

# Gaps between policy, protocols and practice: a qualitative study of the views and practice of emergency ambulance staff concerning the care of patients with non-urgent needs

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**Aim:** To describe emergency ambulance crews' views about (1) how they make decisions on whether to convey patients to hospital; (2) an intervention enabling them to triage patients to non-conveyance; and (3) their experience of using new protocols for undertaking such triage.

**Methods:** Two focus groups were held at the outset of an evaluation of Treat and Refer (T&R) protocols: one with staff based at an ambulance station who were to implement the new service (intervention station), and the other with staff from a neighbouring station who would be continuing their normal practice during the study (control station). A third session was held with staff from the intervention station following training and 3 months' experience of protocol usage.

**Results:** Before the introduction of the T&R protocols, crews reported experience, intuition, training, time of call during shift, patient preference, and home situation as influencing their decisions concerning conveyance. Crews were positive about changing practice but foresaw difficulties with advising patients who wanted to go to hospital, and with referral to other agencies. Following experience of T&R protocol use, crews felt they had needed more training than had been provided. Some felt their practice and job satisfaction had improved. Problems with referral and with persuading some patients that they did not need to go to hospital were discussed. There was consensus that the initiative should be introduced across the service.

**Conclusions:** With crews generally positive about this intervention, an opportunity to tackle this difficult area of emergency care now exists. This study has, however, highlighted the complexity of the change in practice and service delivery, and professional and organisational constraints that need to be considered.

Rising numbers of emergency (999) calls<sup>1</sup> and evidence that some callers do not need to travel to hospital accident and emergency (A&E) departments by ambulance for emergency treatment<sup>2</sup> have prompted ambulance services to consider alternative models of service delivery. It is known that emergency ambulance crews in the UK and USA leave some patients at scene rather than convey them to A&E,<sup>3–5</sup> although they are not trained to do this and are not expected to do so unless the patient refuses to travel. Although it may be in the best interest of patients to avoid unnecessary trips to A&E, exploratory quantitative studies in the USA concerning the abilities of crews to triage patients to home care have suggested that unsafe decisions are sometimes made.<sup>6–10</sup>

Little is known about how ambulance personnel make decisions on whether to take patients to hospital or to leave them at home, how they feel about adopting guidelines or protocols to leave patients at scene, or about the potential impact of introducing such protocols on crews. Without an understanding of this context, initiatives introduced within ambulance services to address concerns about quality and appropriateness of care for non-serious emergency callers may fail.

We have reported in a previous paper an evaluation of the impact of a new training intervention, supported by locally agreed protocols, on crews' decision making about whether to convey patients to A&E.<sup>11</sup> This paper reported quantitative process and outcome results for patients attended by crews based at one ambulance station where staff had been trained to use the new protocols, compared with patients attended by crews at a neighbouring station acting according to routine practice. No significant change in conveyance rates was

found, although there was evidence of impact on operational performance through longer time spent on scene with patients and more in-depth assessment with more comprehensive clinical records. Patients showed similar or higher levels of satisfaction with their care (box 1). In order to understand how the intervention was used more fully, the aim of this paper is to report the views and attitudes of emergency ambulance staff concerning their current routine practice and the new intervention allowing them to make decisions to leave 999 patients at the scene of their call.

## METHODS

### Context

In an effort to provide more appropriate care and to define referral pathways to support this, Treat and Refer (T&R) protocols were developed and tested by emergency crews based at one ambulance station in a major UK city.<sup>11</sup> This service development was planned locally by the service provider, with evaluation carried out in partnership with an academic team. The new service was not built explicitly on any theory of change; rather, it arose as a practical solution to problems in managing workload and meeting national performance targets for response times in the context of other organisational and policy changes that were already occurring. Following extensive negotiation with crews and local management within the ambulance service, two adjacent stations were selected for this study based on reported willingness of crews to participate in the trial. The protocols were developed based on previous research, local data collection, and the consensus of a clinical panel.<sup>11</sup> Locally, primary, acute and community based services participated in the drafting of protocols, the agreement of

### Box 1 Treat and Refer study: methods and key findings<sup>11</sup>

Protocols allowing crews to assess and triage patients to self-care and/or referral to primary care and community based services were developed by a clinical panel with the support of the ambulance service. Crews from the intervention station undertook 2 days training in the use of the new protocols. For a period of 3 months, trained crews were asked to use the protocols to assess patients identified as falling within designated study condition codes. Processes and outcomes of care were compared for patients attended by trained crews (the intervention group) with those for similar patients attended by crews at a neighbouring station (the control group).

Twenty three protocols were developed, covering conditions as diverse as soft tissue injuries, resolved hypoglycaemia, and falls. The key findings of the study were:

- The rate of non-conveyance was unchanged.
- Times from start to finish of jobs were longer for patients attended by crews trained to use the new protocols.
- Clinical documentation was generally more detailed in the intervention group, although a similar proportion of patients in both groups had no clinical assessments recorded at all.
- Patient satisfaction levels were similar in each group, although those in the intervention group reported higher satisfaction with some aspects of care.
- Concerns with safety of current practice and practice with the new protocols were raised.

A small number of patients who were admitted to hospital within 14 days of their call were assessed by clinical reviewers to have been inappropriately left at home in the intervention (3/251) and control (3/537) arms of the study. Key messages from the study were:

- Treat and Refer protocols did not increase the number of patients left at home, but were used by crews and found to be acceptable to patients.
- Their introduction resulted in increased time spent per case, with operational and therefore potentially cost consequences.
- Safety issues were identified related to inappropriate triage to self-care
- Introducing such protocols to the ambulance service is a complex clinical and service development.

referral procedures, and in the overall direction of the study. By local agreement, the protocols were designed to be used by all attending staff, both emergency medical technicians and paramedics. The protocols were printed in colour on A4 paper and laminated and were designed to be used by attending ambulance personnel with patients at the scene of their call. Trigger points within the protocols indicated triage to A&E, referral to another healthcare provider or self-care, and advice cards were available to give to patients for some conditions. Core members of staff at the intervention station received two initial days of training in clinical, organisational, and research topics supplemented by two further days of clinical training before full implementation. Patients attended by crews from a neighbouring station were recruited to the study as a control group (box 1).

### Focus groups

As part of the evaluation, focus groups were used to aid understanding of how the service development was received by frontline staff concerning how they make decisions to convey patients or leave them at the scene of their call; what they felt about the planned introduction of T&R protocols; and, later, how they felt about using the protocols. The gathering of qualitative data alongside quantitative measures of process and outcomes in a mixed method approach is recognised in health technology assessment as a useful way of answering questions concerning not only effects and impact, but also to gain a deeper understanding of how things change—which is crucial to the application of research findings in other contexts.<sup>12</sup> Focus groups can empower individuals to speak up when they may be inhibited from talking openly in a one to one interview.<sup>13</sup> It was recognised that staff might be reluctant to talk about this topic if their current practice in relation to non-conveyance lay outside ambulance service protocols.

Two focus groups were held at the outset of the study (February 2000) before the protocols were introduced, one with staff from the intervention station and the other with staff from the control station. A follow up session was held with the staff from the intervention station following implementation of the training and protocols (October 2000). All crew members who participated in the main study were invited by personal letter to participate in the focus groups and, for operational reasons, those that accepted attended voluntarily in their own time.

Topic guides for the focus groups were developed from the objectives of the research project through informal discussions with the ambulance crews and from observing their work (box 2). Participants from the intervention and control stations were asked similar questions at the start of the study, with the post-implementation topic guide developed specifically for those who had had experience in using the protocols.

To encourage openness and reduce the possibility of bias, an independent external researcher (JF) facilitated the focus group discussions. She was assisted by NK, the study researcher known to the crews. The focus groups were tape recorded with the participants' consent and transcribed verbatim. The transcripts were read by NK several times to gain familiarity with the discussions. An initial coding scheme was constructed using the topic guide and themes identified in the transcripts. The scheme was refined following discussions with JF and systematically applied to transcripts following a "Schema" approach. This model of analysis allows for concepts underlying the text to be considered and linkages explored.<sup>14</sup> Data were managed using Nudist software. The relationships between the themes, within each focus group, and across the groups were explored and analysed.

The findings reported from these groups reflect the main themes and issues raised. Quotations have been selected to represent the general tone of discussion rather than to illustrate extremes. Areas of varying or conflicting views are highlighted.

Ethical approval for the study was granted by the local research ethical committees of Hillingdon Health Authority, Ealing Hospital, Northwest Surrey, and West Middlesex.

## RESULTS

### Participation in focus groups

Seven of 10 invited from the intervention station participated in the initial focus group (FG1) and six attended the follow up session (FG3). Eight of 16 invited from the control station participated in the pre-trial focus group (FG2). Five of the FG1 participants attended FG3, two others did not, one of them having left the service during the study period. One of

## Box 2 Post-implementation topic guide

### Introductions (10 min)

#### Role of the ambulance service: views of crews, public, and other agencies (10 min)

- What do you consider is the role of the X ambulance service currently?
- What do you think the role of the service should be?
- What do you think are the current pressures on the service (in X)?

#### Call outs to non-urgent/non-life threatening problems/don't need hospital care (10 min)

- Briefly describe these types of call outs.
- Types of problems (medical/social/other). Who calls, and why?
- How much of your workload do you think these calls take up?
- How do you feel about going out to these calls?

#### Dealing with these non-urgent/non-life threatening calls (10 min)

- How do you deal with these call outs?

#### T&R protocols and effect on crew's work (30 min)

- Generally, what do you think about the protocols – good idea, useful?
- How do you think they will work practically (operationally)? Do you think there will be difficulties using the protocols? What sort of difficulties? How could we overcome these problems?
- Do you think they will affect how you currently work?
- Do you think the T&R protocols will change the way you see your role/responsibility? How and why?

#### Implementation and organisational effect of protocols (20 min)

- What do you think would facilitate the implementation of the protocols (i.e. introducing into practice)? What factors will make the implementation difficult (at the local level)?
- If they were to be introduced across the whole of X ambulance service, what would help this process?
- In the future do you see the protocols affecting/changing your relationships with other agencies, e.g. GP/social services, district nurses, NHS Direct?
- Do you feel there is scope for further development of this initiative? Increase number of protocols? Any other thoughts/ideas?

#### Ending

- How would you like to see the X ambulance service develop over the next 5–10 years and, in particular, your role within it?
- Are there any questions or areas I've not covered which you think are important?

the control station members of staff changed station and participated in the study as a trained intervention station crew member (he attended FG3). All the participants were

male except for one participant in FG2. Their mean (range) duration of service was 7 (4–16) years for FG1, 12 (0.5–25) years for FG2, and 8 (4–16) years for FG3.

### Findings from the pre-trial focus groups

#### Factors influencing decisions about whether to convey the patient to A&E

Participants described how their decisions about non-conveyance were influenced by experience and intuition, pragmatism, and patients/carers' circumstances or attitudes.

#### Experience and intuition

Staff felt that after many years "on the road" they had the experience and knowledge to make safe decisions about non-conveyance. They talked about having a "sixth sense" and about the importance of intuition.

*"Experience has a lot to do with it, isn't it? The job is learned on the road."* (FG1, participant 7)

*"I think at the end of the day, if you're not happy, you get a feeling when you're talking to a patient ... and I think you actually get a feeling about the patient as to whether or not they really do need to go."* (FG2, participant 8)

#### Pragmatism: conveyance – the easy option

Staff believed that they were not covered legally to leave patients at scene. They said that they would always convey to A&E if in any doubt about the patient's condition. However, they also recognised that operational circumstances influenced their decisions. For example, if the shift had been difficult, busy with a lot of call outs to minor problems, or if it was near the end of their shift and they wanted to leave work on time, then conveyance to A&E was more likely. This was seen as an easier option than alternatives such as assessing whether self-care would be adequate or attempting to refer the patient to another service such as the GP.

*"There's a big problem there. If we go to a job and we're there at five to seven and we go home at seven, and we can offer them NHS Direct or this, that and the other, which could take us 25 minutes... I'm afraid we are the ones to cut the corners and so we don't offer them anything. And that is just human behaviour."* (FG1, participant 4)

*"The easiest option is always to take them to hospital. When I was in my training ... we were basically told to take people to hospital. We weren't trained or encouraged to make decisions about that sort of thing. We were just told to take them to hospital."* (FG1, participant 2)

#### Patient/carer factors

Conveyance decisions were also influenced by the attitudes of patients/carers and their social situation. They made judgements about whether the patient was likely to be responsive to a suggestion that A&E care was unnecessary. If the patient had social support and access to a district nurse or GP, then crews would be more prepared to leave a patient at home.

*"They have fixed their head on the hospital. As soon as they've rung the number, they've decided that they want to go straight away and you know who they are when you walk through the door."* (FG1, participant 3)

*"If it's borderline medical where the GP could see them but they haven't got anybody to look after them for that evening and no-one's coming in, there's no carers, district nurses, sons, relatives, daughters, wives or anything like that, then the chances are that you want to say 'right, the best thing is to go to hospital'."* (FG2, participant 5)

#### Views concerning the planned introduction of T&R protocols

Crew members anticipated several benefits but also had some reservations about the planned introduction of training and protocols to support their decision making. There was a

balance between these contrasting views which were held across the groups.

### Perceived benefits

Most staff had a positive attitude towards the introduction of the protocols which were seen to give legitimacy to an informal practice that already occurred. Some participants suggested that the protocols would improve their confidence and job satisfaction, and might make crews more consistent in their assessment and decision making.

*"I suppose it gives us control over who we're going to bring and who we're not going to bring ... But it does put your interest up, it builds up your self-esteem because you know that you're following the protocol and you've got backing there."* (FG1, participants 6 and 3)

*"It will make us more systematic. If you actually start working it, it becomes a habit. If you then assess everyone the same way rather than hopefully not assessing them depending on the mood you're in or your first impression of them as you walk in, if you do everyone in a systematic way then it's going to be of benefit, hopefully."* (FG1, participant 7)

### Reservations

Some concerns were raised about the "grey areas" of clinical decision making—patients who do not fit neatly into protocols. There was felt to be a potential for the protocols to leave crews open to criticism when they used their own judgement.

Some participants also reported feeling some doubt about the prospect of success of the project due to the additional difficulty associated with arranging self-care or referral. These comments demonstrate a lack of trust that crew members felt in their own service to back them up, as well as in other healthcare providers to work with them to provide the new service.

*"Management have said they'll cover us if it fits the protocol. Now it might be only one aspect but, in law, one word means one thing to one person and another to another. You only have to fall over one word."* (FG2, participant 5)

*"I don't think it's going to work ... we'll always resort back to the 'Oh well, let's just go', especially when you're busy."* (FG1, participant 1)

*"It goes back to the cooperation of the other agencies. If they cooperate with this, yes, but we can't see them cooperating, that's the thing."* (FG2, participant 4)

## Implementation

### Enabling factors

Participants felt that, although some training would be necessary before implementing the protocols, this training could be quite short and straightforward, simply to answer any questions and to ensure consistency. Indeed, it was suggested that protocols could be sent out for crews to read, supported by cascade training delivered by team leaders.

*"Well I don't necessarily think that everyone has to be trained ... You've only got to give them the paperwork and say: 'There are your rules and regulations, you read them and this is what.'"* (FG1, participant 4)

### Obstacles

Some participants had reservations about how effective or easy it would be to translate the protocols into practice, saying that some patients were not easily persuaded to stay at home and may not accept advice or referral to another agency.

*"The thing is no matter what training you do and what protocols you write out, the problem is going to be any patient that wants to go to hospital has to go, don't they?"* (FG2, participant 1)

The greatest barrier to the success of the project was seen as the difficulties involved in referring patients to other agencies. The crew members believed that, unless other agencies were more available and accepting of referrals from ambulance crews, the protocols would not work.

*"I think everybody's got their reservations about all these agencies that have promised 'we'll do this, we'll do that'. As soon as we pick up the phone, 'sorry, we can't do anything'. We all know the agencies. We know exactly what's going to happen."* (FG1, participant 5)

*"We do work so closely, or fairly closely, with other agencies. We really should get every single one—social services, GPs, police and fire brigade in some instances, hospitals, other medical, district nurses, every sort of health and social agency—round the table and have an overall knowledge of what each one is doing. What we're actually saying is we can't implement these on our own without cooperation from other people and at present we're just not getting that."* (FG2, participants 6 and 2)

## Findings from post-implementation focus groups

Following implementation and 3 months' usage of the protocols, staff from the intervention station reflected on their impact.

### Change management and training

Although the stations for the study were selected because they were perceived to be ones with enthusiastic crews who were open to new ways of working, the crews themselves reported some ambivalence over their involvement in the project. They felt that they had not been well enough supported by ambulance service management and trainers. Crews emphasised that there was a much greater need for training than had been anticipated. They appreciated the training that they had received and felt that they gained clinical knowledge.

*"Did you feel that this was your project or was this something extra you were being asked to do? Personally I just felt it was something extra. Not so much asked to do as dictated to do."* (FG3, interviewer and participant 6)

*"We didn't really have an awful lot of backing from the ambulance service I don't think."* (FG3, participant 3)

*"The station officers and training officers that initially came once or whatever... they showed initial interest and then cried off."* (FG3, participant 5)

*"Because they [project clinical advisors] explained why you were doing these things. With the [usual service] training it's 'you should do this, you should do that, you should do the next thing ...' [in this project] You can ask them questions and you can say why do we need to do this, why do we need to do that? They would treat you like professionals."* (FG3, participant 6)

### Effects on practice, implementation difficulties

Generally, crews felt that their practice had changed to the benefit of patients, that they were more systematic in their assessment, and had increased confidence in their decision making. However, this was countered by some participants who felt that their practice was somewhat driven by their instincts rather than the protocols.

*"It must benefit patients because they actually see you do things for them. We're giving them opportunities for doctors or NHS Direct or sitting down and talking to them in their own environment."* (FG3, participant 3)

*"I think it personally improved my practice. At the end of the day if we're doing all the obs etc and they're all normal, I felt happier leaving them at home ... I just felt safer leaving them at home or leaving them with a GP or social services or whatever."* (FG3, participant 4)

*"But the overall judgement, regardless of protocol, would be your initial assessment and then your final assessment of the patient. So*

*irrespective of protocols being in place, you will still make the decision regardless of protocols of whether you take him or leave him. Yes, a lot of crews are doing it on instinct rather than actual ... findings."* (FG3, participants 5, 1, 4)

Referring patients to GPs and other services was still perceived as very problematic, despite the new referral process through NHS Direct, the national telephone health information and advice line that had been recently implemented.<sup>15</sup> Participants also still reported that it was difficult to persuade patients that other treatment or self-care may be appropriate in place of attending A&E.

*"I phoned the doctor first and I couldn't get them so then I phoned NHS Direct and they told me to phone the doctor and I said I've just done that. Well, I can't help you then because he has to get involved with social services'. If he can't do it or is not prepared to do it, NHS Direct can't do anything about it because that's the way they go as well."* (FG3, participant 3)

*"I think it's just basically highlighted how isolated we are when it comes to support and it's shown that up to the public."* (FG3, participant 6)

*"They only phone us for one reason, to go to hospital. There's no talking them out of it, there's no telling them they're OK, there's no telling them to phone the doctor. They want an ambulance to go to hospital."* (FG3, participant 3)

### Future of the protocols

There was general consensus that the emergency ambulance service would benefit from introducing the protocols throughout the whole organisation, although it could not make them work without the support of other primary care and community services. Ambulance crews could improve their practice by becoming more systematic in their approach to assessment and clinical decision making although, as ambulance training traditionally emphasises conveyance to hospital, implementing this change may require more support and time to influence practice.

*"This should be service wide, definitely." "It wouldn't be a bad thing to teach people to do the same thing time in, time out so it becomes a pattern and a routine."* (FG3, participants 4, 5)

*"[The T&R protocols are] a building block ... but if they don't get any education or support it's going to be dead in the water."* (FG3, participant 6)

*"That was the attitude and that's what we had drummed into us, to take people to hospital because it's the safest and easiest thing to do." "That's why this may have been more difficult than we thought, to be quite honest with you."* (FG3, participants 2, 3)

## DISCUSSION

### Summary of key findings

At the start of the study crews reported that the factors which influenced their decisions concerning conveyance were experience, intuition, training, time of job during shift, patient preference, and situation at home. Crews were generally positive about the prospect of working to the new protocols and believed that any training could be simple and short, possibly to be delivered by field trainers. Crews foresaw difficulties with patients who wanted only to go to A&E, and with referring to other agencies. Following a period of protocol use, some crews felt their practice and job satisfaction had improved, although more training and support had been needed from the service than expected. As anticipated, problems with referring patients and difficulties with persuading some patients that they did not need to go to A&E were highlighted. There was consensus that the initiative should be introduced across the service.

### Strengths and weaknesses of the study

These findings provide an initial exploration of the views of crews concerning decision making regarding conveyance of

patients and the introduction of T&R protocols. As the study site was selected on the basis of the anticipated compliance of crews, the extent to which views expressed are representative of crews elsewhere is unknown.

Although the setting could lead to some participants feeling inhibited by the presence of their colleagues, the qualitative techniques used appeared to work well, with crews opening up and discussing sensitive issues related to their practice quite frankly. The facilitator reported that the groups were challenging to facilitate as many of the participants had worked together for a number of years and tended to adopt a "joke" manner. However, participants did respond to persistent prompting and questioning. She also felt that the groups worked well because the researcher (NF) had built up a good relationship with crew members and felt that, if this had not been the case, participants may have been less responsive. The data gathered give a unique and rich insight into the attitudes and beliefs of crews regarding their practice and their views concerning this practice change.

### Implications of findings Policy

Ambulance services are under pressure to address the issue of providing safe and appropriate alternatives for those 999 callers who do not have clinical needs that require an immediate response from a paramedic staffed ambulance with conveyance to A&E. Quantitative findings (described earlier)<sup>11</sup> in this study indicated that, while there remain concerns about the safety of decisions to leave patients at home in a small minority of cases, patients were highly satisfied with the care provided by staff trained in the use of the new protocols. Qualitative findings indicate that, while an alternative that allows frontline staff to make decisions to triage patients to care in the community or self-care may be feasible, without appropriate training, organisational support, a change in public perceptions of the role of the ambulance service and an effective referral infrastructure, crews will be hampered in their ability to use the protocols to reduce the number of patients taken to A&E. Optimising quality of care for this group of patients will require further development of the intervention as well as consideration of the context and change management processes involved in implementation of the new service.

### Practice

This study has highlighted and provided some insight into the gap that exists between the official policy of ambulance services and current practice. Crew members felt that they were unsupported in their practice, even when it is usually in the interest of patients, the service, and the A&E departments. They acknowledged that, without routine systematic assessment, practice may be inconsistent. Some resistance to change was described, with use of the protocols seen as requiring extra effort as well as more time to complete a job. Their use also brought up issues around roles and relationships across professional and organisational boundaries, which they could avoid by following standard practice of conveyance (or non-conveyance without using protocols). The participants' descriptions of current practice, knowledge base, training, and expectations revealed tensions and a degree of ambivalence about how they experienced using the new protocols. Without a theoretical model of change used at the outset of the project, these complexities were largely unanticipated. Implementation of the new service, and therefore the quality of care provided to patients, was directly affected by constraints that might have been foreseen and addressed had such a model been applied.<sup>16</sup>

## Education/training

There was a clear contrast between the views of crews concerning the need for training and support before and after the introduction of the protocols. Not only did the ambulance service managers and clinical advisors underestimate the need for training and support for crews to successfully implement this change in practice, but crews also did not foresee the complexity of the change required. This may reflect the cultural context of the ambulance service where training is relatively short and focused on protocol driven care, in contrast to the more extensive in depth training undergone by nursing and medical practitioners where the emphasis is on independent decision making based on clinical assessment and judgement. In addition, the primary care end of the spectrum of 999 work has been somewhat neglected in training, with an emphasis on life saving skills. Primary care decision making relies more on a broad assessment of the patient's needs and, in a context where the patient is usually unknown, often entails considerable uncertainty. Recognising life threatening needs may be considerably more clearcut than deciding that a patient can be safely offered self-care advice or referred to a community agency rather than being transferred to hospital. The tone of the post-implementation quotations suggests that, following use of the protocols for the trial period, the participants recognised that they had learned new skills that were complex and required in-depth training, clinical support in the field, and the cooperation of other primary care providers.

## Research

Several models of providing an alternative to the current 999 response for non-serious callers are currently being tested in

### Key messages

- With no official policy, protocols, or training allowing emergency ambulance crews to make decisions to leave 999 patients at the scene of their call, ambulance personnel reported a number of factors that influenced their decisions about whether or not to convey patients to A&E including: experience, intuition, time of job during shift, patient preferences, and social situation of patient.
- Ambulance staff were open to the possibility of a change in practice that would benefit patients, as long as they received backing and support from the service.
- Before and after implementation of protocols allowing crews to make decisions to triage patients to care in the community or self-care, crews expressed a lack of confidence both in their own service and in referral systems to other community based healthcare providers.
- Staff were generally positive about the new model of care for patients and felt it should be introduced more widely, with some saying that their practice and confidence had improved.
- The Treat and Refer intervention is a complex service development, both within the ambulance service and across organisational boundaries. Without an understanding of the multilayered context of change, introduction of the protocols is unlikely to be successful in achieving improved quality and appropriateness of care for 999 patients who do not need to travel to the A&E department.

the UK,<sup>17</sup> although not all under research conditions. These models vary in scope, personnel involved, and in education or training provided to participants. Clear research evidence concerning their effectiveness, including an understanding of the processes of change, is needed to enable ambulance services to make decisions about service development that will result in safe and appropriate care for 999 patients with minor conditions.

## CONCLUSIONS

Although the importance of ambulance services adopting alternative responses to callers with non-serious clinical needs is well recognised, very little evidence exists on which to plan new ways of working.<sup>18</sup> This study is the first to provide a detailed description of crews' attitudes to implementing a new model of care for patients who do not require conveyance to A&E. With crews generally positive about this practice development both before and after implementation of the intervention, an opportunity to tackle this difficult area of emergency care now exists. This study does, however, highlight the difficulties surrounding successful implementation. The change in practice and service delivery is complex, both within the ambulance service and across boundaries with other service providers. The success of this initiative appears to have been limited by an initial lack of understanding of the complexity of the change. Findings presented here are vital for other ambulance services considering introducing protocols, such as those, to maximise quality of care for patients and benefits for crews and health services.

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