



Review

Health needs of detainees in police custody in England and Wales. Literature review



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ABSTRACT

The aim of this systematic is to review and analyse the literature concerned with the health needs of detainees in police custody in England and Wales.

The healthcare of detainees in police custody is regulated by the England and Wales Police and Criminal Evidence Act 1984. The Faculty of Forensic and Legal Medicine of the Royal College of Physicians also sets quality standards for the provision of custodial healthcare. The provision of healthcare in custody presents a number of challenges including the patient group, the setting and the overlap between the legal and medical concerns that are addressed by the medical team. Currently, care to the detainees in custody is delivered by a mixture of private organisations, police-led forensic medical services and the NHS.

A search of the PUBMED, EMBASE and PsycINFO databases undertaken using the search terms: (*police custody*) OR (*detainees*) OR (*police detainees*) yielded 830 publications. All of the titles were screened to identify potentially relevant publications concerned with the health needs of detainees in police custody in England and Wales. There were no design specific criteria set for inclusion of the studies in this literature review. 77 articles were initially identified as relevant and obtained in full. After further analysis 28 publications were included in this literature review.

A total sample of over 12,000 detainees was examined in this literature review. Approximately 20% of detainees seen by health care teams suffer from psychiatric conditions. On average, 50% of patients claim that they have problems with drugs and alcohol. Physical health conditions are also highly prevalent with up to 74% of detainees requiring regular medication. Forensic medical issues included the management of detainees who were restrained using handcuffs, irritant sprays and TASER. Detainees who are suspected of internal drug concealment also require intensive medical input. Injury documentation in custody is often requested for both the police officer and detainees.

Current literature indicates that mental health problems including substance misuse and physical conditions are highly prevalent among the custody population and require both emergency and routine care. The current quality of the health-care services has been discussed and the need for improvement has been indicated by a number of agencies. Recent attempts have been made to incorporate the custodial services into the general structure of the NHS, aiming for more robust governance and standardization of services. Implementation of a routine health promotion service in custody has also been discussed which can be integrated into the general health care provision during detention.

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1. Introduction

Detainees held in police custody within England and Wales have a substantial number of rights including the right for healthcare. The Police & Criminal Evidence Act 1984 provides a legislative

framework for the powers of police officers to combat crime in both England and Wales. Code C of the act is specifically concerned with healthcare provision in the custodial setting; it requires the police officer to seek medical advice if the detainee appears to be suffering from a physical condition, is injured or has mental illness.¹ The European Committee for the Prevention of Torture and Inhuman or Degrading Treatment or Punishment (CPT) also attaches particular importance to the right of a detainee to access to medical care. This, in the CPT's opinion, is one of the most fundamental safeguards

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against the maltreatment of detainees and prevention of deprivation of liberty.²

There is no universal model of healthcare provision for detainees whilst in custody in England and Wales, as it is commissioned regionally from a number of privately owned organisations as well as provided by NHS or police led services. The health care service also varies between doctor led services, doctor/nurse services, doctor/nurse/paramedic services, doctor/emergency care practitioner services (who may be nurses or paramedics) and doctor/paramedic services.³ However, most commonly the custodial healthcare team includes a Forensic Physician (FP), also known as Police Surgeon, Divisional Surgeon or Forensic Medical Examiner (FME) and “Healthcare Professional (HCP)”.³ The HCP is a clinically qualified healthcare practitioner who has often undergone paramedic or nurse training and is working within the scope of practice determined by their professional body.³

Healthcare needs in custody are usually within the expertise of a primary care setting. These include management of chronic medical conditions, initial management and referral for emergencies, drug and alcohol misuse, mental health disorders and injury management.³ There are also some additional health needs that may be related to the reason for police detention for example drug concealment within the body or “body-stuffing”, or as a result of the policing procedures such as the use of TASER, handcuffs or use of irritant sprays (IS). Management of these forensic health concerns may require additional expertise specific to the custody setting and the population group seen in police custody. The forensic needs and health care needs can often overlap, hence a member of the health care team is required to advise the police on detainee’s fitness for detention, interview, charge, transfer and release.

In recent years there has been an increased emphasis on the health needs of detainees in police custody aiming to enhance its’ quality and improve access to healthcare for the custodial population.⁴ Therefore, this literature review aims to review and analyse the literature concerned with the health needs of detainees in police custody in England and Wales. The findings will also be compared to the data from international publications with the view to provide the most up to date information for practitioners who are working in custody and other healthcare services who, might be working with this vulnerable group of people both in hospital and in the community.

2. Methods

A search of the PUBMED, EMBASE and PsycINFO databases undertaken using the search terms: (*police custody*) OR (*detainees*) OR (*police detainees*) yielded 830 publications. All of the titles were screened to identify potentially relevant publications concerned with health needs of detainees in police custodies in England and Wales. There were no design specific criteria set for inclusion of the studies in this literature review aiming to gather all available data. 77 articles were initially identified as relevant and obtained in full. To assess the possibility of multiple publications of similar studies from the same cohort, studies were judged to be from the same cohort if they had overlapping recruitment sites, similar patient characteristics and similar study data. Where multiple publications were identified, the data was taken from the first publication selected by the literature search. Following further analysis of the full text articles 10 articles were excluded as the studies were based outside England and Wales, 16 and 18 were concerned with service provision issues and non custody population respectively, 5 articles were multiple publications. 28 publications were included in this literature review. The excluded articles, however, were used to inform the background, interpretation of data and the discussion.

3. Findings

28 relevant publications with a total sample of over 12000 detainees were included in this literature review. Table 1 provides a summary of the publications.

On average 26.9% of detainees entering police custody are assessed by healthcare team.³

Psychiatric conditions including substance mis-use appear to be a highly prevalent health problem amongst the custody population requiring both routine and emergency healthcare. A recent report published by the Independent Police Complaints Commission aimed to examine ‘near misses’ (a near miss was defined as any incident which resulted in, or could have resulted in, serious illness or self-harm of a detainee) in police custody over a one year period has reported that 46% of “near misses” were around attempted suicides and self-harming behaviour while only 14% were due to medical emergencies.⁴ A high rate of mental health and substance misuse problems was also highlighted by all of the publications included in this literature review.

Physical health conditions commonly seen in police custody seem to be more prevalent than in the general population of the same age. Chronic health conditions were more often the reason for consultation when compared to the general practice setting.³ The key study highlighting the scale of health problems is designed by Payne-James (2010).³ It aimed to examine general health issues and how well they are managed. It included a sample of 168 detainees assessed by FMEs in police custodies in London. 56% of detainees had active physical problems and 75% were on prescribed medications. Physical conditions included diabetes, asthma, epilepsy and cardiac problems.³ Findings from Payne-James’ study were further supported by McKinnon (2010)¹⁰ and Carter et al.’s (2010)⁹ research that also highlighted the scope of the problem. However, Carter et al.’s (2010)⁹ data mainly outlines conditions that require hospital transfers that are often more serious and need to be investigated and treated in hospital. It aimed to audit the timing, number and case mix of hospital transfers for medical assessments. It examined 12,015 records and identified 188 hospital transfers mainly resulting from head injury, overdose, and loss of consciousness, chest pain and acute breathing problems.⁹ Bussutil et al.’s (1990)³⁰ survey which assessed regular medication use by detainees that were in custody in Edinburgh, further supported evidence of a higher rate of health problems amongst the custodial population when compared with the general population of the same age.

Health needs that arise from forensic issues such as the nature of arrests and the nature of the crime are also prevalent amongst the custody population. For example, use of IS can cause skin and eye irritation for up to 6 h following deployment and may require medical attention.⁶ Application of handcuffs may also cause neurological symptoms.²¹ Detainees that are suspected of internal drug concealment or “Body-stuffing” presents a number of significant health concerns and puts a detainee at a high risk of death.^{9,17} Management of “body-stuffers” in a custody setting require continue medical input.^{9,17}

4. Discussion

Current literature concerned with the health needs of detainees in police custody supports the fact that health problems are very common amongst the police custody population. Mental health conditions seem to account for the majority of the workload. Approximately 20% of FME assessed patients have had mental health concerns or have suffered from depression,^{10,11} while a third of medications possessed by detainees at arrest are primarily indicated for management of psychiatric

Table 1

Summary of publications included in “Health needs of detainees in police custody in England and Wales” literature review.

Name	Aim	Methodology	Conclusion
Young et al. 2013 ⁵	To investigate: (a) prevalence of LD and/or ADHD and their relationship with conduct disorder (CD), (b) impact of these condition on staff resources, (c) effectiveness of custody assessment in identifying the conditions, and (d) the use of 'Appropriate Adults'	200 custody detainees were interviewed and screened for ID, ADHD (current symptoms) and CD.	The screening rates for ID, ADHD and CD were 6.7%, 23.5% and 76.3%, respectively. ADHD increased staff resource after controlling for CD and time in custody. Reading and writing difficulties, mental health problems were identified using custody risk assessment tools, but the tool is not effective to assess the need for an Appropriate Adult. The conditions increased the demand on staff resources.
Payne-James et al. (2013) ⁶	To document the effects of SC and PAVA irritant sprays (IS), by symptom assessment and medical examination, within a few hours of deployment.	99 performers were completed to identify the nature of the arrest, the nature of exposure to the IS, the type of the IS, the symptoms experienced and the medical findings	2.8 ± 2.33 h (mean ± SD) – mean time of assessment post exposure. Most frequent sites of application were face and scalp (<i>n</i> = 78) and the eyes (<i>n</i> = 32). Most common symptoms: painful eyes (<i>n</i> = 68); red eyes (<i>n</i> = 58); runny nose (<i>n</i> = 59); lacrimation (<i>n</i> = 55); nasal discomfort (<i>n</i> = 52); skin irritation (<i>n</i> = 49); and skin burning (<i>n</i> = 45). Most common medical findings were: conjunctival erythema (<i>n</i> = 34); skin erythema (<i>n</i> = 21); and rhinorrhoea (<i>n</i> = 20).
McKinnon et al. (2013) ⁷	To assess the efficacy of custody healthcare screening for mental disorders.	248 detainees were included into the study and examined for presents of psychiatric illnesses	96 (39%) of detainees presented with mental health disorders during the interview. The police screening procedure only identified 50 detainees at risk of psychiatric vulnerability. The most common incidents: attempted suicide/self-harm (46%); drugs consumption or possession (33%); medical conditions (14%) and alcohol consumption (7%). Recommendation to improve the training of custody staff
Independent police complaint commission (IPCC) (2012) ⁴	Examined 'near misses' in police custody. A “near miss” (an incident which resulted in, or could have resulted in, serious illness or self-harm of a detainee)	Data collection was via reporting of incidences by FMEs over one year period in London, with further interviews to explore the circumstances of the incidents. 124 incidents were reported.	68% of detainees exhibited a range of mental illnesses; Police referred 35% detainees to FME for mental health concerns and in 14% for appropriate adult vs 42% and 30% respectively referred by HCP.
Rapley et al. (2011) ⁸	To compare police lead screening vs HCP lead screening in identifying detainees requirement for health care input.	In 72 cases “booking in” police risk assessment tool was compared to a HCP enhanced mental state examination for recognizing mental health conditions in custody.	Cases of head injuries, overdose and poisoning, unconscious patients, collapsing patients, chest pain and breathing problems were the most common causes requiring hospital transfer.
Carter et al. (2010) ⁹	To examine timing, numbers and case mix of hospital medical referrals and to review custody procedures for emergencies management.	12,015 detainee records were examined retrospectively identifying 188 hospital transfers.	Injury, epilepsy and asthma are the most common physical conditions; depression and self-harm are the most common psychiatric complaints. Drug and alcohol misuse are also highly prevalent.
McKinnon et al. (2010) ¹⁰	To examine the health problems and “mental vulnerability” of detainees and the efficiency of current health screening procedures.	The data collection included examining the records of 307 detainees from 5 custodies in London who were referred to FME for assessment.	Current custodial screening is not fully effective.
Payne-James et al. (2010) ¹¹	Examination of the general health issues in police custody and how well this is managed.	168 detainees assessed by FMEs in London custodies. A structured questionnaires recording demographic characteristics, substance misuse, General Practitioner (GP) registration and reason for FME assessment was applied.	56% of detainees had active medical conditions and 75% of those were on prescribed medications. The most prevalent conditions included mental health, asthma and depression problems. Appropriate medical care in custody is required to reduce the risk to detainees and others coming in contact with them.
Scott et al. (2009) ¹²	To examine outcomes and psychiatric assessment of a population of female detainees referred to Criminal Justice Liaison and Diversion Services (CJLD).	217 female records were examined. Participants were police referrals following a routine questionnaire assessment for any health problem requiring FME attention.	91% of female detainees assessed by CJLD were suffering from mental health problems; Custody services for female detainees

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Table 1 (continued)

Name	Aim	Methodology	Conclusion
Olubokun J (2008) ¹³	To highlight problems of vulnerable adults, especially those with a mental disorder as defined in section 1 (2) of the Mental Health Act 1983.	Case study	were sufficient but improvement in gender-specific alcohol misusers services is advised. These service users already experience some form of discrimination within the wider society and have access to community services. The role of the appropriate adult is fundamental.
Norfolk (2007) ¹⁴	To discuss a case and to review the literature on managing body-stuffers in police custody.	Case study of a 50-year old female body-stuffer who died more than 10 h after swallowing a plastic wrap of cocaine and	If cocaine is securely wrapped the asymptomatic detainee is fit to be detained for 6 h after ingestion; If cocaine is not securely wrapped or the packaging is not known 24 h post ingestion hospital observation is required.
Scott et al. (2006) ¹²	Describes the mental health needs of detainees with LD	9014 detainee records were examined by MH nurses with a further completion of a mental health assessment of positive cases.	Most of the health needs of LD patients are not met in custody; Many have problems that contribute to criminal behaviour; Significant change in forensic services is required to prevent re-offending behaviour.
Best et al. (2006) ¹⁵	To assess the Near Miss Incident (NMI) in custody with the intention of enhancing detainee care and to assess frequency and pattern of NMIs	134 London FMEs were sent a questionnaire to collect anonymised data about the incidents. 38 NMI were reported by 27 FMEs	The main perceived cause of NMIs included illicit drugs 12/38, alcohol 17/38, deliberate self-harm 11/38, issues concerning searches, checks or rousing 8/38, failure of inter-agency communications 5/38, and resource issues 4/38. In a number of cases more than one factor was involved.
Havis et al. (2005) ⁹	To examine 16 cases of internal drug concealment taken from 43 drug-related deaths in custody in England and Wales between 1997 and 2002.	16 case examination.	8/16 cases have concealed drugs orally at the arrest. 4/16 had symptoms in a public place; 4/16 collapsed on arrival to custody; 2/16 were found collapsed in their cell; Drug toxicity was the most common cause of death (10/16).
Payne-James et al. (2005) ¹⁶	Examination of the current characteristics of drug users and identification of trends of change.	500 of drug mis-users assessed by FME in custody completed structured questionnaires London in 2003. The data was then compared to a previous 1992 survey.	Illicit drug use has significantly increased since 1992; More drug users are currently aware of Hepatitis B prophylaxis and fewer people share needles and use IV routes.
Kashani et al. (2004) ¹⁷	To report a case of intravaginal "body stuffing" that lead to severe methamphetamine toxicity.	A case of a 20-year old female detainee who had concealed drugs in her vagina developed multiple seizures, altered mental status, tachycardia and hypertension.	This case highlights the potential for severe methamphetamine poisoning secondary to intravaginal stuffing. In female detainees suspected of body packing or stuffing, a vaginal exam may be indicated.
Best et al. (2004) ¹⁸	To examine 43 cases of death in custody for potential mental health issues in drug misusers.	Retrospective case examination.	18/43 cases had some mental health symptoms; 5/18 had history of self-harm. 10/18 cases had indications of anxiety or depression.
Greenberg et al. (2002) ¹⁹	Examination of MHA 1983 Section 136 application in 6 police custody suites looking at time scales and outcomes in Devon and Cornwall	178 detainees completed "study questionnaire"; Additional information was obtained from the custodial personnel and the healthcare team.	35% of arrests were due to self-harm, 22% bizarre behaviour and 15% for intoxicated; The average length of detention was less than 8 h; 32% of assessments resulted in hospital admission; Use of this section for drunken behaviour was inappropriate.
Stark et al. (2002) ²⁰	To test the validity of self-reported substance misuse amongst detained people in police custody.	166/205 detainees had urine test for heroin, methadone, cocaine, benzodiazepines, cannabis and amphetamines to compare to self reported history of substance mis-use.	History of daily drug use was confirmed in 75% of methadone, 93% heroin, 98% cocaine, 87% benzodiazepines, 50% amphetamines and 88% of cannabis users; 18% of detainees who denied drug use tested positively for methadone, 25% for heroin, 42% for cocaine, 47% benzodiazepines, 6% amphetamines and 48% cannabis.
Chariot et al. (2001) ²¹	To assess complications associated with handcuff application.	Retrospective study of detainees that developed focal neurological complications of handcuff application.	12 of 190 (6.3%) had distal neurological symptoms possibly due to handcuff application. Potential risk factors for

Table 1 (continued)

Name	Aim	Methodology	Conclusion
Vaughan et al. (2001) ²²	To examine the working practices of four bridewells in Hampshire in relation to mentally disordered offenders (MDOs) and diversion services.	A consecutive sample of detainees not identified by the police as having a mental disorder was screened for of mental health problems and suitability for diversion.	handcuff neuropathy include a long duration of application, the existence of somnolence or acute alcohol intoxication. 7% of detainees had mental disorders and were suitable for MDOs services but were not detected by the police vs 14% in the bridewell without a diversion scheme. Many individuals without a formal mental disorder were inappropriately referred.
Pearson et al. (2000) ²³	Identification and treatment of opiate users at 7 London police stations.	Direct observation of detainees' behaviour during admission into police custody. Brief psychiatric rating scale was completed on all detainees.	4% were identified as opiates users of whom only 47% reported it during custody admission process; Opiate users were detained for longer than non-opiate users; Most FMEs managed the addiction appropriately.
Winter et al. (1997) ²⁴	To investigate factors contributing to suspected offending behaviour by adults with LD at a city police station.	Adult offences were tested for LD using a four-item questionnaire. Non-offenders control group was matched for age, sex and IQ.	Offenders were more likely to have no contact with their father, have forensic family history, been homelessness, use drugs, experience an excess of recent life events, have behavioural problems at school, truancy, been in contact with police services and probation services. It highlights important issues regarding the welfare of mentally ill people who are in contact with the police.
Trigwell (1997) ²⁵	To discuss a case of CS spray being used to restrain a mentally ill person in police custody.	A case study	1.4% was found to be acutely psychiatrically unwell.
Robertson et al. (1997) ²⁶	To determine what factors were associated with the entry of mentally ill people into the Criminal Justice System (CJS).	A sample of detainees from 7 London custodies was observed to detect psychiatric complaints and was followed through the CJS.	The risk factors for entering CJS included the presence of violence at time of arrest, the persistence of (petty) offending and court warrants as a result of the failure to appear at court.
Lyall et al. (1995) ²⁷	To identify the number of people with a possible LD suspected of having committed an offence taken into custody in Cambridge between 18 January 1993 and 18 March 1993.	251 of 992 detainees in custody were screened by the custody officer using a brief questionnaire to assess for reading and writing difficulties and to see if they had received extra help at school or attended special needs schools.	11 (4.4%) attended schools for children with moderate LD; 1 (0.4%) suspect reported attending a school for severe LD; 26 (10.4%) attended schools for emotional or behavioural difficulties or a learning support unit within a mainstream school.
Payne-James et al. 1994 ²⁸	To define characteristics drug mis-users in custody.	150 drug mis-users were assessed using an anonymised structured questionnaire.	77% used heroin; 30% used both heroin and cocaine regularly; 72% were injecting drugs; 32% were being prescribed drugs (e.g. methadone). 4% were HIV-positive; 25.7% were hepatitis-B positive. Only 9.7% were aware that prophylaxis for hepatitis-B was possible. 74% had served previous prison sentences and of those 82% had used class A controlled drugs whilst serving the sentence.
Payne-James et al. (1994) ²⁹	To undertake a prospective study of custody detainees seen by a FME for documentation of alleged assault and associated injuries.	A sample of 150 detainees was recruited who required documentation of alleged assault and associated injuries.	86% were male. Mean age was 29.8 years. 35% said to have unprovoked assaults; 26% stated that injuries occurred at arrest and 21% claimed that police caused the injuries; 29% were victims of assault; 17% as a result of domestic incidents; 8% due to driving incidents; 20% were police officers injured during arrests; Victims of assault were significantly more likely to be female; The head was the most common site of injury. 23% required hospital assessment.

conditions.³⁰ The data for female detainees is even more striking as 91% of female detainees assessed by Criminal Justice Liaison and Diversion (CJLD) services were suffering from mental health problems and were known to the mental health services.¹²

Investigations of 'near misses' in police custody stated that the majority of the incidents, which resulted in, or could have resulted in serious illness or harm to detainees have been due to suicide or self-harm.^{4,15} In addition, one in three arrests under Section 136 of

the MHA are carried out to prevent suicidal or self-harming behaviour.¹⁹

Studies of people with intellectual difficulties in custody indicated that approximately 1%–6.1% of detainees suffered from LD^{5,12} and that the majority of their healthcare needs were not adequately met, consequently contributing to re-offending behaviour.¹² In addition, 23.5% and 76.3% detainees in custody are estimated to suffer from ADHD and Conduct Disorder (CD).⁵ These conditions were also not adequately recognised and not provided with sufficient support from an Appropriate Adult.⁵

A higher prevalence of both acute and long-term mental health problems in custody suggest that police services have an important role to play in supporting mental health services in the community as the police custody is often used as a place of safety and a base for initial assessment during acute psychiatric distress.¹³ However, currently there is very little data that audits these services collaboration. The worldwide data on prevalence of mental health problem in custody is similar to England and Wales. Laing et al.'s (2009)³² study from Australia also reported high prevalence of psychiatric problems in police custody. The study also outlined different models of collaboration between the psychiatric service and the police, which included Crisis Intervention Team (CIT) model based on a specialised police officers team responding to mental health crisis³² and the USA based "Civilian Officer Ride Alone" Model. Both of these models rely on cooperation between the police and the mental health services and safe and efficient transfer of care.³²

Substance and alcohol misuse is also a major health concern in custody, which is often directly related to the arrest. 20% of the arrests are carried out for drunken and disorderly behaviour and 8% for possession of drugs.¹⁶ 15% of detainees under Mental Health Act (MHA) Section 136 had drunkenness or intoxication as a primary concern.¹⁹ In 40% of FME cases, assessment is required because a person has consumed alcohol.³² Payne-James' (2005) survey indicated that 18% of detainees admitted significant alcohol mis-use and 30% reported drug mis-use¹⁶ highlighting a significant increase in substance mis-use from 11% reported in a similar survey from 1992.²⁸ One of the difficulties associated with management of substance misusers in custody is that the self reported history of drug use is not always accurate. For example, 8% of detainees who reported daily heroin use tested negatively for heroine on a urine test. In comparison 25% of detainees who denied heroin use had a positive urine test in Stark et al. (2002) study.²⁰ Accurate history is important as both over-treating and under-treating the addictions may cause significant medical complications. 10% of custody hospital referrals were resulting from an overdose and poisoning and 5% from intoxication.⁹ In addition, 33% of "near misses" cases were also due to drug possession or intoxication and 7% to alcohol intoxication.⁴

Custody detainees also seem to suffer from a high rate of medical conditions including asthma, epilepsy, diabetes^{10,11} and are often on regular medications. They also have a relatively high rate of infections including HIV, hepatitis and tuberculosis.¹⁰ More acute conditions such as head injuries and other injuries, deep vein thrombosis, pulmonary embolism, chest and abdominal pain often required hospital transfer.⁹ Report of "near misses" in custody highlighted that physical complaints accounted for 15% of all cases.⁴ The data from Amsterdam, Australia and Germany also similar outlining that overall physical and mental health of detainees is worse than for the general population of the same age and gender.^{33–35}

Drink-driving is an offence that leads to arrest and detention. However, there is no UK based study that examines this group of detainees. A case-controlled study based in France identified that drink-drivers requested medical examination more rarely but were more frequently alcohol abusers than controls.³⁷ Drivers who did

not complete a breath test more frequently reported assaults and had traumatic injuries than those who provided a sample. This may suggest that drink drivers require a more comprehensive medical assessment; especially those who failed to complete the breath test. Hence, the UK based studies are needed to assess the health needs of this group of people.

Detainees may also require medical attention as a result of policing procedures and the nature of their alleged crimes. For example, after the use of ISs symptoms of eye irritation, nasal and skin irritation can last for longer than 3 h,⁶ which may require health care input. Long duration of handcuff application may cause handcuff neuropathy and may trigger a medical review.²¹ TESA is another device that can be used during the arrest procedure and usually requires medical follow up to assess for potential side effects including burns, intense muscle contraction and cardiac complications.³⁸ Injury documentation in custody is also done by the healthcare team and may also relate to arrest procedures as 26% of detainees claim that they sustained their injuries during the arrest and 21% state that they were assaulted by the police.²⁹ In addition, detainees that are arrested under the suspicion of "body-stuffing" or internal drug concealment also require significant medical input including hospital transfers as they are at high risk of life threatening drug intoxication or death.^{9,17}

The funding of this literature review also suggested that further collaboration and information sharing between the custody healthcare team and the community and hospital based services is needed to be able to provide a more consistent patient care.^{39,40} Health promotion and screening during police custody detention requires further development and could be integrated into routine healthcare services.^{32,43,44} However, the efficacy of current police administered health screening procedures, only picks up a proportion of medical problems and an even smaller proportion of mental health problems.^{7,8,10} Potentially, further research is needed to evaluate the strategies for health promotion in custody and to identify the most efficient ways to deliver services and reach out to a hard to reach population.

In General, a large number of people are taken into police custody every year, the data for 2007 obtained from 22 custodys indicated that 1,573,776 people were held in police custody. Approximately 26.9% or 423,346 detainees that entered police custody had undergone medical assessment.³ The total cost to the taxpayer in England and Wales was estimated to range between GBP 23,876,730 and 63,967,623.³ Therefore, one of the important debates that were outlined in many articles summarised in this literature review included healthcare services improvement and tightening of the forensic medical regulation to create a uniformed model for healthcare provision across all regions.^{3,39,40} This is especially important, as the healthcare services in police custody are now undergoing major changes. Recent attempts have been made to incorporate the custodial services into the general structure of the NHS, aiming for more robust clinical governance and potentially initiating standardisation of services. The full arrangements of service implementation are yet to be determined and may only apply to England and Wales as the NHS is already providing the forensic medical services in Scotland. It is also likely that the practical implementation of the changes will only involve the already commissioned organisations that provide custodial health services. These organisations may also introduce their specifications into the new service arrangements.

In conclusion, this literature review summarised current data on healthcare needs of the detainee in the police custody in England and Wales outlining that the custody population has a higher rate of mental health, addiction and physical health problems than the general population rate of mental health. They are often a hard to reach group and the police detention can be a valuable time where

healthcare can be provided including health promotion and screening advice. There are also a number of medical problems that are associated with arrest procedures that may require forensic medical input including hand cuffs application, irritant spray use, TASAR use and injury documentation, some of these problems may require hospital transfers. Therefore, the finding from this literature review may be useful not only for forensic healthcare providers, but also for community based and hospital services who are often involved in looking after the population group seen in custody.

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