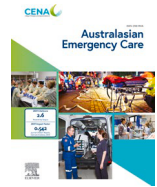




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Literature review

# Characteristics and outcomes of patient presentations to the emergency department via police: A scoping review

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## ABSTRACT

**Background:** As emergency department (ED) presentations continue to rise, understanding the complexities of vulnerable populations such as people brought in by police (BIBP) is crucial. This review aimed to map and describe the research about people BIBP to the ED.

**Design and method:** A scoping review, guided by the Joanna Briggs Institute process, was undertaken. The databases CINAHL, Embase and PubMed were searched between November 2017 and July 2022. The Patterns, Advances, Gaps, Evidence for practice, Research recommendations (PAGER) framework was used to guide the analysis.

**Results:** A total of 21 studies were included in the review, originating mainly from westernised countries. Examination of patterns across studies revealed four themes: routinely collected data is used to describe people BIBP to the ED; a focus on mental health care; the relationship between care delivery and outcomes; and the role of police in providing emergency care.

**Conclusion:** There is some understanding of the demographic characteristics, clinical characteristics, and outcomes of people BIBP to the ED. Knowledge gaps surrounding sociodemographic factors, prehospital and ED care delivery for people BIBP require further investigation to optimise outcomes for this vulnerable cohort of presenters.

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## Introduction

Over 8.8 million presentations were made to public emergency departments (EDs) in Australia in 2020–21 of which 55,720 (0.6%) were brought in by 'police/correctional services vehicle' (BIBP) [1]. People BIBP are reported to have complex conditions, which may consume considerable amounts of time and resources [2,3]. Furthermore, people BIBP to the ED are increasing, with an 8% rise between 2013 and 2014 and 2020–2021 [1]. The delivery of ED care for people BIBP requires consideration within the context of long-term sustainability for EDs and police services.

There is an emerging profile of people BIBP to the ED. A previous scoping review identified that people BIBP were mostly young and male, with high rates of mental health and substance misuse problems [4]. Further still, people BIBP are younger with a high prevalence of males, mental and behavioural diagnoses [3] and

involuntary assessment orders, compared to other modes of arrival [5]. Specifically, the presence of a mental and behavioural disorder was reported to be 41% for BIBP to the ED, compared to 7% for people brought in by ambulance [5]. People BIBP can arrive from custodial or community settings with a range of behavioural and/or physical comorbidities [3]. Despite being inconsistently reported [4], health care delivery for people BIBP mainly consists of screening procedures such as alcohol breath tests, radiology/pathology and medication delivery [3]. Outcomes reported include ED length of stay (LOS) and disposition status and indicate that the median LOS for people BIBP is just over 3 hours [3], with 34% requiring hospital admission [2]. With over five years since the last review [4], there is a need to identify if the profile and thus understanding of people BIBP has progressed.

Whilst a profile surrounding people BIBP to the ED is evolving, interagency involvement from police in the prehospital and ED

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context is not well understood. Health care limitations within the custodial space may necessitate the need for ED health care, yet, further understanding surrounding the broader prehospital space is required. A previous review identified that health care delivery in short-term custodial settings is limited, varies internationally and is predominantly focused on screening processes upon entry to custody [6]. Within the ED, the presence of police is reported to challenge health care staff in their care delivery as they navigate personal and professional ethical obligations within the confines of policing requirements [7]. Health care staff in the ED have identified that police presence in the ED disturbs treatment processes, impacts privacy obligations and affects trust between clinician and patient [8]. Alternatively, health care staff have also reported that police presence in the ED makes staff feel safe and police sometimes can help provide important patient health history [8]. There is a need to understand more about the role police play in of the ED context, and the subsequent impact on a particularly vulnerable demographic of patients [9].

Considering the increasing proportions of people BIBP to EDs and underlying complexities of their care, it is important to ascertain whether advancements have been made to further inform service provision for this vulnerable cohort. Therefore, the aim of this scoping review was to map and describe the most recent research surrounding people BIBP to the ED, to identify gaps and subsequent recommendations for practice and research.

## Methods

### Design

As there is considerable diversity in the research on people BIBP to the ED [4], a scoping review was used to map the available evidence and determine if and how research progression has occurred in this area [10]. This review was guided by the Joanna Briggs Institute (JBI) scoping review process [11]. Stages for this scoping review included: i) identifying and aligning the objectives/questions of the review; ii) developing the inclusion criteria in line with objectives/questions of the review; iii) detailing the approach to searching, selection, extraction and presentation of the studies; iv) conducting the search; v) selecting the relevant studies; vi) extracting relevant information; vii) analysis of information; viii) presentation of the results and; ix) describing the results in line with the objectives of the review, drawing inferences, conclusions and implications [11]. The Preferred Reporting Items for Systematic reviews and Meta-Analyses extension for Scoping Reviews (PRISMA-ScR) checklist [12] was used to ensure transparency and consistency in reporting [11].

### Research questions

Guided by the JBI population, concept, and context (PCC) mnemonic [11], the population (P) included people brought in by police, the concept (C) included the prevalence, demographic and clinical profile (including reason for presentation), care delivery and outcomes, and the context (C) included EDs in any country. Therefore, the question guiding this review was: What is the prevalence, demographic and clinical profile (including reason for presentation), care delivery and outcomes for people brought in by police (BIBP) to EDs?

### Inclusion and exclusion criteria

The second stage according to the JBI approach involved the development of the selection criteria in line with objectives/questions of the review. To be eligible, studies needed to be full text, peer-reviewed original research including experimental/non-

experimental studies, quantitative and qualitative studies published in English. Studies that did not exclusively focus on people BIBP but did contain information pertaining to people BIBP were included if data about people BIBP could be extracted. Exclusion criteria were editorials, conference abstracts, reviews, studies with unclear authorship, studies that focused primarily on prison transfers, quality improvement projects/studies without ethical approval/waiver and studies not published in the English language, due to resource constraints. If a study only reported on the proportion of a population BIBP with no information about their profile, care delivery or outcomes, it was excluded.

### Search strategy

The third and fourth stages of the process included detailing the approach to searching, selection, extraction and presentation of the studies and undertaking the search. Searched databases included CINAHL, Embase and PubMed. A previous review [4] included studies published up to November 3rd 2017. We used the same databases and terms as that review, with our final search having a date range from November 4th 2017 to July 4th 2022. Searches took place on the 4th July, 2022. Reference lists from included studies were searched to locate other possible studies.

### Search terms

Search terms were informed by a previous review [4] and included: ED\* OR emergency department\* OR emergency room\* OR accident and emergency OR ER\* OR A&E; AND police OR custody OR watch house OR correctional services OR police presentation. To capture international variation in terminology and plural terms, truncation was used. The full search strategy for CINAHL is included as an example in [Supplementary Table 1](#).

### Article selection

As per the fifth stage of the JBI scoping review approach, relevant studies were selected. Search results were uploaded into Covidence [13] for removal of duplicates and screening. After removing duplicates and performing an initial title screen (RW), titles and abstracts of studies were then screened by two authors (RW, JC) with moderation undertaken by one author (JR). From this, three authors independently screened full text studies (RW, JR, WC), with moderation by a fourth author (JC). Decisions surrounding study inclusion was an iterative process, guided by researcher expertise and the research question. Authors (RW, JC, WC, JR) met regularly to ensure rigor in the selection of studies. The PRISMA-ScR [12] flow diagram was used to describe the search results, studies screened, studies included and excluded, and reasons for exclusion.

### Data charting

In line with the sixth stage of the scoping review process, data extraction was performed by one author (RW) and checked by remaining authors (JC, WC, JR). An initial data extraction form was piloted and revised during the charting process, consistent with the evolving nature of a scoping review. Data extraction included: study authors, year of publication, country, design, sample, main results and demographic profile, reason for presentation, patient and service characteristics, ED care delivery, current models of care, patient perspectives and outcomes. Quality appraisal of articles in scoping reviews is variably performed, [14] with the process widely deliberated as the intent of a scoping review is to map the range of available evidence [10]. For our review, quality appraisal was undertaken to inform the trustworthiness and relevance of recommendations generated from this review. Therefore, the quality of

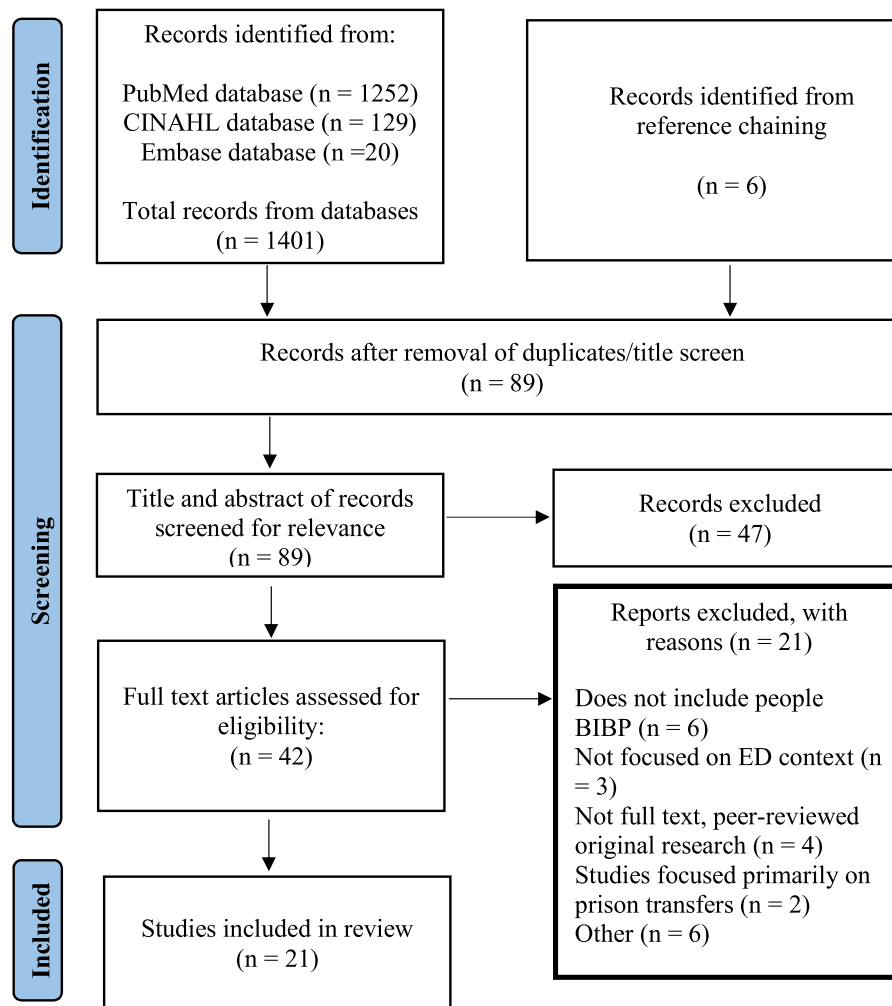


Fig. 1. Modified PRISMA flow diagram based on the Preferred Reporting Items for Systematic reviews and Meta-Analyses extension for Scoping Reviews (PRISMA-ScR) [12].

the research was appraised using the Mixed Methods Appraisal Tool (MMAT) [15]. Studies were initially screened for: i) research question clarity and ii) the appropriateness of the collected data in addressing the research question. Additional MMAT criteria were applied thereafter. The MMAT appraisal of all included studies was performed by two authors (RW, WC).

#### Data analysis

In line with the final three stages of the JBI scoping review approach, an analysis, presentation and summary of the evidence was undertaken. To facilitate the synthesis of information, we used the PAGER framework (Patterns, Advances, Gaps, Evidence for practice, Research recommendations) to enable a structured and comprehensive approach to synthesis in this scoping review [16]. Each stage was guided by key reflective questions [16], to enhance the rigour of the review.

#### Results

A total of 1401 studies were initially retrieved and transferred into the Covidence [13] program. After duplicates were removed and following a brief title screen, 89 studies underwent title and abstract screening. A total of 42 studies underwent full text review, with 21 studies subsequently included (Fig. 1). Supplementary Table 1 presents a summary of the results. Of the studies included, 19 were quantitative descriptive studies and two were qualitative studies.

The studies were from mainly Westernised countries; nine from Australia, six from the United States, three from Canada, two from Africa and one from China. The MMAT appraisal (Supplementary Table 2) revealed that all included studies adhered to the initial MMAT screening questions and after further appraisal, 15 of the 21 studies scored a 'yes' in all appraisal items and for the remaining six studies, some appraisal items were unable to be ascertained. Each study was reviewed, with data pertaining to sociodemographic, main presentation type, clinical characteristics, and outcomes for people BIBP extracted and entered into a patterning chart (Table 1).

#### Sociodemographic factors

Of the included studies, 67% (n = 14) reported on at least one demographic characteristic of people BIBP. Most people BIBP to the ED were male, with a median age ranging between 27 and 35 years old [2,3,5,17–27]. People BIBP had disproportionate representation of people who identified as 'Black/African American' [17,18,21,22], or Aboriginal and/or Torres Strait Islander [5], whilst ethnicity was mainly identified as 'Not Hispanic or Latino [22,27] or combined with race. [21,24] Marital status was not reported in any studies.

#### Reason for ED presentation

The main reason for ED presentation was reported in 95% (n = 20) of studies, with mental health/psychiatric [3,19,20,28–32] and trauma/injury [8,17,18,21,22,26,27,33] presentations being the most

**Table 1**  
Summary of studies that reported sociodemographic, presentation and clinical characteristics for people BIBP to EDs.

Articles	Sociodemographic factors (people BIBP)			Main presentation type (people BIBP)			Clinical characteristics (people BIBP)				ED care delivery (people BIBP)			Outcomes (people BIBP)			
	Age & Gender	Race/ethnicity	Marital status	Mental health/psychiatric	Substance misuse	Trauma/injury	Triage score <sup>a</sup>	Diagnosis/disorder	Involuntary assessment order	Other <sup>b</sup>	Medical care	Psychological/mental health care	Other <sup>c</sup>	Admitted	Discharged	Died	Other <sup>d</sup>
Abou Arbid et al. (2022)	X	X				X	X	X						X	X	X	X
Arnaert et al. (2021)				X					X			X					
Bahij et al. (2020)				X			X			X				X	X	X	X
Bou Saba et al. (2022)	X	X				X								X	X	X	X
Brownlea et al. (2019)	X	X			X			X						X	X	X	X
Colnaric et al. (2021)	X	X				X								X	X	X	X
Crilly, Zhang, et al. (2019)	X			X			X	X		X		X		X	X	X	X
Daniel et al. (2021)				X								X					
Harada et al. (2021)						X							X				
Hoffman et al. (2021)				X								X					X
Jones et al. (2019)	X (not age)													X			
Liu et al. (2022)	X (not age)			X													
Meurk et al. (2022)	X			X													
Purcell et al. (2020)						X										X	
Purcell et al. (2021)	X					X								X		X	
Sakr et al. (2021)	X	X				X								X	X	X	X

(continued on next page)

Table 1 (continued)

Articles	Sociodemographic factors (people BIBP)			Main presentation type (people BIBP)		Clinical characteristics (people BIBP)			ED care delivery (people BIBP)			Outcomes (people BIBP)					
	Age & Gender	Race/ethnicity	Marital status	Mental health/psychiatric	Substance misuse	Trauma/injury	Triage score <sup>a</sup>	Diagnosis/disorder	Involuntary assessment order	Other <sup>b</sup>	Medical care	Psychological/mental health care	Other <sup>c</sup>	Admitted	Discharged	Died	Other <sup>d</sup>
Say et al. (2021)				X				X	X					X	X		X
Ward et al. (2022)	X	X		X			X		X	X			X	X	X		X
Wardrop, Ranse, et al. (2021)	X	X					X	X	X					X	X		X
Wardrop et al. (2022)	X	X					X	X	X					X	X		X
Winter et al. (2021)	X	X				X	X			X							X

BIBP, brought in by police; ED, emergency department.

<sup>a</sup> or equivalent including: Australasian Triage Scale; Injury Severity Score; Canadian Triage Acuity Scale; Malawi Trauma Score.

<sup>b</sup> includes: Injury intentionality as defined by the Centers for Disease Control and Prevention Injury Intentionality Matrix; International Classification of Diseases (ICD), ninth edition, Clinical Mechanism of Injury E-Code; Location where injury occurred; whether patient used alcohol/drugs; comorbidity; Nature of injury as defined by the Barell Injury Diagnosis Matrix; ICD-9 body region as defined by the Barell Injury Diagnosis; Glasgow Coma Score (GCS); Systolic blood pressure; trauma designation level; signs of life; transfusion blood; trauma type; injury intentionality; mechanism of injury; nature of injury; body region; presumed cause of intoxication; contributory circumstances.

<sup>c</sup> includes: Restraint (physical/chemical/mechanical).

<sup>d</sup> includes: Transferred to other destination; left against medical advice/discontinued care; return attendance within 24 h; police custody; seen within Australasian Triage Score time; time to be seen; ED length of stay; ED wait time; self-discharged; voluntary/involuntary psychiatric admission; no assessment by mental health clinician worker; after assessment, no mental health issue identified; discharge with GP follow up/mental health crisis team follow-up in the community.

commonly reported. Four studies identified more than one reason for presentation/co-occurring condition including intoxication and chronic disease [24], trauma/injury and the presence of non-specific comorbidity [18,27], and injury related to methamphetamine use. [25] For presentations identified as trauma/injury, assault was identified as the main type for people BIBP [17,18,22,27,33]. Substance misuse for people BIBP was reported in two studies, and involved alcohol intoxication [24] and methamphetamine use [25].

### Clinical characteristics

Regarding the clinical characteristics of people BIBP to the ED, a triage score (or equivalent) was the highest reported clinical characteristic, identified in 52% (n = 11) of studies. Australian studies reported on the Australasian Triage Scale (ATS) which denotes the urgency of a presentation, on a scale of 1–5 where 1 denotes the most urgent and 5 denotes the least urgent [34] and US studies reported on the Injury Severity Score (ISS), which provides a score for patients with multiple injuries ranging from 0 to 75, with major trauma defined as > 15 [35]. One African study reported on the Malawi Trauma Score, which includes a score between 2 and 32 based on presenting mental status, injury location, radial pulse presence, age and sex; a score of 25 indicates a 50% probability of mortality [36]. In Australian studies, an ATS of 3 [2,3,5,20] was the highest reported triage category for people BIBP, whilst studies from the US reported the most frequent ISS score was ≤ 15 [17,22,27] or < 16 [18] or between 9 and 25 [21] and one African study reported a Malawi Trauma Score of 8 [26]. Other triage score-equivalents were subsumed within other modes of arrival, [32] therefore specific scores for people BIBP were unable to be identified [29]. A primary diagnosis/disorder was reported in 43% of studies (n = 9) with the highest prevalence in each study including open wound injury, [22] fracture, [18,27] chronic alcohol use [24] and psychiatric illness/mental and behavioural disorders [2,3,5] in people BIBP. The remaining diagnoses/disorders were subsumed within other modes of arrival [29,32] therefore not specific to people BIBP.

Additional clinical characteristics included an involuntary assessment order, reported in 38% of studies (n = 8) [2,3,5,20,28,30–32] as was 'other' types of clinical characteristics for people BIBP [17,18,20–22,24,26,27]. For 'other' types of clinical characteristics, a number of these details pertained to injury/trauma presentations such as injury characteristics (intentionality/mechanism/type/nature/body region) [17,18,21,22,26,27], with other clinical characteristics including elements such as the Glasgow Coma Scale (GCS), [17,18,21,22,27] systolic blood pressure [17,18,21,22,27], the presence of comorbidity, [17,18,22,27] signs of life [17,18,27], cause of intoxication [24] and pre-hospital sedation/restraint [20]. Only five studies reported characteristics of the ED itself, [18,22,27,30,32] one on ED models of care delivery [30] and no study reported care or experience/s from the patient perspective.

### Care delivery

The type of care delivered was reported in 19% (n = 4) of studies. Of these, nursing/medical care was reported most frequently [3,8,20] and included observations (heart rate, blood pressure, respiratory rate, GCS, temperature) and tests/procedures (alcohol breath test, medications, radiology, blood sugar level, pathology, electrocardiogram, alcohol withdrawal scale, sutures, plaster). Psychological/mental health care was limited, identified in one study as a 'mental health requirement', [3] and another reporting the presence of 'mental healthcare'. [28] Other care delivery included restraint (physical/chemical/mechanical) [3] and type of sedation used [20].

### Outcomes

The outcomes for people BIBP were reported in 71% (n = 15) of studies. Of these, hospital admission was the most widely reported outcome, with proportions ranging from 2% to 89.4%. [2,3,5,17,18,20,22,24,26,27,29,32] Death was reported in 10 studies (48%), ranging from 0% to 28.4% across studies. [2,5,17,18,21,22,24,26,27,33] A discharged (from the ED/hospital) status was also reported in 48% (n = 10) of studies, with 5.6% to 57.1% of people BIBP reported to be discharged across studies. [2,3,5,17,18,20,22,24,27,32] For studies that reported an 'other' outcome, this included transfer to the operating room, [22,27] left against medical advice/transferred, [2,5,17,22,24,27] return attendance within 24 hours, [24] time to be seen/length of stay, [2,3,5,20,31,32] police custody/community follow up [20].

### Themes

The synthesis of results into the PAGER framework (Table 2) assisted our ability to identify four themes that emerged from the data: routinely collected data is used to describe people BIBP to the ED, a focus on mental health care, the relationship between care delivery and outcomes, and the role of police in providing emergency care. These themes are subsequently discussed below, with application to practice and research.

### Discussion

#### *Routinely collected data is used to describe people BIBP to the ED*

Current evidence on people BIBP to the ED is largely sourced from routinely collected data. Whilst this has advanced some understanding of people BIBP, it is unclear whether other socio-demographic factors and broader social determinants of health (i.e., cultural aspects/housing/employment status) have contributed to the health, need for ED presentation, and police presence for people BIBP to the ED. Furthermore, people BIBP to the ED tend to be from three main locations; short-term custodial settings, long-term custodial settings (prisons) and community settings [3]. Recent single site Australian research identified that people BIBP from short-term custodial settings were transported to the ED for mainly physical emergencies, whereas people BIBP from the community were mainly for behavioural emergencies [3]. Discrepancies between presentation types based on location reinforces a need to investigate the broader social determinants of health for people BIBP, to understand and inform health care requirements.

Maximising population health outcomes through addressing social determinants of health is a key focus for international governments. People BIBP to the ED have high levels of unemployment [4,24,38,39] and unstable housing conditions [4,40], indicating a need to understand these aspects further to potentially influence health inequities and outcomes. In a World Health Organization report, recommendations and guidelines of intergovernmental organisations and internal bodies were evaluated to identify policy options that would best address social determinants of health and health inequities for all individuals [37]. Amongst policy options were improving access to fair employment/work and improving the living environment [37]. The World Health Organization as well as various national bodies such as the National Health and Medical Research Council are increasingly focusing on the role of social determinants and ways to improve health inequity, including the improvement of the health of Aboriginal and Torres Strait Islander people [41]. Previous research has identified that Aboriginal and/or Torres Strait Islander individuals BIBP to the ED account for 22% of all people BIBP, versus 9% of people arriving by ambulance and privately-arranged transport [5]. Disproportionate representations of

**Table 2**  
PACER framework application (adapted from Bradbury-Jones et al., 2021) [63].

Pattern	Advances	Caps	Evidence for practice	Research recommendations
Routinely collected data is used to describe people BIBP to the ED.	Routinely collected data has been used to provide insight about some common sociodemographic factors for people BIBP to the ED.	There is limited evidence of broader sociodemographic aspects (including originating from community versus custodial settings) for people BIBP to the ED, which may help to understand health inequities and disparities faced by people BIBP.	Collecting sociodemographic information of people BIBP to the ED may assist in the appropriate linkage/referral to community services to reduce the need for future ED attendance.	To carry out mixed-methods longitudinal research that examines social determinants of health and health care needs of people BIBP to the ED to better understand their health care needs. Such research should also include an examination of these differences based on presentation from custodial settings versus community settings.
A focus on mental health presentations.	There is some evidence that people BIBP to EDs tend to be mainly for mental health-related problems.	There is a paucity of research that examines the effectiveness of mental health-related interventions for people BIBP, including from a patient perspective.	Including the patient early in the planning of their mental health care requirements assists in developing targeted, effective strategies for mental health care in the ED.	To carry out collaborative mental health care planning implementation and evaluation research with translation and feasibility assessments across out of hospital and ED contexts.
The relationship between care delivery and outcomes.	Retrospective data has been used to provide some evidence regarding outcomes of people BIBP to ED. Disposition from the ED is the most frequently reported outcome, with hospital admission the most reported with the widest variation in proportion.	There is a paucity of research surrounding care delivery details for people BIBP, and how care delivery affects patient outcomes.	Development and implementation of validated care delivery models for people BIBP to the ED that may influence patient outcomes.	To undertake qualitative research that seeks to understand care delivery requirements of people BIBP from the point of view of patients BIBP and ED clinicians and police, which will assist in informing ED care delivery models for people BIBP.
The role of police in providing emergency care.	There is growing evidence surrounding police transport of people with mental health problems and injuries to the ED.	There is a need to understand how police transport of people for mental health and trauma reasons is associated with outcomes.	Joined-up approaches between police and ambulance in instances of mental health and trauma may facilitate more efficient and timely care in the ED and thus, influence patient outcomes.	To undertake prospective longitudinal research that examines current police protocol/procedure for transport of people with mental health and trauma problems. This may inform future pathways which support police in providing emergency care in the pre-hospital environment.

BIBP, brought in by police; ED, emergency department.

Aboriginal and Torres Strait Islander individuals in people BIBP to the ED and a national need to examine culture-specific social determinants of health signifies a requirement for further research to inform culturally specific ED service provision. Our review also identified a disproportionate representation of 'Black/African American' populations BIBP to the ED within other countries, substantiating an international need to examine cultural aspects and their association with being BIBP. Undertaking mixed-methods longitudinal research to examine the wider social determinants of health for people BIBP may highlight specific health inequities, thus helping to inform targeted care strategies in the ED and community services that may reduce health disparities.

#### *A focus on mental health presentations*

In this review, mental health problems were the most common reason people were BIBP to the ED. For some, [3,20] chemical/physical restraint was required in the ED yet the delivery of psychological/mental health care was only reported in two studies [3,28] which may be the result of varied interpretations of what constitutes mental health care and clinical reporting discrepancies, amongst other reasons. Police are recognised for their prevalent and important role in responding to cases of mental illness in the community, often acting under the guidance of an involuntary assessment order [5]. Under chapter 4A of the Public Health Act (2005), an Emergency Examination Authority permits police to detain and transport an individual to a place of safety if they believe there is an immediate risk of harm due to a disturbance in an individual's mental capacity [42]. Eight studies in our review identified the need for an involuntary assessment order, with the ED utilised as the place of safety in all studies. However, the ED is regarded as being ill-equipped for managing mental illness, [43] with some reported instances of restrictive practices (mechanical/chemical sedation) detrimental to patient outcomes [44]. Furthermore, limitations in design, resourcing and overall care delivery for people brought into the ED with a mental health problem emphasises the need for community and alternative places of safety [45]. Alternative places of safety (beyond EDs) such as stand-alone psychiatric units bypasses the nuances of traditional EDs and their inherent challenges in managing mental illness, [45] and may be one consideration in lieu of EDs if appropriate. Alternative places of safety that support the time-intensive care requirements amidst legal considerations of people with mental health problems BIBP warrant investigation and evaluation.

There is a need to improve current practices within a system that is currently 'unsustainable' (p. iii) [46]. Stakeholder involvement in mental health care research is articulated in national initiatives, [47] with the lived experience of people who have experienced a mental health problem shown to positively impact patient outcomes [48–50]. Perspectives of care requirements from people BIBP were absent within the current review, which may be due to legal considerations of detainment including criminal procedures for some people. The removal of patient autonomy due to police presence coupled with high levels of vulnerability [9] and mental health care requirements highlights the need to understand the mental health care needs of people BIBP and how these can be supported across ED and policing contexts.

Development and sustainment of integrated approaches across systems is reinforced by the Australasian College of Emergency Medicine, with a reported need to 'build and sustain a functioning, integrated mental health system across the whole spectrum of care' (p. iv) [46]. Collaborative care plan development is one approach to include patient perspectives with the ability for application across contexts [51]. Collaborative care plans are a critical component in the space of mental health, with shared decision making between nurse and patient creating real and meaningful recovery-orientated

experiences [52,53]. Such an intervention could be developed in the ED setting when people are initially BIBP and adapted across policing services to support police in decision making surrounding ED attendance. Yet, implementation across contexts requires a longitudinal, multisite approach, with education/training and empirical evaluation. As the ED is recognised as the 'gateway to higher levels of medical care' (p. 876), [54] there is an inherent responsibility to provide directed and integrated services that extend beyond the ED setting.

#### *The relationship between care delivery and outcomes*

Care delivery for people BIBP to the ED was reported in only 19% of studies, with hospital admission the highest reported outcome. Further still, rates of hospital admission ranged from 2% to 89.4%, possibly reflective of the study sample, data collection/reporting nuances, variation in hospital admission criteria or limited models of care. People BIBP are recognised as having resource-intensive care requirements, often amidst co-occurring medical and substance use conditions, [3,24] indicating complex health care requirements that may necessitate hospital admission. Yet, in a recent Australian study that examined mortality data of patients admitted to hospital, people with mental health conditions, injury and poisonings (including self-harm), had a greater risk of suicide after discharge, compared to people with physical conditions [55]. Whilst mode of arrival was not included, [55] the association between mental health conditions/substance use and people BIBP is well-established, with an estimated 33%–63% of people in police custody experiencing mental health problems [56,57] and 56% of people with mental health problems also using illicit substances [58]. There is a need for further research to better understand the decision-making surrounding admission and discharge, given the limited care delivery details reported including mainly medical, non-specific interventions such as vital signs and tests/procedures [3,8,20]. Beyond a need to further understand care delivery in the ED for people BIBP and the relationship to admission, an opportunity exists to inform care delivery models to influence outcomes for people BIBP.

Currently, there is a paucity of evidence on models of ED care tailored to people BIBP. Further examination of care requirements from ED clinicians and integration of emerging literature that identifies factors predictive of outcomes for people BIBP [2] may assist in informing the development of specific care pathways/models of care for people BIBP to the ED. Qualitative inquiry with ED doctors and nurses who care for people BIBP to the ED may help to inform current models such as the Mental Health Liaison Nurse (MHLN) who provides safe and responsive care for people with mental health problems [59]. The ability to adapt current models of care such as the MHLN may be an economically viable and sustainable endeavour to concomitantly address a research and practice gap whilst influencing outcomes for people BIBP to the ED.

#### *The role of police in providing emergency care*

Several studies reported on police transport of people with injuries/trauma and mental health concerns. For people with injury/trauma transported by police, studies identified an increased chance of survival, [18,21] no difference in survival, [17,22,27] or an increased risk of mortality [26,33]. For people with mental health concerns transported by police, a discharge disposition was the highest reported outcome [3,20]. Varied albeit limited insight into the outcomes of people BIBP to EDs may reflect a disparity across policing procedure and ED resources/operations [60]. The ability to draw firm conclusions is limited as people BIBP to EDs usually comprise a small proportion of overall ED presentations, represented as 0.9% of all ED presentations in a recent study [5]. Nonetheless, police are often the first responders on a scene, [61] thus uniquely



positioned to influence outcomes prior to ED presentation. In the United States, the ‘golden hour’ concept whereby early intervention in critically ill patients determines mortality is used to support police transport of critically ill individuals [18]. Furthermore, police transport of the critically ill is embedded within policy in some parts of the US such as Pennsylvania, [62] indicating the potential to facilitate pre-hospital joined-up approaches between police and ambulance to foster positive patient outcomes. However, longitudinal multi-site research is required to understand current police operational practices in transporting people with traumatic/mental health issues to identify the association between mode of arrival and patient outcomes. From here, pathways which facilitate early communication and intervention between police and ambulance may be designed.

#### Limitations of this review

There are several limitations to this review. First, literature was mainly from Western countries, limiting international contextualisation. Second, whilst we used a range of terminology to capture international variations, some studies may have been missed. Third, the available studies were limited in their level of detail pertaining to people BIBP to EDs, which limits our ability to make specific interpretations and recommendations for health care delivery across contexts. Fourth, the review was also limited to peer-reviewed publications and did not explore grey literature.

#### Conclusion

There has been a range of advancements in what is known about people BIBP, since the previous review. These include some demographic characteristics, the prevalence of mental-health related issues and the role of police in transporting people to the ED. However, there also remains several gaps that are pertinent in understanding people BIBP to the ED, their care and associated outcomes. People BIBP are faced with a complex health care journey and require targeted and sustained interventions to optimise outcomes. Recommendations highlight the need for future research both within and outside of the ED context, to design and implement quality initiatives that improve the care for people BIBP. Specifically examining the social determinants of health for people BIBP to the ED including their perceptions and experiences of health care, creation of across-system collaborative care plans, qualitative inquiry into nurses and doctors experiences and pre-hospital police intervention may facilitate integrated and whole of system approaches to the care of people BIBP to the ED.

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#### Conflict of Interest

- All authors have contributed substantially to this piece of work including inception, manuscript writing, revision and approval of the final manuscript submitted.
- This manuscript has not previously been published. Similarly, this manuscript is not under consideration elsewhere. The institution

(s) in which the work was performed and the respective departments are annotated in the title page of this manuscript.

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#### Appendix A. Supporting information

Supplementary data associated with this article can be found in the online version at [doi:10.1016/j.auec.2023.01.004](https://doi.org/10.1016/j.auec.2023.01.004).

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