The costs and benefits of managing some low-priority 999 ambulance calls by NHS Direct nurse advisers

Report for the National Co-ordinating Centre for NHS Service Delivery and Organisation R & D (NCCSDO)

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prepared by

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Executive Summary

Introduction

Rising demand for emergency ambulance services and a need to provide a more clinically appropriate service for callers with non-urgent conditions requires the development of alternative responses for this patient group. One alternative is to refer 999 calls prioritised as non-urgent for further telephone assessment and advice. It has been suggested that the NHS Direct Clinical Assessment System is one means of providing this service. The perceived advantages are better integration of emergency-call handling services, more effective use of ambulance resources, as callers are referred to more appropriate care pathways, and an enhanced service for patients. We have conducted an evaluation to assess the costs and benefits of transferring some low-priority 999 calls to NHS Direct nurse advisers for further assessment and advice.

Methods

We have conducted two studies. The first was a randomised controlled trial comparing outcomes of calls transferred for nurse advice with calls receiving a standard emergency ambulance response. Callers to three ambulance services whose call was prioritised with an agreed dispatch code and who met the inclusion criteria were randomised to receive an ambulance response (control group) or offered the option to have their call transferred to a nurse (intervention group). Those consenting to this option had their call transferred. Callers in both groups were also asked for consent to follow-up by postal questionnaire. The main process outcomes were the return rates of passed calls back to the ambulance service, transports to hospital and ambulance-service job cycle times. Patient outcomes were satisfaction with and acceptability of the new service.

A second observational study was also carried out. During this study all eligible calls were transferred to the new service and the impact on ambulance service workload estimated. During this phase we also carried out a qualitative study to identify the practical and operational issues that affect service development and implementation. We have also assessed the safety and reliability of call transfer and conducted an economic evaluation.
Results

Only 13% of potentially eligible calls were randomised during the controlled trial. The remaining calls were excluded because the call was not within agreed operational hours or because they did not meet the inclusion criteria. There were 1766 calls allocated to the intervention group and passed for further assessment and 2158 calls allocated to the control group. The return rate back to the ambulance service was 66.9% (range 36.1–75.5%). The return rate was much higher for Alpha-level dispatch codes than for Omega-level codes. Of returned calls 25% were returned for a 999 response and the remainder for transport or other non-clinical reasons. Passed calls had a shorter ambulance-service job cycle time and fewer transports to hospital. Both of these findings were statistically significant. A much lower number of cases than expected was assessed as requiring primary or self care.

Callers were generally satisfied with the service although this was lower for the intervention group than the control group. A high proportion of callers referred to the new service were particularly satisfied with the advice and reassurance provided by the nurse. Sources of dissatisfaction were being asked too many questions and having to wait for an ambulance. There remains an expectation among some callers that if they request an ambulance one should be sent immediately.

The observational study shows that the proportion of 999 calls that can be managed by nurse advice is low (13% for Alpha calls, 2.5% for Omega calls). This is less than previous estimates. The high return rate means that the number of cancelled ambulances is also low. However, the economic evaluation has shown that even a small reduction in ambulance journeys can produce significant cost savings. There is scope to increase the number of passed calls and reduce the return rate if appropriate operational processes and suitable referral pathways are put in place.

The small number of calls passed was disappointing for the services involved. However, the experience of joint working between the ambulance service and NHS Direct was seen by staff as a major step forward.

Examination of the return rates to the ambulance service for individual dispatch codes found no conditions where the return rate was less than 5%. Most were around 50%, with the code for falls reaching 80%. Comparison of sites using Alpha codes has shown that it is possible to reduce the return rate to 50% compared to the 70% we measured.
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Serious adverse events were rare, with two in 3975 reported to one ambulance service. Our assessment found four out of 1552 cases where a delay in sending an ambulance may have been clinically important.

Conclusions

Transferring non-urgent 999 calls for further advice and assessment provides a safe and cost-effective service for some of these calls. The number of calls that can be managed by this process is a small proportion of the 999 workload. Previous estimates have made an assumption that referring calls for telephone advice would result in a cancelled ambulance. We have found this not to be the case and almost half of calls are returned to the ambulance service for an ambulance response indicating that, although non-urgent, many of these calls are for patients who need transport or some form of face-to-face assessment. In future it may be better to view this service as being one which can solve some cases but which also provides an enhanced triage system to aid the increasingly complex decisions around which emergency care resources to send and when.
Disclaimer

This report presents independent research commissioned by the National Institute for Health Research (NIHR). The views and opinions expressed therein are those of the authors and do not necessarily reflect those of the NHS, the NIHR, the SDO programme or the Department of Health.

Addendum

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