A Review of Quality Improvement [QI] Specialised Interventions in the USA and England to Reduce the Number of Police Mental Health Crisis Detentions and Provide Support to High Intensity Utilisers [HIUs]

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Abstract:

Background:

Key issues in both the USA and England have been how to deal appropriately and effectively with the increasing number of mental health related incidents, in particular 1) the rising number of people with mental health issues detained in police custody until they can be clinically assessed and 2) the negative impact on public safety of the high intensity service users [HIUs] who draw a disproportionate amount of emergency and crisis services and are well known to both police and mental health services.

Aims and objectives:

To provide an overview of what is known about current quality improvement interventions undertaken to address these two key issues i.e. reducing both the number of police mental health crisis detention and the disproportionate amount of emergency and crisis service usage [police, ambulance, ED] from HIUs with complex mental health problems to help inform policy and practice decisions in a context of lack of best evidence and lack of evidence based studies.

Methods:

PubMed and Google Scholar were searched to undertake a narrative synthesis of what is known of the various quality improvement interventions that have been introduced in both the USA and England to address these two key issues. Authors’ knowledge was also used to describe two quality improvement interventions not included/not yet listed in Google Scholar or PubMed.

Results:

In the USA, the dominant approach to reduce mental health police detentions is the CIT model, first introduced in 1988, now increasingly implemented with the addition of the older model of police and mental health co-responder (which go back several decades earlier) to increase its effectiveness. The CIT model has been adopted and spread worldwide despite methodological shortcomings in evaluations. Although a best evidence model with increasing data being gathered on effectiveness, it has yet to become an evidence based model. The Street Triage models introduced in England in 2012 were inspired by the older police and mental health co-responder model. Despite a primarily descriptive approach and methodological shortcomings in evaluations and only a handful of studies published, ST has also been widely adopted and spread within England. Only a handful of interventions have focussed on supporting HIUs with the implementation in England of a unique model but evolving model of integrating a police officer within a multi-disciplinary mentoring style intervention which has now adopted by other English police forces and could

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usefully be adopted by USA police forces.

Conclusion:
More data need to be systematically gathered on effectiveness and analysed against a range of clear success criteria, including a cost benefit analysis of the relative merits of their different variations before and in order that they can be called evidence-based models.

Keywords: Jail diversion, police and community mental health partnerships, Mercy bookings, Section 136 detentions, Crisis intervention teams, Mental health and police co-responder, Street triage, High intensity utilisers of emergency and crisis services.

1. BACKGROUND/OUTLINING THE PROBLEM

In a long-standing context of

- increasing fragmentation of mental health [MH] provision and prevalence of MH problems but decreased financial resources (with resulting additional pressure on the emergency department [ED] and police in the USA [1] and England [2, 3]
- detainees passing through police custody and prisoners with mental health problems and complex needs and disadvantage being over-represented in England [4, 5] and the USA [6 - 8]
- psychiatric morbidity remaining far more common among offenders and prisoners than among the general population in England [4] and the USA [8] a growing challenge for police forces in both the USA [9 - 11] and England [5, 12 - 18] has been how to deal appropriately and effectively with the increasing number of mental health related incidents and in particular addressing two key problems:

  1. The number of people with mental health issues detained in police custody for their own protection or that of others until they can be clinically assessed has greatly increased in both the USA where they are known as ‘mercy bookings’ [6, 8, 19 - 21] and in England where they are known as ‘section 136 detentions’ under the Mental Health Act, 1983 amended 2007 [5, 16, 22, 23]

  2. Many of the individuals in MH crisis who frequently come into contact with police have complex MH problems and multiple needs, and potentially a range of issues such as substance abuse, homelessness, social disadvantages and misdemeanour type of offense. They draw a disproportionate amount of emergency and crisis service, leading to a negative impact on public safety because first responders are overburdened in the USA [7, 24, 25] and England [16, 26]

2. AIMS AND OBJECTIVES

To provide an overview of what is known about current quality improvement interventions undertaken in both the USA and England, to address these two key issues i.e. reducing both the number of police mental health crisis detention and the disproportionate amount of emergency and crisis service usage [police, ambulance, ED] from HIUs with complex mental health problems and to help inform policy and practice decisions in a context of lack of best evidence and lack of evidence based studies.

3. METHODS

Quality improvement initiatives implemented in both the USA and England to address the two key issues of 1) the increasing number of people with MH issues detained in police custody for their own protection or that of others until they can be clinically assessed and 2) the relatively small number of highly intensive service users drawing a disproportionate amount of emergency and crisis service, negatively impacting on public safety have had to be implemented in real world settings and shaped by the specific contexts and circumstances in which they are implemented as well as in an overall context of decreasing resources for both MH and police. Thus, they are very

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A section 136 detention [S136] is a power that police have to take people to a place of safety for up to 72 hours to protect them and others (psychiatric emergency ward, specialist S136 suite or police custody) until it is ascertained (following clinical examination by a registered medical practitioner and interview by an approved mental health professional) whether the S136 remains appropriate, after which necessary arrangements for treatment or care are made. Outcomes are: 1) involuntary admission to a psychiatric hospital under the MHA; 2) voluntary admission to hospital 3) discharge to community follow-up (a community mental health team, crisis home treatment team, voluntary organisation or discharge back to primary care) (Keown et al., 2016).
difficult to evaluate in a rigorous and systematic way [27, 28] as they often do not include control groups and multivariable analysis [27, 28]. For these reasons and also because of a lack of existing systematic reviews regarding these two key issues as well as lack of time and resources, Google Scholar was searched for key policy documents over the last 30 years while the PubMed database of biomedical citations and abstracts from biomedical literature from MEDLINE was searched for relevant studies over the last 50 years. The authors’ personal knowledge was also used for identifying the implementation of two quality improvement initiatives not yet listed in PubMed or Google Scholar.

While systematic reviews of evidence are well developed, they are not always appropriate, either because the quantitative data are not adequate or because the findings to be synthesised are mostly qualitative [29].

Acknowledging that narrative synthesis as part of a systematic review does not rest on an authoritative body of knowledge as is the case for does meta-analysis and that there is no consensus on the conditions for establishing transparency and minimising bias from undue emphasis on particular studies in narrative synthesis, Popay et al. provided guidance aimed to disseminate good practice on how to undertake narrative synthesis in systematic reviews [29]. Rodgers et al. tested this guidance and found that rigorously conducted narrative synthesis could add value to the findings of meta-analysis by increasing transparency, trustworthiness and robustness of findings as well as enabling reproducibility of approach [30].

While the present review is not a narrative synthesis within a systematic review, it attempted to increase transparency and minimise bias [29, 30] with respect to the task of making sense of what is known of the two key issues in order to help policy makers and practitioners taking the necessary decisions in real world contexts in which a scarce resources demand a pragmatic approach rather than the best evidence from randomised controlled trials, control groups and multivariable analysis [27, 28].

4. RESULTS

4.1. Reducing the Number of Police Mental Health Crisis Detentions

In both England [5, 13, 14, 16, 22, 23, 31] and the USA [1, 32 - 34], S136 detentions and ‘mercy bookings’ respectively have been linked to: a lack of training and knowledge of mental health issues; a lack of knowledge both of the availability of treatment options and that whenever possible the least restrictive option should be adopted (i.e. emergency department or detention in the community for assessment rather than assessment in police custody and referral to community mental health services rather than the ED; and lack of capacity in provision community mental health services and ED.

4.2. USA: A More Service Oriented Model That Responds to Mental Illness as a Community Safety and Public Health Concern

Over the past decades, innovative specialised initiatives have been introduced to assist police officers in dealing with people with mental health problems in a crisis situation. These initiatives have taken the form of mental health trained police officers (e.g. Dupont and Cochran [35]; Teller et al. [36], Ritter et al. [28]) or co-responder police office and mental health professional (e.g. Lamb et al. [37]; Baess [38]; Kisely et al. [39]; Rosenbaum [40]).

4.3. Mental Health Trained Police Officers: Crisis Intervention Team [CIT]

4.3.1. Purpose of CIT

The Crisis Intervention Team (CIT) Program is an innovative model of a community initiative that emerged in Memphis, Tennessee, in 1988 to bridge the gap between law enforcement/first responders and the mental health system [41]. CIT was a partnership between local law enforcement agencies, the public mental health system, mental health advocates, mental health patients, their family members and academia with mental health providers involved from the start in the design of the programme [35, 42].

The goals of the CIT programme were to improve officers’ responses to individuals with mental health problems and when appropriate divert them from police custody to mental health services for treatment [43, 44]. One key feature was that officers had to volunteer to undertake a week-long 40 hours training course led by mental health professionals.
covering the signs and symptoms of mental illness, medications, de-escalation skills, detailed knowledge of the local mental health system and available treatment options in the community [45]. Another key feature to ensure full-time availability of the service involved training approximately 20-25% percent of the police force [46, 47]. A further key feature was a central mental health emergency drop-off triage site with a no-refusal policy where CIT officers could transport individuals in crisis for emergency evaluation and treatment so the officer could get back out on the street as soon as possible [32, 48].

4.3.2. Adoption and Spread of CIT Model and Variations in How it Has been Implemented

Since 1988 CIT programmes have been spreading nationally in the USA, with trained officers in more than 325 law enforcement agencies [28] and worldwide, with an estimated 1,000 CIT programme according to CIT International.² While CIT programmes have been widely implemented, there has been a great deal of variation in how this has been achieved [44, 49, 50]. Some police forces have trained police officers but due to mutual distrust and/or difficulty in pooling resources could not establish and sustain an on-going partnership with mental health emergency services and other mental health providers [20, 51].

4.3.3. What Is Known About the Effectiveness of CIT Programmes

4.3.3.1. Outcome of Calls Dealt by CIT Interventions

Early smaller scale studies without control group found very substantial reductions in detentions in police custody [32, 35]. Later large-scale studies using control groups showed no significant difference [21, 36]. However, a more recent large scale study using a control group suggest that CIT officers were associated with a decrease in arrests in comparison to no CIT officers [52]. Notwithstanding the availability of local treatment options, CIT programmes are associated with a greater likelihood of transport or referral to mental health services (rather than detention in police custody or on-scene resolution) [21, 32, 35, 36] and have consistently demonstrated more appropriate and earlier referral to mental health services and to treatment [27].

4.3.3.2. Impact on Knowledge, Attitudes and Beliefs and on Confidence

CIT training is associated with an increase in police ability and confidence to correctly identify individual with mental illness [20, 36, 53 - 55] and enhanced preparedness, confidence/self-efficacy and knowledge of available options [20, 21, 36, 43, 47, 54, 56, 57]. In a large scale study with control group using simulated scenarios, Compton et al. [50] concluded that CIT training resulted in sizable and persisting improvements in diverse aspects of knowledge, attitudes, and skills, especially de-escalation skills.

4.3.4. What is Not Known or Limitations of the Studies of CIT

Since they are shaped by their specific local context, leading to many variations in how they are implemented, the generalizability of the findings has been limited by: the difficulty in evaluating them in a rigorous and systematic way [27, 28]; the lack control groups and multivariable analysis [27, 28]; and the fact that randomized controlled trials are difficult to achieve in a real world setting [58]. While the CIT model has not yet been recognised as an evidence-based practice, it has been acknowledged as having a growing potential to reduce the number mental health detentions in police custody [21, 47]. CIT has spread and been adopted worldwide, and has been identified as a best practice model [49], yet there is little or no research on the effectiveness of the various CIT variations [27, 43].

4.3.5. Police and Mental Health Mobile Co-Responder Model

4.3.5.1. Purpose of Police and Mental Health Co-responder Model

Various Mobile Crisis Intervention Teams (MCITs) or police and mental health co-responder models have emerged pairing of a police officer with a mental health professional to assist police in responding to individuals experiencing mental health crises [54]. Generally, the mental health professional attempts 1) to resolve the situation at the scene, and

if this is not possible, 2) the officer will transport the individual to hospital for assessment in ED department or other specialised centre and/or arrange for admission to hospital and/or refer to community mental health services or 3)

² CIT International is non-profit membership organization whose primary purpose is to facilitate understanding, development and implementation of Crisis Intervention Team (CIT) programs throughout the United States and in other nations worldwide. See http://www.citinternational.org
transport to jail [32].

4.3.5.2. Adoption and Spread of Police and Mental Health Co-responder Model

The police and mental health co-responder models model pre-dates the CIT model (e.g. Ruiz et al. [59]) and is based on partnerships between local hospital, mental health services and police. However, the model on its own never achieved the high profile of the CIT model. How the collaborative teams of police and mental health operate may show considerable variations with pairings used in different capacities. The model is increasingly used as an additional element of the CIT model to the extent that it tends to be categorised as a variation of the CIT model [27, 37, 60].

4.3.5.3. What is Known of the Effectiveness of the Police and Mental Health Co-responder Model

Research into police and mental health co-responder models has been more limited in scope and in methodology (even fewer studies have used control groups) than research into CITs and has focussed primarily on outcomes, cost effectiveness, stakeholders’ satisfaction and to a lesser extent on implementation difficulties. Police and mental health co-responder models have often been found to be effective in resolving crisis situations, linking service users with mental health services [32, 37, 38, 40, 59, 61, 62] and preventing incarcerations thus reducing police and criminal justice costs [37 - 39, 63].

Steadman et al. [32] found that the police and mental health co-responder model was particularly adept at on scene crisis intervention and resolution with 64% of cases against 23% for CIT, but had a lower rate of transporting individuals to treatment location with 20% instead of 75%. It was particularly good at de-escalation without further transportation or the use of coercive procedures to facilitate treatment or to link people with mental illness to mental health treatment resources. It had a higher rate of detention in police custody with 13% instead of 2%. However, some police and mental health co-responder initiatives were effective in resolving crisis situations in the community and successful in diverting individuals with mental illness from incarceration and had similar arrest rates than CIT programmes with 2% of detentions in police custody (e.g. Lamb et al. [37]).

Stakeholders, consumers and family members have shown high satisfaction levels with police and mental health co-responder models [37, 39, 63]. Implementation challenges have been noted, such as limited provision, capacity and staffing issues [32, 62], long waiting times in emergency departments, lack of education and training of police officers about mental health issues leading to lack of appropriate responses [38, 63, 64].

4.3.5.4. What is Not Known or Limitations of the Police and Mental Health Co-responder Model

Evaluations police and mental health co-responder models have tended to be been relatively small scale without control groups focussing on outcomes of the interventions, cost-effectiveness and stakeholder satisfaction. Except in rare instances, implementation difficulties have received little attention [62]. With a few exceptions, how the police and mental health co-responder programmes differ across communities and the effectiveness of their variations has largely not been explored (e.g. Deane et al. [54]; Steadman et al. [32]).

4.3.6. England: New Levels of Service Excellence and New Models of Care

Whereas in the USA, there is a body of research on two main types of specialised programmes to provide a better response to mental health related calls to police and reduce the number of police detentions and ‘mercy bookings’, in England the literature consists mainly in policy based investigations and reports [5, 13 - 15, 31, 65 - 68] and a small number of studies of Street Triage interventions [16, 69 - 74].

4.3.6.1. Key Policy Reports Recommend Ever-Closer Partnership Between Mental Health and Police

Due to increasing concerns and complaints about the rising number of S136 detentions, especially in police custody, in 2008 an Independent Police Complaints Commission (IPCC) report examined the use of Section 136 of the Mental Health Act 1983 (amended 2007) [13]. Key recommendations included: collaboration with community mental health practitioners and other agencies to obtain guidance before making a decision; improving police training about mental health; joint training on partnership working and on which information can legally be shared between agencies; keeping accurate records including key demographics, monitoring S136 detentions; and exploring the experiences and perceptions of S136 service users to identify gaps in knowledge and understanding.

Bradley [14] conducted a review of mental health and the criminal justice system. Recommendations included: developing and training staff as a multi-agency workforce, give patients especially those with borderline personality
disorders and complex needs time to acclimatise to treatment pathways; and model a positive environment by building relationships, developing rapport, trust and honesty and space for patients to express emotion.

Despite these policy recommendations, the number of S136 detentions rose by 12% from 2009 to 2013[31, 65]. Across England and Wales in 2012/13, a total of 21,814 individuals were detained and assessed under S136 with 14,053 assessed in a hospital setting (64%) and 7,761 in a police cell (36%) with 82% not progressing after their clinical assessment to any further Section of the Mental Health Act [75]. The inappropriate S136 detentions were not only the result of a lack of awareness of available options and of the need to use the least restrictive option, but also of deliberate use of this option to ensure urgent access to mental health services or in situations where a person is voluntarily seeking help [68]. Research also acknowledged that detention in a police cell as place of safety can be highly distressing [76]. These inappropriate S136 detentions caused unnecessary financial burden on NHS [31, 65, 68].

Adebawole [5] chaired a review of mental health policing in the Metropolitan Police Service and identified several systemic shortcomings in partnership working when tackling mental health issues in the community. To protect vulnerable people, he recommended inter-agency working and improving mental health awareness, better training and procedures, and a change in attitudes and behaviour, operational learning and internal police culture.

In 2014, twenty-two national organisations (now twenty-seven) signed up to Mental Health Crisis Care Concordat (health, the police, social care, housing, national and local government (including the Home Office, Department of Health and the Ministry of Defence and voluntary and community sector organisations, among others) and undertook to deliver new levels of service excellence for people struggling with mental health issues, including improving multi-disciplinary and multi-agency collaboration and systems to manage people that came to the attention of police in ‘crisis’ and a commitment to provide the right staff with the right skills for the specific needs of the service user [15].

Two years later, the evaluation report on the impact of the Mental Health Crisis Care Concordat recommended that the partnerships and collaboration between agencies should be further built upon: to consider the specific needs of vulnerable and excluded groups, including people in the criminal justice system and people with learning difficulties; to combine data sets from police, housing, social services, general practice, as well as statutory mental health services and to embed partnership working into routine practice at local level [66].

4.3.7. Street Triage [ST] Initiatives

4.3.7.1. How ST Came About and the Purpose of ST

The USA co-responder police and mental health or Mobile Crisis Intervention Team model [MCT] inspired the introduction of locally and then nationally funded Street Triage [ST] initiatives in England. The aim is to provide a better response to mental health related police calls, improve public safety, link patients to mental health services and decrease the number of S136 detentions, especially those in police custody and. The format of ST differs according to local circumstances: mental health practitioners with or without support worker or paramedical staff help police officers while they are on patrol a) by going with them or b) by providing telephone advice from the control room or from the local hospital to assist officers on patrol, and/or speak directly to callers [16].

4.3.7.2. What is Known of ST Initiatives

The first locally funded ST pilot was launched in Cleveland in the North East of England in August 2012 with three mental health nurses and a support worker in the police control room advising police and responding to calls either directly or by giving advice to police at the scene of incidents. The first locally funded pilot pairing a mental health nurse and a police officer going on patrol together to attend mental health related incidents was introduced in Hampshire Isle of Wight in November 2012 and then Leicestershire in January 2013 [16].

4.3.7.3. What is Known About the Effectiveness of ST and Adoption and Spread of ST

In locally funded early pilots such as Leicestershire and Cleveland there was a 20% to 40% reduction in the use of section 136 powers while Hampshire had a 50% reduction after three years [16]. These promising early findings led to the Department of Health and Home Office to fund nine pilot ST interventions over two years. The spread and adoption of ST became one of the recommendations of the Crisis Care Concordat [15].

3 More specifically: 24 hours access to support before crisis point; urgent and emergency access to crisis care; quality of treatment and care when in crisis; recovery and staying well i.e. preventing future crises by making sure people are referred to appropriate services [8].
Perfunctory initial evaluations of the nationally funded ST pilots suggested more variable reductions than the first locally funding ST interventions i.e. an average of 20% reduction of S136 detentions [16, 67]. The final evaluation report showed an even larger variation in the results with only an average reduction of 11.8% for S136 detentions [+19.4% to -25.3%], which was overall not as beneficial as the initial findings and as the results of the first local pilots. Nonetheless, because of overall reduction in S136 detentions and other benefits, such facilitating more positive attitudes towards mental health, service users linked to mental health services or receiving additional input if already linked, the report recommended that ST should be implemented nationwide and operate for 24 hours a day every day of the week [73].

Except for the nationally funded pilots in the London Metropolitan area and North Yorkshire which demonstrated an increase in S136 detentions of 15.1% and 19.4% respectively, all published studies showed overall reductions in S136 detentions [69, 71]. The findings of two of the earliest national pilots in Devon and Cornwall [74] and in Sussex [70] that still detain high numbers of people under s136 in police cells explained the high number of S136 detentions in police custody as the consequence of ST not operating on a full-time basis. Notwithstanding acknowledged shortcomings in patient outcome data collection, both studies asserted positive preliminary cost benefits for ST [70, 74].

Keown et al. [72] described the impact of Street Triage (ST) on the number and rate of Section 136 Mental Health Act (S136) detentions in Northumberland, Tyne and Wear (NTW) pre and post the introduction of ST. The annual rate of S136 detentions was reduced by 56% in the first year of ST. Due to the phased introduction of ST, the effects of the intervention could be directly compared to ‘treatment as usual’. During the first 10 months of ST operating only in the South of Tyne (September 2014 to June 2015), the number of S136 detentions in the South of Tyne reduced by 75%; however, S136 detentions in the North of Tyne, fell by only 3%.

According to Jennings and Matheson-Monnet [26], the introduction of ST in Hampshire Isle of Wight in November 2012 (called Operation Serenity)4 led to 50% reduction within two years and 70% reduction within four years in the use of S136 detentions, the elimination of police custody as a place of safety and a rise in the appropriateness of S136 detentions from 20% to around 75% [16].

4.3.7.4. What is Not known or Limitations of ST

In addition to the evaluation of the nationally funded pilot schemes, relatively little is known apart from brief snapshots in policy related publications [16] or what is available the Mental Health Crisis Concordat website [15] or various websites pertaining to ST initiatives. Studies of ST refer primarily to number of S136 detentions before and after the introduction of ST and basic cost effectiveness analysis with only Keown et al. [72] using a control group. The evaluation and cost effectiveness of ST initiatives has been questioned in the UK Parliament, in particular why the number of S136 detentions has shown greater reductions in some areas and why two of the earliest national pilots in Devon and Cornwall, and in Sussex, still detained high numbers of people under s136 in police cells [67]. Recommendations were that more evidence needed to be gathered on effectiveness and that ST initiatives should be fully appraised against a range of clear success criteria, including a cost benefit analysis of the relative merits of different models of provision [67].

5. REDUCING THE DISPROPORTIONATE AMOUNT OF EMERGENCY AND CRISIS SERVICE USAGE FROM HIUS WITH COMPLEX MENTAL HEALTH PROBLEMS

5.1. USA: CIT Trained Police Officer in co-responder police Mental Health Model with Some Element of Prevention and Follow-up For HIUs

Except for a few studies on CIT that offered an element of follow-up, support and prevention [60, 77, 78] and less than a handful of studies about co-responder police mental health [37, 38] that have provided support and prevention for HIUs (periodically checking in on them and their case-workers, doing awareness raising sessions and trying to meet their needs if applicable [60, 78]), very little has been done to support the needs of HIUs. Yet, many of the at-risk individuals in mental health crisis who frequently come into contact with police and other emergency services or HIUs have complex mental health and other needs and are well-known to both the law enforcement and the mental health

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4 Sergeant Paul Jennings is the police officer who led the award winning Hampshire’s Operation Serenity ST Programme on the Isle of Wight and who designed the IRP and Serenity Integrated Mentoring.

5 Each S136 related clinical assessment costs between £500-700 [25]
communities [7, 24, 25].

The introduction of the hybrid CIT and co-responder police mental health model aimed in part to provide support to HIUs. Hybrid models use the dual professional skills of police and mental health to best resolve mental health related incidents in high crisis situations, and aim to provide not only jail diversion, but also diversion from ED as well as some follow-up and prevention for HIUs [27, 78]. The available evidence of success is anecdotal or descriptive and many of the communities with hybrid CIT co-responder police and mental health models are currently collecting data to enable evaluations of the effectiveness of these interventions [33, 79].

Helfgott et al. [27] undertook a descriptive evaluation of such a hybrid model implemented in Seattle Police Department. Records had shown that only 43% of incidents dealt by the CIT programme were isolated incidents and that 33.4% involved two to six repeated contacts, 18% seven to 15 repeated contacts, and 5.2% as much as 15 or more contacts to police. The most common outcome (34.1%) was a referral to a non-law enforcement agency and over 80% of cases (and 100% of high frequency repeated contacts) were handled by either referral to a non-law enforcement agency, individual-local-community resolution, or administrative clearance.

Helfgott et al. (2016) [27] underline that the addition of the mental health professional was to increase the effectiveness of referrals to community mental health and other resources and to link HIUs to relevant treatment and community services (substance abuse, mental health, homelessness, social disadvantages) before following their progress. The mental health professional provided an emotional component, often by just ‘being there’ for HIUs that police officers may not have had the time or resources to provide, which had previously been identified as the most significant thing that could be done to help someone in crisis.

5.2. USA: Interventions Aimed Only at HIUs

There are very few initiatives aimed only at high intensive utilisers [HIUs]. Rare examples are the Houston Police Department and the Los Angeles Police Department. They aimed to be proactive and ascertain the root cause of why a small number of individuals become frequent users of emergency public service before providing a solution to the problem. They identified HIUs from police records and provided early intervention focussing on alternative to jail and ER [33].

The Los Angeles Police Department pilot intervention involved both mental health professionals and police officers profiling the individual followed by a face-to-face interview with a case worker for each of mental health and police. Inclusion criteria were: at least six mental health related incidents in one year; frequent use of other emergency services; increasingly violent behaviour involving gun; attempted suicide while in police custody or subjected to police restraining force because of their mental health issue. Key performance indicators demonstrate that 40% were successfully linked to mental health services and 33% were managed via the criminal justice system [33].

Houston Police Department piloted a multi-agency collaboration. Once identified, HIUs were linked with mental health and psychosocial services and provided with support and education. Bi-weekly meetings took place to discuss their progress and the problems and barriers they encountered and to help them find ways to resolve problems and overcome barriers. One HDP officer acted as programme liaison and supervision and administrative oversight were done jointly by mental health and police. Eligibility criteria were: three or more admissions to a specialised neuropsychiatric emergency service; excessive phone calls to 911; high frequency contact with police and CITs; high use of ambulance, ER, admissions to hospital, or calls to the fire service. Key performance indicators show there was: no deadly encounters where the police shot a person with mental health issues; interaction with HPD was reduced by 47%; admissions to specialised neuropsychiatric services reduced by 21%; admissions to county psychiatric centre reduced by 51%; many 911 calls were diverted directly to the case manager who has cell phone number of HIUs [79].

5.3. England: Interventions Aimed Only at HIUs

Few initiatives focus on supporting HIUs but they are separate from ST. Despite the operational and community risks they posed, very few initiatives have specifically focussed on HIUs coming into frequent contact with police and emergency services. Based on discussion with various ST teams, the problem of HIUs was recognised in Sussex and other areas. However, HIUs were not referred in studies published in academic journals [69, 71, 72, 74] including that which discussed ST in Sussex [70].

The Recovery Model inspired Neighbourhood Project in Manchester is one example of a joint NHS and police initiative that promotes community based supportive social networks and access to meaningful activity [16] inspired by
the USA models with MH professional playing a key role in supporting HIUs [27].

The Hampshire Isle of Wight Integrated Recovery Programme [IRP] and Serenity Integrated Mentoring [SIM] are therefore unique examples with a more active role for police officers who are directly integrated into the healthcare pathway [26, 80].

5.3.1. Isle of Wight Integrated Recovery Programme [IRP]

According to Jennings and Matheson-Monnet [26], by the end of the first year of ST, the team in Hampshire Isle of Wight had identified a small number of service users (n=8 or 11.5%) or HIUs who were repeatedly requiring the ST team whilst simultaneously using ED, ambulance, GP and other core services, including mental health services. The small number had caused 54 crisis incidents out of 165 (32%) requiring the use of police arrest powers or S136 detentions. The team felt something needed to be done to alleviate their problem which was also a concern to many ST teams throughout England. A pilot mentoring style intervention was designed and implemented with a police officer directly integrated into the care pathway of the HIUs alongside mental health professionals to support HIUs of emergency public services.

Jenngings and Matheson-Monnet [26] outline the design, implementation and evaluation of this small UK 18 month pilot case study of quality improvement initiative (n=4). The development of the conceptual framework informing the mentoring intervention is described and its implementation evaluated using a range of qualitative and quantitative outcome measures.

The strategy for change (all women had a diagnosis of Borderline Personality Disorder or Unstable Personality Disorder as well as multiple other mental health needs) was based on NICE (2009) guidelines and aimed to provide inter-personal support based on core supportive messages that were compassionately, but firmly reinforced over the course of several weeks/months to encourage personal accountability, and the ability to process emotional information and to use it to navigate the social environment [26, 52].

The four HIUs involved in the pilot had internalised the need to participate in recommended recovery pathways. Mental health nurses reported improved compliance with treatment. Although the sample was small, the number of police mental health crisis detentions was reduced by 66% after one year and by 100% after 18 months. Usage of other emergency public services had been greatly reduced after 12 months and stopped completely for two HIUs and was drastically reduced for the other two. The use of emergency public services including mental health crisis detentions had decreased by 78% while the ‘savings’ through costs prevented had decreased by 91%. Using figures from the Commissioning Support Unit [CSU] and on the assumption that without any intervention, the demand from the HIUs would have remained the same, the average cost per HIU of £12,904 in the 12 months before the start fo the pilot was reduced to £1,124, hence average savings of £11,780 per HIU after 18 months [26].

The study indicated that a wider roll-out of the new multi-agency mentoring model would be beneficial. Limited time and resources and the need for a solution that could be implemented as soon as possible meant a pragmatic design, implementation and evaluation and a very small sample. The case examples and figures for reduced service usage were used for demonstrative purpose to underline their implications for practice, policy and research. Nonetheless, this was the first ever intervention to integrate mental health a trained police officer directly into the care pathway of repeated users of emergency public services with complex mental health needs [26].

5.3.2. Isle of Wight Serenity Integrated Mentoring [SIM]

After the IRP pilot was completed in February 2015, the programme was further developed and renamed Serenity Integrated Mentoring [SIM] before being rolled out with the financial support of local health commissioners. Hampshire Constabulary and Isle of Wight Clinical Commissioning Group (CCG) now employ a full-time SIM officer to help manage a case load of HIU patients who were renamed High Intensive Use Patients [HIUPs] [80].

The profile of HIUs show that the percentage of chaotic and challenging disorders was around 40% of all S136 cases in 2015, which was broadly the same since the beginning of Operation Serenity in 2012. With two thirds suffering from non-psychotic illness, mostly depression, emergency crisis calls are often the surface symptoms of much deeper and complex problems [80].

According to Jennings and Haworth [80], SIM built on the IRP strategy by continuing to emphasise policy endorsed recommendations: multi-agency approach, empathy rapport, trust and honesty and space to express emotion [5, 13 - 15,
81 - 83]. The SIM team further developed a psycho-social approach (i.e. that it promotes psychological development and skills in relation to the social environment [81]) congruent with a structured treatment approach to improve outcomes for those with borderline personality disorder and selected staff that were enthusiastic and welcoming as the focus of interaction was on empathy and validation to build relationship and collaboration [84, 85]. Through joint working, SIM addressed both the emotional needs and the behavioural needs of patients who are supported to work through their difficulties whilst being expected to address any inappropriate behavioural responses that impact negatively on others [80].

In 2012 in Hampshire Isle of Wight, police officers were using S136 detentions for an average of 15 people a month. As from 2012, the Street Triage team triggered the start of a slow reduction in the use of S136 detentions. At first, the reductions were small as the team was only operating 2 evenings a week, but detentions decreased from around 15 a month to around 12 a month. In 2014, the S136 rate went from 12 a month to 8 a month. After the introduction of the IRP in 2013, the monthly average for S136 detentions was reduced to 5 a month two years later in 2015 and then 3 a month in 2016, a reduction of 70% compared to the year before the introduction of IRP (Jennings and Haworth, 2016). The 120 fewer annual S136 detentions now save the NHS at least £42,300 [80].

Two years after the start of the IRP and six months after the start of SIM, reductions in operational demand for 6HIUs had significantly decreased: mental health bed occupancy (100%); police (97%), S136s (94%); ambulance (81%); and ED attendance (69%) [80].

Whereas the IRP pilot prioritised the highly intensive cases, two years later, because of the effectiveness of the IRP and the fact that there were a lot fewer HIUs, SIM has included not only patients that may need active and intense intervention for a current period of intensive demand, but also patients who are starting to show the first signs of escalating behaviour, patients that require low level ongoing support, and patients who are monitored in the community and who may require occasional help [80].

The SIM model has been adopted by one Wessex area in England and by another area outside Wessex. Two other sites outside Wessex are about to start discussing the potential planning phase and more have expressed an interest. In order for the SIM model to be successfully adopted and replicated, online training materials are available to support commissioners, project managers and SIM mentors [26].

**CONCLUSION**

Key issues in both the USA [7, 24, 25, 86] and England [13, 16, 26, 67] have been 1) the rising number of mental health related incidents and detentions in police custody and 2) frequent emergency service users/high intensity utilisers drawing a disproportionate amount of emergency and crisis services, overburdening first responders and thus having a negative impact on public safety.

In both USA [24, 78, 79, 86, 87] and England [5, 13 - 16, 31, 82, 83], these problems have been conceptualised as community safety and public health concerns requiring a more service oriented model as outlined in the Consensus Project in 2002 in the USA [86] and necessitating new levels of service excellence and new models of care as described in the Mental Health Crisis Concordat in 2014 in England [15].

Regardless of the quality improvement approach and whether they seek to address one or both key issues, all studies have focussed on achieving similar outcomes:

- providing better partnership working between police, mental health, criminal courts and prisons and making better use of available resources
- providing more effective ways to respond to 999 or 911 calls involving people with mental health problems and/or chronic substance abuse issues

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4 For more information on developing a SIM high intensity team, please contact: simenquiries@gmail.com For more information on the NHS Innovation Accelerator Fellowship: https://www.england.nhs.uk/ourwork/innovation/nta/case-studies/paul-jennings/

7 Hampshire’s Operation Serenity ST Programme on the Isle of Wight and the Integrated Recovery Programme (later renamed Serenity Integrated Mentoring) were deemed Outstanding (CQC Inspection 2014) and Highly Commended (Positive Practice in Mental Health Awards 2013). In October 2016, SIM won the HRH Prince of Wales Award for Integrated Care at the Nursing Times Awards 2016. In November 2016, SIM was chosen as one of just eight healthcare solutions across the NHS to be supported by the NHS Innovation Accelerator Programme.
- reducing the number of mental health related detentions, preventing diversion from police custody and the
criminal justice system and more recently from hospital Emergency Departments [EDs]
- addressing the needs of individuals with mental health problems more adequately by linking them to mental
health and other community resources
- addressing the problem of HIUs with follow-up and prevention

Reducing the Number of Police Mental Health Crisis Detentions

Since they are shaped by their specific local context, USA quality improvement interventions aimed at reducing
police MH detentions based on CIT models [27, 28], police and MH co-responder models [32, 54, 62] and UK quality
improvement interventions aimed at reducing police MH detentions based on ST models [15, 16, 26, 69 - 74], whether
MH professionals are in police control rooms helping police officers or talking directly to callers or as police and MH
co-responder on patrol in the community model, are not easy to evaluate in a rigorous and systematic way. This is
because they are usually small scale, without control groups and do not include multi-variable analysis and focus
primarily on outcomes such as reduction in police MH detentions, stakeholder satisfaction and estimation of cost
effectiveness largely through costs no longer incurred because of a decrease in service usage of ambulance, ED, police
MH detentions and hospitalisations in MH wards. How the design and implementation of these quality improvement
interventions differ across communities and the effectiveness of their variations has largely not been explored either in
the USA [27, 28] or in England [67].

Of all models to reduce police mental health detentions, CIT is the best known and counts the greatest number of
studies and evaluations. CIT has spread and been adopted worldwide. The term has become generic and also tends to
include the older but less well known police and MH co-responder model, which has inspired the ST models in
England. Although they have identified as a best practice models with a growing potential to reduce the number of
persons with mental illnesses entering the criminal justice system, neither the ST models [67] nor the CIT models have
yet undergone enough research to be deemed evidence-based practices [21, 49].

Reducing Disproportionate Amount of Emergency and Crisis Service Usage from HIUs With Complex Mental
Health Problems

Since they are shaped by their specific local context, USA and UK quality improvement interventions aimed at reducing
disproportionate amount of emergency and crisis service usage [ED, police, ambulance] from HIUs with complex mental health problems are even more difficult to evaluate in a rigorous and systematic way.

This is made worse because there have only been a handful of USA studies, hybrid of CIT and police and MH co-
responder model that had an element of prevention and follow-up for HIUs [27, 77], with only two schemes (one in
Houston and one in Los Angeles) aimed only at HIUs [33]. However, although they were joint police and MH
interventions, the key roles were played by MH professionals.

There have been only three UK interventions, but all aimed only at HIUs. One was a joint NHS and police initiative
that promotes community based on promoting supportive social networks and access to meaningful activity [16]
inspired by the USA models with an element of prevention and follow-up [27]. The other two were based on a multi-
disciplinary mentoring style intervention and included a more active role for police officers who were directly
integrated into the healthcare pathway of HIUs or of those at risk of becoming HIUs [26, 80].

Neither the USA [27, 33, 77], nor the UK models [16, 26, 80] to reduce the disproportionate use of emergency and
crisis services from HIUs or those at risk of becoming HIUs have undergone enough research to be deemed evidence-
based practices. However, the IRP and later SIM proactive/preventative model of directly integrating a police officer
within the treatment pathway of HIUs is currently being spread and adopted in England. Just as ST was inspired by
USA models, SIM could also inspire similar models in the USA.

Implications for Policy, Practice and Research

Because quality improvement interventions aimed at reducing either or both the number of police mental health
detentions and the disproportionate amount of emergency and crisis service usage from HIUs) are implemented in real-
world settings and are shaped by the specific national and local contexts and circumstances in which they are
implemented, determined by national and local policy based priorities, and with limited time and resources, they often
have to adopt a pragmatic approach to implementation and evaluation. This means a lesser likelihood of randomised
controlled trials, control groups and multi-variable analysis and greater likelihood of shortcomings in data collection leading to primarily descriptive studies that focus primarily on stakeholder satisfaction, extent of decreased service usage and to a limited extent cost-effectiveness (linked to decrease service usage).

This in turn means a lesser likelihood of implemented models becoming evidence based practices. However, this has not stopped the USA and worldwide adoption and spread of the CIT model, which happened despite the fact that it has yet to become an evidence-based practice. Despite variations in the scope and design of implementations and of the fact that there is little or no research on the effectiveness of variations [27, 43], the CIT model has become the best practice with a growing potential to reduce police mental health detentions in a context where increasing evidence on its effectiveness is being accumulated [49].

For the benefit of policy, practice and research, more evidence needs to be gathered on effectiveness against a range of clear success criteria, including a cost benefit analysis of the relative merits of different models of provision [67] and on the challenges of both implementation and evaluation thereof [32, 62]. Whenever possible, control groups should be used, including naturally occurring control groups such as during phased interventions [72]. This would improve the already valuable insights of potential benefits of new models of care aimed at reducing both the number mental health police detentions and the disproportionate demand for emergency and crisis services from HIUs or those at risk of becoming HIUs provided by descriptive studies [58].

Only a handful of interventions have focussed on supporting HIUs in each of the USA and England where two small pilot case studies of a unique but evolving model of directly integrating a police officer within a multi-disciplinary mentoring style intervention has both demonstrated a drastic reduction in disproportionate demand leading to cost effectiveness and enhanced joint working between police and mental health, which has now adopted by other English police forces and could usefully be adopted by USA police forces.

Even if primarily descriptive and with small samples and shortcomings in data collection, pragmatic evaluations of quality improvement interventions in real world settings can still provide sufficient evidence of their potential clinical, social and operational benefits and cost effectiveness (resulting from the reduction in anticipated costs) to help communities make resource decisions about police/mental health partnerships [27] and hopefully encourage policy makers to invest more resources into new models of care or quality improvement interventions that can potentially save costs and guarantee a good return on investment [26].

ETHICS APPROVAL AND CONSENT TO PARTICIPATE

Not applicable.

HUMAN AND ANIMAL RIGHTS

No Animals/Humans were used for studies that are base of this research.

CONSENT FOR PUBLICATION

Not applicable.

CONFLICT OF INTEREST

The authors declare no conflict of interest, financial or otherwise.

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