A systematic review of the effect of different models of after-hours primary medical care services on clinical outcome, medical workload, and patient and GP satisfaction

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CRD summary
The review assessed different models of after-hours primary medical care services. The authors concluded that telephone triage and advice services reduce medical workload and patient satisfaction. The authors did not provide sufficient information about the included studies to justify their conclusions. The results presented suggest that the strength of the evidence in this area is weak.

Authors' objectives
The objective was to compare the effects of different models of after-hours primary medical care services, within a broader review of the evidence in this area.

Searching
MEDLINE, CINAHL, HealthSTAR, Current Contents, the Cochrane Database of Systematic Reviews, DARE, EBM Reviews, and EconLit were searched with a restriction to English language; the search terms were reported. Other relevant studies were sought through colleagues and what the authors described as snowballing, which might mean following up references and/or citation searching. The dates covered by the search were not reported, but it was stated that studies written since 1976 were identified; the earliest publication date among the included studies was 1985.

Study selection
Study designs of evaluations included in the review
Comparative studies fitting levels of evidence defined in the (Australian) National Health and Medical Research Council Handbook were eligible for inclusion. Studies for which the authors considered this system to be inappropriate were also eligible, but it was unclear exactly how such studies were assessed for inclusion. The designs of the studies reviewed included randomised (RCTs) and pseudo-randomised trials, cohort studies and before-and-after studies.

Specific interventions included in the review
Studies of after-hours primary medical care services were sought. The inclusion criteria were not explicit. The models of care reviewed included types of organisation and modes of delivery, namely general practitioner (GP) practice-based services, commercial deputising services, emergency departments, GP cooperatives, primary care centres, and telephone triage and advice services. These were not mutually exclusive.

Participants included in the review
Explicit inclusion criteria for the participants were not given. The participants included patients using and doctors providing after-hours services.

Outcomes assessed in the review
No inclusion criteria were specified for the outcomes. The reported outcomes in the included studies were categorised as medical workload, clinical outcomes, and patient and doctor satisfaction.

How were decisions on the relevance of primary studies made?
The authors did not state how the papers were selected for the review, or how many reviewers performed the selection.

Assessment of study quality
The authors did not state that they assessed validity. The included studies were assigned a level of evidence based on study design, although the authors did not state how this was done.
Data extraction
The authors did not state how the data were extracted for the review, or how many reviewers performed the data extraction, or which data were extracted.

Methods of synthesis
How were the studies combined?
The authors summarised the findings from individual studies of each model of care according to the impact on each outcome of interest, and provided a narrative synthesis by outcome.

How were differences between studies investigated?
Studies of different service models were summarised separately and included the country where each study was conducted.

Results of the review
The authors stated that 19 studies were included; however, this appears in fact to be the number of papers, some of which were reports of the same studies. The number of studies appeared to be 13: 3 RCTs (evidence level II), one pseudo-randomised trial (level III-1), 5 cohort studies (level III-2), and 4 before-and-after studies (level IV). The number of participants was only given for one study.

Medical workload.
Based on one RCT and 3 before-and-after studies, the introduction of a telephone triage and advice service may reduce the immediate medical workload; one other RCT showed no difference. The findings from one pseudo-randomised trial indicated that deputising services increased immediate medical workload compared with a GP practice-based service. Cooperatives that use telephone triage and primary care centres and have a low home visiting rate may reduce the immediate medical workload; this result was based on one cohort study that compared that model with a deputising service. One RCT suggested that GPs working in an emergency department reduced the subsequent medical workload compared with accident and emergency staff.

Clinical outcomes.
Prescribing was the only aspect of clinical practice for which some evidence was found to suggest differences between the service models. Deputising doctors may prescribe less appropriately than those in practice-based (1 pseudo-randomised trial) or cooperative (1 cohort study) services. In one RCT, experienced GPs working in emergency departments prescribed more appropriately than junior residents and registrars.

Patient satisfaction.
Dissatisfaction with telephone consultations was demonstrated in a before-and-after study of telephone triage and advice service, and among patients using cooperative and deputising services in 2 cohort studies. Cohort studies of other service models showed no conclusive difference in patient satisfaction.

Doctor satisfaction.
One before-and-after study found after-hours cooperatives to be an important factor in the GPs’ health status. A cohort study found that GPs in a cooperative were more satisfied with some aspects of out-of-hours care than GPs providing a deputising service.

Authors’ conclusions
The authors concluded that telephone triage and advice services appear to reduce medical workload and patient satisfaction.
CRD commentary
The lack of defined inclusion criteria appears to have been intentional in this review of a very broad topic. It is possible that relevant studies could have been missed due to the potential for language and publication bias in the search. It was not possible to assess the potential for bias or errors in the study selection or data extraction processes because details of the review process were not reported. A narrative synthesis was appropriate, but the authors did not provide sufficient information about the number, quality or characteristics of the included studies to justify their conclusions. The results presented suggest that the strength of the evidence was weak.

Implications of the review for practice and research
Practice: The authors stated that policy makers deciding on the shape of future services need to bear in mind that the potential for telephone consultations to reduce the costs needs to be balanced against reduced patient satisfaction.

Research: The authors highlighted the lack of evidence on clinical outcomes and stated that despite the investment required, research in this area is worthwhile considering the overall cost of after-hours medical care.

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