study period and including multiple centres will improve the scope and the quality of subsequent studies. Direct patient feedback with questionnaires or interviews could improve assessment of patient satisfaction. Expanding to telephonic or face-to-face interviews may provide more detailed qualitative data and increase participation. Staff suggested providing clear SOPs for the doctor in triage, an on-site dispensary run by the triage nurse, including paediatric patients, and providing proper signage to radiology and the pharmacy. It was also suggested that the role be rotated weekly to prevent burnout.

Drawing the relevance back to the setting of Helderberg Hospital, although there was no improvement in waiting times, the doctor-in-triage system may provide clinical and operational benefits. Appropriate SOPs, education of staff and patients and further investigation could transform this intervention into a practical solution in a resource-constrained setting.

Conclusion

While the introduction of a doctor in triage did not decrease waiting times in this study, the qualitative findings suggest possible operational and clinical benefits in the SA context. The increase in waiting times was likely to have been influenced by several confounding factors, including reduced locum hours, discrepancies in weekend and holiday distributions, and staff familiarity with the system. Even with the correction of a significant confounder, waiting times were still increased with the intervention. Despite these challenges, staff highlighted the benefits of early recognition of critical patients, redirecting lower-acuity cases, decreasing the load on EC doctors, and fewer complaints from patients. This feedback suggests that with proper implementation of the system with SOPs, staff training and patient education, the system could enhance patient care and improve EC efficiency. Further studies expanded across multiple sites with added direct patient satisfaction assessment are required to evaluate the impact and feasibility of a doctor-in-triage system at Helderberg Hospital and in SA.

Declaration. The research for this study was conducted by the student author, RvZ, as an optional project during her 6th year, in partial fulfilment of the MB ChB degree.

Acknowledgements. RvZ gratefully acknowledges the guidance of Dr Michelle Allen as research supervisor and Dr Carl Lombard for statistical analysis. She also wishes to acknowledge her family for their continuous support and assistance with language corrections.

AI declaration. The authors acknowledge the journal policy on the use of AI, and the requirement to disclose the use of any AI tools in manuscript preparation. None were used.

Author contributions. RvZ designed and drafted the study with the guidance of MLA. Data collection, interpretation of analysis and the writing of the manuscript were done by RvZ with the assistance of MLA.

Funding. None.

Data availability statement. The data sets generated and analysed during the current study are available from the corresponding author (RvZ) upon reasonable request.

Conflicts of interest. None.

1. Western Cape Government. Healthcare 2030: The road to wellness. March 2014. https://www.scribd.com/document/643671823/healthcare2030 (accessed 21 November 2023).
2. Rowe BH, Guo X, Villa-Roel C, et al. The role of triage liaison physicians on mitigating overcrowding in emergency departments: A systematic review. Acad Emerg Med 2011;18(2):111-120. https://doi.org/10.1111/j.1553-2712.2010.00984.x
3. Abdulwahid MA, Booth A, Kuczawski M, Mason SM. The impact of senior doctor assessment at triage on emergency department performance measures: Systematic review and meta-analysis of comparative studies. Emerg Med J 2016;33(7):504-513. https://doi.org/10.1136/emermed-2014-204388
4. Corkery N, Avsar P, Moore Z, O'Connor T, Nugent L, Patton D. What is the impact of team triage as an intervention on waiting times in an adult emergency department? A systematic review. Int Emerg Nurs 2021;58:101043. https://doi.org/10.1016/j.ienj.2021.101043
5. Choi YF, Wong TW, Lau CC. Triage rapid initial assessment by doctor (TRIAD) improves waiting time and processing time of the emergency department. Emerg Med J 2006;23(4):262-265. https://doi.org/10.1136/emj.2005.025254
6. Oliveira MM, Marti C, Ramlawi M, et al. Impact of a patient-flow physician coordinator on waiting times and length of stay in an emergency department: A before-after cohort study. PLoS ONE 2018;13(12):e0209033. https://doi.org/10.1371/journal.pone.0209035
7. Lauks J, Mramor B, Baumgartl K, Maier H, Nickel CH, Bingisser R. Medical team evaluation: Effect on emergency department waiting time and length of stay. PLoS ONE 2016;11(4):e0154372. https://doi.org/10.1371/journal.pone.0154372
8. Weston V, Jain SK, Gottlieb M, et al. Effectiveness of resident physicians as triage liaison providers in an academic emergency department. West J Emerg Med 2017;18(4):577-584. https://doi.org/10.5811/westjem.2017.1.33243
9. Subash F, Dunn F, McNicholl B, Marlow J. Team triage improves emergency department efficiency. Emerg Med J 2004;21(5):542-544. https://doi.org/10.1136/emj.2002.003665
10. Travers JP, Lee FCY. Avoiding prolonged waiting time during busy periods in the emergency department: Is there a role for the senior emergency physician in triage? Eur J Emerg Med 2006;13(6):342-348. https://doi.org/10.1097/01.mej.0000224425.36444.50
11. Abdulwahid MA, Turner J, Mason SM. Senior doctor triage (SDT), a qualitative study of clinicians' views on senior doctors' involvement in triage and early assessment of emergency patients. Emerg Med J 2018;35(7):440-446. https://doi.org/10.1136/emermed-2017-207219
12. French S, Lindo JLM, Williams EWJ, Williams-Johnson J. Doctor at triage – effect on waiting time and patient satisfaction in a Jamaican hospital. Int Emerg Nurs 2014;22(3):123-126. https://doi.org/10.1016/j.ienj.2013.06.001
13. City of Cape Town. Helderberg integrated district spatial development framework and environmental management framework. Vol. 1: Baseline and analysis report. May 2022. https://resource.capetown.gov.za/documentcentre/Documents/City%20research%20reports%20and%20review/Helderberg_DSDF_EMF_Vol_1_2022.pdf (accessed 17 November 2023).
14. South African Government. Western Cape Government launches safety dashboard providing real-time data to provincial safety stakeholders. 26 May 2022. https://www.gov.za/news/media-statements/western-cape-government-launches-safety-dashboard-providing-real-time-data (accessed 5 September 2025).

Received 29 April 2025. Accepted 29 January 2026.