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ORIGINAL RESEARCH

Emergency department staff opinion on newly introduced phlebotomy services in the department. A cross-sectional study incorporating thematic analysis

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Abstract

Objectives: The demand for ED services, both in terms of patient numbers and complexity has risen over the past decades. According to reports, there has been an increase in the ED patient presentation rate from 330 per 1000 to 334 per 1000 between 2018–2019 and 2022–2023. Consequently, new care models have been introduced to address this surge in demand, mitigate associated risks and improve overall safety. Among these models is the concept of ‘front loading’ clinical care, involving the initiation of interventions at the point of arrival. The present study evaluates the impact of introducing phlebotomists at triage.

Methods: We conducted a cross-sectional survey using purposive sampling at a single quaternary metropolitan ED with an annual census of greater than 90 000, encompassing all clinical staff in the ED. The survey data were analysed quantitatively and complemented by a thematic analysis.

Results: The response rate for the questionnaire was 61% ($n = 207$),

with good representation from all ED craft groups. Nearly all the staff (99.5%) reported being aware of the presence of phlebotomists in the ED, whereas only 57% of the staff reported working in triage ($P = 0.05$, 0.00 to 0.04). ‘Valuable/vital resource’ featured as a common response. Early decision-making, patient safety, staff and patient satisfaction emerged as consistent themes.

Conclusions: Staff expressed satisfaction that patient care now begins in the waiting room, especially after extended waiting periods prior to cubicle allocation. They assert that this improvement significantly enhances timely treatment and disposition decisions, as well as overall patient satisfaction.

Key words: *emergency department, phlebotomist, staff, staff satisfaction, triage.*

Introduction

The demand for ED services, in terms of both patient numbers and complexity has continued to grow. In Australia there has been an

Key findings

- Increased staff satisfaction was reported since the introduction of phlebotomists to the department.
- Staff reported the phlebotomists as valuable/vital resource.
- Staff reported patient satisfaction resulting from timely sample collection by phlebotomists influence on early treatment decision-making.

increase in the ED patient presentation rate from 330 per 1000 to 334 per 1000 between 2018–2019 and 2022–2023.¹ Similar trends have been reported in other countries.^{2–6}

Currently, ED presentations have rebounded to pre-pandemic levels or higher. The underlying causes are multifactorial and encompass increased morbidity from COVID-19 and its complications, morbidity resulting from deferred care, and the progressively ageing population.^{7,8}

The increased workload has the potential to compromise patient care.^{9–11} Consequently, new models have been introduced to manage demand, mitigate risk and improve safety. Such models include the ability of triage staff to ‘front load’ clinical care and/or interventions.¹² Early point-of-care testing at triage has been shown to reduce ED length of stay.¹³ However, this may come at a cost as it redirects the focus of triage staff from their primary role; which is to triage patients.¹⁴ Most recently, virtual care has the potential to divert patients from visiting an ED.^{15–18}

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We report an intervention that allows 'front loading' of care to occur while not redirecting triage staff from their core role by introducing phlebotomists at triage to perform blood testing (including venous blood gas [VBG] analysis), LIAT testing for COVID-19¹⁹ and ECGs as directed by triage nurses or medical staff at triage.^{12,17,18}

In early 2023, a full-time phlebotomy service with 24/7 coverage was introduced at the ED triage of our health service, a quaternary facility. To assess the perception on patient care and staff satisfaction, we designed a sequential mixed method study. Here, we present the findings of our cross-sectional study, which is based on feedback obtained from a multi-disciplinary survey of ED staff and phlebotomists. The main aim of our study was to gather the thoughts and opinions of ED nursing staff, medical personnel and phlebotomists regarding the role.

Methods

Study design

We undertook a voluntary, anonymous, cross-sectional survey at a metropolitan hospital's ED in Melbourne from 5 October to 11 November 2023, surveying clinical healthcare personnel. The hospital is a quaternary referral facility, and the ED has a mixed (adult, paediatric) annual census of approximately 90 000 patients (about 250 per day) supported by 26 beds short-stay unit. Ethical approval for the present study was obtained from the Institution's Human Research Ethics Committee reference: HREC/101323/Austin-2023.

Developing the survey questions

In the absence of a validated survey, we designed and developed a customised set of questions and tested them with a group of non-study team members, representing the specific work groups we were targeting, to ensure the questions' effectiveness and acceptability.

The final survey was divided into two sections: Part A, which encompassed seven multiple-choice

questions focused on socio-demographic details; and Part B, which included seven questions focused on the role of the phlebotomist. Among these, six were multiple-choice questions, some of which involved branch logic, along with open-ended inquiries, whereas one was entirely open-ended. The closed format questions required either a dichotomous 'yes' or 'no' response or an ordinal response using a 4-scale Likert ranging from Very supportive, supportive, somewhat supportive or not supportive.

The collected variables comprised participant information such as gender, age range, discipline or craft group, employment category (full-time/part-time/casual), experience working in triage and the duration of practice. Inquiries regarding the phlebotomist's role focused on awareness of the role, experience working alongside a phlebotomist, the role's impact on expediting patient diagnosis and treatment, whether it enhanced patient safety in the waiting room, its effect on the proportion of patients who did not wait for treatment, and its influence on staff satisfaction.

Recruitment

Purposive sampling was employed to target a cohort of 340 nurses, doctors and phlebotomists for participation. Recruitment efforts involved project announcements through the department's weekly electronic newsletter and during staff meetings. The newsletter included a QR code and a link directing individuals to an organisational REDCap site. This site outlined the study's aims and provided instructions on accessing the survey. A plain language statement detailing the study was made available via the provided link. Upon accessing the survey site, staff members were presented with information about the study aims and asked to provide consent. Upon selecting 'yes,' participants gained access to the survey.

Data collection

Data were collected for about 5 weeks, from 5 October to

11 November 2023, using online electronic data capture tool (REDCap) hosted by Austin Health. Invitation to participate was sent through the department's electronic newsletter with a QR code and a link to the survey on 5 October 2023, followed by weekly reminders in the newsletter.

Data analysis

The survey responses were exported to STATA 18e statistical software²⁰ for analysis. Following exportation to STATA, the open-ended responses were retrieved from the software's data editor and transcribed into a Microsoft[®] office 365 Excel spreadsheet. Using a thematic analysis approach,^{21,22} after familiarisation with the data, each response was coded into a theme. Upon completion of coding by AO, GB and DY convened to review and discuss each theme considering the related quote. In cases where there were discrepancies in codes/themes, the group reached a consensus on which themes to include considering the study aim.

Statistics

We did not perform *a priori* sample size calculation since our approach involved purposive sampling, aiming to recruit as many staff members as possible. Numerical data are presented as counts and percentages accompanied by 95% confidence intervals (95% CIs). In instances of missing values, data are denoted as *n* (number of cases)/*N* (total number of instances where the value was known), without making assumptions about the missing data.

Categorical data differences were evaluated using the chi-square or Fisher's exact test, as appropriate. Where there was a need to cross-reference categorical and numerical data, regression tests were used. A two-sided level of significance was set at $P < 0.05$.

Results

Participant information

The response rate for the survey was 61% ($n = 207$). When asked whether

TABLE 1. Analysis of staff demographic and the association with phlebotomist services in diagnosis and treatment

Variable	Type	Frequency	P value (CI)
Gender	Female	162 (78%)	$P = 0.63$
	Male	39 (19%)	
	Other	1	
	Prefer not to say	5	
Age group	18≤25 years	45 (22%)	$P = 0.39$
	26≤35 years	87 (42%)	
	36≤45 years	39 (19%)	
	46≤55 years	25 (12%)	
	>55 years	11 (5%)	
Discipline	Nursing	151 (73%)	$P = 0.82$
	Med	47 (23%)	
	Phlebotomy	9 (4%)	
Work category	Full time	42 (20%)	$P = 0.94$
	Part time	151 (73%)	
	Casual	11 (5%)	
	Bank	3 (1%)	
Do you work in triage?	Yes	117 (57%)	$P = 0.39$
Years of practice	Minimum	1	$P = 0.72$
	Mean	17	
	Maximum	33	
Years of practice at Austin	Minimum	1	$P = 0.42$
	Mean	13	
	Maximum	28	

the phlebotomists impacted on clinical decision making in management and treatment, Table 1 demonstrates the results of different cohorts.

Phlebotomists' role

Nearly all the staff (99.5%) reported being aware of the presence of phlebotomists in the ED, whereas only 57% of the staff reported working in triage ($P = 0.05$, 0.00 to 0.04). As triage is a specialised area, only suitably trained ED nurses with post-graduate qualifications are able to work at triage and only consultant doctors are able to undertake the 'doctor at triage' role known as Multi-Disciplinary Triage (MDT) in our department.¹²

When surveyed about their perception of the phlebotomist role at triage, most staff (97%) reported finding them to be very supportive, with no differences observed across staff employment categories ($P = 0.42$), disciplines ($P = 0.31$), gender ($P = 0.61$) or years of service ($P = 0.12$). When asked about the contribution of phlebotomists to improving patient safety, 99.5% of the staff responded 'yes', irrespective of staff discipline ($P = 0.06$), age groups ($P = 0.39$) or employment category ($P = 0.70$). Table 2 provides further breakdown of staff responses.

TABLE 2. Association between working with phlebotomists in the department $N = 207$ and staff belief on the listed variables (regression analysis)

Variable (total number of responses)	Desirable outcome	Frequency n (%)	P value (confidence interval)
How do you find the phlebotomists role in triage? ($n = 164$)	Very supportive	159 (97%)	
Do you believe having phlebotomists in triage speeds-up patients' diagnosis and treatment? ($n = 193$)	Yes	192 (99%)	$P = 0.095$ (-0.140 to 1.755)
Do you believe having phlebotomists in triage improve the safety of patients in the waiting room? ($n = 195$)	Yes	194 (99%)	$P = 0.685$ (-1.146 to 0.754)
Do you believe having phlebotomists in triage had improved the number of patients who did not wait for treatment? ($n = 195$)	Yes	186 (95%)	$P = 0.593$ (-0.411 to 0.236)
Do you believe having phlebotomists in triage has improved staff satisfaction? ($n = 195$)	Yes	195 (100%)	

TABLE 3. *Thematic analysis with frequencies of the themes and selected quotes (n = 184)*

Theme	Frequency of theme	Selected quote related code	Selected quote
Triage specific role focus	37	T024	'1. Valuable resource, takes a huge burden off triage and let's triage be able to focus on the patients needs and reassessments. 2. Running LIATs and having to wait for the machine to be free, I can be off the floor for 15/20 min waiting for a machine. which is time I can be used elsewhere. that puts a huge burden on the triage staff whilst I've stepped away. 3. I've definitely stopped ordering bloods and ecg for pts because I know I'll never get to them anytime soon. unless they're a good sounding cardiac chest pain. if you're taking away our resources, why should triage have to work harder to fill the gap'.
Expedite treatment decision	45	E010	'Having phlebotomists 24 h in ED is an amazingly helpful resource. When ED is extremely busy having bloods done allows a baseline to be established before the patient even reaches the cubicle. Sometimes this even allows patients to go home when they are seen by the MDT and frees up a cubicle. Phlebotomists help with patient flow, they start point of care early so therefore a patient breaching in ED is less likely. We need phlebotomists 24/7 in Emergency'.
Safety filter against missed opportunities	31	S011	'Respectfully, this is the most perplexing and clearly money driven decision the upper management of this department have ever made. Yet again, another example of asking your staff to do more with less. If you've ever wondered why retention of Critical Care Trained staff is so poor, here is a prime example of why. Triage is the most dangerous and mentally taxing area of the entire department. It is easier to be in charge of the department than it is working at triage, I have ample experience in both. The phlebotomists have been such a valued and integral member of the triage team, and I have no doubt they have saved countless lives because we were able to identify gravely abnormal blood results or ECGs because of their timely and efficient work. They are extremely hard working, always take direction from triage staff and are just very, very good at their role. You simply cannot ask triage nurses who are already struggling to make it through a line that streams out the door and dealing with the cognitive load of unwell patients deteriorating in the WR, to take more onto their already extremely stressful and resource intensive workload. Patients will sit in that waiting room, with high lactates or high troponins to know ones knowledge because they haven't been tested for them. More patients will die. There will be more delays to treatment, department flow will falter and ultimately, you will lose more senior, experienced, highly skilled staff because of this financially driven decision'.
Patient satisfaction	26	P003	'- patients more satisfied as they are receiving investigations earlier, and by the time they receive a cubicle or are seen by a clinician they have results available that we can either act upon or discharge them home - patients are therefore more satisfied and less likely to discharge AMA or express anger towards staff - patients grateful that they are being checked up on while they wait - staff are able to then re prioritise patients based on pathology results and act upon these results while the patient awaits a cubicle, as well as detect deterioration earlier, leading to more staff job satisfaction - staff inside the department have more time to then complete additional investigations or assessments once the patient arrives to them'.

TABLE 3. *Continued*

Theme	Frequency of theme	Selected quote related code	Selected quote
Increased staff satisfaction	45	IS023	'Having the phlebotomists work in triage has been one of the best changes within the ED since I started here in 2019. They work incredibly hard, they are very efficient and able to complete the bloods/ECGs and LIATs for WR patients much more efficiently and quickly than any nursing staff can. They have boosted the morale of the triage nurses working out there as it takes the stress and worry away from not being able to accomplish said tasks, as more often than not we have a line of patients waiting to be triaged throughout every shift. There has definitely been a huge increase in staff satisfaction and reduction of burn out (personally as well as talking to other nursing staff) since they have been working with us. I am extremely disappointed and concerned for patient safety that they have now only staffed the PM shift'.

Staff members across all disciplines demonstrated a positive response when asked about their belief in the impact of the phlebotomist's role on expediting patients' diagnosis and treatment (99.5%), enhancing patient safety (99.5%) and reducing instances of patients not waiting for treatment (95%). Furthermore, all responded positively to improvement in staff satisfaction.

Thematic analysis of open-ended question

In response to the impact of phlebotomists at triage on staff satisfaction, staff were prompted with an open-ended question to express their views on whether they believed this role enhanced or did not enhance staff satisfaction. The response to the question regarding the impact of phlebotomists on staff satisfaction yielded a unanimous result, with 100% ($n = 195$) of the participants responding with a 'yes'. Participants were able to explain the reasoning behind their response in the open-ended question that followed, from which the following five themes emerged (Table 3). Among the 195 responses, 184 were completed responses available for coding and analysed thematically. This was also supported by quotes such as:

'– supports triage nurses to continue triaging instead of attending to path/ECGs which can delay treatment/getting through triage line'. (T015)

'With such a junior cohort of staff triage is very stressful. Having a phlebotomist allows triage staff to recheck obs, and attend to the usually chaotic WR, taking some of the burden off triage staff'. (IS001)

'Because pathology results are returned earlier identifying potentially life-threatening conditions. Triage is already an enormously stressful area to work and having 40+ patients with unknown clinical conditions only adds to the stress of staff. Trying to find time to do path on patients you are concerned about whilst also navigating an endless stream of new patients to triage is near impossible. Having the pathology staff has decreased the anxiety levels of staff working at triage'. (S005)

In a separate open-ended question, the staff were given the opportunity to share additional thoughts or opinions regarding the phlebotomist's role, specifically in obtaining regular blood tests, blood gases, LIAT for

COVID-19 and ECG in triage. Their responses are summarised in Table 4. Several themes were found to be similar or closely related to those discussed in Table 3. Staff also stated:

'The are absolutely ESSENTIAL to the workings of this department. The have a huge impact on flow as results are back before the patients even hit the cubicles in most cases and plans can immediately be put into place re disposition. There are zero negatives having phlebotomists working at triage 24/7'. (V006)

Discussion

The implementation of a phlebotomy service in the ED has not been extensively studied on a large scale, leading to limited availability of literature on this subject. The few centres who have implemented such services over the past decade have reported mixed results.^{17,18,23} We undertook the present study to gather staff opinion and thoughts on the phlebotomist's role in the department and report here high staff satisfaction with the introduction of the service to the department as well as staff perception of roles positive impact on patient safety and

TABLE 4. *Thematic analysis with frequencies of the themes and selected quotes (n = 139)*

Theme	Frequency of theme	Selected quote related code	Selected quote
Triage specific role focus	17	T008	‘Out of all of the areas in ED, triage is where staff feel the most resource poor, and this translates to feelings of stress, frustration and of being overwhelmed. Having 20 people in the waiting room on average (I know it gets lower/higher than this), while staring down a line of people who are in pain, frustrated and unwell waiting to be triaged, the last thing you want to have to do is stop triaging and take 5–10 min in order to get the ECG and bloods on the convincing cardiac chest pain you’ve got in front of you. I can understand that at times the people giving out the funding are most likely to visit are when it is seemingly ‘quiet’ in the WR, but as someone who has worked in many senior roles, I can honestly say there isn’t a harder job in the department than being the MDT or nursing staff working out there. Taking away the phlebotomists will be the straw that breaks a few of these tired, frustrated camels backs. IF the hospital cares about Safewards, KPIs or perhaps even their tired staff during this time, I would strongly suggest NOT taking away one of the very few things that makes the front door of our hospital a workable environment’.
Support beyond triage	18	S014	‘Having phlebotomists are so important in emergency as when patients come into the cubicles their care has already been started. This is evident if a patient has chest pain and waits in the WR for long periods. When the phlebotomist worked the important blood tests were done + we are able to gather an idea of the severity’.
Patience/waiting for treatment	20	P007	‘The phlebotomists have made a world of change in triage for both the staff and the patients. I have found working in triage less stressful and more streamlined for both staff and patients. I am relieved knowing the patients are getting the tests, procedures and treatment they so desperately need in a timely manner. It is also a weight of my shoulders knowing I am supported as a staff member to provide the best care I can. I also realise the impact it has on the patient’s family to know the treatment is being started in the waiting room, and that time spent waiting is not a waste. Please bring back this role on a permanent basis. All the phlebotomists who worked in triage have been lovely to work with and professional in all capacities’.
Risk mitigation/care escalation	31	R011	‘I think the removal of 24 h phlebotomists was a very poor decision and has absolutely no benefit. The outcome of removing this vital role will be poor patient outcomes, including increased agitation and frustration due to longer wait times, and possibly death due to the delay in treatment. This also puts unnecessary pressure on us nurses who are already working under the pump to just be able to perform our regular duties, which will increase stress and burn out. We need our 24 h phlebotomists in order to effectively care for patients’.

TABLE 4. *Continued*

Theme	Frequency of theme	Selected quote related code	Selected quote
Valuable/vital resource	53	V004	<p>within a timely manner – it shouldn't have to take a patient death for this to be realised'.</p> <p>'We need them to become a permanent part of the ED team with fixed EFT, covering all shifts. Early ECG's help mitigate risk factors, allow for downgrading triage categories, or escalating pt care LIAT's – help us understand cause of symptoms and where to place patients VBG's – allow for immediate results, again escalating care as needed.'</p>

satisfaction. A quantitative observational study of the trial is reported elsewhere.

Our staff overwhelmingly expressed appreciation for and support of retaining phlebotomy services within the department. The recruitment and retention of nursing staff in the ED have been recognised as a global challenge. According to a study by Cornish *et al.*,²⁴ 48.2% of nursing respondents indicated their intention to leave emergency nursing within 5 years. This endorsement from our staff reflects the additional stress placed on triage, especially considering the challenges in recruiting, and retaining experienced staff post-pandemic.

In response to the staffing challenge, it is anticipated that EDs will explore additional support services beyond the traditional nursing and medical workforce. Some have introduced paramedics, whereas others have employed other technicians in the ED.^{25,26} We believe that phlebotomists should be considered an integral part of the new ED staffing workforce matrix based on the participants feedback on the additional stress the extra tasks like attending to pathology tests and ECG's have added to the triage staff.

Despite only 57% of our study participants directly working in triage, the phlebotomists' roles had a far-reaching impact across the entire department. This is evidenced by the overwhelming positive response regarding the substantial impact they have made in the department. Staff

acknowledged the phlebotomists' contribution beyond triage (S014, Table 4) and recognition of their value in the department. The themes presented in Tables 3 and 4 broadly captured the elements which are essential for staff and patients' satisfaction and well-being.

The theme 'triage specific role focus' highlighted the liberation of triage staff from additional obligations, enabling them to concentrate solely on the task of triaging. The staff have repeatedly mentioned triage should be for triaging patients only as they shared their concerns on the unstable patients in the long triage cues.^{14,27,28}

The themes 'expedite treatment decision' and 'support beyond triage' emphasise the importance of prompt initiation of investigations. Patients frequently experience prolonged waiting periods in the waiting room. By commencing these investigations early, waiting time for results is reduced. This ensures that when patients are due to be seen, the results are more readily available for informed decision-making and treatment planning. This enhances both provider and patient satisfaction and reduces the proportion of those who opt not to wait for treatment.²⁹ The themes on 'safety filter against missed opportunities' and 'risk mitigation/care escalation' builds upon expediting treatment decision, a core component of which is availability of investigations that may identify undetected critical conditions. Following the introduction of

venous blood gas analysis by the phlebotomists we identified 18 episodes where conditions such as electrolyte disturbances were identified early leading to a clinically significant change in care. This has been identified previously.³⁰

'Patient satisfaction' and 'patience/waiting for treatment' themes focus on an important person-centred outcome indicator. These themes emerged as all-encompassing with various elements contributing to patient contentment mentioned. With long waiting time in ED waiting rooms, initiating investigations early by the phlebotomists under the supervision of the triage nurses is believed to be reassuring for patients, leading to a reduction in patient enquiries at the triage window. This proactive approach reduces patient's aggression towards staff because of lengthy waits and positively impacts patients' decision to wait for treatment rather than also leaving because of prolonged waiting times.³¹ Overall, it contributes to a more positive patient experience in the waiting room.

The themes 'increased staff satisfaction' and 'valuable/vital resources' elaborate on how the activities of the phlebotomist contribute to enhancing staff morale at triage and beyond. Staff members working in the emergency cubicles expressed considerable appreciation for receiving patients who have already undergone preliminary investigations. This situation expedites patient treatment and streamlines the flow of patients through the system, positively

impacting overall staff satisfaction. The recognition of this support in expediting patient care in triage and beyond contributes significantly to staff morale and satisfaction.³²

Limitations

The study has the following limitations: First, the absence of a pre-validated survey tool meeting our specific objectives necessitated the creation of an individual survey tool for a singular time-point use. Second, the study was conducted at a single site, potentially restricting its external validity. Third, although the overwhelmingly positive results in some instances may suggest a biased sample, the adequate response rate (61%) would mitigate against this.

Conclusion

EDs continue to seek new models of care to deal with increasing demand. We present a model that utilises an existing workforce, reallocates them from the ambulatory and outpatient setting to the ED and increases their scope to complement triage needs, namely COVID-19 PCR/LIAT testing, ECG and venous blood gas analysis.

Our staff have identified these tasks, and the concierge impact of the phlebotomists as a role that enhances patient care and safety. Specifically, alleviating triage staff from additional responsibilities associated with providing patient care in the waiting room, holds the promise of enhancing triage services to patients, improving both pace and accuracy of triaging. Staff expressed satisfaction that patient care now begins in the waiting room, particularly after extended waiting periods and before bed allocation. This improvement, they believe contributes to timely treatment and disposition decisions, and increased patient satisfaction.

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Author contributions

All authors have equally contributed.

Competing interests

None declared.

Data availability statement

Data and survey tool which can be shared from REDCap data dictionary will be available where reasonable request is submitted.

References

1. AIHW. Emergency Department Care Activity, 2024. Available from URL: <https://www.aihw.gov.au/reports-data/myhospitals/intersection/activity/5pt?ed#:~:text=In%202022%E2%80%9323%3A,of%20334%20per%201%2C000%20population>
2. Aboagye-Sarfo P, Mai Q, Sanfilippo FM, Preen DB, Stewart LM, Fatovich DM. Growth in Western Australian emergency department demand during 2007–2013 is due to people with urgent and complex care needs. *Emerg. Med. Australas.* 2015; 27: 202–9.
3. Del Mar P, Kim MJ, Brown NJ, Park JM, Chu K, Burke J. Impact of COVID-19 pandemic on emergency department patient volume and flow: two countries, two hospitals. *Emerg. Med. Australas.* 2023; 35: 97–104.
4. Rebecca Leigh J, Bramston C, Beauchamp A *et al.* Impact of COVID-19 on emergency department attendance in an Australia hospital: a parallel convergent mixed methods study. *BMJ Open* 2021; 11: e049222.
5. Skinner HG, Blanchard J, Elixhauser A. *Trends in Emergency Department Visits, 2006–2011*. Rockville, MD: Agency for Healthcare Research and Quality (US), 2006.

6. Tang N, Stein J, Hsia RY, Maselli JH, Gonzales R. Trends and characteristics of US emergency department visits, 1997–2007. *JAMA* 2010; 304: 664–70.
7. Burkett E, Martin-Khan MG, Scott J, Samanta M, Gray LC. Trends and predicted trends in presentations of older people to Australian emergency departments: effects of demand growth, population aging and climate change. *Aust. Health Rev.* 2017; 41: 246–53.
8. Leonard C, Bein KJ, Latt M, Muscatello D, Veillard A-S, Dinh MM. Demand for emergency department services in the elderly: an 11 year analysis of the greater Sydney area. *Emerg. Med. Australas.* 2014; 26: 356–60.
9. Gorski JK, Batt RJ, Orles E, Shah MN, Hamedani AG, Patterson BW. The impact of emergency department census on the decision to admit. *Acad. Emerg. Med.* 2017; 24: 13–21.
10. Matthias W, Andreas M, Stephan H, Susanne W, Maria W. Work conditions, mental workload and patient care quality: a multisource study in the emergency department. *BMJ Qual. Saf.* 2016; 25: 499–508.
11. Wolf LA, Delao AM, Perhats C, Moon MD, Zavotsky KE. Triage the emergency department, not the patient: United States emergency Nurses' experience of the triage process. *J. Emerg. Nurs.* 2018; 44: 258–66.
12. Richardson JR, Braitberg G, Yeoh MJ. Multidisciplinary assessment at triage: a new way forward. *Emerg. Med. Australas.* 2004; 16: 41–6.
13. Singer AJ, Taylor M, LeBlanc D *et al.* Early point-of-care testing at triage reduces care time in stable adult emergency department patients. *J. Emerg. Med.* 2018; 55: 172–8.
14. Fekonja Z, Kmetec S, Fekonja U, Mlinar Reljić N, Pajnikihar M, Strnad M. Factors contributing to patient safety during triage process in the emergency department: a systematic review. *J. Clin. Nurs.* 2023; 32: 5461–77.
15. Van Der Linden MC, Van Loon-Van Gaalen M, Richards JR, Van Woerden G, Van Der Linden N.

- Effects of process changes on emergency department crowding in a changing world: an interrupted time-series analysis. *Int. J. Emerg. Med.* 2023;16(1), 6.
16. Joseph MJ, Summerscales M, Yogesan S, Bell A, Genevieve M, Kanagasingam Y. The use of kiosks to improve triage efficiency in the emergency department. *npj Digit Med.* 2023; 6: 19.
 17. Metro South Health. Phlebotomists Assisting Patients at QEII ED, 2019. Available from URL: <https://metrosouth.health.qld.gov.au/news/phlebotomists-assisting-patients-at-qeii-ed>
 18. Stowell JR, Pugsley P, Jordan H, Akhter M. Impact of emergency department phlebotomists on left-before-treatment-completion rates. *West. J. Emerg. Med.* 2019; 20: 681–7.
 19. Hansen G, Marino J, Wang ZX *et al.* Clinical performance of the point-of-care cobas Liat for detection of SARS-CoV-2 in 20 minutes: a multicenter study. *J. Clin. Microbiol.* 2021; 59: e02811-20.
 20. StataCorp. *Stata Statistical Software: Release 18.* College Station, TX: StataCorp LLC, 2023.
 21. Byrne D. A worked example of Braun and Clarke's approach to reflexive thematic analysis. *Qual. Quant.* 2022; 56: 1391–412.
 22. Braun V, Clarke V. One size fits all? What counts as quality practice in (reflexive) thematic analysis? *Qual. Res. Psychol.* 2021; 18: 328–52.
 23. Tintinalli J, Hayden S, Larson J. Emergency department phlebotomist: a failed experiment. *Ann. Emerg. Med.* 2004; 44: 185–6.
 24. Cornish S, Klim S, Kelly AM. Is COVID-19 the straw that broke the back of the emergency nursing workforce? *Emerg. Med. Australas.* 2021; 33: 1095–9.
 25. Pourmand A, Caggiola A, Barnett J, Ghassemi M, Shesser R. Rethinking traditional emergency department care models in a post-coronavirus disease – 2019 world. *J. Emerg. Nurs.* 2023; 49: 520–529.e2.
 26. Powers R. Paramedics in the emergency department. *J. Emerg. Nurs.* 2007; 33: 199–200.
 27. Riedel HB, Espejo T, Bingisser R, Kellett J, Nickel CH. A fast emergency department triage score based on mobility, mental status and oxygen saturation compared with the emergency severity index: a prospective cohort study. *QJM* 2023; 116: 774–80.
 28. Abu-Alhaila DM, Johnson KD. The emergency nurse responses to triage interruptions and how these responses are perceived by patients: an observational, prospective study. *Int. Emerg. Nurs.* 2023; 67: 101251.
 29. Faber J, Coomes J, Reinemann M, Carlson JN. Creating a rapid assessment zone with limited emergency department capacity decreases patients leaving without being seen: a quality improvement initiative. *J. Emerg. Nurs.* 2023; 49: 86–98.
 30. Baugh CW, Freund Y, Steg PG, Body R, Maron DJ, Yiadom MYAB. Strategies to mitigate emergency department crowding and its impact on cardiovascular patients. *Eur. Heart J. Acute Cardiovasc. Care* 2023; 12: 633–43.
 31. Robinson S. Maintaining a safe environment in emergency department waiting rooms. *Emerg. Nurse* 2023; 32: 33–41.
 32. Hwang S, Shin S. Factors affecting triage competence among emergency room nurses: a cross-sectional study. *J. Clin. Nurs.* 2023; 32: 3589–98.