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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Abstract

Background. The organization of after-hours primary medical care services is changing in many countries. Increasing demand, economic considerations and changes in doctors’ attitudes are fuelling these changes. Information for policy makers in this field is needed. However, a comprehensive review of the international literature that compares the effects of one model of after-hours care with another is lacking.

Objective. The aim of this study was to carry out a systematic review of the international literature to determine what evidence exists about the effect of different models of out-of-hours primary medical care service on outcome.

Methods. Original studies and systematic reviews written since 1976 on the subject of ‘after-hours primary medical care services’ were identified. Databases searched were Medline/Premedline, CINAHL, HealthSTAR, Current Contents, Cochrane Reviews, DARE, EBM Reviews and EconLit. For each paper where the optimal design would have been an interventional study, the ‘level’ of evidence was assessed as described in the National Health and Medical Research Council Handbook. ‘Comparative’ studies (levels I, II, III and IV pre-/post-test studies) were included in this review.

Results. Six main models of after-hours primary care services (not mutually exclusive) were identified: practice-based services, deputizing services, emergency departments, co-operatives, primary care centres, and telephone triage and advice services. Outcomes were divided into the following categories: clinical outcomes, medical workload, and patient and
GP satisfaction. The results indicate that the introduction of a telephone triage and advice service for after-hours primary medical care may reduce the immediate medical workload. Deputizing services increase immediate medical workload because of the low use of telephone advice and the high home visiting rate. Co-operatives, which use telephone triage and primary care centres and have a low home visiting rate, reduce immediate medical workload. There is little evidence on the effect of different service models on subsequent medical workload apart from the finding that GPs working in emergency departments may reduce the subsequent medical workload. There was very little evidence about the advantages of one service model compared with another in relation to clinical outcome. Studies consistently showed patient dissatisfaction with telephone consultations.

**Conclusions.** The rapid growth in telephone triage and advice services appears to have the advantage of reducing immediate medical workload through the substitution of telephone consultations for in-person consultations, and this has the potential to reduce costs. However, this has to be balanced with the finding of reduced patient satisfaction when in-person consultations are replaced by telephone consultations. These findings should be borne in mind by policy makers deciding on the shape of future services.

**Keywords:** Family practice, house calls, night care, primary health care, telecommunications

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