Journal of
COMMUNITY SAFETY & WELL-BEING

Responding to persons in mental health crisis: A cross-country comparative study of professionals' perspectives on psychiatric ambulance and street triage models

Isa C. de Jong,* Lia A. J. van der Ham,* and Mitzi M. Waltz†

ABSTRACT

People with mental illness can experience mental health crises (MHCs) that manifest in behaviours risky for the affected persons and for others, often resulting in unwanted police encounters and detention. Mobile crisis teams employing the psychiatric ambulance model (PAM) have shown positive effects when responding to MHCs, including diverting patients from police custody. However, the literature contains few reports about PAM. The emerging model of street triage (ST) is more frequently used and better researched. This study explored and compared facilitators and barriers of PAM and ST from the perspective of professionals from different countries. We conducted 12 semi-structured interviews with key PAM stakeholders in Sweden and the Netherlands and ST stakeholders in England, then performed comparative thematic analysis. Participants believed that PAM and ST led to better care for persons in MHC, reducing stigma and use of force. The main facilitators for Swedish participants were that PAM is a specialty with highly experienced and autonomous staff. For Dutch participants, the more generalized medium-care ambulance led to success. Street triage enhanced overall safety and interagency collaboration. A common barrier was the lack of (emergency) treatment options and funding to meet the high demand for mental health care. Future research should explore collaboration between mobile crisis teams and community care to improve MHC response, and the perspectives of persons with mental illness on mental health emergency response models. Careful assessment is recommended to determine which mental health emergency response model best suits a specific local or national context.

Key Words Psychiatric emergency; mental illness; mobile crisis teams; mental health emergency response; psychiatric nurses; co-response; police; community care.

INTRODUCTION

People with mental illness have a high potential for experiencing a mental health crisis (MHC) and, as in any health emergency, quick and effective action is important to avoid deterioration of health, injury, or death (Brister, 2018). An MHC is "any situation in which a person's behavior puts them at risk of hurting themselves or others and/or prevents them from being able to care for themselves or function effectively in the community" (Brister, 2018, p. 5).

Deinstitutionalization coupled with a lack of mental health (MH) resources have made the police increasingly responsible for MHC responses, which can be complex (Bradbury et al., 2016; Jacob et al., 2014; Lamb & Bachrach, 2001; Wachholz & Mullaly, 1993). Policy-makers and funders globally have failed to prioritize care and treatment for people suffering from mental illness (Becker & Kleinman, 2013; Vigo et al., 2016; World Health Organization, 2019). Without alternatives to police involvement, persons in MHC often end up in jails, prisons, general hospitals, or forensic institutions, with longstanding negative psychological effects on the person (Bradbury et al., 2016).

To ameliorate MHC response and divert cases from the police, mobile crisis teams (MCTs) can provide professional emergency MH assessment and care outside of institutions (Geller et al., 1995; Hogan & Goldman, 2021). These teams

Correspondence to: Isa Cunera de Jong, Department of Ethics, Law and Humanities, Amsterdam UMC, VU University Amsterdam, F wing, De Boelelaan 1089a, 1081 HV Amsterdam, the Netherlands. **E-mail:** dejong.isacunera@gmail.com

To cite: de Jong, I. C., van der Ham, L. A. J., & Waltz, M. M. (2022). Responding to persons in mental health crisis: A cross-country comparative study of professionals' perspectives on psychiatric ambulance and street triage models. *Journal of Community Safety and Well-Being, 7*(Suppl 1), S36–S44. https://doi.org/10.35502/jcswb.250

SG PUBLISHING Published by SG Publishing Inc. CSKA Official publication of the Community Safety Knowledge Alliance.

differ greatly in organization, composition, and structure between and within countries but are widely accepted as an effective approach to MHCs (Carpenter et al., 2013; Hogan & Goldman, 2021; Jacob et al., 2014; Landeen et al., 2004; Muehsam, 2019). Models include police-based Crisis Intervention Teams (CIT), MH (community) outreach teams, co-response teams with MH professionals and law enforcement and/or paramedics, and responses handled by voluntary sector personnel teamed up with MH professionals (Nonko, 2020; Eugene Police Department, n.d.).

One MCT is the psychiatric ambulance model (PAM) that has operated in Australia, India, England, Denmark, Norway, Sweden, and the Netherlands (Faddy et al., 2017; Chandrashekar et al., 2009; Trainer, 2020; Nordentoft et al., 2002; Bouveng et al., 2017; Kuiper, 2012). There is no set description of PAM available in the literature, but we found it typically consists of a (modified) ambulance vehicle staffed by a paramedic and one or two (psychiatric) nurses or a psychiatrist, responding to MH emergency calls. Though PAM has been presented in the media as a successful emergency MH response (Kjølberg, 2018; Pandika, 2014), few studies have examined this model. Findings show that PAM may reduce violence and distress for both persons in MHC and their families (Chandrashekar et al., 2009; Lindström et al., 2020), police involvement (Kuiper, 2012), and admissions to the (psychiatric) emergency department (PED/ED) (Bouveng et al., 2017; Faddy et al., 2017; Nordentoft et al., 2002), and indirect costs (Carlborg et al., 2020). In this study, our focus was on two countries with comparable health and law enforcement systems, Sweden and the Netherlands, which both run a PAM.[1]

A more common MCT is the street triage (ST) model, as seen in the United Kingdom (UK), Canada, Australia and the United States (Puntis et al., 2018; Kirst et al., 2015; Lancaster, 2016). Street triage usually consists of a police officer and a psychiatric nurse, either together in one vehicle or co-responding from a control room (Puntis et al., 2018). Street triage improves outcomes for persons in MHC and reduces inappropriate use of involuntary inpatient care (Lancaster, 2016). Our study focuses on ST models in England, a former European country with health and law enforcement systems comparable with those of Sweden and the Netherlands.

Crisis response in MH is still a developing area of practice, with little in the way of firmly defined response models and many research gaps. While both PAM and ST have been presented internationally as "successful" response models, greater knowledge is needed about professional experiences with PAM and ST in order to achieve better care for persons in MHC worldwide. Therefore, the aim of this study was to explore professionals' perspectives on facilitators and barriers of PAM and ST, comparing three different countries: Sweden, the Netherlands, and England. The results will help practitioners and commissioners determine which particular MHC response model is most likely to be of benefit considering the context.

[1] Sweden has a PAM organized as described above, typically with two PAM vehicles (Bouveng et al., 2017). The Netherlands had a PAM like Sweden's, with 2 vehicles, called the "psycholance," for about 4 years, but changed it to a medium-care ambulance normally used for planned care, with 50 vehicles, in 2018. This has a focus on psychiatry, staffed by an ambulance driver and a medium-care ambulance nurse (ZonMw, 2018).

METHODS

A qualitative interview design was chosen, as this study focuses on the perspectives of people (Gray, 2018). To enhance reliability, the same qualitative design as Bailey et al. (2018) was used. These authors conducted semi-structured interviews with key program stakeholders, looking at barriers and facilitators to implementing an urban co-response model, a specific type of MCT.

Based on a literature review and orienting conversations with professionals, we identified stakeholders: police officers, (psychiatric) nurses, paramedics, psychiatrists, medical doctors and directors, program managers and public health managers. Participants were included if they 1) were closely involved in a PAM or ST project (i.e., had knowledge of the use, people, network, MHCs and organization), 2) were able to communicate in English or Dutch, 3) were available for online interviews between March and May 2021, and 4) consented to participation.

Purposive convenience sampling was performed where stakeholders from the researchers' networks were approached via e-mail, and the snowball method was used to identify additional participants. This led to recruitment of ten PAM stakeholders from two large cities in Sweden and the Netherlands of roughly the same size, and two ST stakeholders from England, one from a large rural area and one from a large urban area. Three pilot interviews were conducted, two of which were included in the dataset for analysis (one pilot interview did not touch on the topic of ST). The final sample included 12 key stakeholders ($n = 12$), comprised of 7 men and 5 women with an average working experience of 19.5 years (range: 8 to 35 years) (see Table I).

TABLE I Sample characteristics.

Participant number (P)	Profession	Country	Gender	Experience in working years
1	Public health manager	The Netherlands	M	*
2	Police officer	The Netherlands	F	29
3	Psychiatric nurse	The Netherlands	F	19
4	Psychiatrist	The Netherlands	M	10
5	Medical director	The Netherlands	M	35
6	Medical doctor	Sweden	M	21
7	Psychiatric nurse	Sweden	F	8
8	Paramedic	Sweden	M	27
9	Psychiatrist	Sweden	M	11
10	Police officer	Sweden	F	15
11	Police officer	England	F	24
12	Police officer	England	M	15

*Not reported

Individual semi-structured interviews were administered using an interview guide (see Appendix 1) based on concepts from the literature review, the interview guide used by Bailey et al. (2018), the proceedings of the Law Enforcement and Public Health conference (LEPH, 2021), and the Crisis Intervention System (CIS) model (Ordonez et al., 2007). Interviews (45–60 minutes) were performed by the lead researcher (IdeJ), in either English or Dutch, and were audio-recorded.

Audio recordings were transcribed verbatim, then carefully read and reflected upon. A summary was sent to each participant for member validation. IdeJ performed inductive thematic analysis (Gray, 2018) using MAXQDA 2020 (Berlin: VERBI GmbH). Line-by-line open coding was performed separately for each transcript, followed by axial and selective coding. Inspired by Bailey et al. (2018), directed content analysis was performed, allocating emergent themes to two broad categories—"barriers" and "facilitators"—for both PAM and ST. Comparative analysis was then used (Guest et al., 2011). The lead researcher discussed coding results and interpretation at various moments with other members of the team.

Ethics

The research proposal was reviewed by the Research Ethics Review Committee of the Faculty of Social Sciences of Vrije Universiteit Amsterdam (VU, 2021). A data management plan ensured secure storage and processing of data. All participants signed informed consent forms online. No financial incentives were provided.

RESULTS

Our research revealed that the "right" PAM/ST configuration was heavily context-dependent, but also that both were perceived as successful approaches to MHC response. Exploration of stakeholder perspectives resulted in five major themes, each with one or more sub-theme(s) that contained both facilitators and barriers (see Table II). Almost all barriers and facilitators identified fell within these five themes: role division, stigma attached to MH conditions, capacity of teams and health-care systems, funding for PAM/ST, and skills of PAM/ST practitioners. In the following sections, these themes and the sub-themes that participants highlighted as most important are described. In a different context, of course, sub-themes not emphasised by these participants might have greater importance.

Role Division

In all countries, the participants stated that PAM/ST was needed because the assessment and transport of persons in MHC is a health-care task, not a police task. Moreover, the police are not trained in MH and may unjustly detain persons in MHC. The PAM/ST can divert MHCs from the police and detention to the care they need: "So instead of, as a criminal to the station, you go as a patient to a health-care facility" (P5). However, participants remarked that regular

TABLE II Facilitators and barriers of PAM and ST per theme.

Themes	Facilitators	Barriers
Role division	MH is a health-care task.[abc] PAM/ST divert MHCs from police and detention.[abc] ST police officers provide safety for all stakeholders involved in MHC response.[c] PAM/ST have a high level of autonomy.[bc] PAM performs high quality assessments and interventions.[b] PAM/ST can often stabilize MHCs in home environments.[bc] Access to medical/MH records allows PAM and ST to provide better care.[bc]	Police often detain persons in MHC and are not well educated in MH.[abc] Police often aggravate crisis situations and cause violence.[ac] Police did not want to deal with persons in MHC anymore.[a] Not all PAM staff are properly trained to perform interventions or autonomously make decisions.[a] PAM staff do not have access to medical/MH records.[a]
Stigma	PAM/ST destigmatize and normalize MHC response.[abc]	Much stigma remains around persons in MHC, also among health-care professionals.[abc] Police cars/uniforms are stigmatizing.[abc]
Capacity	Medium-care ambulances increase capacity.[a] PED is large and located next to somatic ED.[b] ST enhances interagency collaboration.[c]	PAM is often dispatched to the "wrong" calls by dispatch centre.[b] PAM is often unavailable and needs to expand.[b] Lack of capacity in (P)EDs, crisis intervention teams, and long-term treatment facilities.[abc] EDs are unsuited for persons in MHC.[abc]
Funding	Permanent regional funding brings sustainability.[abc] ST have buy-ins from NHS and police.[c]	Funding does not keep up with demand for MH care.[abc]
Skills	Highly skilled and experienced psychiatric nurses combined with paramedics.[b] PAM staff are good at dealing with MHC and learn on the job.[a] ST caters for collaboration and mutual understanding between nurses and police.[c]	PAM staff need more clinical psychiatric training and sometimes lack interest in MH.[a] Police and regular ambulance service lack MH skills and education.[abc]

[a]In the Netherlands. [b]In Sweden. [c]In England.

PAM = psychiatric ambulance model; ST = street triage; MH = mental health; MHC = mental health crisis; PED = psychiatric emergency department; ED = emergency department; NHS = National Health Service (UK).

ambulances were also not well equipped to care for persons in MHC. Therefore, MH services have developed the psychiatric ambulance and ST models.

Although MHC response becomes primarily a healthcare task in both models, all participants agreed that dealing with persons in MHC nonetheless remained inherent to police work: the police are often first to arrive, and they have a monopoly on the use of force. Therefore, when the Dutch police announced they would no longer deal with persons in MHC (NCRV, 2016), this was considered unrealistic and undesirable by the Dutch participants, who emphasized the importance of collaboration between police and MH services. The English participants found that police assistance was even a condition for their ST service: "the police bring the value of safety of everybody […] that opens up a whole new area of people that [the crisis team] are going out to" (P11). While some Dutch and English participants claimed that police often aggravate the situation and that there are still too many deaths and injuries during arrests, this was not the case for Swedish participants.

Swedish participants attributed their PAM's success to its staff's autonomy and ability to perform highly qualified assessments and interventions:

> "PAM have a very good way of doing their assessments, which is treating in a way […] you can get a quick crisis intervention, onsite, at home and then maybe stay home. Instead of spending your night in a hospital" (P9).

The same beneficial practices were described by English participants regarding ST. All Swedish and English participants said their most important decision-making tool is access to both medical and MH records. Dutch PAM staff did not have access to these records, and some Dutch participants felt that not all PAM staff are properly trained to perform interventions at home, or to decide autonomously to leave a person at home. One Dutch respondent noted being skeptical about ST, because without the ability to stabilise persons in MHC at home and connect them with ongoing community services, it would lead to ambulance transport anyway.

Stigma

Mental health crises and mental illness are highly stigmatized among the public, police, and authorities, mostly due to a lack of knowledge about MH, according to most participants. A nurse explained: "Psychiatry of course takes a back seat, it's very scary, people can't understand it because it's very difficult to work with protocols in psychiatry" (P3). According to others, the fact that all personnel is trained in MH, meant there is no stigma among them. Destigmatizing and "normalizing" health care for persons in MHC was often mentioned by participants as an important reason for transport by ambulance: "When someone is put in a police van, you look at your neighbour differently than when the person has been taken away by ambulance" (P5). This was also experienced by one ST officer, who said they stopped wearing police uniforms and started using regular cars for their ST program, leading to greater success.

Capacity

Another way to "normalize" transport of persons in MHC in the Netherlands was to organize PAM with medium-care ambulances, instead of the earlier "psycholance".[1] Medium-care ambulances facilitate more capacity, significantly faster arrival times, more efficient consults, and greater likelihood of proper care. According to most Swedish participants, PAM is often unavailable, attending 40% of calls received. This is unavoidable due to city size, said one Swedish participant, but is also not an issue as long as the dispatch centre follows the right criteria (severe MHCs with high or medium priority). A Swedish nurse explained: "We have strict alarm criteria, which is good, so that we do not get busy with easier jobs and miss jobs where emergency psychiatric measures are required" (P7). Nonetheless, most Swedish participants thought PAM needed to expand.

According to most participants, the biggest capacity issue actually starts after the transport of persons in MHC: a lack of capacity in the (psychiatric) emergency department (P)ED, crisis intervention teams, and long-term treatment facilities.

> "You need a follow-up service that can pick up that call or the care. People sometimes forget: you can have a very rapid response and great consultation, but when the next day the person is out in the streets again, then it is actually a drop in the ocean" (P4).

All Dutch and UK participants agreed that their PED does not have enough beds or staff for a city/area as big as theirs, often leading to diversion to unsuitable EDs. Most Swedish participants did not experience problems with (P)ED capacity because their PED is very large and situated next to the somatic ED, but one Swedish participant said their PED is still overburdened.

English participants said enhanced interagency collaboration in ST improves pathways for persons in MHC in a timely manner.

> "I was a human switchboard last night […] I was speaking to two or three different departments, putting together people's different views on what they could do, what they couldn't do, and eventually, what might have taken in excess of ten hours to fix, took two" (P12).

Interagency collaboration was also seen in the Netherlands, through weekly meetings with key crisis care stakeholders to evaluate cases of MHC. In England, ST played a crucial role in collaborative discharge planning.

> "It is often very important that police have an input for their [persons in MHC] safety and the ability to better manage them, once in the community. Good discharge plans will often result in lower levels of presenting to services in the community, reduced workload and a better quality of life for the patient" (P12).

Funding

While both Dutch and Swedish participants mentioned that other initiatives to deal with persons in MHC had ended when pilot funding dried up, both of their projects have received continued funding. A Swedish participant explained,

> "[In a] lot of these projects [to increase the quality of MH care in Sweden], when the project ended, they didn't have

> funding to continue. But even after the first year there was so much positive response […] so now it has been integrated into the region's ambulance services" (P6).

In Sweden, patient organizations were essential, lobbying politicians to get PAM funded. In the Netherlands, changing from clinic nurses to medium-care ambulance nurses reduced costs and improved efficiency. 'In England, buy-in from both the National Health Service (NHS) and police contributed to saving costs. These funding solutions made all participants hopeful about program sustainability. Still, all participants remarked that funding for MH care is not sufficient, and more investment in (acute) psychiatric care is needed. As one Swedish participant explained, "If you compare the funding of psychiatric health care with somatic health care, historically, and you compare them with the burden of disease in society, it's not aligned" (P6).

Skills and Experience

Participants from Sweden all attributed their success to PAM teams that included experienced psychiatric nurses from the PED and paramedics knowledgeable about the pre-hospital environment: "[A paramedic is] used to finding the addresses, to communicating with the police and other ambulances […], trained to make risk analyses and think about safety in apartments and bridges, train tracks…" (P8).

Although PAM staff in the Netherlands are usually not trained psychiatric nurses, most participants said they are good at dealing with MHCs and "learning on the job". Some Dutch participants mentioned PAM staff lacked an interest in MH and needed more clinical psychiatric training. According to most participants in all three countries, the police should receive more MH and practical skills training (e.g., de-escalation). The English participants emphasized the benefit of specialized ST officers with good MH knowledge to bring about collaboration and mutual understanding.

> "We speak both languages, we understand where the police officers are coming from, but we also understand […] what the nurses can do, and we can also bring ideas, you know. What can we do? How can we deal with this?" (P11).

DISCUSSION

This is the first qualitative comparative study of professionals' perspectives on two specific types of MCT: PAM and ST. We collected the experiences of key stakeholders from three different countries and found that, for both PAM and ST, there were more facilitators than barriers. This led to several interesting findings.

Ambiguity of Police Role

A common barrier in this study was found to be ambiguity about the police role in MHC response. On the one hand, there is resistance to police involvement because they are seen as lacking skills and stigmatizing; on the other hand, police are seen as adequate first responders who must safeguard the public. This ambiguity was confirmed by the literature (Bouveng et al., 2017; Puntis et al., 2018). Fry et al. (2002) indicate that, from a police perspective, ambiguity leads to confusion about their role in MHCs, a feeling of being unsupported when dealing with MHCs, and lack of collaboration with MH services. Our study indicates that early contact with an MCT improves the perception of support for police officers on-site. This is supported by Puntis et al. (2018), who add that it can decrease distress for persons in MHC and is less likely to lead to criminalization. Adding a police officer to the team, as in ST, may improve collaboration and recognition of all stakeholders involved.

Specialized Versus Generalized MCTs

The most surprising finding was the clear difference between facilitators for Sweden's specialized PAM, and the Netherlands' generalized PAM. Our findings show that what can be a facilitator for one model can be a barrier for another. In the Dutch context, the determining factor seemed to be cost-effectiveness in terms of efficient consults, more personnel, and better arrival times. In Sweden, it appeared to be the high quality of care, autonomy, and serving a specified target population that determined their model. PAM could have extra utility in countries without well-developed outreach services, especially if PAM staff have resources to stabilize patients at home. In order to choose the right model, Sellers et al. (2005) advocate careful needs assessment before implementing costly interventions with low probability for substantial improvement. Moreover, specialized services can make other services reluctant to work with persons in MHC and give them an opportunity to opt out, as was seen in our study in the Netherlands. This has also been observed in the Norwegian context, where there has been MH deskilling for regular ambulance staff and police (personal communication, Researcher and general practitioner from Norway, May 30, 2021). According to Sellers et al. (2005) "treatment as usual," meaning traditional MHC response without "specialized" police/MH professional partnerships, can be just as effective as specialized responses—but the relationship between police and local agencies must be addressed to improve care for persons in MHC. Future work should concentrate on these relationships. Regardless of the service form chosen, while our study shows potential for "on-the-job learning," it nonetheless stresses the importance of MH training for all emergency responders to improve uniformity and quality of MHC response (Boscarato et al., 2014), which requires support from policy-makers.

Funding and Development

An important facilitator for all three countries was funding. The Dutch PAM received continuing funding, despite earlier low efficiency (ZonMw, 2018). So did PAM in Sweden, though research showed there were no direct cost savings attributable to the PAM unit (Carlborg et al., 2020). This contrasts with the reported experience of projects stopping after pilot funding ran out. According to Carlborg et al. (2020), this is fairly common with health-care interventions, for they often bring large indirect cost savings due to their impacts on health.

However, we found growing attention to MH care plans and increased policy-maker awareness of the MH burden, also by the World Health Organization (2019). If harnessed, this momentum could drive further development and exploration

of MHC responses, including both costs and other benefits of various responses. An interdisciplinary research approach is required to deal with tensions between politics, health care, and funding.

Collaboration with Community Care

The common barrier of the lack of the "next step" for persons in MHC after PAM or ST response aligns with previous research. Although ST sped up the pathway and made it more efficient, better access to care did not always result, due to lack of follow-up care and case management (Dyer et al., 2015; Evangelista et al., 2016; Kirst et al., 2015). Moreover, inpatient care facilities, like the ED, may not be a good fit for persons in MHC, as was confirmed by the literature (Faddy et al., 2017; Heyland & Johnson, 2017; Lamb et al., 2002). An appropriate, less costly solution to support persons in MHC and avoid inpatient care was found by Heyland and Johnson (2017) and Harvey and Fielding (2003), who both advocate enhanced community care. Community care may both precede and follow MCT response, as this sector can play an important role in signalling MHCs as well as in supporting persons after stabilization. Community-based services can help to create safe home environments and prevent the onset of new MHCs: this aim was emphasized in the Norwegian context (personal communication, Researcher and general practitioner from Norway, May 30, 2021). In addition, community-based services, especially MHC response in the home environment, are more acceptable and less burdensome to both persons in MHC and their families than inpatient care (Irving et al., 2006; Lindström et al., 2020). These findings highlight the usefulness of exploring community-based services in relation to MCT, and also the preferences of persons in MHC, as noted by our research participants.

Strengths and Limitations

Pilot interviews helped to validate the interview guide, strengthening this study. The fact that the first author is a registered emergency-care nurse helped with relating to participants, probing, and "reading between the lines." All participants had extensive experience working with PAM or ST, ensuring that they could reflect thoughtfully and speak from their own experiences. Another strength was member validation, which helped researchers gain greater understanding of perceptions. Study limitations included lack of a theoretical model that covered all elements of exploring the facilitators and barriers of MCT models; the availability of only two stakeholders for ST, which provided limited perspectives on ST; and the difficulty of comparing different programs in different countries. The results of our analysis may therefore not be directly applicable to other contexts. The current study emphasizes that MCT choice depends highly on context and stakeholder perspectives regarding appropriate care for persons in MHC.

CONCLUSION

This research explored and compared professionals' perspectives on the facilitators and barriers of PAM and ST programs in three countries. We learned that, for Sweden, the greatest facilitators are being a specialized emergency response unit for a specific target population, staffed by highly skilled nurses. In the Netherlands, a more generalized model with dedicated staff and less specialized ambulance vehicles to serve more people is preferred. In England, including a MH skilled police officer in the ST model adds to overall safety and interagency collaboration. All MCT models encountered the barrier of insufficient post-transport treatment options. Community-based services could fill this gap in an affordable manner, and enhanced collaboration with both police and community services may improve the well-being of persons in MHC and their families. Our findings indicate that while both models were experienced as effective responses to MHC, neither can be seen as a one-size-fits-all solution. The psychiatric ambulance model, ST or a combined approach using aspects of both models needs to be carefully fitted to the context of the health system capacity, staff roles, and staff skillsets, while considering the impact of MH stigma and funding. This study has added to knowledge about PAM and ST and has highlighted factors that municipalities and countries can use to determine which emergency MH response model would best serve their population and what issues they need to address when adjusting these models to fit their context.

ACKNOWLEDGEMENTS

We acknowledge the support of Prof. Nick Crofts, Centre for Law Enforcement and Public Health, Melbourne, Australia and Prof. Stuart Thomas, Forensic Mental Health, RMIT University, Melbourne, Australia. We received no grants or funding for this study.

CONFLICT OF INTEREST DISCLOSURES

The authors declare that there are no conflicts of interest.

AUTHOR AFFILIATIONS

*Department of Ethics, Law and Humanities, Amsterdam University Medical Centres, Amsterdam, North Holland, the Netherlands; †Athena Institute, Vrije Universiteit Amsterdam, Amsterdam, North Holland, the Netherlands.

REFERENCES

Bailey, K., Paquet, S. R., Ray, B. R., Grommon, E., Lowder, E. M., & Sightes, E. (2018). Barriers and facilitators to implementing an urban co-responding police-mental health team. *Health & Justice, 6*(1), 21. https://doi.org/10.1186/s40352-018-0079-0

Becker, A. E., & Kleinman, A. (2013). Mental health and the global agenda. *New England Journal of Medicine, 369*(1), 66–73. https://doi.org/10.1056/NEJMra1110827

Boscarato, K., Lee, S., Kroschel, J., Hollander, Y., Brennan, A., & Warren, N. (2014). Consumer experience of formal crisis-response services and preferred methods of crisis intervention. *International Journal of Mental Health Nursing, 23*(4), 287–295. https://doi.org/10.1111/inm.12059

Bouveng, O., Bengtsson, F. A., & Carlborg, A. (2017). First-year follow-up of the Psychiatric Emergency Response Team (PAM) in Stockholm County, Sweden: A descriptive study. *International Journal of Mental Health, 46*(2), 65–73. https://doi.org/10.1080/00207411.2016.1264040

Bradbury, J., Hutchinson, M., Hurley, J., & Stasa, H. (2016). Lived experience of involuntary transport under mental health legislation. *International Journal of Mental Health Nursing, 26*(6), 580–592. https://doi.org/10.1111/inm.12284

Brister, T. (2018). Navigating a mental health crisis. Arlington, VA: National Alliance on Mental Illness. Retrieved from https://www.nami.org/Support-Education/Publications-Reports/Guides/Navigating-a-Mental-Health-Crisis/Navigating-A-Mental-Health-Crisis

Carlborg, A., Sibbel, R., & Helgesson, M. (2020, November 18). Health economic evaluation of the Psychiatric Emergency Response Team (PAM) in Stockholm County. Research Square. Retrieved from https://doi.org/10.21203/rs.3.rs-106323/v1

Carpenter, R. A., Falkenburg, J., White, T. P., & Tracy, D. K. (2013). Crisis teams: Systematic review of their effectiveness in practice. *The Psychiatrist, 37*(7), 232–237. https://doi.org/10.1192/pb.bp.112.039933

Chandrashekar, H., Prashanth, N. R., Naveenkumar, C., & Kasthuri, P. (2009). Innovations in psychiatry: Ambulatory services for the mentally ill. *Indian Journal of Psychiatry, 51*(3), 169–170. https://doi.org/10.4103/0019-5545.55081

Dyer, W., Steer, M. & Biddle, P. (2015) Mental Health Street Triage. *Policing*, 9 (4). pp. 377-387. https://doi.org/10.1093/police/pav018

Eugene Police Department. (n.d.). CAHOOTS. Retrieved April 15, 2022, from https://www.eugene-or.gov/4508/CAHOOTS

Evangelista, E., Lee, S., Gallagher, A., Peterson, V., James, J., Warren, N., Henderson, K., Keppich-Arnold, S., Cornelius, L., & Deveny, E. (2016). Crisis averted: How consumers experienced a police and clinical early response (PACER) unit responding to a mental health crisis. *International Journal of Mental Health Nursing, 25*(4), 367–376. https://doi.org/10.1111/inm.12218

Faddy, S. C., McLaughlin, K. J., Cox, P. T., & Muthuswamy, S. S. (2017). The mental health acute assessment team: A collaborative approach to treating mental health patients in the community. *Australasian Psychiatry: Bulletin of Royal Australian and New Zealand College of Psychiatrists, 25*(3), 262–265. https://doi.org/10.1177/1039856216689655

Fry, A. J., O'Riordan, D. P., & Geanellos, R. (2002). Social control agents or front-line carers for people with mental health problems: Police and mental health services in Sydney, Australia. *Health & Social Care in the Community, 10*(4), 277–286. https://doi.org/10.1046/j.1365-2524.2002.00371.x

Geller, J. L., Fisher, W. H., & McDermeit, M. (1995). A national survey of mobile crisis services and their evaluation. *Psychiatric Services, 46*(9), 893–897. https://doi.org/10.1176/ps.46.9.893

Gray, D. E. (2018). *Doing research in the real world* (4th ed.). New York: Sage.

Guest, G., MacQueen, K. M., & Namey, E. E. (2011). *Applied thematic analysis.* New York: Sage.

Harvey, C. A., & Fielding, J. M. (2003). The configuration of mental health services to facilitate care for people with schizophrenia. *The Medical Journal of Australia, 178*(S9), S49–52. https://doi.org/10.5694/j.1326-5377.2003.tb05307.x

Heyland, M., & Johnson, M. (2017). Evaluating an alternative to the Emergency Department for adults in mental health crisis. *Issues in Mental Health Nursing, 38*(7), 557–561. https://doi.org/10.1080/01612840.2017.1300841

Hogan, M. F., & Goldman, M. L. (2021). New opportunities to improve mental health crisis systems. *Psychiatric Services, 72*(2), 169–173. https://doi.org/10.1176/appi.ps.202000114

Irving, C. B., Adams, C. E., & Rice, K. (2006). Crisis intervention for people with severe mental illnesses. *The Cochrane Database of Systematic Reviews, 4*, CD001087. https://doi.org/10.1002/14651858.CD001087.pub3

Jacob, B., Macquet, D., & Natalis, S. (2014). [A global reform of mental health care based on a community approach: The Belgian experience]. *Santé Mentale au Québec, 39*(1), 209–242.

Kirst, M., Francombe Pridham, K., Narrandes, R., Matheson, F., Young, L., Niedra, K., & Stergiopoulos, V. (2015). Examining implementation of mobile, police-mental health crisis intervention teams in a large urban center. *Journal of Mental Health, 24*(6), 369–374. https://doi.org/10.3109/09638237.2015.1036970

Kjølberg, T. (2018, January 8). Successful launch of world's first mental health ambulance in Stockholm. *Daily Scandinavian*. Retrieved from https://www.dailyscandinavian.com/successful-launch-worlds-first-mental-health-ambulance-stockholm/

Kuiper, A. V. (2012). Psychiatric ambulance service for people with a mental illness [Master's thesis, Erasmus University]. Erasmus University Thesis Depository. Retrieved from https://thesis.eur.nl/pub/21880

Lamb, H., & Bachrach, L. (2001). Some perspectives on deinstitutionalization. *Psychiatric Services, 52*, 1039–1045. https://doi.org/10.1176/appi.ps.52.8.1039

Lamb, H. R., Weinberger, L. E., & DeCuir, W. J. (2002). The police and mental health. *Psychiatric Services, 53*(10), 1266–1271. https://doi.org/10.1176/appi.ps.53.10.1266

Lancaster, A. (2016). Evidence for joint police and mental health responses for people in mental health crisis. *Mental Health Practice, 19*(10), 20–26. https://doi.org/10.7748/mhp.2016.e1067

Landeen, J., Pawlick, J., Rolfe, S., Cottee, I., & Holmes, M. (2004). Delineating the population served by a mobile crisis team: Organizing diversity. *Canadian Journal of Psychiatry/Revue Canadienne De Psychiatrie, 49*(1), 45–50. https://doi.org/10.1177/070674370404900107

LEPH 2021 (2021). The Sixth International Conference on Law Enforcement & Public Health: Defying Boundaries. Retrieved from https://leph2021philadelphia.com/

Lindström, V., Sturesson, L., & Carlborg, A. (2020). Patients' experiences of the caring encounter with the psychiatric emergency response team in the emergency medical service: A qualitative interview study. *Health Expectations, 23*(2), 442-449. https://doi.org/10.1111/hex.13024

Muehsam, J. P. (2019). Association between clinical observations and a mobile crisis team's level of care recommendations. *Community Mental Health Journal, 55*(3), 394–400. https://doi.org/10.1007/s10597-018-0296-y

NCRV. (2016, September 11). Politie stopt met het oppakken en vervoeren van verwarde personen [Police stop detaining and transporting confused persons]. Netwerk Acute Zorg Noordwest. Retrieved from https://www.netwerkacutezorgnoordwest.nl/nieuws/politie-stopt-oppakken-en-vervoeren-verwarde-personen/

Nonko, E. (2020, October 1). A volunteer-run program could be model for mental health response without police intervention. *Next City*. Retrieved from https://nextcity.org/urbanist-news/volunteer-run-program-model-mental-health-response-police-intervention

Nordentoft, M., Bjarking, L., & Hemmingsen, R. (2002). Psychiatric emergency outreach: A report on the first 2 years of functioning in Copenhagen. *Nordic Journal of Psychiatry, 56*(6), 399–405. https://doi.org/10.1080/08039480260389307

Ordonez, M., Worrest, K., Krauss, M., Tietje, L., Bailey, R., & Smith, M. (2007). Mental health resources and the criminal justice system: Assessment and plan for integration in Charlottesville, Virginia. IEEE Systems and Information Engineering Design Symposium, 1–6. https://doi.org/10.1109/SIEDS.2007.4374026

Pandika, M. (2014, September 26). How a Norway ambulance is squashing mental illness stigma. *HuffPost*. Retrieved from https://www.huffpost.com/entry/norway-psycholance-stigma_n_5874992

Puntis, S., Perfect, D., Kirubarajan, A., Bolton, S., Davies, F., Hayes, A., Harriss, E., & Molodynski, A. (2018). A systematic review of co-responder models of police mental health "street" triage. *BMC Psychiatry, 18*(1), 256. https://doi.org/10.1186/s12888-018-1836-2

Sellers, C., Sullivan, C., Veysey, B., & Shane, J. (2005). Responding to persons with mental illnesses: Police perspectives on specialized and traditional practices. *Behavioral Sciences & the Law, 23*, 647–657. https://doi.org/10.1002/bsl.633

Trainer, M. (2020). Mental health joint response car pilot—evaluation report. London: NHSE&I and London Ambulance Service. Retrieved from https://aace.org.uk/wp-content/uploads/2020/08/MHJRC-Review-Final-12082020.pdf

Vigo, D., Thornicroft, G., & Atun, R. (2016). Estimating the true global burden of mental illness. *The Lancet Psychiatry, 3*(2), 171–178. https://doi.org/10.1016/S2215-0366(15)00505-2

VU. (2021, October 13). Research Ethics Review FSS. Retrieved from https://vu.nl/en/employee/social-sciences-getting-started/research-ethics-review-fss

Wachholz, S., & Mullaly, R. (1993). Policing the deinstitutionalized mentally ill: Toward an understanding of its function. *Crime, Law and Social Change, 19*(3), 281–300. https://doi.org/10.1007/BF01844063

World Health Organization. (2019). The WHO special initiative for mental health (2019-2023): Universal health coverage for mental health. Geneva: World Health Organization/IRIS. Retrieved from https://apps.who.int/iris/handle/10665/310981

ZonMw. (2018). Duurzame en doelmatigere inzet Psycholance door Ambulance Amsterdam—ZonMw [Sustainable and efficient use of Psycholance by Ambulance Amsterdam—ZonMw]. Retrieved from https://www.zonmw.nl/nl/onderzoek-resultaten/geestelijke-gezondheid-ggz/programmas/project-detail/actieprogramma-lokale-initiatieven-mensen-met-verward-gedrag/subsidieaanvraag-duurzame-en-doelmatigere-inzet-psycholance-door-ambulance-amsterdam/

APPENDIX 1: PAM/ST semi-structured interview protocol

1. First, could you describe in your own words why you think there was a need for PAM/ST compared to how it was before?
2. Who are the founders who got the program going? How do they get/keep political support for the program?
3. Do you think PAM/ST is working out as you had hoped or expected?
4. Have you come across anything that you were not expecting or were not fully prepared for?
5. What is within your profession understood by a MHC?
6. How is the person being assessed?
   PROBE: Are there tools?
7. Are referrals to PAM/ST from 112/999 in your opinion appropriate? Are referrals also coming in from the same dispatch centre?
8. How has the community been made aware of PAM/ST services? Are they being kept up to date about the developments of the PAM/ST program?
9. Could you describe what a "typical" PAM/ST dispatch process looks like so far?
   PROBE: Could you share some details about the last few calls that you can remember?
10. What typically happens to someone after an PAM/ST involvement? Does someone follow up?
    PROBE: What does this follow-up look like?
11. How would you describe the roles [responsibilities] of each person on the PAM/ST team?
12. What is your particular role?
13. What are particular skills/knowledge you need working with PAM/ST?
14. Who makes the decisions during a PAM/ST dispatch? Is there a certain protocol? Who coordinates the dispatch?
15. How is the cooperation with other agencies from your perspective? How do they share information?
16. How do the different organisations communicate with one another? Are you satisfied with how the communication goes?
    PROBE: Do you all use the same language during cooperation?
17. How are PAM/ST dispatches being evaluated? Do you keep documentation of this?
    PROBE: Is the evaluation shared with others?
18. What is the main legislation you deal with in your country when it comes to dealing with persons in MHC?
19. Are all the necessary treatment options in place? What is missing?
20. What are the specific resources that PAM/ST needs to be successful?
21. What have you found working particularly well during PAM/ST responses?
22. What has gotten in the way of the PAM program since it started? Are there any difficulties?
23. What do you think the main benefit is for a person in MHC who gets a response from the PAM/ST versus a traditional police/ambulance response?
24. Do you believe there is a level of stigma among coworkers or other agencies towards persons in MHC?
    PROBE: How do you think this may affect their experiences?
25. Do you think that PAM/ST responses reduce the number of injuries/violence to officers, persons in MHC, mental health staff and public?
26. How sustainable do you believe this model is?
27. For anyone wanting to implement a similar model, what would you say the key components of a successful PAM/ST are?
28. Is there anything else you would want future implementers of PAM/ST programs to know that we did not touch upon?

PAM = psychiatric ambulance model; ST = street triage; MHC = mental health crisis.